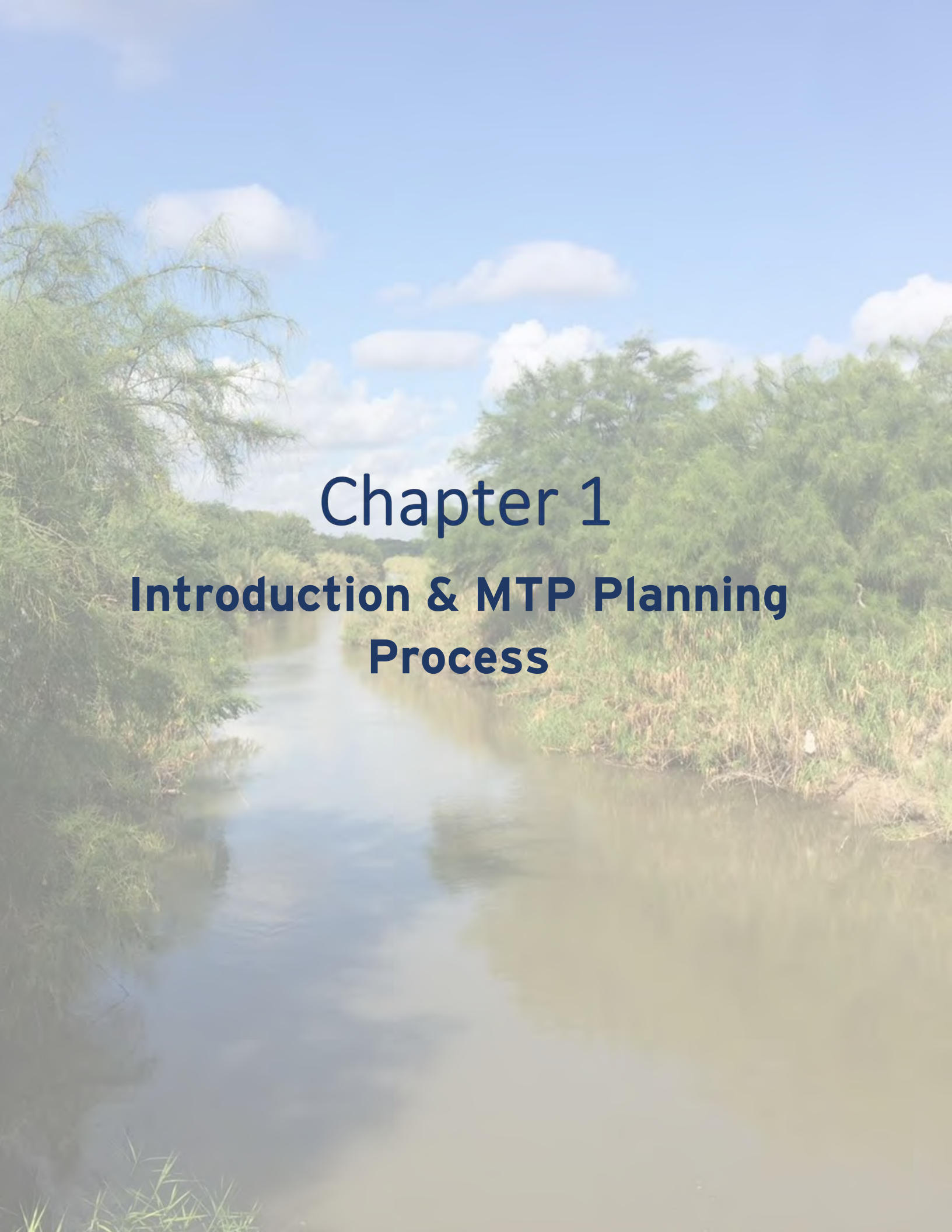
RIO GRANDE VALLEY

Metropolitan Planning Organization

2045 Metropolitan Transportation Plan

September 27th, 2019



Chapter 1

Introduction & MTP Planning Process

INTRODUCTION & MTP PLANNING PROCESS

Introduction

Metropolitan transportation planning is a cooperative, comprehensive, and continuing ("3-C") process. This process is conducted by the Metropolitan Planning Organization (MPO), in coordination with the Texas Department of Transportation (TxDOT), regional transit operators, numerous stakeholders from throughout the planning area, and the public to create a vision for the future of the community's transportation system.

Exhibit 1-1: Public Art on the S 77 pedestrian overpass in Harlingen

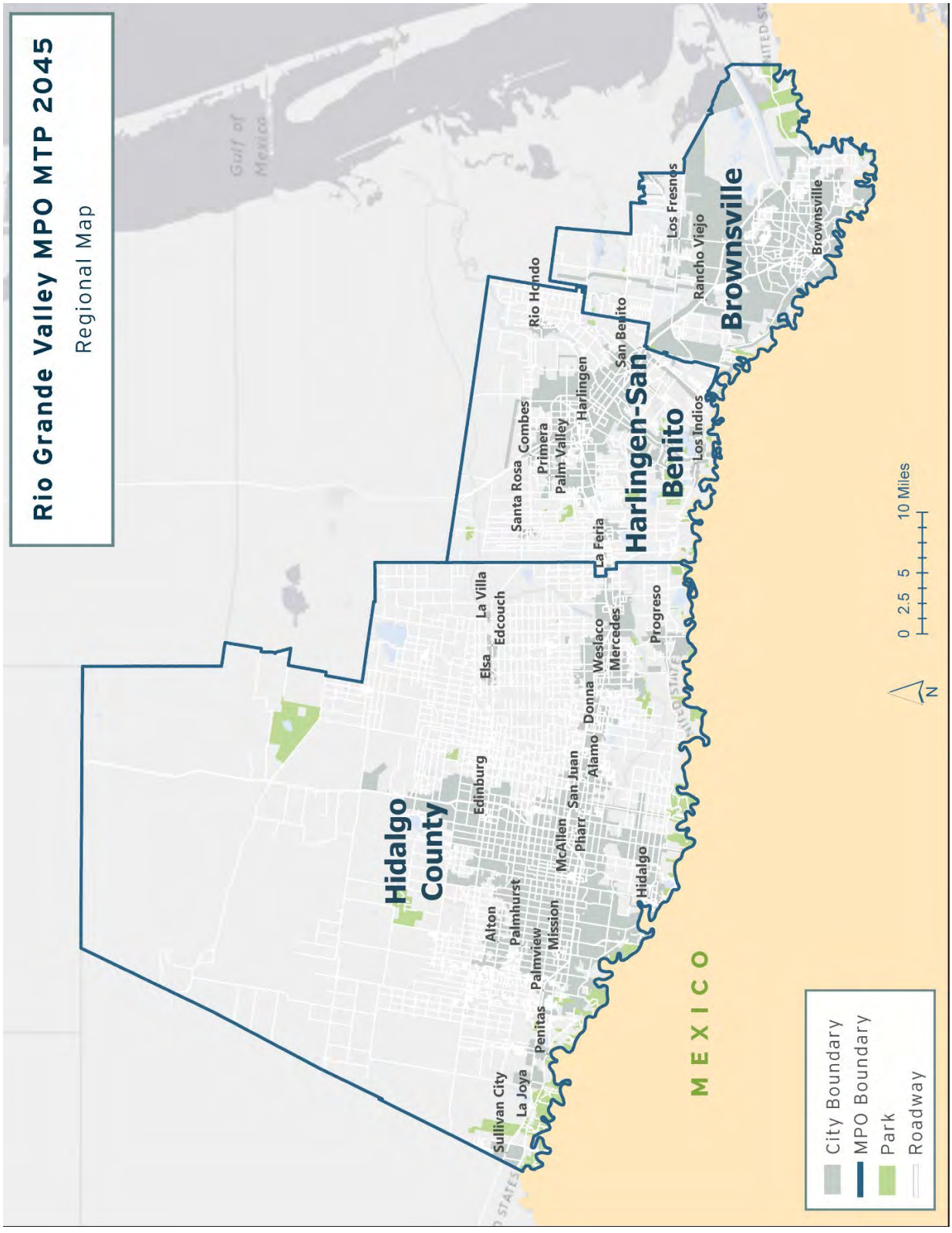
This 3-C process, which is prescribed by federal regulations, is designed to assist the MPO in prioritizing short- and long-term investments in the regional transportation system over the next 25 years through a robust public participation process that involves both users and non-users of the regional transportation system.

This document is an update to the Hidalgo County MPO (HC MPO), Harlingen-San Benito MPO (HSB MPO), and Brownsville MPO (B MPO) Metropolitan Transportation Plans (MTP) for the years 2020 – 2045, which have been created separately, yet in coordination with one another. On October 1st, 2019, all three existing MPOs will lose their designation and merge into the Rio Grande Valley MPO (RGVMPO). Accordingly, this plan is a combination of the three MTP update efforts to create one regional document to reflect their merging as the RGVMPO. The final plan will be adopted by the RGVMPO on October 30th, 2019, to serve as its first MTP. Initial work on the RGVMPO 2045 MTP update began in February 2019.

The RGVMPO 2045 MTP was developed over a 9-month period during which several rounds of public and stakeholder meetings were conducted; technical data was analyzed; existing plans and studies were compiled and reviewed; and potential projects were evaluated according to community goals and performance-based criteria. The resulting product is a plan for the future of the transportation system that considers all available modes and the needs of all existing and potential users.

The planning area for the RGVMPO MTP contains the entirety of both Hidalgo and Cameron counties. **Figure 1-1** shows the boundary of the MPO planning area, which represents the area the MPO has planning jurisdiction over.

Figure 1-1: RGVMPO Planning Area



Metropolitan Planning Organization

With the passage of the Federal Highway Act of 1962, all major cities within the United States were required to adopt an MTP to guide the long-term development of the transportation system. The Act established specific rules and regulations for carrying out the long-range transportation planning process and required the formation of MPOs for any urbanized area (UZA) with a population greater than 50,000. Under federal regulations, MPOs are responsible for carrying out a cooperative, comprehensive, and continuing (3-C) planning process, in cooperation with the state and local governments, to develop the MTP and determine how best to invest federal transportation funding in the region.

Rio Grande Valley MPO

On April 24, 2019 elected officials from units of general-purpose local governments that together represent at least 75% of the existing Metropolitan Planning Area population in HC MPO, HSB MPO, and Brownsville MPO (as well as the largest city in each of these MPOs), executed an agreement to re-designate into one consolidated MPO. This agreement established a proposed boundary area for the RGVMPO to include all the territory in the existing metropolitan planning areas for the three MPOs (i.e. Hidalgo and Cameron counties). After a period of review, Governor Abbot accepted and signed the proposed re-designation agreement. Some of the likely benefits of merging three existing MPOs into one MPO include the following:

- The use of a regional approach to identify and address transportation needs for the entire Rio Grande Valley rather than analyzing the needs of three smaller, separate jurisdictions;
- Having a more cohesive presence in advocating for the transportation needs of the Rio Grande Valley; and
- An increased efficiency in coordination of the planning process with TxDOT Pharr District, (One MPO/One District).

Prior to this designation, in conjunction with the state, the three current MPOs are responsible for carrying out provisions of 23 USC §134, 59 USC §5303 (Metropolitan Transportation Planning) and 23 CFR 450.300 et seq. (Metropolitan Transportation Planning and Programming) and is established pursuant to those same US Codes. Following the official merger, the RGVMPO will take over these responsibilities. In relation to the programs in these federal codes, the MPO is the designated forum for decision making by principal elected officials of general-purpose local governments (within HC MPO, HSB MPO, and Brownsville MPO) in the RGVMPO planning area.

It must also be noted that the newly designated RGVMPO will be classified as a Transportation Management Area (TMA) after merging the three existing MPOs. A TMA is recognized as an urban area with a population greater than 200,000 and allows the MPO to play a larger role in the programming of Transportation Improvement Program (TIP) projects. Currently, both HCMPO and Brownsville MPO contain TMAs (McAllen and Brownsville, respectively).

Purpose of the RGVMPO MTP

The MTP provides a framework for analyzing the current and future regional travel demand and creating a blueprint for addressing the future transportation needs within the RGVMPO planning area. With a focus on the creation of a safe, accessible, equitable, and multimodal transportation network, the MTP recommendations will aim to reduce congestion, support economic development, and enhance the quality of life for those living in and travelling to the region. While the three plans were initially developed separately to reflect each MPO, they have since been merged into one document to serve as the first RGVMPO MTP.

MTP Planning Process

The planning process which serves as the basis of the RGVMPO 2045 MTP is prescribed by state and federal regulations. Currently, all three existing MPOs are responsible for programming regional transportation projects (for each specific MSA) for implementation using federal transportation funding. This will remain the same following the creation of the RGVMPO, however with only one agency.

Visioning Process

The purpose of the MTP is to identify the transportation needs of the community over the next 25 years, establish priorities for funding those improvements, and chart a course for meeting the community's identified transportation needs. Establishing a community vision for the future of the transportation system and related goals to assist in the prioritization of transportation improvements is key to ensuring the plan reflects community values. Input from key stakeholders and members of the public was solicited early and continuously throughout the development of the plan.

Needs Assessment

In order to develop feasible and beneficial transportation solutions, it is important to assess both the current state of the transportation system and community growth trends. For the RGVMPO 2045 MTP, this assessment included an inventory of the transportation system; a demographic analysis to determine existing transportation demand based on current population levels, as well as projections of future population and employment generating future travel demand; roadway, transit, bicycle/pedestrian, and freight needs analyses; and a review of existing local plans for additional guidance and input.

Systems Level Analysis

Systems level analyses were used to look at how the candidate projects would impact community issues related to equity and the environment that are of system- and region-wide concern. The study team incorporated this planning approach into the development of the MTP, which allowed for prioritization of transportation investment based on broader community issues in accordance with the community's vision.

Environmental Mitigation Analysis

An environmental mitigation analysis was conducted with the list of proposed projects from HSB and HC MPOs (B MPO methods discussed in further sections) to look for any potentially negative impacts on environmental, cultural, or historical resources. This was a high-level, conceptual analysis conducted with the intent to avoid or mitigate any obvious environmental constraints that would prevent the project from being implemented. Once projects reach the implementation stage, a more detailed environmental evaluation will be done as a part of the pre-construction process. The analysis also assessed potential impacts associated with the proposed projects on low-income and minority populations (also referred to as Environmental Justice or EJ).

Financial Analysis & Constraint

Fiscal feasibility is a significant priority in determining the final list of transportation improvements included in the MTP. Not only does federal legislation mandate that the MTP be fiscally constrained and only include projects that can be reasonably expected to have adequate funding, but certain projects also require that area communities contribute local matching funds to receive federal funding. The process for establishing both estimated costs and revenues is critical for the creation of a viable MTP.

Revenue Projection

A revenue projection was developed that identified the anticipated revenue stream for local, State and Federal funds. This revenue stream was factored to account for inflation at the anticipated year-of receipt.

Project Costs

Cost is defined as the total project cost, which includes planning elements (e.g. environmental studies and feasibility studies); engineering costs (e.g. preliminary engineering and design); preconstruction activities (e.g. environmental, right-of-way acquisition, and corridor preservation); construction activities; and contingencies. Project costs were calculated based on historical expenditures for similar improvements. The resulting cost estimates also included an inflation factor to account for the anticipated year-of-expenditure (YOE).

Fiscal Constraint Analysis

A fiscal constraint analysis was performed that compared the anticipated YOE costs to the anticipated year-of-receipt revenues to determine if sufficient and timely financial resources were likely to exist to fund the proposed program of projects.

Selecting a Proposed Program of Projects

Based on the submitted project costs and revenue projections, the program of fiscally constrained projects anticipated to best accomplish community-defined goals and objectives was selected by the Technical Advisory Committee(s) and then submitted to the Policy

Committee(s) for review and approval. Each existing MPO's Policy Committee was then able to review these recommendations and make measured and fiscally constrained choices.

Adoption Process

The preliminary program of projects was approved by the RGVMPO Policy Committee on Month XX, 2019. The preliminary transportation recommendations and associated list of proposed projects resulting from the project selection and fiscal constraint analysis, along with the results of the technical analysis and public input, were included in the draft MTP document.

Public Review of the Draft RGVMPO 2045 MTP

On September 27, 2019, the draft plan was presented to the public and their feedback was solicited throughout the 30-day public review period online, in written format, and during two public meetings as outlined in the MPO's Public Participation Plan.

Existing MPO Organization

The following sections detail current committees/boards, RGVMPO committees/boards, as well as existing MPO staff.

Transportation Policy Committees

Local elected officials and decision makers comprise the existing Transportation Policy Committees (TPCs) in each of the three MPOs and are responsible for approving and adopting the transportation planning activities and programs created by each MPO. All TPCs have been established to meet federal transportation planning requirements. Membership of the TPCs is governed by agreement between the affected local governments and the governor of Texas and is reviewed periodically to ensure adequate representation of all parties (e.g. municipal areas found throughout the MPA). Table 1-1 displays TPC members currently representing the three existing MPOs who have assisted with the development of this document. Table 1-2 represents what will be the RGV Transportation Policy Board (RGVTPB) following the merger, who will review and approve the final document.

***Table 1-1: Existing MPO** Transportation Policy Committee Members*

Title/Representation	Current Representation By
HC MPO	
City of Pharr - Mayor	Ambrosio Hernandez (Chairperson)
City of Weslaco - Mayor	David Suarez (Vice-Chairman)
City of Edinburg - Mayor	Richard Molina (Secretary)
City of Alamo - Mayor	Diana Martinez
City of Alton - Mayor	Salvador Vela
City of Donna - Mayor	Rick Morales
City of Edcouch - Mayor	Virginia Gonzalez, Jr.
City of Elsa - Mayor	Alonso Perez
City of Granjeno - Mayor	Yvette Cabrera

Title/Representation	Current Representation By
City of Hidalgo - Mayor	Sergio Coronado
City of La Joya - Mayor	Jose A. Salinas
City of La Villa - Mayor	Alma Moron
City of McAllen - Mayor	Jim Darling
City of Mercedes - Mayor	Henry Hinojosa
City of Mission - Mayor	Armando O'cana
City of Palmhurst - Mayor	Ramiro J. Rodriguez, Jr.
City of Palmview - Mayor	Jerry Perez
City of Penitas - Mayor	Rodrigo Lopez
City of Progresso - Mayor	Gerardo Alanis
City of San Juan - Mayor	Mario Garza
City of Sullivan - Mayor	Rosendo Benavides
TxDOT Pharr District - Engineer	Pedro Alvarez, P.E.
U.S. Fish and Wildlife	Gisela Chapa
Valley Metro	Tom Logan (Director)
LRGVDC	Ron Garza (Director)
McAllen Metro	Mario Delgado (Transit Director)
HCRMA	David Deanda
HSB MPO	
City of San Benito - Mayor	Ben Gomez (Chairperson)
City of Harlingen - Mayor	Chris Boswell (Vice-Chairman)
City of Los Indios - Mayor	Jaime Gonzalez
City of Palm Valley - Mayor	George Rivera
City of Primera - Mayor	R. Dave Kusch
City of Rio Hondo - Mayor	Gustavo Olivares
City of La Feria - Mayor	Olga Maldonado
City of Santa Rosa - Mayor	Andres Contreras
City of Combes - Mayor	Mark Sanchez
City of San Benito - City Manager	Manuel De La Rosa
City of Harlingen - City Manager	Dan Serna
Cameron County Commissioner Precinct 3	David Garza
Cameron County Commissioner Precinct 4	Gus Ruiz
TxDOT Pharr District - Engineer	Pedro Alvarez, P.E.
Brownsville MPO	
City of Brownsville	Trey Mendez
City of Brownsville	Joel Munguia
City of Brownsville	Noel Bernal
Cameron County	Joey Lopez
Cameron County	Sofia Benavides
TxDOT Pharr District - Engineer	Pedro Alvarez, P.E.
Chamber of Commerce	Eddy Hernandez
Airport Advisory Board	Manuel Alcocer
Brownsville ISD	Drue Brown
Brownsville Navigation District	John Wood
Greater Brownsville Incentives Corp	Esteban Guerra
City of Los Fresnos	Yolanda Cruz
Town of Rancho Viejo	Cindie Rathburn

Table 1-2: RGVMPO Transportation Policy Board Members

Title/Representation	Current Representation By
RGVMPO	
City of Pharr - Mayor	Ambrosio Hernandez (Chairperson)
Cameron County - Judge	Eddie Treviño (Vice-Chairman)
Cameron County - RMA	Frank Parker, Jr.
City of Brownsville - Mayor	Trey Mendez
City of Edinburg - Mayor	Richard Molina
City of Harlingen - Mayor	Chris Boswell
City of McAllen - Mayor	Jim Darling
City of Mission - Mayor	Armando O`Caña
City of San Benito - Mayor	Benjamin Gomez
Hidalgo County - RMA	S. David Deanda Jr.
TxDOT Pharr District - Engineer	Pedro Alvarez, P.E.
Valley Metro	Tom Logan
LRGVDC - Executive Director	Ron Garza (Interim Director)

Technical Advisory Committees

The existing Technical Advisory Committees (TACs) for each respective MPO serve in an advisory role to their respective Transportation Policy Committee and are generally responsible for professional and technical review of work programs, policy recommendations, and transportation planning activities. Members consist of local and state technical and professional personnel with experience and knowledge in the transportation field. Table 1-3 displays TAC members currently representing the three existing MPOs who have assisted with the development of this document. Table 1-4 represents what will be the RGVTAC following the merger, who will review and approve the final document.

Table 1-3: Existing MPO Technical Advisory Committee Members

Title/Representation	Current Representation By
HC MPO	
City of McAllen	Patrizia I. Longoria (Chairperson)
Valley Metro	Jon Bocanegra (Vice-Chairperson
City of Alamo	Bobby Salinas (Secretary)
Hidalgo County	Anthony Garza
City of Alton	Jeff Underwood
City of Donna	Chanel Borrego
City of Edcouch	Pete de la Cruz
City of Edinburg	Juan Guerra
City of Elsa	Juan Jose Ybarra
City of Granjeno	Yvette Cabrerra
City of Hidalgo	Julian Gonzalez
HCRMA	Ramon Navarro
City of Hidalgo County	Arnold Cortez
City of La Joya	Mike Alaniz
City of La Villa	Arnie Amaro

Title/Representation	Current Representation By
City of Mercedes	Daniel Tijerna
City of Mission	Behrooz Badiozzamani
City of Palmhurst	Lori Ann Lopez
City of Palmview	Ramon Segovia
City of Penitas	Omar Romero
City of Progresso Lakes	O.D. Emery
City of Progresso	Alfredo Espinosa
City of San Juan	Robert Escobar
Sullivan City	Richard Ozuna
McAllen Metro	Robert De Leon
U.S. Fish and Wildlife	Gisela Chapa
TxDOT Pharr District	Homer Bazan
TxDOT Pharr District	Raymond Sanchez
TxDOT Pharr District	Maria Champine
HSB MPO	
Cameron County Commissioner	David A Garza
Planning and Community Director	Juan Ortiz
TxDOT	Juan Bosquez
Mayor – City of Los Indios	Rick Cavazos
Harlingen Planning Director	Javier Cervantes
City Secretary	Maria Gonzalez
Valley Metro	Francisco Jaramillo
TxDOT – TP&P	Raymond Sanchez
City of Mercedes	Sergio Zavala
TxDOT	Melba Schaus
Cameron County - Engineer	Paolina Vega
TxDOT	Maria Champine
Assistant City Manager	Gabriel Gonzalez
Planning Director - San Benito	Bernard Rodriguez
City Secretary - Combes	Aida Gutierrez
City Manager - Rio Hondo	Ben Medina
Brownsville MPO	
MPO Director	Mark Lund
MPO Deputy Director	Alfonso Vallejo
Brownsville Engineering Department	Carlos Lastra
Brownsville Traffic Division	Oscar Salinas
Brownsville Aviation Department	Bryant Walker
Brownsville Metro	Tracie Orcillez
Cameron County	Paolina Vega
TxDOT San Benito	Juan Bosquez
TxDOT Pharr District	Homer Bazan
Brownsville Planning Department	Dawn Warrick
TxDOT TP&P	Raymond Sanchez
Greater Brownsville Incentives Corp	Janie Velasquez
Port of Brownsville	Ariel Chavez
Brownsville ISD	Eliud Ornelas
Cameron County RMA	Adrian Rincones
City of Los Fresnos	Mark Millum
Town of Rancho Viejo	Fred Blanco

Title/Representation	Current Representation By
Los Fresnos Consolidated ISD	Suzanne Ramirez

Table 1-4: RGVMPO Technical Advisory Committee Members

Title/Representation	Current Representation By
RGVMPO	
Cameron County - RMA	Pete Sepulveda, Jr. (Chairman)
City of Mission	JP Terraza, P.E. (Vice-Chairman)
Cameron County	Paolina Vega
City of Brownsville	Mark Lund
City of Edinburg	Thomas D. Reyna
City of Harlingen	Gabriel Gonzalez
City of McAllen	Patrizia Longoria
City of Pharr	Eleazar Guajardo (Commissioner)
City of San Benito	Bernard Rodriguez
Hidalgo County	Jacinto Garza
Hidalgo County - RMA	Eric Davila
TxDOT Pharr District	Melba Schaus
Valley Metro	Frank Jaramillo
City of Brownsville	Norma Zamora
McAllen Metro	Jon Ray Bocanegra
Port of Harlingen	Alan Johnson
Cameron County Spaceport Development Corp	Mark Yates
Port Isabel District - San Benito Nav.	--
Port of Brownsville	--

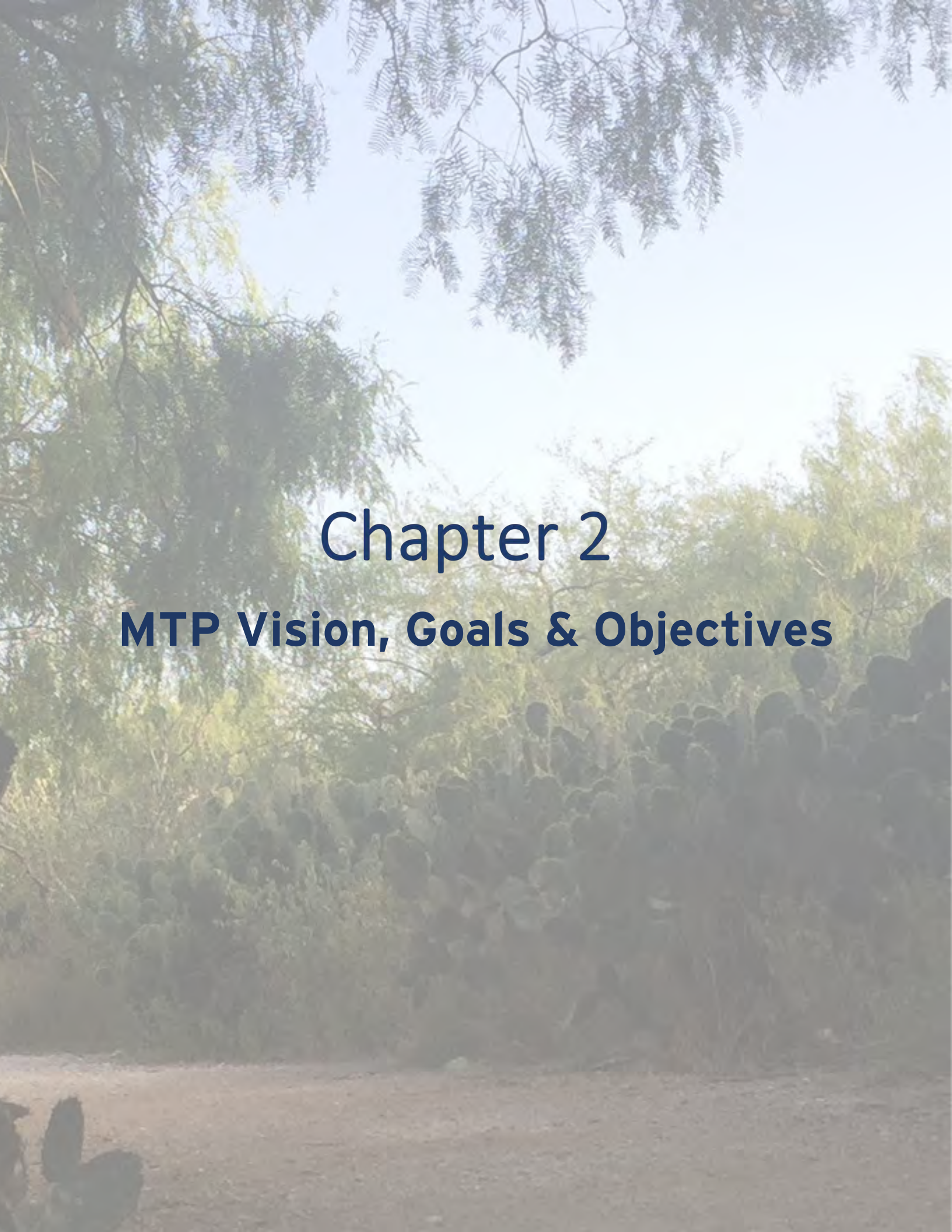
Existing MPO Staff

Table 1-5 lists existing MPO staff for each MPO.

Table 1-5: MPO Staff Members

Title/Representation	Current Representation By
HC MPO	
Director	Andrew Canon
Administrative Assistant	Gloria Banda-Gonzalez
Planner II	Luis Diaz
GIS Specialist	Miguel Arispe
GIS Specialist	Fernando Cantu
Planner I	Crystal Gonzalez
Planner I	Rudy Zamora
HSB MPO	
Executive Director	J. Joel Garza Jr.
GIS Specialist/Transportation Planner	Cody Baczewski
Secretary	Jennifer Prado
Brownsville MPO	
Director	Mark Lund

Title/Representation	Current Representation By
Deputy Director	Alfonso Vallejo
Planner II	Antonio Zubieta
Transit Planner	Tracie Orcillez



Chapter 2

MTP Vision, Goals & Objectives

MTP VISION, GOALS & OBJECTIVES

This chapter describes the processes by which the RGVMPO 2045 MTP's vision, goals, and objectives were developed. Together, these elements make up the MTP's guiding principles that aided the process of identifying which proposed transportation projects will best accomplish the Rio Grande Valley region's priorities.

Though an MPO has some freedom in how it develops and structures its MTP, it must also comply with certain federal requirements for the planning process and final plan.

Fixing America's Surface Transportation (FAST) Act Requirements & Guidance

The FAST Act was signed into law in 2015, becoming the fifth intermodal surface transportation bill passed by Congress since 1991. The previous four bills include the Intermodal Surface Transportation Efficiency Act (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the Moving Ahead for Progress in the 21st Century Act (MAP-21).

The FAST Act's primary implications for the development of MTPs include:

- The continuance of the Metropolitan Planning Program, which establishes a cooperative, comprehensive, and continuing (or "3-C") framework for making transportation investment decisions in metropolitan areas;
- The continuance of and additions to the federal planning factors, which an MPO must take into consideration during the metropolitan planning process; and
- The continuance and further defining of requirements established for state Departments of Transportation (DOTs) and MPOs to set performance goals and measures.

Each of these tenets of the FAST Act is a requirement for MPOs as they undertake the metropolitan planning process and the development of MTPs.

Federal Planning Factors

The original eight federal planning factors were established by ISTEA and expanded by SAFETEA-LU. The FAST Act maintained these eight factors and added two more. The MPO planning process must consider these ten federal planning factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness;
2. Increase the safety of the transportation system for motorized and nonmotorized users;
3. Increase the security of the transportation system for motorized and nonmotorized users;
4. Increase accessibility and mobility of people and freight;

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. ***Improve resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation; and**
10. ***Enhance travel and tourism.**

**New factors introduced by the FAST Act*

Performance Measures & Targets

When developing an MTP, the MPO must set performance measures as a means of ensuring that the plan accomplishes its purposes over the course of implementation. The MPO must also establish a set of performance targets which are used as indicators of how successfully the performance measures are achieved. In addition to adopting the performance measures and targets defined at the federal and state levels, an MPO can also develop and adopt its own set of performance measures and targets customized to meet the unique needs and conditions of the region. The requirement of adopting performance measures and targets was established by MAP-21 and is continued by the FAST Act.

Harlingen-San Benito MPO

The Harlingen-San Benito MPO (HSB MPO) has opted to adopt the Texas Department of Transportation Performance Targets in response to the FAST Act Requirement. The HSB MPO will continue to work with the Texas Department of Transportation on the remaining 13 FHWA Performance Measures:

- Pavement Condition (4 measures)
- Bridge Condition (4 measures)
- Systems Performance (3 measures)
- Freight (1 measure)
- CMAQ (3 measures)

Hidalgo County MPO

The Hidalgo County MPO (HC MPO) identified strategies through the Annual Performance and Expenditure Report (APER) to improve the performance of existing and future facilities; to provide input into the transportation planning process for consideration at the system level; and to undertake studies of specific aspects of the transportation system in order to provide the specialized information required in developing an efficient, multi-modal mobility system, including.

- Pavement Management Systems (PMS)
- Incident Management & Safety Study

- Congestion Data Collection (CMP Tier 1)
- Congestion Mitigation System (CMP Tier 2)
- Quadrennial Certification
- Corridor Study
- Traffic Counts
- Dynamic Traffic Assignment

Brownsville MPO

Brownsville MPO has adopted MPO resolutions indicating actions to be taken in support of the performance measures adopted by TxDOT. Such performance measures address the following:

- Condition of Pavement
- Condition of Bridges
- Performance of Interstate System
- Performance of National Highway System (excluding the Interstate)
- MPO Resolution pertaining to safety goals

Regional Visioning Process

The MTP visioning process is focused on gathering locally generated plans and information, as well as the knowledge and wisdom of the local community, while following the state and federal guidelines that direct the general planning process. Development of the MTP includes extensive public input and requires the collaboration of regional stakeholders such as local, state, and federal agencies and governing bodies, public and private transportation providers, and the business community. All these stakeholders must work together so that the community's visions and goals unite into defined principles that will guide transportation policy and investment decisions within the MPO planning area. This MTP update will serve as a framework for increased coordination across the Rio Grande Valley, and the initiation of creating a regional vision incorporating the vision, goals, and objectives of the three combining MPOs.

Harlingen-San Benito MPO

The visioning process for the HSB MPO involved multiple methods of obtaining local input, such as stakeholder interviews, a public open house, and an online interactive mapping and visioning exercise. The results from these methods provided the HSB MPO with challenges, issues, and opportunities of the existing transportation system that guided the development of the regional vision for the 2045 MTP.

Hidalgo County MPO

Similar to the HSB MPO, the visioning process for the HC MPO involved stakeholder interviews, a public open house, and an online interactive mapping and visioning exercise. The results from these activities provided the HC MPO with challenges, issues, and opportunities

of the existing transportation system that guided the development of the regional vision for the 2045 MTP.

Brownsville MPO

B MPO continues to uphold previous regional visions for its transportation system. Chapter 6 provides further detail on the activities conducted as part of the visioning process.

MTP Goals & Objectives

Goals are broad statements that describe desired outcomes the MPO wants to achieve, while objectives are specific, measurable actions that the MPO will take to meet these outcomes.

This MTP update utilizes the already established sets of goals and objectives set forward by the three combining MPOs to guide the development of the plan and the prioritization of transportation projects. These goals and objectives incorporate the vision and needs of the communities in the Rio Grande Valley. In addition, as a large region located directly along the border between the US and Mexico, the Rio Grande Valley's transportation network also plays an important role in the national and international transportation networks. Therefore, the goals and objectives developed for the RGVMPO 2045 MTP also consider the needs of these networks on a larger scale and incorporate elements of the federal planning factors discussed above.

Harlingen-San Benito MPO

The HSB MPO designated the following set of goals and objectives for its 2040 MTP and carry those goals forward into the 2045 MTP:

1. **Goal:** Maintain and improve the regional transportation system.

   Objectives:

   - Improve the physical/structural integrity of the existing arterial roadway system.
   - Improve transit system services and facilities:
     - Maintain quality of benches and shelters.
     - Preserve bus routes that meet minimum performance standards to include services in the HSB MPO area with the most need.

2. **Goal:** Improve the accessibility, connectivity, and mobility of the transportation system, for people and freight, for all modes of transportation in and through the region.

   Objectives:

   - Identify and preserve regional intermodal street and highway corridors for the future transportation system.
   - Improve transit facilities infrastructure:

    - Identify possible park and ride areas that will allow better access to transit services and carpools.
    - Require that all new transit vehicles purchased include bicycle carrying capacity.
    - Identify a transfer station location within the HSB MPO area.
    - Increase the number of bus stops without paved/marked platforms.
- Improve existing transit system operations:
    - Increase the hours and days of operation.
    - Increase service coverage.
    - Increase service frequencies along each flexible route.
    - Maintain current and newly developed routes within the HSB MPO.
- Improve the connection of multiple modes of transportation:
    - Secure or build a park and ride facility for express route bus services.
    - Secure or build a new community transit transfer station with the HSB MPO area that will serve as a hub for integration with the existing transit services, intercity buses, and airport shuttles.
    - Provide opportunities for covered bicycle racks and/or lockers at transit facilities and/or vehicles.
    - Increase the sidewalks and pedestrian facilities infrastructure leading to bus stops.
    - Increase the proportion of multimodal access points that are ADA compliant.
    - Increase the service coordination with transportation providers to actively support the public transportation regional transit connectivity.
- Improve the bicycle and pedestrian facilities infrastructure:
    - Decrease the number of gaps among sidewalks, trails, and bike pathways.
    - Increase miles of sidewalk, trails, and on street bike pathways.
- Increase the connectivity to regions beyond the HSB MPO metropolitan area:
    - Connect the HSB MPO metropolitan area to a regional public transportation system.
    - Increase the number of intercity bus trips departing HSB MPO.
    - Continue the service coordination of public and private passenger transportation services inside and outside the HSB MPO area.
- Develop a strategy for construction and reconstruction of existing roads and bridges.
- Improve freight infrastructures.
- Increase opportunities for metropolitan area businesses to ship freight via air, rail, and truck transportation.
- Identify obstacles impeding for rail and truck freight.
- Increase the capacity for air, rail, and truck freight.

3. **Goal:** Maintain quality performance of the regional transportation system through efficient congestion management and operation techniques.

Objectives:

- Maintain acceptable levels of travel on the street and highway system:
  - Reduce regional annual vehicle miles traveled.
  - Maintain level of service D during peak hour travel on the freeway system.
  - Promote the use of alternative modes of transportation.
- Utilize intelligent transportation system technologies and other traffic operational improvements to alleviate congestion before considering capital-intensive improvements.
- Improve existing transit system performance:
  - Implement intelligent transportation systems solutions, including automatic vehicle location and variable message sign technology to provide customers with real time transit travel time information.

4. **Goal:** Improve the safety and security of the regional transportation system for all users.

   Objectives:

   - Decrease emergency services response times on the freeway system and arterial roadways.
   - Decrease the number of overall crashes/accidents for all modes of transportation.
   - Provide the public with information regarding evacuation/traffic diversion routes and the coordination of emergency management procedures.
   - Provide security features on bicycle, pedestrian, transit, and parking facilities, and at multimodal crossings.
   - Provide safety features on bicycle, pedestrian, transit facilities, buses, and multimodal crossings:
     - Increase number of marked crosswalks.
     - Increase miles of marked bicycle lanes.
     - Identify shared lanes and ensure markings and/or signage is provided.
     - Increase the number of improved signal enhancements that benefit pedestrians and bicyclists by 5%.

5. **Goal:** Preserve, protect, and enhance the natural and human environment.

   Objectives:

   - Avoid, minimize, or mitigate transportation impacts to the environmentally sensitive natural resources, if practicable.
   - Avoid, minimize, or mitigate transportation impacts to the social, cultural and historic resources, if practicable.
   - Avoid, minimize, or mitigate transportation disproportionately high and adverse human health and environmental effects, including social and economic effects, on all populations, including minority and low-income populations.

- Allow for the full and fair participation of all potentially affected communities in the transportation decision-making process.
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by all populations, including minority and low-income populations.
- HSB MPO will maintain commitment to a transportation system that promotes air and water quality and noise control; and meets all federal, state, and local standards.

6. **Goal:** Establish performance goals as the national performance goals for the Federal-aid Highway program in seven areas.

   Objectives:

   - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
   - To maintain the highway infrastructure asset system in a state of good repair.
   - To achieve a significant reduction in congestion on the National Highway System.
   - To improve the efficiency of the surface transportation system.
   - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
   - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
   - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Hidalgo County MPO

The HC MPO designated the following set of goals and objectives for its 2040 MTP and carry those goals forward into the 2045 MTP:

1. **Goal:** Enhance transportation system mobility and accessibility for all roadway users and modes.

   Objectives:

   - Relieve traffic congestion and decrease travel time.
   - Facilitate the design of roadways to accommodate multiple users.
   - Enhance the availability and efficiency of public transportation.
   - Enhance the mobility of the elderly, physically or mentally impaired, and the economically disadvantaged who can't afford public transportation.
   - Increase connectivity between the roadway and transit systems.
   - Promote viable alternative modes of travel for commuters.
   - Enhance bicycle and pedestrian mobility and accessibility.

2. **Goal:** Enhance transportation system mobility and accessibility for all roadway users and modes.

   Objectives:

   - Improve regional connectivity by enhancing mobility between different areas of the metropolitan area.
   - Maximize the economic development potential of the transportation system.
   - Provide for the development of a balanced transportation system compatible with future plans that serve the specific needs of the citizens in support of the region's economic vitality.
   - Adopt a regional freight plan for more efficient transport of freight in the area.

3. **Goal:** Enhance environmental quality and public safety.

   Objectives:

   - Support hurricane and other emergency evacuation planning efforts by giving priority consideration to proposed transportation system improvements that would facilitate the safe and expeditious removal of people from the area in the event of an impending natural disaster.
   - Promote the safety of motorists and users of non-motorized modes.
   - Promote divided roadway and other roadway design measures intended to maximize safety for all roadway users.
   - Promote the design of safe intersections for all roadway users.
   - Promote traffic calming strategies where possible.
   - Consider the environmental impacts of transportation project alternatives.

4. **Goal:** Support local values and preserve existing community resources.

   Objectives:

   - Ensure that proposed improvements are consistent with local plans, goals, and objectives.
   - Support local standards by giving priority consideration to projects that meet community expectations regarding walkability, aesthetic appeal and other quality- of-life issues.
   - Support local land use and community planning activities by developing projects that are consistent with access management and traffic-calming strategies for transportation system development.
   - Identify and protect transportation corridors and the necessary rights-of-way in advance of immediate need to permit future safe and efficient transportation improvements at a minimal cost.

5. **Goal:** Provide a metropolitan transportation planning process that informs and involves the public as well as elected officials.

Objectives:

- Increase public understanding of and involvement in the regional transportation planning process.
- Identify stakeholders and encourage their participation in development of the long-range transportation plan.
- Provide adequate public input in decision making by utilizing a robust Public Participation Plan.
- Increase the use of social media venues to communicate with the public.
- Seek public input from the non-English speaking population through Spanish literature.
- Address concerns of the public in an expedited manner.

6. Goal: Develop a long-range metropolitan transportation plan that is financially feasible.

   Objectives:

   - Develop a plan that meets the requirements of the U.S. Department of Transportation.
   - Develop a financially constraint plan in coordination with the Texas Department of Transportation.
   - Utilization of the latest financial forecasting tools provided through the Texas Unified Transportation Program.

Brownsville MPO

The Brownsville MPO designated the following set of goals and objectives for its 2045 MTP:

1. Goal: Support the economic vitality of the US, Texas, and the Brownsville metropolitan area by enabling global competitiveness, productivity and efficiency.

   Objectives:

   - Move people and goods in an energy-efficient manner.
   - Identify capital investments needed to preserve the existing transportation system, as well as transportation improvements needed to support continued economic development.
   - Promote coordination of transit services with services of other providers, e.g. social services, major employers, schools and universities.

2. Goal: Increase the safety of the Brownsville area transportation system for motorized and nonmotorized users.

   Objectives:

   - Provide for increased travel safety.
   - Provide for the separation of modes, where feasible.
   - Identify and remedy roadway intersections, and other locations, which may have unsafe features in need of correction.

- Identify capital investments needed to improve safety and reduce the rate of accidents.
- Identify capital investments needed to address the needs of pedestrians and bicyclists to allow safe movement within the Brownsville metropolitan area.

3. **Goal:** Increase the security of the transportation system for motorized and non-motorized users.

   Objective:

   - Maintain liaison with local and state agencies that develop plans to ensure the security of various transportation facilities and modes.

4. **Goal:** Increase the accessibility and mobility options across and between modes for movement of people and freight.

   Objectives:

   - Improve mobility options available via public transportation to elderly and disadvantaged persons.
   - Promote utilization of private/public partnerships in transit infrastructure development to fund new projects.
   - Promote improved access to the major traffic generators located within the Brownsville metropolitan area.

5. **Goal:** Protect and enhance the environment, promote energy conservation and improve the quality of life and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

   Objectives:

   - Promote transportation improvements that are compatible with the protection of natural, cultural, and historic resources.
   - Develop policies that direct or guide development of future transportation infrastructure projects, so as to augment and protect the aesthetic features of Brownsville's landscape and historic areas.

6. **Goal:** Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

   Objectives:

   - Improve access to the Port of Brownsville, the Brownsville/South Padre Island International Airport, and to international border crossings.
   - Identify strategies and policies which serve to foster improved intermodal connections.
   - Identify capital expenditures needed to improve intermodal connections, including investments in Intelligent Transportation Systems.

7. **Goal:** Promote efficient transportation system management and operation.

   Objectives:

   - Provide for safe travel.
   - Reduce travel time and remedy congestion problems.
   - Monitor and assess the operation of the Brownsville area transportation system.

RGV Consistent Goals & Objectives

Harlingen-San Benito, Hidalgo County, and Brownsville MPOs have the following goals in common: Safety, System Reliability, Freight Movement & Economic Vitality, Environmental Sustainability, Reduced Project Delivery Delays, Transit, Active Transportation, Transportation Demand Management, Equity Awareness, Disaster Preparedness.

Safety	
Harlingen-San Benito	Improve the safety and security of the regional transportation system for all users.
Hidalgo County	Enhance environmental quality and public safety.
Brownsville	Increase the safety of the Brownsville area transportation system for motorized and nonmotorized users. Increase the security of the transportation system for motorized and non-motorized users.

Infrastructure Condition	
Harlingen-San Benito	Maintain and improve the regional transportation system. *Improve the bicycle and pedestrian facilities infrastructure.
Hidalgo County	Enhance transportation system mobility and accessibility for all roadway users and modes.
Brownsville	*Identify capital investments needed to preserve the existing transportation system, as well as transportation improvements needed to support continued economic development. *Identify capital investments needed to address the needs of pedestrians and bicyclists to allow safe movement within the Brownsville metropolitan area.

*Objective identified relating to goal.

Congestion Reduction	
Harlingen-San Benito	Maintain quality performance of the regional transportation system through efficient congestion management and operation techniques.
Hidalgo County	*Relieve traffic congestion and decrease travel time.
Brownsville	*Reduce travel time and remedy congestion problems.

*Objective identified relating to goal.

System Reliability	
Harlingen-San Benito	Establish performance goals as the national performance goals for the Federal-aid Highway program in seven areas.
Hidalgo County	Develop a long-range metropolitan transportation plan that is financially feasible.
Brownsville	Promote efficient transportation system management and operation.

Freight Movement & Economic Vitality	
Harlingen-San Benito	Improve the accessibility, connectivity, and mobility of the transportation system, for people and freight, for all modes of transportation in and through the region.
Hidalgo County	Support local values and preserve existing community resources.
Brownsville	Support the economic vitality of the US, Texas, and the Brownsville metropolitan area by enabling global competitiveness, productivity and efficiency. Increase the accessibility and mobility options across and between modes for movement of people and freight. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight. *Improve access to the port, Brownsville/South Padre Island International Airport, and to international border crossings. *Identify strategies and policies which serve to foster improved intermodal connections. *Identify capital expenditures to improve intermodal connections, including investments in Intelligent Transportation Systems.

Environmental Sustainability	
Harlingen-San Benito	Preserve, protect, and enhance the natural and human environment.
Hidalgo County	Provide a metropolitan transportation planning process that informs and involves the public as well as elected officials.
Brownsville	Protect and enhance the environment, promote energy conservation and improve the quality of life and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

Reduced Project Delivery Delays	
Harlingen-San Benito	*To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.
Hidalgo County	*Identify and protect transportation corridors and the necessary rights-of-way in advance of immediate need to permit future safe and efficient transportation improvements at a minimal cost.
Brownsville	*Move people and goods in an energy-efficient manner.

*Objective identified relating to goal.

Transit Enhancements	
Harlingen-San Benito	*Improve transit facilities infrastructure *Improve existing transit system operations *Improve existing transit system performance
Hidalgo County	*Enhance the availability and efficiency of public transportation.
Brownsville	*Promote utilization of private/public partnerships in transit infrastructure development to fund new projects.

*Objective identified relating to goal.

Active Transportation Enhancements	
Harlingen-San Benito	*Improve the bicycle and pedestrian facilities infrastructure
Hidalgo County	*Enhance bicycle and pedestrian mobility and accessibility.
Brownsville	*Identify capital investments needed to address the needs of pedestrians and bicyclists to allow safe movement within the Brownsville metropolitan area.

*Objective identified relating to goal.

Transportation Demand Management	
Harlingen-San Benito	-
Hidalgo County	*Promote viable alternative modes of travel for commuters.
Brownsville	*Promote coordination of transit services with services of other providers, e.g. social services, major employers, schools and universities.

*Objective identified relating to goal.

Equity Awareness	
Harlingen-San Benito	*Avoid, minimize, or mitigate transportation disproportionately high and adverse human health and environmental effects, including social and economic effects, on all populations, including minority and low-income populations.
Hidalgo County	*Seek public input from the non-English speaking population through Spanish literature.
Brownsville	*Promote transportation improvements that are compatible with the protection of natural, cultural, and historic resources. *Improve mobility options available via public transportation to elderly and disadvantaged persons.

*Objective identified relating to goal.

Disaster Preparedness	
Harlingen-San Benito	*Provide the public with information regarding evacuation/traffic diversion routes and the coordination of emergency management procedures.
Hidalgo County	*Support hurricane and other emergency evacuation planning efforts by giving priority consideration to proposed transportation system improvements that would facilitate the safe and expeditious removal of people from the area in the event of an impending natural disaster.
Brownsville	*Maintain liaison with local and state agencies that develop plans to ensure the security of various transportation facilities and modes.

*Objective identified relating to goal.

Performance Goals & Measures

Performance measures and targets help gauge the effectiveness of long-range planning efforts and capital investments. Performance management serves as an iterative process that allows for course correction and better decision making to move toward established goals. As noted earlier in this chapter, the FAST Act requires that MPOs use performance-based planning processes and consider national performance goals in order to be eligible for federal funding. These national performance goals include:

- Safety – Achieve a significant reduction in traffic fatalities and serious injuries on all public roads;
- Infrastructure Condition – Maintain the highway infrastructure asset system in a state of good repair;
- Congestion Reduction – Achieve a significant reduction in congestion on the National Highway System;
- System Reliability – Improve the efficiency of the surface transportation system;
- Freight Movement and Economic Vitality – Improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development;

- Environmental Sustainability – Enhance the performance of the transportation system while protecting and enhancing the natural environment; and
- Reduced Project Delivery Delays – Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods.

Table 2-1 shows these national performance goals and their associated performance measures.

Table 2-1: National Performance Goals & Measures

National Goal	Measure(s)
Safety	Fatalities: number of fatalities; rate of fatalities per 100 million Vehicle Miles Traveled (VMT); number of non-motorized fatalities
	Injuries: number of serious injuries; rate of serious injuries per 100 million VMT; number of non-motorized serious injuries
	Transit: total number of reportable fatalities and rate per total vehicle revenue miles by mode
	Transit: total number of reportable injuries and rate per total vehicle revenue miles by mode
	Transit: total number of reportable events and rate per total vehicle revenue miles by mode
Infrastructure Condition	Percentage of pavements of the Interstate System in good condition
	Percentage of pavements of the Interstate System in poor condition
	Percentage of pavements of the non-interstate NHS in good condition
	Percentage of pavements of the non-interstate NHS in poor condition
	Percentage of NHS bridges classified as in good condition
	Percentage of NHS bridges classified as in poor condition
	Transit % revenue vehicles (by type) that exceed useful life benchmark (ULB)
	Transit % non-revenue service vehicles (by type) that exceed ULB
	Transit % facilities (by group) rated less than 3.0 on Transit Economic Requirements Model (TERM) scale
Congestion Reduction	*No required measures for small MPOs and/or areas in attainment for air quality*
System Reliability	Percentage of person-miles traveled on the Interstate that are reliable
	Percentage of person-miles traveled on the non-Interstate NHS that are reliable
	*Transit: mean distance between major mechanical failures by mode
Freight Movement & Economic Vitality	Truck Travel Time Reliability Index (TTTRI)
Environmental Sustainability	*No required measures for small MPOs and/or areas in attainment for air quality*
Reduced Project Delivery Delays	*No established performance measures*

TxDOT Performance Measures

The following tables show the performance measures adopted by TxDOT.

Table 2-2 shows the safety performance measures and targets established by TxDOT for Fiscal Year 2019.

Table 2-2: TxDOT Safety Performance Measures & Targets for FY 2019 (5-Year Rolling Averages)

Safety Performance Measures	Targets
Number of Fatalities	3,791
Rate of Fatalities	1.414
Number of Serious Injuries	17,751
Rate of Serious Injuries	6.55
Total Number of Non-Motorized Fatalities & Serious Injuries	2,237.6

Table 2-3 shows the bridge and pavement condition performance targets established by TxDOT for 2020.

Table 2-3: TxDOT Bridge & Pavement Condition Performance Measures & Targets for 2020

NHS Bridge Condition Performance Measures by Deck Area	Targets
% of NHS bridges by deck area classified as Poor condition	0.8%
% of NHS bridges by deck area classified as Good condition	50.58%
NHS Pavement Condition Performance Measures by Interstate & Non-Interstate Facility	**Targets**
% of Interstate pavements in Good condition	--
% of Interstate pavements in Poor condition	--
% of Non-Interstate NHS pavement in Good condition	52%
% of Non-Interstate NHS pavement in Poor condition	14.3%

Table 2-4 shows the system performance measures and targets established by TxDOT for 2020.

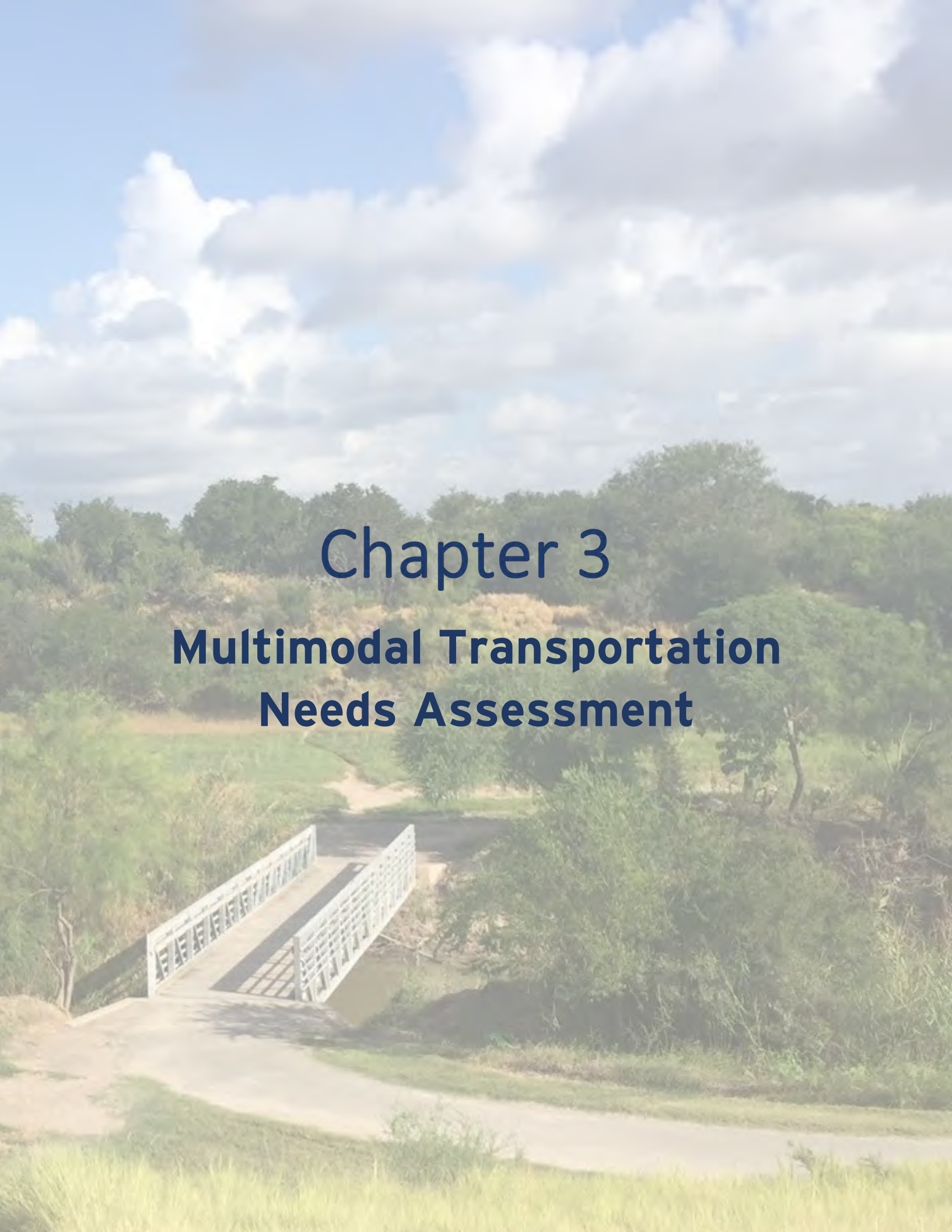
Table 2-4: TxDOT System Performance Measures & Targets for 2020

NHS System Performance Measures by Level of Travel Time Reliability (LOTTR)	Targets
IH Level of Travel Time Reliability	61.2%
Non-IH Level of Travel Time Reliability	--
Interstate Freight Performance Measures by Truck Travel Time Reliability (TTTR)	**Targets**
Truck Travel Time Reliability on the Interstate System	1.7

Table 2-5 shows the Transit Asset Management measures and targets established by TxDOT for 2022.

Table 2-5: TxDOT Transit Asset Management Performance Measures & Targets for 2022

Transit Asset Management Performance Measures	Targets
Transit Asset Management	<15%
% of revenue vehicles at or exceeding useful life benchmark	<15%
% of service vehicles (non-revenue) at or exceeding useful life benchmark	<15%
% of facilities rated below 3 on condition scale (TERM)	<15%
% of track segments with performance restrictions	N/A



Chapter 3

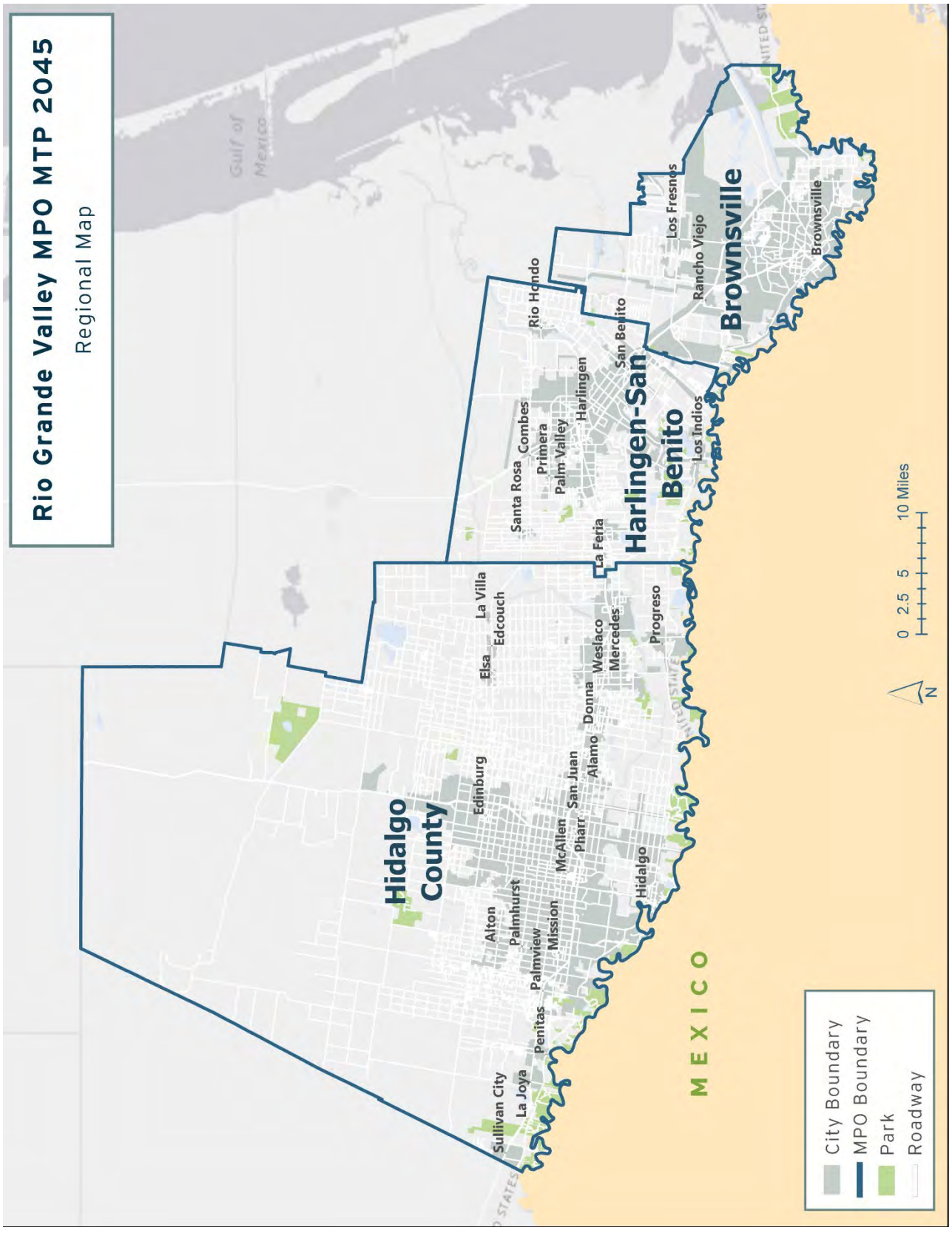
Multimodal Transportation Needs Assessment

MULTIMODAL TRANSPORTATION NEEDS ASSESSMENT

The study team performed a multimodal needs assessment for the RGVMPO planning area (**Figure 3-1**) to ensure that investments recommended by the plan address the actual needs of the region. The transportation needs which inform the recommendations were analyzed for existing conditions for the Rio Grande Valley (RGV), as well as future conditions where applicable. Transportation needs were considered in the following categories:

- Demographics
- Roadway
- Public Transportation
- Active Transportation
- Safety & Security
- Freight
- Ports of Entry
- Operations/Maintenance
- Interregional Passenger Travel

Figure 3-1: RGVMPO Planning Area



Methodology & Resources

The driving force behind identifying future transportation needs is understanding future population and employment growth trends for the region. It is crucial to understand the relationship between growth patterns and the way people travel. Considerations regarding potential growth and land use/development have direct impact on transportation system performance as well as how users interact with the system.

The project team performed an evaluation of the existing transportation system performance using a variety of information on existing conditions and historic trends. This included information on the location and characteristics of regional population and employment as well as other significant land uses that either generate or attract trips. Information on existing travel patterns was assembled from a combination of data resources. Because travel choice relies heavily on where people live and work, the Lower Rio Grande Valley Travel Demand Model (LRGV TDM), was used to represent existing population and employment conditions. The LRGV TDM is a travel forecasting tool that is explained further in later sections of this chapter. These base year conditions (2013) were compared to the forecast year projections (2045) to understand growth trends relative to transportation infrastructure in the region. Further, 2017 5-Year American Community Survey (ACS) data was used in conjunction with the forecast report findings to provide a current snapshot of population and employment trends within the MPO planning area.

The analysis of needs for the existing transportation system and for 2045 was supplemented where necessary and/or appropriate with public or stakeholder input derived from outreach events or surveys of transportation system users. It must be noted, however, that due to the nature of this document (i.e. initially three separate planning efforts) different analysis techniques are utilized throughout the plan. Table 3-1 summarizes the results of the analysis for the existing performance measures for both HSB and HC MPOs. As discussed in Chapter 2, national performance goals serve as a base structure for transportation system performance measurement; TxDOT uses these national goals to create state-specific measures and targets. This evaluation of current conditions serves as a baseline comparison between the RGVMPO planning area's system performance and the system expectations set at the state level by Texas. This in turn creates a sense of how well the planning area's transportation system is performing. As mentioned in Chapter 2, the RGVMPO is supporting the TxDOT statewide targets. Performance measure values highlighted green represent those that are performing well according to the state targets. Those with no color indicate measures not currently tracked by Texas, or measures that are not applicable to or currently measured by the existing MPOs which make up the RGVMPO planning area.

Regarding the Brownsville MPO, specific measures will be identified; the MPO has recently completed the collection of data under the MPO's responsibilities for the Congestion Management Process (CMP). MPO staff have analyzed that data and compared congested intersections with a map indicating high crash locations.

Final performance measures have not been published by the U.S. Department of Transportation (USDOT). The Brownsville MPO will comply with these measures upon their

becoming available. If the MPO's MTP and/or CMP require amendments, these documents will be amended.

Table 3-1: Performance Metrics

National Goal	Measures(s)	HSB MPO	HC MPO
Safety	Number of Fatalities	74	303
	Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)	0.54	0.45
	Number of non-motorized fatalities	19	105
	Number of serious injuries	226	1,134
	Rate of serious injuries per 100 million VMT	1.66	1.67
	Number of non-motorized serious injuries	30	143
	*Transit: Total number of reportable fatalities and rate per total vehicle revenue miles by mode	-*	-*
	*Transit: Total number of reportable injuries and rate per total vehicle revenue miles by mode.	-*	-*
	*Transit: Total number of reportable events and rate per total vehicle revenue miles by mode.	-*	-*
Infrastructure Condition	Percentage of pavements of the Interstate System in Good condition	86	87
	Percentage of pavements of the Interstate System in Poor condition	0	0
	Percentage of pavements of the non-Interstate NHS in Good condition	48	40
	Percentage of pavements of the non-Interstate NHS in Poor condition	9	6
	Percentage of NHS bridges classified as in Good condition	69	77
	Percentage of NHS bridges classified as in Poor condition	0	0.4
	Metro McAllen % revenue vehicles (by type) that exceed useful life benchmark (ULB)	--	7.41
	Valley Metro % revenue vehicles (by type) that exceed useful life benchmark (ULB)	10	10

National Goal	Measures(s)	HSB MPO	HC MPO
Infrastructure Condition Continued	Metro McAllen % non-revenue service vehicles (by type) that exceed ULB	--	0
	Valley Metro % non-revenue service vehicles (by type) that exceed ULB	50	50
	Metro McAllen % facilities (by group) rated less than 3.0 on Transit Economic Requirements Model (TERM) scale	--	0
	Valley Metro % facilities (by group) rated less than 3.0 on Transit Economic Requirements Model (TERM) scale	0	0
Congestion Reduction	*No required measures for small MPOs and/or areas in attainment for air quality*	--	--
System Reliability	Percentage of person-miles traveled on the Interstate that are reliable	--**	--**
	Percentage of person-miles traveled on the non-Interstate NHS that are reliable	--**	--**
	*Transit: Mean distance between major mechanical failures by mode	-*	-*
Freight Movement & Economic Vitality	Truck Travel Time Reliability Index (TTTRI)	--**	--**
Environmental Sustainability	*No required measures for small MPOs and/or areas in attainment for air quality*	--	--

**Public Transportation Agency Safety Plans (PTASPs) and associated transit safety performance measures are not required to be in place until July 2020. These measures have been included here as reference to the coordinated planning process and further consideration will be applied as targets are established by relevant transit agencies.*

***These measures are excluded.*

Table 3-2: Brownsville MPO TxDOT Interstate Pavements Targets

IH 5 Year Moving Average Prediction

	LANE MILES									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
GOOD	-	79.2	70.0	79.7	84.6	64.1	76.9	76.5	76.4	75.7
FAIR	-	17.2	20.1	17.2	18.5	14.6	17.5	17.6	17.1	17.1
POOR	-	-	-	-	-	-	-	-	-	-
Total	-	96.4	91.1	96.9	103.1	78.7	94.4	94.0	93.4	92.7

IH 5 Year Moving Average Prediction

	LANE MILES (%)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
GOOD	0%	82%	79%	82%	82%	81%	81%	81%	82%	82%
FAIR	0%	18%	21%	18%	18%	19%	19%	19%	18%	18%
POOR	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Demographic Trends

One of the keys to accurately identifying a community's transportation needs is the development of an in-depth understanding of current population and employment trends. Demographic trends, as well as land use patterns, have a direct impact on the modes of travel that residents choose. As such, population and employment density patterns are strongly correlated with the usage of personal automobiles for travel. High-density development begets fewer vehicle miles traveled; low-density development leads residents to spend more time on the road. To better assess the transportation needs of the region, the project team first considered existing conditions and the potential growth trends that will impact both the performance of the transportation system as well as how travelers interact with the system.

Estimates of new housing starts, along with population and employment growth through the forecast year 2040 have provided the basis for updating the MPO area transportation needs. Socio-economic data, which is collected and analyzed for the MPO planning area by the MPO

staff, is used by many parties. Technical Committee members, decision-makers on the MPO Policy Committee, local agency staff, as well as members of the public all utilize this data for a variety of purposes.

MPO staff and MPO Committee members use this data via employment of the LRGV TDM. This travel forecasting tool is used to conduct analyses to assess future traffic impacts. MPO staff assess what differences might be achieved towards the lessening of congestion on existing roadways. This is done by adding new (hypothetical) roadways to the network. This is an important consideration whenever MTP projects are examined. Since travel along a transportation system relies so heavily on these demographic factors, the LRGV TDM was used as it includes an estimate of population and employment distribution for base (2014) and forecast (2040) years.

Additionally, Brownsville MPO employs the use of this TDM for forecasting, historic trends, the transportation-land use connection, and the details which would affect growth in the different areas within the Brownsville MPO planning area.

Harlingen-San Benito MPO

Figure 3-2 shows the HSB MPO planning area, as well as projected outward growth of population from Harlingen, but especially along the major arterials, interstates, and highways within the MPO planning area and around Harlingen's downtown (e.g. N Loop 499 and IH 69E). While several of the more rural zones are estimated to experience population increases, some of the inner urban TAZs (namely within N Loop 499 and around Business 77) of the MPO planning area are projected to experience significant growth.

Exhibit 3-1: San Benito Downtown Business District

Table 3-3 displays the MPO planning area's predicted population growth nearly doubling by 2040.

As shown in **Figure 3-3**, the most significant employment growth is centered around Harlingen's downtown, with other significant employment increases south of IH 69 surrounding Rangerville and towards the United States - Mexico border. Several other TAZs in the urban core of the MPO planning area are estimated to experience modest increases in employment. Similar to the planning area's forecasted population, estimated employment growth nearly doubles by 2040, as see in **Table 3-4**.

Table 3-3: HSB MPO Population Change

Population	
2014	159,119
2040	310,896
Change (%)	95%

Table 3-4: HSB MPO Employment Change

Employment	
2014	49,628
2040	94,148
Change (%)	90%

Figure 3-2: HSB MPO Population Change (2014 – 2040)

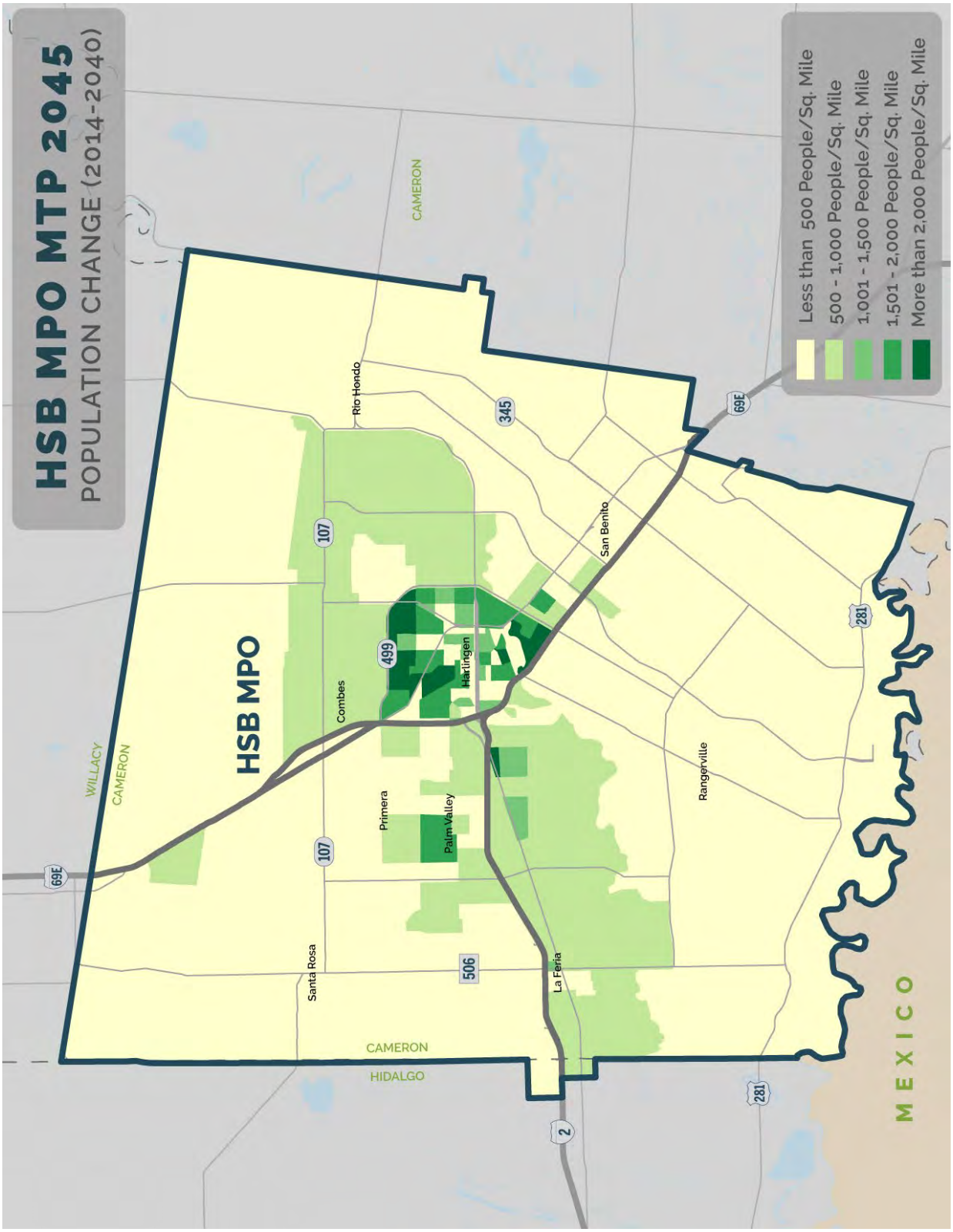
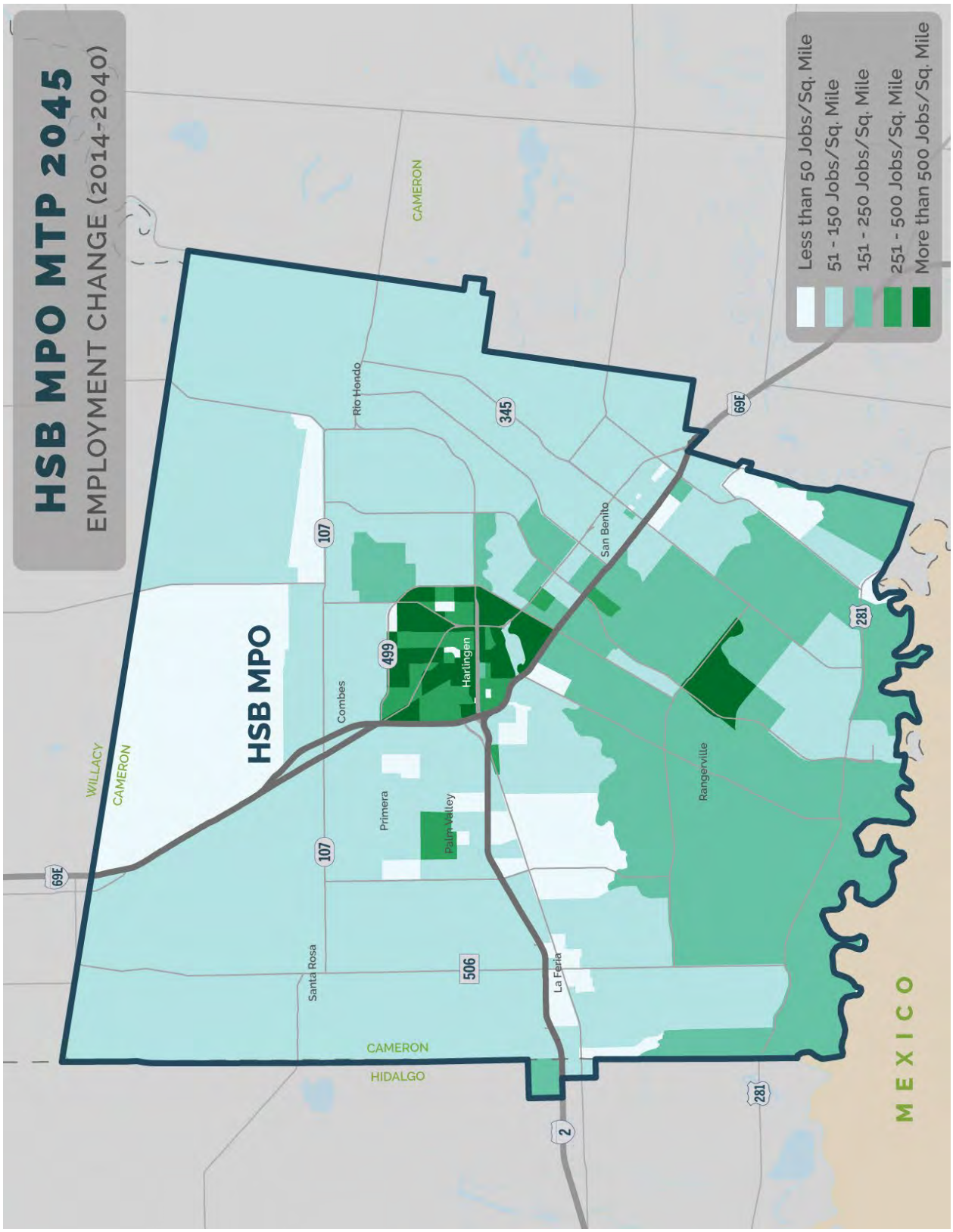


Figure 3-3: HSB MPO Employment Change (2014 – 2040)



Hidalgo County MPO

Exhibit 3-2: McAllen Downtown Business District

Population for the Hidalgo County MPO planning area is estimated to grow from roughly 825,000 in the 2014 base year to over 1,350,000 in the 2040 forecast year (**Table 3-5**). Population growth is shown to occur outwards from the two main interstates. As shown in **Figure 3-4**, population growth is extending from the urban core. Several urban TAZs are projected to experience significant growth (64%) and many of the more rural TAZs can expect population increases of 300 to 1,000 people, such as Elsa/Edcouch, La Joya/Penitas, and Progreso/Progreso Lakes.

As shown in **Figure 3-5,** significant employment growth occurs near major roadways on the fringes of the urban MPO planning area. A small number of TAZs just south of the urban core (Granjeno, Hidalgo, and Pharr) can expect modest employment increase. As shown in **Table 3-6**, the overall employment growth for the Hidalgo MPO planning area is estimated to be 89%.

Table 3-5: HC MPO Population Change

Population	
2014	827,988
2040	1,356,681
Change (%)	64%

Table 3-6: HC MPO Employment Change

Employment	
2014	232,358
2040	438,021
Change (%)	89%

Figure 3-4: HC MPO Population Change (2014 – 2040)

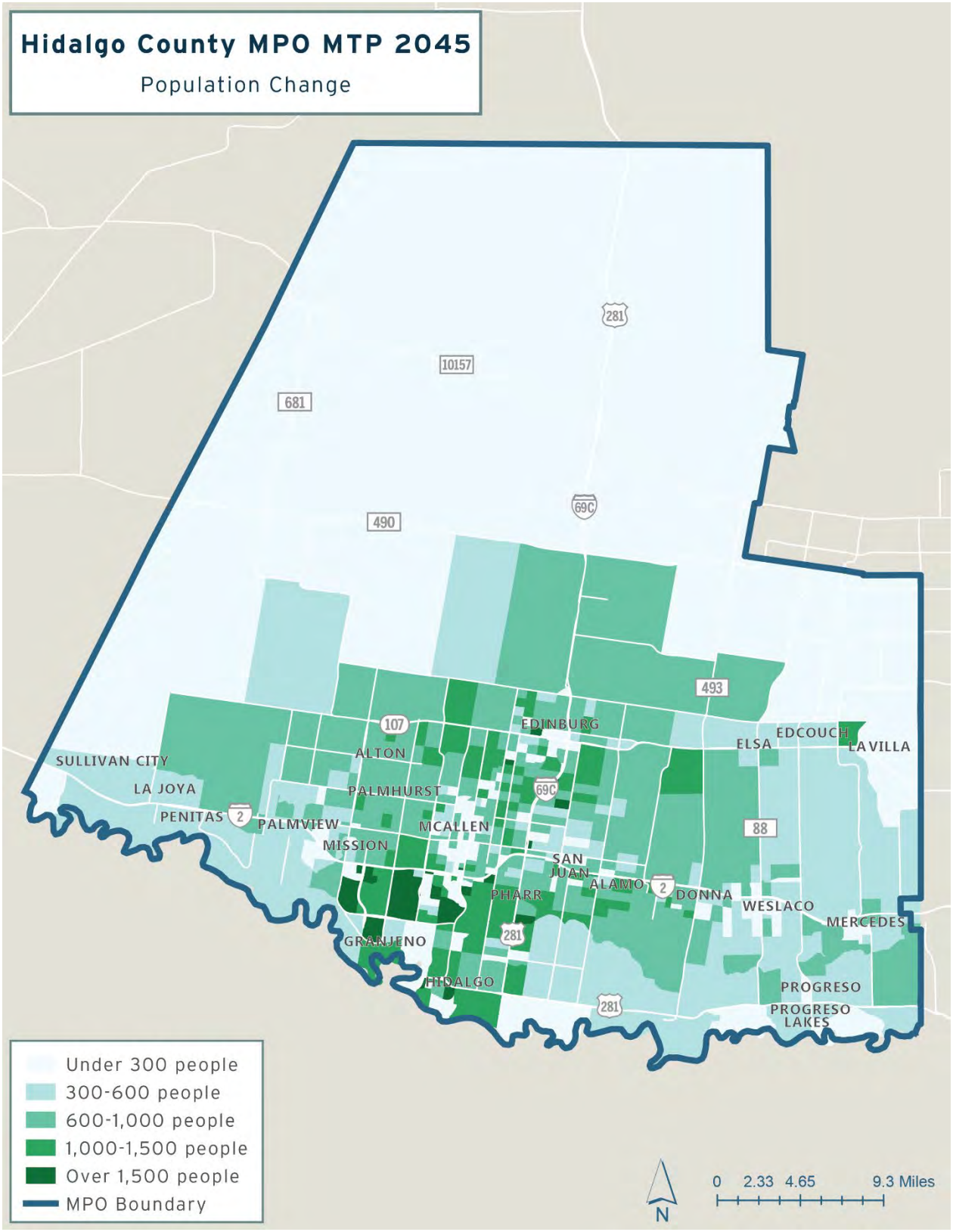
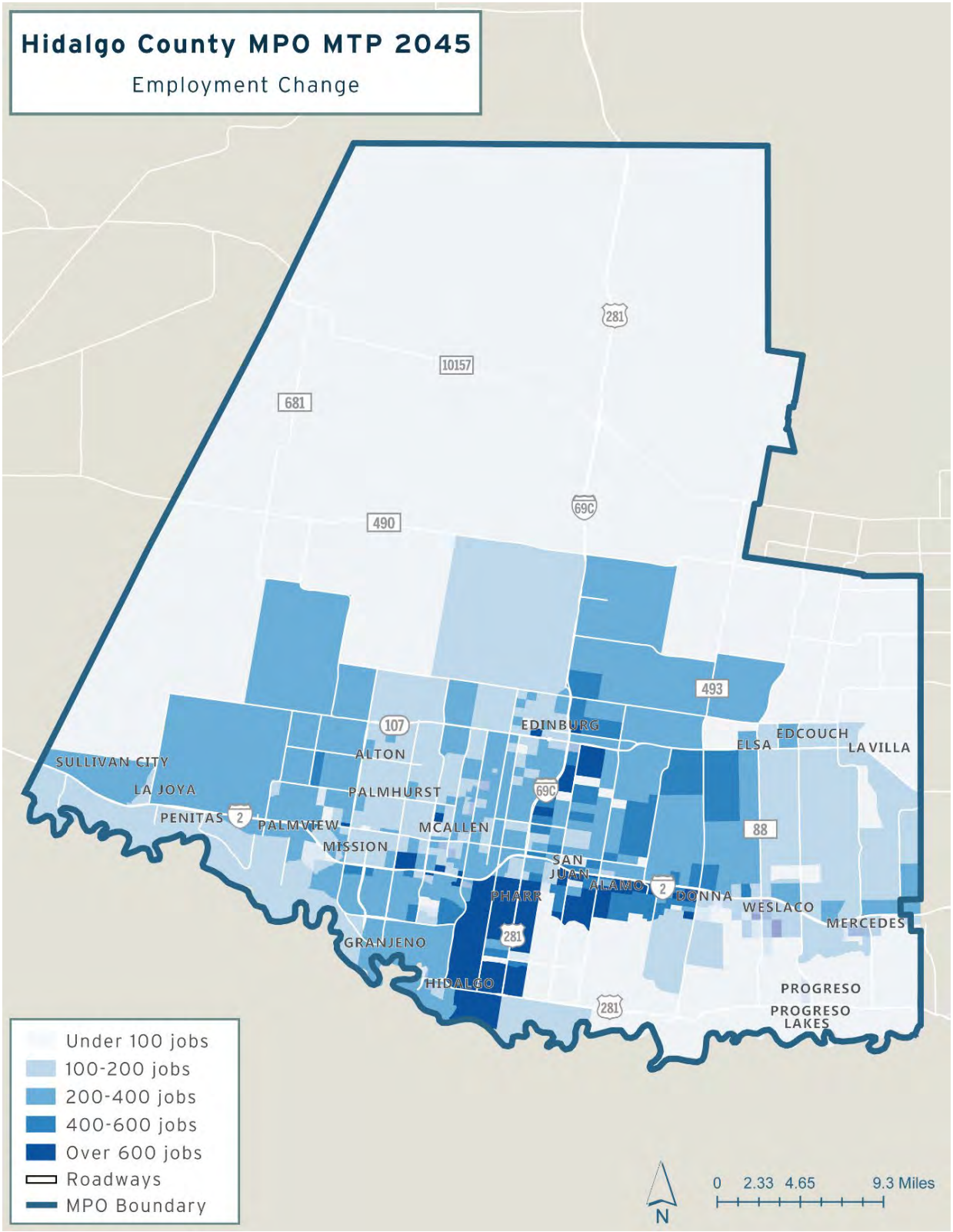


Figure 3-5: HC MPO Employment Change (2014 – 2040)



Brownsville MPO

The Brownsville urbanized area has relied on low-density land development patterns for four to five decades. This reliance is slowly changing, although new patterns or divergences have been incremental and subtle. The Brownsville MPO area has experienced on-going population growth and continued land development. This increase in population is projected to continue in the coming decades (**Table 3-7**).

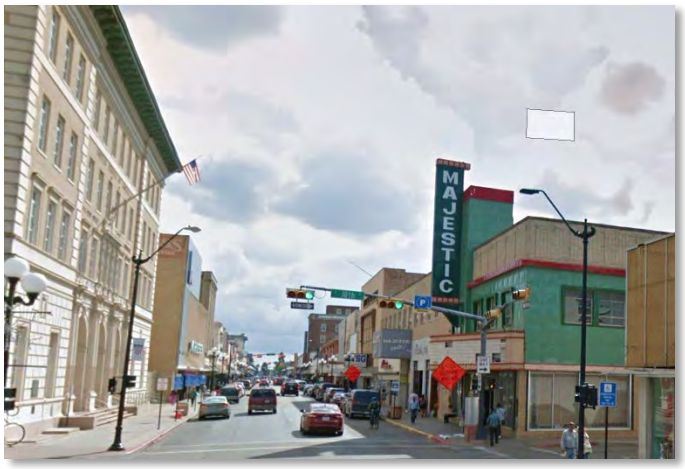


Exhibit 3-3: Elizabeth Street in Brownsville

Table 3-7: Brownsville MPO Planning Area Population Estimate & Forecast

	2020	2030	2040	% Change
Population	267,136	312,080	425,723	58%
Dwellings	87,610	102,350	141,833	54%
Employment	114,904	134,236	183,099	48%

Background & Recent Trends

A significant part of the MTP development process involves provision of a description or a "picture" of the existing and expected (future) socio-economic characteristics within the Brownsville MPO planning area. The existing "trends" scenario and various alternative scenarios to accommodate growth pose important issues for both MPO decision-makers and local citizens. This linkage, the Transportation-Land Use Connection, can produce immense impacts upon both the transportation system and the community's future development.

Brownsville's urbanized area development patterns over previous decades depict a reliance and a preference for low-density residential development.

This reliance on single family dwelling uses (low density) to accommodate growth has not changed, although a few large-sized apartment complexes built in the northeast quadrant of Brownsville in recent years have shown a slight divergence from the overall pattern. The MPO undertook an extensive examination of alternative land use patterns (scenarios) sometime over a decade ago (2009). Despite the MPO's endorsement of denser settlement patterns, this has not resulted in significant or new land use (zoning) policies at the City of Brownsville, nor at the City of Los Fresnos.

However, there has been a noticeable shift in dedicated funding and new investments for other modes of transportation. Specifically, investments in bicycle and pedestrian improvements have increased. This type of "smart growth" initiative has been embraced by all three municipalities within the MPO planning area. The MPO planning area encompasses the

cities of the Los Fresnos and Brownsville, as well as the Town of Rancho Viejo. Unfortunately, these investments in alternate modes, while welcome, are unlikely to abate the demand for vehicular trips.

Consideration of Alternative Land Use Policies

The Brownsville MPO planning area contains hundreds of square miles of vacant, rural land (some of which is utilized for agricultural purposes). How these rural properties will be used in future decades is a critical issue in terms of land use and transportation outcomes.

Examination of potential scenarios based on alternative land use strategies is termed Scenario Planning. In September 2009, the Brownsville MPO completed a Scenario Planning exercise with local stakeholder participation. The report of this MPO-sponsored study, entitled the "MPO's Study of Land Use: Transportation Alternatives," is posted on the MPO's website for public viewing.

At the present time, very few residential developments, which are of high density in character, are being developed in the Brownsville urbanized area. Single family dwellings with large lot sizes and less dense settlement patterns remain quite popular.

The MPO's examination of issues associated with the linkage of land use: transportation is quite important. Dense settlement patterns can not only serve to lessen vehicle congestion, but, (if other incentives can be made available), such strategies or programs can preserve agricultural businesses and protect the special rural character of South Texas.

With widely scattered, low-density developments; the future costs of providing adequate police and fire (EMS) service rise and become very expensive.

Preservation of farmlands can serve other purposes. Flooding problems seem to be more and more of a serious concern in the Rio Grande Valley. Agricultural lands serve to capture rainfalls and store water, to allow gradual dispersion. In late June,2019 a twelve-inch rain event took place over La Feria, Harlingen and nearby communities. This too place when there had been a minimal chance of rain predicted in the NWS forecast.

The Transportation-Land Use Connection

Local leaders from Cameron County, the City of Brownsville, the City of Los Fresnos and the Town of Rancho Viejo may become interested in such choices and be able to intervene in these matters in future decades. At the present time, even consideration of alternatives is seen by many persons as a theoretical exercise of little practice value. When homes are repeatedly flooded and expenses mount, then officials start to ask new questions. It is invariably helpful for leaders within the metropolitan area to examine strategies on how to best accommodate future growth. Where it is proper to locate in terms of locating new housing units and jobs. Zoning decisions help determine preferred land use and transportation outcomes.

In 2009, local leaders and MPO members examined land use policies and dealt with trade-offs as they would in the real world, to achieve results that are the beginnings of a complete land use and transportation plan. The participants utilized a Brownsville area base map, and

development potential map, to direct development towards those areas which support various land uses and to help avoid introduction of residential uses in those areas prone to flooding. Such decision-making must account for where new transportation investments will be directed and the timing of those investments. The MPO Committees can aid local municipalities with these issues, but the zoning decisions rest with those bodies.

City of Brownsville – Land Development Policies

In September 2019, the City of Brownsville initiated a project to review and update all ordinances related to land development, including zoning and subdivision regulations. This will result in a single Unified Development Code. Key priorities of this effort include aligning development outcomes with City Commission's strategic plan and ensuring there are regulations in place that emphasize and facilitate sustainable and fiscally responsible growth. Building and fire codes will also be updated in a parallel process. This comprehensive approach will allow the City to modernize and improve the regulatory environment and provide streamlined processes to administer development reviews, permits and projects.

Brownsville Redevelopment Activities

Some noteworthy developments in Brownsville may alter or slightly modify the overall growth scenario for this community. The Central Brownsville Historic District was recently granted National Historic District status by the National Park service.

Brownsville's attempts to have this downtown district added to the National Register of Historic Places began some years ago. This designation is more than a simple recognition of the historical and cultural value of Brownsville's historic buildings. The designation can help secure new investments that serve to preserve these historic structures.

Such federal designation means that owners of properties within the historic district who spend at least $5,000 fixing up their building in the correct manner are entitled to a 20 percent federal tax credit .This incentive may help the City attract new investor's in fixing up these historic properties, and allow new businesses to be introduced into existing, vacant building.

Some property owners may seek and be successful at obtaining Texas Historic Landmark Status, which if granted, entitles those owners another 20 percent in credits. Many buildings in Downtown Brownsville have vacant second stories, (or vacant upper floors), which could serve as residential lofts or apartment units. This historic district designation could serve to renovate or establish new residential units in this area. Downtown Brownsville can accommodate new business without a need for new roadways.

This dense-settlement pattern above, by itself, is unlikely to dramatically alter the overall low-density pattern in this community. However, if combined with other city initiatives, the redevelopment scenario could expand and strengthen an overall movement towards density. For example, in May 2019 the Brownsville City Commission conditionally approved of a TIRZ.

Growth in Brownsville's Northern Quadrants

The largest portion of residential and commercial growth taking place in Brownsville is focused on those areas found north of FM 802. Another area of note is a former "donut hole" area, which involves acreage located south and north of West Morrison Road.

The removal of the main north: south rail line of the Union Pacific Railroad from the community, allowed West Morrison Road to be established. In turn, the east: west access provided by this arterial has spurred hundreds new, single-family homes to be built here.

New commercial developments located on and near Morrison Road are expected to be built, to accompany or follow this residential growth trend. East Morrison Road is proposed as an extension, 2 miles east of IH 69E.This east-west roadway is proposed to be established as a 4-lane arterial between FM 1847 and SH 550.

Growth in Brownsville's Northwest Quadrant

Residential growth in the western section of the Brownsville urbanized area has been occurring on both sides of US 281. A widening project recently completed by TxDOT for US 281, from FM 3248 to FM 1421, has been a highly useful addition to area roadway network.

A second US 281 widening project, with project limits from FM 1421 westward to FM 1577 is needed to augment safety. These improvements are needed to accommodate trips from the new residential developments planned for this part of the MPO planning area.

Growth in Los Fresnos

Residential growth in the City of Los Fresnos is also continuing at a brisk pace. For these reasons, the establishment of Old Alice Road as a four-lane arterial roadway is needed. Currently, three other roadways (IH 69E, FM 803, and FM 1847) serve the north-south trips between Brownsville and Los Fresnos. The gap or distance between FM 803 and FM 1847 is too large to properly accommodate the expected (future) travel demand.

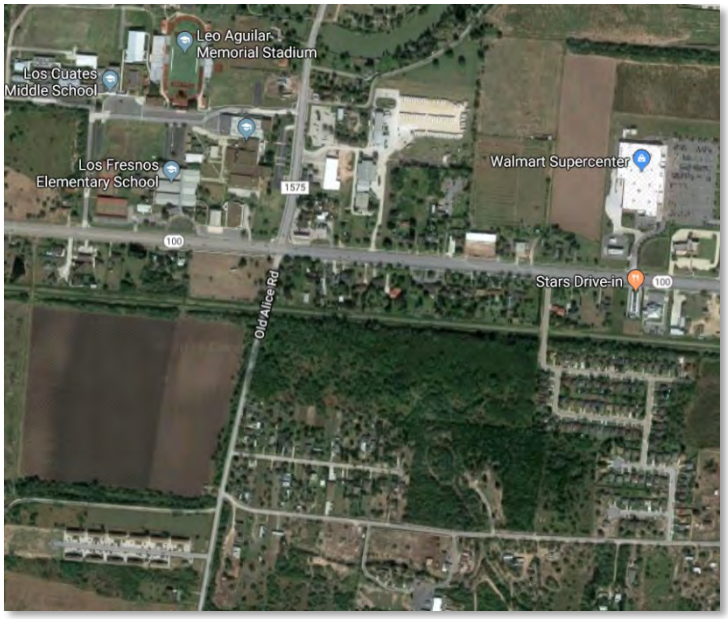


Exhibit 3-4: An aerial of Los Fresnos

Accordingly, the proposed Old Alice Road improvements are needed. The MPO has allocated Category 7 funds for implementation of engineering and environmental work to advance this improvement project. This new roadway will be located between these two other arterial roadways.

The City of Brownsville and the Cameron County RMA will be sharing the cost of undertaking design work for Old Alice Road.

In addition, these entities will pay for the needed environmental studies.

Since the needed right-of-way was acquired some years ago, this project may advance more rapidly when the design has been completed.

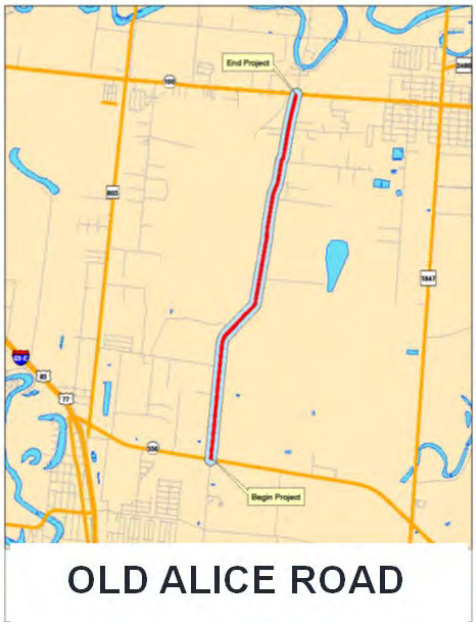


Exhibit 3-5: Old Alice Road

Expected Growth at the Port of Brownsville

The Port of Brownsville is a major center of industrial activity for both the South Texas region and Northern Mexico. The Port has 40,000 acres, which makes it one of the largest ports in the US. There is significant news about new investments. Liquefied Natural Gas (LNG) facilities will be built to export this commodity from the Port. One LNG facility alone is expected to represent a 20-billion-dollar investment.

With deepening of the Port's ship channel, larger classes of sea vessels will be able to make calls (stops) at the Port of Brownsville.

For these reasons, MPO staff expect to see accelerated growth in employment at the Port. Increases are expected in the associated travel demand/trips, pertaining to increased employment and construction activity at the Port of Brownsville. The South Port Connector, (which is funded) and the proposed East Loop, which is listed for Category 12-funding, are important MPO-sponsored MTP improvements needed to respond to the rapid growth expected at the Port.

Also, MPO staff predict that heavy traffic volumes are expected on segments of the SH 48 corridor at the Port of Brownsville.

Roadway Assessment

In an expanding region such as the RGV, the roadway network is a critical piece of the area's transportation system. While it is imperative that the RGVMPO establishes a multi-modal transportation system, the roadway network is a focal point of study as it supports a large portion of the region's day-to-day travel.

Exhibit 3-6: Interstate 2 near the Valle Vista Mall in Harlingen

The RGVMPO roadway analysis (for the HSB and HC MPO planning areas, respectively) employs the LRGV TDM. For this portion of the roadway assessment, the TDM base year (2014) and forecast year (2040) were used to compare conditions assuming growth continues as expected, however, with no further transportation infrastructure improvements.

For the RGVMPO area, the 2045 MTP uses the following performance measures, derived from the LRGV TDM, to analyze and project travel trends for the region:

- Vehicle Miles Traveled (VMT) – roadway miles traveled by vehicles within a specified period
- Vehicle Hours Traveled (VHT) – additional hours spent in traffic due to congestion on the roadway network
- Volume-to-Capacity (V/C) Ratio – ratio of traffic flow to maximum allowable traffic flow on a road segment, where a ratio of 1 represents a segment at full capacity and higher values indicate more severe congestion
- Percentage of Network Roadway Miles experiencing Heavy Congestion

Regarding Brownsville MPO, existing/ongoing planning efforts are discussed to better understand the current state of the planning area's roadway infrastructure, as well as strategies in place to improve the roadway network moving forward.

Harlingen-San Benito MPO

Congestion Trends

The 2014 Existing Conditions scenario network (**Figure 3-6**) displays high levels of congestion occurring along SH 107 in the northwestern region of the HSB planning area. Moderate congestion is estimated to appear on Business 77 extending from the City of Harlingen to peripheral cities, highway junctions, and Farm-to-Market (FM) Roads. Inversely, the TDM results suggest overall there is minimal congestion experienced within the downtown/urban region of the planning area. However, low congestion is shown to occur within Harlingen sporadically along arterials in some cases (e.g. Tyler/Harrison, FM 2520, and FM 106).

The 2040 TDM scenario network (**Figure 3-7**) forecasts high levels of congestion along highways/arterials extending from the Cities of Harlingen and San Benito. While congestion is shown to increase in both downtown and peripheral regions, the most noticeable congestion is projected to occur along highways/arterials which connect the City of Harlingen with outlying destinations, such as La Feria to the west and San Benito to the southeast.

Exhibit 3-7: Traffic along Business 77 in Harlingen

Table 3-8 presents the regional performance measures for the 2040 no-

build scenario with comparison to 2014 existing conditions regional performance measures. This table is meant to quantify the anticipated changes in traffic and congestion over time, and also provides a baseline for evaluating other TDM scenarios that reflect the addition of transportation projects developed in this MTP.

Table 3-8: HSB MPO Traffic & Congestion Performance Measures

	2014 – Existing Conditions			2040 – Future No-Build			
	Interstate	Arterials	Total	Interstate	Arterials	Total	% Change for Totals
Daily VMT	1,134,425	1,587,840	2,722,265	2,150,594	3,845,846	5,996,440	120%
per person	-	-	17.11	-	-	19.29	13%
Daily VHT	21,625	40,401	62,027	41,934	103,641	145,575	135%
per person	-	-	0.39	-	-	0.47	20%
Avg. V/C Ratio	0.45	0.43	0.24	0.78	0.77	0.63	162%
% of Roadway Miles with Heavy Congestion	-	-	4%	-	-	35%	709%

Figure 3-6: HSB MPO Existing Roadway Congestion

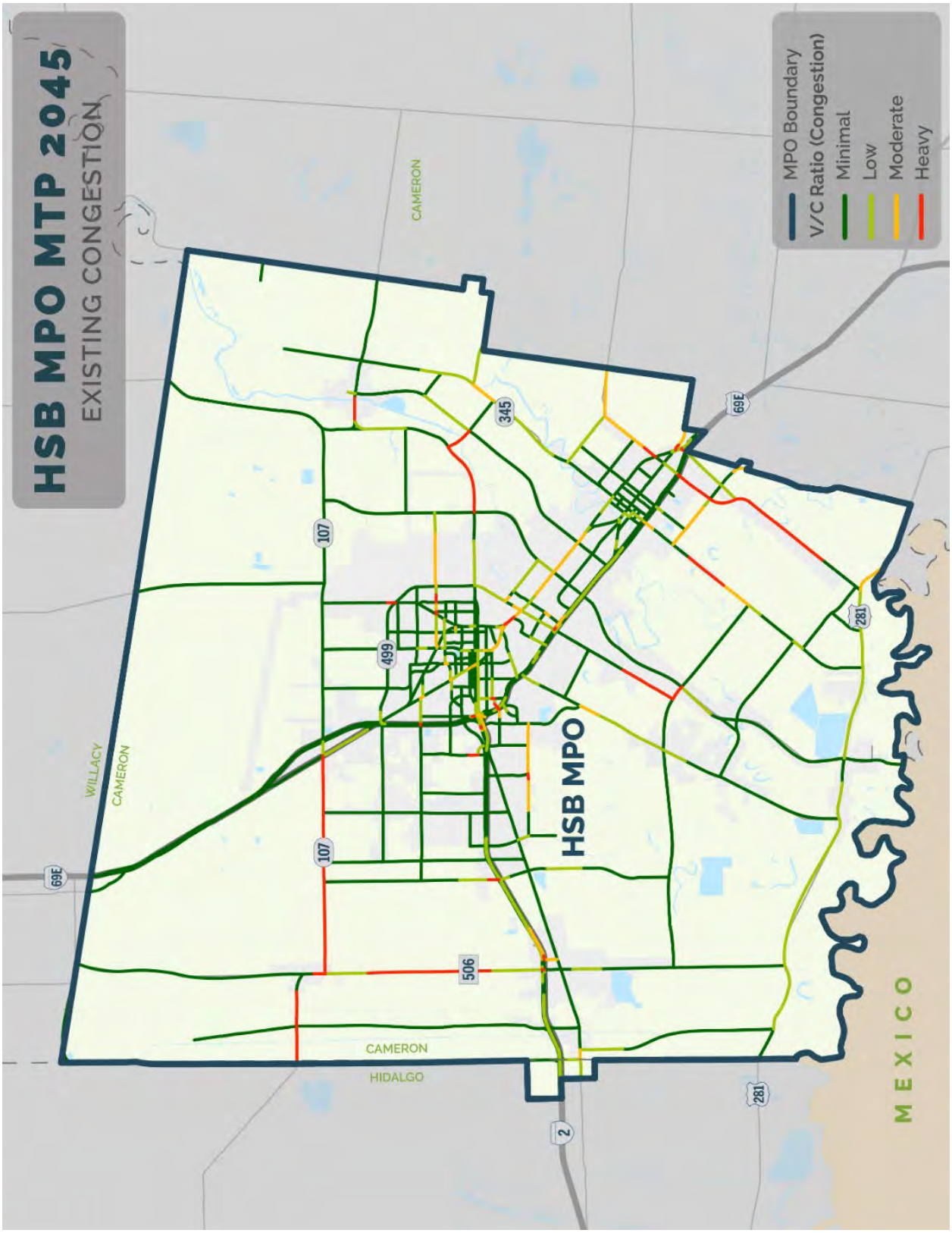
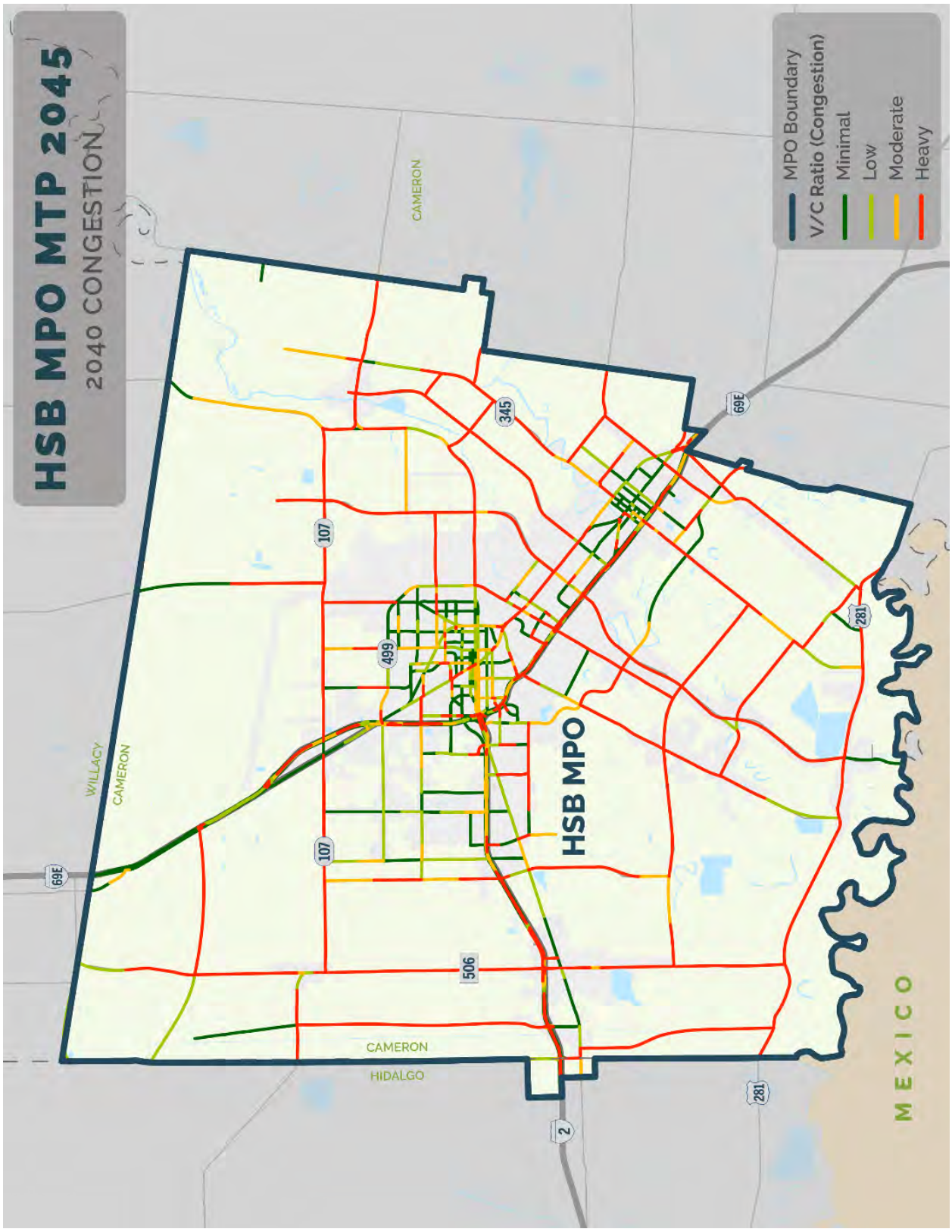


Figure 3-7: HSB MPO Forecast Roadway Congestion



Hidalgo County MPO

Congestion Trends

The 2014 existing conditions scenario network for the Hidalgo County planning area shown in **Figure 3-8** exhibits high levels of congestion occurring along the major corridors and local roadways through the MPO planning area. The City of McAllen is shown to currently experience medium to heavy congestion. The 2014 conditions show US 83, and the corridors feeding into IH 2 such as International Blvd, Tom Gill Rd, County Rd 1400, SH 281, and IH 69C having heavy congestion. Though the City of McAllen exhibits most of the congestion in the planning area, adjacent cities also experience congestion originating from IH 2.

The 2040 TDM scenario network (**Figure 3-9**) displays congestion extending outward from major highways, along principal arterials, and local streets in the HC MPO planning area. IH 2, US 69, SH 281, SH 107, SH 493, and most of the local interior roads within the City of McAllen are expected to experience heavy congestion. IH 2 is expected to be highly congested for large portions of the facilities. The City of McAllen and areas along IH 2 are projected to become heavily congested by 2040, assuming there are no transportation improvements made before that time. In general, the highest levels of anticipated congestion occur along the major highways/arterials providing access to the City of McAllen, US 83, and roadways throughout the region along US 83.

Table 3-9 presents the regional performance measures for the 2040 no-build scenario with comparison to 2014 existing conditions regional performance measures. This table is meant to quantify the anticipated changes in traffic and congestion over time, and it also provides a baseline for evaluating other TDM scenarios that reflect the addition of transportation projects developed in this MTP.

Table 3-9: HC MPO Traffic & Congestion Performance Measures

	2014 – Existing Conditions			**2040 – Future No-Build**			
	Interstate & Toll	Arterials	Total	Interstate & Toll	Arterials	Total	% Change for Totals
Daily VMT	3,695,774	10,970,013	14,665,788	5,518,415	19,639,522	25,157,937	72%
per person	-	-	17.90	-	-	18.54	4%
Daily VHT	72,727	292,624	365,351	108,917	530,726	639,643	75%
per person	-	-	.45	-	-	.47	6%
Avg. V/C Ratio	0.73	0.53	0.54	1.03	0.91	0.80	47%
% of Roadway Miles with Heavy Congestion	-	-	14%	-	-	42%	202%

Figure 3-8: HC MPO Existing Roadway Congestion

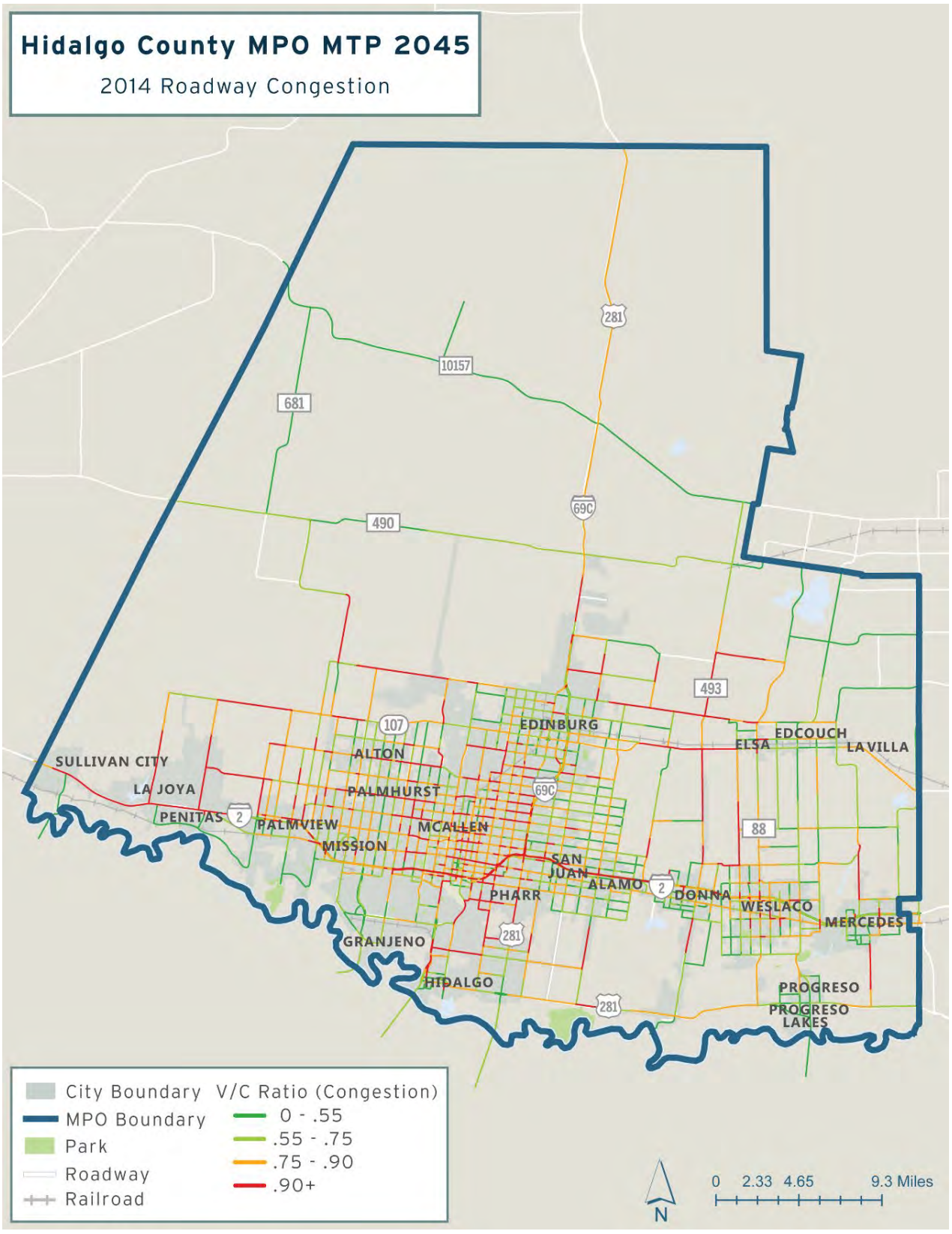
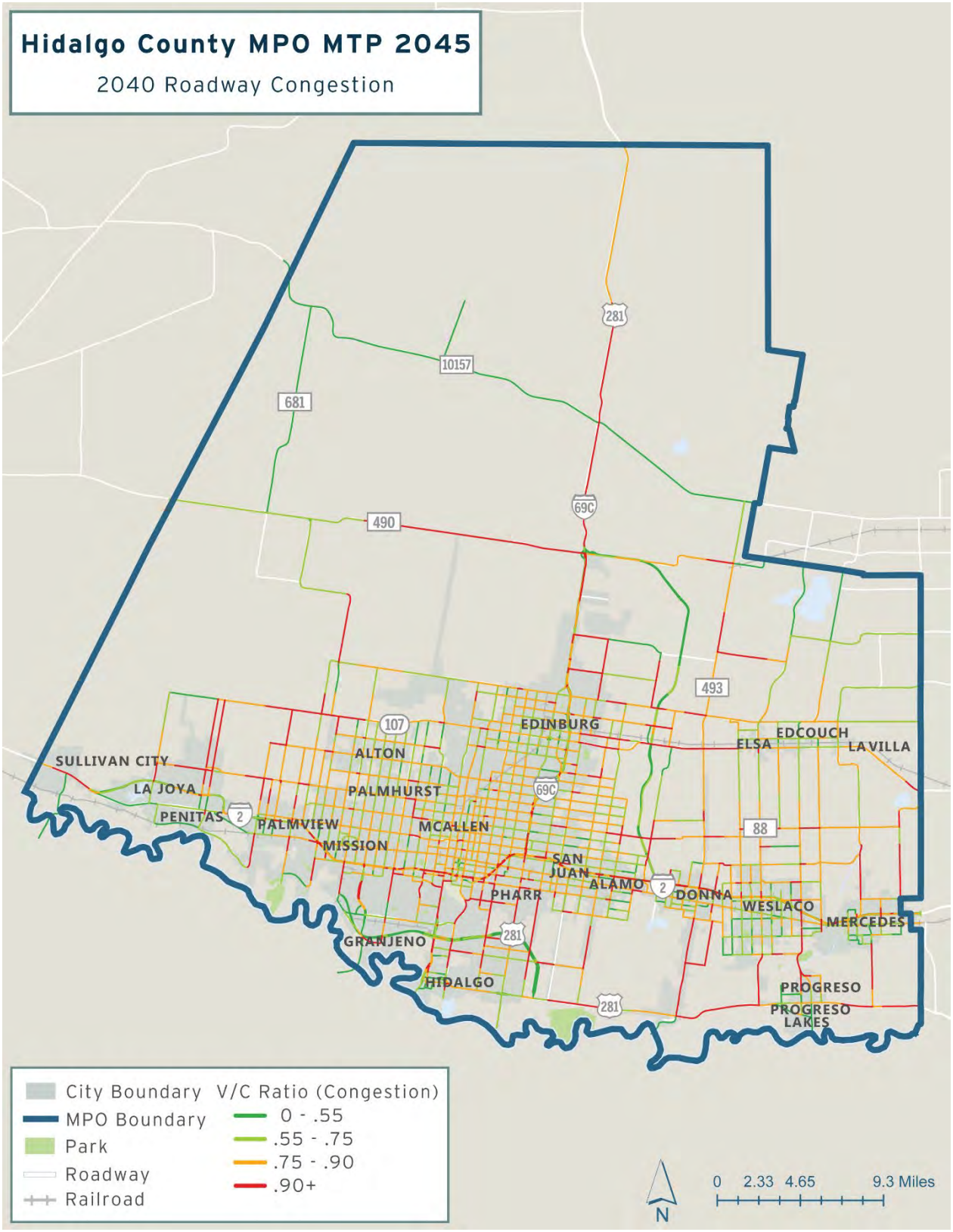


Figure 3-9: HC MPO Forecast Roadway Congestion



Brownsville MPO

Congestion Management Process (CMP)

The Brownsville MPO became a Transportation Management Area (TMA) in July 2012. In anticipation of this change of status, MPO staff asked the MPO Committees for their help in undertaking the MPO's initial "Congestion and Delay Study". In 2019, a second "Brownsville MPO Congestion and Delay Study" was completed. Being the first update since the inaugural study, the MPO is able to compare to the baseline 2011 results. To help establish the CMP network, the MPO staff invited representatives of local agencies and units of government to a kick-off meeting in May 2019 for two purposes. Table 3-10 shows segments that were most congested during AM and PM peak periods based on Congestion Index in 2019.

Table 3-10: Brownsville MPO Top Congested Segments

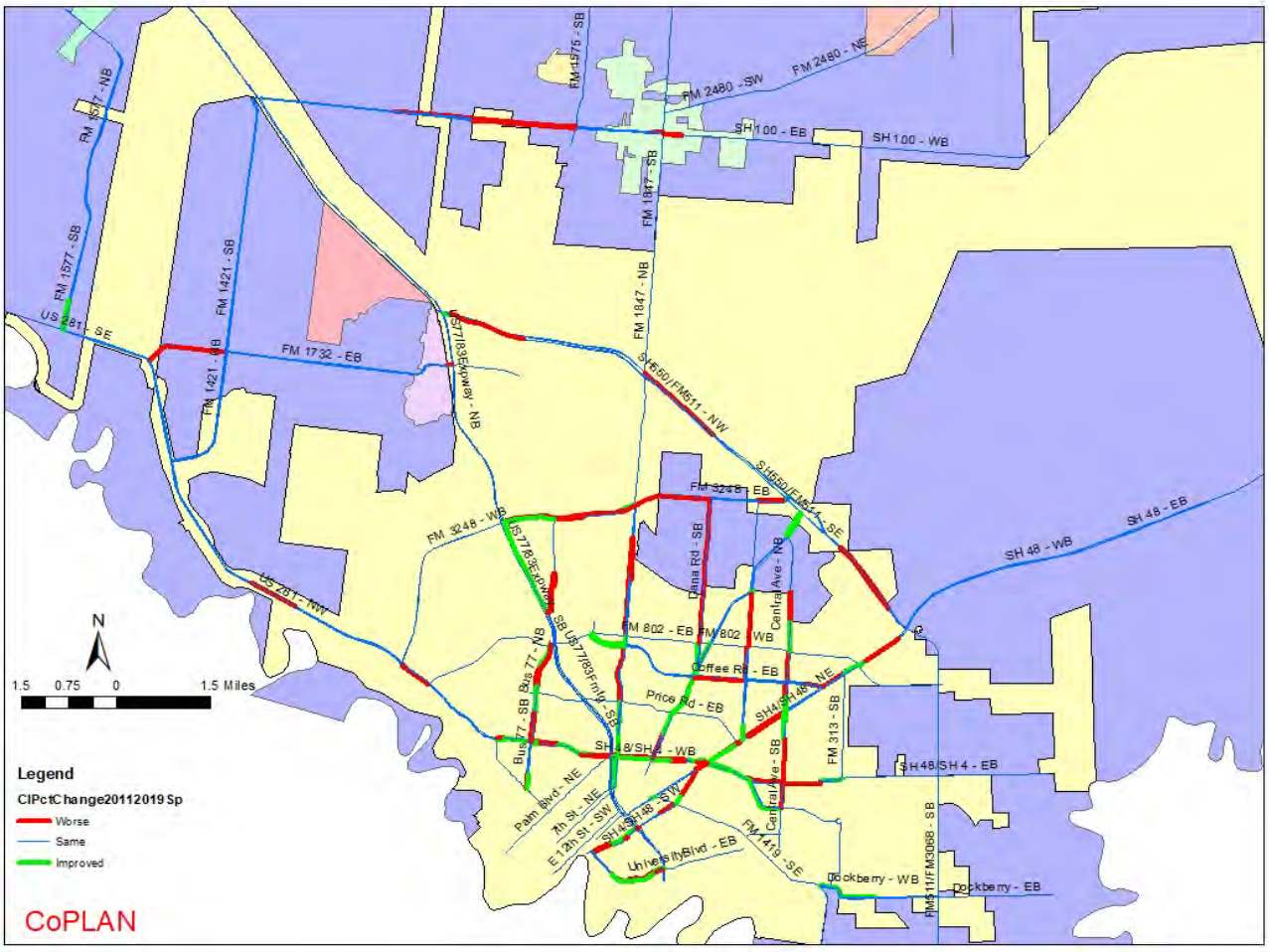
Top 20 2019	Top 20 2011	RouteId	Peak	Route	Segment	Length	Speed Limit	Avg Speed	CI
1	18	3020	PM	SH550/FM511 - SE	77 NB FR to FM-803	546	60.0	14.3	0.24
2		3017	AM	SH 48/SH 4 - EB	OLD ALICE to PALM	1253	40.0	10.2	0.25
3	12	3034	PM	SH4/SH48 - SW	WALMART to 802 RUBEN TORRES	712	55.0	15.3	0.28
4	1	3034	PM	SH4/SH48 - SW	HOME DEPOT to BOCA CHICA	591	45.0	13.9	0.31
5		3012	PM	FM 1847 - SB	CARLOS to HERITAGE	3694	50.0	15.6	0.31
6		3034	PM	SH4/SH48 - SW	MCKENZIE to ROBINDALE	577	45.0	14.4	0.32
7		3018	PM	SH 48/SH 4 - WB	OWENS to 14TH	2152	45.0	15.9	0.35
8		3021	PM	Bus 77 - NB	LOS EBANOS to PRICE	1769	40.0	14.2	0.35
9		3034	AM	SH4/SH48 - SW	HOME DEPOT to BOCA CHICA	591	45.0	16.4	0.36
10		3034	AM	SH4/SH48 - SW	802 RUBEN TORRES to 313 MINNESOTA	1391	55.0	20.4	0.37
11		3007	AM	FM 1732 - EB	NoName to 77 SB FR	536	45.0	17.3	0.38
12		3022	PM	Bus 77 - SB	PRICE to LOS EBANOS	1769	40.0	15.7	0.39
13		3011	AM	FM 1847 - NB	COFFEE PORT to 802	820	45.0	17.8	0.40
14		3011	AM	FM 1847 - NB	802 to HERITAGE	4916	49.4	19.7	0.40
15		3033	PM	SH4/SH48 - NE	COFFEE PORT to 313 MINNESOTA	2213	55.0	22.1	0.40
16		3033	AM	SH4/SH48 - NE	SECURITY to BOCA CHICA	1095	40.3	16.4	0.41
17		3033	AM	SH4/SH48 - NE	313 MINNESOTA to 802 RUBEN TORRES	1391	55.0	22.8	0.41
18		3033	AM	SH4/SH48 - NE	802 RUBEN TORRES to WALMART	712	55.0	23.0	0.42
19		3011	PM	FM 1847 - NB	COFFEE PORT to 802	820	45.0	18.8	0.42
20		3013	PM	US 281 - NW	KENNEDY to 802	2621	41.0	17.6	0.43

A CMP should reflect performance measures that are clearly understood and relatable by the public, decision makers, and technical practitioners. Many times, the public do not immediately relate to Capacity or Level or Service. What they do relate to is travel time and speed. The one performance measure that brings all stakeholders together is Congestion Index (CI).

The Brownsville MPO has introduced the use of congestion index (CI) for the primary performance measure in the inaugural CMP. This performance measure allows easy comparison of the efficiency of roadways as a ratio of average travel speed to the posted speed limit. Being the first update to the inaugural 2011 study, the MPO technical committee evaluated thresholds to define what will be used as "unacceptable" congestion. In order to narrow the focus on those roadway segments that need attention and commonly have

recurring delay, a CI rate of 0.60 or 60% of posted speed has been established. Those with a ratio of 0.60 - 0.99 will be considered stable and those ≥1.00 will be considered as free-flow. **Figure 3-10** shows how conditions have changed since the 2011 inaugural CMP.

Figure 3-10: Brownsville MPO Changes in Congestion Compared to 2011



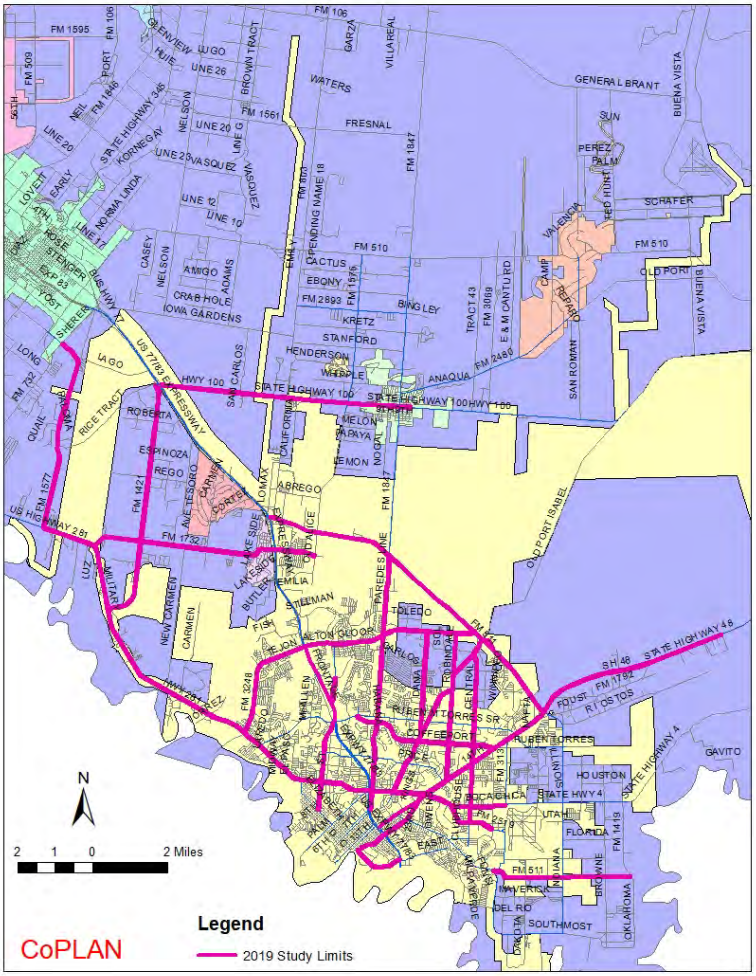
Purpose & CMP Explanation

Congestion management is the use of strategies to optimize operations of a transportation system through management of the existing system. As such, a congestion management process (CMP) is a systematic approach coordinated regionally that provided current performance measures detailing the systems performance and evaluates strategies that meet the local objectives.

The spring study was conducted on approximately 104 centerline miles (211.8 in 2011) of roadways in the MPO region. **Figure 3-11** shows the study area and roadways. The study included 23 (41 in 2011) different roadways, divided into 330 (629 in 2011) separate segments that ranged from 229 fee to 2.5 miles in length in the rural area. For added functionality, each segment was assigned a jurisdiction (City / County) depending on its location within the MPO

boundaries. This attribute will allow the MPO and its members to query data within the database for each respective jurisdiction. All the study roadways are evaluated during the AM and PM peak periods between the hours of 7:00 AM-9:00 AM and 4:00 PM-6:00 PM respectively.

Figure 3-11: 2019 Study Limits



The CMP is not to be a stand-alone study; it is to be an integral component of the metropolitan transportation planning process. Once an MPO exceeds a population of 200,000, the CMP is required according to SAFETEA-LU, while the federal regulations are not strictly stated as to the methodology or approach that is to be followed.

It is necessary for Brownsville MPO to maintain an accurate, up to date regional transportation model in order to conform to State and Federal regulations for air quality and transportation projects. The MPO updates and calibrates its model using current information on the roadway network, area development, and other relevant characteristics. The MPO updates their travel time and speed data periodically.

The travel speeds on congested segments are slower than drivers typically want to drive, and there may be less opportunity for lane changing and maneuvering. Stable sections are accommodating volumes less than capacity. Travel speeds are somewhat slower than the speed limit, but generally acceptable to drivers. Lane changing and maneuvering is less difficult than in congested segments. Free-flow sections are operating well below capacity. Travel speeds equal or exceed the speed limit and traffic can maneuver without interference.

Table 3-11: Congestion Index Criteria

Congestion Index (CI)		
Congestion	**Stable Flow**	**Free Flow**
<0.60	0.60 to 0.99	>0.99

The flexibility is intentional within the regulations to allow the MPO to development a living methodology that evolves with the local objectives and needs.

Of the 210.1 directional miles of roadways studied in the AM peak period, 17.8 miles were free-flow, 157.4 miles were stable, and 34.9 miles were congested. Therefore, for the 2019 study, 83.4% of the roadways operated within an acceptable range during the AM peak period. Of the 210.1 directional miles of roadways studied in the PM peak period, 15.6 miles were free-flow, 161.2 miles were stable, and 33.3 miles were congested. Therefore, for the 2011 study, 84.1% of the roadways operated within an acceptable range during the PM peak period. **Table 3-12** summarizes the number of segments and miles operating under free-flow, stable, and congested conditions.

Table 3-12: Summary of Study Roadways in Terms of CI for AM and PM

Peak Period	Measure	Roadway Condition			Total
		Free Flow > 0.99	Stable 0.6-0.99	Congested < 0.60	
AM	Number of Miles	17.8	157.4	34.9	210.1
	Percentage of Miles	8.5%	74.9%	16.6%	100%
PM	Number of Miles	15.6	161.2	33.3	210.1
	Percentage of Miles	7.4%	76.7%	15.9%	100%

By responding to congestion through a process that involves developing congestion management objectives, developing performance measures to support these objectives, collecting data, analyzing problems, identifying solutions, and evaluating the effectiveness of implemented strategies, the CMP provides a structure for responding to congestion in a consistent, coordinated fashion.

Positive Results from Prior MPO Investments Informed by the US 77/83 Ramp Improvements

In 2013, the Brownsville MPO and Pharr District staff examined different scenarios for reconfiguration of US 77/83 ramps. Due to congestion issues and safety concerns it became evident that re-design of the expressway ramps on the northbound frontage road was needed. There were seven proposals, Option 6 was chosen after TxDOT staff conducted public involvement activities.

The US 77/83 facility is now designated as IH 69E.The package of improvements, which were built, became known as the US 77/83 ramp "Reconfiguration Project."

The Improvements included the following:

- Closure of the Morrison exit
- Relocation of the FM 802 entrance some distance to the north;
- Reversal of entrance/exit ramps between Morrison Rd and Morrison Rd and FM 3248. Another important feature was the addition of a right-hand turning lane, just south of the northbound Frontage Road/FM 324 intersection.
- Construction work for these improvements started on February 2, 2015. The contractor, IOC, was awarded a contract of about 4.3 million dollars. These improvements have worked very successfully to improve safety, reduce accidents, and lessen the previous congestion problems. The MPO's 2019 Congestion and Delay Study reveals that free flow conditions usually occur within this northbound frontage road segment. The MPO's investment did reduce congestion.

2019 Congestion & Delay Study (CMP Related Investments)

In 2015, due to the CMP, the Brownsville MPO established a "set-aside" policy to find operational improvements. These types of improvements are quite often less expensive than adding capacity or widening of roadway corridors. It was determined by the MPO to set aside 10% of the Category 7 monies operational for (CMP) improvements for a two-year period, and the results.

Since the Category 7 allocations was roughly 4 million dollars per year, two years of set aside funding represented $800,000. As it turned out, the MPO funded signal optimization at seven locations in Brownsville, with a larger expenditure of 1.1 million dollars.

Assessment of these locations in terms of roadway conditions has not taken place; these seven signal improvements are being completed now as this MTP document is being finalized. Thus, the MPO has been unable to access the effectiveness of these investments, in terms of aiding traffic flow. It should be noted that one aspect of these Category 7 investments has already been successful.

MPO staff have received a significant number of public comments praising the utility of the sidewalk improvements installed adjacent to these signal locations. In addition, pedestrian push buttons, will crosswalk signals, one being installed at all these seven signal locations. This will aid safe travel for pedestrians.

Another MPO-sponsored investment that pertains to CMP issues is pending the start of construction. The SH 48 raised center median improvements involve a 3-million-dollar investment to improve traffic flow within a 3-mile segment of the Boca Chica Boulevard Corridors. This project was selected due to its potential for improving traffic flow.

The limits are from IH 69E eastward to the SH 4/SH 48 intersection. Traffic flow will be improved by the elimination of may conflict points that now exist due to the center turn lane. Also, the number of accidents that take place on this roadway will be reduced due to the elimination of conflict points.

2019 CMP Report Recommendations

Improvements include signal timing optimization / traffic signal progression, access management, additional capacity, and adding signals in place of stop signs. Benefits of these improvements are described below. Additionally, the MPO should encourage the use of alternative modes such as public transit, bicycling, and walking to the extent possible. This will not only help divert some vehicular trips but will also minimize vehicular emissions.

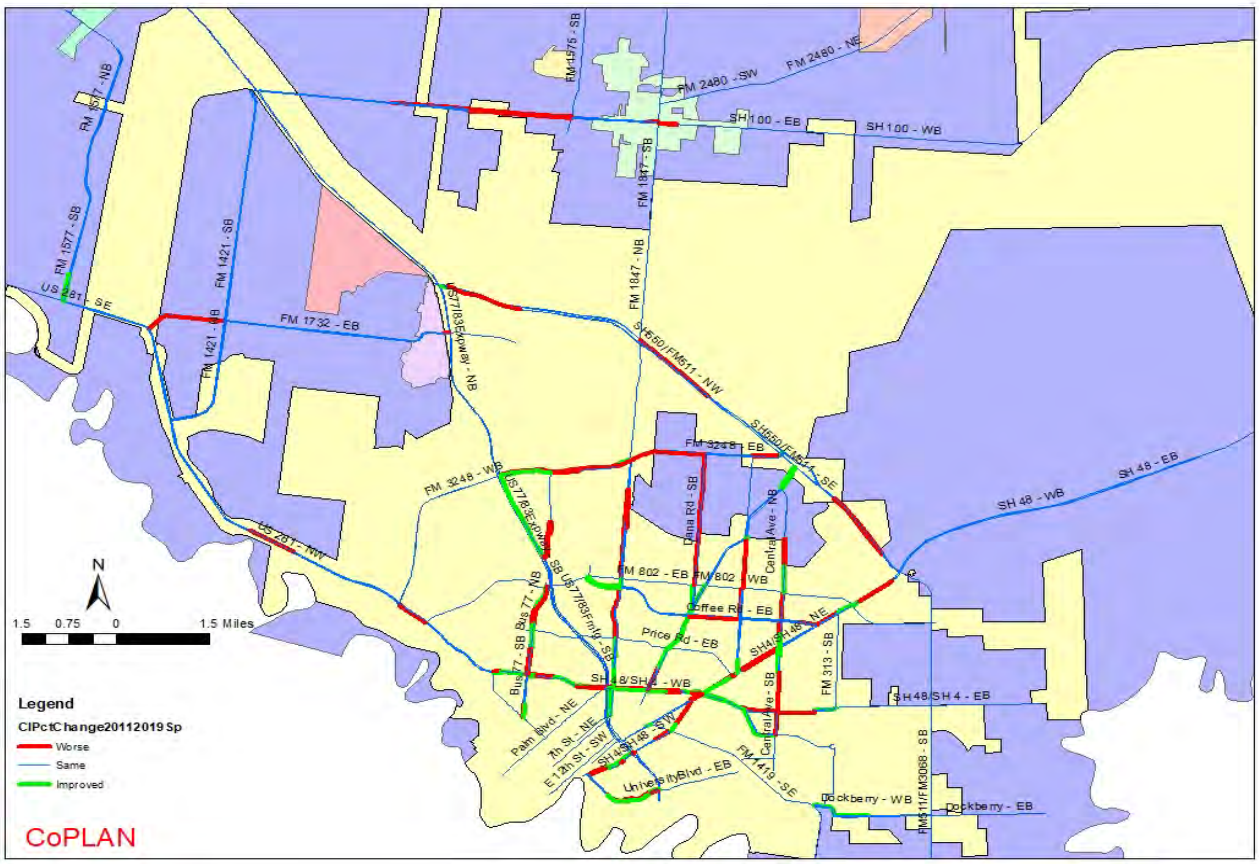
Table 3-13: Top 20 Recommendations to Mitigate Congestion

Top 20 2019	RouteId	Route	Segment	Length	Peak	Speed Limit	Avg Speed	CI	Control	CIPctChang	Recommendation Categ	Recommendation
1	3020	SH550/FM511 - SE	77 NB FR to FM-803	546	PM	60.0	14.3	0.24	All-Way Stop	-0.14	Stop Sign	AM / PM 4-way stop approaching freeway ramp. Short segment with stop sign, delays unavoidable. Monitor for need of a signal in the future.
2	3017	SH 48/SH 4 - EB	OLD ALICE to PALM	1253	AM	40.0	10.2	0.25	Signal	-0.61	Local Operations	Very confined area with closely spaced signals, requires very good coordination of the signals to minimize delays
3	3034	SH4/SH48 - SW	WALMART to 802 RUBEN TORRES	712	PM	55.0	15.3	0.28	Signal	0.08	Case Study	AM / PM Intersection included in 2011 Case Study, incorporate recommendations
4	3034	SH4/SH48 - SW	HOME DEPOT to BOCA CHICA	591	PM	45.0	13.9	0.31	Signal	2.40	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
5	3012	FM 1847 - SB	CARLOS to HERITAGE	3694	PM	50.0	15.6	0.31	Signal	-0.45	Local Operations	AM / PM Delay focused at Carlos intersection. Cross street is minor and primarily serves local property that should not delay N/S traffic
6	3034	SH4/SH48 - SW	MCKENZIE to ROBINDALE	577	PM	45.0	14.4	0.32	Signal	0.02	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
7	3018	SH 48/SH 4 - WB	OWENS to 14TH	2152	PM	45.0	15.9	0.35	Signal	-0.11	Case Study	Intersection included in Case Study, include findings
8	3021	Bus 77 - NB	LOS EBANOS to PRICE	1769	PM	40.0	14.2	0.35	Signal	-0.16	Local Operations	Corridor appears to have good capacity and only local delays at the intersections. Evaluate signal timing to provide better progression between Jefferson and FM 802.
9	3034	SH4/SH48 - SW	HOME DEPOT to BOCA CHICA	591	AM	45.0	16.4	0.36	Signal	0.16	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
10	3034	SH4/SH48 - SW	802 RUBEN TORRES to 313 MINNESOTA	1391	AM	55.0	20.4	0.37	Signal	-0.09	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
11	3007	FM 1732 - EB	NoName to 77 SB FR	536	AM	45.0	17.3	0.38	All-Way Stop	0.16	Stop Sign	Stop controlled on minor approach to US 77 SBFR. Delays unavoidable.
12	3022	Bus 77 - SB	PRICE to LOS EBANOS	1769	PM	40.0	15.7	0.39	Signal	-0.09	Local Operations	Corridor appears to have good capacity and only local delays at the intersections. Evaluate signal timing to provide better progression between Jefferson and FM 802.
13	3011	FM 1847 - NB	COFFEE PORT to 802	820	AM	45.0	17.8	0.40	Signal	-0.12	Local Operations	All 4 approaches to FM 802 and FM 1847 congested. Intersection includes good access mgmt E/W but TWLTL N/S. Dual left and channelized rights E/W. Evaluate signal operations to maximize efficiency.
14	3011	FM 1847 - NB	802 to HERITAGE	4916	AM	49.4	19.7	0.40	Signal	-0.34	Local Operations	Delay limited to short segments at intersections and local access. Provide improved coordinated signal timing to address conditions
15	3033	SH4/SH48 - NE	COFFEE PORT to 313 MINNESOTA	2213	PM	55.0	22.1	0.40	Signal	-0.11	Case Study	AM / PM Intersection included in 2011 Case Study, incorporate recommendations
16	3033	SH4/SH48 - NE	SECURITY to BOCA CHICA	1095	AM	40.3	16.4	0.41	Signal	-0.48	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
17	3033	SH4/SH48 - NE	313 MINNESOTA to 802 RUBEN TORRES	1391	AM	55.0	22.8	0.41	Signal	0.41	Case Study	Intersection included in 2011 Case Study, incorporate recommendations
18	3033	SH4/SH48 - NE	802 RUBEN TORRES to WALMART	712	AM	55.0	23.0	0.42	Signal	-0.11	Case Study	Intersection included in 2011 Case Study, iincorporate recommendations
19	3011	FM 1847 - NB	COFFEE PORT to 802	820	PM	45.0	18.8	0.42	Signal	0.17	Local Operations	All 4 approaches to FM 802 and FM 1847 congested. Intersection includes good access mgmt E/W but TWLTL N/S. Dual left and channelized rights E/W. Evaluate signal operations to
20	3013	US 281 - NW	KENNEDY to 802	2621	PM	41.0	17.6	0.43	Signal	-0.17	Intersection Geometry	With T-intersection and no future need to add the 4th leg, consider making SB movement continuous flow and only control NB and WB

Improvements include signal timing optimization / traffic signal progression, access management, additional capacity, and adding signals in place of stop signs. Benefits of these improvements are described below. Additionally, the MPO should encourage the use of alternative modes such as public transit, bicycling, and walking to the extent possible. This will not only help divert some vehicular trips but will also minimize vehicular emissions.

Many of the recommendations include signal timing improvements. Signal timing improvements are a relatively inexpensive way to make significant improvements on a transportation network. Improved signal timing can decrease delay by appropriately allocating green time among competing phases. This allows more traffic to pass through the signal with less delay. By adjusting cycle lengths and offsets, drivers can travel longer distances along a corridor before having to stop for a red light. This decreases travel time and improves air quality.

Figure 3-12: Changes in Congestion Index Between 2011 and 2019



Both signal timing optimization and traffic signal progression are low cost improvements to make the best use of existing capacity and optimize allocation of funding. The cost for a signal timing improvement project varies depending on the number of traffic signals, the controller capabilities, the location of the traffic signals and adjacent signals, the number of timing plans required, and implementation and fine-tuning needs.

The Federal Highway Administration defines access management as "the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding system in terms of safety, capacity, and speed."

The region has been successful with implementing access management on select corridors over the last few years. This experience has demonstrated the difficulty with doing this after the fact when a corridor is fully developed with commercial activity. The City of Brownsville needs to continue adding these strategies on the front-end of new development and incorporate applicable strategies into the review process with combined driveways, use of medians to limit points of conflict, and cautious use of continuous left turn lanes that lead to challenging access and unlimited points of conflict.

US 77/83 Ramp Improvements

The US 77/83 facility is now designated as IH 69E. The package of improvements, which were built, became known as the US 77/83 ramp "Reconfiguration Project."

The Improvements included the following:

- Closure of the Morrison exit;
- Relocation of the FM 802 entrance some distance to the north; and
- Reversal of entrance / exit ramps between Morrison Road and FM 3248.

Another important feature was the addition of a right-hand turning lane, just south of the northbound Frontage Road: FM 324 intersection. Construction work for these improvements started on February 2, 2015. These improvements have worked very successfully to improve safety, reduce accidents, and lessen the previous congestion problems.

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US 281 Connector

One other item is deserving of mention, as concerns planning efforts to accommodate future border trade. The US 281 Connector was originally proposed by the Brownsville MPO as a new roadway (or connector) between US 281 and FM 511 at the US 77/83 Expressway. After months of study and extensive public input, TxDOT's Pharr District and the Brownsville MPO determined that another alignment for the US 281 Connector was a better option. The new alignment will establish a connection to the US 77/83 Expressway interchange with SH 100. The Brownsville MPO has illustrated the preferred US 281 connector alignment on the MPO's Thoroughfare Plan map.

TxDOT hired a consultant some years ago to determine a preferred alignment for the US 281 corridor. Work was stopped due to a shortage of funding. The various issues concerning

development of the U.S. 281 Connector need to be addressed. As a major east-west corridor, this proposed roadway should be a part of TxDOT's and the MPO's future infrastructure needs. Staff at Cameron County have started discussions with TxDOT staff about fashioning a cooperative agreement for the Cameron County RMA to undertake design and development work for this proposed roadway.

At this time, this proposed project is listed in the MPO's MTP for preliminary engineering (design) activities. At some future date, the Cameron County RMA may be able to formulate a financial plan that demonstrates how it could fund construction work.

SH 48 Corridor to Experience High Traffic Volumes

Local officials expect large increases in traffic volumes on several segments of SH 48 in both the short-range and long-range time frames. It will be caused by large-scale industrial investments at the Port of Brownsville.

For example, it is expected that a new steel mill and a liquefied natural gas (LNG) export complex will be built soon. Both investments involve thousands of workers to construct these new facilities and hundreds of truckload deliveries. Big River Steel signed an option with the Port to construct a $1.6 billion LEED-certified steel mill. Upon completion, this will bring 500 new jobs to the Port. Annova LNG, Rio Grande LNG and Texas LNG are in the final phases concerning Federal Energy Regulatory Commission permitting.

One LNG investment is anticipated to comprise a 20-billion-dollar expenditure. Two other, smaller LNG facilities are also pending. When 8,000-10,000 trips per day (for workers) and hundreds of daily truck trips are combined, one can envision that the current SH 48 roadway facilities will be severely taxed in handling this additional traffic.

An RGVMPO sponsored study will examine the SH 48 corridor segment defined by the FM 802/SH 48 intersection, eastward (past the Fishing Harbor) to the MPO boundary line. This RGVMPO sponsored SH 48 Corridor Study will be conducted to determine future transportation needs.

It is expected that professional services from a consultant firm will be needed to help conduct this study. The new RGVMPO has made plans to undertake this study under the 2020-2021 UPWP.

To accommodate significant growth in future traffic volumes on SH 48, various roadway improvements are likely needed, including but not limited to the following:

- the addition of frontage roads,
- the addition of one or more overpasses with access/exit ramps,
- proposed signal improvements,
- other related improvements, such as improved drainage.

This RGVMPO sponsored Corridor Study will help address how to meet these transportation infrastructure needs. Other improvements listed within the 2020-2045 MTP are included to accommodate the area's residential and commercial growth.

Exhibit 3-8: SH 48 approaching IH 69E in Brownsville

Public Transportation

Exhibit 3-9: Metro McAllen Central Station McAllen, TX

The following sections present an analysis of the RGV's existing transit system(s) and transit needs of the overall communities. Accordingly, the findings from the existing conditions analysis highlight opportunities for improvement so that HC MPO, HSB MPO, and Brownsville MPO, as well as their planning partners can prioritize investments in public transportation. For each MPO planning area, analysis contains an inventory of existing services. For both the current HSB and HC MPO regions, population and employment coverage of the existing transit system is analyzed, and a gap analysis based on transit supply, demand, and key destinations within the MPO planning area is conducted. The transit analysis was guided by information derived from MPO agencies, the US Census, and was supported by a Geographic Information Systems (GIS) analysis.

Existing Services

Generating an understanding of the region's existing transit system helps identify the strengths of the system, as well as where deficiencies in service occur. This detailed understanding will in turn be used to inform solutions/improvements to address existing deficiencies and allow the RGVMPO and local transit agencies to implement public transportation that best serves the current and future regional population. **Table 3-14** lists existing transit services in the study region.

Table 3-14: RGVMPO Transit Service Providers

Provider	Type of Service	Governing Body	Service Area
Valley Metro	Flex route, fixed route	Lower Rio Grande Valley Development Council	Regional
Metro Express (Red Line)	Fixed route Express	Valley Metro	Brownsville, McAllen
Metro McAllen	Fixed route, Paratransit	City of McAllen	McAllen city limits
Brownsville Metro	Fixed route, Paratransit, Intercity 2013-2018	City of Brownsville	Brownsville, Regional
Vaquero Express	Campus Shuttle	University of Texas Rio Grande Valley	Brownsville, Edinburg and Harlingen Campuses
JagExpress	Commuter, Shuttle	South Texas College	Regional
Island Metro	Fixed route	City of South Padre Island	South Padre Island, Port Isabel, Laguna Heights

Valley Metro

Governed by the Lower Rio Grande Valley Development Council (LRGVDC), Valley Metro is a large service provider in the RGVMPO area.

Table 3-15 shows span, frequency, and type of service for Valley Metro routes. Valley Metro is free to ride for children under 7 and $1 for regular fare. Riders are eligible for $0.50 fare if they are elderly, disabled, students, veterans, or on Medicare.

Exhibit 3-10: Valley Metro Bus for LRGVDC

Table 3-15: Valley Metro Service

Route	Span of Service	Frequency	Type of Service	Operated By
Route 10	M-Sat: 6:30am - 5:30pm	120 min	Flex	Valley Metro
Route 11	W: 6:00am - 2:00pm	-	Flex	Valley Metro
Route 12	M-F: 7am - 6pm	200 min	Flex	Valley Metro
Route 14	M-F: 7:30am - 8:00pm	30 min	Flex	Valley Metro
Route 15	M-Sat: 7am - 5pm	60 min	Flex	Valley Metro
Route 16	M-F: 7am - 6pm	5-10 min	Flex	Valley Metro
Route 20	M-Sat: 6:30am - 5:30pm	120 min	Flex	Valley Metro
Route 21	M, W, F: 7:40am - 2pm	6 hr. 20 min	Fixed	Valley Metro
Route 30	M-Sat: 6:20am - 4:50pm	90 min	Flex	Valley Metro
Route 31	M-Sat: 6am - 6pm	60-120 min	Fixed	Valley Metro
Route 32	M-Sat: 6am - 6pm	60-120 min	Flex	Valley Metro
Route 40	M-F: 6:30am – 5:30pm	60 min	Flex	Valley Metro
Route 41	M-Sat: 6:30am – 5:30pm	60 min	Flex	Valley Metro
Route 42	M-F: 6:35am – 3:43pm	90 min	Fixed	Valley Metro
Route 43	M, W, F: 8:00am – 2:45pm	120 min	Fixed	Valley Metro
Route 44	M-F: 6:30am – 4:30pm	120 min	Flex	Valley Metro
Route 45	M-F: 6:15am – 6:55pm	90 min	Flex	Valley Metro

RGV Metro Express (Formally Metro Connect)

The City of Brownsville/Brownsville Metro served as the lead agency for the Metro Connect Service from 2013 to 2018. Metro Connect was an intercity bus service operated through 3 mainlines; the Blue Line connecting South Padre Island (SPI) to Brownsville, Red Line Brownsville to McAllen, and Green Line McAllen to Edinburg. Metro Connect was funded through TxDOT's Intercity Bus Program (ICB) in partnership with the City of McAllen/Metro McAllen, City of South Padre, Island/Island Metro and Valley Transit Company (VTC), a private agency with connections to LRGVDC/Valley Metro's routes. The LRGVDC/Valley Metro partnership was included in the funding application submitted in February of 2016 for the funding cycle of fiscal years 17-18. The LRGVDC partnership consisted of constructing a transfer point bus stop in the RGV Outlets in Mercedes that would serve as a point for continued connections with Valley Metro's service. On October of 2018, the City of Brownsville/Brownsville Metro entered into an agreement with LRGVDC to provide drivers who previously were provided by Valley Transit Company (VTC) whose contract expired on September 31, 2018.

The Metro Connect service was the outcome of the Regional Transit Advisory Panel planning efforts through the development of the LRGV Regional Public Transportation Coordination Plan. The goal continues to be to provide seamless connectivity through the mainline routes creating a feeder network among the four transit agencies in the region connecting through the transit hubs and transfer points. For this reason, all systems changed their names to include the word "Metro" and thus "Metro Connect" providing seamless connectivity to all transit providers. It is important to note that while working on these efforts, Valley Metro did enter into an Agreement with UTRGV for the creation of Vaquero Express; which is a campus to campus transit service (discussed in detail below).

The transition to RGV Metro Express is the result of a program requirement to obtain a sustainable source of local funds for the continuation of the intercity bus service, the recommendation of the Brownsville Transit Plan, and engaging UTRGV as a partner. The intent of the new RGV Metro Express is to increase capacity, frequency, and cost efficiencies as identified through the Metro Connect and Vaquero Express service discussions over the last couple of years. The LRGVDC is a voluntary association of local governments serving Cameron, Hidalgo and Willacy County whose role is to promote and encourage cooperation among local government members to plan and improve for future development. UTRGV representatives expressed interest to become a partner; and shortly after all partners agreed to allow LRGVDC-Valley Metro to be the lead agency and apply for this project's ICB program funding final cycle for fiscal years 19-20. The LRGVDC will foster local financial investment for sustaining the continuation of these services among all transit providers and its governmental members. In January 2019, the transfer of assets and operations of the Metro Connect Service to the new RGV Metro Express took place. The City of Brownsville/Brownsville Metro will continue to be an active partner to ensure the intent of the regional intercity services are met to improve efficiencies, increase capacity, and plan for sustainability.

RGV Metro Express Intercity Service is a regional express route service that connects the major urban area in the Lower Rio Grande Valley. A partnership between Brownsville Metro, Metro McAllen, Island Metro, and UTRGV, the Red line operates in the RGVMPO planning area connecting Harlingen with Brownsville and McAllen. The Blue Line connects Brownsville to Port Isabel and Laguna Vista. The Red Line is free for UTRGV students and children under two years old. The fare is $5 per day, 90 per month, or $25 per month for other students/faculty members. The Blue Line is free for all passengers.

Table 3-16: RGV Metro Express Intercity Service

Route	Span of Service	Frequency	Type of Service	Operated By
Red Line	M-S: 6:30am - 10pm Sun: 9:15am - 5:10pm	90 min	Fixed	Valley Metro
Blue Line	M-S: 6:00am – 6:30pm Sun: 6:00am - 6:10pm	90 min	Fixed	Valley Metro

Metro McAllen

Metro McAllen's System operates within the boundaries of the City of McAllen, however other entities connect McAllen service and riders to other cities within the Rio Grande Valley region, and even outside the region. Metro McAllen has direct connections to the Valley Metro routes (10, 20, 31) that provide service from McAllen to Edinburg, Mission, and Harlingen. Metro McAllen also has a direct connection to the Metro Connect Red Line providing service to Harlingen. McAllen Fare is free for children under 7 years old, and $1 for regular fare. With identification, it's $0.50 fare for persons with disabilities, persons on Medicare, students or seniors. **Table 3-17** shows Metro McAllen levels of service.

Exhibit 3-11: Metro McAllen Bus McAllen, TX

Table 3-17: Metro McAllen Service

Route	Span of Service	Frequency	Type of Service	Operated By
Route 1	M-S: 6am – 9pm Sun: 8am – 6pm	60 min	Fixed	Metro McAllen
Route 2	M-S: 6am – 9pm Sun: 8am – 6pm	60 min	Fixed	Metro McAllen
Route 3	M-S: 6am – 6pm	60 min	Fixed	Metro McAllen
Route 4	M-S: 6am – 9pm Sun: 8am – 6pm	60 min	Fixed	Metro McAllen
Route 5	M-S: 6am – 6pm	60 min	Fixed	Metro McAllen
Route 6	M-S: 6am – 9pm Sun: 8am – 6pm	60 min	Fixed	Metro McAllen
Route 7	M-S: 6am – 6pm	60 min	Fixed	Metro McAllen
Route 8	M-F: 6am – 9pm	55-120 min	Fixed	Metro McAllen
Route 9 (Green Line)	M-F: 6:10am – 7:45pm	90 min	Fixed	Metro McAllen

Brownsville Metro

Brownsville is a border community at the southernmost tip of Texas. Its location as a gateway between the United States and Mexico means a constant flow of tourists and sight seekers from all over the globe visit the area. As a source for jobs, shopping, medical care, and provider of many other essential needs, Brownsville also attracts thousands of daily visitors from Mexico.

The City of Brownsville has provided public transit services, operated as Brownsville Urban System (BUS) from 1978 until rebranding itself to Brownsville Metro (B-Metro) in 2011. Brownsville Metro is a department of the City of Brownsville. Brownsville Metro provides safe, reliable, and efficient public transportation to the residents and visitors of Brownsville, Texas.

Brownsville Metro is responsible for the undertaking of various short and long-range transit studies and maintaining all transit data.

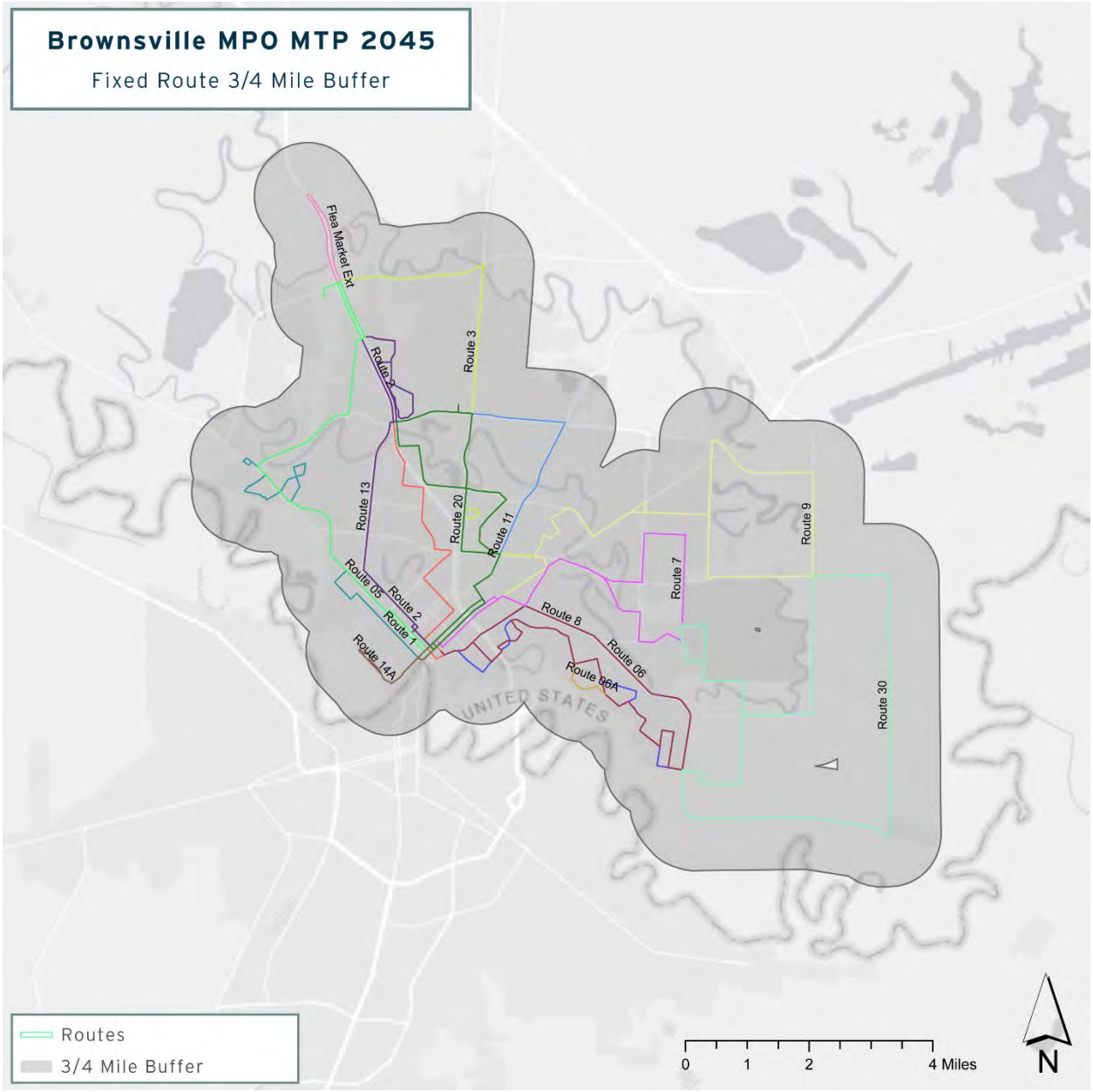
Brownsville Metro provides fixed route and paratransit services. Brownsville Metro, on average, provides approximately 1.5 million passenger trips on all services. Brownsville Metro is responsible for the undertaking of various short and long-range transit studies and maintaining all transit data. Also, Brownsville Metro, with the MPO's assistance, conducts transit planning within the study area.

Transit statistical data such as miles, service hours, passenger counts, passenger trips, and distance traveled are studied and evaluated monthly. The transit data is gathered using a variety of methods, including ITS software (Route Match and Genfare), sampling, dispatch logs, and trip tickets. These methods of data collection are accurate and efficient for the required reporting purposes.

Table 3-18: Brownsville Metro Service

Route	Hour of Operation	Frequency	Type of Service	Operated By
Route 1	M-Sat: 6am – 6:55pm	60 min	Fixed	Brownsville Metro
Route 2	M-Sat: 6am – 7:10pm	75 min	Fixed	Brownsville Metro
Route 3	M-Sat: 6am – 7:55pm	60 min	Fixed	Brownsville Metro
Route 5	M-Sat: 6:30am – 8:15pm	65 min	Fixed	Brownsville Metro
Route 6	M-Sat: 6:20am – 6:25pm	30 min	Fixed	Brownsville Metro
Route 7	M-Sat: 6am – 6:55pm	60 min	Fixed	Brownsville Metro
Route 8	M-Sat: 6am – 6:55pm	60 min	Fixed	Brownsville Metro
Route 9	M-Sat: 6am – 7:25pm	45 min	Fixed	Brownsville Metro
Route 11	M-Sat: 6am – 6:55pm	60 min	Fixed	Brownsville Metro
Route 13	M-Sat: 6:30am – 7:40pm	75 min	Fixed	Brownsville Metro
Route 14	M-Fri: 7:00am – 4:55am Sat: 7:00am – 12:55pm	30 min	Fixed	Brownsville Metro
Route 30	M-Sat: 6:30am – 9:25am M-Sat: 4:30pm – 7:25pm	60 min	Fixed	Brownsville Metro

Figure 3-13: Brownsville MPO Fixed Route Service



La Plaza at Brownsville

Exhibit 3-12: La Plaza at Brownsville

La Plaza at Brownsville encompasses approximately 5.4 acres in historic downtown Brownsville and is located just two blocks from the Gateway International Bridge between the United States and Mexico. La Plaza at Brownsville is home to 11,000 square feet of joint development shell space for retail, restaurant and entertainment use. Subway, Wingstop, and Sushi Bento are just a few of the restaurants located within the facility.

La Plaza at Brownsville Multimodal facility houses the private transit providers who operate statewide, nationwide and/or international services alongside with Brownsville Metro's public transit service. This terminal features 17 bus bays and three layover spaces to accommodate the vehicles needed to provide the best of service. La Plaza at Brownsville is the main transportation hub on this side of the Rio Grande Valley. Intercity transit providers inside La Plaza include El Expreso, Tornado, Panamericana, Omnibus-Express, VTC, and Greyhound. La Plaza also provides space for taxi service, oversees taxi chauffeur licenses, and taxi vehicle permits.

Brownsville Metro's Fixed Route Service

Exhibit 3-13: BMETRO buses

Brownsville Metro provides fixed route service along pre-established routes with various stops along the route. Brownsville Metro operates a total of 13 fixed routes with 16 heavy-duty transit buses. Most fixed-route services begin and end at the downtown transit terminal. This transit service is provided primarily by 35 ft. buses which are equipped with wheelchair ramps, accommodate up to two wheelchairs each, have space designated at the front of the bus for people with disabilities or elderly, and has seating for 32 passengers with a total capacity up to 54 passengers seating and standing. Brownsville Metro encourages all persons with disabilities to use its fixed-route service. All fixed-route buses are accessible. Service hours are provided from 6:00 a.m. - 8:00 p.m., Monday through Saturday on 13 different route alignments servicing 146 square miles of the Brownsville MPO area within the city limits of the City of Brownsville.

Table 3-19: Brownsville Fare Structure

Fare Structure	
General	$1.00
Children (Under 6 Years)	Free
Students w/ID	$0.75
Elderly/Disabled (60+ Years w/ID)	$0.50
Transfers	$0.25
Day Pass	$2.50
Weekly Pass	$12.00
20 Ride Student (w/ID)	$9.00
20 Ride Senior (w/ID)	$5.00

Note: A Medicare card is accepted as a proof to obtain a BMETRO Reduced Fare ID card. Fare for Paratransit Service is $1.50 a ride and free service for the personal care attendant.

Brownsville Metro Paratransit Service

Exhibit 3-14: A paratransit vehicle

Complementary ADA paratransit service is a service that does not operate along a fixed route or set schedule. Passengers are picked up at curbs of different locations within time periods requested by the passengers. Service is provided from 6:00 am–8:00 pm, Monday through Saturday. Accessible cut-away buses offer this service to origins within the ¾ mile corridor of the fixed route service area. [49 CFR 37.129] Use of this service requires a passenger to submit an application and obtain certification. ADA Paratransit service is complementary in the sense that it is meant to be equivalent to fixed-route service and afford those with disabilities the same opportunity to use public transportation. It is not in any sense a taxi, door-to-door, or special shuttle service. A person qualifies for ADA Paratransit Services due to one of the following:

- Unable to ride, board, or disembark independently from vehicles used on a fixed route system.
- Unable to access fixed-route transportation due to lack of accessibility.
- Unable to get to the pick-up and/or drop-off locations of the fixed-route system.

Revenue Sources

Brownsville Metro relies on federal, state, and local funds for operating assistance. Brownsville Metro's average local annual revenues are over $2,100,000. These revenues are generated from bus fares, ticket sales, ID fees, in-kind utilities, interest earned, advertisement sales, lease agreements for retail areas, and other miscellaneous revenue. Fiscal challenges to improving overall transit services in Brownsville are priority. Brownsville Metro is challenged with providing transit services to the rapidly growing South Texas region without a dedicated funding source.

Transportation Investment Generating Economic Recovery (TIGER) Project

Known as Transportation Investment Generating Economic Recovery (TIGER) funds, such monies were awarded based on competitive applications. The City of Brownsville secured a TIGER grant award in 2016 from the U.S. Department of Transportation.

The Connecting Communities project is an investment in much-needed transportation infrastructure and multimodal services to accommodate population growth, and more importantly, to improve the quality of life, health, and economic opportunity to the community. This project includes the need for having to rehabilitate and modernize the Jose Colunga facility and maintenance yard that had gone through several transitional phases with no major rehabilitation done since the early 1980's. The bus stop improvements are a means to directly improve the user's quality of life by providing a safe and comfortable environment while waiting for the bus. There was also a need to replace Brownsville Metro's aging fleet (2001 buses) and Metro Connect Service medium-duty fleet to meet capacity requirements.

All elements being funded by the Connecting Communities Project were existing assets/infrastructure the city already possessed and needed to be rehabilitated as part of B-Metro transit services. The improvements will provide more fuel-efficient buses and improve the operations of the fueling and washing stations which will save staff time and improve service. The Connecting Communities Project facilitates residents' commute to work, school, recreational services, and medical facilities by sustaining and enhancing multiple complementary modes of transportation – walk, bike, and transit.

Partners for Connecting Communities include TxDOT Intercity Bus Program (TxDOT-ICB), LRGVDC, BMPO, Cameron County, Brownsville Community Improvement Corporation (BCIC), Community Development Block Grant (CDBG) and opportunities exist to establish new partnerships.

It is important to note that initially, Connecting Communities included Component 1-Transit and Component 2- Bicycle/Pedestrian Improvements (trail on the causeway). However, Component 2 was deemed structurally impossible to implement due to unexpected complications the project partners encountered upon beginning structural analysis. Based on this, Component 2 had to be reduced from the Connecting Communities Project, leaving only Component 1.

Component 1, Connecting Communities' project includes the following undertakings: Project 1 - Improve the Site Safety and Function (ISS&F) and a New Passenger Facility to Site (NPFS); Project 2 - Improve Bus Stop Safety and Comfort; and Project 3 - Purchase eight Replacement Revenue Vehicles. Below is a detailed breakdown of all elements in each of the Projects for Component 1.

Project 1: ISS&F Improves safety and the daily operational functions on the 10-acre location of Brownsville Metro's Maintenance and Operations facility. Improvements include adding a new site access point from Billy Mitchell Boulevard, improving drainage and storm-water runoff controls with construction activities consisting of relocating the fuel service island and converting its fuel storage tanks from underground to aboveground; modernizing the bus wash station; securing the site with improved perimeter fencing, gate access control, cameras, lighting; site paving; rehabilitating the retention pond, and equipment storage facility. The NPFS will consist of the construction of a new passenger transfer station with three bus bays, bus layover parking, bike amenities, ADA sidewalk and ramps, canopy, electrical work, landscaping, lighting, and park & ride area. A local investment has been captured through the Rehabilitation of Brownsville Metro's Operational/Maintenance Shop, which consisted of re-skinning the main building, roof replacement, updated elevator, heating/ventilation/air conditioning, plumbing, electrical wiring, and rehab of maintenance shop area.

Exhibit 3-15: An aerial of Project 1

Project 2: Bus Stop Safety and Comfort will improve approximately 54 existing bus stops locations. The improvements will consist of adding ADA accessible sidewalks, benches, shelters, ramps, bench/shelter/bus pads, and bike amenities. Eleven bus stop locations have been completed through a local community investment.

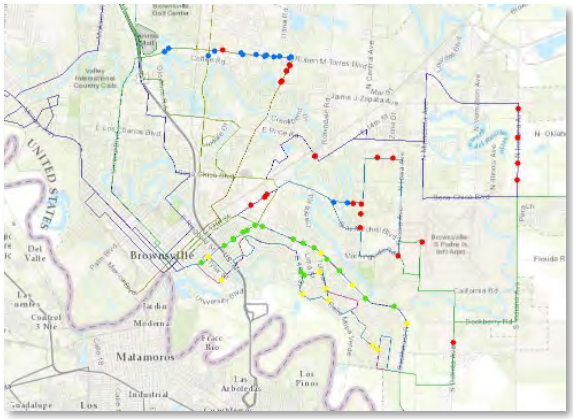


Exhibit 3-16: Project 2

Project 3: Purchase eight Replacement Revenue Vehicles to replace approximately 5 of Brownsville Metro's transit revenue vehicles that have exceeded the recommended useful service life with hybrid diesel-electric transit buses, and 4 - 40' standard fully equipped transit buses for the Metro Connect Service to increase capacity and frequency. The 4 standard fully equipped transit buses were procured with the Texas Department of Transportation – Intercity Bus Program Section 5311(f) funds and delivered in December 2018. In January 2019, the transfer of assets and operations of the Metro Connect Service to the new RGV Metro Express took place.

The Brownsville Metro's Transit Comprehensive Strategic Plan

In May of 2017, the Brownsville Metro's transit comprehensive strategic plan (Brownsville Transit Plan) was completed. The plan identified specific capital programs and operational services to be prioritized and implemented. The study team elicited feedback from stakeholders and members of the public that consisted of five major work tasks as follows:

- Assessment of existing conditions
- Market analysis
- Identification of service issues and opportunities
- Development of service scenarios
- Final service recommendations

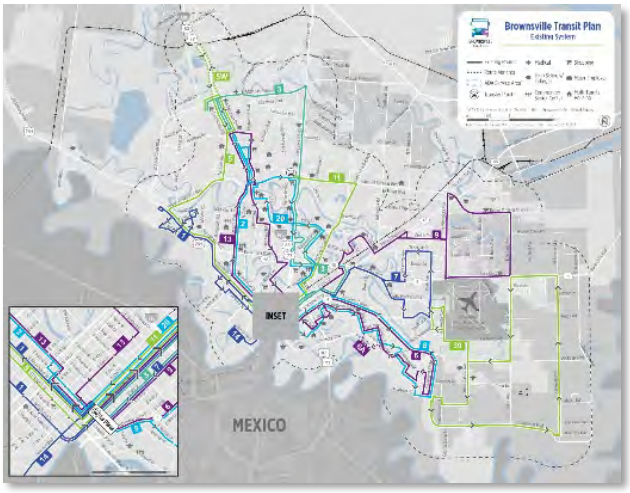


Exhibit 3-17: BMETRO System Map

The strategy recommendations of the comprehensive study were:

Short-Range Service Plan: Consists of re-aligning fixed routes. Short-Range recommendations focus on improvements that can be made within Brownsville Metro's existing operating budget. This improvement would require 18 buses during peak-service instead of 17 currently. The Brownsville Transit Plan would result in 215 weekday revenue hours and 174 Saturday revenue hours. In comparison to the existing service, which includes 198 weekday revenue hours and 192 Saturday revenue hours. Thus, the proposed service is essentially cost-neutral compared to current services.

Long-Range Service Plan: Consists of recommendations derived from the market analysis, service analysis, and public input. However, these proposals include both capital and operating recommendations, and there is a cost-constraint and would require additional resources for implementation. Cost-constraints could be captured by eliminating inefficiencies and fare evasion by changing its transfer policy. Additional resources will be needed, such as workforce for dispatching, transit operators, vehicle maintenance technicians, materials, and supplies.

Restructure Metro Connect Service: Metro Connect was envisioned as a regional service linking together key destinations in the Lower Rio Grande Valley. Metro Connect operates between the transit hubs in downtown Brownsville, Harlingen and McAllen, with a transfer to reach Edinburg. And, has a fare of $5 for a day pass and $25 for a 30-day student/facility pass. The regional scope of the service is reflected in its funding partners, which include Brownsville Metro, Metro McAllen, Island Metro, Valley Transit Company (VTC), and the Texas Department of Transportation. Since its inception, the market for intra-Valley transit service has increased due to the merger of the University of Texas at Brownsville and the University of Texas Pan-American. The merger resulted in the need for students to take classes at the various campuses of the University of Texas Rio Grande Valley.

To facilitate travel between its campuses, UTRGV began operating its own inter-campus shuttle called the Vaquero Express. Vaquero Express operates fare-free directly between the UTRGV campuses in Brownsville, Harlingen, and Edinburg. While Metro Connect and the Vaquero Express serve somewhat different markets, there are enough similarities between the two services to present significant opportunities for consolidation that could benefit all the parties involved in both services. Although the consolidation of service did not come to fruition, the restructure of Metro Connect resulted in RGV Metro Express and gained UTRGV as a financial partner for the sustainability of this service.

Improved Passenger Amenities: The proposed B-Metro network is designed to create more transfer opportunities outside of La Plaza and the Northside Transfer Station. By consolidating service along key corridors, the proposed network gives passengers multiple opportunities to transfer between routes serving the same bus stops, but with different final destinations. In addition, the proposed network includes several on-street locations where two or more routes intersect. Each of these locations is a potential transfer point, and together with significant ridership generators such as Walmart and HEBs, should be the focus of future passenger amenity investments.

Passenger amenities, such as shelters with benches, enhance the transit experience, decrease perceived wait times for transit services, and can contribute to increased ridership. Well-designed amenities can also be an essential marketing tool by increasing the visibility of transit service and projecting a positive image of the user experience. Overall, strategic investment in passenger amenities is a relatively low-cost, high-reward strategy for Brownsville Metro to pursue in the long-term.

Exhibit 3-18: Mini Hub Site Plan

In addition to individual shelter sites, the study team recommends the development of a mini hub on the northern edge of the Alton Gloor Walmart. The Alton Gloor Walmart is one of the highest ridership stops in the B-Metro network. However, buses entering the site must contend with the unpredictable traffic conditions of a parking lot, as well as traffic congestion due to the lack of a signalized exit from the property onto Alton Gloor.

A mini hub at the northern edge of the Walmart property, would allow eastbound buses to safely load and unload passengers without entering the site. Westbound buses would enter the site from the southbound service road of IH 69 but would only utilize the driveway running along the northern edge of the Walmart parking lot to access the proposed mini hub. This alignment would minimize the intersection between buses and vehicles pulling in and out of the parking spaces.

Restructure Fares: Adjusting the fare structures for B-Metro is a potential revenue source that can provide additional funding for both capital projects and continuous operations and maintenance. Increasing fares is one option to increase available operations and maintenance funds over time. However, raising fare prices can have an impact on ridership if the fare increase is too extreme, particularly in low-income areas. If fare revenues are increased; existing and future reduced fare policies should ensure all income groups have adequate access to the B-Metro system.

Transit planning activities will continue based on recommendations from the Brownsville Transit Plan Final Report. The Brownsville Transit Plan Final Report can be found in Brownsville Metro website: https://www.cob.us/282/Projects.

Transit Asset Management Plan

The Federal Transit Administration (FTA) has published a final rule to establish minimum Federal requirements for transit assets management that will apply to all recipients and sub-recipients of chapter 53 funs. Transit agencies who own, operate, or manage capital assets for public transportation were required to develop a transit asset management (TAM) plan. Brownsville Metros TAM plan was developed, presented, and adopted by the Brownsville City Commission in September of 2017. The TAM plan includes asset inventory, conditional assessments of inventoried assets, documentation of the use of a decision support tool, and a prioritization of investments which is used to improve the state of good repair of the capital investments. Standard scoring is used to determine the condition of inventoried assets. Useful Life Benchmark (ULB) is used for the fleet, and Transit Economic Requirements Model (TERM) scale was used for the facilities assets. Annual targets are submitted to FTA for each mode: one for each revenue vehicle classification, annual targets for each facility type, and a target for the percentage of classification of non-revenue vehicles which have met or exceeded their useful life benchmark. Brownsville Metro staff has developed a TAM Plan and targets for rolling stock, equipment, and facilities. The TAM Plan will be updated every four years. Brownsville Metro staff will utilize TAM targets to keep the transit fleet in good condition, which serves to maintain or improve system reliability.

Public Transportation Agency Safety Plan

On July 19, 2018, FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule, which requires certain operators of public transportation systems that receive federal funds under FTA's Urbanized Area Formula Grants to develop safety plans that include processes and procedures to implement Safety Management Systems (SMS).

- The PTASP rule became effective on July 19, 2019.
- FTA published a Dear Colleague letter on July 19, 2019, to alert the transit industry of the July 20, 2020 safety compliance deadline.

Brownsville Metro is working with TxDOT as a sponsored Public Transportation Agency Safety Plan (PTASP). TxDOT has hired a third-party consulting firm to help us develop our PTASP specifically for our agency. Recently, Brownsville Metro's staff has met with this firm and provided a list of documents to assist in the development of the safety plan. Brownsville Metro

will receive a final draft of the safety plan for review in March 2020 and will require final City Commission approval before July 2020. Thereafter, the plan can be fully implemented within three years as required.

Unfunded Future Projects

Brownsville Metro unfunded future projects include:

- New routes proposed from the Brownsville Transit Plan
- Northside Transfer Station
- Park and Ride facilities under and along the expressway between 13th and 14th street
- BRT connection from La Plaza terminal to SPI terminal

MPO Forecast of Transit Funds

Brownsville Metro staff produced a forecast of available transit funds based on reasonable expectations from federal, state, and local fund sources. Please find this forecast below for more information.

Figure 3-14: Brownsville MPO Transit Fund Forecast

Corridor	Existing Roadway					Proposed Roadway			Project Information			Project Funding		
	ID #	Func Class	# of Lanes	ROW Width	Traffic Volume 2004	2004 LOS	Prop ROW Width	2035 LOS	# of Lanes	Time Frame	Description of Project	Limits: From / To	Length in Miles	Cost 1000$	YOE Cost	Funding Category	Category
Brownsville Metro - Transit																	
Eastside Transfer Center	BMPO-TGR2	Component 1A (Phase2)								Short	Construct Transfer Center at Jose Colunga	Jose Colunga near at Billy Mitchell Blvd (FM 2519)	N/A	$4,499.1	$4,499.1	Cat 3, Cat 9, Local, TIGER	Cat 3, Cat 9, Local, TIGER
Hybrid Transit Buses	BMPO-TGR3	Component 1B								Short	Purchase 4 Hybrid Transit Buses & 4 ULSD Transit Buses	N/A	N/A	$5,400.0	$5,400.0	Cat 3, 5311(f), Local, TIGER	Cat 3, 5311(f), Local, TIGER
Bus Stop Improvement	BMPO-TGR4	Component 1C								Short	Construct bus stop improvements	Various Locations	N/A	$1,615.0	$1,615.0	Cat 3, CDBG, Local, TIGER	Cat 3, CDBG, Local, TIGER
BMetro 2020-2029	BMPO-M-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2020-2029	Operations	Transit Program	N/A	$46,522.2	N/A	FTA 5307	N/A
BMetro 2020-2029	BMPO-M-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2020-2029	Capital	Transit Program	N/A	$14,096.6	N/A	FTA 5307	N/A
BMetro 2020-2029	BMPO-M-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2020-2029	Planning	Transit Program	N/A	$3,524.2	N/A	FTA 5307	N/A
BMetro2030- 2040	BMPO-BUS 4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2030-2040	Operations	Transit Program	N/A	$59,080.4	N/A	FTA 5307	N/A
BMetro 2030-2040	BMPO-BUS 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2030-2040	Capital	Transit Program	N/A	$17,901.8	N/A	FTA 5307	N/A
BMetro 2030-2040	BMPO-BUS 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2030-2040	Planning	Transit Program	N/A	$4,475.6	N/A	FTA 5307	N/A
BMetro2041- 2045	BMPO-BUS 8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2041-2045	Operations	Transit Program	N/A	$33,900.2	N/A	FTA 5307	N/A
BMetro2041- 2045	BMPO-BUS 9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2045	Capital	Transit Program	N/A	$10,272.0	N/A	FTA 5307	N/A
BMetro 2041-2045	BMPO-BUS 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2041-2045	Planning	Transit Program	N/A	$2,568.1	N/A	FTA 5307	N/A

Vaquero Express (Campus to Campus Service)

Operated by the University of Texas Rio Grande Valley (UTRGV) by Federal Transit Administration funding through Valley Metro, the Vaquero Express connects UTRGV campuses between Brownville, Harlingen, and Edinburg. The service is free and open to the public. Vaquero Express operates Monday – Friday from 6:30 am to 11:20 pm.

Jag Express

Jag Express routes operated by both Valley Metro and STC provide express service to STC for the RGV area. It's open to the public, free fare (sponsored by STC) providing fixed service Monday – Friday, with reduced service on Fridays.

Table 3-20: Jag Express Service

Route	Span of Service	Frequency	Type of Service	Operated By
Jag Express – Yellow	M-T: 7am - 7pm Fri: 7am - 5pm	20-30 min	Fixed	South Texas College
Jag Express – Green	M-F: 6:40am - 5:00pm	60 min	Fixed	Valley Metro
Jag Express - Purple	M-F: 6:40am - 7:15pm	90 min	Fixed	Valley Metro

Island Metro

Island Metro is a fixed route service providing free-fare transit to South Padre Island, Port Isabel, and Laguna Heights (currently east of the Brownsville MPO planning area). The service contains four fixed routes, two of which (Red Snapper and Tarpon) provide a transfer point at the Las Palmas Shopping Center with Valley Metro Route 50/Blue Line. This provides connectivity to the Brownsville South Padre Island International Airport and La Plaza terminal.

Harlingen-San Benito MPO Transit Service & Coverage

Valley Metro, Valley Transit Company (VTC), Vaquero Express, and Metro Connect (Red Line) all provide service within the HSB planning area. **Figure 3-15** shows the transit routes operating within the MPO planning area. **Figure 3-16** shows the service areas for the flex and fixed route service. The red fixed route indicator shows a quarter mile from the route, which is deemed as a walkable distance for most individuals who use transit. The blue indicates the half mile buffer which is the extent the flex route system operates.

Figure 3-15: HSB MPO Transit Routes

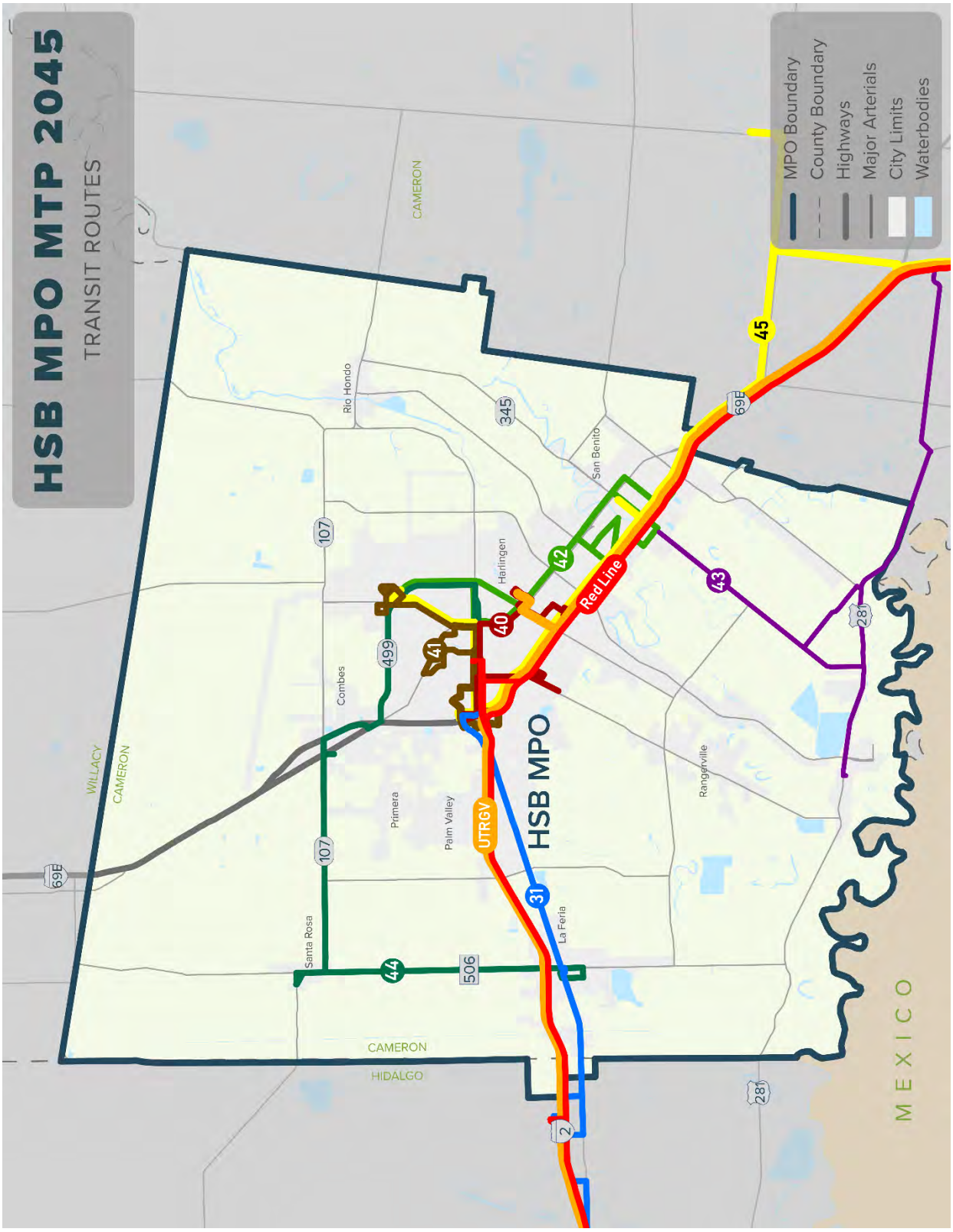
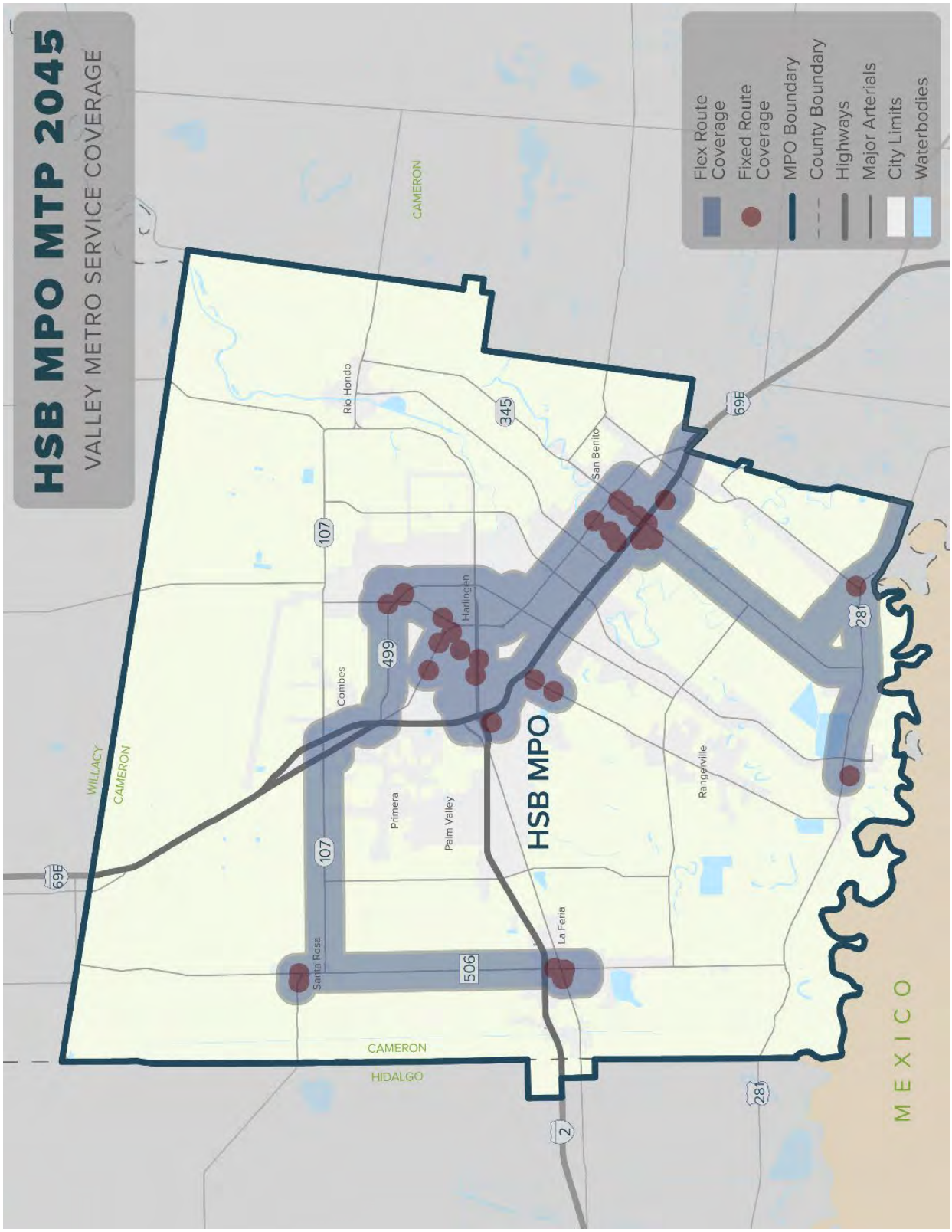


Figure 3-16: HSB MPO Service Coverage Area



Hidalgo County MPO Transit Service & Coverage

Hidalgo County's primary public transportation service provider is Metro McAllen (**Figure 3-17**). The service coverage for Metro McAllen can be seen in **Figure 3-18**; fixed route coverage is indicated by red buffers (quarter-mile walk to transit stops) and the paratransit area is in blue. Valley Metro is another large service provider in the HC MPO area, **Figure 3-19**. Their service coverage has fixed route coverage is indicated by red buffers (quarter-mile walk to routes) and the flex service area is in blue, **Figure 3-20**.

Figure 3-17: HC MPO Metro McAllen Routes

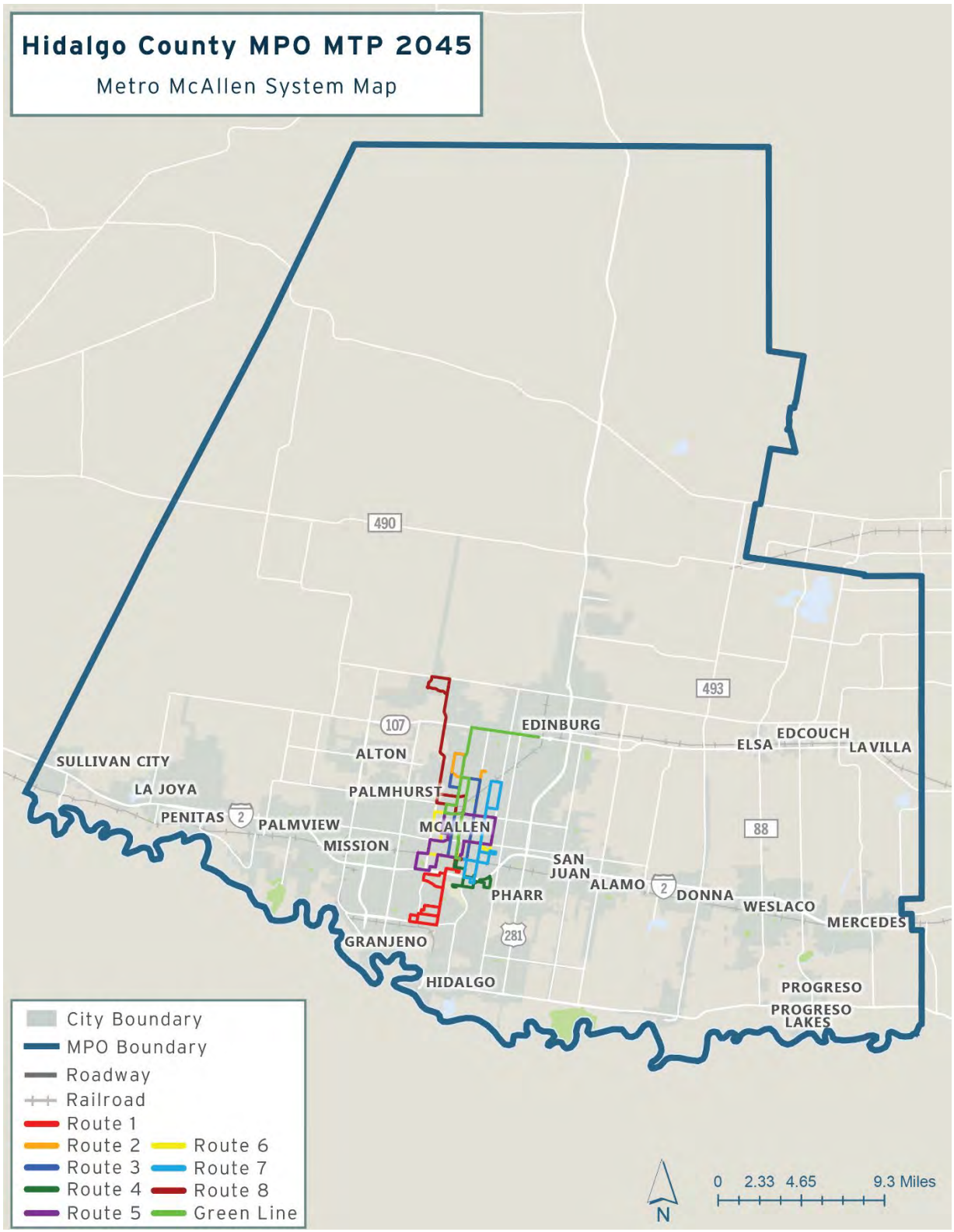


Figure 3-18: HC MPO Metro McAllen Service Coverage Area

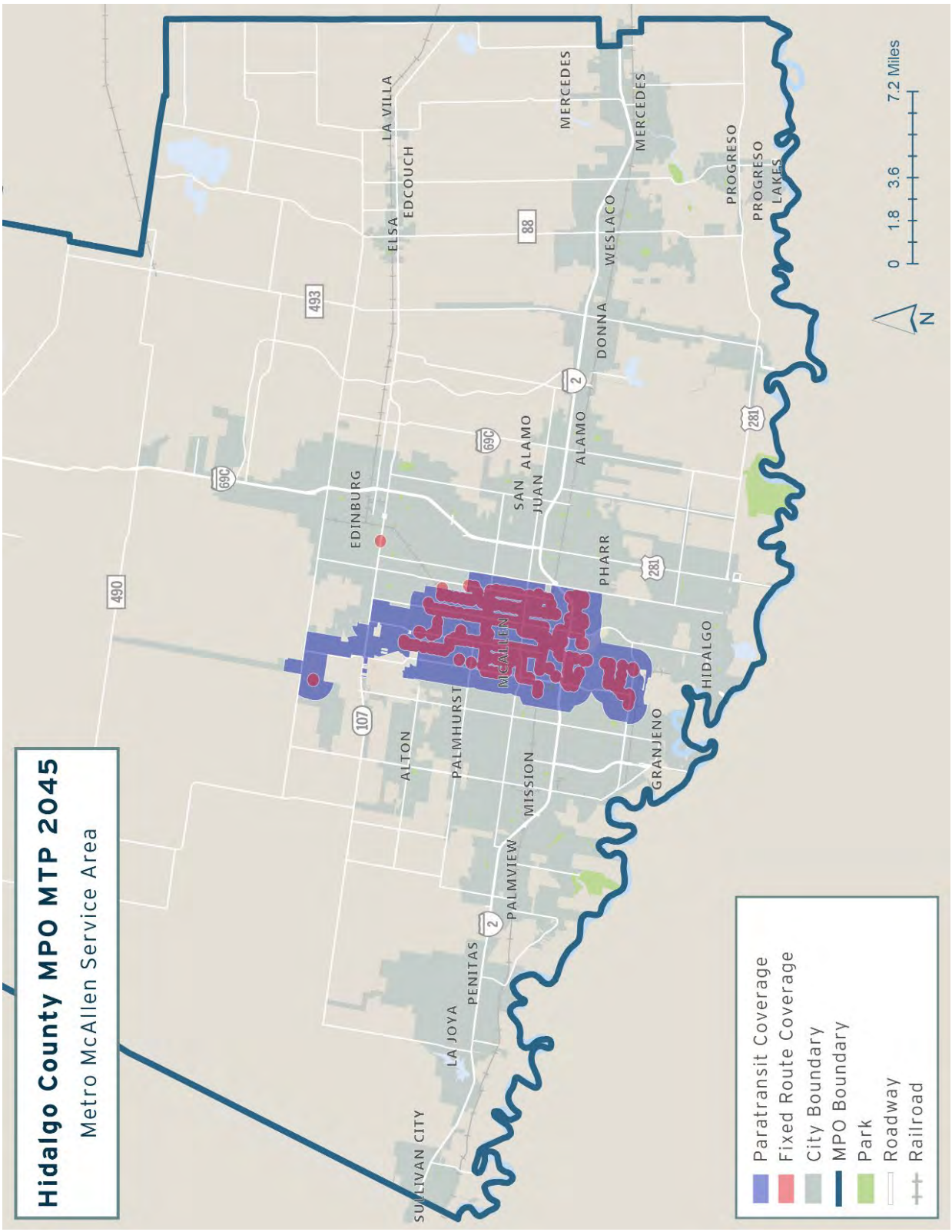
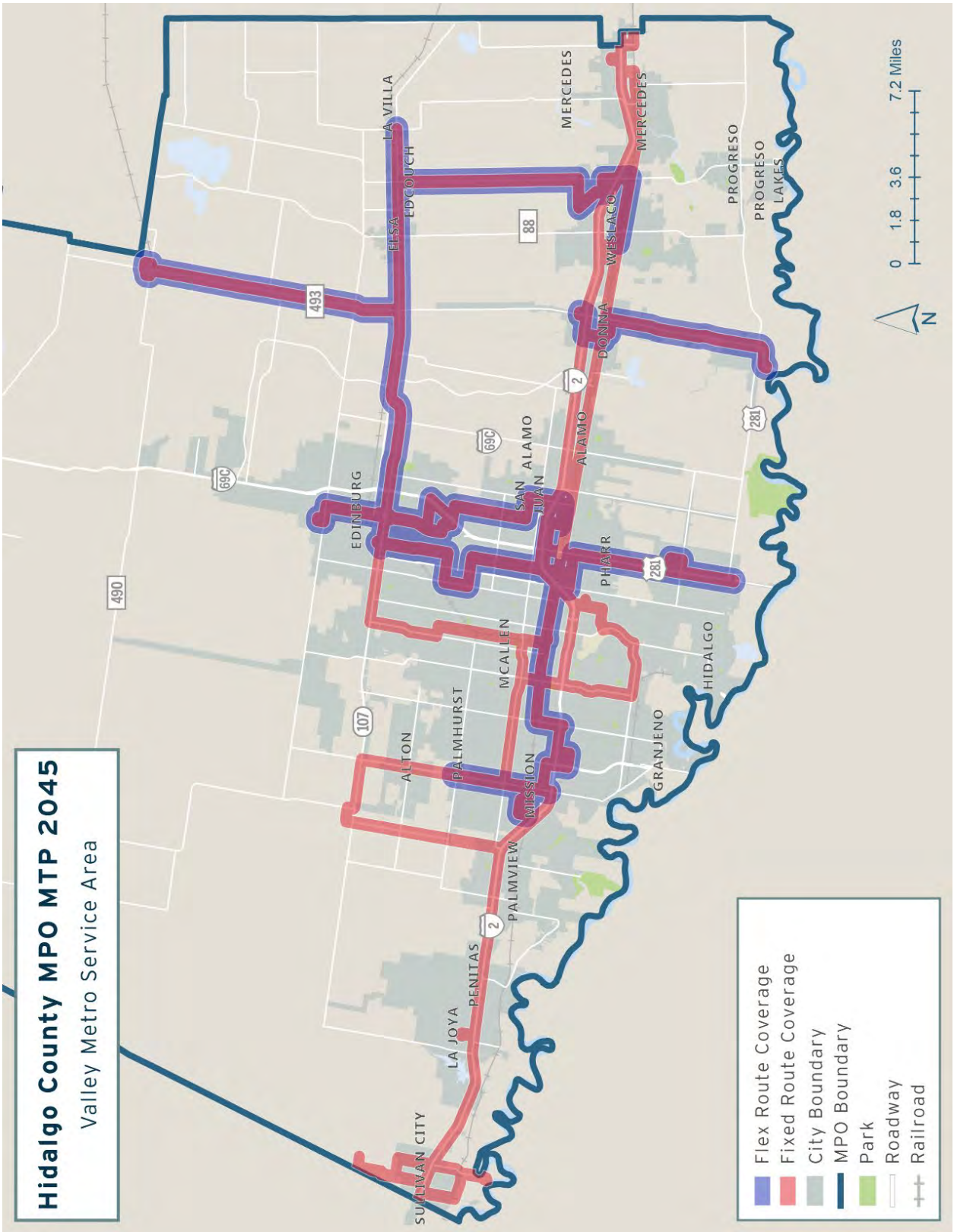


Figure 3-19: HC MPO Valley Metro Routes

Figure 3-20: HC MPO Valley Metro Service Coverage Area



Private Transit Providers

The public transit system is paralleled by private transit services in the region. The private services nearby include Americanos, El Expreso Bus Company, Lineas Panamericans, Omnibus-Express, Tornado Bus Company, Turimex Internacional, and Transpais. The providers and their service areas are listed below in **Table 3-21**.

Table 3-21: RGVMPO Private Transit Providers

Provider	Service Area
Valley Transit Company (VTC)	Private subsidiary of Greyhound Lines that operates fixed-route intercity service, airport shuttle, and charter services. VTC provides transit options to Austin, San Antonio, and Houston.
Americanos	Provides service throughout Texas and across the United States with daily connections into Mexico via its affiliates. (Part of Greyhound Mexico)
El Expreso Bus Company	Provides intercity bus service in nine states including Texas, with headquarters in Houston. In the Lower Rio Grande Valley, El Expreso stops in Brownsville, Reynosa (Mexico), Roma, and McAllen.
Lineas Panamericanas	Provides frequent service between McAllen and Monterrey and Reynosa, Mexico with connection to other areas in Mexico.
Omnibus-Express	Serves Brownsville, McAllen and other points along the Rio Grande, in Mexico, Texas, and several other states in the southeast.
Tornado Bus Company	Provides service throughout Texas and the southeastern United States with daily connections to Mexico via Sistema Estrella Blanca Bus Lines.

Transit Gap Analysis

To understand how well the current transit system serves the RGVMPO planning area, a transit gap analysis was conducted for the HSB and HC MPO planning area (due to available resources), and was based on existing service, as well as a GIS based spatial analysis to generate measures which show transit demand and supply throughout the planning area. Both measures were analyzed separately regarding transit service to find specific areas where supply is currently lacking and demand is high, signaling potential areas for improved service.

Transit Demand

Demand for transit is largely driven by concentrations of people and jobs. The study team explored where concentrations of transit users are currently distributed in order to gain an understanding of where transit demand is currently highest and where additional services may be needed in the future.

For purposes of the gap analysis, transit demand was defined by two measures; Transit Dependent Population and Target Transit Riders. Transit Dependent Population (TDP) of an area represents a calculation incorporating census block group data of those too old or young to drive a personal vehicle, as well as households lacking access to personal automobiles.

Target Transit Riders (TTR) captures those more likely to need transit due to health, physical ability, or for fiscal reasons.

To determine gaps in transit service where TDP and TTR populations do not have access to transit in the MPO planning area, service coverage for the given MPO planning area's fixed route and flex route systems (where applicable) were mapped over each measures density (per acre).

All TDP and TTR density values falling within the highest density values (or breaks) were used to show gaps in transit service. The resulting TDP and TTR densities at the block group level display locations in the region with high transit demand and gaps in service.

Harlingen-San Benito MPO

Figure 3-21 displays the concentrations of Transit Dependent Population (TDP), those too old or young to drive a personal vehicle, as well as households lacking access to personal automobiles. **Figure 3-22** and **Figure 3-23** displays transit gaps for TDP, for both Valley Metro fixed route and flex route services.

The density of Target Transit Riders (TTR), or those more likely to need transit due to health, physical ability, or for fiscal reasons is shown in **Figure 3-24**. **Figure 3-25** and **Figure 3-26** display transit gaps for TTR, for both Valley Metro fixed route and flex route services.

Figure 3-21: HSB MPO Transit Dependent Population Density (TDP) Per Acre

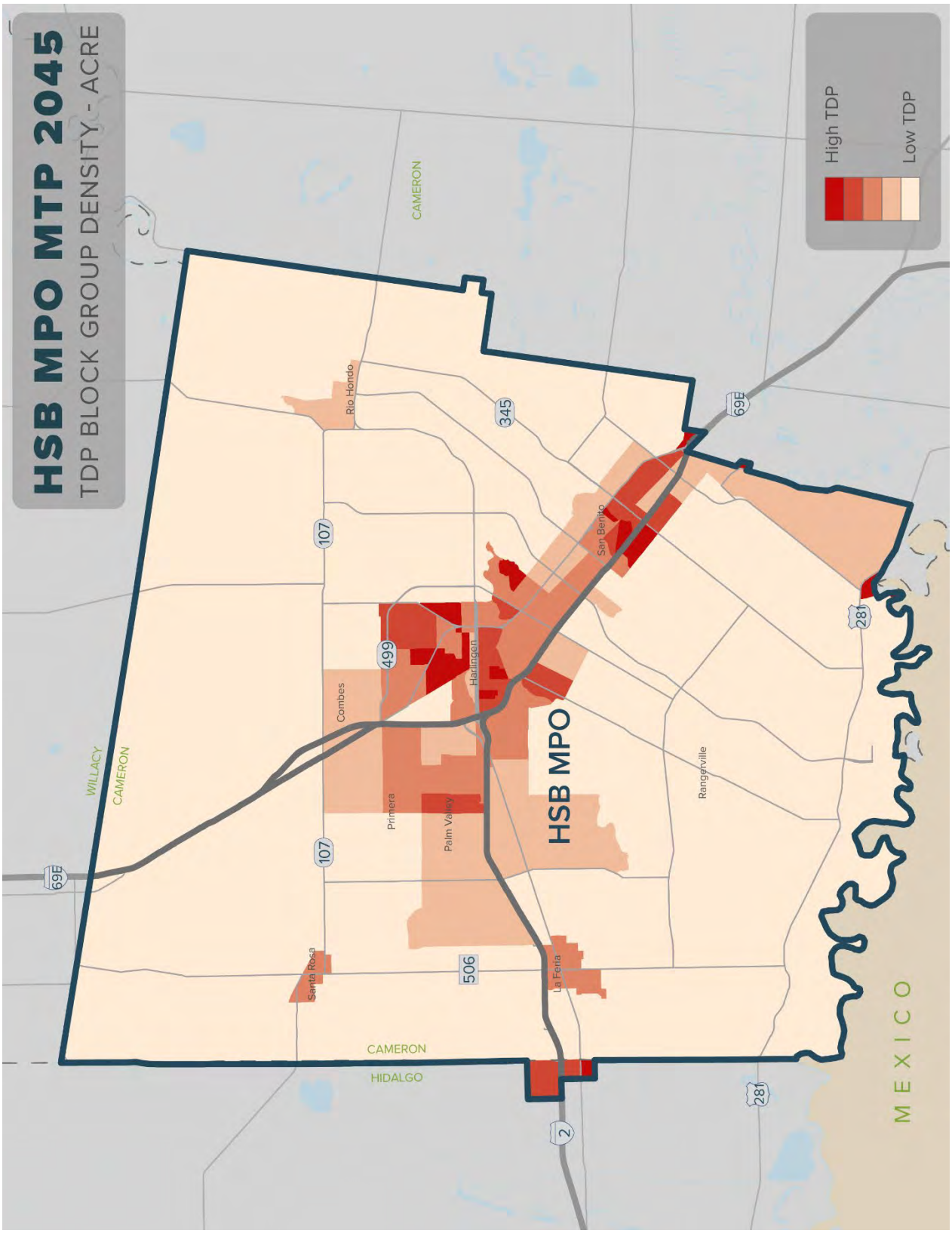


Figure 3-22: HSB MPO Fixed-Route Service Gaps for TDP

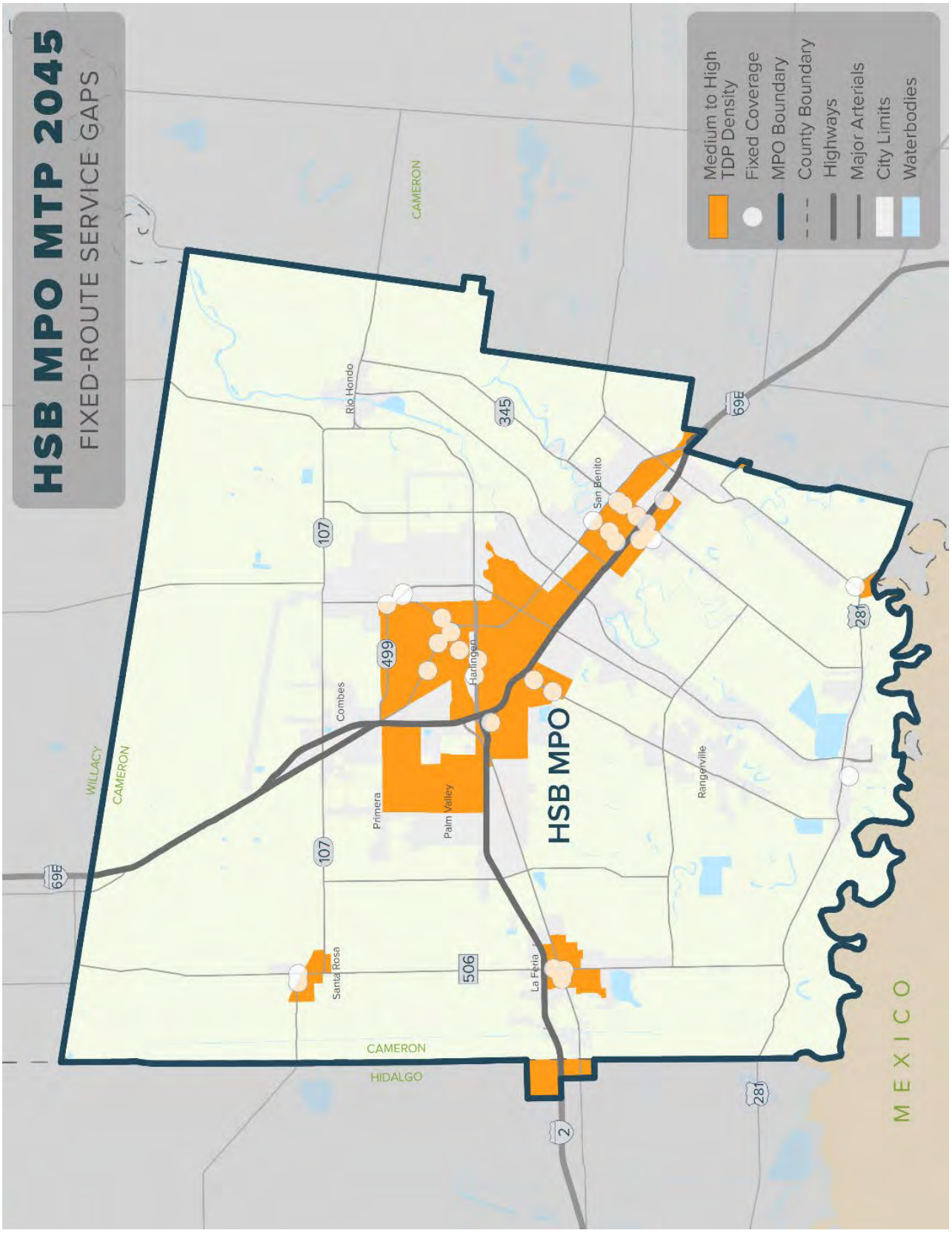


Figure 3-23: HSB MPO Flex Route Service Gaps for TDP

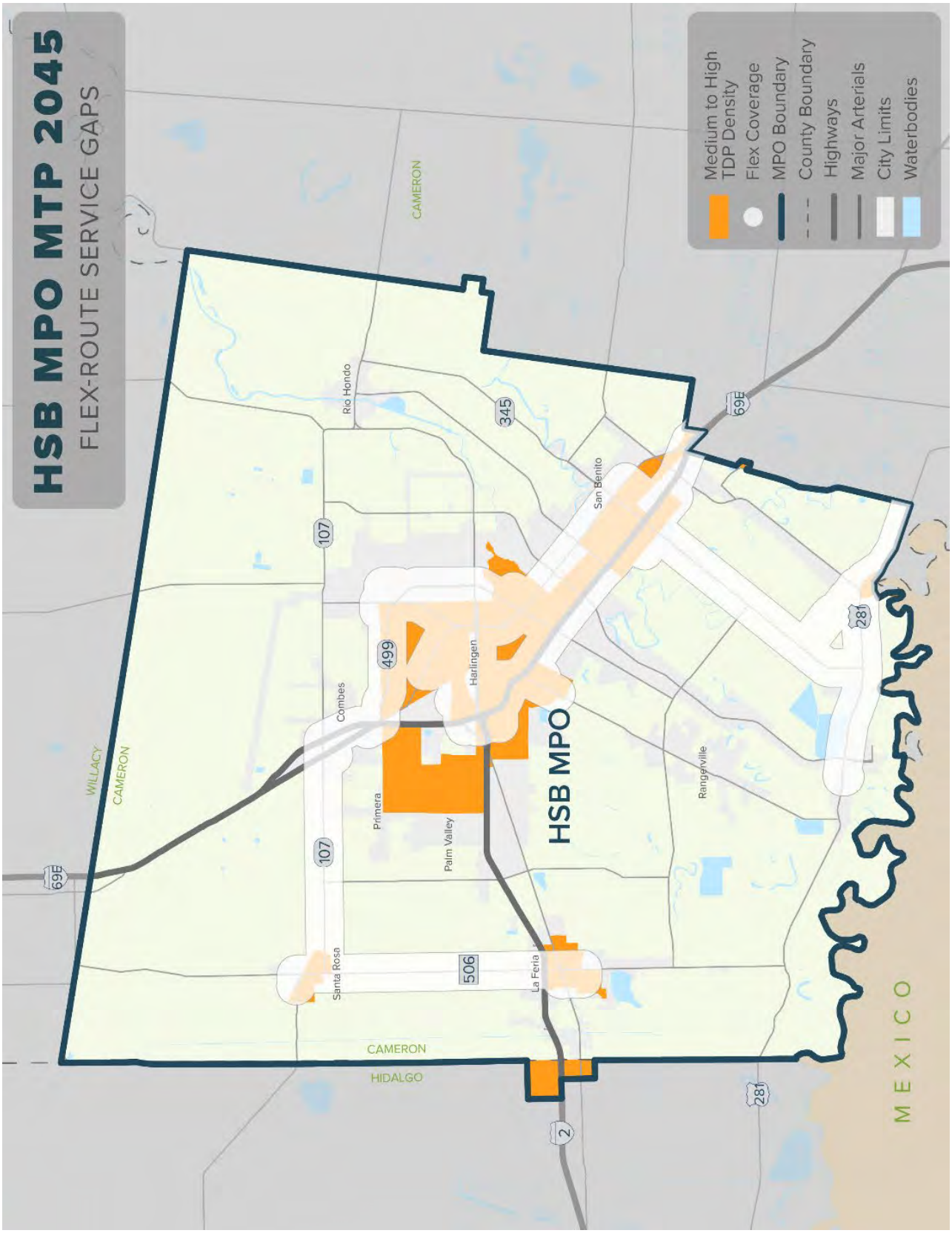


Figure 3-24: HSB MPO Target Transit Rider Density (TTR) Per Acre

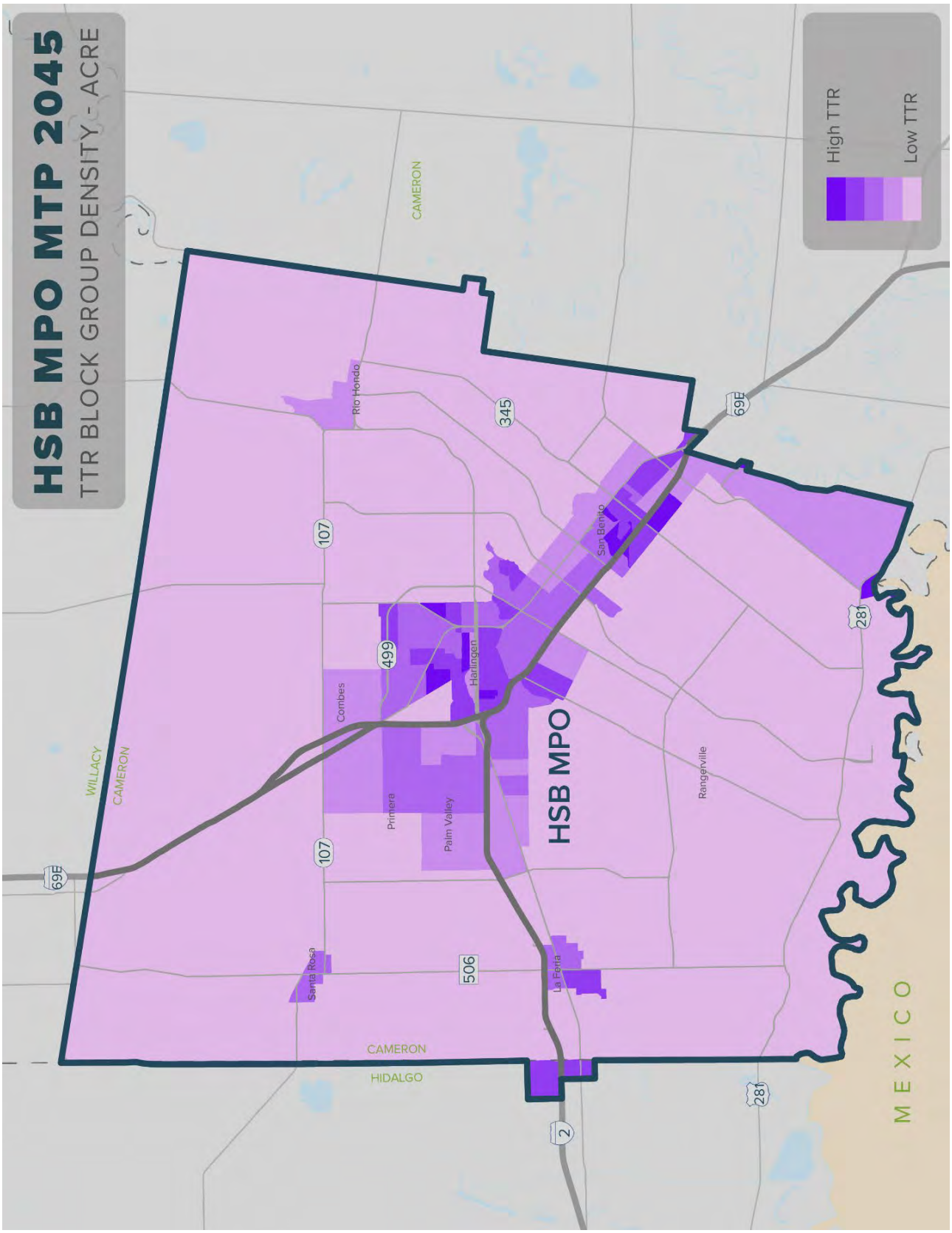


Figure 3-25: HSB MPO Fixed-Route Service Gaps for TTR

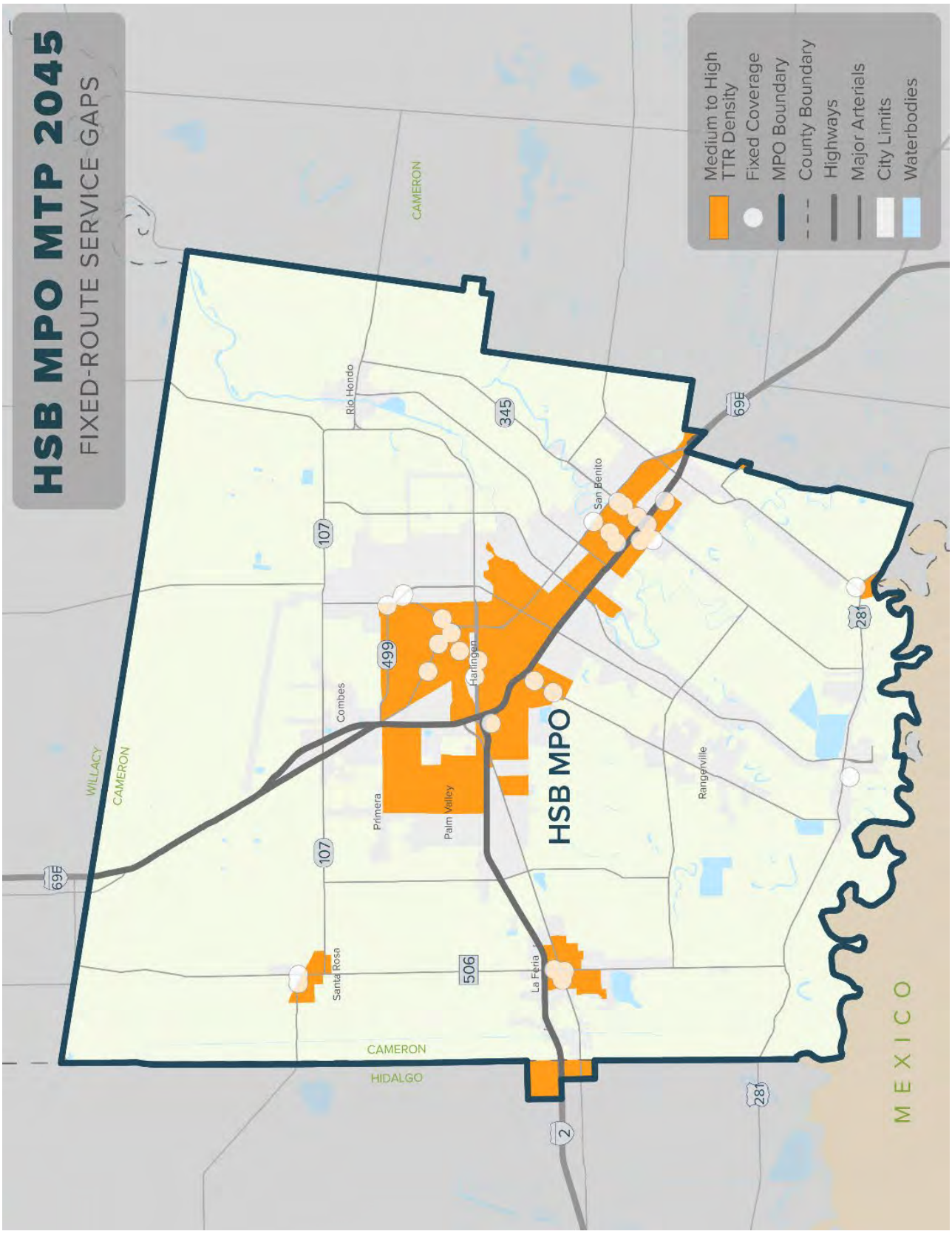
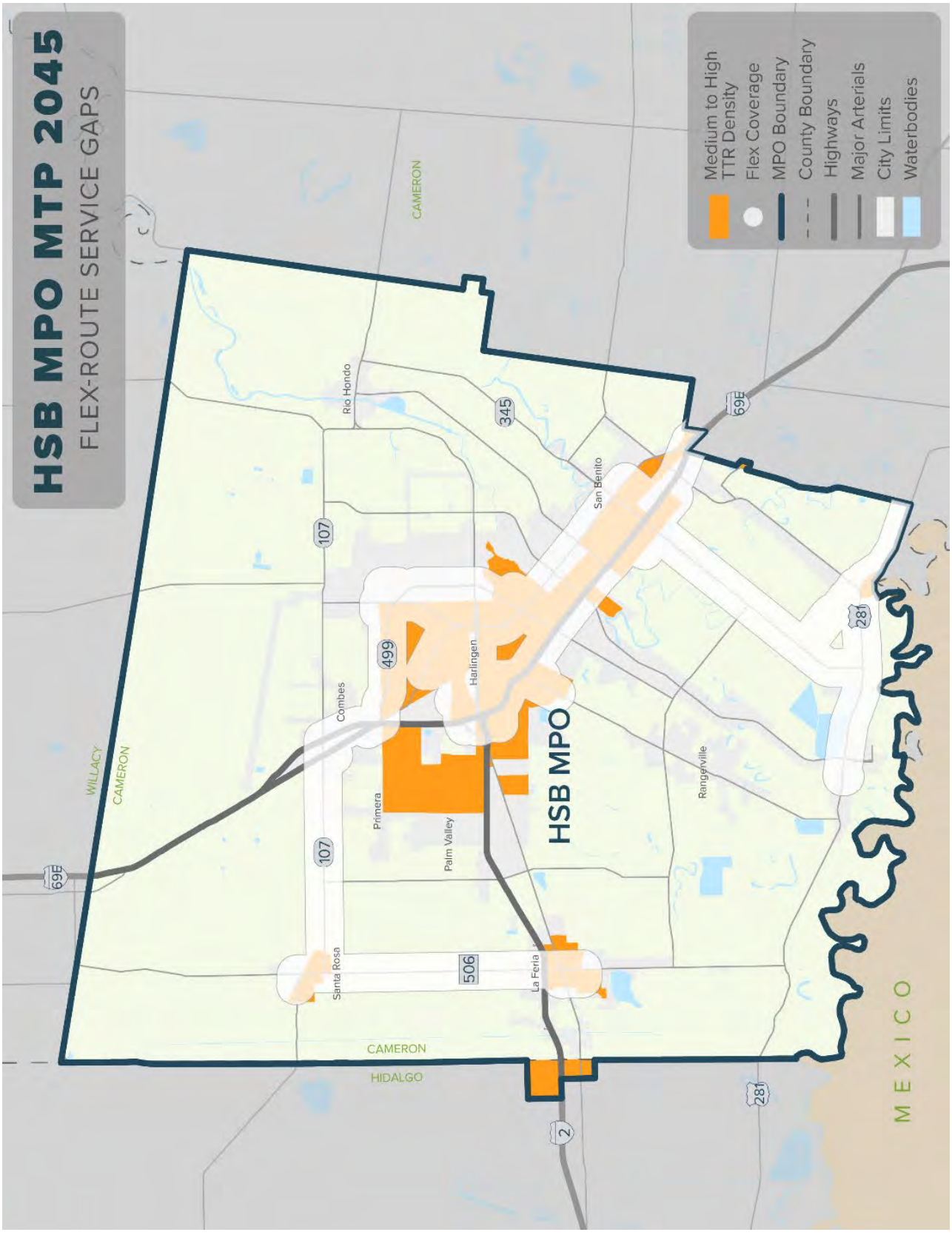


Figure 3-26: HSB MPO Flex-Route Service Gaps for TTR



Hidalgo County MPO

Like HSB MPO, **Figure 3-27** displays the concentrations of Transit Dependent Population (TDP) within the HC MPO area. **Figure 3-28** and **Figure 3-29** display transit gaps for TDP, for both Valley Metro fixed route and flex route services.

The density of Target Transit Riders (TTR), for HC MPO is shown in **Figure 3-30**. **Figure 3-31** and **Figure 3-32** display transit gaps for TTR, for both Valley Metro fixed route and flex route services.

Exhibit 3-19: Passengers wait for buses at Metro McAllen's Central Station

Figure 3-27: HC MPO Transit Dependent Population (TDP) Per Acre

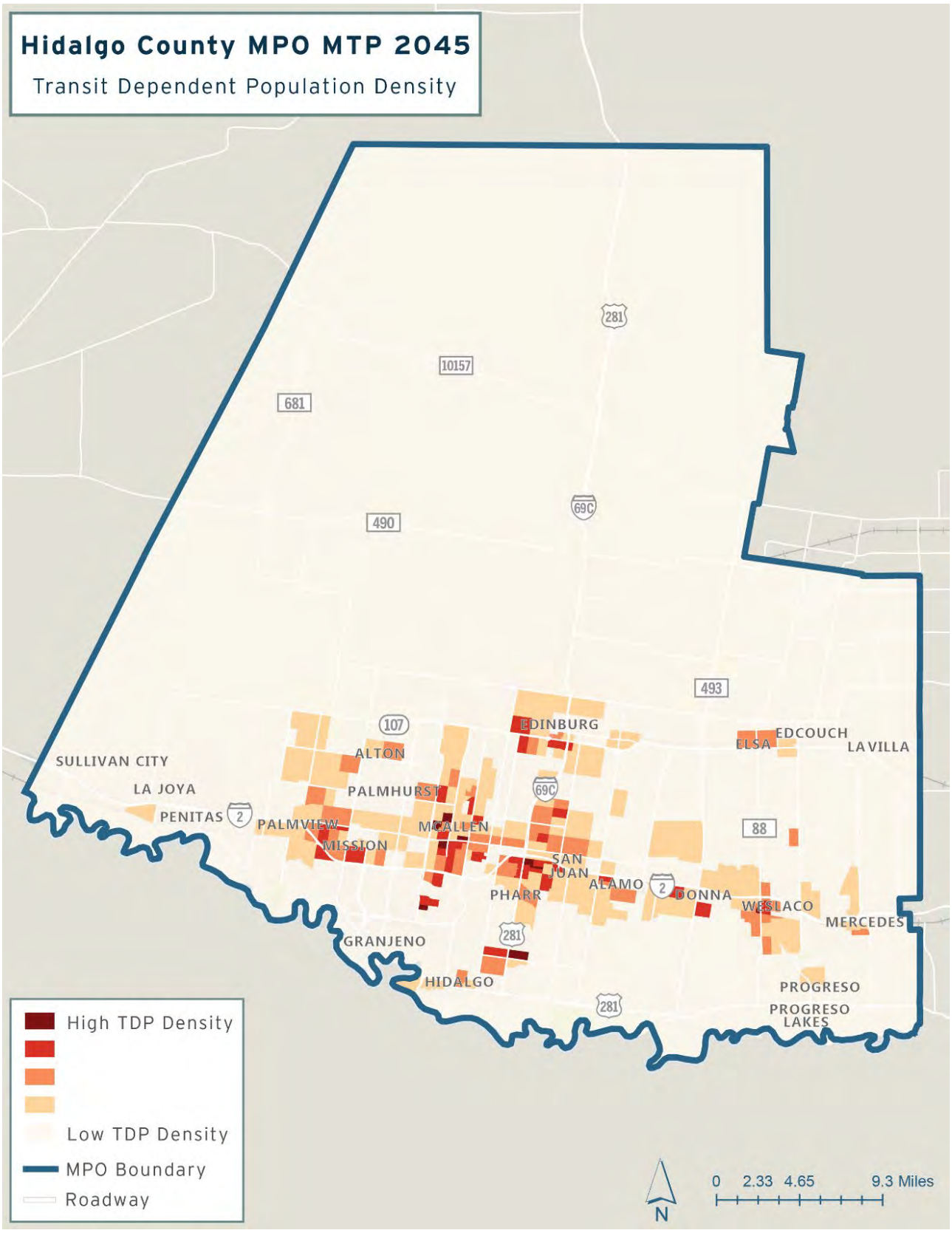


Figure 3-28: HC MPO Gaps in Fixed Route Service for TDP

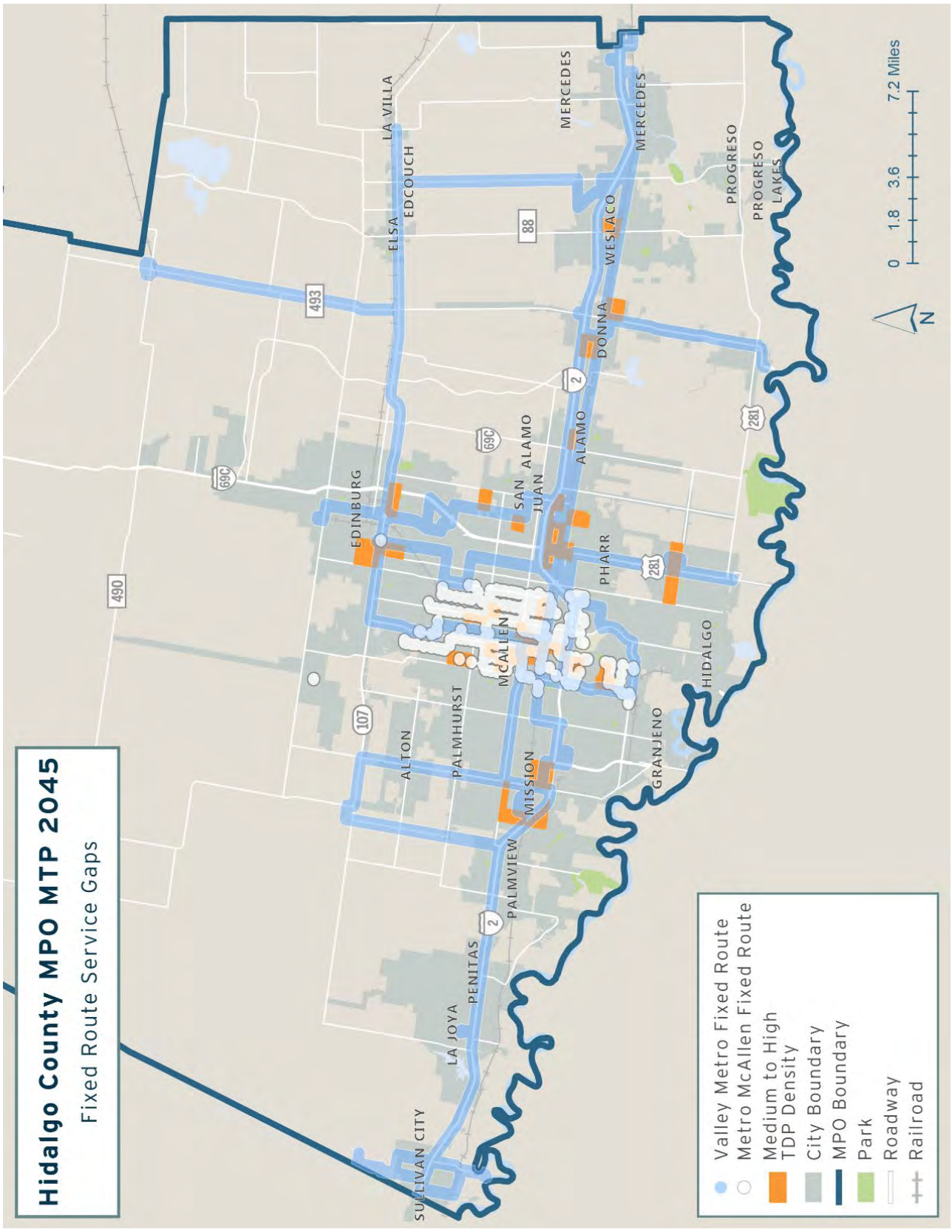


Figure 3-29: HC MPO Gaps in Paratransit/Flex Route Service for TDP

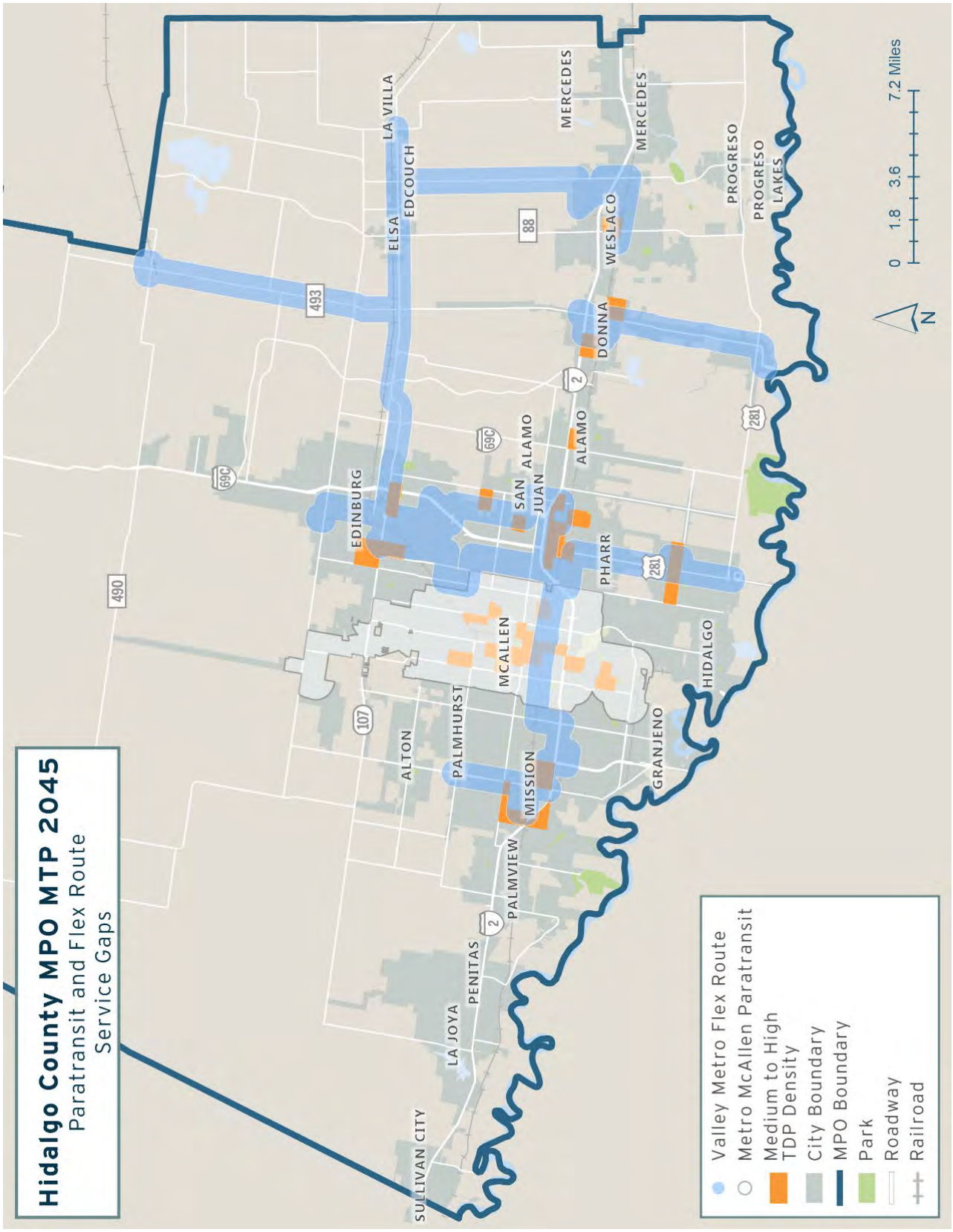


Figure 3-30: HC MPO Target Transit Riders Density (TTR) Per Acre

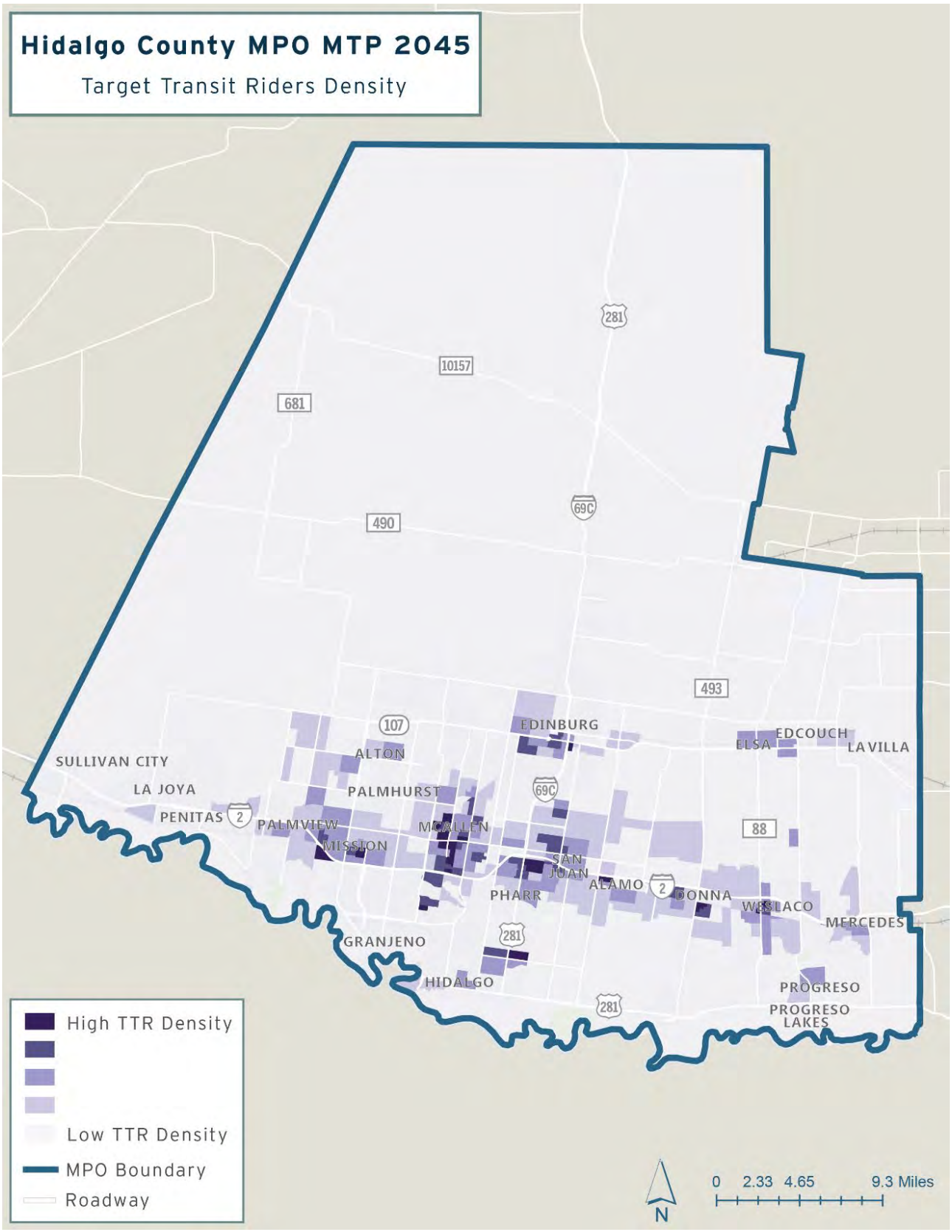


Figure 3-31: HC MPO Gaps in Fixed Route Service for TTR

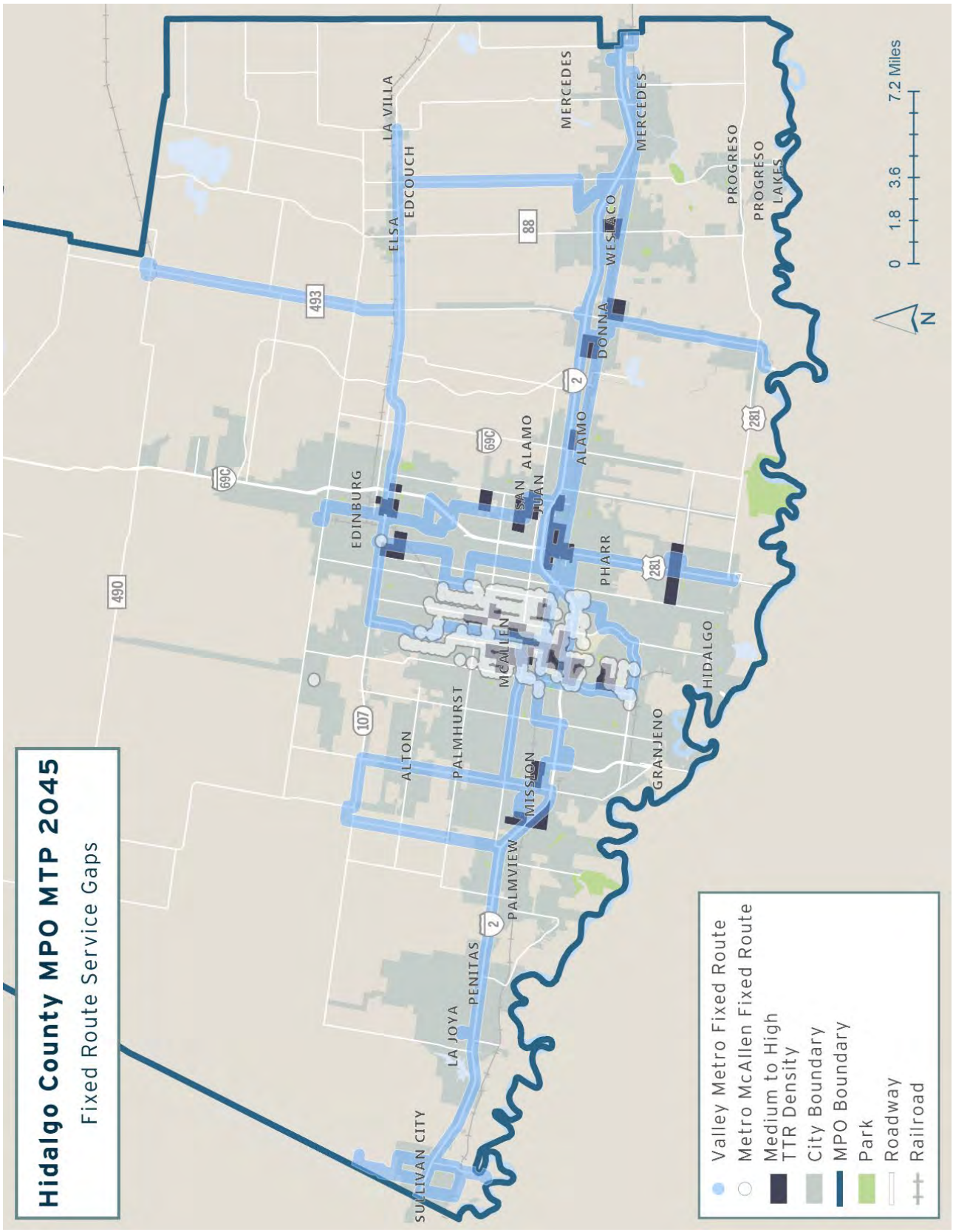
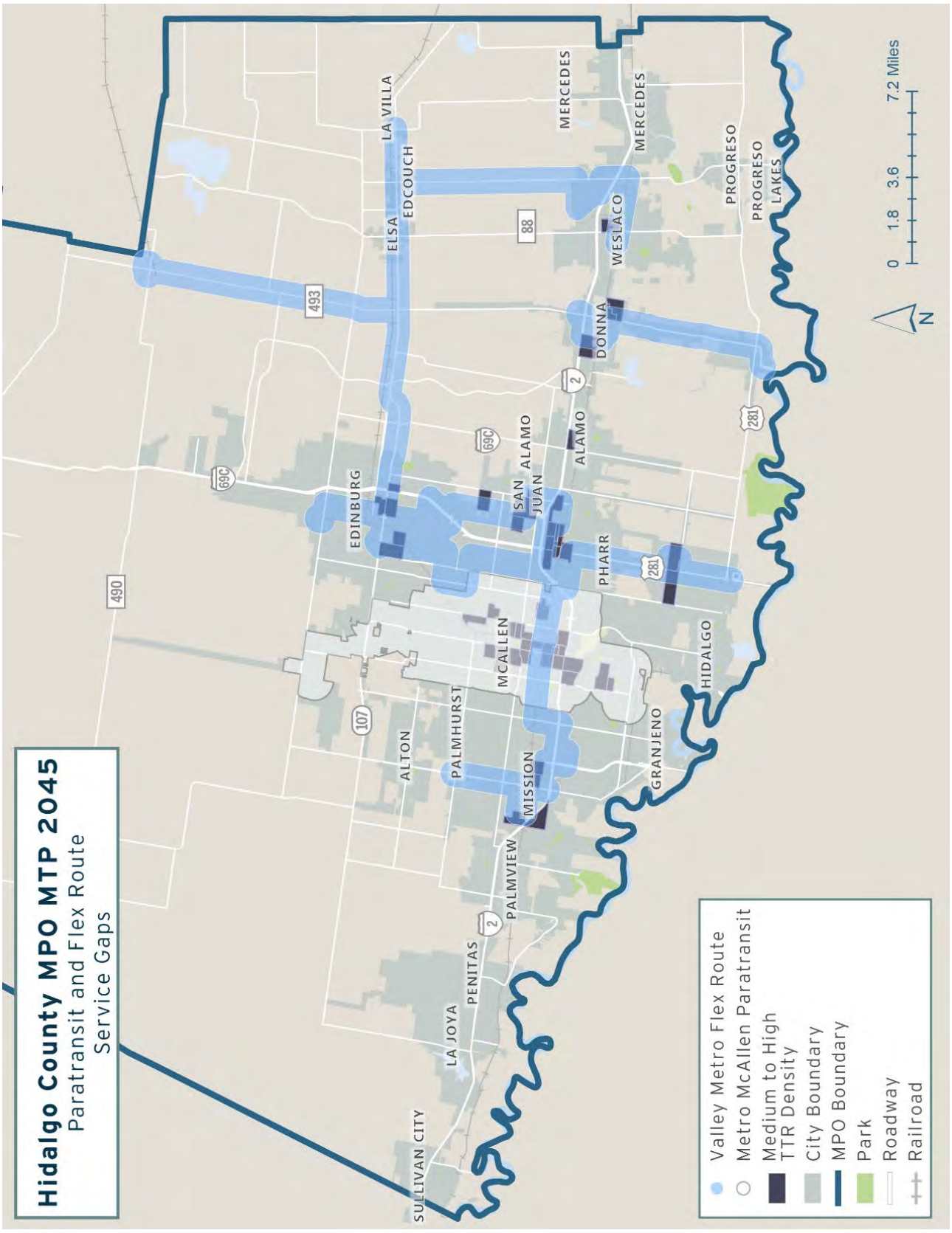


Figure 3-32: HC MPO Gaps in Paratransit/Flex Route Service for TTR



Transit Supply

Transit supply is represented by the quality of service (e.g. route frequency, span of service, weekend/night coverage, etc.) and amenities (e.g. shelters, real time updates, etc.) provided to the general public through existing transit coverage. Currently, Metro McAllen and Valley Metro provide span of service ranging between 60 minutes and 120 minutes. Detailed span of service and schedule info can be found in the existing transit section above. Because of the lack of disparity in existing supply conditions, an analysis on coverage regarding key destinations within each MPO planning area was conducted to display how well the current fixed, flex and paratransit systems are serving important destinations found in the area. Land uses and destinations considered in this analysis were provided by the HSB MPO and HC MPO and are listed below:

- Schools
- Parks
- Hospitals /Medical
- Education
- Community
- Government
- Religious
- Employers

Exhibit 3-20: Valley Metro Transit Amenities in Harlingen

Harlingen-San Benito MPO

As shown in **Table 3-22**, more than 80% (256) of the key destinations in the MPO planning area have flex route transit service.

Table 3-23 shows the key destinations served by the fixed route system, where there is a significant drop in coverage with only 23% (73) of the destinations receiving transit service. **Figure 3-33** displays key destinations relative to transit coverage in the HSB MPO planning area.

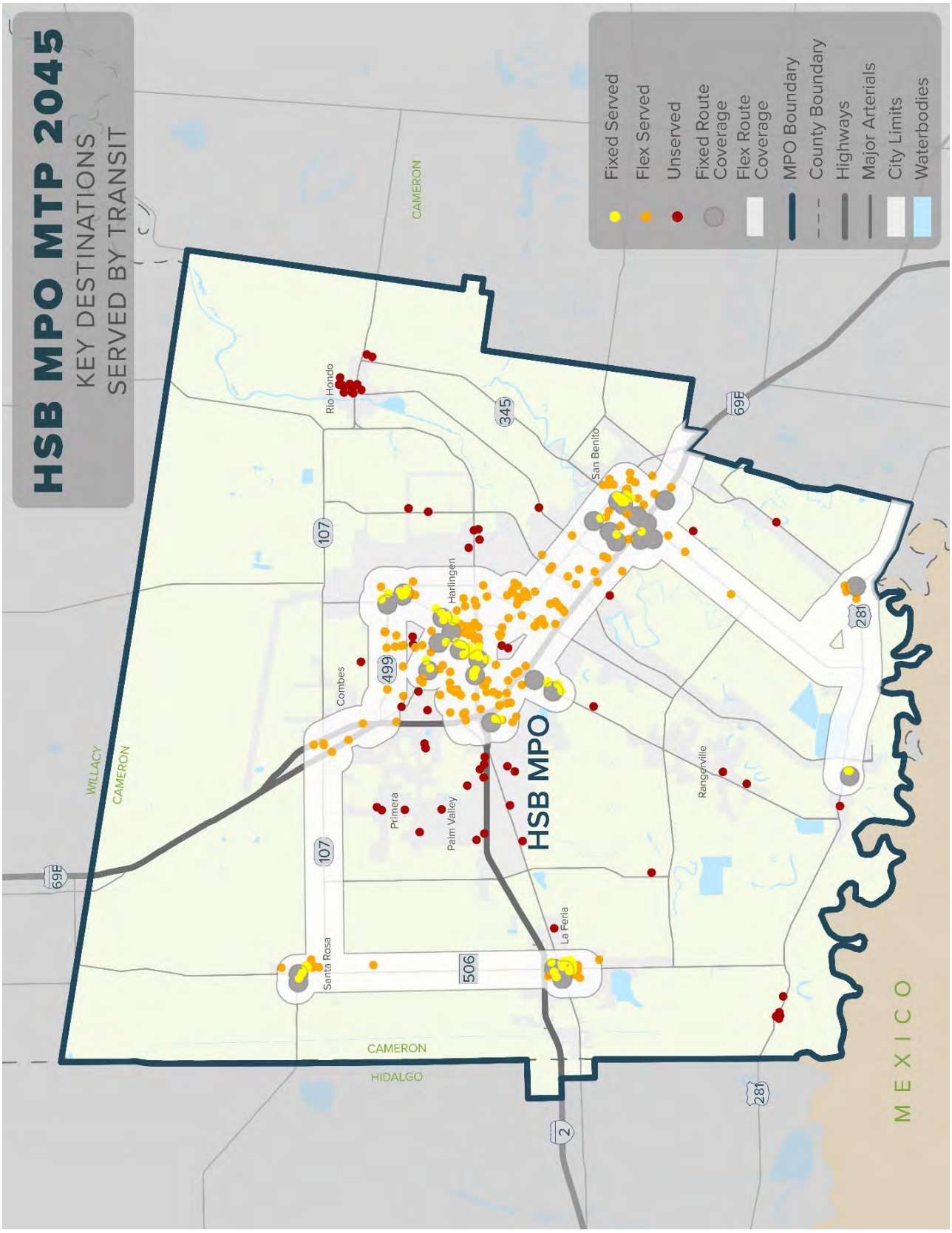
Table 3-22: HSB MPO Key Destinations in Fixed Route Transit Coverage

	Total	Covered	Not Covered	% Covered
Education	139	107	32	77%
Community	17	15	2	88%
Government	25	22	3	88%
Medical	20	20	0	100%
Religious	55	42	13	76%
Employers	62	50	12	81%
Total	318	256	62	81%

Table 3-23: HSB MPO Key Destinations in Flex Route Transit Coverage

	Total	Covered	Not Covered	% Covered
Education	139	27	112	19%
Community	17	6	11	35%
Government	25	12	13	48%
Medical	20	5	15	25%
Religious	55	12	43	22%
Employers	62	11	51	18%
Total	**318**	**73**	**245**	**23%**

Figure 3-33: HSB MPO Key Destinations Served



Hidalgo County MPO

As shown in **Table 3-24**, 13% of the total key destinations used in this analysis are covered by fixed route service, and 16% percent are covered by paratransit service, as shown in **Table 3-25**. Though Metro McAllen service is only a small portion of the MPO planning area, more than half (53%) of hospitals are served by fixed route service. That number declines to 35% for the paratransit service due to its restriction within McAllen city limits.

Figure 3-34 shows the walk shed of Valley Metro's flex route service, which covers 39% of total key destinations, and more than three quarters (76%) of hospital facilities. Valley Metro's flex route coverage does not extend to all routes, thus a decrease in served destinations occurs for hospitals and schools, as shown in **Figure 3-35**.

Table 3-24: HC MPO Key Destinations Served by Fixed Route Service

	Metro McAllen			Valley Metro		
	Total	Served	% Served	Total	Served	% Served
Hospitals	17	9	53%	17	13	76%
Parks	115	20	17%	115	44	38%
Schools	319	31	10%	319	119	37%
Total	451	60	13%	451	176	39%

Table 3-25: HC MPO Key Destinations Served by Paratransit/Flex Route

	Metro McAllen			Valley Metro		
	Total	Served	% Served	Total	Served	% Served
Hospitals	17	6	35%	17	12	71%
Parks	115	27	23%	115	49	43%
Schools	319	41	13%	319	114	36%
Total	451	74	16%	451	175	39%

Figure 3-34: HC MPO Key Destinations Served by Fixed Route Service

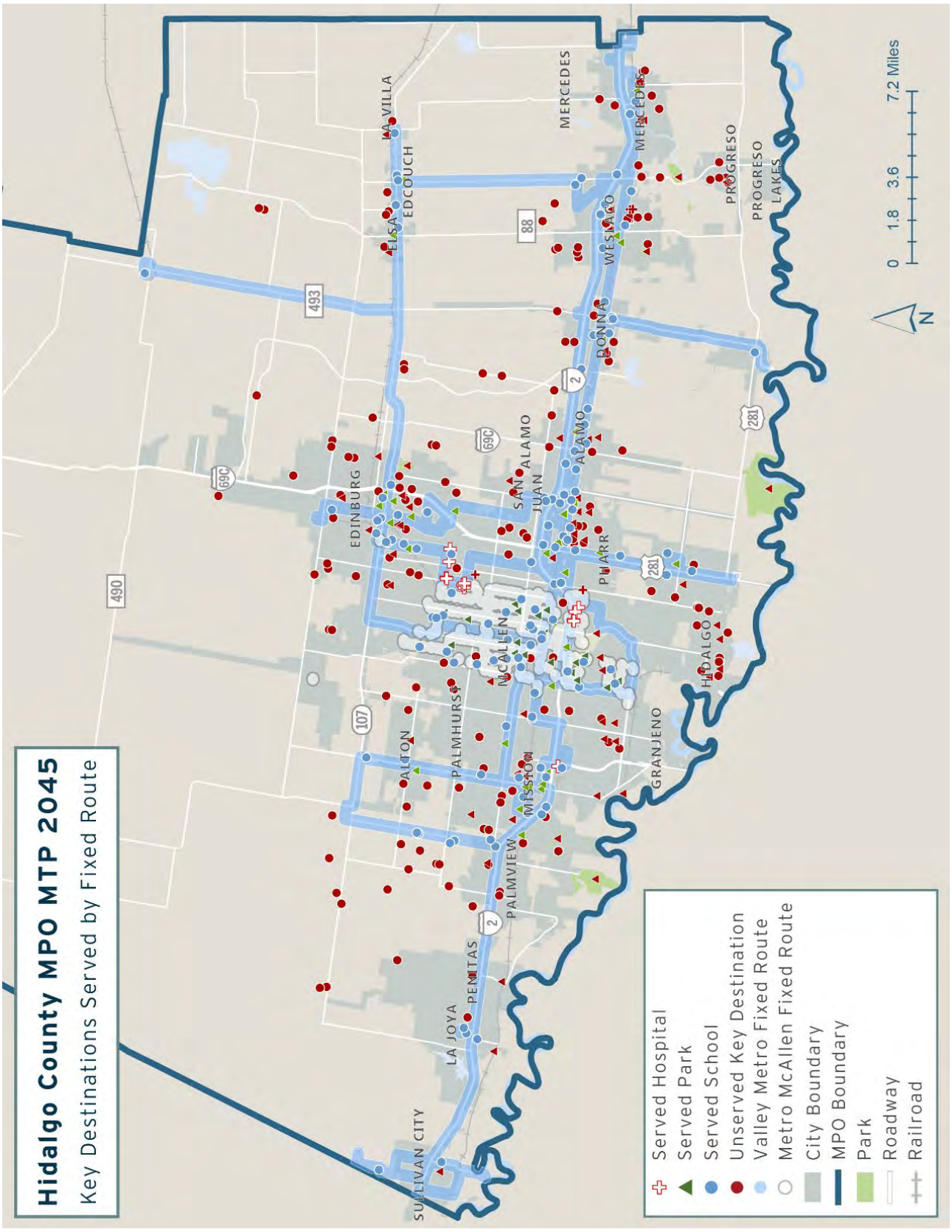
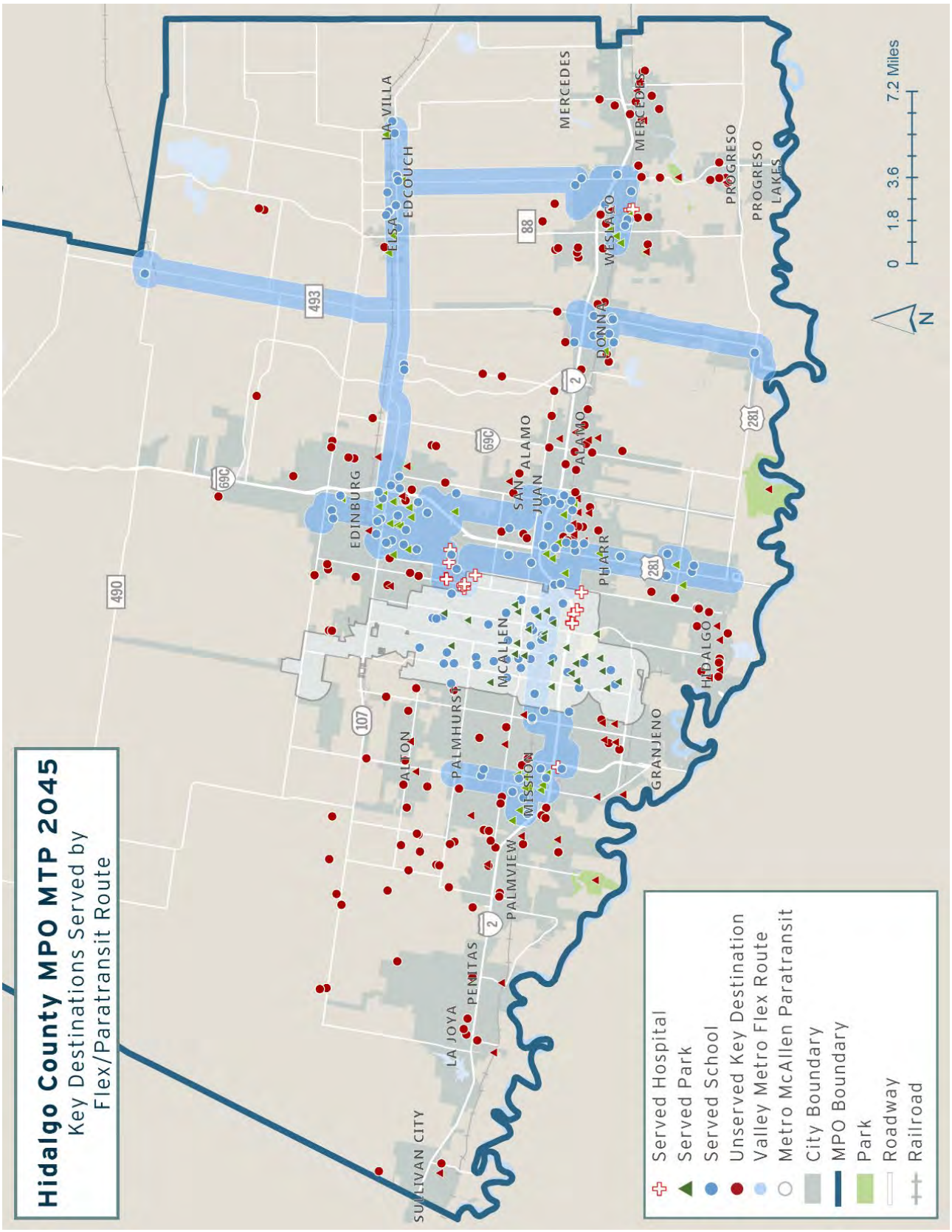


Figure 3-35: HC MPO Key Destinations Served by Paratransit/Flex Route



Active Transportation Assessment

Exhibit 3-21: Heavin Resaca Trail in San Benito

Active transportation networks typically consist of sidewalks and bicycle infrastructure and helps facilitate the use of non-single-occupancy vehicle (SOV) modes of transportation. Creating contiguous active transportation systems can encourage walking and cycling, which in turn can help create healthy communities. This can also help create a more effective transit network and address the "first/last mile" problem by providing better connections between transit stops, trip origins, and trip destinations. This section dives into the existing conditions of the RGVMPO's active transportation network through a comprehensive analysis of accessibility to pedestrian and cycling infrastructure. The section also identifies walking and cycling gaps in service for the HSB and HC MPO planning areas. Both analyses work in tandem to identify areas where improvements to the active transportation network would be most effective. For the Brownsville MPO planning area previous and ongoing plans and projects are discussed to better understand the existing landscape of active transportation infrastructure.

Harlingen-San Benito MPO

Current Conditions

According to 2017 American Community Survey (ACS) data, 1.3% of residents of Cameron County walk to work as means of transportation, while only 0.2% used a bicycle. Those numbers rose slightly for Harlingen at 1.8% walking and remained a consistent 0.2% of people using a bike. The average for the state of Texas is 1.6% and 0.3% respectively. The choice to walk or bike can be easily deterred by a lack or gap in facilities, and conditions that are uncomfortable. Due to the low number of facilities currently available in the HSB MPO planning area, it is logical to have low percentages of people who are walking or biking as their mode choice of getting to work.

The following prior plans to this MTP address active transportation in the planning area, on which this analysis draws from. The plans are listed below:

- Harlingen-San Benito MPO Bicycle and Pedestrian Master Plan – September 2016
- Harlingen San Benito MPO MTP 2015-2040 – December 2014
- City of Harlingen Parks and Recreation Master Plan – January 2016
- City of Harlingen Trails Master Plan – March 2010
- City of San Benito Parks and Recreation Master Plan – April 2015

It is apparent from the listed plans that communities in the MPO planning area value recreation and access to the outdoors, especially along off-street or shared use trails. Current facilities do not reflect those values, though goals and objectives are focused on improving facilities for those who walk or bike. In the 2016 Harlingen Parks and Recreation Master Plan, the second highest response from a community survey for needed improvements, was to add additional places to ride a bicycle.

Bike Facilities

The current bike facilities consist of two bi-directional bike lane segments, along with nearly six miles of off-street bike facilities, the side path and shared use paths. The side path runs primarily along N 25th Street and connects several schools and community amenities. **Table 3-26** shows the total length in miles of the current bike network. It should be noted that the Harlingen urban area has several bike racks which are shown in **Figure 3-36**. Bike parking is an amenity that significantly expands the use of bicycles for transportation, as it provides a dedicated and secured fixture for locking a bike for a long period of time.

Exhibit 3-22: Branded Bike Racks in Harlingen, TX

Table 3-26: Current Bike Network Facilities

Facility Type	Length in Miles	Number of Segments
Shared Use	3	2
Side Path	3	1
Bike Lane	7	4
Total	13	7

Pedestrian Facilities

As shown in **Table 3-27**, 140 miles of pedestrian network exist, the majority being sidewalk (134 miles). Most of the sidewalk network is located in the gridded, urban neighborhoods of Harlingen, which is conducive to making trips by foot. San Benito and the smaller communities lack sidewalk data to use in this analysis, though there are sidewalk networks in some areas of those communities. Shared use paths and side paths provide great opportunity for walking and biking alike. For that reason, off-street facilities are included in both pedestrian and bike networks.

Exhibit 3-23: Sidewalk Infrastructure in Harlingen, TX

Table 3-27: Current Pedestrian Network Facilities

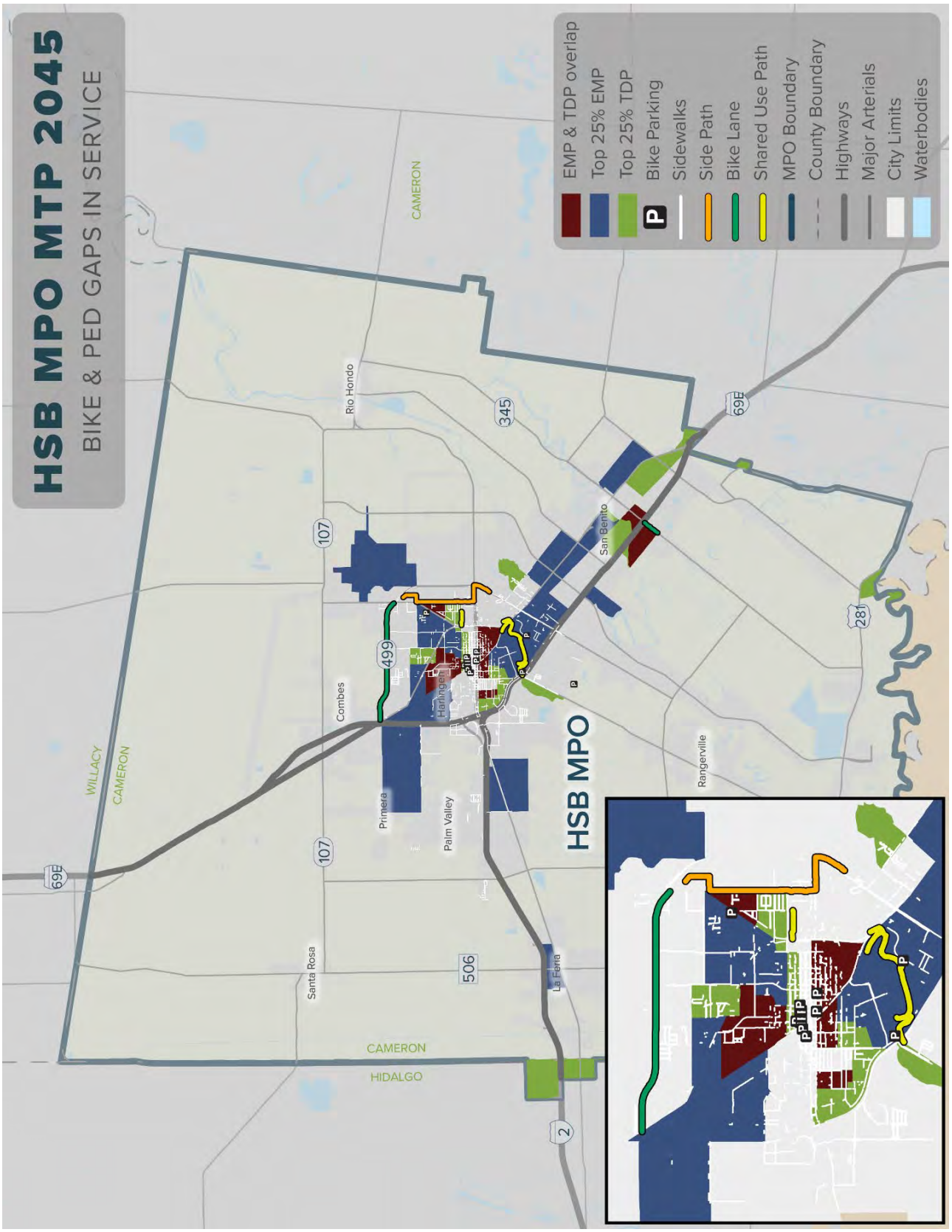
Facility Type	Length in Miles	Number of Segments
Shared Use	3	2
Side Path	3	1
Sidewalk	134	685
Total	140	688

Service Gaps

Figure 3-36 shows those block groups with medium to high densities of TDP and employment, and block groups where there is both a high density of employment and TDP, signaling they are high need areas. High need for walking and biking facilities occurs in the urban areas in the MPO planning area. Within San Benito, limited facilities exist, and travel into Harlingen lacks facilities. As it stands, bike facilities tend to border the urban areas, and do not provide access to the amenities in the urban core of Harlingen. A largely gridded street network in Harlingen provides a sidewalk network, though some locations may be incomplete. Santa Rosa, La Feria, Primera, and Palm Valley, all smaller communities in the planning area, also have dense populations with limited access to motor vehicles, and limited to no facilities for walking or biking, especially into the more urban area of Harlingen or San Benito.

Exhibit 3-24: Protected bike path along Ed Carey Drive, adjacent to Hugh Ramsey Nature Park in Harlingen

Figure 3-36: Service Gaps in Bike & Pedestrian Network



Proposed Facilities

In the HSB MPO Bike and Ped Master Plan, proposed facilities are separated into three Facility Network categories including urban, rural and off-street. Based upon the characteristics of the Facility Network and the needs of the user, appropriate Facility Classes can be used. According to that plan, four Facility Classes are needed throughout the planning area:

- **Off-Street –** completely disconnected from the roadway, though often are parallel
- **Separated –** has a barrier between the facility and motor vehicle traffic
- **Designated –** similar to a separated facility, but without a physical barrier
- **Combined –** does not have any designated space for people using bikes and the entire roadway is shared with motor vehicles

The proposed pedestrian facilities add over 100 miles of each sidewalk and off-street network, as shown in **Table 3-28**. The extensive off-street facility that is proposed would greatly benefit the use of walking and biking throughout the urban MPO planning area, as both people walking and biking use off-street networks. The proposed sidewalk networks add to the incomplete sections of the inner Harlingen neighborhoods, and adds sidewalks in the high need areas between Harlingen and San Benito, as shown in **Figure 3-37**.

Table 3-28: Proposed Pedestrian Facilities

Facility Class	Length in Miles	Number of Segments
Sidewalk	109	1,441
Off Street	102	27
Total	236	712

Figure 3-38 shows the proposed bike network according to Facility Class. 420 miles of proposed bike network are evenly dispersed throughout the MPO (**Table 3-29**). Most of those miles are designated (300) however, a significant portion are off-street, which provide the most comfort and access for all users. Several separated segments are proposed, to complete the network in high conflict areas. Overall, the addition of this bike network will dramatically improve the ability for people to use bicycles in urban and rural areas alike within the MPO planning area.

Table 3-29: Proposed Bike Facilities

Facility Class	Length in Miles	Number of Segments
Combined	5	3
Designated	300	163
Separated	13	15
Off Street	102	27
Total	420	208

Figure 3-37: HSB MPO Proposed Pedestrian Facilities

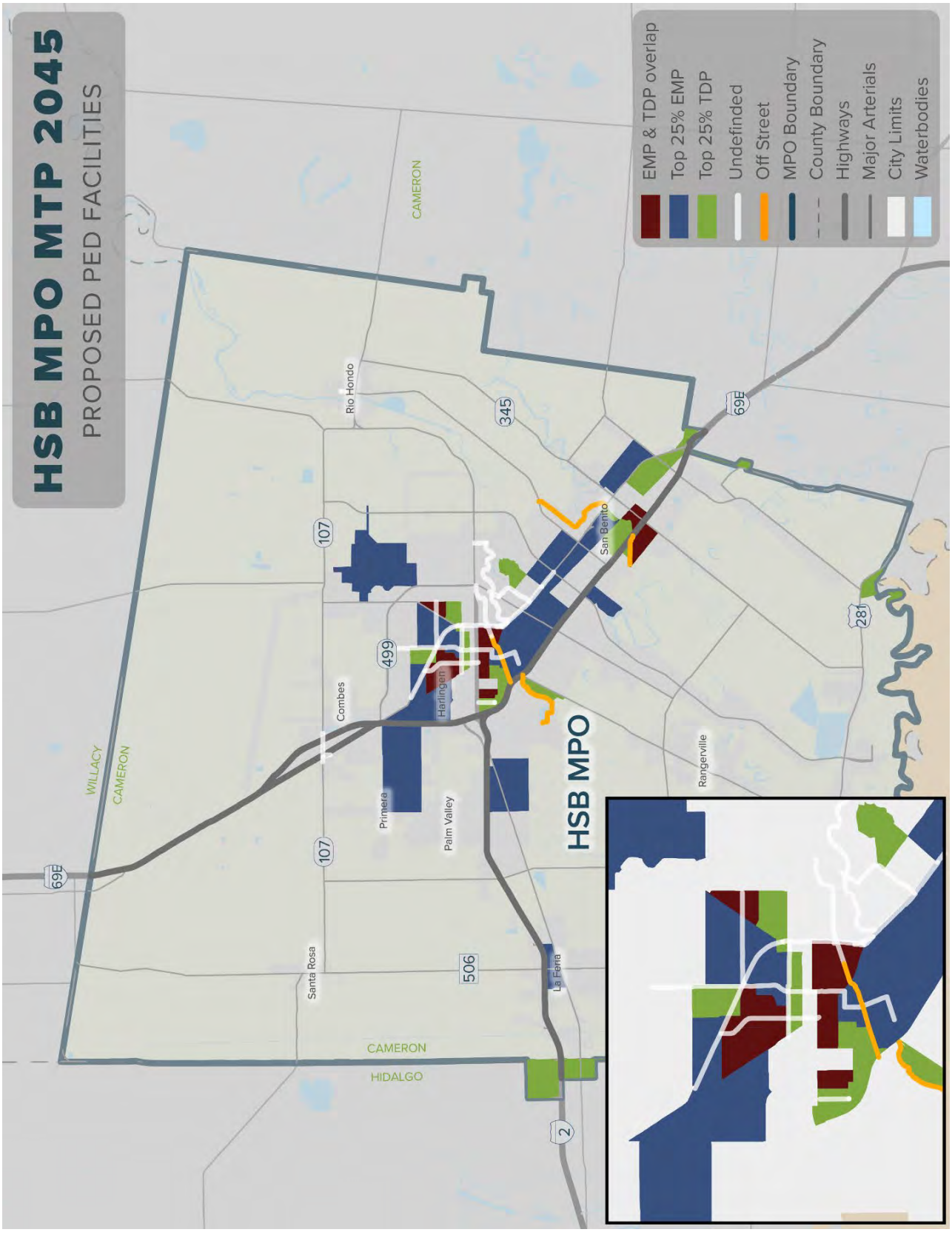
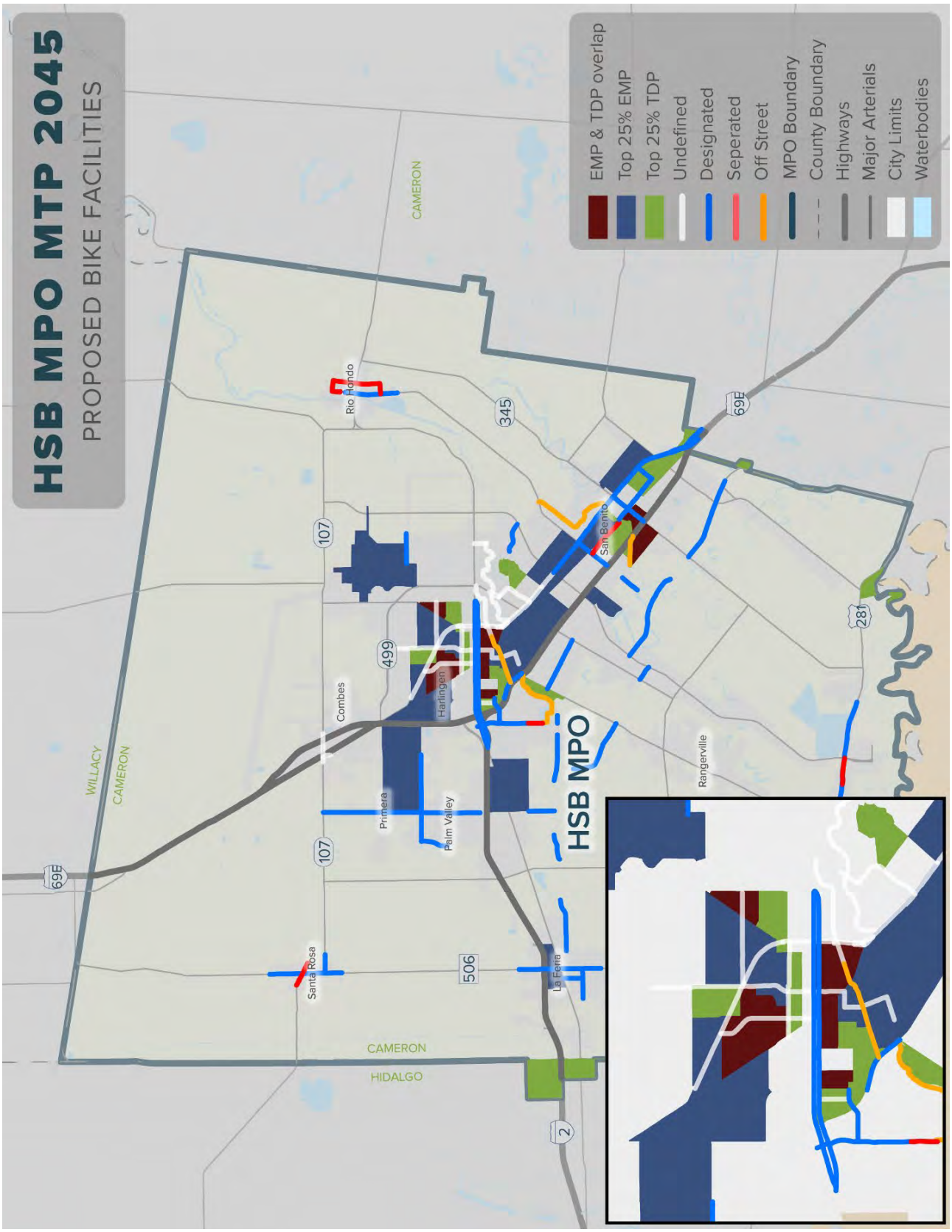


Figure 3-38: HSB MPO Proposed Bike Facilities



Hidalgo County MPO

Current Conditions

According to 2017 American Community Survey (ACS) data, 2% of residents of Hidalgo County walk to work as means of transportation, while only 0.1% used a bicycle. The average for the state of Texas is 1.6% and 0.3% respectively. The choice to walk or bike can be easily deterred by a lack or gap in facilities, and conditions that are uncomfortable. Due to the lack of connectivity of both the bike and pedestrian network in the HC MPO planning area, it is logical to have low percentages of people who are walking or biking as their mode choice of getting to work.

Exhibit 3-25: B-Cycle Station McAllen

The following prior plans to this MTP address active transportation in the planning area, on which this analysis draws from. The plans are listed below:

- Hidalgo County MPO Bicycle Plan – April 2018
- Hidalgo County MPO Pedestrian Plan – March 2014
- Hidalgo County MPO MTP 2015-2040 – December 2014

It is apparent from the listed plans that communities in the MPO planning area value safety and access to a continuous bicyclist network, especially in connection to a comprehensive multimodal transportation network. Current facilities do not reflect those values, though goals and objectives are focused on improving facilities and policies for those who walk or bike. In both the 2015-2016 Hidalgo County Pedestrian Plan Survey and the 2018 Bike Plan Survey, pedestrians and bicyclists alike suggested that Hidalgo County needs 1) a safer and more secure pedestrian/bicycle network and 2) to increase connectivity between communities and key destinations, such as schools, parks, and employment/shopping centers.

Bike Facilities

The current bike facilities consist of two bi-directional bike lane/shared lanes segments, along with nearly 42 miles of off-street bike facilities, the side path and shared use paths. **Table 3-30** shows the total length in miles of the current bike network. It should be noted that two bike share companies have also been introduced into Hidalgo County since 2015, increasing the number of accessible bicycles and parking stations for residents.

Table 3-30: Current Bike Network Facilities

Facility Type	Length in Miles
Shared Use Paths/Hike-Bike Trails	41.9
Bike/Shared Lane	69.5
Total	111.4

Pedestrian Facilities

As shown in **Table 3-31**, almost 1,713 miles of pedestrian network exist, the majority being sidewalk (1670.6). Most of the sidewalk network is located within the urbanized areas of Hidalgo County, creating nodes of walkability rather than one well connected network. Sidewalks spread outwards from McAllen to the other neighboring cities, such as Mission, Pharr, Hidalgo, Edinburg, and San Juan, but at a much sparser concentration. Shared use paths and hike-bike trails provide great opportunity for walking and biking alike. For that reason, off-street facilities are included in both pedestrian and bike networks.

Table 3-31: Current Pedestrian Network Facilities

Facility Type	Length in Miles
Shared Use Paths/Hike-Bike Trails	41.9
Sidewalk	1670.6
Total	1712.5

Service Gaps

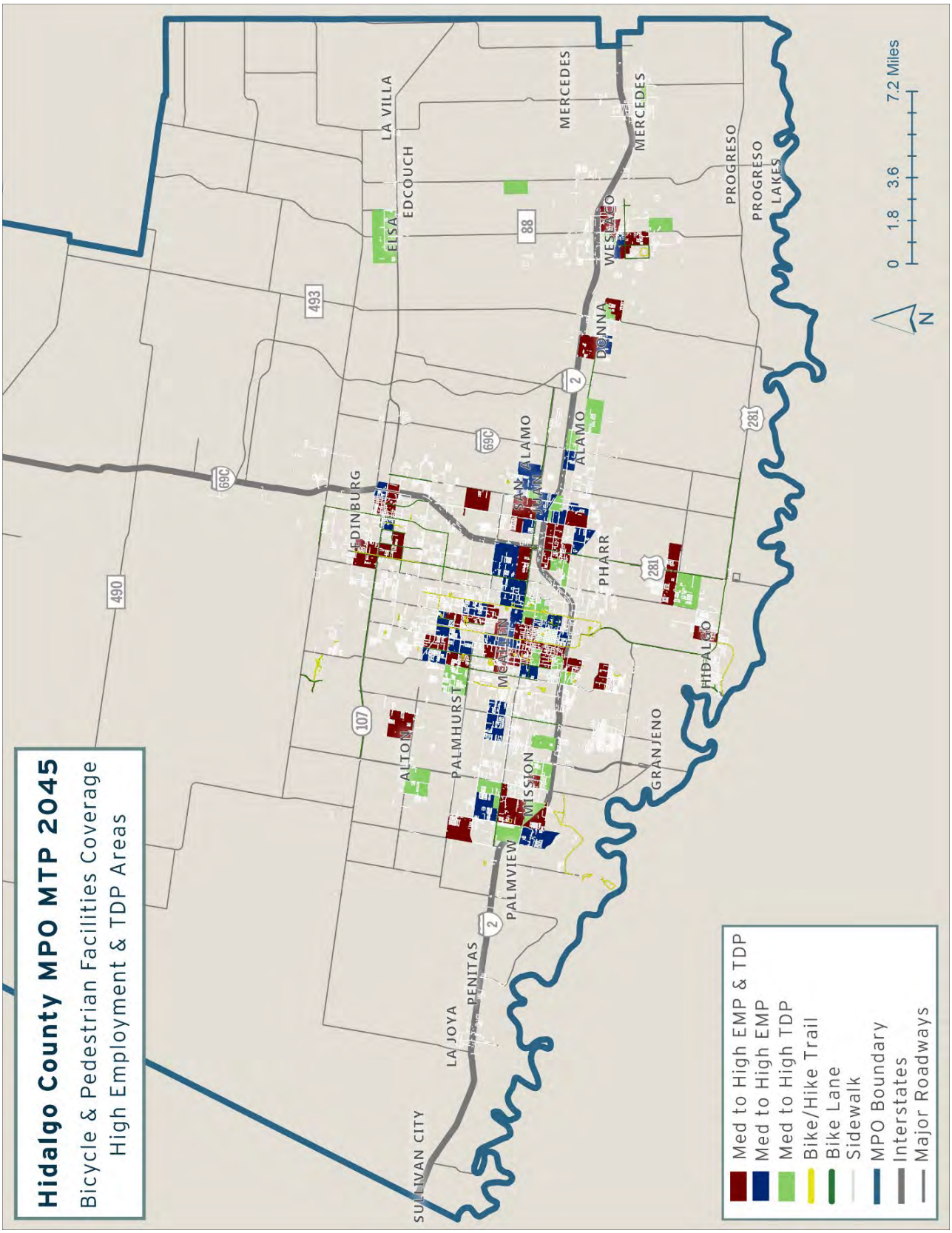
Figure 3-39 shows employment density dispersed in the urban area of the MPO planning area, with the highest density block groups occurring in the urban core areas along IH 2 and downtown Edinburg and McAllen. High employment areas provide important destinations for trips and should be a consideration in proposed projects to improve facilities for people who are walking and biking.

A good transportation network will accommodate areas where there are greater densities of people or jobs. Areas with high population densities will account for origins of many trips, while areas with high employment densities will account for destinations of many trips. Looking further into populations who are more likely to use forms of active transportation, Transit Depend Populations (TDP) as used in the transit analysis section of the MTP, is a conservative measure of those person who lack access to a personal automobile. Therefore, TDPs are more likely to use transit, and or active transportation to accomplish their daily needs.

Further, **Figure 3-39** shows block groups where there is both a high density of employment and TDP, signaling they are high need areas. High need for better connectivity of walking and biking facilities occurs between the urban areas in the MPO planning area. As it stands, bike facilities do not connect many of the urban areas to one another within the MPO planning area, with quite a few areas that have both high employment density and TDP, such as Alton and Elsa. Due to these gaps in service, the populations within these underserviced areas will have a hard time connecting to many key destinations within the urban core, such as employment/shopping centers and schools.

A grid street network in Hidalgo County provides a sidewalk network, though some locations may be incomplete. Alton, Edcouch, Penitas, and Progreso, all smaller communities in the planning area, also have dense populations with limited access to motor vehicles and have limited access to facilities for walking or biking.

Figure 3-39: HC MPO Service Gaps in the Bike & Pedestrian Network



Proposed Facilities

There are many efforts going forward being made within the HC MPO planning area, which includes improvements to both the bike and pedestrian transportation networks. These projects are supported by the communal interest to improve the overall connectivity and safety of the present infrastructure by upgrading the current facilities and adding new facilities where needed. As mentioned in previous sections, creating greater accessibility to the active transportation network due to future projects is critical to bettering the livelihoods and economic opportunities of these communities.

Proposed Pedestrian Facilities

The Pharr-San Juan-Alamo (PSJA) Tri-City Pedestrian Improvements Project will fund the construction of approximately 27,784 square yards of proposed sidewalk. These proposed pedestrian facilities would greatly benefit the use of walking and biking throughout the urban MPO planning area, as both people walking and biking use off-street networks. The proposed sidewalk networks add to the incomplete sections of the inner-city neighborhoods and adds sidewalks in the high need areas in Hidalgo County, which will connect more residents to key destinations such as schools, parks, and businesses. Additionally, Pharr has been funded to undertake its Comprehensive Pedestrian Safety and Wellness Program, which will identify the new construction of walkways that will connect several neighborhoods to schools, businesses, shopping plazas and recreational activities.

Proposed Bicycle Facilities

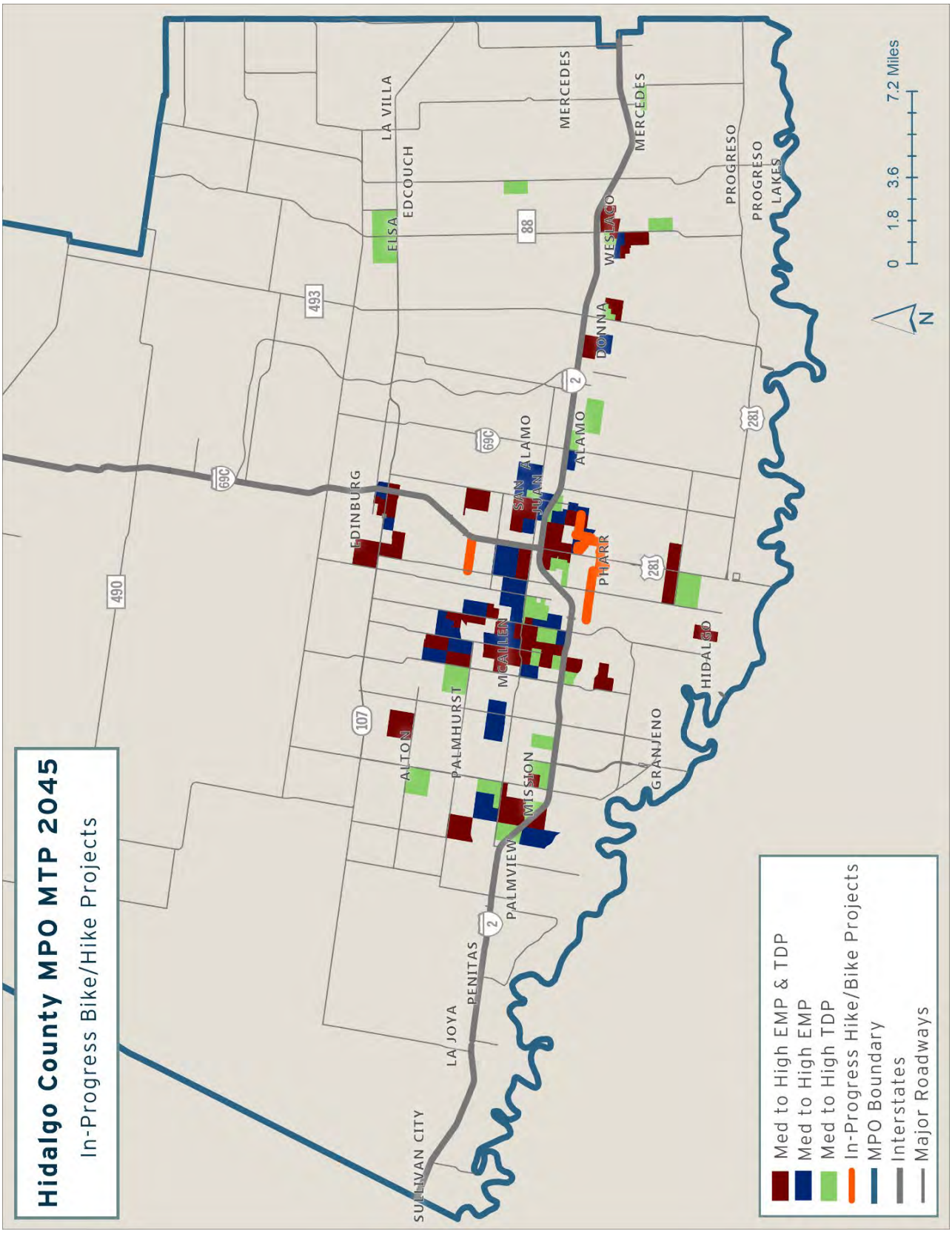
Since 2015, Hidalgo County has 1) added an estimated 36.5 miles of bikes lanes (equaling a 56% expansion), 2) introduced two docked bike share companies, and 3) undertaken and funded two new expansions to hike-bike trail projects. Additionally, safety improvements have been made to existing facilities, such as the Cano Hike & Bike Trail Lighting Project. This project consists of the installation of approximately 28 solar-powered lighting along the existing trail constructed in partnership with the Edinburg Consolidated Independent School District. This trail extends from Cano Street through Cenizo Park and Dr. Gilberto Diaz Park and South Middle School along Freddy Gonzalez Road. Lastly, biking in Hidalgo County has been made easier by the continued effort from Valley Metro to ensure their entire bus fleet offered bike racks by 2018. Overall, the addition of this bike network will dramatically improve the ability for people to use bicycles in urban and rural areas alike within the MPO planning area.

Figure 3-40 shows two of the hike/bike trail extensions that are currently in-progress, which would add almost 8 miles of shared used facilities for both bikes and pedestrians to use, detailed in **Table 3-32**.

Table 3-32: HC MPO In-Progress Bike/Ped Facilities

Facility Class	Length in Miles	Number of Segments
Hike/Bike Trail	7.9	2

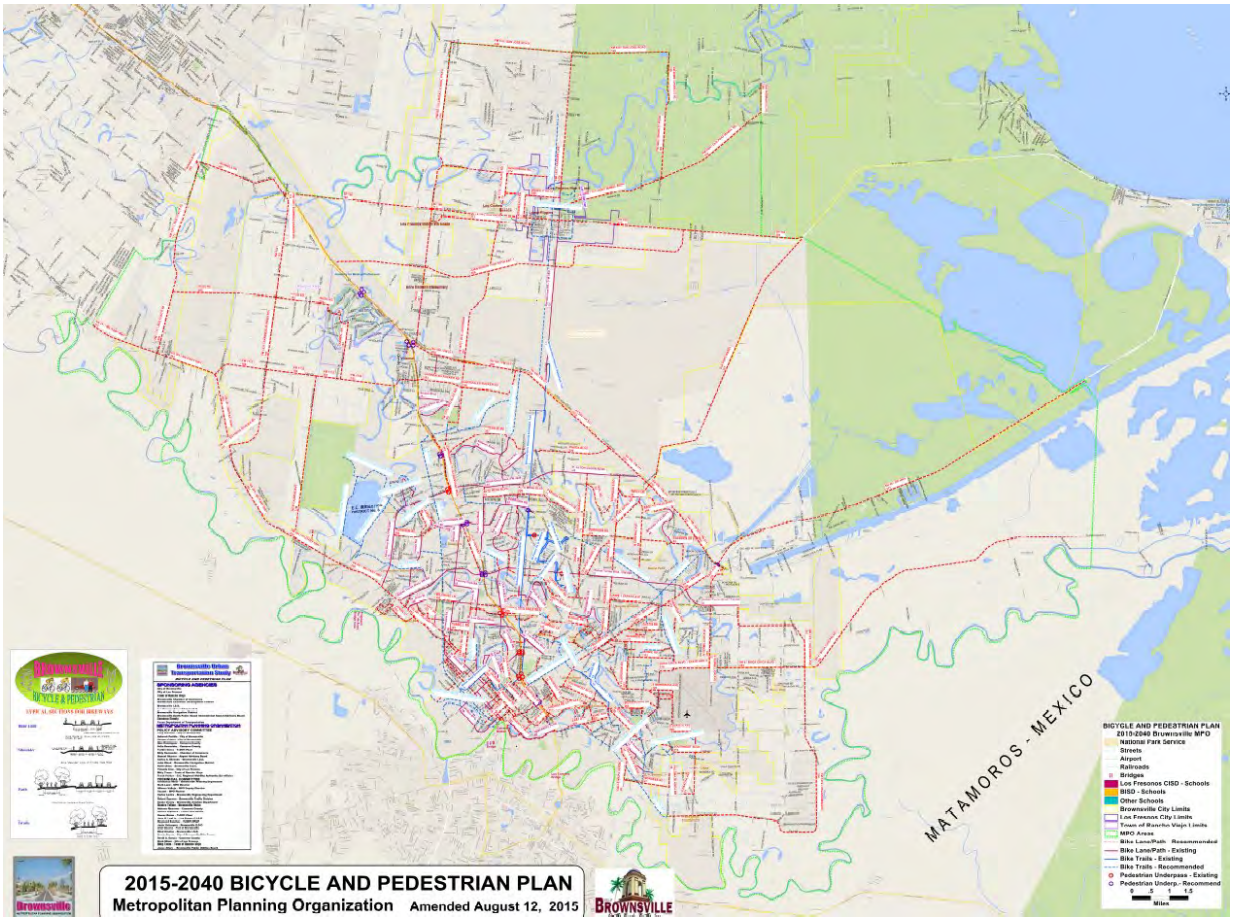
Figure 3-40: HC MPO In-Progress Bike/Ped Facilities



Brownsville MPO

The Brownsville MPO's development of bike and pedestrian plans and policies has been shaped in large measure by input of the local bicycling community. Citizen comments were helpful in the formation of the 1996 Plan, and again with the MPO's update of this plan in 2015.

Figure 3-41: Brownsville MPO Bicycle and Pedestrian Facilities



The Brownsville MPO's objectives for bicycle and pedestrian planning include the following:

- Identify the investments needed to address the needs of pedestrians and bicyclists to allow safe travel within the Brownsville urbanized area.
- Provision of safe alternatives to automobile travel allow persons to use their bikes to access work and/or school and other destinations.

Bicycling and walking opportunities support healthy lifestyles and provide safe recreation. Planning efforts in recent years have focused on establishing linkages with existing bicycle facilities and hike and bike trails. New facilities that tie into existing bicycle/pedestrian infrastructure will help this urbanized area to begin establishment of an overall network.

In Brownsville, a Master Bicycle and Pedestrian Plan for the City of Brownsville was formulated and adopted in 2013. The MPO's Bicycle & Pedestrian Plan will be updated in 2015

to account for changes due to this municipality's efforts. The MPO has allocated $142,700 in TAP funds to enable the City of Brownsville to undertake the District 3 Rapid Implementation Project. This project entails the establishment of shared lane markings and some roadways are proposed to have designated bicycle lanes.

In 2001, two municipalities were added to the Brownsville MPO planning area by the enlargement of the Metropolitan Area Boundary (MAB): (1) City of Los Fresnos, and (2) Town of Rancho Viejo. Rancho Viejo features some significant pedestrian infrastructure, such as conspicuous safety signage, striping of shoulders and an extensive path system found at the Rancho Viejo golf course. These elements make for a safe, pleasant environment for these patrons. Posted speed limits (featuring low speeds) constitute significant safety features in parts of Los Fresnos and most of Rancho Viejo.

In F.Y. 2016-2017 the MPO sponsored the Town of Rancho Viejo Bicycle and Pedestrian Master Plan. Halff Associates helped provide professional services to develop this planning document. This plan was adopted by the Rancho Viejo Board of Aldermen in October 2017.This plan established measures by which the Town may engage in successful Master Plan implementation.

This Master Plan recommendations for pedestrian improvements based on alternative street sections; and these cross-sections may be incorporated into the Town Code of this community. Some of the Master Olan recommendations, for intersections, included the following:

- Design bicycle and roadway and driveway crossing in a manner that prioritizes the right-of-way of bicyclists and pedestrians.
- Develop grade- separated bicycle/pedestrian crossings on routes that regionally link the Town to other destinations. The Master Plan featured many drawings and illustrations to guide the Town staff and officials.

The Rancho Viejo Master Plan included an implementation program to outline how to prioritize and implement active transportation projects that enhance the bicycling and walking environment throughout town.

The City of Los Fresnos will be implementing improvements with TAP funding provided by the Brownsville MPO. The City of Los Fresnos has been allocated $279,841 in MPO funds to construct the West Schools Connection Project. Sidewalk improvements will be built along the south side of S.H. 100 to facilitate safe pedestrian travel.

Also, another TAP project entitled the South FM 1847 Residential Project was allocated $178,900 in MPO funds. This will allow construction of sidewalk improvements along both sides of FM 1847 to afford pedestrian access to downtown Los Fresnos from existing residential subdivisions.

Two municipalities were added to the Brownsville MPO planning area in 2001 by the enlargement of the Metropolitan Area Boundary (MAB): (1) City of Los Fresnos, and (2) Town of Rancho Viejo. Rancho Viejo features some significant pedestrian infrastructure, such as conspicuous safety signage, striping of shoulders and an extensive path system found at the Rancho Viejo golf course. These elements make for a safe, pleasant environment for these

patrons. Posted speed limits (featuring low speeds) constitute significant safety features in parts of Los Fresnos and most of Rancho Viejo.

The Los Fresnos C.I.S.D. completed improvements under TxDOT's Safe Routes to Schools (SRTS) program. These assets in these two small communities provide for future MPO planning opportunities, such as:

1. Future connectivity with the City of Brownsville bicycle and trail network;
2. Improved inter-agency cooperation between localities, Cameron County, and with TxDOT;
3. Improvements in bicyclists/motorist education; and
4. Sharing of cost-effective (proven) strategies and techniques.

The MPO's F.Y. 2015 work program includes funding to examine these issues.

The Brownsville Policy Committee MPO now decides which agencies will be awarded Transportation Alternatives Program (TAP) monies. A program call to member agencies was issued in late June 2014 with submittals due in late September. Based on project evaluations, the MPO Technical Committee members issued recommendations about TAP project selection for consideration by the MPO Policy Committee members.

The MPO's Bicycle & Pedestrian Plan outlines which roadways (both on-system and off-system) will receive bike paths and bike lanes, said facilities to be developed, either by TxDOT, local entities or via a cooperative effort.

The Active Plan / Caracara Trails

On Wednesday, November 16, 2016, the City of Brownsville hosted 'The Active Plan" signing ceremony at the Brownsville Museum of Fine Arts. This signing ceremony celebrates the adoption of the Active Plan by the municipalities of Brownsville, Combes, Harlingen, Laguna Vista, Los Fresnos, Los Indios, Port Isabel, Rancho Viejo, San Benito, and South Padre Island.

Renamed as "Caracara Trails', the proposal provides a strategic framework for the development and promotion of biking and walking throughout Cameron County. In addition, it is designed to provide participating municipalities with a coordinated approach to attract tourist's to Cameron County. The Caracara Trail improvements will provide active amenities to permanent residents through area-wide bicycle and pedestrian transportation investments and the development of targeted tourism development strategies.

Exhibit 3-26: Active Transportation Plan

The country-wide plan includes a "tool-kit" that the signing municipalities will implement to develop a regional network of paths and trails that will promote active transportation in the Lower Rio Grande Valley.

Safety & Security Assessment

As part of the assessment of current conditions, a safety analysis was conducted focusing primarily on regional automobile crash trends and other safety concerns discussed by stakeholders in the HSB MPO and HC MPO regions in the planning area. This analysis illuminates existing safety concerns and past trends in the region so that proposed transportation projects can address these issues and improve the overall safety of the system for all users.

For this analysis, information from the Crash Records Information System (CRIS) data system was assessed for crashes that occurred in the RGVMPO planning area from 2014 to 2018. This assessment helped determine trends and patterns based on the characteristics of the crashes.

For the Brownsville MPO, safety/security strategies, planning elements, and considerations are discussed in detail in conjunction with previous on-going studies/workshops.

Harlingen-San Benito MPO

During the five-year period (2014 – 2018), a total of 14,569 crashes occurred in the HSB MPO planning area. The average annual total for 2014 to 2018 is 2,914 crashes per year. As shown in **Table 3-33,** 69% of the total crashes that occurred in the MPO planning area over the five-year period were within the Harlingen city limits and 17% were within the San Benito city limits. **Table 3-34** shows a comparison between five-year crashes for HSB MPO and Texas.

Table 3-33: HSB MPO Crashes by Jurisdiction

Jurisdiction	Total Number of Crashes	% of Total Crashes in MPO
City of Harlingen	10,032	68.86%
City of San Benito	2,468	16.94%
City of Combes	110	0.76%
City of La Feria	96	0.66%
City of Primera	90	0.62%
City of Rio Hondo	49	0.34%
City of Los Indios	42	0.29%
City of Rangerville	26	0.18%
City of Palm Valley	9	0.06%
City of Santa Rosa	2	0.01%
Rural Cameron County	1,644	11.28%
Total	14,569	100.00%

Table 3-34: HSB MPO Regional & Statewide Comparison

Crash Type	HSB MPO	State of Texas	MPO's % of State Crashes
All Crashes	14,569	3,035,266	0.48%
Resulting in Fatality	74	16,676	0.44%
Resulting in Serious Injury	226	69,722	0.32%
Resulting in Ped/Bike Fatality	19	3,381	0.56%
Resulting in Ped/Bike Serious Injury	30	8,101	0.37%

Crashes by Severity

Severity characteristics of crash data represent the level of impact on the people involved in each crash. The data obtained from CRIS breaks severity down into the following categories: Killed, Suspected Serious Injury, Non-Incapacitating Injury, Not Injured, Possible Injury, and Unknown. These categories represent the most severe impact each crash experienced but do not necessarily account for all the different severity impacts that may have occurred in the same crash. For example, a crash may be assigned a severity of "Killed," but this only means that the crash resulted in at least one death, despite the possibility that other people involved in the crash may have experienced serious or minor injuries or may not have been injured at all.

Over the five-year period, a majority of the reported crashes resulted in no injuries (65%). In the 74 crashes that were marked with a severity of "Killed," a total of 77 fatalities occurred, while the 226 crashes marked with a severity of "Suspected Serious Injury" resulted in a total of 294 people suspected to have experienced a serious injury. Overall, crashes that resulted in a severity of "Killed" or "Suspected Serious Injury" made up about only about 2% of the total crashes in the region from 2014 to 2018. **Table 3-35** shows the breakdown of crashes by severity for the five-year period.

Table 3-35: HSB MPO Crashes by Severity

Crash Severity	Number of Crashes	% of Total MPO Crashes
Killed	74	0.51%
Suspected Serious Injury	226	1.55%
Non-Incapacitating Injury	974	6.69%
Possible Injury	2,826	19.40%
Not Injured	9,477	65.05%
Unknown	992	6.81%
All Crashes	14,569	100.00%

Crashes Involving Pedestrians or Bicyclists

In the HSB MPO planning area, there were 235 crashes involving either pedestrians or bicyclists from 2014 to 2018, which equals less than 2% of the total crashes that occurred in the region over that period. Of the 235 crashes, 152 (65%) involved pedestrians and 83 (35%) involved bicyclists. In addition, 26% of crashes involving pedestrians resulted in either fatality

or suspected serious injury for the pedestrians, and 11% of crashes involving bicyclists resulted in either fatality or suspected serious injury for the bicyclists. Table 3-36 provides a more detailed breakdown of the severity of crashes involving pedestrians or bicyclists.

Table 3-36: Crashes Resulting in Fatality or Serious Injury

Crash Severity	Crashes Involving Pedestrians		Crashes Involving Bicyclists	
Killed	16	10%	3	4%
Suspected Serious Injury	24	16%	6	7%

Hidalgo County MPO

During the five-year period (2014-2018), a total of 14,569 crashes occurred in the HC MPO planning area. The average annual total for 2014 to 2018 is 2,914 crashes per year. As shown in Table 3-37, 69% of the total crashes that occurred in the MPO planning area over the five-year period were within the Harlingen city limits and 17% were within the San Benito city limits. Table 3-38 below shows a comparison between five-year crashes for HC MPO and Texas.

Table 3-37: HC MPO Crashes by Jurisdiction

Jurisdiction	Total Number of Crashes	% of Total Crashes in MPO
Alamo	2,028	2.2%
Alton	185	0.2%
Donna	1,366	1.5%
Edcouch	3	0.0%
Edinburg	11,380	12.6%
Elsa	21	0.0%
Granjeno	5	0.0%
Hidalgo	326	0.4%
La Joya	260	0.3%
La Villa	3	0.0%
McAllen	10,876	12.0%
Mercedes	587	0.6%
Mission	7,346	8.1%
Palmhurst	590	0.7%
Palmview	706	0.8%
Peñitas	491	0.5%
Pharr	9,449	10.4%
Progreso	18	0.0%
Progreso Lakes	23	0.0%
San Juan	1,921	2.1%
Sullivan City	113	0.1%
Weslaco	4,766	5.3%

Table 3-38: HC MPO Regional & Statewide Crash Comparison

Crash Type	HC MPO	State of Texas	MPO's Percent of State Crashes
All Crashes	90,506	3,035,266	2.98%
Resulting in Fatality	303	16,676	1.82%
Resulting in Serious Injury	1,134	69,722	1.63%
Resulting in Ped/Bike Fatality	105	3,381	3.11%
Resulting in Ped/Bike Serious Injury	143	8,101	1.77%

Crashes by Severity

The same severity characteristics of crash data are used for HC MPO to represent the level of impact on the people involved in a given crash.

Over the five-year period, a majority of the reported crashes resulted in no injuries (65%). In the 74 crashes that were marked with a severity of "Killed," a total of 77 fatalities occurred, while the 226 crashes marked with a severity of "Suspected Serious Injury" resulted in a total of 294 people suspected to have experienced a serious injury. Overall, crashes that resulted in a severity of "Killed" or "Suspected Serious Injury" made up about only about 2% of the total crashes in the region from 2014 to 2018. Table 3-39 shows the breakdown of crashes by severity for the five-year period.

Table 3-39: HC MPO Crashes by Severity

Crash Severity	Number of Crashes	% of Total MPO Crashes
Killed	303	0.33%
Suspected Serious Injury	1134	1.25%
Non-Incapacitating Injury	6,650	7.35%
Possible Injury	20,489	22.64%
Not Injured	55,926	61.79%
Unknown	6,004	6.63%
All Crashes	90,506	100.00%

Crashes Involving Pedestrians or Bicyclists

In HC MPO, there were 235 crashes involving either pedestrians or bicyclists from 2014 to 2018, which equals less than 2% of the total crashes that occurred in the region over that period. Of the 235 crashes, 152 (65%) involved pedestrians and 83 (35%) involved bicyclists. In addition, 26% of crashes involving pedestrians resulted in either fatality or suspected serious injury for the pedestrians, and 11% of crashes involving bicyclists resulted in either fatality or suspected serious injury for the bicyclists.

Table 3-40 provides a more detailed breakdown of the severity of crashes involving pedestrians or bicyclists.

Table 3-40: HC MPO Crashes Resulting in Fatality or Serious Injury

Crash Severity	Crashes Involving Pedestrians		Crashes Involving Bicyclists	
Killed	89	36%	16	6%
Suspected Serious Injury	110	44%	33	13%

Brownsville MPO

During the four-year period (2014-2017), a total of 16,141 crashes occurred in the Brownsville MPO planning area. The average annual total for 2014 to 2017 is 4,035.25 crashes per year (Table 3-41).

Table 3-41: Brownsville MPO Crashes by Severity (2014 to 2017)

Crashes and Injuries
Cities and Towns — 2014

City	Fatal Crashes	Fatalities	Incapacitating Crashes	Incapacitating Injuries	Non-Incapacitating Crashes	Non-Incapacitating Injuries	Possible Injury Crashes	Possible Injuries	Non-Injury Crashes	Non-Injuries	Unknown Severity Crashes	Unknown Injuries	Total Crashes
BROWNDELL	0	0	0	0	1	2	0	0	0	1	0	0	1
BROWNFIELD	0	0	1	1	8	12	15	24	59	179	2	5	85
BROWNSBORO (HENDERSON)	0	0	0	0	0	0	0	0	4	47	0	0	4
BROWNSVILLE	10	11	66	81	233	285	800	1,269	2,063	8,033	143	427	3,315

Crashes and Injuries
Cities and Towns — 2015

BROWNSVILLE	3	3	86	93	268	360	913	1,402	2,565	9,626	165	535	4,000

Crashes and Injuries
Cities and Towns — 2016

BROWNSVILLE	15	15	83	104	239	335	936	1,453	2,659	10,049	173	593	4,105

Crashes and Injuries
Cities and Towns — 2017

ESTIMATE 10% INCREMENT in USA:

BROWNSVILLE	17	17	95	120	275	385	1076	1671	3058	11556	199	682	4721

The Brownsville MPO supports the development of a safe transportation system for all users (pedestrians, bicyclists, motorists, such as private auto and trucking, as well as public transportation).

There can be many factors that contribute or help cause each crash. Excessive speed and consummation of alcohol are often factors that lead to fatal and incapacitating crashes. The MPO can play a part in community-wide public education campaigns. While these causative factors may diminish, they are unlikely to go away completely.

Bicycle fatalities have loomed as a serious problem within the City of Brownsville. Most (but not all) of these fatalities have taken place at night. Bicyclists, without lights, traveled in the dark and were hidden from view and thereby hit by motorists. Bicyclists must use lights at night. City of Brownsville staff are investigating how to proceed with public safety campaigns to address these problems. Patrons of off-road trails rarely have such accidents. MPO staff provided assistance to help get such public awareness campaigns underway. Bilingual materials can be used to raise awareness for Mexican nationals who travel in this MPO area.

MTP Safety & Security Elements

Some of the MPO's recently completed improvement projects have positive safety impacts or features incorporated within their design.

Exhibit 3-27: Barricade at IH 69E/US 77/83 Expressway in Brownsville

One of the MPO's significant achievements concerns the West Rail Project, which offers substantial safety benefits. By relocating rail operations outside of the urbanized portion of the City of Brownsville, the threats posed by rail car spills will be sharply curtailed.

The Brownsville MPO's role in developing the Safety and Security Elements of the MTP includes four policy statements or objectives, as follows:

- The Brownsville MPO supports, along with transportation partners, the development of a safe transportation system for all users (pedestrian, bicycle, private auto and trucking and public transportation).
- The Brownsville MPO will examine and consider increased transportation system security when evaluating or sponsoring funding requests for transportation improvement projects.
- The Brownsville MPO will champion or support agency coordination, training and information-sharing efforts to promote security preparedness within the MPO's planning area.
- The Brownsville MPO will seek available funding to strengthen the security of the MPO's transportation system.

State and local staff constantly consider and focus on risks associated with hurricane threats, such as flooding and/or wind damage. MPO staff have participated in Brownsville Emergency Operations Center training exercises, which simulate the arrival of hurricanes. These City of

Brownsville exercises have served to improve evacuation planning. It should be noted that local responders (e.g. Police and Fire Department staff) fulfill most of these responsibilities.

MPO staff maintain lines of communication with officials of US Customs, Border Patrol staff and staff at other local agencies (e.g. Brownsville Police Department, City of Brownsville Traffic Division, Cameron County Sheriff's Department and the Cameron County Transportation Department) concerning security-related issues. Brownsville MPO staff work cooperatively to advance planning efforts in this area. Such contacts can lead to practices and strategies that increase the security of the transportation system for motorized and non-motorized users. Other agencies generally lead these cooperative efforts, but MPO staff reach out when the need arises.

It is worth noting the MPO's selection of two US 281 improvement projects for inclusion in the MTP. This action reflects consideration of safety as part of the MPO's MTP Evaluation Process. The US 281 roadway is presently a two lane, undivided highway. It serves as Hurricane Evacuation Route. Widening of this roadway fulfills several safety-related objectives: lowering the rate of serious accidents and establishing a better Hurricane Evacuation Route with more capacity.

MTP Project Selection & Safety Considerations

The MPO's Project Selection or Evaluation Process incorporated safety as an important criterion. In several instances, projects were selected due to the points awarded to a proposed improvement by virtue of its provision of safety benefits. In other words, those safety benefits will allow these improvements to be implemented sooner than other projects.

The MPO's priority rankings were derived from points awarded based on the following factors:

1. Local Participation (Max. 20 pts.)
2. Connectivity/Alternate Route (Max. 25 pts.)
3. Benefit/Cost Ratio (Max. 10 pts.)
4. Project Readiness (Max. 30 pts.)
5. Safety (Max. 15 pts.)

Similarly, the MPO's TAP Project Selection/Evaluation Process also incorporated safety as part of the MPO's selections/priority rankings. MPO staff have not received any news concerning the State of Texas Strategic Highway Safety Plan, due to parties waiting on federal rulemaking.

Establishment of an IH 69E Overpass (at Northbound Frontage Road)

About six years ago, a bicyclist was struck by a vehicle and killed on the US 77/83 Expressway, while riding his bicycle at night. One of the problematic issues in this area of Brownsville involves bicycle access to and from the SportsPark complex.

Due to the presence of the Union Pacific Railroad Company's rail line, a barricade has been placed on both Expressway frontage roads, a short distance south of this recreational site. Thus, bicyclists seeking to travel to and from the park, are faced with making a 10-mile detour.

Even though it is prohibited, some bicyclists have chosen to ride on the Expressway facility, instead of diverting east or west, due to the distances involved in such detours. This MPO Long Range Plan has identified and includes overpass improvements to solve this problem. Construction of an overpass at the northbound frontage road is needed to address another serious problem. Accidents on the main lanes of the Expressway can block all lanes until wrecker trucks arrive to clear the damaged vehicles.

Specifically, establishment of an overpass at the northbound IH 69E (US 77/83) frontage road location is a viable solution to the public safety issues posed by blockage of the frontage road. The overpass structure would be designed to accommodate one travel lane for motorists and space for two-way bicycle traffic. Of course, pedestrians could utilize the shared use path as well. Provision of a travel lane for motorists solves potential blockage of all lanes due to an accident on the IH 69E facility.

TxDOT staff have numerous duties to perform to allow Emergency (Hurricane) Evacuations for motorists going northward when serious storms approach the RGV from the Gulf of Mexico. One duty, among hundreds of tasks, is the removal of this barrier to afford more roadway capacity. In past storms, this barrier was not removed. Establishment of an overpass at this location would remedy this problem.

In addition, an overpass is required to address other serious issues. The extra travel lane would afford safe passage to the north. Currently, when a serious accident occurs on the IH 69E main lanes, local police usually divert traffic onto the frontage road. The frontage road accommodates traffic flow until the damaged vehicles involved in the accident can be cleared by wreckers, which allows restoration of traffic flow on the Expressway facility. With this barrier in place, north of the frontage intersection with Old Alice and Stillman Roads, local police have no recourse of utilizing the frontage road as a relief route. If a remaining travel lane is open, then the police will use that open lane on IH 69E to allow some vehicles to pass through. If all lanes are blocked, then all traffic is stuck.

This type of blockage poses serious public safety issues in Brownsville. Fire trucks and EMS (ambulances) can be blocked from responding to distress calls. No emergency events have taken place wherein emergency vehicles headed north were completely blocked due to closure of IH 69 travel lanes. However, residential development is about to bloom in this area, east of IH 69, opposite the Town of Rancho Viejo. This area will indeed develop. It will support thousands of new residents, especially when one considers that construction will soon begin for the realignment of FM 803. FM 803 is proposed to connect to IH 69E a few miles north of this rail line.

The Brownsville community needs to make plans to secure adequate infrastructure for the IH 69 corridor. Without this overpass being put into service, the local police and fire departments could be hindered in responding to fires, accidents and other public safety issues.

This MTP document lists this Overpass Improvement Project as being funded via use of Category 12 funds.

Cameron County Hazardous Cargo Route Study

The Brownsville and HSB MPOs, in collaboration with area stakeholders, conducted a hazardous cargo route study in order to develop a set of non-radioactive hazardous materials (NRHM) routes for Cameron County. The Cameron County Hazardous Cargo Route Study selected NRHM routes that minimize the potential for hazardous materials incidents and minimize the consequences to the residents of Cameron County should an incident occur.

The methodology used mirrors the process approved by the Federal Highway Administration (FHWA). The standards and evaluation factors included in this methodology are shown in the diagram below.

Standards

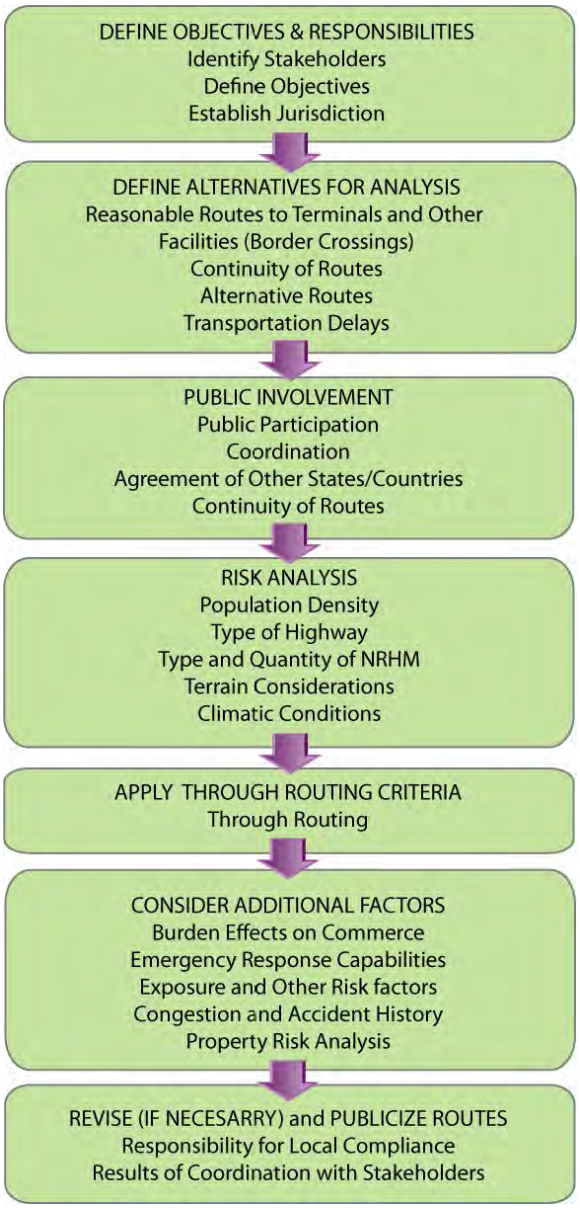
- Enhancement of Safety
- Public Participation
- Consultation with Others
- Through Highway Routing
- Burden on Commerce
- Reasonable Routes to Terminals and
- Other Facilities
- Reasonable Time to Reach Agreement
- Between Affected States or Indian Tribes
- Timely Responsibility for Local Compliance

Factors

- Population Density
- Type of Highway
- Types and Quantities of Non-Radioactive
- Hazardous Material (NRHM)
- Emergency Response Capabilities
- Results of Consultation
- Exposure and Other Risk Factors
- Terrain Considerations
- Continuity of Routes
- Effects on Commerce
- Alternative Routes
- Delays in Transportation
- Climatic Conditions
- Congestion and Accident History

Factors of Interest to the Community

- Exposure and Other Risk Factors (i.e., Special Populations, Sensitive Environments)
- Emergency Response Capabilities
- Burden on Commerce
- Congestion/Transportation Delays
- Property Risk



The route selection decision-making was explained in the report adopted by the Brownsville and HSB MPOs. Prior to adoption of the route recommendations, the regulation requires that the route be made available for public comment and, when determined appropriate, that a public hearing be held to receive comments.

F.Y. 2014 Brownsville MPO-FHWA Safety Workshop

MPO staff enlisted help from FHWA-Texas Division staff person, David Morris, to sponsor a Brownsville Area Safety Workshop. Although staff from various municipalities, as well as County staff, were invited to participate, most of the participants represented various City of Brownsville Departments, including the Brownsville Planning Department, Brownsville Engineering Department, Brownsville Traffic Department and the Brownsville Fire Department. This workshop was held in the 3rd floor Conference Room of the Brownsville Planning Department, 1150 E Adams Street.

Mr. Morris, FHWA Safety Specialist, outlined various safety strategies and tools that had been employed successfully in other communities. The roundtable discussions heavily focused on bicycle planning issues and Brownsville bicycle operations. All sorts of problem areas were analyzed and discussed by those present, including MPO staff. Mr. Morris suggested that the future involvement and enlistment of "champions" within (future) safety workgroups is a critical step in making progress on safety, especially helpful is input from persons in the private sector.

Freight Assessment

Exhibit 3-28: The IH 2 — IH 69E Junction is a critical piece of the HSB MPO freight network

Transportation systems not only move people throughout a region, but also support the movement of goods in the form of freight, which is an important component of the RGVMPO planning area's economy and quality of life. For a freight system to perform well, delays along the transportation system should be minimized and traffic should be predictable. The impacts of a regional system which allows freight to travel efficiently include improved mobility (as freight trucks are a major source of traffic) and improved economic vitality. The RGVMPO 2045 MTP considers not only the freight roadway network but also intermodal facilities as both play an integral role in freight movement in and out of the MPO planning area.

The RGVMPO (for the HSB and HC MPO planning areas) regional freight network is based on a combination of freight networks established by FHWA and TxDOT. Using the regional TDM network, the RGVMPO freight analysis focused on the amount of traffic congestion occurring along this locally defined freight network to better understand where existing and future issues impacting freight flow may occur. The Brownsville MPO section discusses current plans and strategies for the planning area's freight network, as well as intermodal facilities present in the region.

Harlingen-San Benito MPO

Existing Freight Assets

Figure 3-42 identifies the defined freight network as well as intermodal facilities (i.e. railroads and airports) located in the HSB MPO area. Harlingen's relatively large size and central location make it the focal point of the area's freight network. Accordingly, the HSB MPO contains three main highways; IH 2 which runs east to west through the HSB MPO area and provides connectivity to the rest of the RGV; IH 69E which begins in the southwest LRGV region near Brownsville and extends through the HSB MPO area, intersecting IH 2, and running north into Willacy County providing the area connectivity to Corpus Christi and other major cities such as Houston and San Antonio; and US 281 which connects the Los Indios International Bridge to surrounding International Bridges found in the RGV (Brownsville/Matamoros, Gateway, and Veterans) running somewhat parallel to the United States – Mexico border. Connecting these major roadways are other state roads that create the framework for a cohesive network that fosters high volumes of freight traffic.

Intermodal Facilities

Due to the HSB MPO's proximity to both the United States – Mexico border and the Gulf of Mexico, several important intermodal facilities are located within the MPO planning area (**Figure 3-42**). Further, Cameron County (which contains the HSB MPO) contains one of the largest foreign trade zones in the United States (Foreign Trade Zone #62) which adds to the relevance to freight in the region. The zone includes the Valley International Airport and Harlingen Industrial park and does not require the "usual formal Customs and Border Patrol (CBP) entry procedures and payments of duties on foreign merchandise", in turn incentivizing more trade and freight movement within the MPO planning area.[1]

Exhibit 3-4: IH 2 Freight Connection in Harlingen

Valley International Airport (VIA) is currently the largest airport in the RGV and is home to several of the nation's most prominent cargo carriers, including but not limited to FedEx, Southwest Air Cargo, DB Schenker, DHL, and Continental Airlines Cargo.[2]

The Port of Harlingen serves as another major intermodal facility in the MPO planning area as it allows for freight to be received or

[1] Source: U.S. Customs and Border Protection; *About Foreign-Trade Zones and Contact info – An Introduction to Foreign-Trade Zones;* https://www.cbp.gov/border-security/ports-entry/cargo-security/cargo-control/foreign-trade-zones/about

[2] Source: Harlingen Economic Development Corporation; *Harlingen: Easy Access with Quality Infrastructure – Air Cargo Hub and International Airport;* https://harlingenedc.com/economic-development/infrastracture/transportation/

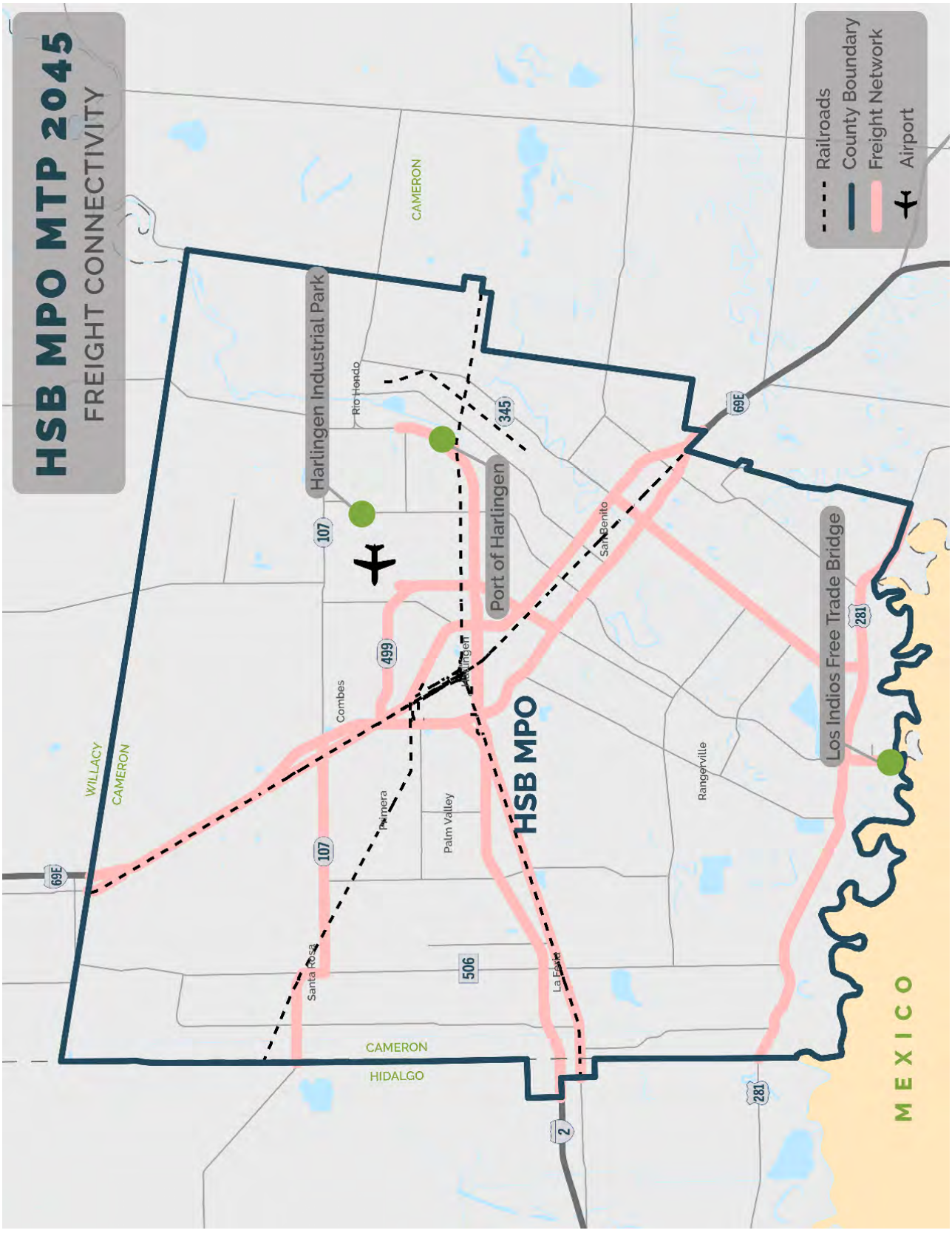
efficiently shipped out of the LRGV via the Arroyo Colorado to the Gulf of Mexico. This allows for freight connections between coastal regions of the southern United States, as well as connections all the way north the Great Lakes.[3]

Union Pacific (UP) Freight and the Rio Valley Switching Company (RVSC) add to the HSB MPO's intermodal facilities, as both help to connect the movement of goods between roadway, airport, and port infrastructure. The two companies work together to connect the rail line found within the MPO planning area. Several motor freight carriers have local terminals Harlingen to receive freight and include carriers such as FedEx Freight and UPS Freight.[4]

[3] Source: Harlingen Economic Development Corporation; *Harlingen: Easy Access with Quality Infrastructure – Port of Harlingen and Port of Brownsville;* https://harlingenedc.com/economic-development/infrastracture/transportation/

[4] Source: Harlingen Economic Development Corporation; *Harlingen: Easy Access with Quality Infrastructure – Direct Rail Access Keeps Cargo Flowing Through Harlingen;* https://harlingenedc.com/economic-development/infrastracture/transportation/

Figure 3-42: HSB MPO Existing Freight Assets & Freight Connectivity



Freight Roadway Network Congestion Analysis

Like the roadway analysis, the HSB MPO freight analysis uses a subset of the Texas Statewide Travel Demand Model (TDM) that represents the MPO planning area roadway network. Existing conditions (2014) and forecast year (2040) runs remain the same, however, are specific to the defined freight network for the analysis.

Existing Congestion Trends

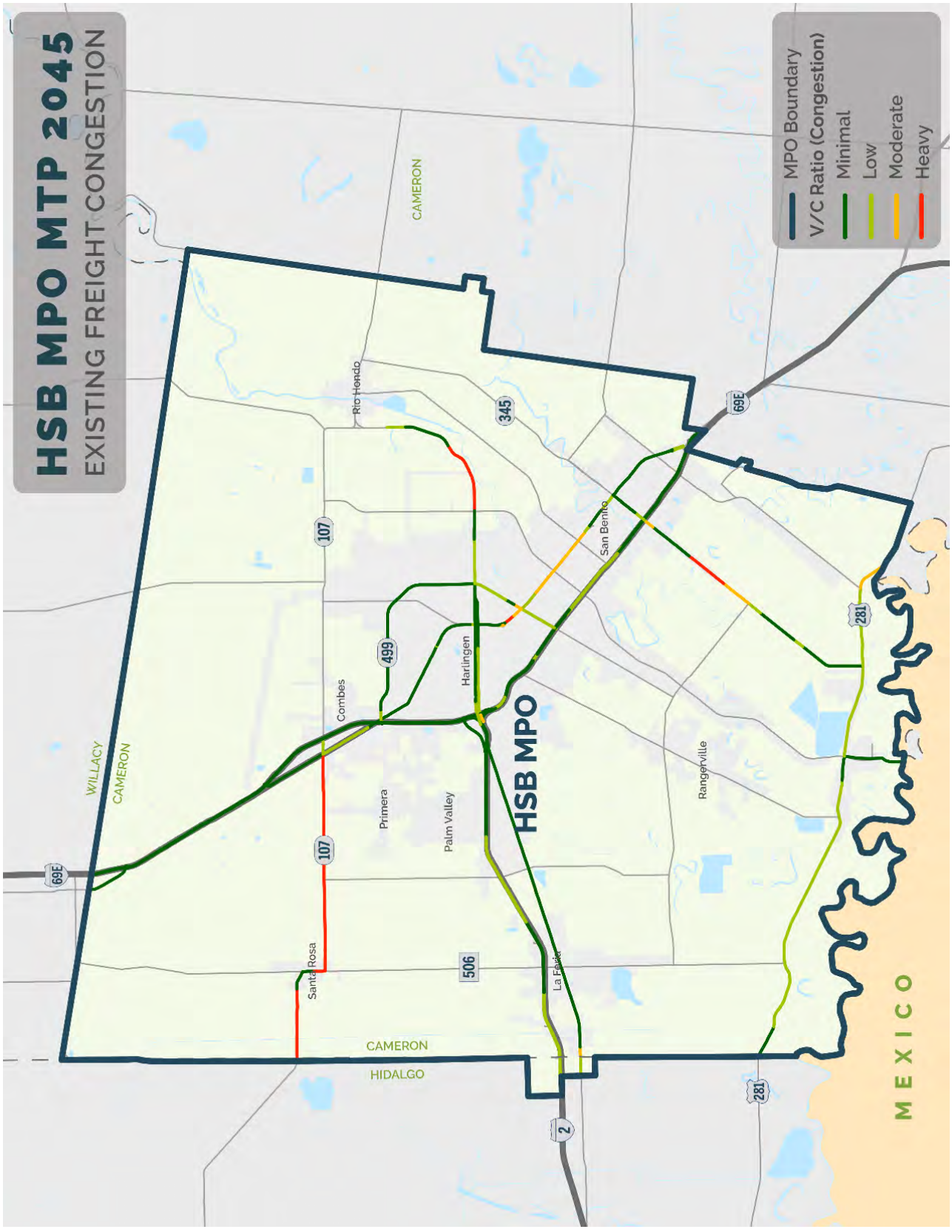
Figure 3-43 shows existing levels of congestion experienced on the HSB MPO freight network. Many of the MPO planning area's major arterials experience minimal to moderate levels of congestion, however concentrations of heavy congestion can be seen scattered throughout the area.

Table 3-42 provides specific information on the most congested segments in the MPO planning area for the year 2014. Consideration should be given to the level of congestion as well as the length and total volume of vehicle traffic in each segment.

Table 3-42: HSB MPO Existing Freight Congestion

Road Name	Limits	VHT	VMT	VC Ratio
SH 107	FM 1425 to IH 69E	115	5,305	1.02
Business 77	S Commerce St to W Stenger St	114	4,221	0.76
US Hwy 281	FM 2556 to FM 1577	257	14,136	0.66
I-2	Beddoes Rd to Atlas Palms Rd	90	4,118	0.66
FM 106	FM 509 to W Colorado Ave	100	4,575	0.65
Tyler Ave & W Harrison Ave	IH 69E to S 6th St	135	5,926	0.65

Figure 3-43: HSB MPO Existing Freight Congestion



Future Congestion Trends

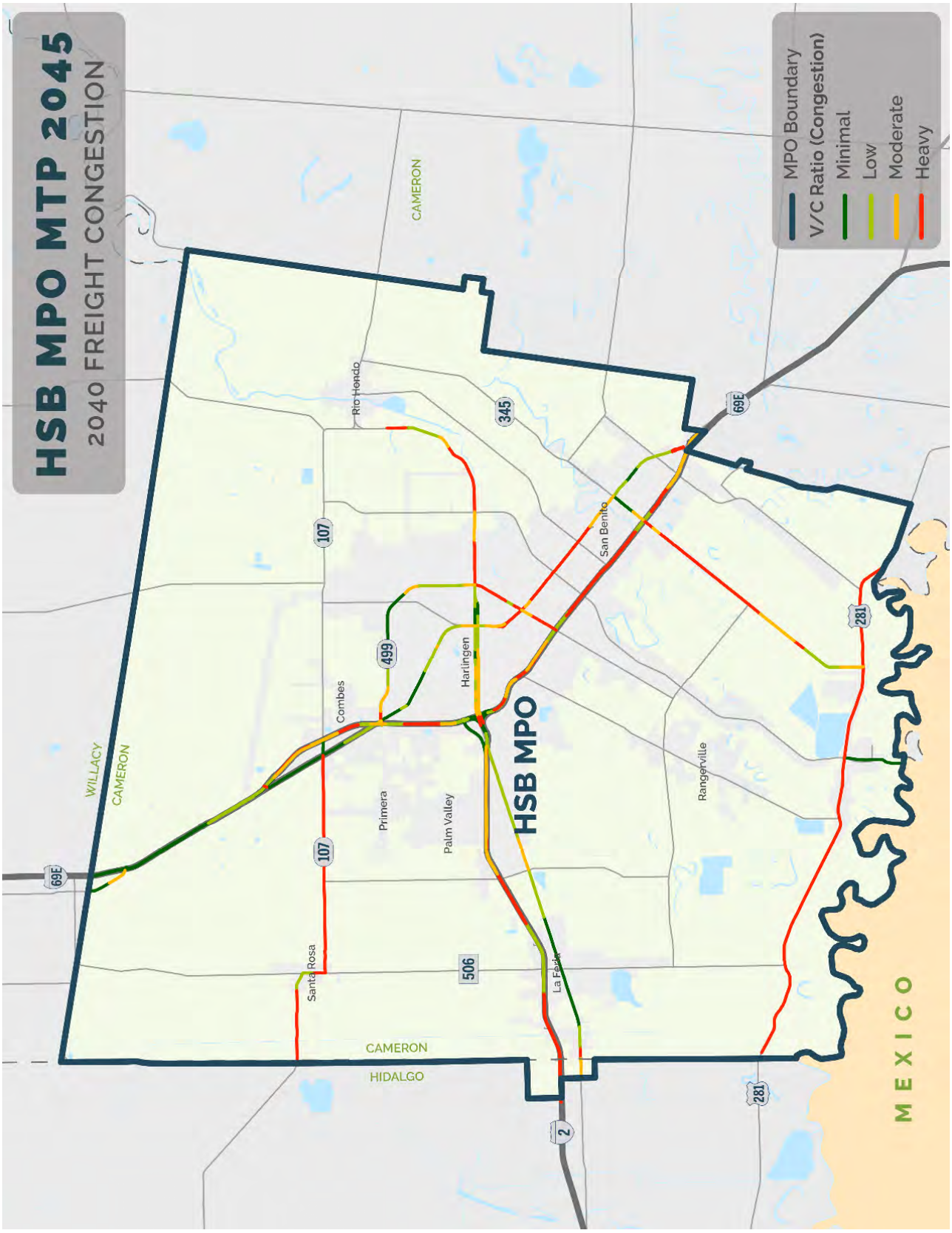
Figure 3-44 identifies the congestion along freight routes in the 2040 forecast year in the no-build scenario. Comparing this map to **Figure 3-43** illustrates the dramatic increase in congestion that is expected over the coming two decades. While many of the same areas will remain congested, relatively speaking, the severity of congestion is expected to increase dramatically.

Table 3-43 provides the details on the most congested segments found on the HSB MPO freight network. Many of the segments are consistent between years, but a comparison of the two tables highlights the general increase in congestion severity between the 2014 and 2040 models.

Table 3-43: HSB MPO Future Congestion Hot Spots 2040

Road Name	Limits	VHT	VMT	VC Ratio
SH 107	FM 1425 to IH 69E	291	11,330	1.38
Business 77	S Commerce St to W Stenger St	249	9,724	1.27
US Hwy 281	FM 2556 to FM 1577	169	6,239	1.21
FM 2520	Espinosa Rd to US 77	624	23,924	1.09
FM 106	N Loop 499 to Cemetery Rd	160	5,936	1.09
I-69E	S Ed Carey Dr to S Sam Houston Blvd	494	25,046	1.02

Figure 3-44: HSB MPO Future Freight Congestion



Hidalgo County MPO

Freight Assets

While Hidalgo County's current freight transportation network is made up roadways, railroads, airports, and intermodal facilities, consideration should also be given to facilities that generate and attract freight traffic. Examples of these facilities are industrial parks and truck stops. In addition to examining how freight moves through the MPO planning area, this analysis will also consider where freight is moving within Hidalgo County.

Due to its close proximity to the border, the McAllen-Miller International Airport has observed a 19% increase in Mexican cargo and shipments through its facility within the last year. This increase is expected to continue well into 2040 and be generated by the maquiladora industries and energy sector. Approximately 80% of current cargo is related, in some form, to finished auto products. Of the total related to auto products, approximately 75% of the cargo moved was to replenish just-in-time inventories. Freight movement through the airport is expected to continue, especially when the Burgos Basin, a portion of the Eagle Ford Shale crossing into Mexico, begins to move crude oil between the two nations.

Figure 3-45 shows the location of freight generating facilities and highlights the area's existing freight network.

Truck Routes

The majority of cities in Hidalgo County have designated truck routes, which separate commercial traffic from non-commercial traffic. These truck routes consist of major transportation corridors and major arterials, as well as some local streets that provide access and connections to intermodal and industrial facilities within the area. The HC MPO has collected designated truck route data from several cities. A "Preferred County Truck Routes" plan will be created based on the collected data. The plan will improve connectivity through and between cities in Hidalgo County.

Hidalgo County's current freight transportation network is made up roadways, railroads, airports, and intermodal facilities. Consideration should also be given, however, to facilities that generate and attract freight traffic. Examples of these facilities are industrial parks and truck stops. In addition to examining how freight moves through the MPO planning area, this analysis will also consider where freight is moving within Hidalgo County. **Figure 3-45** shows the location of freight generating facilities and highlights the area's existing freight network.

Figure 3-45: HC MPO Existing Freight Assets & Freight Connectivity

Existing & Future Congestion Trends

Much like the roadway study, this analysis uses travel demand modeling to examine congestion on roadways included in the TxDOT freight network. Through this, the most problematic segments of the network can be identified based on average expected congestion. Estimated congestion levels are derived from the relationship between traffic volume and roadway capacity. Segments that see a volume of vehicles above or near their capacity are deemed high-congestion segments, while areas with lower relative volume are considered to have light congestion. **Figure 3-46** shows the location and congestion levels of segments within Hidalgo County's freight network.

In the same vein as the 2014 freight network roadway analysis, the 2040 model focuses on the relationship between traffic volume and roadway capacity. The model accounted for changes to the roadway network that are already committed or underway, but all else remained the same. This means that the 2040 model profiles expected congestion if no changes are made in the region's transportation system before the year of analysis. **Figure 3-47** shows the location and congestion levels of segments within Hidalgo County's freight network in 2040 in a "no-build" scenario.

Figure 3-46: HC MPO Existing Freight Congestion

Figure 3-47: HC MPO Future Freight Congestion

Brownsville MPO

Much attention has been given to use of the Port of Brownsville and Mexico as a viable "land bridge" to Asia. This could offer significant travel time savings for the movement of goods from China and other Pacific Rim locations to destinations in the mid-west and eastern United States.

To receive the benefits associated with this scenario requires the development of top-quality transportation infrastructure in Mexico and South Texas. MPO investments are listed in the MTP to address the border trade infrastructure needs, and this includes the East Loop project. Preliminary engineering work for the East Loop is listed in this MTP. Construction of the East Loop is shown on the MTP's Illustrative List as an "Unfunded" Project.

International Trade & Regional Economic Growth

International trade and movement of cargoes at/near the border is linked to job growth in Cameron County. Most of the area truck traffic occurs in the eastern quadrant of the City of Brownsville with many warehouses located along SH 48 (South Padre Island Highway). Other warehouses are found on Coffee Port Road and some on Billy Mitchell Boulevard (FM 2519) near the Brownsville/South Padre Island International Airport. The establishment of SH 32, or the East Loop, will open up new areas for commercial and industrial development, to the east of the airport and south of the Port of Brownsville.

Cameron County is strongly impacted by its proximity to Mexico. Measured by cargo value, the majority of the total trans-border cargo crossing the border at the Brownsville Port of Entry is moved via trucks, with a much smaller share moved by rail.

The local community bears the burden on maintaining local roadways that are impacted by this truck traffic. Local governments are seeking to encourage the provision of value-added services within this county, to capture more of the wealth associated with these trade flows.

In 2011, about 82% of trade by value was transported by truck. About 13.3% was moved by rail and roughly 4% was moved by other means (such as pipeline). Trucks transport higher-value goods, such as finished products.

The proposed lengthening of the main runway at the Brownsville/South Padre Island International Airport to 12,000 feet could transform the air freight operations in Cameron County. When this is accomplished, it will likely revise these mode share percentages.

The Brownsville MPO has supported development of SH 32 (East Loop) for several reasons. It will cut travel times to and from the Port of Brownsville, where most of the Mexican deliveries (cargoes) originate or are destined. Also, the East Loop will constitute a safer route for such cargoes. Several schools are located on SH 4 and the new route (SH 32) will avoid these locations.

East Loop

Exhibit 3-5: Port of Brownsville Channel for LNG

The City of Brownville funded the first alignment study for the East Loop in 1985. Subsequently, the City and the County have partnered to advance this project.

The East Loop will connect the Veteran's International Bridge with Port of Brownsville. Establishment of this arterial at a new location will relieve congestion problems on the current route, which is SH 48.

The Cameron County Regional Mobility Authority (CCRMA) is developing transportation infrastructure additions, such as the East Loop, to increase safety for the entire region. The East Loop Corridor is one of the several projects that will integrate regional planning, and augment safety to develop a world-class transportation system in Cameron County.

By combining various funding options, the CCRMA is able to support growth in the community and increase safer travel by building needed infrastructure faster. This new East Loop Corridor will support improved mobility for freight operations.

The new East Loop will provide a greater international access from Mexico, including Monterrey via MEX-2 the Port of Brownsville. Along with this feature it will maximize access to the existing Veterans International Bridge crossing from Brownsville to Matamoros.

In addition, local and regional police, fire and EMS services will benefit from safer conditions in the SH 48 corridor. The current overweight truck corridor on SH 48 poses many problems. The East Loop will be designed to serve as the new overweight truck corridor.

East Loop Safety & Efficiency

Once established, the East Loop eliminates 17 stops and 6 school zones. It will significantly improve air quality in the affected areas. Eliminating these school crossings, 6 in total, will highly improve the safety for our children. As an added benefit, relocation of truck traffic will also reduce congestion on IH 69E/SH 48 and the time of travel to and from the Port will be reduced.

Formation of an RGV Freight Plan

The first meeting of the RGV Freight Plan Advisory Committee is set for some time in October 2019. Casey Wells at TxDOT is organizing this "kick-off" meeting which will be held somewhere in the Rio Grande Valley.

The Brownsville MPO will cease operations a few weeks before this meeting, on which is September 30th. Nonetheless, Brownsville MPO staff will encourage area stakeholders, such as the Port of Brownsville, to participate in this meeting and attend subsequent gatherings.

Port of Brownsville Deepens its Channel for LNG Terminal

Companies investing in the RGV anticipate high demand for workers that may exceed 9,000 jobs, according to seven large employers attending a Workforce Summit held April 23 at the Port of Brownsville.

Initial demand will be driven by three proposed liquefied natural gas (LNG) plants. The companies are set to receive their Federal Energy Regulatory Commission permits and commence construction within the next three years. During the construction phase these companies estimate a need for more than 6,000 workers alone.

Two current companies at the Port of Brownsville, along with two other potential tenants, listed the need for an additional 3,000 workers in several full-time and temporary positions.

"It's a fantastic opportunity for our workforce. The jobs are going to be plentiful, they're going to pay well, but we need to educate and train our current workforce to take those jobs that are going to become available," said Pat Hobbs, Executive Director of Workforce Solutions Cameron County.

Expected Job Influx at Port

BROWNSVILLE, Texas (June 18, 2019) – The Port of Brownsville is closer to deepening the Brownsville Ship Channel after receiving a key permit June 6 from the U.S. Army Corps of Engineers (USACE) to advance the Brazos Island Harbor Channel Improvement Project (BIH) to its construction phase.

Exhibit 3-6: Port of Brownsville Ship Channel

The USACE permit is the latest milestone in the port's effort to deepen the ship channel from 42 feet to 52 feet, resulting in significant navigational safety improvements for commercial shipping in South Texas.

"Today we find ourselves on the verge of a new economic era for the Rio Grande Valley and the channel deepening is essential for our continued progress and success," said John Reed, Brownsville Navigation District Chairman. "These crucial infrastructure projects solidify our presence in the global market and create better economic opportunities for our local workforce."

South Port Connector

The Brownsville Navigation District and the Cameron County RMA agreed to cooperate on development of the South Port Connector. This roadway will serve to connect the Port to SH 4 and the East Loop. Letting of these improvements is expected next year.

The TxDOT map below depicts a portion of the proposed alignment of the East Loop. At SH 4, the South Port Connector will serve to complete this truck corridor and provide access to the docks at the Port of Brownsville.

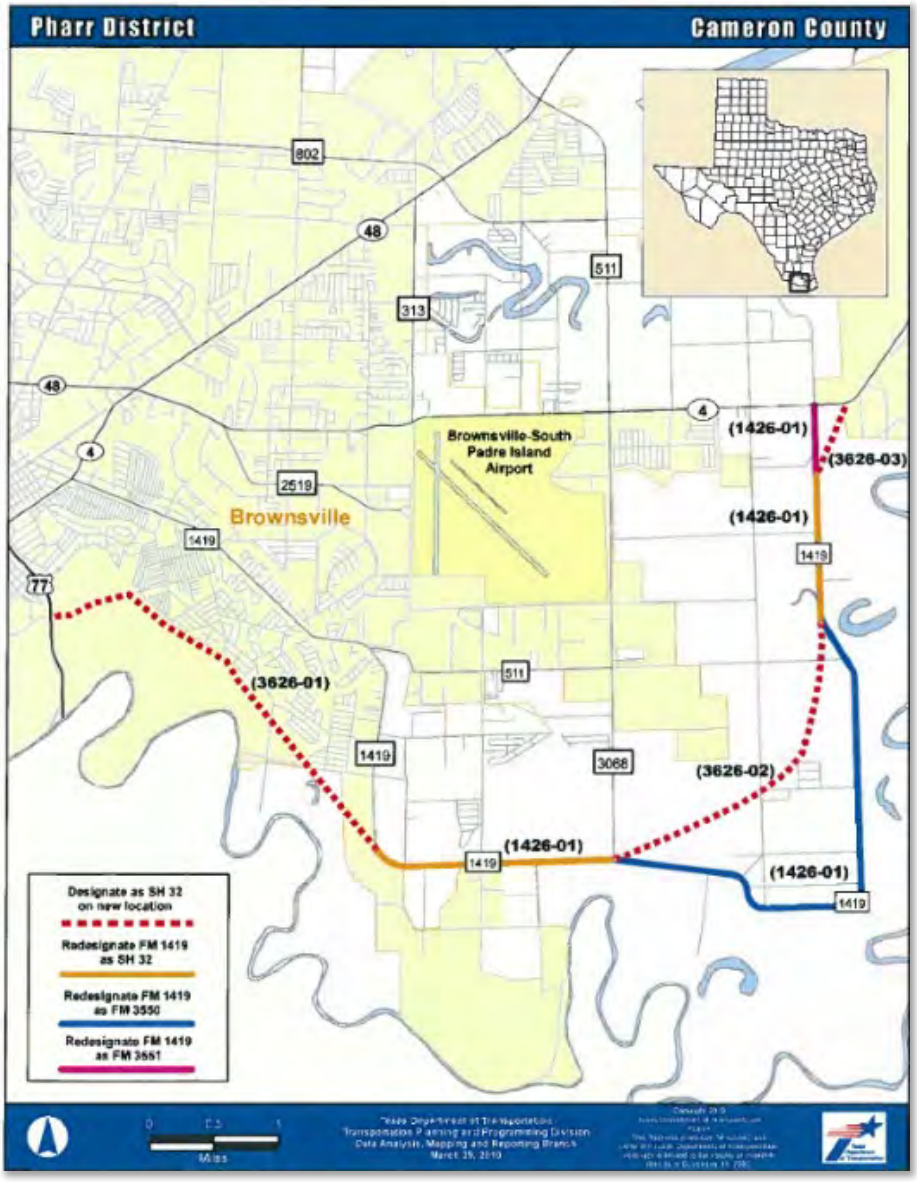


Exhibit 3-7: Brownsville Navigation District

Air Cargo

Reduction of tariffs and other trade barriers under NAFTA has served to increase US-Mexico trade in Brownsville. The potential for growth of air cargo at the Brownsville-South Padre Island International Airport is tied to the growth and movement of US-Mexico trade through Brownsville and the RGV. Most of the air cargo transported via the airport involves goods moving to or from maquiladora plants located in Matamoros or Reynosa, across the Rio

Grande. Parts, and other components used to assemble a finished product, are shipped via air cargo to facilitate "just-in-time" arrivals on both sides of the border.

Railroads

The Union Pacific Railroad Company provides rail service to Brownsville, to the Port of Brownsville, and a linkage to the Republic of Mexico via the B&M Bridge. Soon, the West Rail will serve as a new linkage to Mexico for rail service. The Port of Brownsville has its own railroad—the Brownsville Rio Grande International Railroad.

This railroad, under an agreement with the Union Pacific, provides service to various customers along the Port Lead line. Matamoros, in the State of Tamaulipas, is served by one Mexican railroad, Transportes Ferrocarriles Mexicano (TFM).

The completion of the Brownsville Railroad Relocation Program brought welcome relief from congestion problems that existed due to rail switching operations.

The introduction of a barrier at the IH 69E/US 77/83 frontage roads south of Merryman Road has presented problems for bicyclists seeking to go to the Brownsville Sports Park. City of Brownsville staff, in cooperation with TxDOT staff, are investigating the possible establishment of a new overpass at this location for both motorists and bicyclists and pedestrians.

Ports of Entry Assessment

The RGV region is one of the most significant border crossing regions in the United States, with nine international bridge crossings in the region. Traffic and freight flow between the United States - Mexico border impacts economies at local, regional, and national scales.

Accordingly, these three MTPs explored the performance of the region's ports of entry (POEs) and the economic implications of congestion and delays at these facilities. The region contains nine POEs, listed in **Table 3-44**. Points of entry for the HSB and HC MPO planning areas shown in **Figure 3-48** and **Figure 3-49**.

RGV Port of Entry Crossing Trends

Data compiled from the Bureau of Transportation Statistics, US Customs and Border Protection, and each MPO provides POE traffic information by mode. This information provides a general overview of how much and what type of traffic is experienced at each of the POEs. Only three out of the nine POEs had this type of crossing data (**Table 3-45**).

Out of the POEs with data available, the Brownsville & Matamoros (B&M) International Bridge experiences the most traffic overall, with roughly 4.85 million passenger vehicle crossings in 2017. The McAllen-Hidalgo International Bridge has the highest amount of bus traffic, with 20,000 buses in 2017. Some of the largest increases in traffic at the POEs, from 2010 to 2017, include a 214% increase in personal vehicle traffic and a 109% increase in pedestrian traffic at the Progreso - Nuevo Progreso International Bridge.

Table 3-44: RGV Ports of Entry Information

Port of Entry	Modes	Max # of Lanes	Connections
Veteran International Bridge	Passenger/Commercial Vehicle; Pedestrian	Passenger: 4 Commercial: 4 Pedestrian: 2	US 77
Gateway International Bridge	Passenger Vehicle; Pedestrian	Passenger: 4 Commercial: 0 Pedestrian: 4	International Boulevard (SH 4) interconnects US 83/77
Brownsville & Matamoros International Bridge	Passenger Vehicle; Pedestrian	Passenger: 6 Commercial: 0 Pedestrian: 4	12th Street/Sam Perl Blvd. and Mexico Blvd. interconnect US B77
Free Trade International Bridge at Los Indios	Passenger/Commercial Vehicle; Pedestrian	Passenger: 4 Commercial: 4 Pedestrian: 2	FM 509, from US 83/77 Expressway South
Progreso - Nuevo Progreso International Bridge	Passenger/Commercial Vehicle; Pedestrian	Passenger: 4 Commercial: 2 Pedestrian: 2	FM 1015, connects to US 281 and to US 83
Pharr International Bridge	Passenger Vehicle; Pedestrian	Passenger: 4 Commercial: 0 Pedestrian: 1	Located on Spur 600, a six-lane structure, connects from US 281 to the GSA facilities
McAllen-Hidalgo International Bridge	Passenger/Commercial Vehicle; Pedestrian	Passenger: 8 Commercial: 4 Pedestrian: 2	Spur 600 from the bridge connects to Spur 241 which connects to US 281 and SH 336. Spur 115 connects from US 281 to US 83 Expressway
Los Ebanos Ferry	Passenger Vehicle; Pedestrian	N/A	Near FM 886 to US 83.
Donna /Rio Bravo International Bridge	Passenger Vehicle; Pedestrian	Passenger: 8 Commercial: 0 Pedestrian: 1	County Road 1554 from the bridge connects to the FM 493/US 281 intersection
Anzalduas International Bridge	Passenger/Commercial Vehicle; Pedestrian	Passenger: 4 Commercial: 4 Pedestrian: 2	FM 396 (Bryan Rd.) to US 83 near Mission.

Table 3-45: RGV Ports of Entry Information

Measure	Brownsville & Matamoros International Bridge	McAllen-Hidalgo International Bridge	Progreso - Nuevo Progreso International Bridge
Bus Passengers	43,733	249,524	-
Buses	6,476	20,840	-
Pedestrians	2,761,819	2,185,335	899,201
Personal Vehicle Passengers	10,047,891	9,177,083	2,712,778
Personal Vehicles	4,859,573	4,401,115	1,218,065
Trains	829	-	-
Trucks	228,188	620,236	52,516

Figure 3-48: HSB MPO Border Crossings

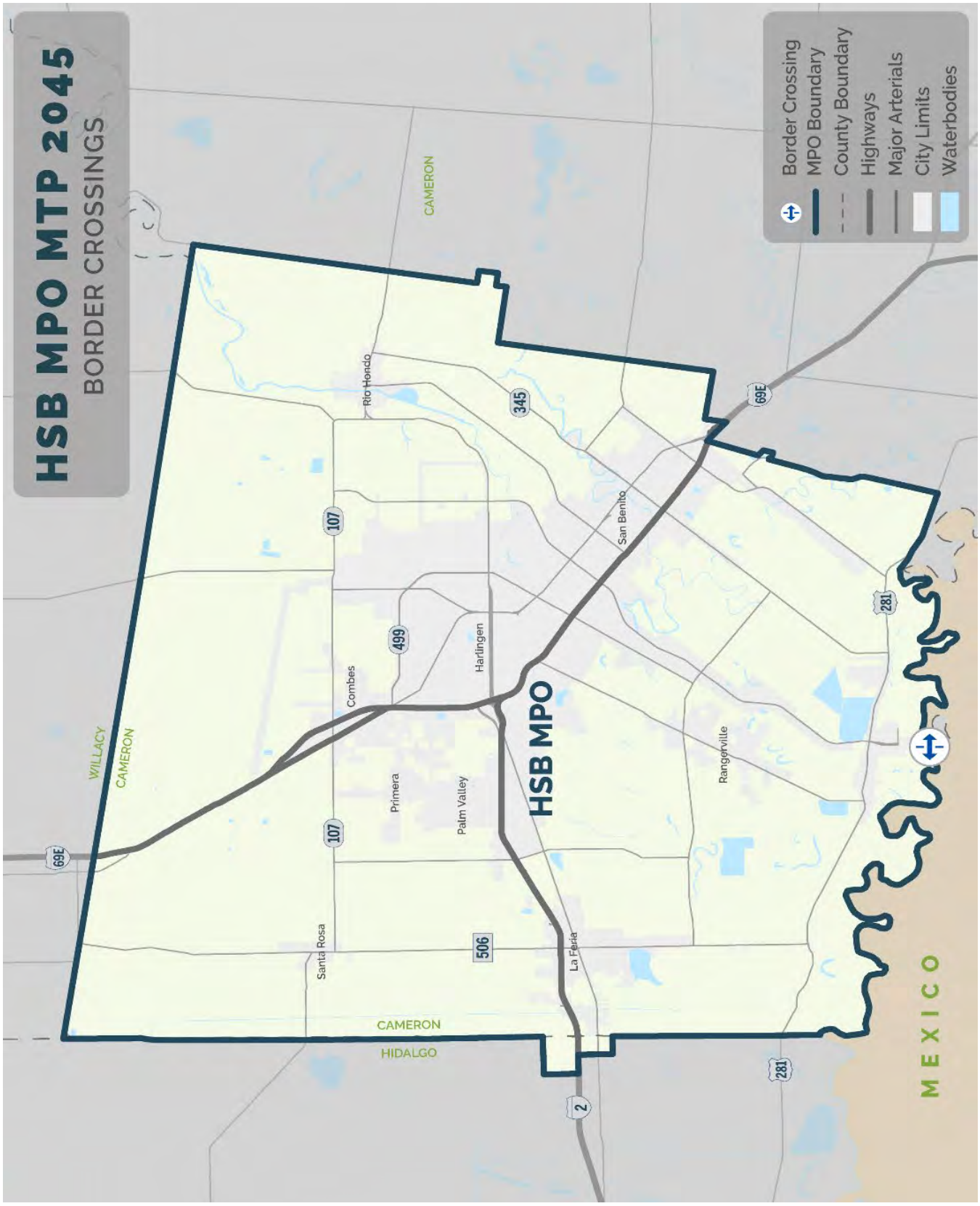
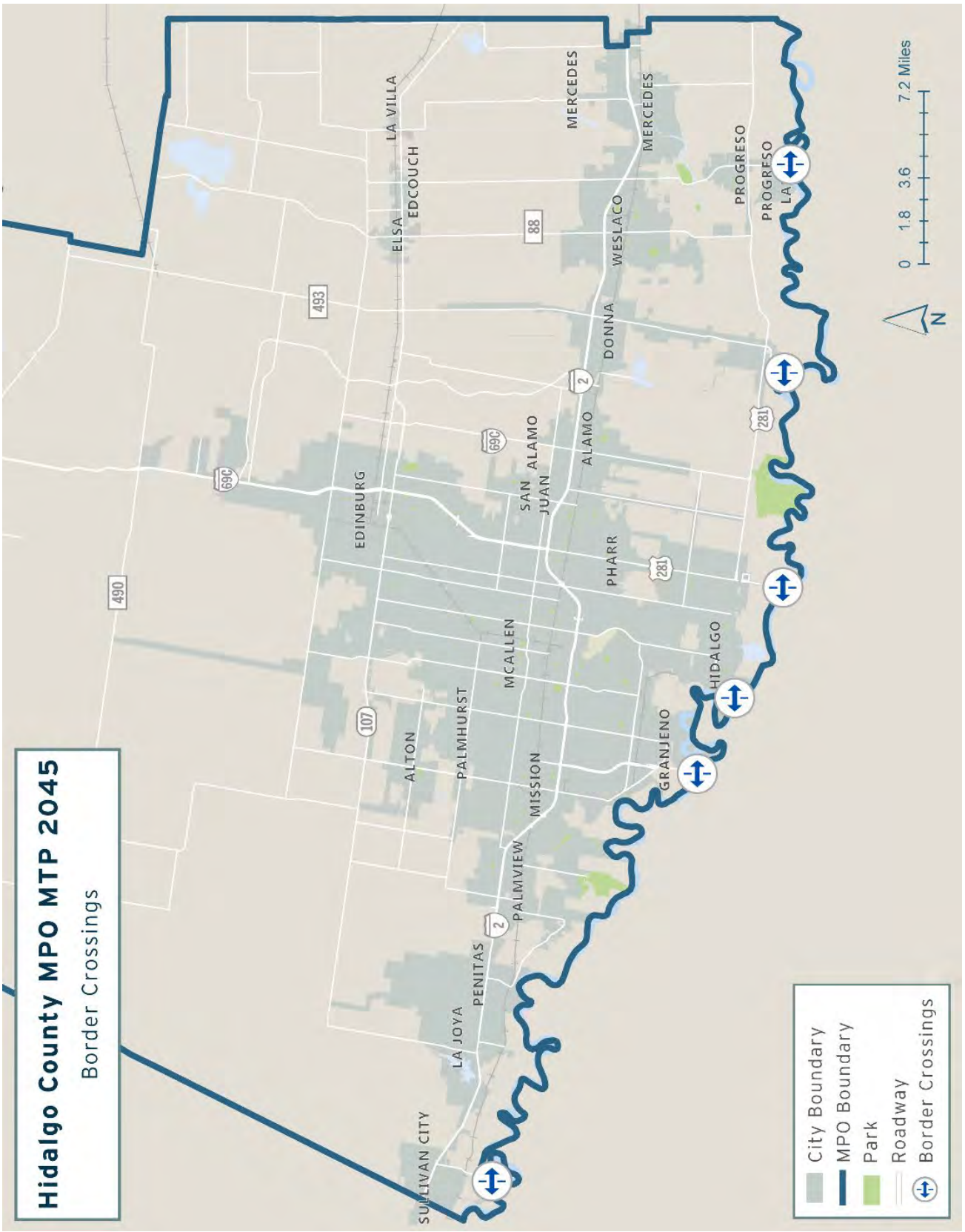


Figure 3-49: HC MPO Border Crossings



Brownsville International Border Crossings

Many of the congestion problems in Brownsville, were eliminated with the opening of the Veteran's International Bridge at Los Tomates in 1999.

Since 2018, the Texas International Crossing has been increasing the usage of operation by Truck, Bus, POV and Pedestrian modes of transportation (**Table 3-46** - **Table 3-49**).

Table 3-46: Texas International Bridges: Northbound Truck Monthly Traffic Figures

POE	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
Veterans International Bridge	17,763	16,779	17,890	17,992	18,536	17,695	18,352	20,211	17,840	130,424	20,492	18,623	332,597
Gateway International Bridge													0
B&M Bridge													0
Free Trade Bridge	2,439	2,591	3,226	2,768	3,011	3,340	2,952	3,465	3,285	3,787	3,472	3,147	37,483
Progreso International Bridge	4,273	4,784	5,441	5,067	4,371	3,266	3,829	4,335	3,597	4,095	4,143	3,594	50,795
Donna International Bridge													0
Pharr-Reynosa Intl. Bridge on the Rise	55,090	51,612	55,997	55,151	57,750	53,592	52,427	55,545	50,725	56,845	54,269	48,154	647,157
McAllen-Hidalgo Bridge													0
Anzalduas International Bridge													0
Los Ebanos Ferry													0
Rio Grande City-Camargo Bridge	2,953	2,899	3,359	3,487	3,565	3,106	3,222	3,238	2,919	3,379	3,174	2,793	38,094
Roma-Ciudad Miguel Aleman Bridge	609	596	622	583	700	650	596	721	755	829	725	725	8,111
Lake Falcon Dam Crossing													0
Juarez-Lincoln Bridge													0
Gateway to the Americas Bridge													0
World Trade Bridge	151,644	146,835	160,173	163,581	165,948	161,668	160,648	171,576	154,047	172,949	163,020	139,663	1,911,752
Laredo-Colombia Solidarity Bridge	32,363	31,220	34,007	34,485	34,775	31,910	32,856	35,952	32,159	36,636	34,392	31,398	402,155
Camino Real International Bridge	14,977	14,182	15,402	14,767	15,087	14,312	13,734	14,516	13,154	15,185	14,819	12,970	173,105
Eagle Pass Bridge I													0
Del Rio-Ciudad Acuna Intl. Bridge	6,111	5,981	6,694	6,516	7,013	6,715	6,685	7,088	6,263	7,319	6,583	5,360	78,328
Lake Amistad Dam Crossing													0
Boquillas Crossing Port of Entry													
Presidio Bridge	852	663	666	701	680	682	677	687	546	866	892	917	8,829
Fort Hancock-El Porvenir Bridge													0
Tornillo-Guadalupe Bridge													0
Ysleta-Zaragoza Bridge	42,940	41,691	45,619	45,895	48,797	44,271	42,551	48,573	44,164	50,392	47,402	37,732	540,027
Ysleta-Zaragoza Bridge (DCL)													0
Bridge of the Americas	22,375	20,840	22,273	21,728	21,938	23,569	23,277	23,922	21,110	25,563	23,335	20,916	270,846
Good Neighbor Bridge (SB only, NB DCL)													0
Paso del Norte Bridge													0
Monthly Total	**354,389**	**340,673**	**371,369**	**372,721**	**382,171**	**364,776**	**361,806**	**389,829**	**350,564**	**508,251**	**376,718**	**325,992**	**4,499,259**

Table 3-47: Texas International Bridges: Northbound Buses Monthly Traffic Figures

POE	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
Veterans International Bridge	524	487	548	500	503	485	553	541	519	512	530	537	6,239
Gateway International Bridge													0
B&M Bridge													0
Free Trade Bridge													0
Progreso International Bridge													0
Donna International Bridge													0
Pharr-Reynosa Intl. Bridge on the Rise													0
McAllen-Hidalgo Bridge	1,695	1,427	1,700	1,670	1,657	1,698	1,854	1,769	1,608	1,399	1,713	1,836	20,026
Anzalduas International Bridge													0
Los Ebanos Ferry													0
Rio Grande City-Camargo Bridge													0
Roma-Ciudad Miguel Aleman Bridge	31	29	31	33	32	38	37	33	18	32	32	55	401
Lake Falcon Dam Crossing													0
Juarez-Lincoln Bridge	2,980	2,604	3,036	3,386	3,102	3,511	4,083	3,650	2,859	2,875	2,989	3,612	38,687
Gateway to the Americas Bridge													0
World Trade Bridge													0
Laredo-Colombia Solidarity Bridge	147	21	79	25	3	0	3	7	23	0	0	0	308
Camino Real International Bridge	228	111	178		512	302	346	312	220	146	189	249	2,793
Eagle Pass Bridge I													0
Del Rio-Ciudad Acuna Intl. Bridge													0
Lake Amistad Dam Crossing													0
Boquillas Crossing Port of Entry													
Presidio Bridge	79	75	119	113	97	102	101	118	95	98	110	139	1,246
Fort Hancock-El Porvenir Bridge													0
Tornillo-Guadalupe Bridge													0
Ysleta-Zaragoza Bridge													0
Ysleta-Zaragoza Bridge (DCL)													0
Bridge of the Americas	655	665	767	630	440	496	23,277	23,922	21,110	25,563	23,335	20,916	141,776
Good Neighbor Bridge (SB only, NB DCL)													0
Paso del Norte Bridge	708	650	661	702	824	795	694	702	776	763	761	702	8,738
Monthly Total	**7,047**	**6,069**	**7,119**	**7,059**	**7,170**	**7,427**	**30,948**	**31,054**	**27,228**	**31,388**	**29,659**	**28,046**	**220,214**

Table 3-48: Texas International Bridges: Northbound POVs Monthly Traffic Figures

2017 - NORTHBOUND POVs MONTHLY TRAFFIC FIGURES													
POE	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
Veterans International Bridge	115,746	113,339	124,403	128,952	134,548	118,704	125,914	130,424	120,306	124,616	121,749	123,598	1,482,299
Gateway International Bridge	101,346	93,082	112,747	102,148	102,141	91,952	96,733	95,252	93,687	97,156	93,295	104,021	1,183,560
B&M Bridge	135,441	126,093	139,674	133,286	135,530	124,551	120,285	126,763	120,384	121,524	119,373	130,716	1,533,023
Free Trade Bridge	40,450	38,908	46,843	44,273	46,072	43,658	51,740	48,196	43,341	46,831	42,848	49,893	543,053
Progreso International Bridge	47,745	47,783	56,289	50,236	51,606	44,831	46,098	46,491	47,296	47,318	47,751	52,116	589,564
Donna International Bridge	52,315	50,385	62,028	57,251	59,308	51,467	58,361	58,673	53,638	54,709	58,312	68,956	685,403
Pharr-Reynosa Intl. Bridge on the Rise	83,615	80,661	94,552	89,000	92,736	85,955	102,543	102,323	90,913	97,638	103,072	114,092	1,137,100
McAllen-Hidalgo Bridge	187,299	175,743	199,128	190,297	199,947	178,163	190,445	183,448	186,657	192,431	179,900	204,070	2,267,528
Anzalduas International Bridge	78,907	74,931	87,907	83,060	87,054	80,486	90,809	86,029	83,475	87,251	88,927	91,821	1,022,657
Los Ebanos Ferry	2,770	2,909	2,067		823	2,377	3,413	3,539	2,814	3,013	3,107	3,693	30,525
Rio Grande City-Camargo Bridge	29,950	29,150	35,531	34,528	34,941	29,749	30,704	31,915	32,761	32,971	34,602	38,360	395,162
Roma-Ciudad Miguel Aleman Bridge	56,410	54,437	61,015	60,105	62,780	54,843	52,538	54,163	53,840	55,853	54,570	58,618	679,172
Lake Falcon Dam Crossing	8,275	7,147	8,360	8,247	7,504	6,641	8,146	7,024	7,400	7,103	8,193	9,548	93,588
Juarez-Lincoln Bridge	387,244	345,495	394,844	370,088	296,598	232,093	226,520	237,220	228,353	232,664	226,990	250,815	3,428,924
Gateway to the Americas Bridge				6,649	136,497	181,366	181,001	183,453	170,540	187,173	177,223	177,962	1,401,864
World Trade Bridge													0
Laredo-Colombia Solidarity Bridge	33,090	23,806	35,006	27,358	19,908	20,036	37,492	30,249	18,912	20,688	26,621	33,991	327,157
Camino Real International Bridge	111,939	106,343	125,701	135,429	133,960	133,576	144,232	133,963	128,181	135,488	136,576	144,037	1,569,425
Eagle Pass Bridge I	96,207	83,477	97,055	107,728	110,488	102,342	95,167	108,579	103,725	110,117	103,551	110,831	1,229,287
Del Rio-Ciudad Acuna Intl. Bridge	126,576	119,283	130,555	131,453	135,013	132,113	135,706	134,539	127,697	129,369	124,451	123,434	1,550,189
Lake Amistad Dam Crossing	6,128	5,789	10,613	6,427	6,430	5,235	4,454	3,367	4,595	4,476	5,727	10,751	73,992
Boquillas Crossing Port of Entry													
Presidio Bridge	59,318	51,829	61,824	60,771	62,233	58,470	64,758	59,729	59,271	59,073	59,712	61,806	718,794
Fort Hancock-El Porvenir Bridge	6,869	6,528	7,662	7,825	7,922	7,296	6,847	7,286	7,613	7,540	7,703	8,357	89,448
Tornillo-Guadalupe Bridge	20,867	19,869	24,958	24,268	24,903	21,066	22,364	22,426	23,033	23,954	27,446	31,036	286,190
Ysleta-Zaragoza Bridge	318,403	297,440	342,349	332,613	338,853	332,429	339,668	250,006	239,729	247,451	220,184	224,852	3,483,977
Ysleta-Zaragoza Bridge (DCL)													0
Bridge of the Americas	354,544	324,592	359,120	342,225	254,949	105,790	346,873	348,987	344,803	349,103	303,815	316,800	3,751,691
Good Neighbor Bridge (SB only; NB DCL)	109,358	105,344	113,278	116,111	118,986		102,994	117,481	115,329	125,571	119,502	117,096	1,261,050
Paso del Norte Bridge	242,041	229,195	263,767	260,597	263,071	251,999	263,838	260,031	249,064	234,066	206,023	205,230	2,918,772
Monthly Total	2,812,853	2,613,558	2,997,276	2,910,930	2,914,801	2,497,188	2,951,463	2,875,556	2,757,479	2,835,167	2,701,223	2,866,500	33,733,994

Table 3-49: Texas International Bridges: Northbound Pedestrian Monthly Traffic Figures

2017 - NORTHBOUND PEDESTRIAN MONTHLY TRAFFIC FIGURES													
POE	January	February	March	April	May	June	July	August	September	October	November	December	Yearly Total
Veterans International Bridge	6,766	7,043	7,985	7,621	8,874	7,489	8,305	8,455	7,531	9,306	8,373	12,245	99,993
Gateway International Bridge	167,009	169,634	200,635	181,585	183,734	165,203	167,035	175,665	170,666	177,337	174,542	192,426	2,125,471
B&M Bridge	37,762	42,621	51,770	52,132	56,457	51,853	60,008	53,863	52,575	60,664	58,068	60,508	638,301
Free Trade Bridge	1,694	1,800	2,896	2,209	2,542	2,331	4,127	2,472	1,986	1,790	2,029	3,814	29,690
Progreso International Bridge	94,628	107,411	132,148	80,933	78,933	65,968	73,434	68,734	69,932	67,404	94,205	100,399	1,034,129
Donna International Bridge													0
Pharr-Reynosa Intl. Bridge on the Rise													0
McAllen-Hidalgo Bridge	166,472	163,176	199,042	175,673	188,467	169,646	189,624	186,523	171,916	186,485	181,447	191,863	2,170,334
Anzalduas International Bridge													0
Los Ebanos Ferry	3,198	3,565	2,801		941	2,437	3,168	2,941	2,467	3,570	2,845	5,020	32,953
Rio Grande City-Camargo Bridge	2,245	2,414	2,372	2,446	2,760	2,525	2,644	2,626	2,555	2,354	1,917	1,460	28,318
Roma-Ciudad Miguel Aleman Bridge	20,614	17,264	25,456	20,944	22,205	15,712	15,832	18,606	16,943	19,731	21,140	14,820	229,267
Lake Falcon Dam Crossing													0
Juarez-Lincoln Bridge	223,117	250,443	309,849	0	0	0	0	0	0	0	0	0	783,409
Gateway to the Americas Bridge	223,117	250,443	309,849	247,485	300,144	284,531	341,954	313,445	299,291	324,102	304,322	309,933	3,508,616
World Trade Bridge	14,832	14,002	15,723	16,324	15,433	14,808	15,088	17,046	15,105	16,890	16,369	11,991	183,611
Laredo-Colombia Solidarity Bridge	530	714	698	748	920	741	736	632	777	936	865	611	8,908
Camino Real International Bridge	28,025	22,906	32,725	22,334	24,843	17,255	26,645	20,709	13,334	1,036	14,773	16,367	240,952
Eagle Pass Bridge I	47,151	47,518	62,549	44,049	42,708	39,173	47,781	51,536	44,182	1,515	48,898	52,572	529,632
Del Rio-Ciudad Acuna Intl. Bridge	13,071	17,214	15,229	22,334	15,413	10,170	4,463	13,080	14,327	16,667	15,073	14,207	171,248
Lake Amistad Dam Crossing													0
Boquillas Crossing Port of Entry	1220	1987	3748	2142	1441	823	845	575	877	1,243	2,643	910	18,454
Presidio Bridge	16,222	12,868	24,958	17,128	17,804	22,397	37,964	20,639	11,895	15,917	20,005	34,385	252,242
Fort Hancock-El Porvenir Bridge	121	109	190	175	177	157	78	158	163	197	197	230	1,952
Tornillo-Guadalupe Bridge	3428	3423	2968	3538	3709	1164	801	3,045	3,547	4,041	2,845	3,328	35855
Ysleta-Zaragoza Bridge	104,083	100,279	122,697	122,697	107,713	95,746	119,222	121,390	120,243	123,291	130,820	147,164	1,415,345
Ysleta-Zaragoza Bridge (DCL)													0
Bridge of the Americas	96,226	86,340	108,611	99,923	103,855	96,274	117,713	107,619	99,289	104,826	112,753	142,214	1,275,643
Good Neighbor Bridge (SB only, NB DCL)													0
Paso del Norte Bridge	370,742	349,701	408,077	384,778	397,648	363,071	368,268	397,900	270,814	396,139	402,263	421,835	4,531,236
Monthly Total	1,642,273	1,672,875	2,042,994	1,507,198	1,576,721	1,429,474	1,605,735	1,587,659	1,390,415	1,535,441	1,616,472	1,738,302	19,345,559

Relocation of commercial (truck) traffic to Veteran's International Bridge from the Gateway International Bridge and the B & M Bridge solved many problems in Downtown Brownsville. A very large percentage of the Brownsville international commercial traffic is centered on and shipped to and from the Port of Brownsville. The diversion of border truck traffic to the Veteran's International Bridge now allows the movement of goods (to and from the Port) to take place entirely within Brownsville's southeast quadrant.

The route between the Port of Brownsville and the Veteran's International Bridge, SH 4 (International Boulevard) and SH 8 (Padre Island Highway), constitutes Brownsville's overweight truck corridor. Overweight trucks are confined to this corridor and pay a fee collected at the Port to help fund repairs to remedy damages caused by these loads.

Establishment of the East Loop (at a new location) to serve as a truck route to and from the Port of Brownsville will be achieved in several years' time. This route (East Loop) will then serve as the overweight truck corridor.

Veterans International Bridge at Los Tomates

This facility, located on IH 69E, opened in May 1999. Originally, this bridge had four lanes. The bridge structure now provides eight lanes for vehicular traffic and space for pedestrians to cross as well. The Brownsville Port-of-Entry at this border crossing includes a large-sized import lot, which is adequate to serve large numbers of trucks.

Exhibit 3-33: An aerial of Veterans International Bridge at Los Tomates

TxDOT has plans to build a Truck Inspection Station next to the existing facilities. A temporary Truck Inspection Station is in operation at the present time. Cameron County utilized CBI funding to add more lanes at this facility. The traffic flow at the four additional lanes established at this facility can be reversed, to aid northbound or southbound flow.

- Bridge Owner/Operator:
    - United States: Cameron County and City of Brownsville (50:50 ownership)
        - The County operates the bridge itself and the toll facilities.
        - Mexico: Federal Government of Mexico (Concession with FARAL)
    - Operator: Cameron County
        - Average Monthly Bridge Traffic: (2018 Data)
        - Auto: 244,579 average monthly
        - Trucks/Commercial: 54,879 average monthly
        - Pedestrian: 16,499 average monthly
        - Buses: 1,029 average monthly
- Bridge Owner/Operator:
    - United States: Cameron County
    - Mexico: Federal Government of Mexico (owner)
- Bridge Operator: Cameron County and Caminos y Puentes Federales de Ingresos y Servicios Conexos (CAPUFE)

Gateway International Bridge

This facility includes two spans with a total of four lanes. One span is northbound and the other is southbound.

- Bridge Owner/Operator:
    - United States: Cameron County
    - Mexico: Federal Government of Mexico (owner)

Exhibit 3-34: An aerial of Gateway International Bridge

- Bridge Operator: Cameron County and Caminos y Puentes Federales de Ingresos y Servicios Conexos (CAPUFE)
    - Average Monthly Bridge Traffic: (2018 Data)
    - Auto: 195,287 average monthly
    - Trucks/Commercial: 0
    - Pedestrian: 350,703 average monthly
    - Buses: 0

B & M International Bridge

The original bridge structure contains a railroad track and can handle vehicular traffic as well. This is the oldest bridge in Brownsville, sometimes referred to as "Puente Viejo". A four-lane structure, which carries vehicular traffic in both directions, was built in 1997.

Exhibit 3-35: An aerial of B & M International Bridge

Bridge Owner/Operator:
Brownsville & Matamoros Bridge Company, a subsidiary of the Union Pacific Railroad Company.

- Average Monthly Bridge Traffic: (2018 Data)
    - Auto: 253,048 average monthly

- Trucks/Commercial: 0
- Pedestrian: 105,320 average monthly
- Buses: 0

Free Trade Bridge at Los Indios

This international bridge is located outside of the Brownsville MPO's boundary area. It is listed here due to its importance in serving as an alternative route for Brownsville-based truck traffic.

Exhibit 3-36: A view of the Free Trade Bridge at Los Indios

- Average Monthly Bridge Traffic: (2018 Data)
    - Auto: 89,604 average monthly
    - Trucks/Commercial: 6,181 average monthly
    - Pedestrian: 4,899 average monthly
    - Buses: 0

Operations & Maintenance Assessment

The operations and maintenance section provides an assessment of each MPO region's roadway network and is separated into detailed analyses on pavement and bridge conditions found in the planning area. Developing a detailed understanding of the condition of the region's transportation infrastructure helps identify areas of need in the roadway network.

Pavement Conditions

The RGVMPO planning area roadway network is central to the overall multi-modal transportation network. Therefore, existing pavement conditions of the roadway network are critical to the movement and safety of the region's citizens that use it on a daily basis. For this analysis, data was derived from 2017 pavement condition data from Federal Highway Association's (FHWA) Highway Performance Monitoring System (HPMS). The obtained HPMS data provided a pavement condition rating based on the International Roughness Index (IRI) for roadways on the National Highway System (NHS), as well as other ancillary roadways found within the Harlingen-San Benito and Hidalgo County MPO regions.

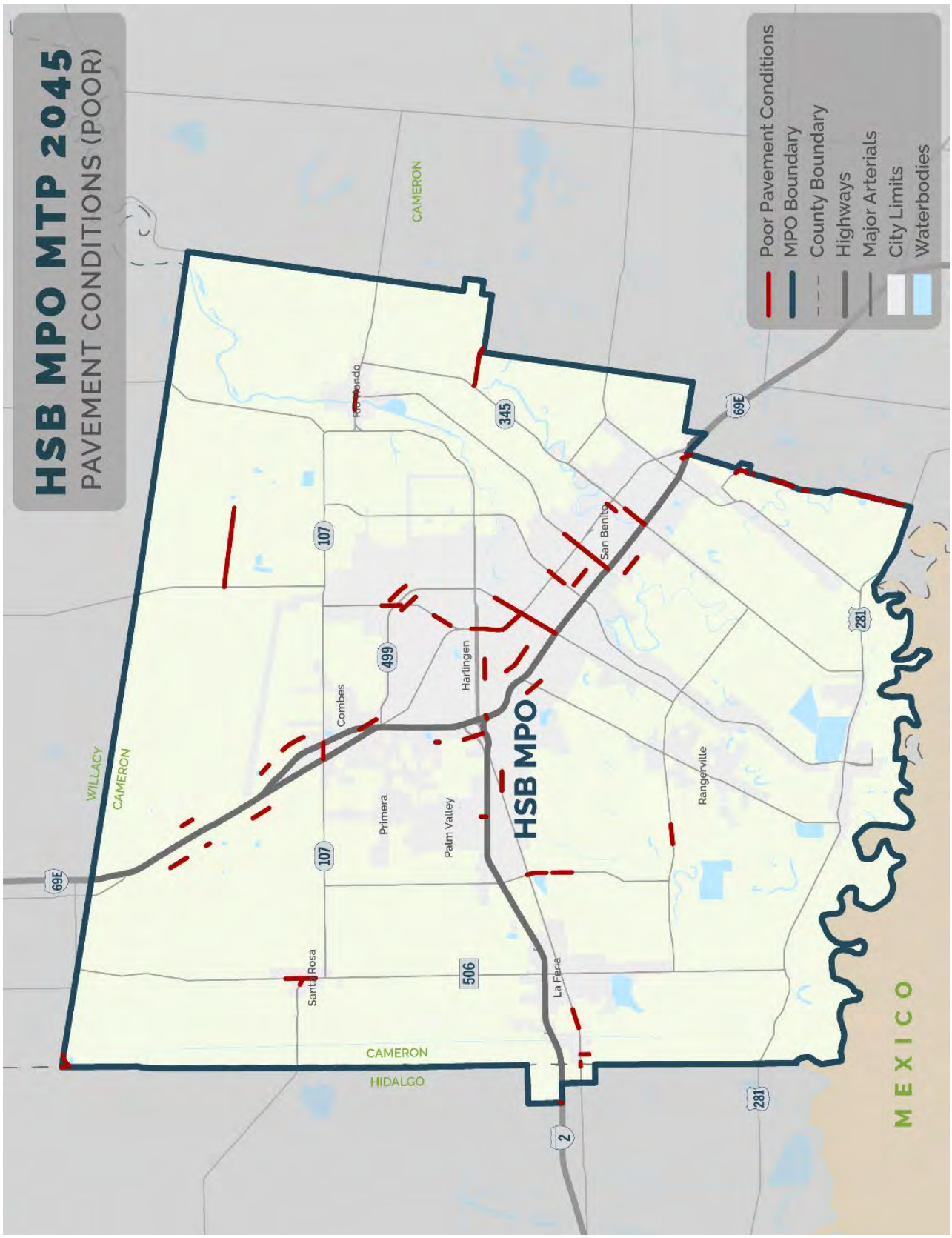
Based on guidance from the Code of Federal Regulations (23 C.F.R. §490.313), each roadway segment on system was categorized by condition according to the following IRI rating scale:

- Poor: IRI > 170
- Fair: IRI >=95 and <= 170
- Good: IRI <95

Harlingen-San Benito MPO

Figure 3-50 displays roadways in the HSB MPO region with poor pavement condition as of 2017. Segments rated as poor have been overlaid onto the MPO region's entire roadway network, helping identify which roadways within the network are potentially not in a state of good repair. These segments total 0.41 lane miles, or roughly 7% of the lane miles provided.

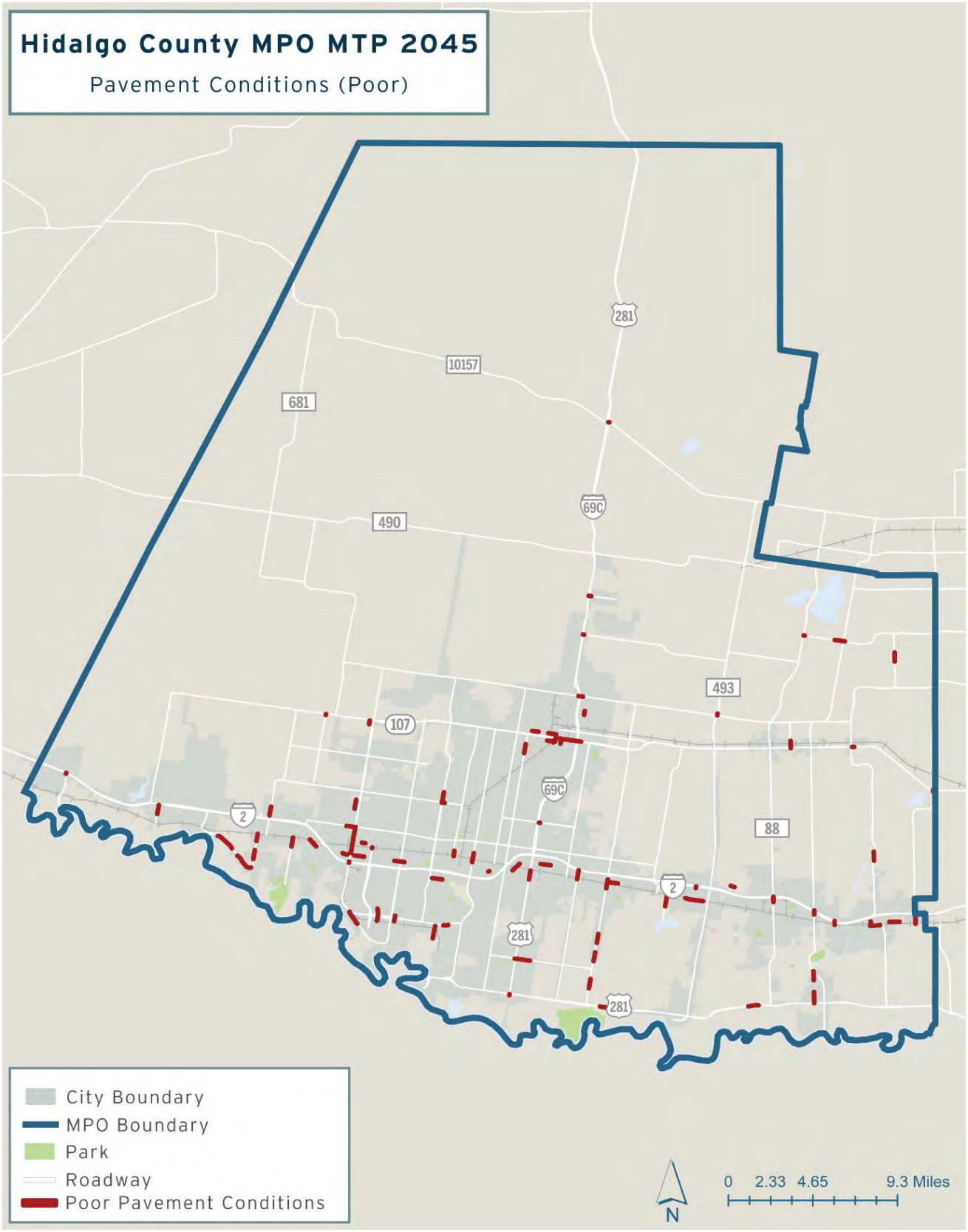
Figure 3-50: HSB MPO Pavement Conditions



Hidalgo County MPO

Figure 3-51 displays roadways in the HC MPO region with poor pavement condition as of 2017. Segments rated as poor have been overlaid onto the MPO region's entire roadway network, helping identify which roadways within the network are potentially not in a state of good repair. These segments total 0.49 lane miles, or roughly 3% of the lane miles provided.

Figure 3-51: HC MPO Pavement Conditions



Bridge Conditions

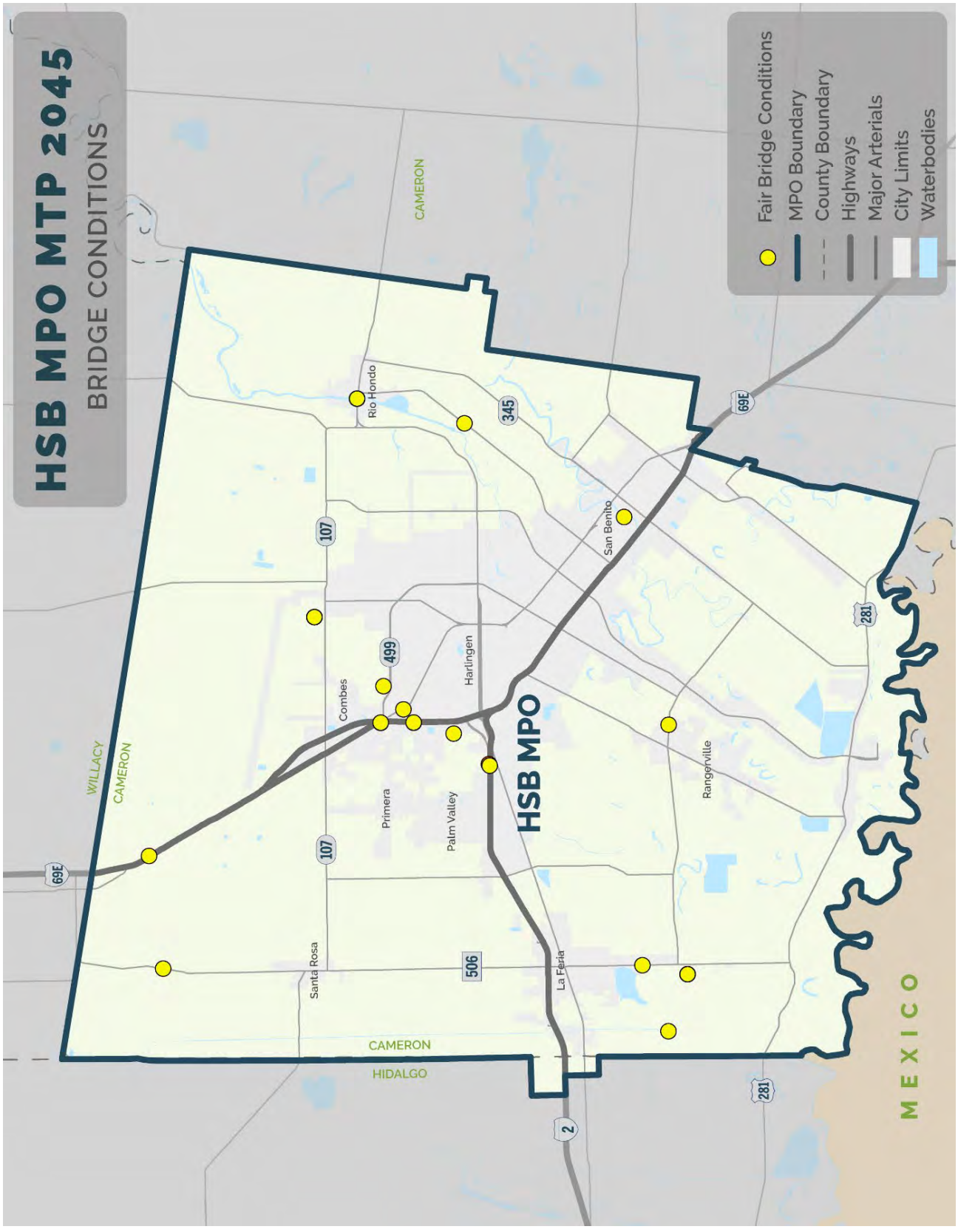
The bridge conditions analysis is based on the FHWA National Bridge Inventory (NBI). The NBI included location and condition information for 141 bridges within the MPO region as of January 2018. The project team followed guidance provided in FHWA's *Computation Procedure for the Bridge Condition Measures* and the Code of Federal Regulations (23 C.F.R. §490.409) to determine the condition of each roadway. The methodology for determining condition included the calculation of a minimum component condition rating and application of the following scale based on this rating:

- Good: minimum condition rating between 7 and 9 for bridge components
- Fair: minimum condition rating between 5 and 6 for bridge components
- Poor: minimum condition rating between 0 and 4 for bridge components; indicates a bridge that is structurally deficient

Harlingen-San Benito MPO

Through a geospatial analysis, results for the bridge condition analysis show that there are currently zero bridges in the HSB MPO region designated as being in poor condition (as of July 2019). However, a total of 19 (10%) of the region's bridges rate as being in fair condition. **Figure 3-52** displays the location of bridges with a fair designation. Though the condition of these bridges is sufficient for the time being, preventative maintenance and repairs should be planned to ensure conditions do not fall below fair.

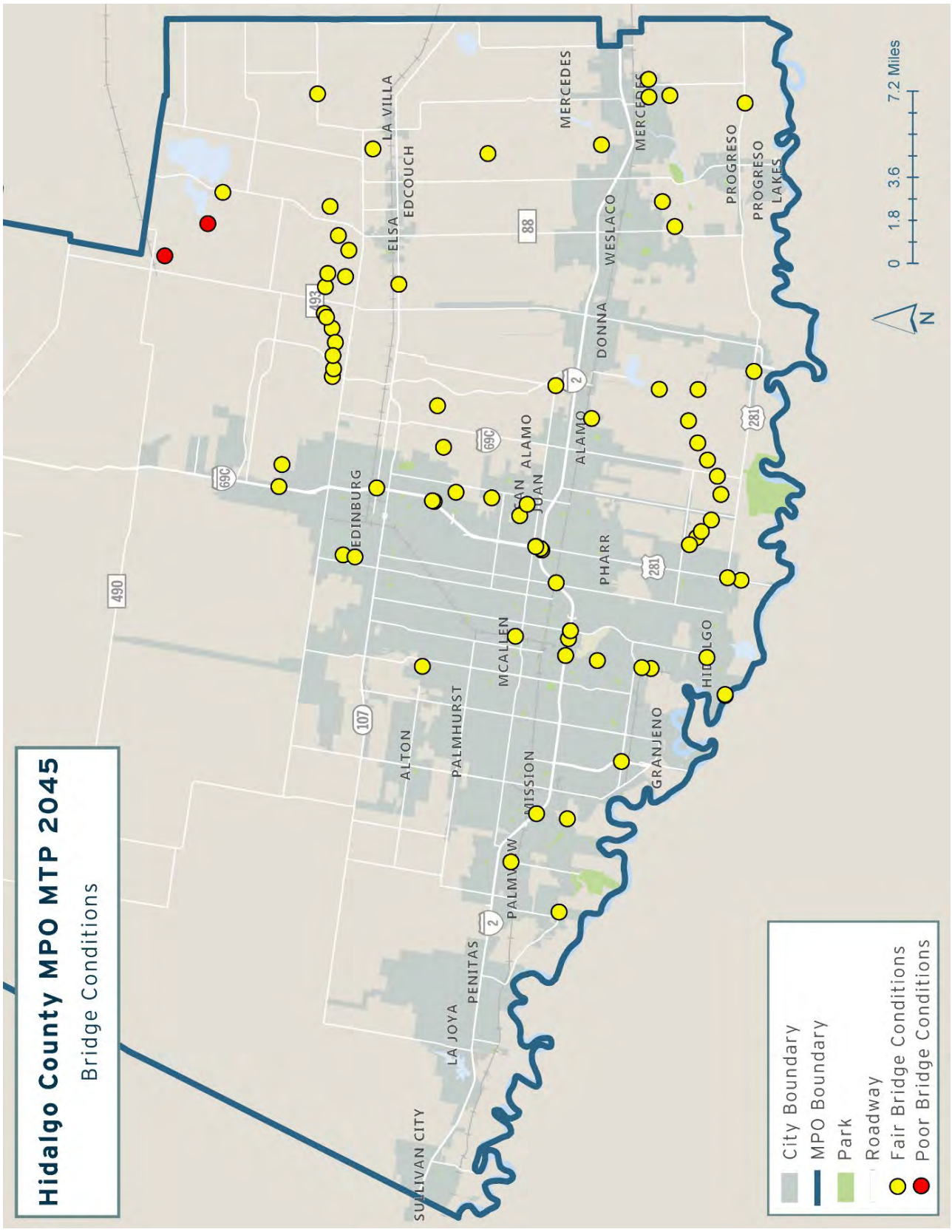
Figure 3-52: HSB MPO Bridge Conditions



Hidalgo County MPO

Through a geospatial analysis, results for the bridge condition analysis show that there are currently two bridges in the HC MPO region designated as being in poor condition (as of July 2019). However, a total of 78 (19%) of the region's bridges rate as being in fair condition. **Figure 3-53** displays the location of bridges with a poor or fair designation. Though the condition of the fair bridges is sufficient for the time being, preventative maintenance and repairs should be planned to ensure conditions do not fall below fair. Bridges in poor condition should see immediate action, either to be repaired or closed from further use until repairs are made or a permanent closure becomes effective.

Figure 3-53: HC MPO Bridge Conditions



Brownsville MPO

Veteran's International Bridge Improvements

In recent years, Cameron County added four additional lanes at the Veteran's International Bridge. Also, Cameron County added a vehicle approach lane to the primary inspection station, and secured imaging equipment to aid inspections. Cameron County RMA has a new project planned for this facility. Known as the Veterans International Bridge Privately Owned-Vehicles Lane Expansion Project, these improvements would cost $16.1 million dollars. The proposed improvements would add four primary inspection lanes for passenger vehicles.

- At this time the primary inspection station this Port of Entry can process about 60 vehicles per hour per booth. So, that accommodates an hourly peak of 240 vehicles. Demand exceeds this processing volume, so improvements in the form of additional lanes, and booths, are needed.
- Queuing will be reduced, and quicker processing entails less waiting and less air pollution. And added bus turnout and a sidewalk for bus passenger will augment safety for those persons using this facility.

Proposed Port of Brownsville International Bridge

The Brownsville MPO's Thoroughfare Plan depicts the projected crossing point to the Republic of Mexico for this proposed new bridge. The proposed crossing point over the Rio Grande River is located due south of the Port's dock facilities, on the south side of the ship channel.

The Brownsville Navigation District (BND) obtained a presidential permit for this international bridge some years ago. The proposed bridge design calls for a four-lane bridge for truck traffic. Port Commissioners and staff will continue to examine the possibilities of a bridge becoming a reality in the future.

The proposed Port Bridge will be designed for handling of heavy truck traffic and cargoes. A potential benefit of this project includes the ability to move heavy cargoes to and from Matamoros, Mexico without the need for truck traffic to pass through developed (urban) areas of Brownsville.

Another feature of international trade should be mentioned in connection with this project. The Brownsville Navigation District has been examining future prospects for development of the Port of Brownsville in terms of large-scale container operations.

Much attention has been given to use of the Port of Brownsville and Mexico as a viable "land bridge" to Asia. This could offer significant travel time savings for the movement of goods from China and other Pacific Rim locations to destinations in the mid-west and eastern United States.

A significant problem to be addressed with this scenario is development of top-quality transportation infrastructure in Mexico and South Texas. If financial arrangements can be made to attract and promote movement of international cargoes through the Port of Brownsville, the Port and Cameron County would reap substantial rewards.

Proposed Flor de Mayo International Bridge

It is expected that population growth for both Matamoros and Brownsville will continue at a steady pace in the coming decades. To meet the long-term travel demand for international trips, it is likely to require the development of a fourth (non-commercial) border crossing within the City of Brownsville. The proposed Flor de Mayo International Bridge has been identified as a solution to help meet the future mobility needs of the two communities. Cameron County staff have taken steps to acquire sufficient right-of-way to develop both a new bridge and the associated Port-of-Entry facilities. Coordination of planning efforts with Mexican counterparts has begun and will need to continue.

The Brownsville MPO Thoroughfare Plan map currently outlines the general vicinity of this proposed border crossing facility. It is located generally south of the intersection of US 281 with FM 3248. The extension of FM 3248, which would serve as the new access road for the proposed bridge, is not presently listed as an MTP project.

Interregional Passenger Assessment

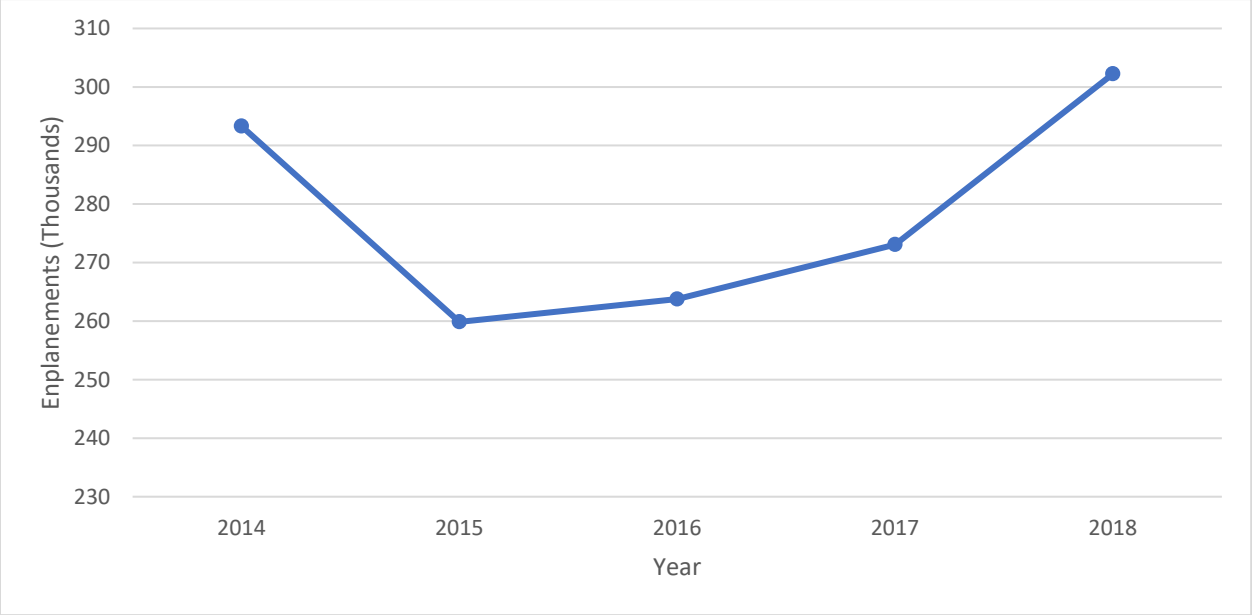
While the main focus of an MTP is understanding travel within the MPO planning area, it is also crucial to understand the area's role in transportation at both the state and national level. Interregional passenger travel consists of any mode of transportation connecting users to destinations outside of the planning area; this includes fixed passenger rail, air travel, and long-distance charter bus services. The following section details available modes of interregional travel found within the RGVMPO planning area.

Harlingen-San Benito MPO

Valley International Airport

The HSB MPO planning area contains one regional/commercial airport, the Valley International Airport, which is located in Harlingen, TX. Valley International Airport provides commercial and general aviation services to the planning area. Regarding commercial flights, the facility is currently served by four airlines (Southwest Airlines, Continental Express, Delta and Sun Country Airlines) which provide direct flights to the Dallas, Austin, Houston, Denver, Chicago, and Minneapolis. The airport provides ground transportation in the form of rental cars, taxi/shuttle services, and ride share services (e.g. Uber). **Figure 3-54** displays Valley International Airport enplanement trends from 2014 to 2018. Annual enplanements for the region have slightly increased over the five-year period (by roughly 10,000), with a growth rate of roughly 3% from 2013 to 2017. 2018 experienced the highest increase in enplanements with a 10% increase from 2017 to 2018. Conversely, 2015 experienced a large decrease in enplanements with a 13% decrease from 2014 to 2015.

Figure 3-54: HSB MPO Enplanement Trends 2014 – 2018 (Valley International Airport)

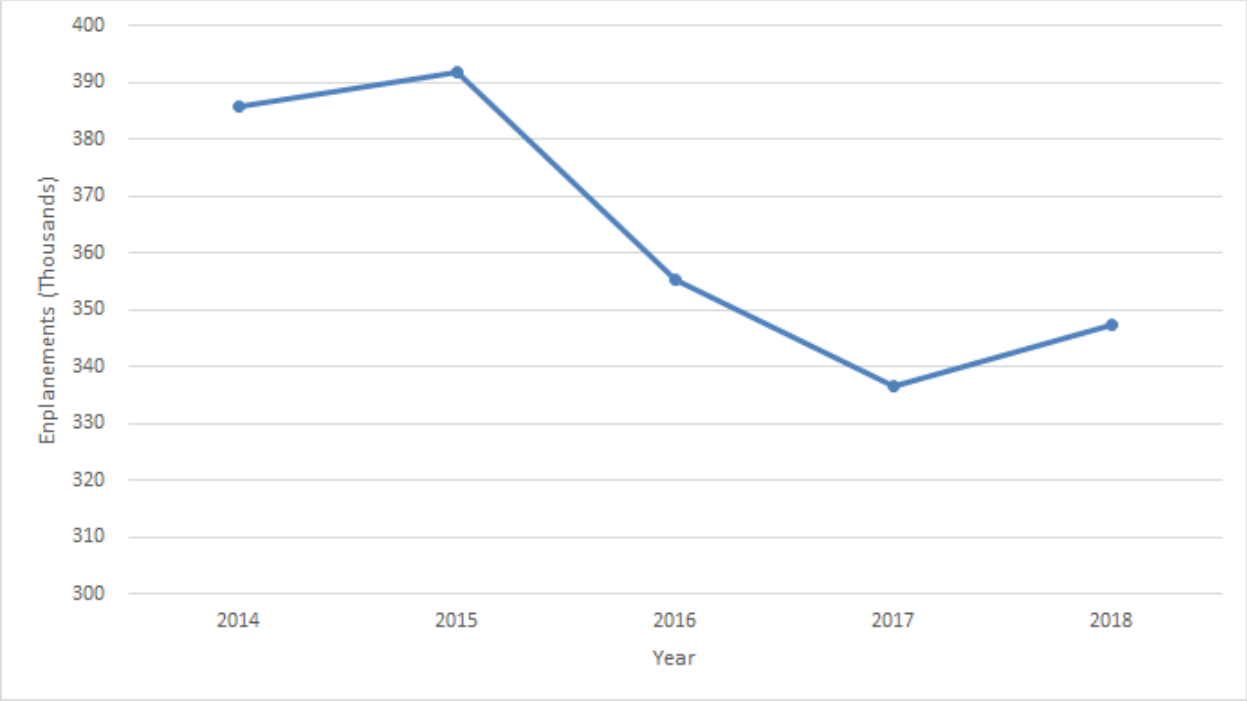


Hidalgo County MPO

Aviation Network

Hidalgo County has one commercial service airport, two general aviation airports, and fourteen privately owned airports. The HC MPO has made an effort to incorporate these facilities in transportation planning activities. The RGV has three commercial airports but only the McAllen-Miller International Airport is located within the HC MPO planning area.

Figure 3-55: HC MPO Enplanement Trends 2014 – 2018 (McAllen International Airport)



Brownsville MPO

Airport Transportation

The Brownsville South Padre Island International Airport (BRO) is located in the eastern section of Brownsville. The airport is served by three highways—State Highway 4, FM 2519 or Billy Mitchell Boulevard and FM 313. It is a Title 14 CFR Part 139 certified Airport, which serves Commercial, Charter, Military / Government and General Aviation operators.

The airport has two hard surface runways. Runway 13-31, the primary runway, is 150 feet wide by 7,400 feet long, and has 3 types of instrument approaches, including an ILS (Instrument Landing System) to allow for continuous aircraft operations, even under poor weather conditions. Runway 18-36, the secondary runway is 150 feet wide by 6,000 feet long, and it's equipped with two types of instrument approaches.

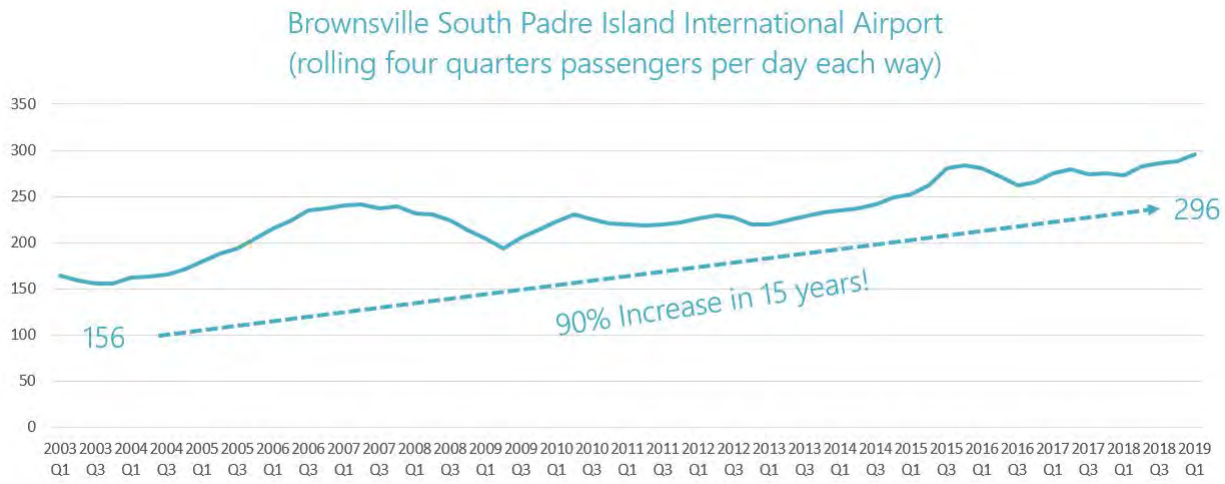
Exhibit 3-37: A before and after comparison of the SPI International Airport after improvements

Exhibit 3-38: An aerial of the South Padre International Airport (BRO)

The current 37,000 sq. ft. passenger terminal was built in 1971 and was not designed to accommodate current security and airline requirements. Despite having infrastructure challenges, the airport has seen a fast-paced, steady growth over the past 15 years.

Demand at BRO has grown more than 90% during the past 15 years, and it's the fastest growing airport in the Rio Grande Valley.

Figure 3-56: BRO Passenger Demand



Source: U.S. DOT OD1B via Airline Data Inc.

That growth doesn't even consider its future potential once the new terminal comes online, which will provide ample capacity to optimize flights and offer better access to the travelers' true "ground" destinations in the region, such as South Padre Island, TX; or the neighboring city of Matamoros, Mexico.

Daily non-stop service to and from Dallas Fort-Worth and Houston, Texas is offered by American Airlines and United Airlines, respectively (current as of September 2019). Seasonal service to Chicago, IL and Denver, CO was offered during the '18 – '19 winter season with United Airlines.

Exhibit 3-39: Advertisement for the improved international airport facility

Construction of a new passenger terminal facility began in December of 2018 and it's expected to be completed during the 4th quarter of 2020. The 91,000 sq. ft., $50 million facility is being funded partially by the Federal Aviation Administration, and a joint venture between the City of Brownsville, the local EDC's (4a & 4b) and Airport funds. The modern, efficient, modular building will be able to accommodate the expected increase in enplanements in the upcoming decades.

Exhibit 3-40: Construction of the new passenger terminal (August, 2019)

The Department of Aviation is also seeking to expand the airport's primary runway (13-31) from 7,400 linear feet to 10,000 linear feet in length. This project, upon completion, will enhance safety and help attract more air carriers and air cargo operators to the airport.

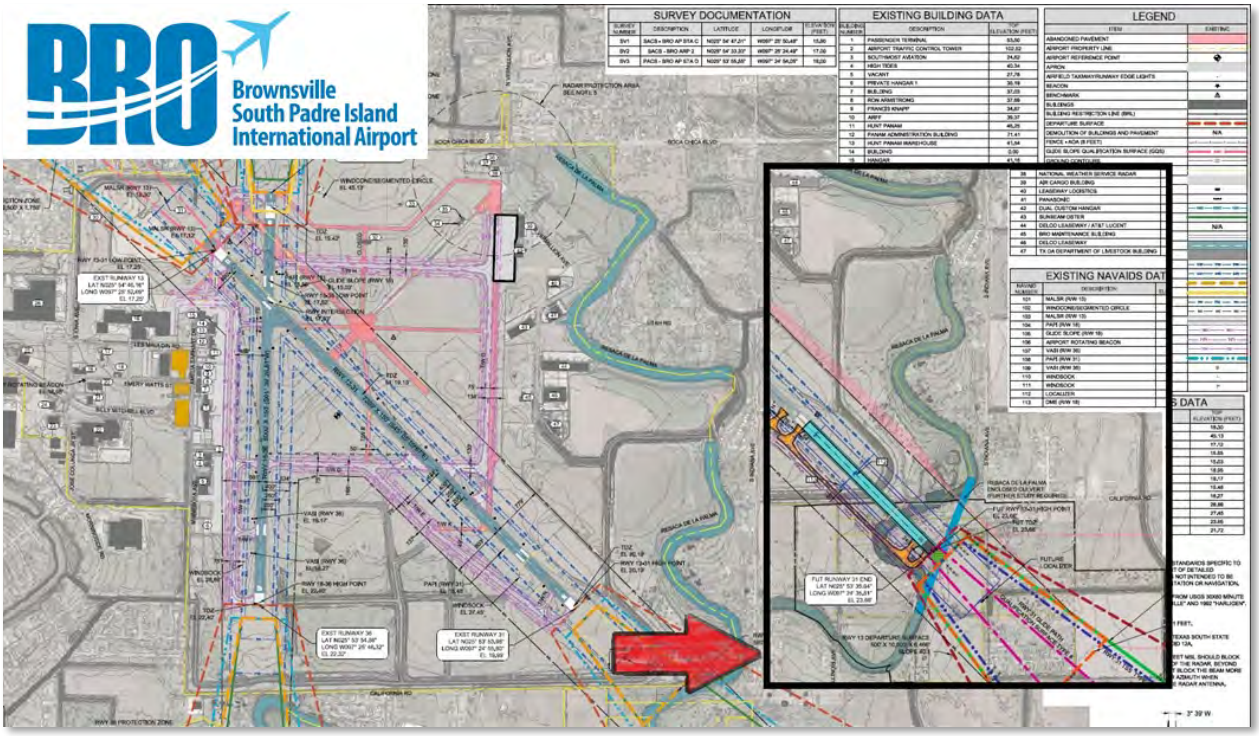


Exhibit 3-41: The layout of the Brownsville South Padre Island International Airport

It is noteworthy that the airport features two industrial parks, one of which has a Foreign Trade Zone designation. A market analysis and runway extension justification study currently projects a gradual increase in aircraft operations, both passenger and air cargo, at the airport over the next 20 years.

Future growth of general aviation activities is also expected at the Brownsville South Padre Island Airport (BRO). As a designated Point-Of-Entry to the United States, the airport has a Federal Inspection Station (US CBP), a key feature which attracts private, chartered and general aviation flights from Mexico, Latin America and the Caribbean, in transit to and from other cities in the US.

Air Cargo

The potential for growth of air cargo at the Brownsville South Padre Island International Airport (BRO) is tied to the growth and movement of US-Mexico trade through Brownsville and the Lower Rio Grande Valley Most of the air cargo transported via the airport involves goods moving to or from the maquiladora plants (Manufacturing industry) located in Matamoros or Reynosa, across the Rio Grande. Parts, and other components used to assemble a finished product, are shipped via air cargo to facilitate "just-in-time" arrivals on both sides of the border.

Exhibit 3-42: Cargo at the Brownsville South Padre Island International Airport

Most recently, a boom in new business at the Port of Brownsville, as well as the construction of a test and launch facility for SpaceX's reusable rocket technology and space exploration, are factors expected to boost the movement of goods and commodities by air freight.

In early 2019 the Department of Aviation completed the construction of a new 20,000 sq. ft. cargo facility in the east side campus, it has access to both landside and from the dedicated air cargo ramp and is currently looking to attract suitable operator(s) for it.

New Space Industry

Brownsville is front and center of a new era of commercial space exploration. Space X moved to the area, and this company is building a test facility and launch pad for its Raptor Engines / StarHopper Starship prototype.

The $100 million facility will include a Vertical Rocket Launch Site, Launch Command Center, and Ground Tracking Station. Officials estimate 20,000 visitors per launch when launches commence. Several tests have taken place, and more are expected, as the StarHopper Starship prototype reaches different milestones.

Exhibit 3-43: Test facility under construction

Chapter 4

Transportation Strategies

TRANSPORTATION STRATEGIES

Introduction

Adding roadway capacity to the transportation system cannot address all mobility needs in the RGVMPO planning area alone. While funding is always the primary constraint, some needs can be met through the adoption of "no-build" strategies. Therefore, the MTP planning process included the consideration of no-build strategies such as Transportation Demand Management (TDM) and Transportation System Management and Operations (TSMO) in addition to facility construction projects ("build strategies").

This chapter provides a description of the process used to develop a fiscally unconstrained plan for meeting the transportation needs of the community. Given the limited availability of funding to meet all the needs identified in the Needs Assessment (Chapter 3), both "build" and "no-build" strategies to address unmet needs are considered in the unconstrained plan.

No-Build Strategies for Unmet Needs

Building new roads and adding capacity to the existing roadway system is not only expensive, but often takes years to go through the planning, environmental, design, and construction phases. Given the limited availability of funding for transportation projects and rising congestion levels, state, regional, and local agencies are increasingly relying on TDM, TSMO, and active transportation strategies, along with other strategies, to improve the performance of existing roadways. These strategies do not require the construction of new roadways or additional lanes of capacity, and therefore are often referred to as "no-build" strategies.

The following sections provide recommendations for incorporating best practices in TDM, TSMO, active transportation, and other no-build strategies into the transportation planning process.

While the RGVMPO is not directly responsible for implementing transportation projects, it works closely with local member jurisdictions to explore and evaluate the appropriateness of these strategies for reducing congestion and improving the performance of the existing transportation system.

Transportation Demand Management

TDM strategies seek to reduce congestion on existing roadways by reducing the overall number of cars using roads or by redistributing cars away from congested areas and peak periods of travel. Encouraging the use of alternative modes of transportation (such as transit, biking, or walking) and increasing the number of travelers in each vehicle are the primary ways in which TDM strategies reduce single-occupant vehicle demand on existing roadways. Simply put, transportation demand can be managed by providing travelers with a wide range of efficient and accessible choices for reaching their destination.

With limited funding available to address congestion through increasing roadway capacity, TDM is a cost-effective means to improve use of the transportation system. TDM strategies are designed to accomplish the following:

- Improve mobility and accessibility by expanding and enhancing the range and quality of available travel choices;
- Reduce congestion and improve system reliability by decreasing the number of vehicles using the roadway;
- Increase safety by addressing congestion, which is generally related to higher occurrences of traffic incidents; and
- Improve air quality by reducing the number of vehicle miles traveled, thereby saving energy, and decreasing the number of short vehicle trips.

Best Practices

Strategies to Reduce Single Occupancy Vehicle Trips

Carpool, vanpool, and school-pool programs encourage travelers with common destinations, particularly employment and school destinations, to share vehicles. These can be based on informal arrangements between individuals or formally arranged through ride-matching services. Available research indicates that improving awareness, trust, and willingness to ride with strangers, as well as flexibility in scheduling, may help to increase carpool use. Incentives are another effective tool for encouraging ridesharing.

Ridesharing Resources

Resources that may help to increase the use of carpooling, vanpooling, and school-pooling include "Frequently Asked Questions" (FAQs) that address the benefits of carpooling, tips for finding other carpoolers, advice on how to organize pick-ups and drop-offs, carpooling etiquette, and safety concerns, among others.

Additionally, some entities have used websites to facilitate the matching of individuals with other carpoolers by either hosting their own free ride-matching service using online ride share software, or publicizing ride-matching applications available to the public, such as web-based carpooling apps.

Encourage Employers to Incentivize Ridesharing

The RGVMPO can play a valuable role in working with area employers and schools to develop employer-based incentives to encourage ridesharing, such as tax incentives and preferential parking.

Transportation Management Organizations (TMOs)

Transportation Management Organizations (TMOs) are non-profit organizations voluntarily created by a group of businesses – often with local government support – to coordinate transportation services in a defined area (typically a commercial district, medical center, or industrial park). Because they tend to serve a small geographic area and constituency, these

groups can be very responsive to members' needs. TMOs provide a variety of TDM services that encourage more efficient use of transportation and parking resources, particularly through commute trip reduction strategies and ridesharing.

Employer-Based Tools & Incentives

The commute to and from work is a significant contributor to traffic congestion along area roadways, particularly during peak travel times. TDM strategies that focus on employer-based tools and incentives can be an effective way to reduce travel by single occupant vehicles by coordinating ridesharing among employees, encouraging the use of alternate transportation modes for work trips, shifting work trips away from peak hours, and reducing work travel times and the number of overall trips. Examples of alternate modes of transportation include walking, biking, using transit, skateboarding, etc.

Employer-based TDM strategies fall into four separate categories:

- Encouraging employees to travel by alternate modes;
- Shifting trips away from peak periods of travel and reducing the total number of trips;
- Providing route information to divert commuters from congested routes; and
- Using location-specific solutions - such as locating in developments with a mix of employment, residential, and service uses - to shorten the work commute.

Regional transportation planning entities can actively work with area employers to reduce congestion by expanding the transportation options available to their employees. This type of information can be provided on a website or delivered through a "speaker series" for educating area employers regarding options available and their benefits to employers, employees, and the community as a whole.

Parking Management & Incentives

Parking management strategies and incentives encourage the use of alternate modes and can be implemented by both local jurisdictions and employers. These strategies typically rely on dis-incentivizing travel by single occupant vehicle by passing along more of the cost of parking to employees and/or limiting the availability of parking. Improved management of parking facilities can result in potential savings to communities and may reduce parking requirements.

Strategies to Increase Travel by Transit, Bicycle, or Walking

In order to reduce the number of trips by private automobile, strategies to increase travel by transit, bicycle, or walking in the RGVMPO planning area generally focus on the following objectives:

- Increasing the frequency, coordination, and reliability of the transit system to move people to their daily destinations in an efficient and convenient manner;
- Improve the quality of the service, which increases the convenience, comfort, ease of access, and affordability of the mode and makes people more willing to choose it; and

- Educate the public on the availability of the various non-automobile transportation options and services and provide resources to help travelers navigate the region.

The following sections detail mode-specific strategies that could be considered for implementation in the RGVMPO planning area.

Transit Strategies

Improving the quality of transit services (Metro McAllen, Valley Metro, Brownsville Metro, and other public transit options) involves strategies that shorten the overall travel times, increase travelers' comfort both while waiting for the bus and when on-board, and provide added flexibility with travel time and destinations.

Transit can also provide a less expensive means of travel compared to personal automobiles. National statistics have shown that commuters that switch from driving to transit for their daily commute can save more than $9,000 annually. However, providing new routes or increased levels of transit service must always be balanced against funding availability.

Active Transportation Strategies

Active transportation refers to non-motorized modes of travel, such as walking, bicycling, or using a wheelchair or mobility device. Because these modes provide some of the most fundamental means of mobility and accessibility available to individuals, it is crucial for the metropolitan planning process to consider the needs of active transportation users. In addition, active transportation can provide communities with opportunities for enhanced recreation, leisure, and tourism by creating pedestrian and bicycle networks that allow people to spend time outdoors and encourage economic development.

Exhibit 4-1: A trail crossing through Arroyo Park in Harlingen

In order to maintain focus on active transportation issues, Technical Advisory Committee (TAC) subcommittees exist to address pertinent active transportation matters and present recommendations to the TAC. These subcommittees contain a mixture of TAC members, bicycle advocates, pedestrian advocates, and other stakeholders. Committees include both the Hidalgo County and Brownsville Bicycle and Pedestrian Advisory Committees (BPAC). Continuation of these committees will be essential to prioritizing active transportation in the RGVMPO planning area.

The Active Plan, adopted by 10 municipalities in 2016 covers communities in the Lower Rio Grande Valley county of Cameron. The plan was administered by the City of Brownsville and provides detailed plans to improve the regional active transportation network and associated

economic benefits of Active Tourism. 6 catalyst projects were identified in the plan for local municipality prioritization which are listed below:

- LRGV Multi-Use Trail System: Arroyo-Resaca Segment
- LRGV Multi-Use Trail System: Bahia Grande Segment
- LRGV Multi-Use Trail System: Battlefield Segment
- LRGV Multi-Use Trail System: SPI Segment
- LRGV Paddling Trail System: Arroyo Colorado Segment
- United States Bicycle Route #55: Launa Madre Segment

Brownsville MPO

The Brownsville MPO has made efforts to identify funding opportunities to support development of facilities to foster walking, bicycling, and access to transit. For example, Brownsville MPO allocated a sizeable amount of Category 7 funds towards building several miles of the Southmost Nature Trail, a hike & bike facility.

All Ages & Abilities Facilities

Active transportation facilities which are designed and built to provide a high comfort level of all users including young, old, or disabled, is a more equitable approach to include more people in the active transportation network. All ages and abilities facility types focus on intuitive design, separation from motor vehicles, and a high level of comfort along all segments of the route. Occasionally, bike facilities may often have gaps which place vulnerable users in an uncomfortable position on the roadway, whereas all ages and abilities facility types will have a continuous and connected system.

Safe Routes to School Programs

Safe Routes to School (SRTS) programs aim to improve the ability to walk, bike, or wheel to schools. The program works with parents, schools, and local governments to prioritize and select projects that improve active transportation access to schools and ensure safe and comfortable routes for all students.

Open Streets Events

Also known as "Ciclovias" or Sunday Parkways, Open Streets events are dedicated to non-vehicle use for a pre-determined period of time. Residents use the streets for active uses such as exercise, games, or playing music. Community vendors, and business may be involved to incorporate local traditions. The purpose of Open Streets events is two-fold; one, to provide an opportunity to build community and enjoy public space in a safe, quiet environment, and two; promote and encourage residents to use active modes of travel such a waking, biking, or transit, for daily activities. Municipalities or local non-profits group can both host such events, and often the two work in unison to accomplish the event. Openstreetsproject.org provides many resources and tools for communities who would like to start an open streets event.

Social Behavior Change Programs

Many urban areas have begun to offer residents who are interested in learning more about using active modes of travel additional information and support. Municipalities, transit agencies, and non-profit groups have maintained such programs to help reduce single occupancy vehicle trips, and increase trips made by walking, biking or taking transit. Generally, programs work with individuals who are already interested, or who have considered making such changes, as not to waste effort with those residents who are not interested or ready to change their mode of travel. Community events, social media campaigns, and door to door marketing are all methods used to communicate with residents who choose to participate with the program. Successful programs have been shown to accomplish reductions in vehicle miles traveled within the communities the program is active.

Complete Streets

The concept of "Complete Streets" is rooted in the idea that roads should be built with all users in mind, not just the private automobile. While Complete Streets principles include many TDM and TSMO strategies, the concept focuses less on improving traffic conditions and more on the livability of places. Complete Streets strategies address the needs of all users of the transportation system, including the young and the old, the disabled, and users of transit or non-motorized forms of transportation. They yield a wide range of benefits related to safety, equity, access, economic development, air quality, health, and livability. While policies adopted by local governments represent most Complete Streets policies adopted nationwide, MPOs can be integral partners in promoting and implementing Complete Streets strategies.

Transportation System Management & Operations

Transportation System Management and Operations (TSMO) strategies seek to improve the performance of existing roadways through increased efficiency and throughput of people on current infrastructure. TSMO strategies not only rely on traffic engineering solutions (such as signal synchronization and access management) to optimize the existing system but also rely on resource utilization, infrastructure, personnel, and data management strategies to extend the useful life of the existing transportation system and improve its reliability.

Exhibit 4-2: Traffic Stop at Harrison Ave in Harlingen

Best Practices

TSMO strategies employed successfully in other cities can serve as best practices for optimizing the performance of the existing transportation system to reduce congestion and improve safety.

Maintenance

Infrastructure maintenance is a critical aspect of TSMO. Most infrastructure management agencies prefer to schedule routine repairs and inspections instead of embarking on ad-hoc patching and repairing. Schedule management for inspection and street repairs will enable city and county personnel to efficiently use limited resources. Regularly scheduled roadway resurfacing is necessary to provide uniform improvements to the existing roadways and to extend their useful life. Older roads, especially those built according to discontinued standards, should be reviewed in order to upgrade deficient sections based on modern design standards.

Electronic Infrastructure

Transportation infrastructure is no longer limited to concrete pavement and asphalt. Recent improvements in operations and data collection methods have led to digital controls and integrated computer networks that require maintenance and management. Older technologies are being systematically replaced with newer options.

Some of the opportunities for advancing the RGV planning area's electronic infrastructure come in the form of Intelligent Transportation Systems (ITS), which includes technologies that improve transportation safety and mobility by integrating advanced communications into infrastructure and vehicles. The following electronic infrastructure have the potential to provide the RGV planning area with improved safety and mobility for the transportation network:

- **Ramp Meters:** Ramp meters are traffic signals installed on the entrance ramps of freeways that alternate between red and green light signals to control the flow of vehicles as they enter the freeway facility. This infrastructure allows for more controlled merging movements and could therefore provide benefit on major roadway entrance ramps where merging has proven to be particularly dangerous.
- **Traveler Information Systems (TIS) on Dynamic Message Signs:** TIS is a strategy that involves making information about trip departures, routes, and travel time readily available to travelers and can be provided for a variety of modes of transportation. This can be accomplished via websites, telephone hotlines, television, and radio, and particularly with dynamic messaging signs, which are digital signs that are installed along roadways and are updated with real-time travel information.
- **Signal Preemption for Emergency Vehicles:** Signal preemption is a technology that allows emergency vehicles to change signal cycles, allowing them to advance through traffic lights efficiently and safely. A preemption device is located on mast arms and detects/alters signal cycles when emergency vehicles approach the intersection. This

technology is most effective along roadways in which emergency vehicles will typically need to travel longer distances, or intersections where minor arterials/roads connect to larger road classifications. The end goal for signal preemption is to reduce overall response rates for emergency vehicles.

- **Video Detection (or other types of non-pavement invasive detection) at Signalized Intersections:** Also known as a traffic detector, video detection as well as non-pavement invasive detection allow for the collection of traffic information, such as vehicle presence, volume, speed, and occupancy.

It is important to note that while red light cameras are a form of ITS, on June 1, 2019 the State of Texas enacted House Bill 1631 banning the use of this infrastructure with an effective date of September 1, 2019.

The RGVMPO should continue to explore opportunities to improve the electronic infrastructure of the region as technologies continue to improve and become more cost effective.

Traffic Signal & Intersection Improvements

Roadway users encounter traffic control signage and intersection signals on nearly every route they travel. While the primary function of intersection traffic control is to improve safety at intersections, it is also often a significant source of delay. Improper signage and poor signal timing results in unnecessarily long queues and impacts the reliability of the transportation system. Improving signage, signal timing, and equipment is a cost-effective way to facilitate traffic flow along a corridor. One example occurring in the RGVMPO planning area is a product of the HC MPO congestion mitigation efforts. Accordingly, the TPC has approved the expenditure of $1 million in Category 7 funding for addressing operational improvements. The funds are being used to purchase new control boxes, clocks, etc. for McAllen, Pharr, Mission, and Edinburg in a regional attempt to address light synchronization.

The RGVMPO can continue to work with its planning partners to identify corridors which would benefit from traffic signal and intersection improvements and to prioritize projects.

Additionally, the Brownsville MPO has taken steps to improve intersections for pedestrians along wide or highspeed corridors, such as installing median pedestrian islands on Boca Chica Blvd to made conditions for pedestrians safer. Brownsville MPO also finds that roadways are congested in close proximity to traffic signals, as shown by an analysis in the 2019 Congestion & Delay Report. To reduce this delay, funding can be used to improve signal timing, thus reducing delay, lowering fuel costs for car users, and reducing emissions. The City of Brownsville is also investing funding to install rimes at 105 locations to improve traffic flow.

Traffic Signal Optimization

The timing and phasing of signalized intersections should be reviewed periodically, especially in areas of the region experiencing rapid development or increased commercial activity. Traffic signals can also be coordinated along a corridor or throughout an entire system. As traffic volumes increase, signal coordination can be used to optimize high priority traffic corridors and increase the throughput of critical thoroughfares.

Adaptive signal control, which adjusts the timing of traffic lights based on real-time travel conditions, can also provide significant relief to congested corridors and cut costs associated with traffic signal timing data collection and computation.

Brownsville MPO has made significant investments with Category 7 funding to improve traffic flow by setting aside 10% of Category 7 for CMP related improvements. This type of improvement is far less expensive for the MPO, than is a build or capacity-oriented solution for solving congestion issues. Though the success cannot yet be measure for the traffic signal improvements, due to continuing installation. However, the MPO has received feedback from the public who have praised the installation of adjacent sidewalk, pushbutton and crosswalk signals related to the traffic signal upgrades.

Access Management

Access management refers to the regulation of the number of access points between a development and the adjacent roadway network. Many access management solutions involve installation of roadway medians where feasible to guide turning movements to the appropriate locations and improve traffic flow and safety. Another example of access management is optimizing the number and locations of driveway curb cuts in commercial or industrial zones.

Brownsville MPO recognizes access management as a critical piece of managing the transportation system effectively. MPO staff have helped sponsor workshops for TAC member and Brownsville city staff to attend. The MPO sees many benefits from access management tools such as placement of laminations on the number and spots that curb cuts are permitted along a roadway.

Targeted Traffic Enforcement

Consistent and reliable enforcement of traffic laws helps address public concerns about traffic issues. Focused speed studies (using radar trailers and traffic counters) and enforcement can be employed in the RGVMPO planning area to discourage speeding on roadways within the region.

Traffic Calming

Because there are many instances where the number of aggressive drivers is greater than the capacity to enforce traffic laws, many cities and counties have implemented various "self-enforcing" speed and volume control devices. Most of these measures are referred to as "traffic calming." These physical devices can assist law enforcement in influencing driver behavior.

Most traffic calming measures are applied to residential streets, though certain measures can be applied to higher volume roadways as well. Broadly defined, the goals of traffic calming measures are:

- To slow down the average vehicle speeds for a roadway;
- To address excessive volumes for a roadway; and

- To make drivers aware of the context and surroundings of roadways.

Traffic calming measures can sometimes impact access and response time for emergency personnel. Representatives of fire, police, and emergency services departments should be involved in the review of proposed traffic calming devices. The RGVMPO can work with its planning partners and emergency response agencies to identify locations suitable for traffic calming implementation. Common examples of traffic calming installations include:

- Speed humps or cushions
- Bulb outs
- Chicanes
- Raised crosswalks
- Traffic circles

Traffic Incident Management

Traffic Incident Management (TIM) consists of a planned and coordinated process to detect, respond to, and quickly clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM strategies reduce the duration and impacts of traffic incidents and improve the safety of motorists, crash victims, and emergency responders. Traffic incident management involves coordination among several public and private sector partners, including:

- Law enforcement
- Emergency management and preparedness
- Fire and rescue
- EMS
- Towing and recovery
- Transportation departments
- Hazardous materials contractors
- Public safety communications
- Traffic information media

Traffic Data Collection

As transportation technology grows increasingly sophisticated, obtaining the amount of data required by new traffic optimization interfaces presents significant challenges to due to fiscal constraints. Automated traffic data collection creates an opportunity for transportation management agencies to receive a continuous supply of traffic data at a low cost. Because automated traffic data collection gathers data in real time, it facilitates many of the demand responsive TSMO strategies discussed earlier in this chapter (such as traffic signal

optimization). New types of traffic data collection, such as Bluetooth and Wi-Fi detectors, are particularly appealing due to their lower operational and maintenance costs compared to in-road loop detectors. These types of detectors have the added benefit of being able to gather traveler information beyond traditional roadway vehicles to include bicycle and pedestrian roadway users.

Leveraging Emerging Technologies

In addition to the implementation of some the Intelligent Transportation Systems (ITS) mentioned above, the emergence of new technologies and the adoption of policies and legislation will provide future decision makers with a new set of strategies to implement.

Connected & Autonomous Vehicles

Connected and autonomous vehicles (AV) can be integrated into existing ITS architecture and could potentially improve mobility, traffic operations, and safety. Automated public transportation could help reduce congestion and the space needed to accommodate single-occupant vehicles, while also potentially improving efficiency and reducing fatalities and severe injuries due to fewer drivers on the road. This technology could also benefit freight and economic growth, since improved travel times and traffic operations could have positive impacts on the economic vitality of rural and urbanized areas within the region. The National Association of City Transportation Officials (NACTO) provides some advice and guidance about AV in their "Blueprint for Autonomous Urbanism," found at nacto.org/blueprint, and the Society of Automotive Engineers (SAE) and the National Highway Traffic Safety Administration (NHTSA) are working to provide guidance for safety and programming levels of automation. Staff of the urban area can help the development and deployment of these technologies throughout the region by beginning discussions on policy and land use, as well as keeping its planning partners informed about developments in autonomous vehicle technology.

Smartphone Applications

As previously mentioned, TNCs and rideshare applications for smartphones are already influencing how people are choosing to commute. Uber recently unveiled (February 2018) their new "Express Pool" service in the Washington D.C. Metro Area. This new service utilizes traffic analytics and routing software to reduce backtracking and rerouting to pick up multiple passengers, as was the case with their "UberPool" service. In exchange for significant discounts and more direct routing, riders are picked up within two blocks of their origins, and dropped off within two blocks of their destinations, which entails passengers walking more at the beginning and end of their trips.

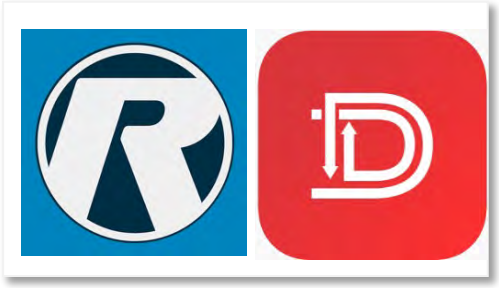


Exhibit 4-3: Smartphone apps that provide riders with maps and real time arrival information

Smartphones are also already being used at Metro McAllen, Valley Metro, and Brownsville Metro to improve transit service and user experience through route information apps. The Metro McAllen, Brownsville Metro, and Valley Metro Transit Agencies can continue to work

with its planning partners to develop or enhance the functionality of smartphone transit applications to further encourage travelers to use transit.

Brownsville MPO

The Brownsville MPO adopted a "set – aside" policy some years ago, to fund operational improvements. These Category 7 improvements (below) involved traffic signal optimization, as well as installation of pedestrian push buttons and sidewalk improvements, at some locations:

- SH 48 (Boca Chica Blvd) – McClleand to Medical
- Morningside Road at Central Ave
- FM 1419 – Polk Ave to IH 69E
- Morningside Rd at Apollo St
- SH 48 (Padre Island Hwy) – Minnesota to FM 802
- SH 48 (Padre Island Hwy) – Walmart Dr to FM 802
- FM 1419 – International Boulevard to 23rd St

Unfortunately, construction activities for these improvements were still underway in 2019; thus, the MPO was unable to collect data (after completion) to assess the benefits and efficacy of these investments.

Safety & Security

The FAST Act requires that the transportation planning process address both the safety and security of the transportation system for motorized and non-motorized users. Federal guidelines define safety as "freedom from unintentional harm," and define security as "freedom from intentional harm."

The RGVMPO is responsible for addressing safety and security through the programming of transportation improvements. The MPO's role in implementing specific safety and security measures may be limited, but its role in coordinating regional transportation needs between the various local, state, and federal transportation agencies is vital to creating successful safety and security policies. By integrating the safety and security goals and objectives of regional stakeholders into the transportation planning process, the MPO can ensure that its plans and studies are consistent with and help support safety and security planning in the RGV planning area.

The following sections discuss the various agencies involved in safety and security planning in the RGVMPO planning area and present local, regional, and state plans and programs that are currently in place.

Texas Strategic Highway Safety Plan (SHSP)

Adopted in 2016, the Texas SHSP's mission is "Texans will work together on the road to zero traffic fatalities and serious injuries." The SHSP also adopts a "Towards Zero Deaths" (TZD) vision consistent with the TZD National Strategy sponsored by the Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA), American Association of State Highway and Transportation Officials (AASHTO), and the Governors Highway Safety Association (GHSA).

Exhibit 4-4: Business 77 with two-way left turn lane in San Benito

The plan identifies safety concerns and classifies them into seven key emphasis areas. The plan describes the trends in fatalities within each emphasis area, defines a specific target for 2022, and suggests strategies that should be undertaken to achieve the performance targets that are tailored to the unique circumstances of crashes within each emphasis area.

The strategies recommended in the SHSP should provide the basis for countermeasures that the RGVMPO consider addressing crash types and locations, as well as driving behaviors, that are responsible for the greatest number of crashes in the region – particularly those resulting in serious injuries or fatalities. A discussion of crash types and locations can be found in Chapter 3.

Highway Safety Improvement Program (HSIP)

The HSIP is a Federal-aid funding program administered by state DOTs. Its goal is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The program must be consistent with the Texas SHSP and report annually on the following:

- HSIP program structure;
- Progress towards implanting HSIP-funded projects;
- Progress made in achieving safety performance targets; and
- Assessment of the effectiveness of implemented improvements.

TxDOT selects projects for implementation through HSIP following a data-driven approach that identifies safety problems in a systemic manner, identifies countermeasures to address them, and prioritizes projects based on the goals and objectives outlined in the SHSP.

Texas Department of Emergency Management

The state emergency management program is coordinated by the Texas Division of Emergency Management (TDEM). This program is intended to ensure the State and its local governments respond to and recover from emergencies and disasters. The program also implements plans and programs to help prevent or lessen the impact of emergencies and disasters, as well as programs to increase public awareness about threats and hazards.

The TDEM also coordinates emergency planning and administers disaster recovery, hazard mitigation, and homeland security grant programs in the state of Texas.

Harlingen-San Benito MPO

As safety has been a primary concern for the HSB MPO, the "4-Es" of traffic safety are used to improve safety on roadways. The "4-Es" of traffic safety are Engineering, Enforcement, Emergency services, and Education. By using each of the "4-Es" the HSB MPO has taken steps to reduce crashes on roadways in the MPO planning area through safety related investments.

Several hurricane evacuation routes also pass through the HSB MPO, which are vital roadways during emergency management events. The prioritization of these roadways in the project identification process is key to keeping a properly functioning disaster preparedness program.

Four international border crossings exist in the MPO planning area. Border security is vital to the region, state, and country, so interagency collaboration is needed to protect transportation infrastructure.

Hidalgo County MPO

The HC MPO has worked with state and federal agencies to study and monitor safety in the planning area while working locally to make the transportation system safer.

The implementation of the Traffic Incident Management System (TIMS) was developed in 2010 to analyze state crash records and help guide decisions on where to make roadway improvements. This data is also used to assess specific roadway areas for pedestrian, cyclist, transit, and freight safety, as well as where roadway improvements can be made.

Disaster preparedness is also a primary concern for the region and the HC MPO worked closely with TxDOT and the Lower Rio Grande Valley Development Council (LRGVDC) to coordinate plans for the event of a natural disaster.

Six international border crossings are present in the Urban Area Boundary of the HC MPO. Close relationships have been formed with U.S. Customs and Border Protection along with the City of Reynosa, in Tamaulipas, Mexico in order to provide security to border crossings and bridges that connect the region economically and socially to Mexico.

Brownsville MPO

The 2040 MTP update included four policy statements regarding safety and security planning, which are as follows:

- The Brownsville MPO supports, along with transportation partners, the development of a safe transportation system for all users (pedestrian, bicycle, private auto and trucking and public transportation).
- The Brownsville MPO will examine and consider increased transportation system security when evaluating or sponsoring funding requests for transportation improvement projects.
- The Brownsville MPO will champion or support agency coordination, training and information-sharing efforts to promote security preparedness within the MPO planning area.
- The Brownsville MPO will seek available funding to strengthen the security of the MPO's transportation system.

Directed by these policy statements, the Brownsville MPO has enacted various methods of incorporating safety and security measures. For example, in the project identification process, rankings included points for safety, and FHWA-sponsored safety workshops have been held for MPO and local staff members.

The MPO also holds a liaison with many agencies such as U.S. Homeland Security, Brownsville Police Department, and the Cameron County Police department. The MPO rarely acts as a lead on security issues, but rather cooperates with and assists proper authorities.

The City of Brownville Office of Emergency Management and Homeland Security (OEMHS) serves citizens by making plans to prepare for and respond to emergencies or disasters, either man-made or natural.

No-Build Recommendations

The following are recommendations for no-build strategies in no order:

- Seek funding to conduct a regional transit study within the entire planning area to better understand urban and rural transit needs, and to better serve the population by improving coordination of transit services in the region;
- Encourage policy committee prioritization of and municipal investment in facilities and programs that promote active modes of transportation such as walking, transit, or bicycling.
- Consider enacting a regional TDM program at the MPO level in order to better coordinate programs within multiple counties and municipalities.

- Consider giving funding preference to projects that incorporate TDM and TSMO strategies, reflect Complete Streets design principles, or set regional multimodal transportation goals and objectives through a robust public involvement process.

Build Strategies for Unmet Needs

This section builds upon the work completed as part of the needs analyses discussed previously to identify deficiencies in the RGV planning area's transportation network. This section outlines the steps taken to address or mitigate the deficiencies identified by developing an unconstrained list of possible improvements to the transportation network, and then developing a project prioritization process and ranking those improvements according to community values.

Project Identification

No-build strategies were considered and potential projects to expand or build new facilities were examined. The results of technical reviews, available planning studies, highway and corridor studies, consultation with community members and other stakeholders. The RGVMPO 2045 MTP projects were identified by each individual MPO and include existing projects, projects from the 2040 MTP, and a call for projects during the development of this MTP.

Harlingen-San Benito MPO

As part of the development of the 2045 MTP, HSB MPO conducted a call for projects, in which several new projects were submitted. Both new and old projects were scored and ranked based on the criteria discussed below. Results of the prioritization process are outlined in Chapter 8 – Staged Improvement Plan.

Hidalgo County MPO

Building off its efforts from the 2040 MTP, HC MPO elected to keep its existing project list for the development of the 2045 MTP. A new call for projects will be initiated for the singular RGVMPO 2045 MTP, which will be developed in late 2019 and 2020. The project ranking and priority remains consistent with previous efforts.

Project Selection

Harlingen-San Benito MPO

As discussed in Chapter 2, the FAST Act, requires the transportation planning process for metropolitan areas to consider strategies and projects that address ten planning factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness;
2. Increase the safety of the transportation system for motorized and nonmotorized users;

3. Increase the security of the transportation system for motorized and nonmotorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation; and
10. Enhance travel and tourism.

Based on these planning factors, a set of project evaluation criteria was developed for HSB MPO to ensure each aspect of the factors was taken into consideration in assessing the merits of the proposed projects. The criteria are:

Improve Safety

Safety means protecting against unintentional harm and relates to both motorized and non-motorized modes of travel.

Improve Security

Security means protecting against intentional harm and relates to both motorized and non-motorized modes of travel.

Protect the Environment

Protecting the environment means safeguarding the natural and built characteristics of a community. Important environmental protection issues are maintaining clean air and protecting against floods.

Promote Efficiency

Efficiency means improving system management, preserving the existing transportation system, and reducing the cost to provide services or infrastructure.

Support Economic Development Goals

Economic development is the sustained effort to improve the wealth and standard of living of a community. Economic development goals are framed by the economic development plans of the local jurisdictions and can be impacted by many factors, one of which is the transportation

system. Some of these goals include enabling global competitiveness, productivity, and efficiency.

Reduce Congestion

Congestion means a roadway system is operating at speeds slower than that for which it was designed. Congestion levels can be measured quantitatively, but the tolerance for congestion is defined locally. For example, individuals living in the RGV may find levels of congestion that are far below what is experienced regularly by the citizens of Los Angeles as unacceptable. Therefore, congestion is evaluated both quantitatively and qualitatively based on input from the public.

Improve Access

Improving access involves controlling and managing the ingress and egress points to a transportation facility by balancing the number of access points and traffic efficiency on a transportation facility, rather than merely increasing the number of access points.

Connect Modes of Travel

Connecting modes of travel means ensuring that people and goods can transition easily from one mode to another.

Conserve Energy

Conserving energy means using fewer natural resources while using the transportation system.

Support Land Use Goals

Land use encompasses the human activities undertaken to modify the natural environment. Land use goals of the community are defined by the planning ordinances and land use plans of the local jurisdictions, as well as through the public visioning process.

Increase Street Connections

Street connectivity is the ease by which people and goods can move to their desired destinations. Connectivity relates not only to travel within the community, but also to external destinations - regional, national, and international.

Improve Quality of Life

Quality of life is the personal satisfaction or general sense of well-being an individual or society experiences. The transportation system can have both positive and negative impacts on a region's quality of life. Examples of ways that the transportation system can have a negative impact on the quality of life in a community are: addition of access points to a neighborhood that encourages through traffic and endangers children at play, widening of roadways to improve port access that also encourages truck traffic carrying hazardous materials to travel through residential neighborhoods, an increase in noise or pollution from added lanes, lack of aesthetic amenities along roadways, or lack of restrictions on the

movement of heavy trucks through historic neighborhoods causing destructive vibrations in historic structures. Examples of positive impacts on quality of life include: low speeds on neighborhood streets creating safe and quiet spaces, congestion free streets where people reach their destinations in reasonable amounts of time, complete streets which provide options for people to take modes of transportation that best suit their needs.

Increase Multimodal Options

Increasing multimodal options means constructing or developing systems and infrastructure that support active travel modes for people and goods that do not currently exist in the community, thereby allowing individuals to select the most convenient mode of travel given their destination and/or purpose of their trip. Strategies for increasing multimodal options can include: expanding public transportation into previously unserved areas, expanding the hours of operation for a transit system, increasing the number of streets with sidewalks, increasing intermodal freight transfer facilities, increasing park and ride facilities, increasing the number of sidewalks that meet ADA accessibility requirements, and increasing the number of lanes miles with all ages and abilities bike facilities.

Preserve Rights-of-Way

Preserving rights-of-way means acquiring land prior to development in anticipation of future transportation infrastructure expansion. When streets and highways are expanded, either through the addition of miles or the widening of existing roadways, land must be purchased. The more developed the area, the more expensive it is to acquire the land.

Brownsville MPO

The process for the Brownsville MPO was slightly different than that of the other MPOs. MPO staff worked closely with the MPO Technical Committee and TxDOT staff to create a scoring methodology adopted by the MPO Policy Committee in February 2019. Safety concerns are heavily considered through this process, and proposed projects are given a "high," "medium," or "low" safety score.

Points are then awarded to each specific project by the MPO Technical Committee. Table 4-1 shows the point system used to establish rankings of projects for the 2045 MTP.

Table 4-1: Brownsville MPO Project Selection Criteria

Criteria for MPO Review/Assessment:	Possible Award of Points:
A. Improvement services to increase safety.	13 points (max.)
B. Completes a gap or provides an alternative route.	9 points (max.)
C. Provides for alternative modes (e.g. transit, bicycle/sidewalks)	11 points (max.)

Criteria for MPO Review/Assessment:	Possible Award of Points:
D. 1. Responds to CMP issues; 2. Reduces travel time or trip length.	11 points (max.)
E. Improves air quality	4 points (max.)
F. Project is of Regional significance	8 points (max.)
G. Improve functioning of the MPO network/add new location	7 Points (max.)
Special Circumstance- e.g., site for a new employer; or Public/Pvt. Partnership	11 Points (max.)

CMP Related Investments

In 2015, due to the BMPO's Congestion Management Process (CMP), the Brownsville MPO established a "set-aside" policy to find operational improvements. These types of improvements are quite often less expensive than adding capacity or widening of roadway corridors. It was determined by the MPO to set aside 10% of the Category 7 monies for operational (CMP) improvements; for a two-year period, and to assess the results.

Since the Category 7 allocations totaled about 4 million dollars per year, two years of set aside funding represented $800,000. As it turned out, the MPO funded signal optimization at seven locations in Brownsville, with a larger expenditure of 1.1 million dollars.

Assessment of these particular locations in terms of roadway conditions has not taken place. The reason is that these seven signal improvements are being completed now; as this MTP document is being finalized. Thus, the MPO has been unable to determine the effectiveness of these investments, in terms of aiding traffic flow. It should be noted that one aspect of these Category seven (7) investments has already been successful.

MPO staff have received a significant number of public comments praising the utility of the sidewalk improvements installed adjacent to these signal locations. In addition, pedestrian push buttons, will crosswalk signals, are being installed at all these seven signal locations. This will aid safe travel for pedestrians.

Another MPO-sponsored investment that pertains to CMP issues is pending the start of construction. The SH 48 raised center median improvements involve a 3-million-dollar investment to improve traffic flow within a 3-mile segment of the Boca Chica Boulevard Corridor. This project was selected due to its potential for improving traffic flow.

The limits are from IH-69E eastward to the SH 4/SH 48 intersection. Traffic flow will be improved by the elimination of many conflict points that now exist due to the center turn lane. Also, the number of accidents that take place on this roadway will be reduced, due to the elimination of conflict points.

2019 Congestion & Delay Study

Operations & Maintenance / Access Management

Access Management is recognized as a critical element for effective management and operations of the transportation system.

The BMPO staff have helped sponsor several Access Management Workshops in Brownsville for Technical Committee members, as well as several City of Brownsville staff to attend.

Unfortunately, City staff have not taken the necessary steps to formulate and thereby receive Commission consideration of adoption of a City ordinance to adopt such policies. With the on-going restructuring of the City departments, this situation appears about to change.

There are several benefits to be derived from the use of Access Management tools, such as the placement of laminations on the number and location of curb cuts alongside arterial roadway.

The CMP, as defined in federal regulation, is intended to serve as a systematic process that provides for safe and effective integrated management and operation of the multimodal transportation system. The process includes:

Development of congestion management objectives

Establishment of measures of multimodal transportation system performance

Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion

Identification of congestion management strategies

Planned Investments for Traffic Signals

As outlined in the Congestion Management Process (CMP) section, the City of Brownsville is investing funds to install new timers for 105 traffic signal locations.

Proper traffic progression is thwarted when signal synchronization fails due to faulty timers operate (maintain) the traffic signals within the City of Brownsville.

There are plans now being developed by the City of Brownsville to invest significant funds to upgrade and improve the progression. This would occur for all signals within entire roadway corridors. Such investments are needed as adding capacity is usually not an option for several Brownsville roadway corridors.

Visioning Workshop Feedback

During the visioning process the public was asked to rank the criteria based on their personal preferences. The results were combined to assign a final ranking of the evaluation criteria based on community values.

Harlingen-San Benito MPO

The HSB MPO developed an online survey that allowed the public to provide input on the evaluation criteria for scoring proposed MTP projects that integrates local values into the scoring process. **Table 4-2** shows the rankings of the evaluation criteria resulting from the visioning process for HSB MPO and the number of assigned bonus points for each criterion.

The evaluation criteria were awarded as additional bonus points for each project based on the proportion of the average Project Team score compared to total available points. The final project ranking is outlined in Chapter 8 – Staged Improvement Plan.

Hidalgo County MPO

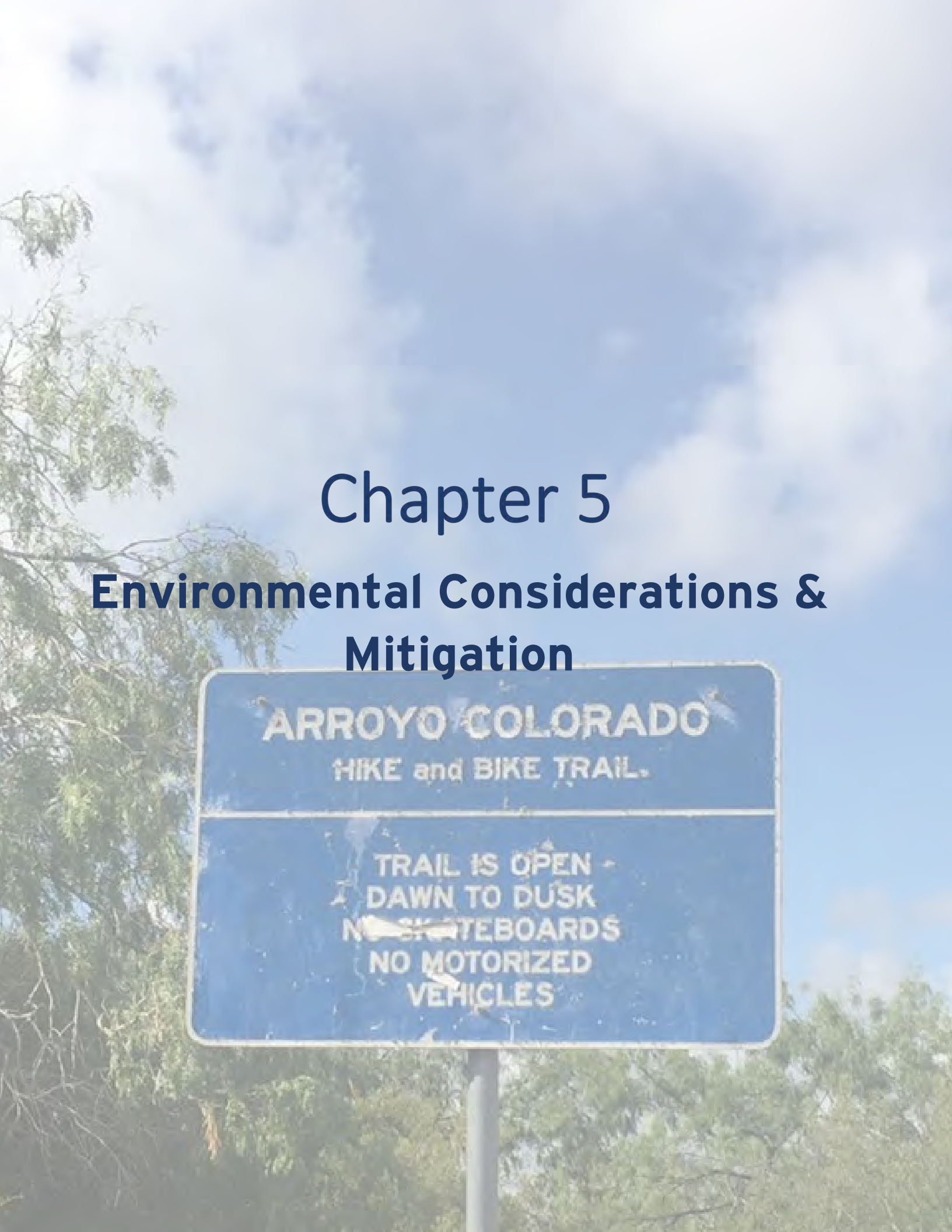
The HC MPO adapted the visioning process to inform and lead towards the development of a larger regional vision. Due to the merger of the three MPOs the project selection process was put on hold until the newly formed RGVMPO could readdress the process from a larger regional perspective and as additional funding becomes available.

Table 4-2: Evaluation Criteria Bonus Points

Criteria	Weighted Bonus Points
Increase Connections	2
Promote Efficient System Management and Operation	2
Improve Safety and Security	2
Support Land Use and Economic Development Goals	1.9
Enhance Travel and Tourism	1.9
Reduce Congestion	1.8
Improve Quality of Life	1.7
Improve Access	1.6
Preserve Right-of-Way	1.6
Improve Resiliency and Reliability of the Transportation System and Reduce or Mitigate Storm Water Impacts of Surface Transportation	1.6
Protect the Environment	1.5
Increase Multimodal Options and Energy Conservation	1.4

Chapter 5

Environmental Considerations & Mitigation



ENVIRONMENTAL CONSIDERATIONS & MITIGATION

Metropolitan transportation planning is not solely concerned with the best way to move people and goods. In addition to mobility concerns, the planning process also examines the interaction of proposed transportation improvements with the natural and human environment. For the purposes of the MTP, potential impacts on environmental resources and quality of life in the region are evaluated at a system-wide level.

A more detailed analysis of the specific impacts associated with a project is typically performed later in the project development process to fulfill requirements under the National Environmental Protection Act (NEPA).

The primary goal of the Environmental and Equity Assessment is to evaluate whether the proposed program of unconstrained potential transportation improvements may negatively impact the environment or result in disparate impacts to certain populations. It is intended to serve as a guide for implementing agencies and elected officials as projects progress through the development process.

While it is not always possible to avoid negative impacts to environmentally sensitive areas, the goal of the environmental mitigation analysis is to balance the need for transportation improvements with environmental protection and quality of life considerations and, where possible, increase access to natural and cultural resources in the region. Mitigation activities should be considered during all phases of project planning, design, construction, and maintenance.

In addition to environmental and cultural resources, the Environmental and Equity Assessment addresses environmental justice considerations to ensure both the benefits and the burdens of the transportation system are distributed equitably across the region. The term environmental justice first emerged in the metropolitan transportation planning discussion in 1994 with the issuance of Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The executive order was based upon Title VI of the Civil Rights Act and is meant to ensure that minority and low-income populations are not adversely affected by federal actions.

Identifying potential impacts on the environment, as well as low-income and minority populations, involves a three-step process that includes:

- Defining and developing an inventory of environmental resources/minority and low-income populations;
- Identifying and assessing the potential impacts of proposed transportation improvements on these resources; and
- Addressing possible mitigation activities system wide.

Environmental Analysis

One element of the Environmental and Equity Assessment involved conducting an analysis on the environmental features, environmental hazards, and cultural assets that exist in the MPO's planning area.

Exhibit 5-1: Heavin Resaca Trail in San Benito

This environmental analysis identifies the types of environmental features, environmental hazards, and cultural assets that are present in the RGVMPO planning area and considers their distribution and concentration. This information not only provides a more holistic picture of the current state of the planning region – it also informs the project prioritization process, where proposed transportation projects will be ranked based on various performance measures, including whether each project has a positive, neutral, or negative impact on the environmental and cultural elements in the region.

Existing Environmental Features & Hazards

Harlingen-San Benito MPO

The Harlingen-San Benito Metropolitan Planning Organization's (HSB MPO) planning area has over 1,000 miles of running water features, such as creeks, streams, and rivers. In addition, there are large areas of floodplains scattered across the region, with higher concentrations found north and south of the City of Harlingen. Overall, there are approximately 123 square miles of floodplain within the HSB MPO planning area. Although there are a few more notable concentrations of wetlands in the west, east, and far south, in most of the region wetlands exist as small strips lining the resacas and the irrigation canals in the Water Control & Improvement Districts. These swaths of wetland are classified as riverine wetlands, which are round in floodplains and along streams and other water channels.[1] In all, the HSB MPO planning area contains approximately 12 square miles of wetlands.

In addition to the environmental features discussed above, a set of 35 potential environmental hazards were identified in the planning area. These hazards included municipal solid waste sites, Toxics Release Inventory (TRI) sites, and one brownfield site. According to the US Environmental Protection Agency (EPA), the sites in the TRI are sites/facilities that release certain toxic chemicals into the air, water, or into a land disposal. Sites that are part of the TRI program must report a variety of activities and information to the EPA on an annual basis.

[1] US Environmental Protection Agency, "Methods for Evaluating Wetland Condition: #7 Wetlands Classification" (Washington, DC: Office of Water, 2002)
https://www.epa.gov/sites/production/files/documents/wetlands_7classification.pdf

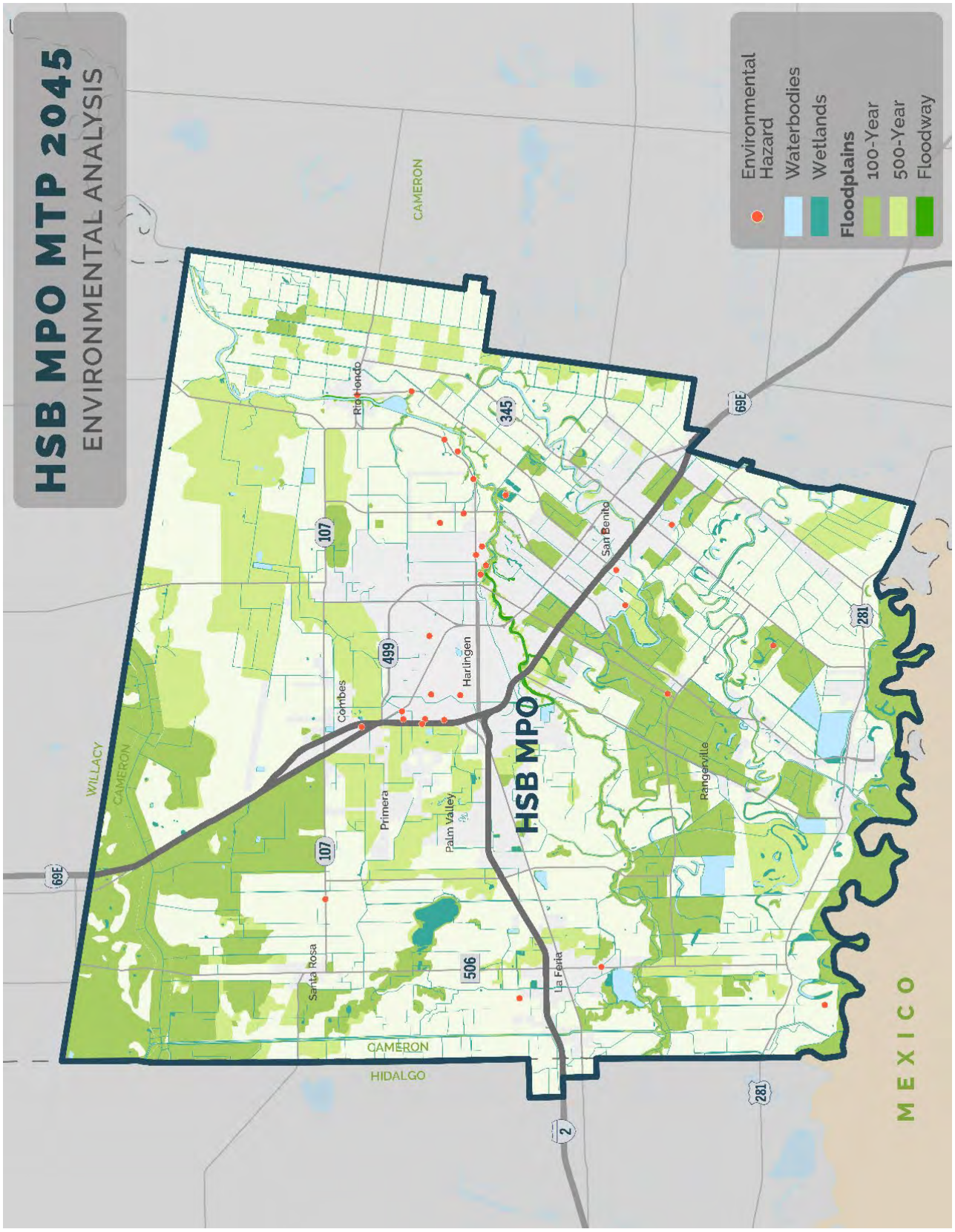
Most of the environmental hazards identified are located at central latitudes within the region, with some concentrations of hazard sites along IH 69E in west Harlingen and near the Arroyo Colorado in east Harlingen. **Figure 5-1** shows the various environmental features and hazards in the HSB MPO planning area.

Table 5-1 contains the aggregate amounts of environmental features and hazards identified in the HSB MPO planning area.

Table 5-1: HSB MPO Environmental Features & Hazards

Environmental Feature/Hazard	Amount
Creeks, Streams, and Rivers	1,010 miles
Floodplains	123 square miles
Wetlands	12 square miles
Hazards	35 sites/facilities

Figure 5-1: HSB MPO Environmental Features & Hazards



Hidalgo County MPO

The HC MPO planning area has over 170 miles of running water features, such as creeks, streams, and rivers. This includes the Rio Grande River, which represents 124 of those miles. Although there are a few more notable concentrations of wetlands in the northeast and along the southern border, in most of the region wetlands exist as small strips lining the resacas and the irrigation canals in the Water Control & Improvement Districts. These swaths of wetland are classified as riverine wetlands, which are found in floodplains and along streams and other water channels.[2] Riverines are the most common types of wetlands in Hidalgo County, but there are also lakes, freshwater ponds, forested/shrub wetlands, and emergent wetlands. In all, the HC MPO planning area contains approximately 48 square miles of wetlands. These wetlands serve as some of the most valuable bird habitats in the state, creating a large tourist attraction for the region, also calling for extra sensitivity when considering environmentally vulnerable areas.

In addition to the environmental features discussed above, a set of 25 potential environmental hazards was identified in the planning area. These hazards included municipal solid waste sites and Toxics Release Inventory (TRI) sites. According to the US Environmental Protection Agency (EPA), the sites in the TRI are sites/facilities that release certain toxic chemicals into the air, water, or into a land disposal. Sites that are part of the TRI program must report a variety of activities and information to the EPA on an annual basis. Most of the environmental hazards identified are located within McAllen, with a large cluster close to Granjeno. **Figure 5-2**: HC MPO Environmental Features & Hazards shows the various environmental features and hazards in the HC MPO planning area.

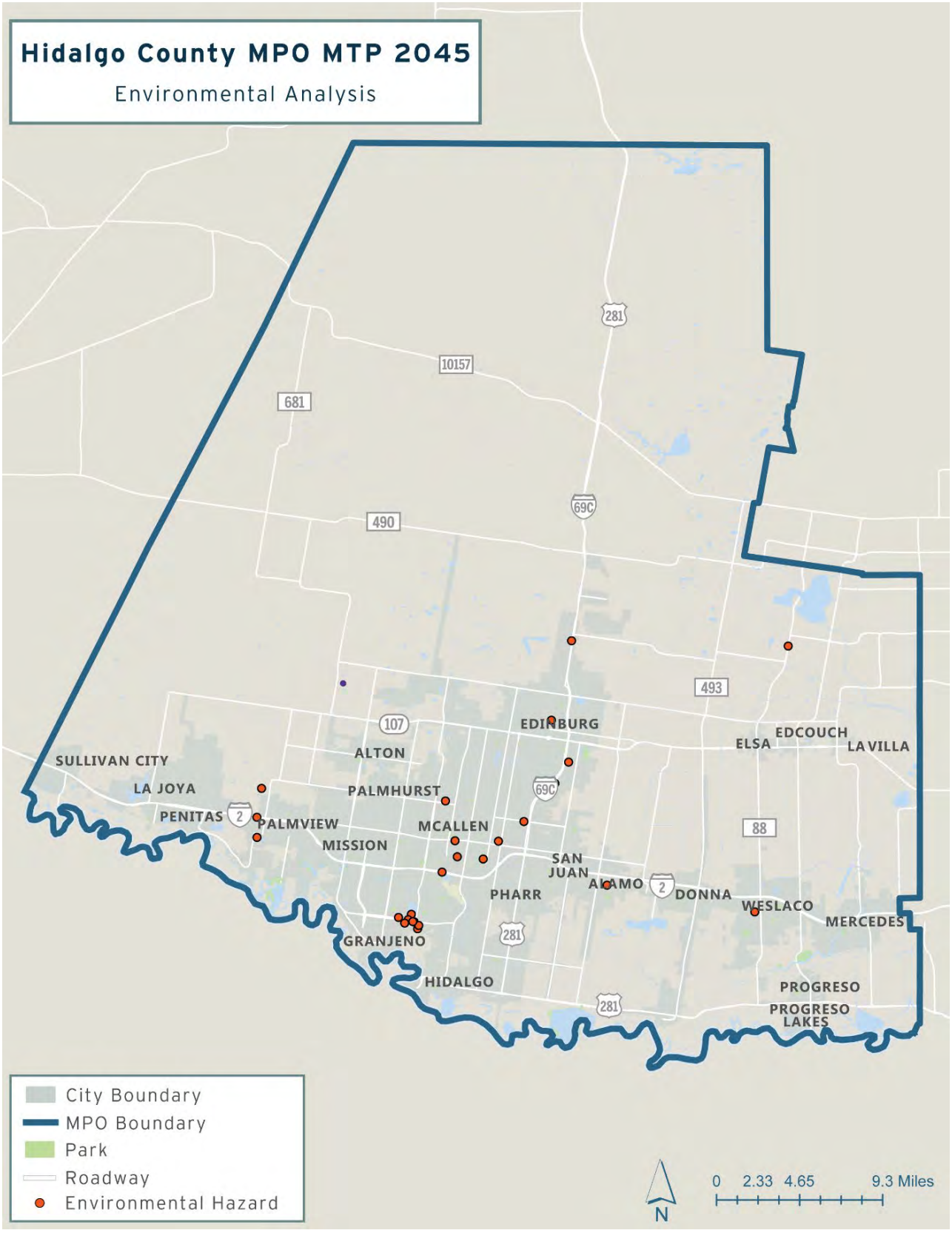
Table 5-2: HC MPO Environmental Features & Hazards contains the aggregate amounts of environmental features and hazards identified in the HC MPO planning area.

Table 5-2: HC MPO Environmental Features & Hazards

Environmental Feature/Hazard	Amount
Creeks, Streams, and Rivers	172 miles
Wetlands	48 square miles
Hazards	25 sites/facilities

[2] US Environmental Protection Agency, "Methods for Evaluating Wetland Condition: #7 Wetlands Classification" (Washington, DC: Office of Water, 2002)
https://www.epa.gov/sites/production/files/documents/wetlands_7classification.pdf

Figure 5-2: HC MPO Environmental Features & Hazards



Existing Cultural, Community, & Civic Assets

The system level analysis also identifies cultural and community assets in the HSB MPO and HC MPO planning areas in order to understand whether the region's communities have adequate access to these assets. Improving access to such assets may have a positive impact on a proposed transportation project's score.

Harlingen-San Benito MPO

Assets with cultural or community significance were identified in the HSB MPO region, including just over nine square miles of parks and public lands, the historic district in downtown Harlingen, and a total of 70 cultural assets such as museums, historical markers, and cemeteries (including historical cemeteries). The identified cultural and community assets are distributed throughout the region. There are several areas of parks/public land in the central part of the HSB MPO planning area, although the highest concentration of larger parks/public land is located in the south near Rangerville. There are several clusters of cultural assets within some of the cities in the region, and there is also a string of assets lining US 281 in the south. **Figure 5-3** shows the various cultural assets identified in the HSB MPO planning area.

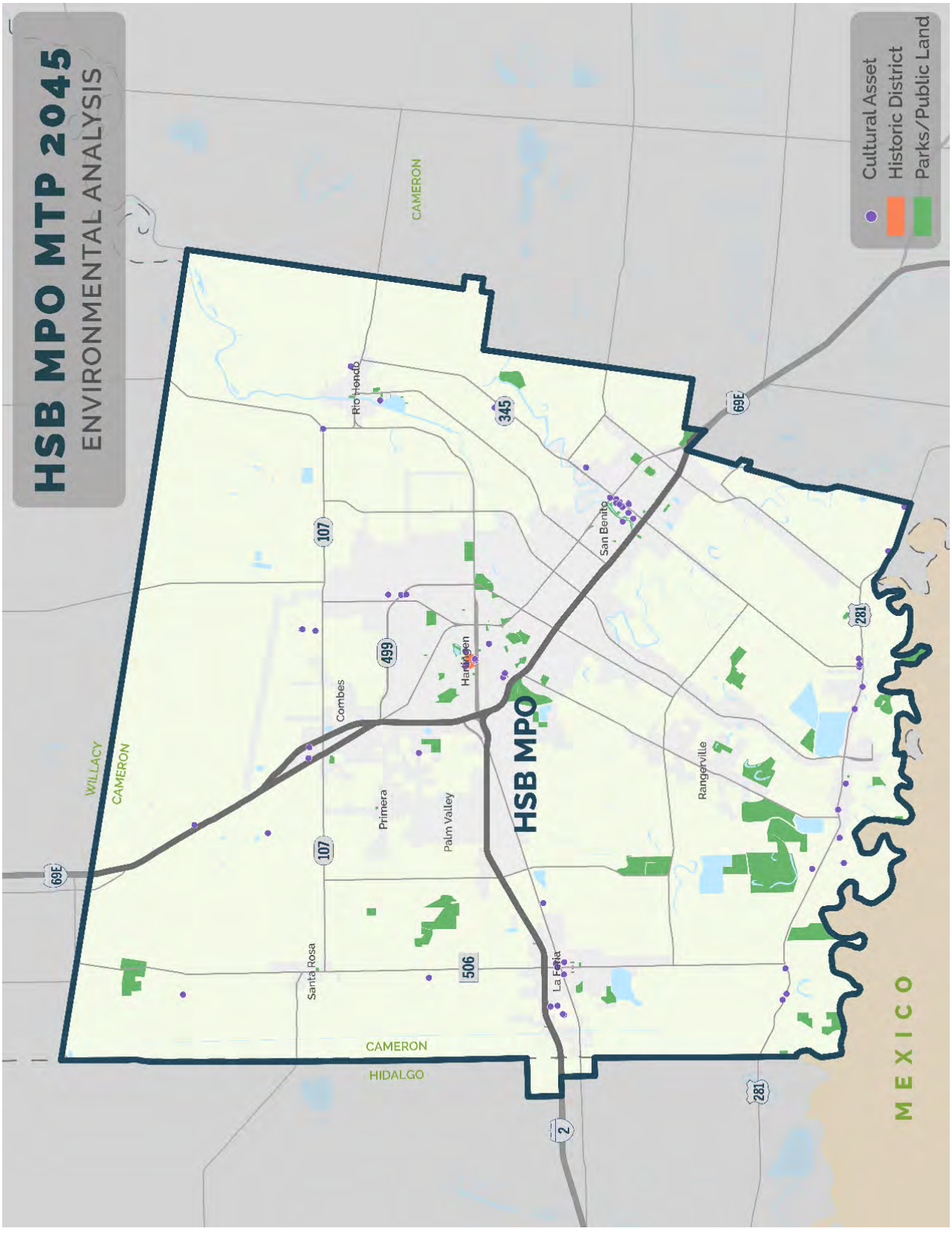
Exhibit 5-2: Public Space in Hugh Ramsey Nature Park

Table 5-3: HSB MPO Cultural & Community Assets contains the aggregate amounts of cultural and community assets identified in the HSB MPO planning area.

Table 5-3: HSB MPO Cultural & Community Assets

Cultural/Community Assets	Amount
Parks/Public Land	9 square miles
Historic District	1 (under a square mile)
Cultural Assets	70 sites/facilities

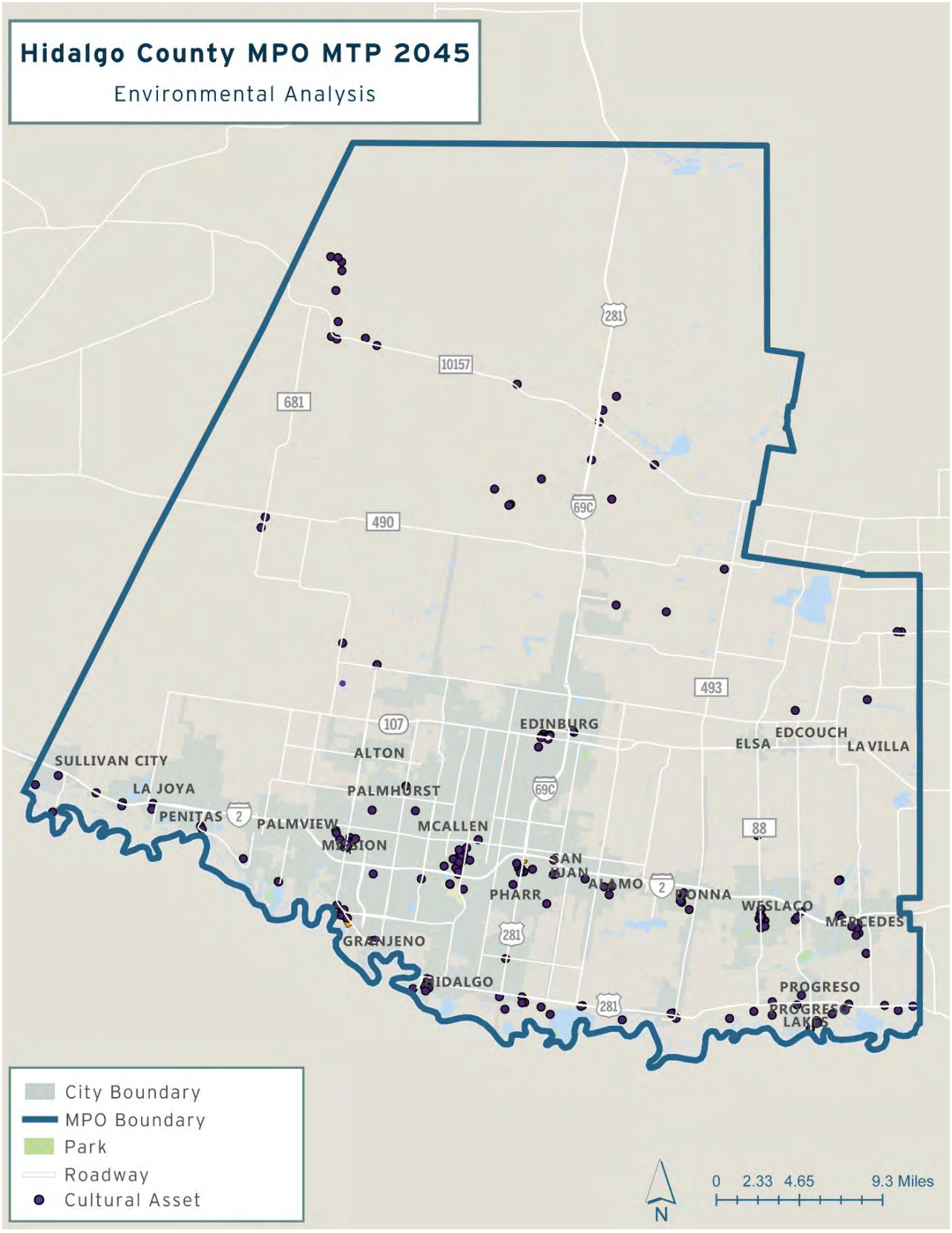
Figure 5-3: HSB MPO Cultural & Community Assets



Hidalgo County MPO

Assets with cultural or community significance were identified in the HC MPO region, including 115 parks and public lands and a total of 213 cultural assets such as museums, historical markers, and cemeteries (including historical cemeteries). The identified cultural and community assets are distributed throughout the region. There are several areas of parks/public land in the southern part of the HC MPO planning area within close proximity to the Rio Grande River. There are several clusters of cultural assets along I-2/US 83 within some of the cities in the region. **Figure 5-4** shows the various cultural assets identified in the HC MPO planning area.

Figure 5-4: HC MPO Cultural & Community Assets



Brownsville MPO

MPO Consultation with Resource Agencies

In consultation with area governmental entities and citizen's groups, the Brownsville MPO has mapped (on various maps that cover the MPO's study area) locations of environmental resources of concern. The MPO will continue these mapping activities, as new information is shared and/or generated by these entities and citizen's groups.

SAFETEA-LU also requires the MPO's MTP to include a generalized discussion of potential mitigation activities and potential mitigation areas. "Mitigation" includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action; In many cases, the Brownsville MPO avoids taking actions, as staff are familiar with sensitive areas, due to previous mapping activities.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments. Where on-site mitigation areas are not reasonable or sufficient, off-site compensatory natural resource mitigation areas may suffice.

The Brownsville MPO, and other agencies such as TxDOT and local municipalities, seek to coordinate MTP development and project development with both governmental entities and citizen's groups.

Potential mitigation activities and areas are further discussed below.

Type of Resource

Communities and neighborhoods; as well as homes and businesses.

Potential mitigation activities for project implementation

Impact avoidance or minimization; use of context sensitive solutions for community improvements, (appropriate functional and/or aesthetic design features).

Potential mitigation areas for project implementation

Mitigation on-site or in the general community. (Mitigation for homes and businesses is in accord with 49 CFR 24).

Key applicable requirements

Uniform Relocation Assistance and Real Property Acquisition Policy Act at 42 USC 4601 et seq.

Type of Resource

Historic and cultural resources.

Potential mitigation activities for project implementation

Avoidance, minimization, landscaping for historic properties, preservation in place or excavation for archeological sites, Memorandum of Agreement with the Texas Historical Commission, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

On-site landscaping of historic properties, on-site mitigation of archeological sites, preservation in-place.

Key applicable requirements

National Historic Preservation Act at 16 USC 470.

Type of Resource

Parks and recreation areas.

Potential mitigation activities for project implementation

Avoidance, minimization, mitigation, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

On-site screening or on-site replacement of facilities, in some cases, replacement of affected property adjacent to the existing one.

Key applicable requirements

Section 4(f) of the U.S. Department of Transportation Act at 49 USC 303.

Type of Resource

Wetland and water resources.

Potential mitigation activities for project implementation

Mitigation sequencing requirements involving avoidance, minimization, compensation (could include preservation, creation, restoration, riparian buffers), design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

Based on on-site/off-site and in-kind/out-of-kind sequencing requirements, private or publicly operated mitigation banks used in accordance with permit conditions.

Key applicable requirements

Clean Water Act at 33 USC 1251-1376; Rivers and Harbors Act at 33 USC 403.

Type of Resource

Agricultural areas.

Potential mitigation activities for project implementation

Avoidance, minimization, replacement property for open space easements to be of equal fair market value and of equivalent usefulness, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

Replacement of agricultural operation via public-private agreements.

Key applicable requirements

Farmland Protection Policy Act of 1981 at 7 USC 4201-4209.

Type of Resource

Endangered and threatened resources.

Potential mitigation activities for project implementation

Avoidance, minimization, time of year restrictions, construction sequencing, design exceptions and variances, species research, species fact sheets, Memorandum of Agreements for species management, environmental compliance monitoring.

Potential mitigation areas for project implementation

Relocation of species to suitable habitat adjacent to project limits.

Key applicable requirements

Endangered Species Act at 16 USC 1531-1544.

MPO Consultation

On a periodic basis, Brownsville MPO staff consult with federal and other environmental and regulatory agencies to seek feedback about proposed MPO plans and policies. For example, MPO meeting packets are sent to U.S. Fish & Wildlife Service staff for each MPO Policy Committee meeting.

In April of 2019, the MPO staff held a meeting with staff at the U.S. Fish & Wildlife Service to review the impact (or potential impact) of the Draft MTP upon their properties. This meeting held at the Santa Ana National Wildlife Area proved to be a very useful exercise in exchanging plans and discussing various issues.

Prior to the development of MTP listings, MPO staff, with assistance from the U.S. Fish & Wildlife Service, identified natural areas that are off-limits or unsuitable for future development. Also, other natural areas where development is most constrained and least desirable were added to the MPO map files. U.S. Fish & Wildlife Service staff members agreed to maintain liaison with Brownsville MPO staff.

Environmental Justice

Exhibit 5-3: Placemaking on the corner of Jackson St. and 2nd St. in Harlingen

Environmental Justice (EJ) as defined by the U.S. Environmental Protection Agency is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental Justice impact analysis is a critical component to transportation planning. Transportation projects have long lasting impacts on communities. Therefore, it is critical to the planning process to establish and ensure fair and equitable transportation policies and funding decisions so that no group of people (by race, ethnicity, or socioeconomic status) should receive unfair treatment or bear a disproportionate share of negative environmental consequences as a result of decisions made by all levels of government.

Environmental Justice Zones

The following section defines Environmental Justice zones in the HC and HSB MPO planning areas. These zones were established to be used in the project scoring process to determine the impacts of planned transportation projects on Environmental Justice communities.

Harlingen-San Benito MPO

Environmental Justice zones in the HSB MPO planning area were identified by determining historically underserved and vulnerable communities. Using block group data from the 2017 American Community Survey, Environmental Justice zones were defined as having at least two of the following criteria:

- High Minority Population – Block groups whose percentage of minorities is greater than the HSB MPO planning area's total percentage of minorities (89%).
- High Population in Poverty – Block groups whose percentage of population in poverty is greater than the HSB MPO planning area's total percentage of population in poverty (30%).
- High Limited English Proficient Population – The top 10% of block groups with the highest percentage of Limited English Proficient population.

Figure 5-5 shows where the Environmental Justice zones are located within the HSB MPO planning area. The EJ zones are concentrated in the eastern, central, and western parts of the region, with high numbers of EJ zones clustered in the Harlingen and San Benito urban cores. Many of the identified EJ zones are also clustered along IH 69E. **Table 5-4** describes the Environmental Justice zones' demographic profile compared to the region at large.

High concern EJ zones were also identified. These block groups were identified as high concern due to meeting all three of the above-mentioned criteria. As shown in **Figure 5-5**, high concern Environmental Justice zones are located in the central and southeast parts of the HSB MPO planning area, with some clustering along IH 69E. These zones will be given heightened attention during the impact analyses which will review the potential footprint of proposed transportation projects to ensure that they do not adversely impact these communities. As such, projects that include public transportation and active transportation facilities will be reviewed to ensure these populations are being provided with adequate access to the transportation system.

Figure 5-5: HSB MPO Environmental Justice Zones

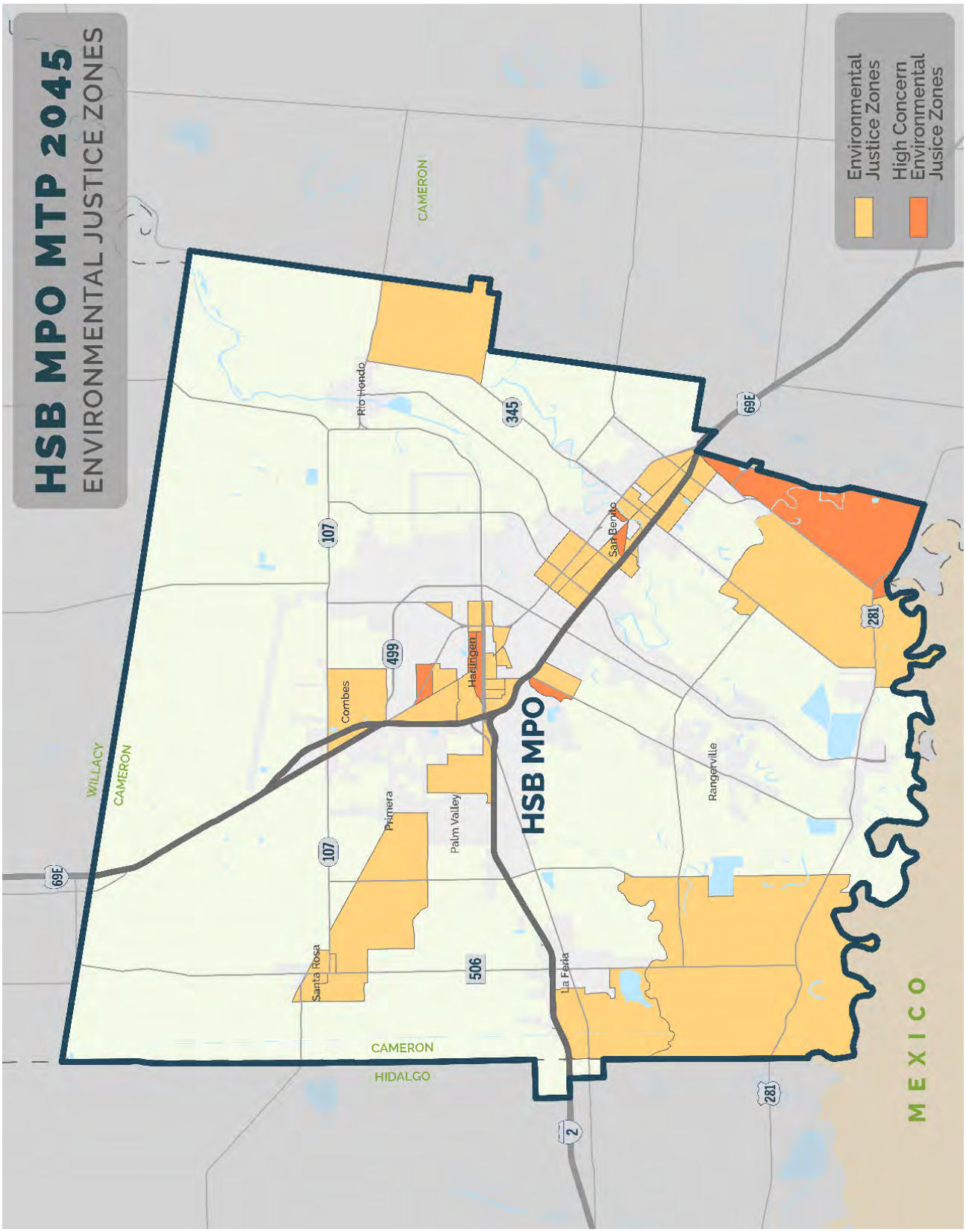


Table 5-4: HSB MPO Aggregate Environmental Justice Zones Compared to MPO Totals

	EJ Zones	MPO
Total Population	63,11 5	172,939
Total Minority Population	61,082	154,077
Percent Minority Population	97%	89%
Total Limited English Proficient Population	10,678	20,159
Percent Limited English Proficient Population	17%	11%
Total Population Living in Poverty	27,847	52,190
Percent Population Living in Poverty	44%	30%

Hidalgo County MPO

Environmental Justice zones in the HC MPO planning area were identified by determining historically underserved and vulnerable communities. Using block group data from the 2017 American Community Survey, Environmental Justice zones were defined as having at least two of the following criteria:

- High Minority Population – Block groups whose percentage of minorities is greater than the HC MPO planning area's total percentage of minorities (12%).
- High Population in Poverty – Block groups whose percentage of population in poverty is greater than the HC MPO planning area's total percentage of population in poverty (35%).
- High Limited English Proficient Population – The top 10% of block groups with the highest percentage of Limited English Proficient population.

Figure 5-6 shows where the Environmental Justice zones are located within the HC MPO planning area. The EJ zones are concentrated in the eastern, central, and western parts of the region, with high numbers of EJ zones clustered in the McAllen urban core. Many of the identified EJ zones are also clustered along I-2/US 83. **Table 5-5** describes the Environmental Justice zones' demographic profile compared to the region at large.

High concern EJ zones were also identified. These block groups were identified as high concern due to meeting all three of the above-mentioned criteria. As shown in **Figure 5-6**, high concern Environmental Justice zones are located in the central and southern parts of the HC MPO planning area, with some clustering along I-2/US 83. These zones will be given heightened attention during the impact analyses which will review the potential footprint of proposed transportation projects to ensure that they do not adversely impact these communities. As such, projects that include public transportation and active transportation facilities will be reviewed to ensure these populations are being provided with adequate access to the transportation system.

Figure 5-6: HC MPO Environmental Justice Zones

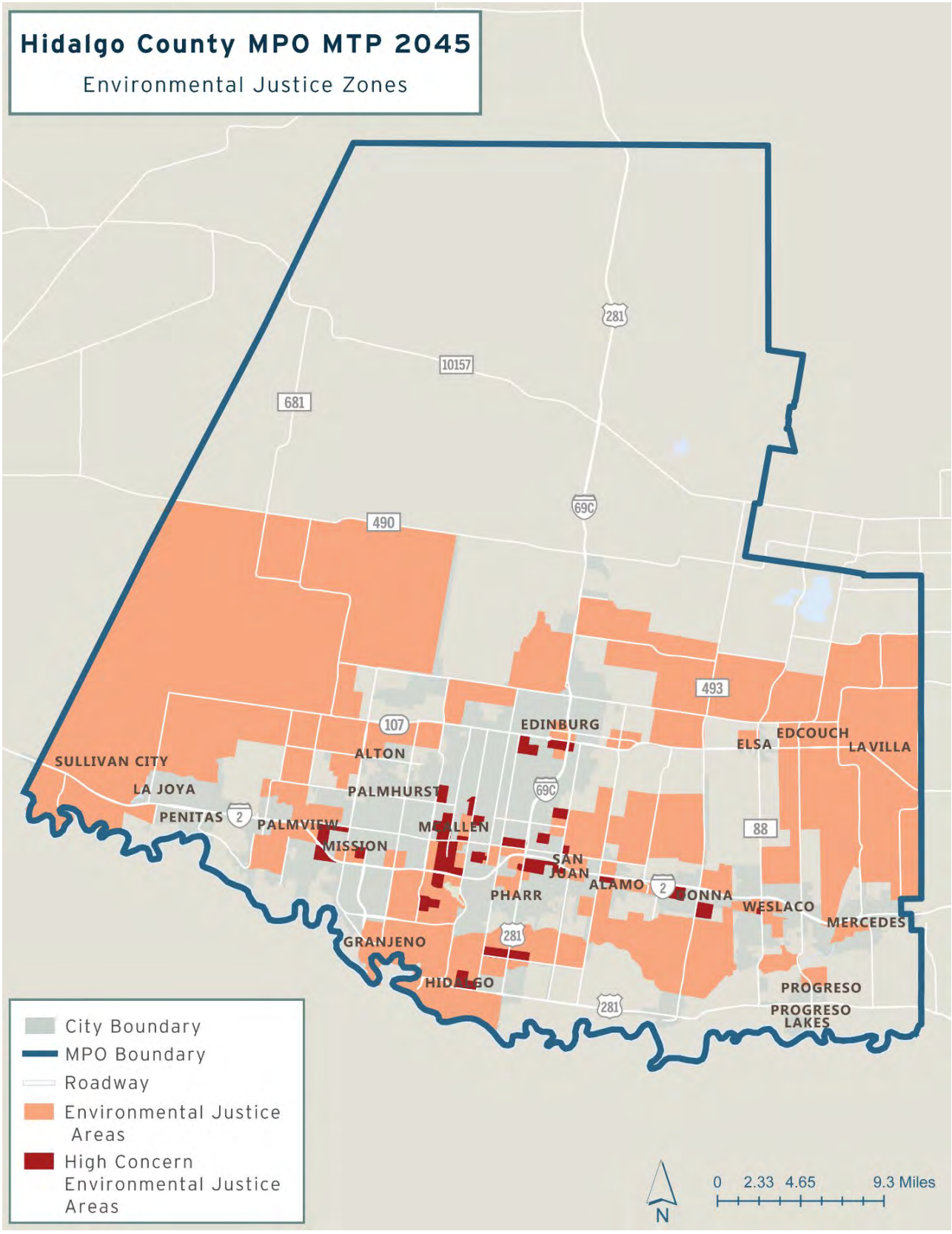


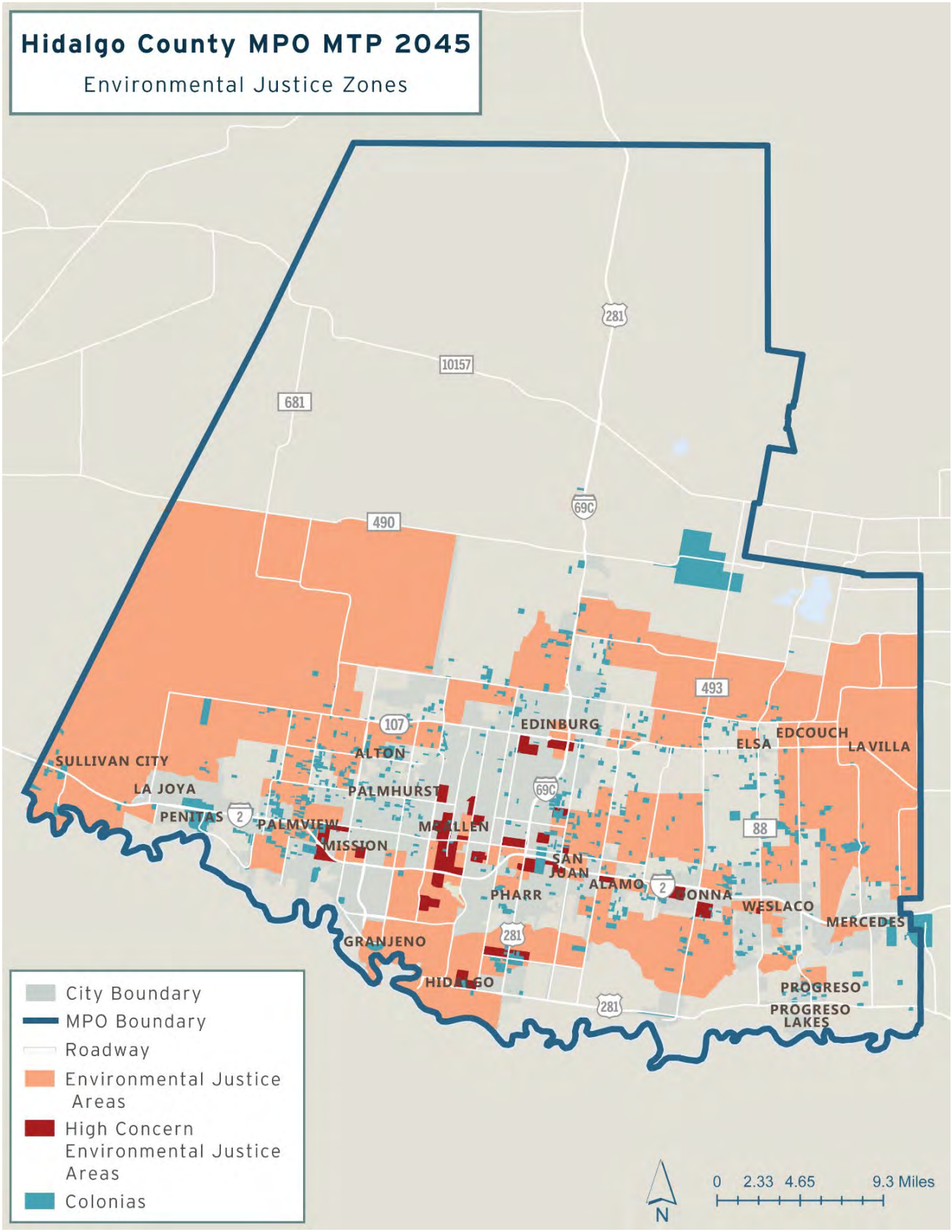
Table 5-5: HC MPO Aggregate Environmental Justice Zones Compared to MPO

	EJ Zones	MPO
Total Population	181,334	759,143
Total Minority Population	34,202	93,328
Percent Minority Population	19%	12%
Total Limited English Proficient Population	50,327	154,158
Percent Limited English Proficient Population	28%	20%
Total Population Living in Poverty	90,500	263,891
Percent Population Living in Poverty	50%	35%

Project Impact on Colonias

Colonia is a Spanish term for neighborhood or community. The office of the Governor defined colonia as "…unincorporated border communities that often lack adequate water and sewer systems, paved roads, and safe, sanitary housing." Colonias flourish in counties along the 29 Texas-Mexico Border Counties which includes Hidalgo County. Overlaying areas identified as colonias with areas identified as environmental justice zones (**Figure 5-7**) creates a composite of areas that should represent a priority when future transportation projects are being taken into consideration. Many of these areas were not identified sensitive communities; this addition makes this analysis fully comprehensive to where the MPO should set priorities when considered disadvantaged, underrepresented communities.

Figure 5-7: HC MPO Environmental Justice Zones - Colonias



Housing & Transportation Costs

Housing and transportation costs are key indicators for a region's affordability. While housing is generally the singular criteria for looking at regional affordability, a household's transportation expenditure tends to be the second-largest expense. Together these two key expenditures as a portion of household income provide a better understanding of the affordability within the HSB MPO and HC MPO planning areas. Using the Housing + Transportation Affordability Index[3] data, **Figure 5-8** and **Figure 5-9** identify transportation and housing costs as a percentage of household income throughout the HSB and HC MPO regions.

According to the Index, housing and transportation costs reaching 45% of household income is considered unaffordable. Transportation costs consider well-researched factors[4] that drive household transportation costs, including the following:

Neighborhood Characteristics such as block density, regional household intensity, block density, employment access, transit connectivity.

Household Characteristics such as commuters per household, household size, auto ownership, auto usage, and public transit usage.

Planned transportation projects should consider how to alleviate transportation costs in these areas by linking multimodal projects to areas with high concentrations of employment and key destinations. Planned transportation projects should consider improving mobility choice in the areas with high housing and transportation costs by assessing the potential for transit and active transportation facilities. Such improvements may help reduce the cost of transportation in these areas.

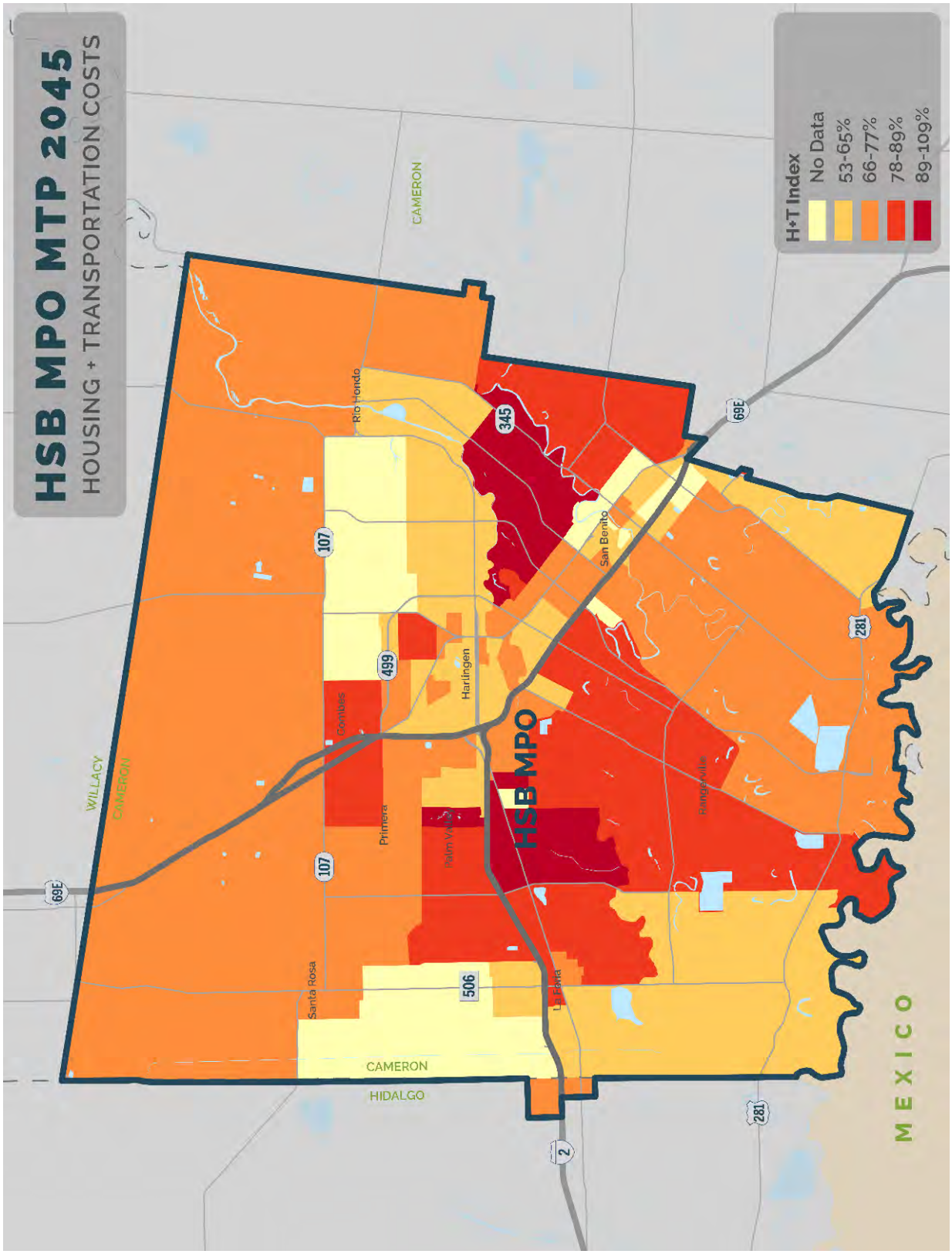
Harlingen-San Benito MPO

Using an affordability threshold of 45% of household income, all HSB MPO planning area block groups that have H+T data are considered to have an unaffordable level of household and transportation costs. The lowest H+T cost as a portion of household income is 53%, which is found in four of the planning area's block groups. Though the H+T index shows that all block groups (apart from those with no data) in the region experience unaffordable levels of housing and transportation costs, the block groups with the highest H+T costs are located toward the center, south, and east parts of the region.

[3] The Center for Neighborhood Technology's Housing and Transportation (H+T) Affordability Index - https://htaindex.cnt.org/

[4] The Center for Neighborhood Technology's Housing and Transportation (H+T) Affordability Index – H+T Index Methods - https://htaindex.cnt.org/about/HTMethods_2016.pdf

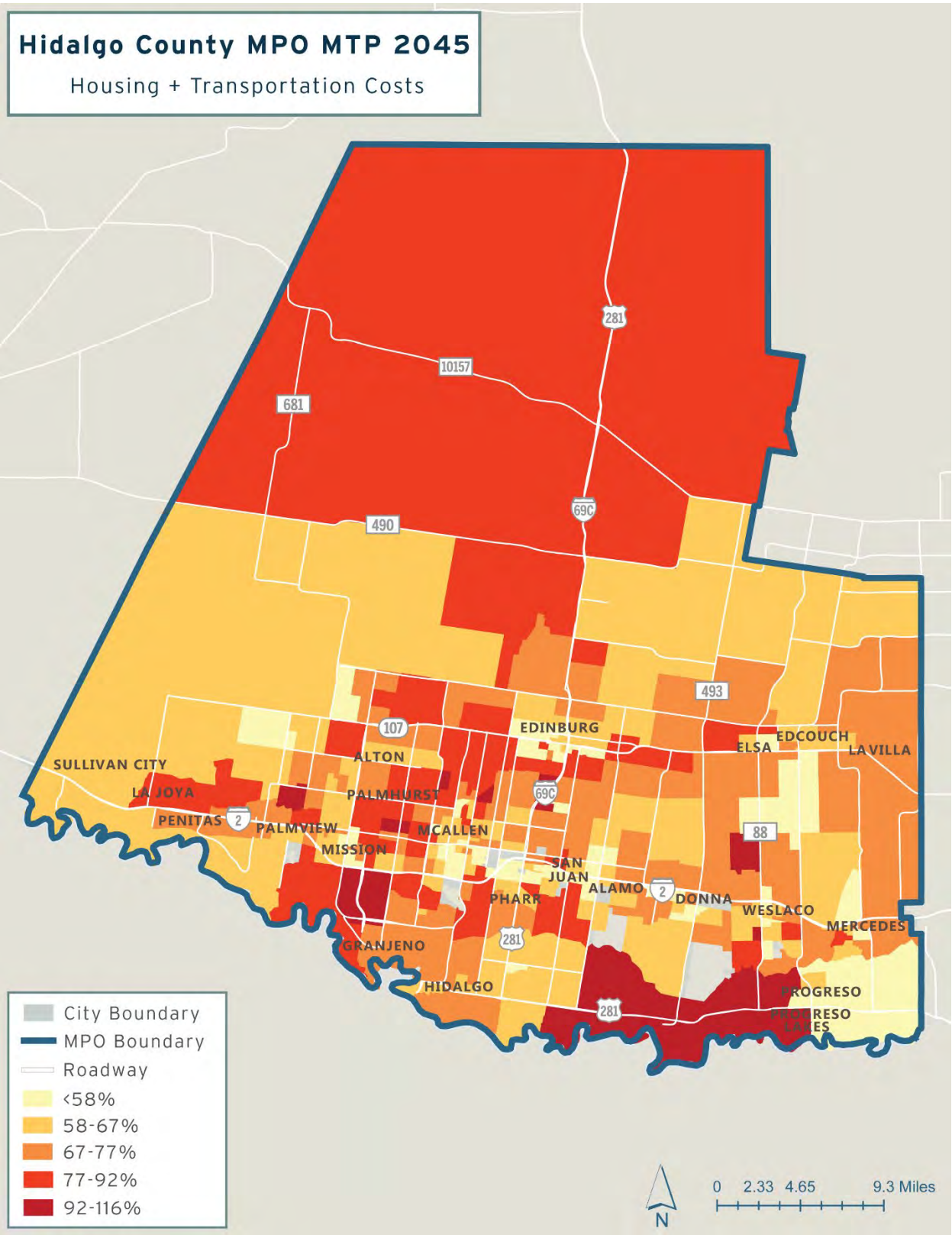
Figure 5-8: HSB Housing & Transportation Costs as a Percent of Household Income



Hidalgo County MPO

Using an affordability threshold of 45% of household income, all HC MPO planning area block groups that have H+T data are considered to have an unaffordable level of household and transportation costs. The lowest H+T cost as a portion of household income is 43%, which is found in only one of the planning area's block groups. Additionally, only six of the block groups in the region fall within the affordability index of 45%. Though the H+T index shows that the majority of the block groups (excluding those with no data) in the region experience unaffordable levels of housing and transportation costs, the block groups with the highest H+T costs are located toward the center, south, and north parts of the region.

Figure 5-9: HC Housing & Transportation Costs as a Percent of Household Income



Brownsville MPO

Inequitable distribution of transportation benefits and burdens is to be avoided. Periodically, MPO staff and MPO Committee members assess how the MPO's programs and activities affect minority and low-income populations within the Brownsville urbanized area. The MPO's need to consider Environmental Justice issues is embodied in many laws, regulations and policies, including:

- Title VI of the Civil Rights Act of 1964;
- President's Executive Order 12898 on Environmental Justice (EO12898);
- National Environmental Policy Act of 1969 (NEPA);
- Section 109(h) of Title 23;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA), as amended;
- The Transportation Equity Act for the 21st Century (TEA-21);
- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); and
- Other U.S. Department of Transportation statutes and regulations.

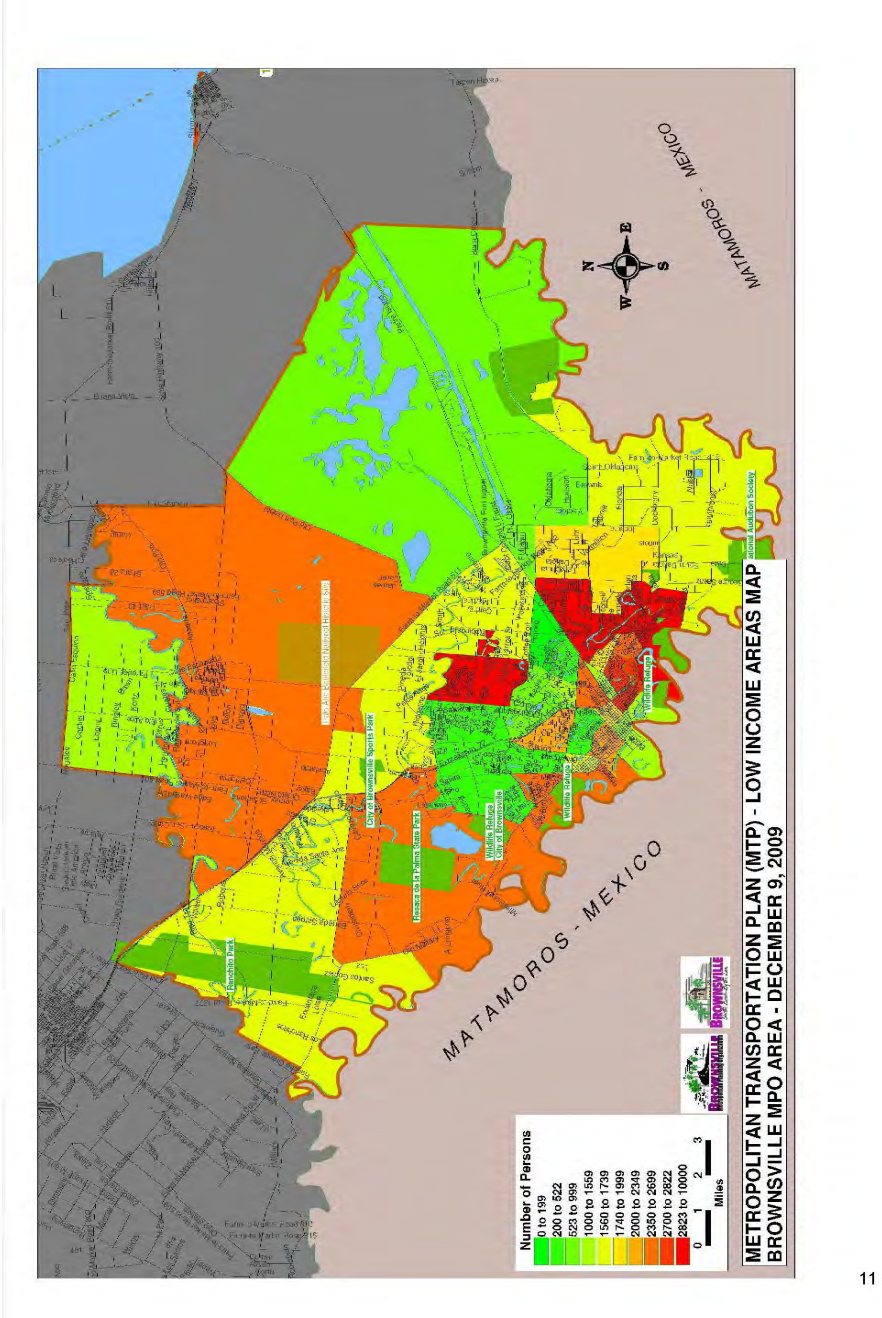


Exhibit 5-4: Brownsville MPO low income areas

Mitigation Analysis

Transportation projects proposed for inclusion in each MTP have the potential to impact important environmental areas, culturally significant sites, and environmental justice communities within each region. This analysis incorporates the environmental and equity analyses from above to identify potential impacts and mitigation measures for planned transportation projects in each region.

Environmental Mitigation Analysis

The data and information used to conduct the analysis included flood plain maps from the Federal Emergency Management Agency (FEMA), wetlands maps from the U.S. Fish and Wildlife Service, historic sites from the National Register of Historic Places, and state and federal wildlife protection resources. These inventoried resources are shown in **Figure 5-10** and **Figure 5-11**.

In order to determine how projects identified in this plan might affect these resources, an FHWA-endorsed GIS methodology originally developed by the Southeast Michigan Council of Governments (SEMCOG) was employed. The analysis assembles projects into types, and then buffer zones are generated and mapped for each type of project. For the sake of this analysis, only capacity projects were considered to have potential impacts on the mapped data.

Buffer sizes were determined based on the type of environmental resource being examined, meaning smaller "areas of influence" were computed depending on the environmental resource. Some resources, such as recreation areas and historic sites, may only be impacted by projects in close physical proximity, while others (such as water resources) may still be impacted by a project some distance away.

Table 5-6 summarizes the buffer sizes assigned to each resource being examined. Once buffer sizes were determined, buffers and environmental resources were mapped to identify areas of overlap, as these are areas where an impact is possible.

Table 5-6: RGV Environmental Resources Buffer Sizes

Environmental Resource	Buffer Extent
Floodplains	0.25 miles
Wetlands and Other Waters	0.25 miles
Cemeteries	250 feet
Historic Sites	250 feet
Parks	250 feet

Harlingen-San Benito MPO

Figure 5-10 displays the buffer zones and environmental and cultural resources in the HSB MPO region.

Table 5-7 presents the number of proposed capacity projects for each project type included in the 2045 MTP.

Table 5-7: HSB MPO Project Types

Project Type	Total Number of Proposed Projects
New/Expanded Roadway	31
Active Transportation	8

Figure 5-10: HSB MPO Environmental Overlay Analysis

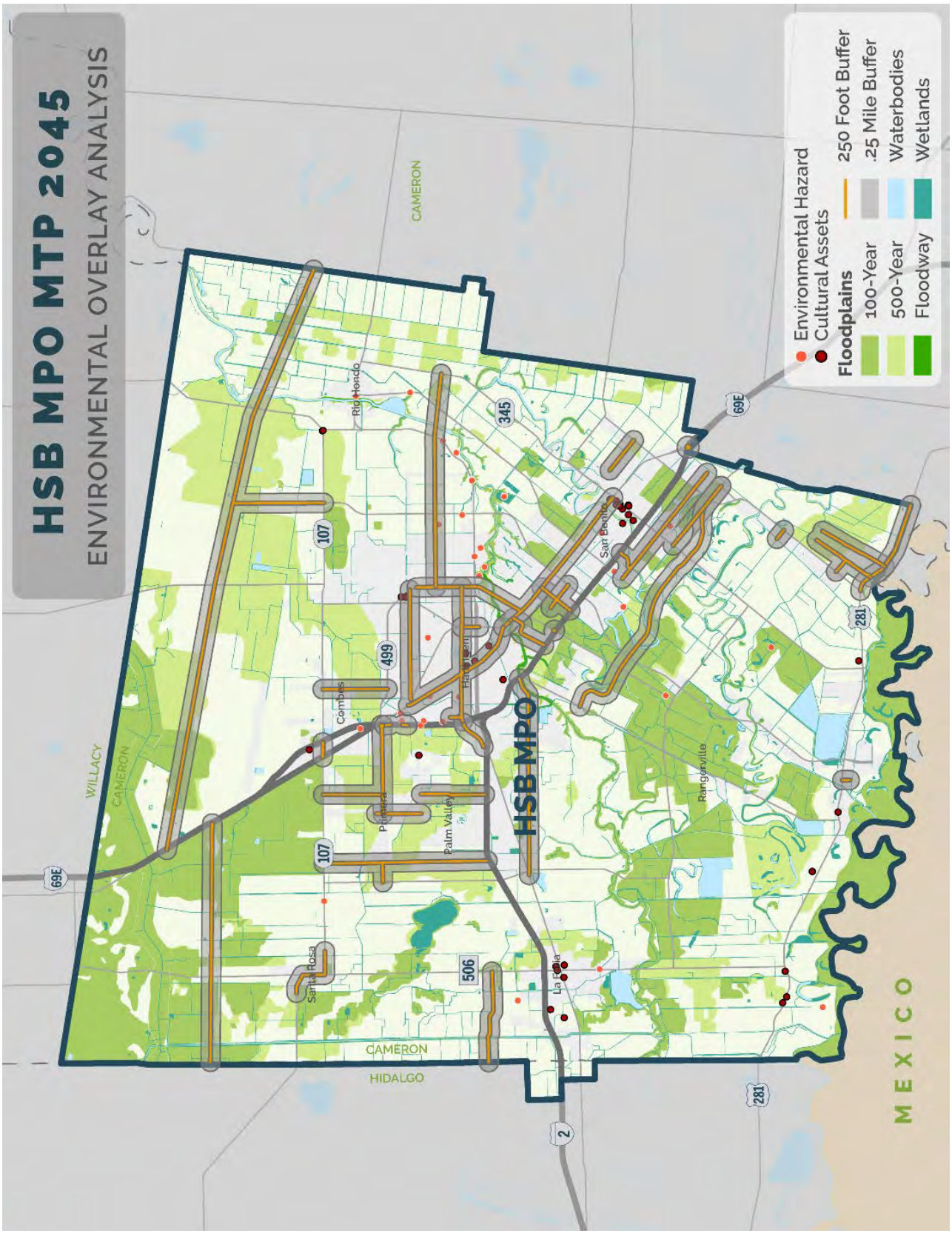


Table 5-8 and Table 5-9 quantify the number of possible impacts to the inventoried resources for capacity projects. The list of potential impacts presents some concerns for cultural resources including Spiderweb Railroad and 29 parks in the region. Freshwater emergent wetlands, riverines, and high-risk floodplains have the highest risk for the potential impact on water resources due to the planned projects. The list of proposed projects presents few concerns regarding historic sites, museums, and cemeteries.

Table 5-8: HSB MPO Number of Projects Potentially Impacting Inventoried Water Resources

Water Resource	Number of Resources Impacted by Roadway Projects
Freshwater Emergent Wetland	60
Freshwater Forested/Shrub Wetland	7
Freshwater Pond	38
Lake	2
Riverine	106
Floodplain – High Risk	130

Table 5-9: HSB MPO Number of Projects Potentially Impacting Inventoried Cultural Resources

Cultural Resource	Number of Resources Impacted by Roadway Projects
Cemeteries	0
Historic Sites	1
Museums	0
Parks	29

Hidalgo County MPO

Figure 5-11 displays the buffer zones and environmental and cultural resources in the HC MPO region. Table 5-10 presents the number of proposed capacity projects for each project type included in the 2045 MTP.

Table 5-10: HC MPO Project Types

Project Type	Total Number of Proposed Projects
New/Expanded Roadway	102
Active Transportation	14

Figure 5-11: HC MPO Environmental Overlay Analysis

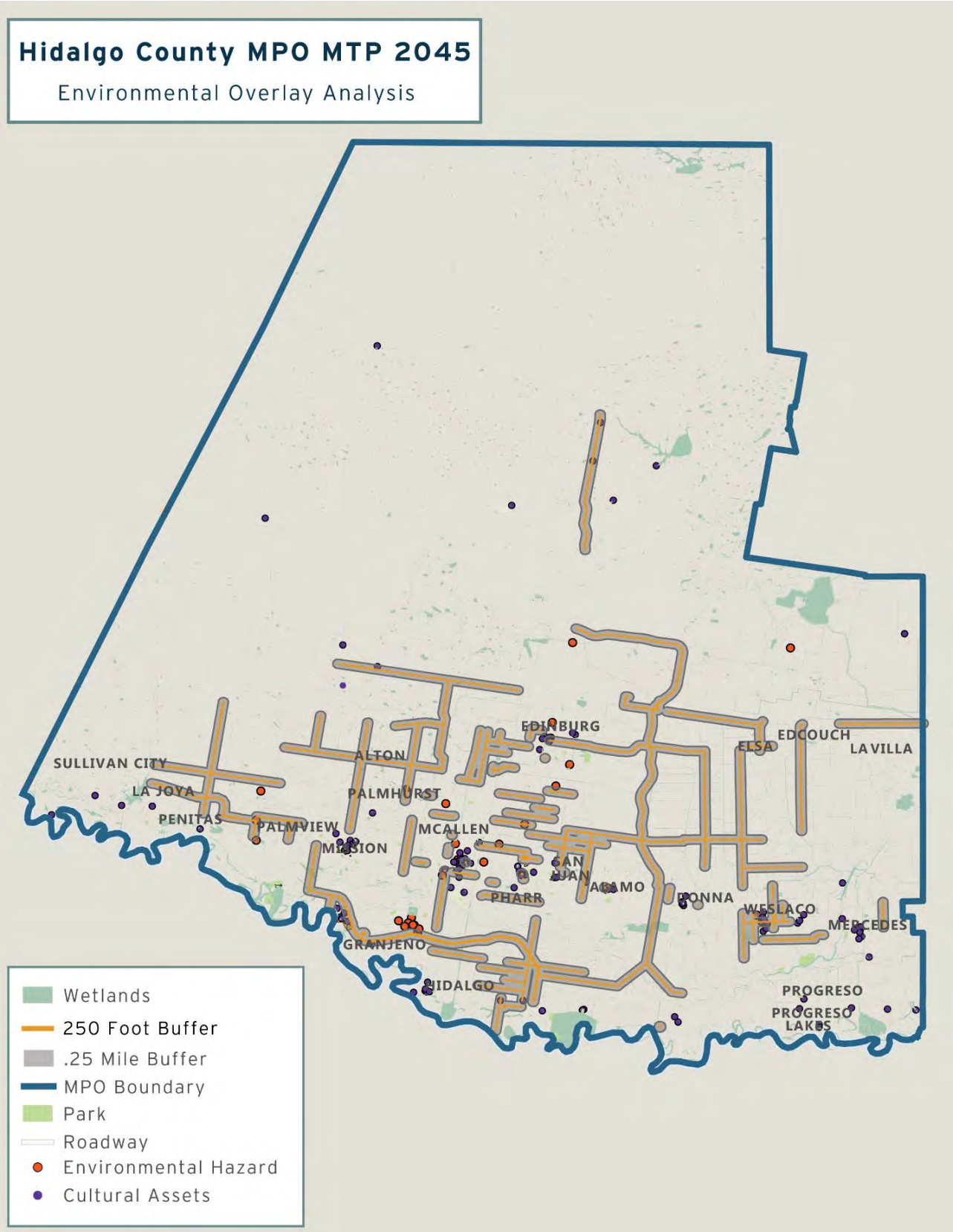


Table 5-11 and Table 5-12 quantify the number of possible impacts to the inventoried resources for capacity projects. The list of potential impacts presents some concerns for cultural resources, which includes six historic sites and 18 parks in the region. Freshwater ponds and riverines have the highest risk for the potential impact on water resources due to the planned projects. The list of proposed projects presents few concerns regarding cemeteries and museums.

Table 5-11: HC MPO Number of Projects Potentially Impacting Inventoried Water Resources

Water Resource	Number of Resources Impacted by Roadway Projects
Freshwater Emergent Wetland	33
Freshwater Forested/Shrub Wetland	29
Freshwater Pond	104
Lake	4
Riverine	294
Floodplain – High Risk	-

Table 5-12: HC MPO Number of Projects Potentially Impacting Inventoried Cultural Resources

Cultural Resource	Number of Resources Impacted by Roadway Projects
Cemeteries	0
Historic Sites	6
Museums	0
Parks	18

Potential Mitigation Activities

This analysis of potential environmental impacts is intended to function as a resource for agencies and elected officials that will ultimately implement any of these transportation projects. Detailed, project-level analysis is required in order to definitively identify adverse impacts from specific projects. The buffer analysis is a useful method for narrowing the focus of such studies, but it should be noted that proximity or overlap of a project buffer and environmental resource alone does not mean an impact is present nor does the lack of an overlap indicate that an impact won't occur.

Federal regulations require the metropolitan planning process to include "a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan." FHWA recommends an ordered approach to mitigation known as "sequencing" that involves understanding the affected environment and assessing transportation effects through project development. This ordered approach involves:

- Avoiding the impact altogether;

- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
- Compensating for the impact by replacing or providing substitute resources.

Recognizing that the type and the level of mitigation activities will vary depending on the scope of the project, **Table 5-13** provides a toolbox of mitigation measures and general areas where these activities can be implemented. These measures are intended to be regional in scope and may not necessarily address potential project-level impacts. As a proposed project progresses through the project development process, mitigation should be an integral part of the alternatives development and the analysis process in order to maximize effectiveness.

Table 5-13: RGVMPO Potential Mitigation Activities

Resource	Mitigation Measures
Wetlands or water resources	Avoidance, minimization, compensation: • Preservation • Creation • Restoration • In-lieu fees • Riparian buffers • Design exceptions and variances
	Environmental compliance monitoring
Forested and other natural resources	Avoidance, minimization
	Replacement property for open space easements to be of equal fair market value and of equivalent usefulness
	Design exceptions and variances
	Environmental compliance monitoring
Agricultural areas	Avoidance, minimization
	Design exceptions and variances
	Environmental compliance monitoring
Endangered and threatened species	Avoidance, minimization
	Time-of-year restrictions
	Construction sequencing
	Design exceptions and variances
	Species research/fact sheets
	Memoranda of Agreements for species-specific management
	Environmental compliance monitoring
Ambient air quality	Transportation control measures
	Transportation emission reduction measures
Cultural Resources	Avoidance, minimization
	Landscaping for historic properties
	Preservation in place or excavation for archeological sites
	Design exceptions and variances
	Environmental compliance monitoring
Parks and recreation areas	Avoidance, minimization, mitigation
	Design exceptions and variances
	Environmental compliance monitoring

Environmental Justice Mitigation Analysis

A critical step in the metropolitan planning process is to identify the potential impacts of planned projects on environmental justice communities in the region.

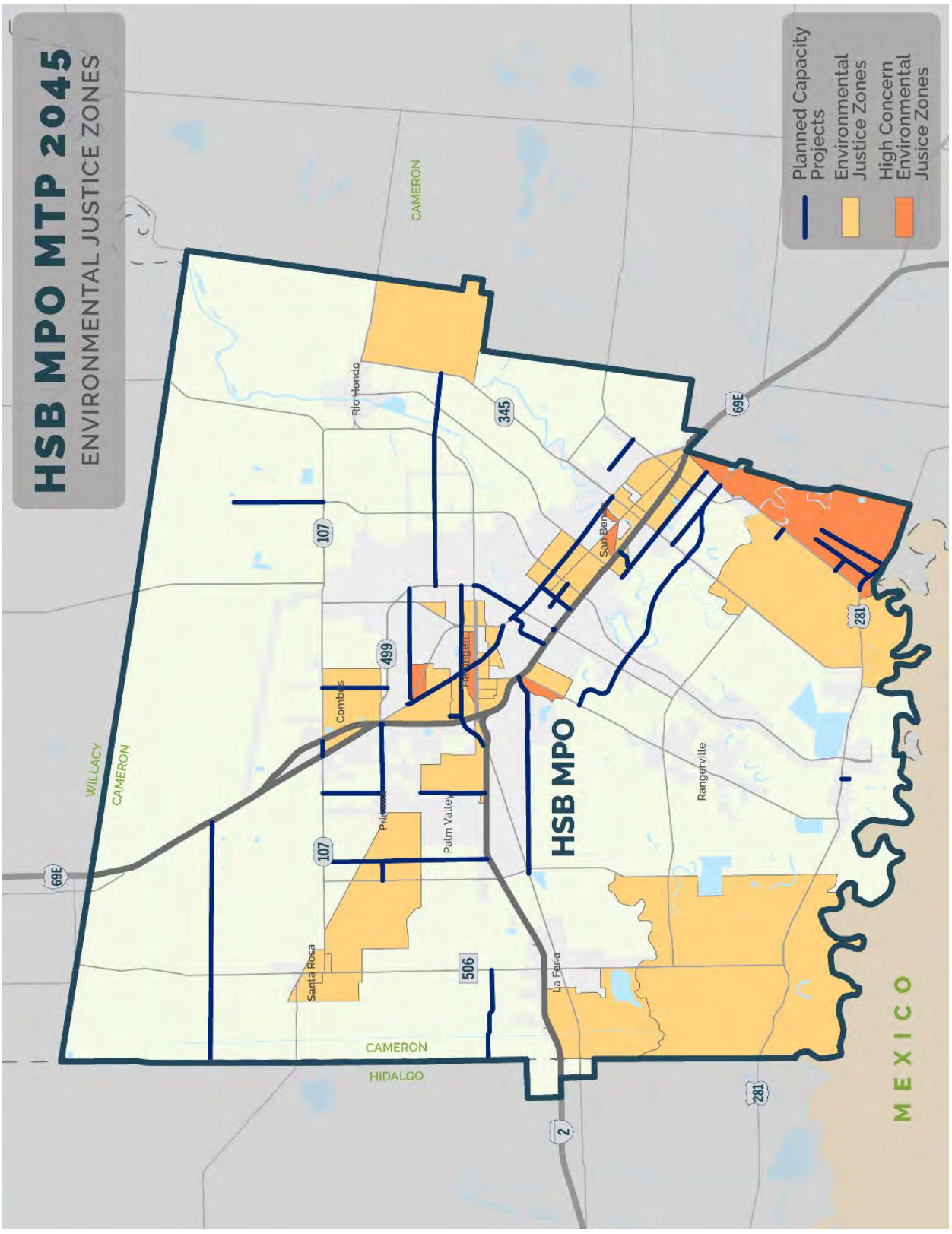
Harlingen-San Benito MPO

Figure 5-12 displays the earlier identified environmental justice zones and the planned capacity projects. As stated earlier, project-scale studies should be conducted in the planning and environmental phases of each project to determine actual impacts on these communities. **Table 5-14** summarizes the number of capacity projects that may impact identified environmental justice areas. Of the 38 block groups identified as environmental justice zones, 22 are potentially impacted by planned projects. Of the eight block groups identified as areas of high concern, five of these are potentially impacted by planned projects. 49% of the roadway projects (35 out of 51) may potentially impact Environmental Justice Zones.

Table 5-14: HSB MPO Potentially Impacted Environmental Justice Zones

	Total Block Groups	Block Groups Impacted	% of Block Groups Impacted	Number of New/Expanded Roadways
Environmental Justice Zones	38	22	58%	24
High Concern Environmental Justice Zones	8	5	63%	11

Figure 5-12: HSB MPO Environmental Justice Zones & Planned Capacity Projects



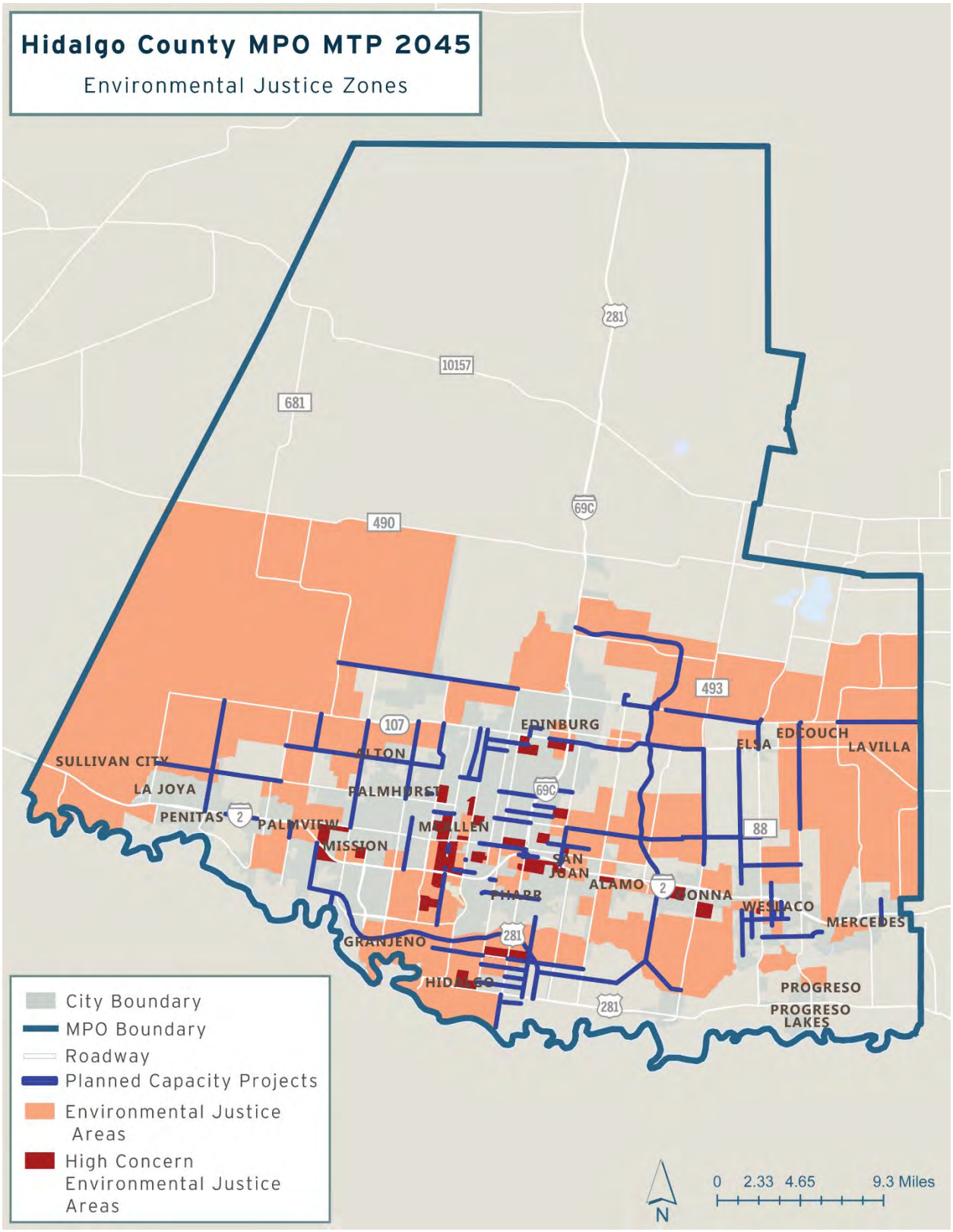
Hidalgo County MPO

Figure 5-13 displays the earlier identified environmental justice zones and the planned capacity projects. As stated earlier, project-scale studies should be conducted in the planning and environmental phases of each project to determine actual impacts on these communities. **Table 5-15** summarizes the number of capacity projects that may impact identified environmental justice areas. Of the 141 block groups identified as environmental justice zones, 67 are potentially impacted by planned projects. Of the 49 block groups identified as areas of high concern, 19 of these are potentially impacted by planned projects. 67% of the roadway projects (68 out of 102) may potentially impact Environmental Justice Zones.

Table 5-15: HC MPO Potentially Impacted Environmental Justice Zones

	Total Block Groups	Block Groups Impacted	% of Block Groups Impacted	Number of New/Expanded Roadways
Environmental Justice Zones	141	67	48%	68
High Concern Environmental Justice Zones	49	19	39%	19

Figure 5-13: HC MPO Environmental Justice Zones & Planned Capacity Projects



Brownsville MPO

NEPA & Potential MPO Mitigation Activities

Section 6001 of the 2005 federal transportation bill, SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), provides support for early collaboration and integrated planning. Also, it requires Metropolitan Planning Organizations (MPOs) to discuss potential mitigation activities, as well as potential sites, for foreseeable environmental effects resulting from improvement projects listed in the MPO's MTP.

Guidance concerning assessment of environmental effects is outlined in NEPA of 1970, as amended. NEPA requires that all actions sponsored, funded, permitted or approved by federal agencies undergo studies to ensure that environmental considerations are given due weight in project decision-making. NEPA requires the assessment and disclosure of reasonably foreseeable effects of transportation projects as part of the environmental impact assessment process.

To assist the Brownsville MPO, TxDOT staff at the Pharr District undertake work to identify and estimate many of the effects of proposed transportation projects. As a result, MPO staff aid this process by supplying data to the Pharr District. NEPA requirements serve to guard the environment through discussion and disclosure of environmental effects associated with MPO-sponsored improvements.

There are three types or categories of effect that must be considered during NEPA: direct, indirect and cumulative (40 C.F.R. §1508.25). Under NEPA, "effects" are synonymous with "impacts" and include ecological impacts (such as the effects on natural resources and on the functioning of affected ecosystems), aesthetic, historic, cultural, economic, social or health impacts, whether direct, indirect or cumulative.

Direct, indirect and cumulative impacts can often be avoided or minimized through consultation and a careful analysis of transportation alternatives. SAFETEA-LU requires MPOs to consult and coordinate their MTP development activities with State and local agencies regarding land use management, natural resources, environmental protection, conservation, historic preservation and other issues. This coordination includes, as appropriate, the comparison of available plans, maps and inventories of natural or historic resources.

Environmental Areas of Concern & Use of the MPO Thoroughfare Plan Map

Instead of using a separate map to indicate environmental and historical/cultural areas to avoid, the Brownsville MPO has opted to place those areas on the MPO's Thoroughfare Plan map.

The green areas on the MPO's Thoroughfare Plan Map request federal properties that are to be avoided. Both U.S.F.& W.S. parcels and properties (holdings) of the National Park Service (NPS) are indicated on this MPO map. Also, the Resaca de la Palma State Park is depicted.

Communication with the U.S. Fish & Wildlife Service is so critical to the MPO's mission, since this agency is periodically purchasing new parcels. Therefore ,MPO staff meet with USFWS staff to review these issues (in person).A recent meeting on these matters took place in April 2019.

Thus, when MPO staff sit down with other parties to discuss proposed additions and / amendments of the MPO's Roadway network, as outlined on the MPO Thoroughfare Plan, the map reveals areas of concern. These discussions are made easier by the illustration of these areas. We can more easily avoid the areas in question; (e.g. state or federal properties), by virtue of use of the Thoroughfare Plan Map.

Please see two maps below, with environmental areas overlaid on the MPO's Thoroughfare Plan Map:

Figure 5-14: City of Brownsville Parks Maps

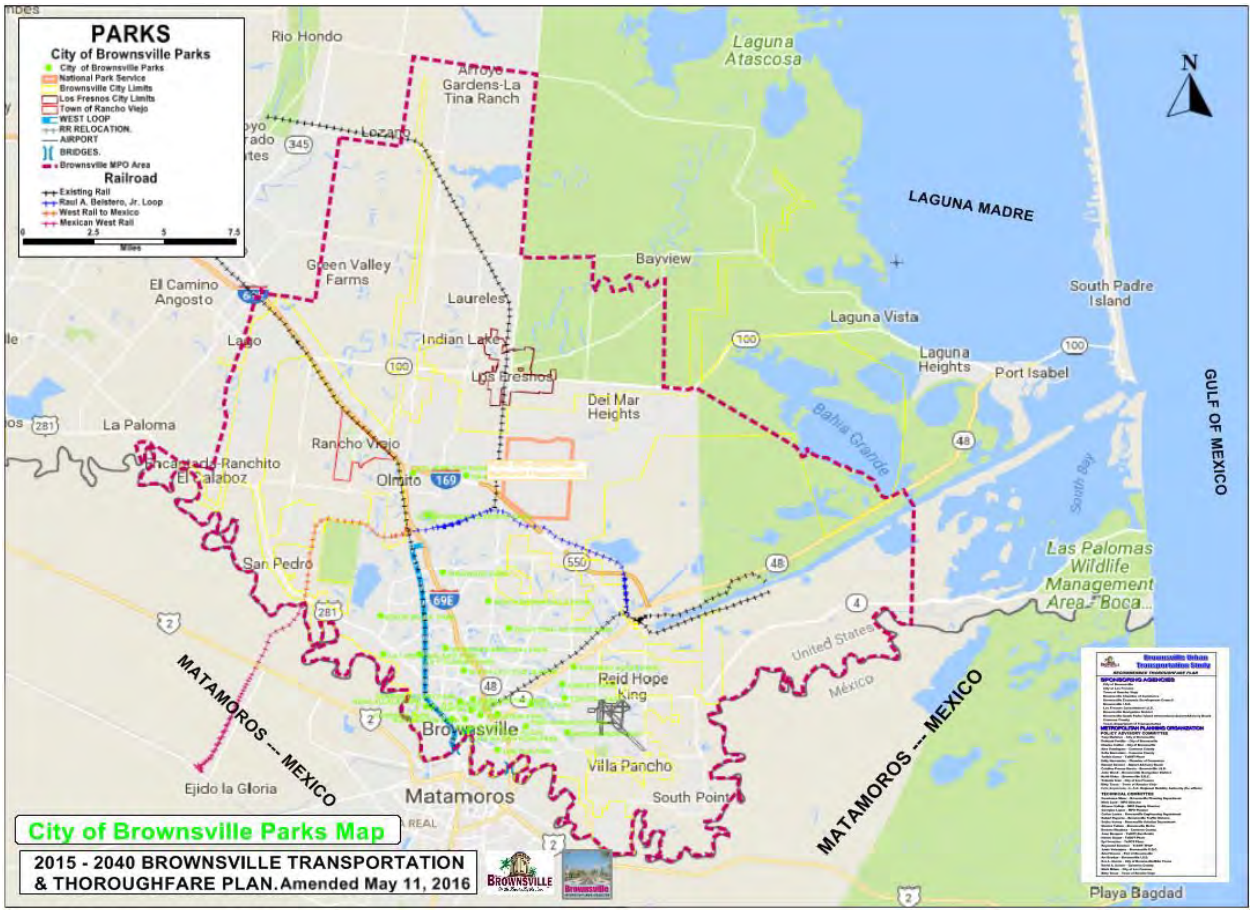
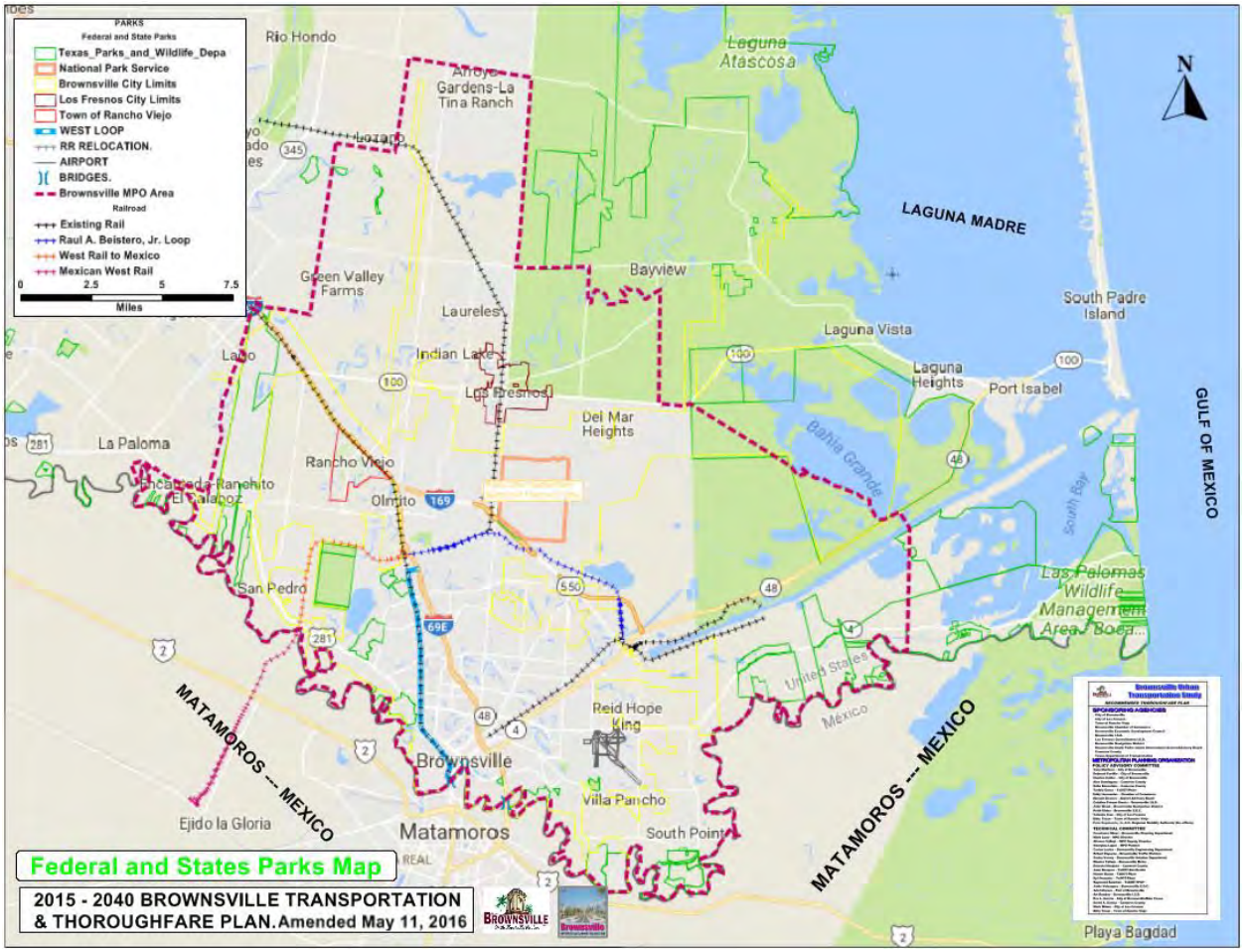


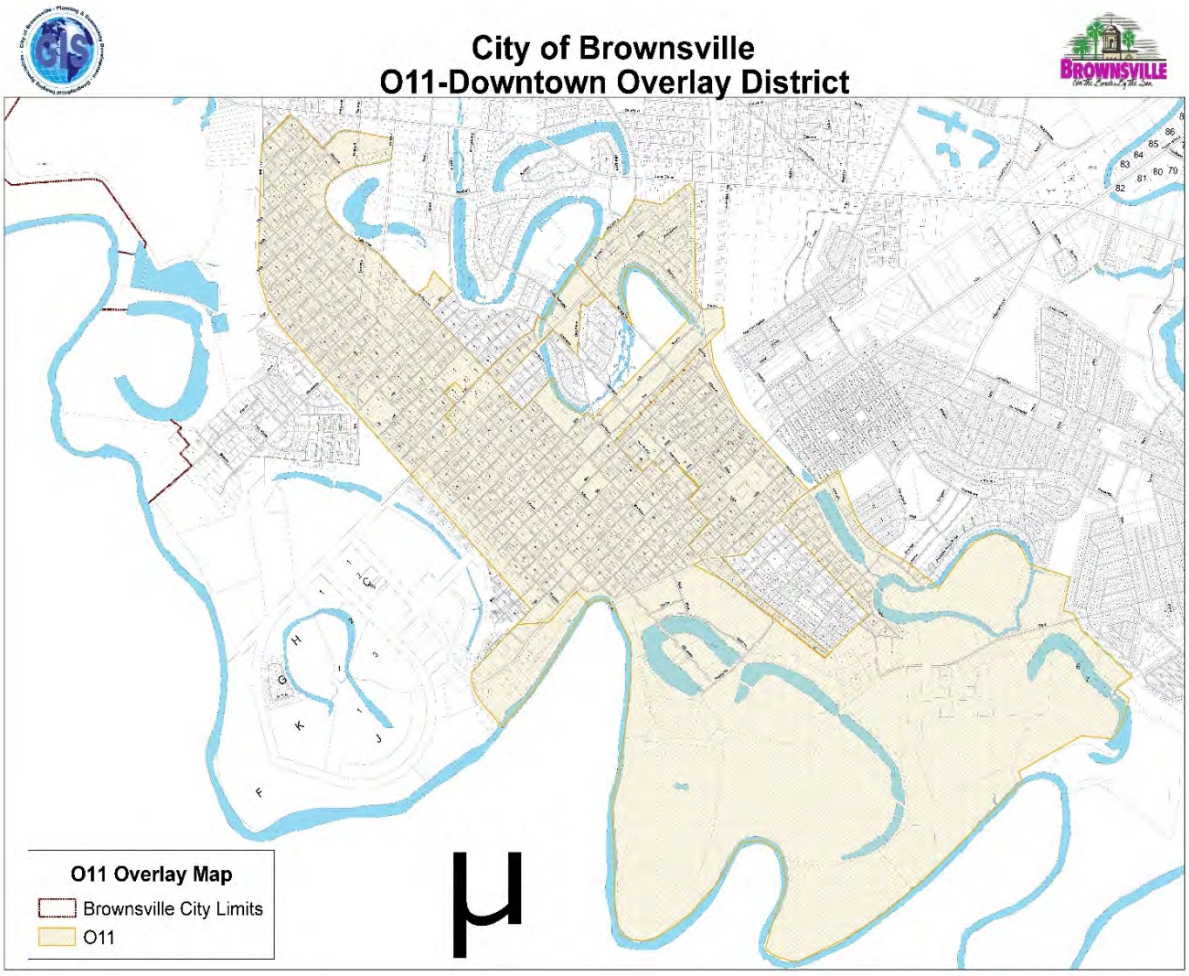
Figure 5-15: City of Brownsville Parks Maps



Protection of Brownsville MPO Historic & Cultural Resources

The preponderance of the community's historic/cultural resources (typically buildings) are located in Brownsville's Original Townsite. Adjacent areas such as West Brownsville, Los Ebanos Subdivision and the Fort Brown National Historic Landmark (NHL); are clearly marked on maps produced and maintained by the City's Heritage Officer. Liaison between MPO staff and the Heritage Officer is easy and routine given that both parties are housed in the City Plaza Facility. For more information please see the City of Brownsville/011-Downown Overlay District Map below:

Figure 5-16: City of Brownsville Overlay District



Air Quality

Improving regional air quality and maintaining compliance with federal air quality standards is a fundamental consideration in the metropolitan transportation planning process. The construction of new transportation infrastructure increases the capacity for vehicles on regional roadways, which has the potential to increase traffic-related air pollutants in the MPO planning area.

In 1963, in response to increasing air pollution, the U.S. Congress passed the original Clean Air Act which established a federal program for researching techniques to monitor and control air pollution. The Clean Air Act of 1970 increased federal enforcement authority and authorized the development of national ambient air quality standards to limit common and widespread pollutants. These standards, known as the National Ambient Air Quality Standards (NAAQS), define the allowable concentration of pollution in the air for six "criteria" pollutants, including carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide.

The Clean Air Act identifies two types of national ambient air quality standards:

- Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly.
- Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The existing standards for each of the six criteria pollutants are listed in **Table 5-16**. The units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (μg/m3). The existing standard for Ozone was established by a 2008 Final Rule. In November 2014, the EPA proposed to revise the primary and secondary standards to somewhere within the range of 0.065 and 0.070 ppm. After the proposed rule was published in December 2014, the EPA accepted written comments on the proposed rule until March 17, 2015. The EPA issued its final rule strengthening the ozone standards to 0.070 ppm on October 1, 2015.

EPA has delayed issuing guidance on conformity requirements for transportation planning in relation to the 2015 Ozone rule. Until then, the these MTPs are only required to maintain compliance with the 2008 standard definition.

Table 5-16: Existing Standards for Criteria Pollutants

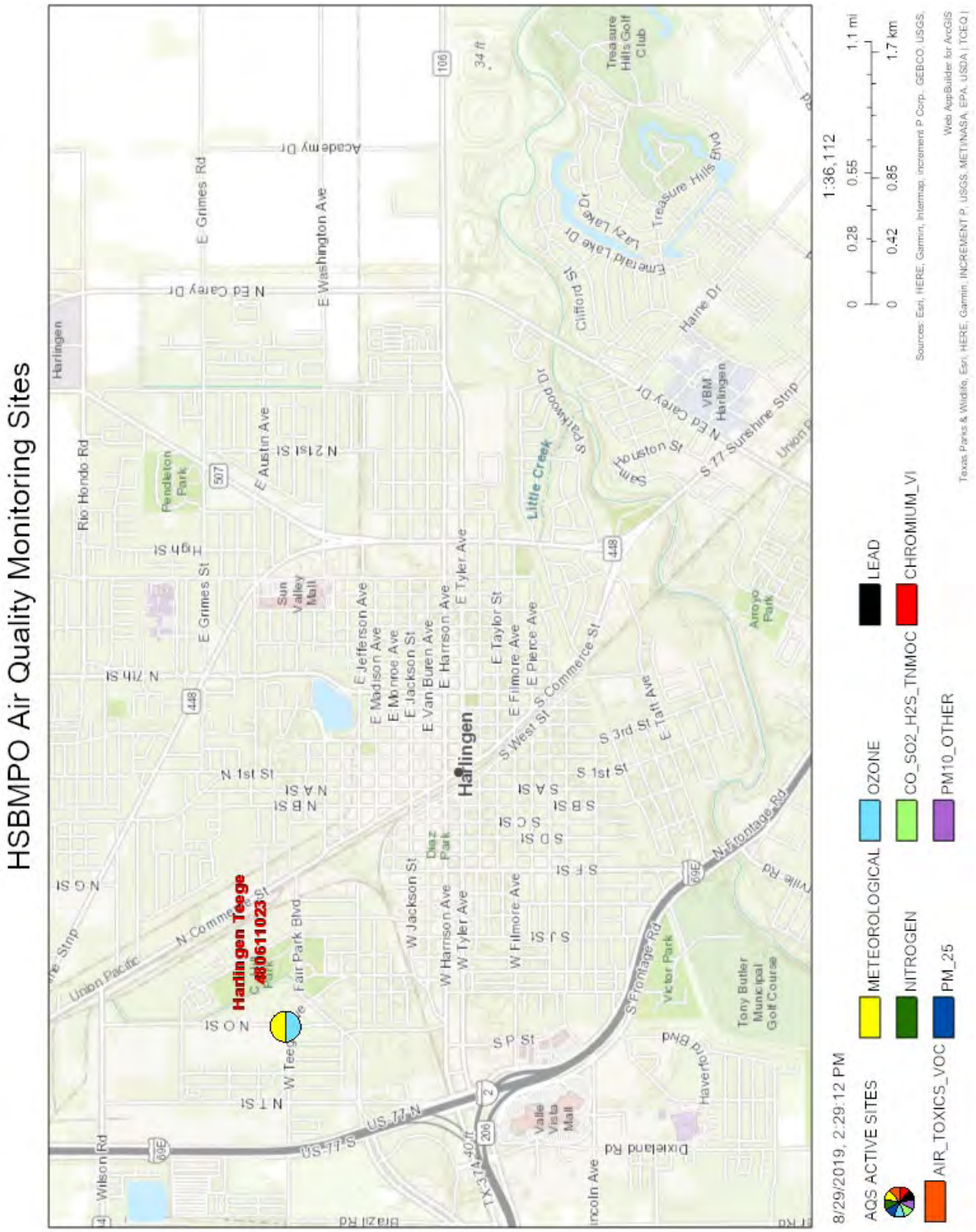
Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		Primary	8-Hour	9 ppm	Not to be exceeded more than once per year
			1-Hour	35 ppm	
Lead		Primary and Secondary	Rolling 3-month average	0.15 µg/m3	Not to be exceeded
Nitrogen Dioxide (NOX)		Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		Primary and Secondary	Annual	53 ppb	Annual mean
Ozone		Primary and Secondary	8-hour	0.075 ppm	Annual fourth-highest maximum daily 8-hour concentration, averaged over 3 years
Particle Pollution	PM 2.5	Primary	Annual	12 µg/m3	Annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m3	Annual mean, averaged over 3 years
	PM 10	Primary and Secondary	24-hour	35 µg/m3	98th percentile, averaged over 3 years
		Primary and Secondary	24-hour	150 µg/m3	Not to be exceeded more than once per year, averaged over 3 years
Sulfur Dioxide		Primary	1-hour	75 ppb	9th percentile of daily 1-hour maximum, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Regions are designated by the EPA as either in attainment or non-attainment for NAAQS. Attainment means the concentration of each pollutant does not exceed NAAQS. Non-attainment means the concentration of at least one pollutant exceeds the maximum defined threshold. If an area is designated as non-attainment, the State must develop and submit a State Implementation Plan (SIP). The SIP addresses each pollutant that exceeds NAAQS and establishes an overall regional plan to reduce air pollution emission levels, designed to return the area to, and maintain, attainment status. Once a non-attainment area meets the standards, EPA will designate the area to attainment as a "maintenance area." Maintenance areas are required to have a Maintenance Plan in place to ensure continued attainment of the respective air quality standard. The Clean Air Act defines specific timetables to attain air quality standards and requires non-attainment areas to demonstrate reasonable progress in reducing air pollutants until the area achieves attainment.

Harlingen-San Benito MPO

There is one site in the HSB MPO planning area that forms part of Texas' monitoring network. The Harlingen Teege site monitors Ozone, temperature, and wind (**Figure 5-17**).

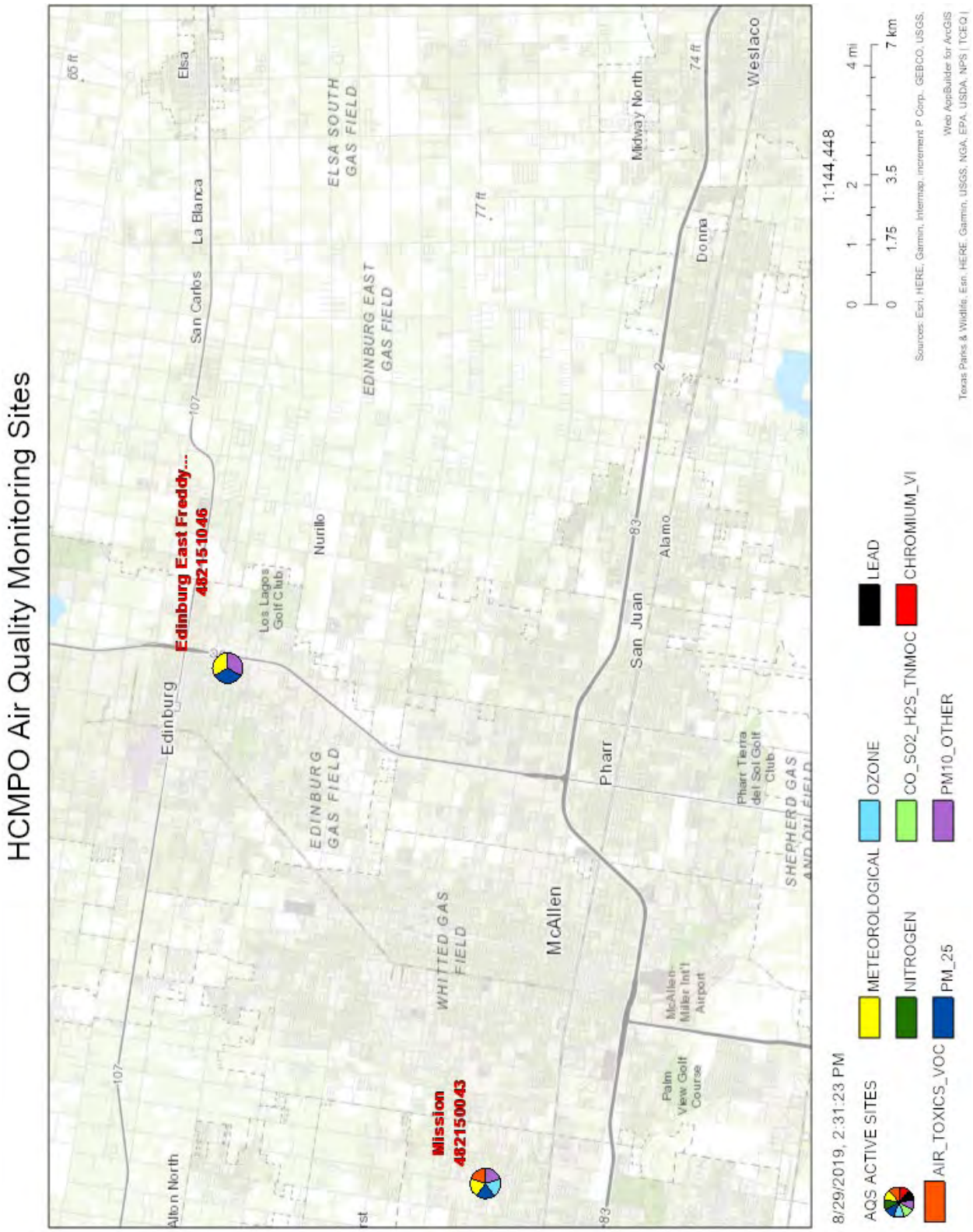
Figure 5-17: HSB MPO Air Quality Monitoring Sites



Hidalgo County MPO

There are two sites in the HC MPO planning area that form part of Texas' monitoring network (**Figure 5-18**). The Mission site monitors Ozone, PM 10 using FRM, PM2.5 using a continuous tapered element oscillating microbalance (TEOM), SVOC, solar radiation, temperature, and wind. The Edinburg East Freddy Gonzalez Drive site monitors PM 10 using FRM, PM2.5 using a continuous tapered element oscillating microbalance (TEOM), temperature, and wind.

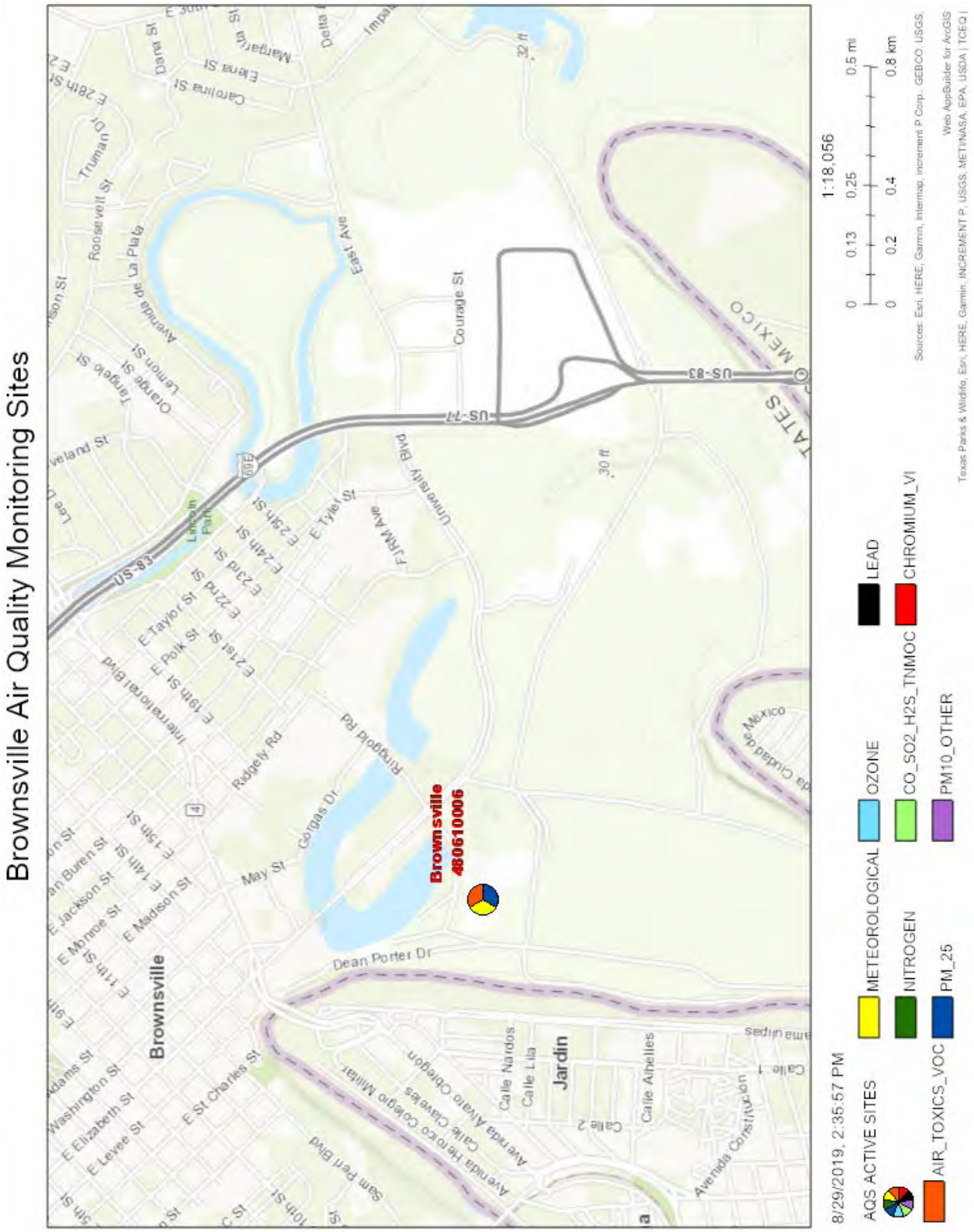
Figure 5-18: HC MPO Air Quality Monitoring Sites



Brownsville MPO

There is one site in the Brownsville planning area that forms part of Texas' monitoring network (**Figure 5-19**). The Brownsville site monitors PM2.5 using a continuous tapered element oscillating microbalance (TEOM), SVOC, solar radiation, temperature, and wind.

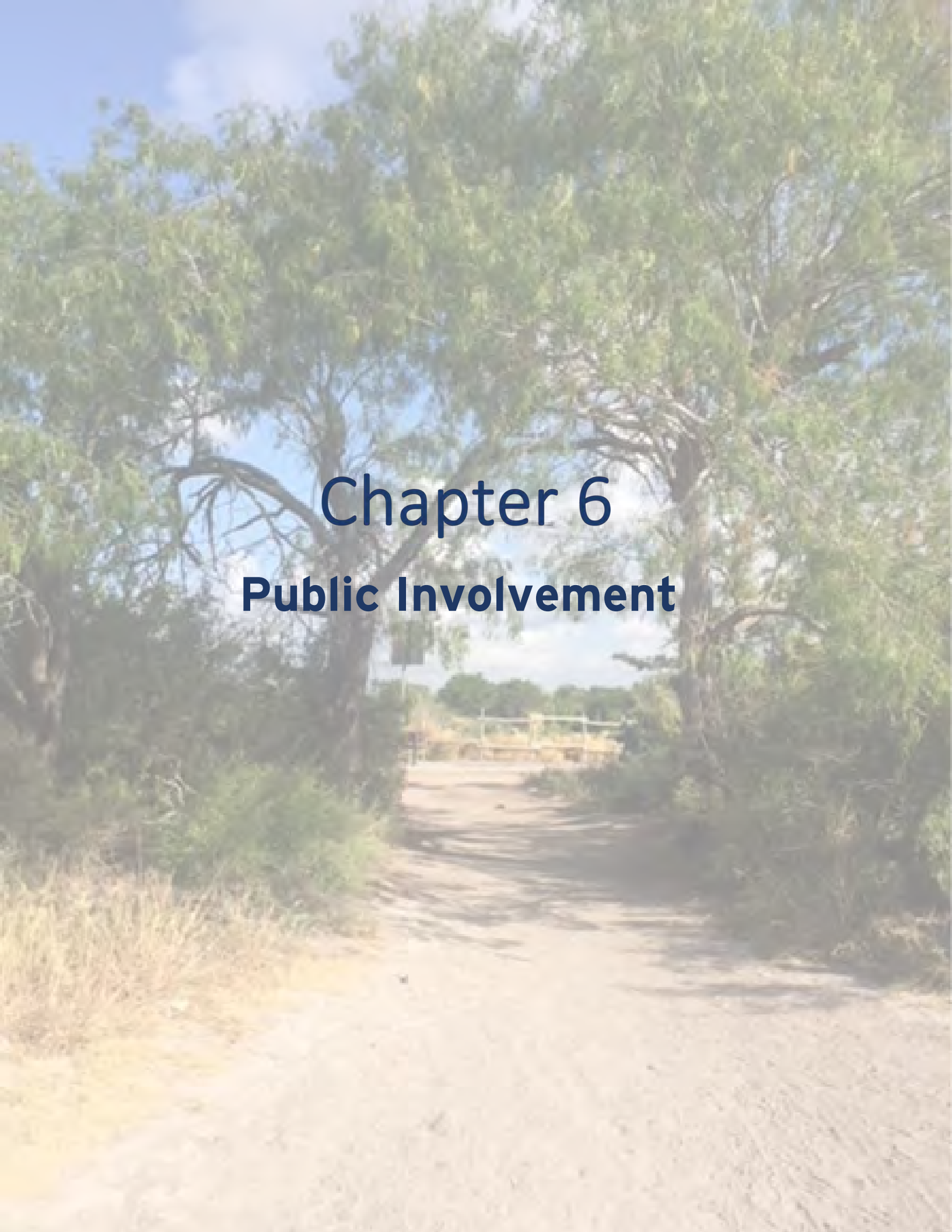
Figure 5-19: Brownsville MPO Air Quality Monitoring Sites



Transportation Conformity Analysis

The Clean Air Act requires transportation plans to prioritize investments for the next three years to meet federal clean air standards in future years should a non-attainment status be determined. All three MPO planning areas have achieved an attainment air quality finding as of May 2019, according to the EPA[5]. In order to keep this status, the MPOs should strive to maintain transportation activities that do not contribute to a non-attainment status but continue to increase the air quality of their designated planning areas.

[5] (2019, May 22). US EPA Nonattainment Areas and Designations. Retrieved from https://catalog.data.gov/dataset/us-epa-nonattainment-areas-and-designations



Chapter 6

Public Involvement

PUBLIC INVOLVEMENT

Public involvement is critical for a well-developed Metropolitan Transportation Plan (MTP). The process for engaging stakeholders and the public and soliciting their input might vary by region, but the collaborative nature of public involvement remains essential and valuable to the planning process.

Public Participation Program

As part of their commitment to engaging with the communities they serve, each MPO has adopted and maintained a Public Participation Program (PPP). The PPP serves as a guide for the MPO by summarizing and outlining the policies, goals, and objectives that the MPO has adopted in terms of engaging with residents, community groups, and other stakeholders during planning processes.

Exhibit 6-1: Harlingen-San Benito MPO Public Open House

The PPP addresses Title VI as well as Environmental Justice concerns, and emphasizes the need to "consult, coordinate, consider, and cooperate." The PPP outlines communicating and disseminating for Limited English Proficiency (LEP) communities as well as defining appropriate timeframes for public notice and methods for disseminating information.

Harlingen-San Benito MPO PPP

The guiding principles for the HSB MPO are as follows:

- Provide timely information about transportation issues and processes to all stakeholder groups.
- Provide reasonable public access to technical and policy information used in the development of transportation plans.
- Conduct open public meetings where matters related to transportation programs are being considered at convenient and accessible locations and times.
- Give adequate public notice of participation activities and time for public review and comment at key decision points.
- Respond appropriately and timely to public comment received.
- Seek out and consider the needs of those traditionally under-served by existing transportation systems.

- Coordinate with the statewide transportation planning public involvement and consultation processes wherever possible to enhance public consideration of the issues, plans and programs, and reduce redundancies and costs.

Hidalgo County MPO PPP

The guiding principles for the HC MPO are as follows:

- Provide timely information about transportation issues and processes to all stakeholder groups.
- Provide reasonable public access to technical and policy information used in the development of transportation plans.
- Conduct open public meetings where matters related to transportation programs are being considered at convenient and accessible locations and times.
- Give adequate public notice of participation activities and time for public review and comment at key decision points.
- Respond appropriately and timely to public comment received.
- Seek out and consider the needs of those traditionally under-served by existing transportation systems.
- Provide a minimum public comment period of 45 calendar days prior to the adoption of the PPP and/or any amendments and make notice of this 45-day period via general circulation (i.e. newspapers).
- Provide a public comment period of not less than 30 calendar days prior to adoption of the MTP, the TIP, the UPWP, Transit Development Plans, any formal amendments or updates, and other appropriate transportation plans and projects.
- Coordinate with the statewide transportation planning public involvement and consultation processes wherever possible to enhance public consideration of the issues, plans and programs, and reduce redundancies and costs.

Brownsville MPO PPP

The guiding principles for the Brownsville MPO are as follows:

- Early and reasonable involvement opportunities to be provided throughout the transportation planning and programming process
- Timely information concerning transportation issues and processes is disseminated to stakeholder groups.
- Solicit the input and understand the needs of those traditionally underserved by existing transportation systems.
- Provide adequate public notice to allow time for public review and comments at key decision points.
- Employ visualization techniques and use non-technical language to describe changes proposed by the MPO Committees.
- Connect with organizations and community leaders to help the MPO reach more people.

- Hold MPO public workshops and MPO Open House (Forums) at convenient times and locations to solicit public input.
- Increase public awareness and understanding of the MPO.
- Review and update this participation plan, as needed to ensure a full, open process.
- Evaluate (on a periodic basis) the effectiveness of the MPO's public participation strategies, methods and means of informing the public.
- Respond appropriately and timely to public comments received and if applicable incorporate in planning documents.

MTP Public Involvement Efforts

Over the course of the 2045 MTP development process, all three existing MPOs undertook a series of public and stakeholder outreach efforts to better understand the needs, challenges, and opportunities for the existing transportation system, as well as the community visions and goals for the future of the regional transportation system over the next 25 years. This involved a series of individual engagement efforts, as well as one joint public open house. The various outreach efforts for each separate existing MPO are described in the following sections.

Visioning & Surveys

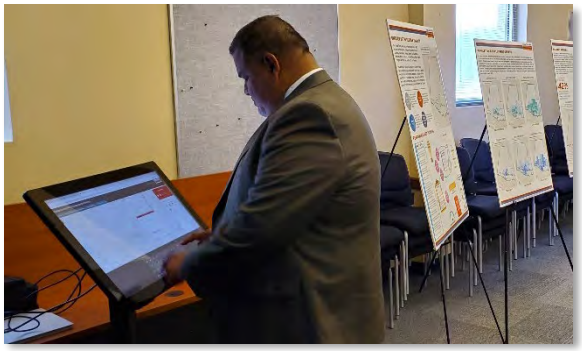


Exhibit 6-2: Hidalgo County MPO Public Open House

The purpose of the MTP visioning process was to solicit the public for input regarding their values and priorities for the future of the transportation system in the region. The feedback received helped the MPOs define the goals and objectives for the MTP and played a role in shaping the process used to prioritize transportation improvement projects proposed for inclusion in the plan. Public feedback received from the online tool (discussed below) was used to create weighted bonus points for each evaluation criteria in the scoring process. These points were then assigned proportionally to projects based on the average project score assigned by the Technical Committee. The project scoring process is discussed in further detail in Chapter 4, which covers transportation strategies for each MPO planning area.

The visioning process for the HC MPO and HSB MPO consisted of an online tool that was custom made for both area's MTP development process. This tool consisted of modules that both educated the public about the plan development process and requested input about community values and existing conditions in the region. These modules included a survey that gathered basic information about the participants and their transportation usage; an exercise where participants were asked to distribute hypothetical and constrained monetary values to the various planning factors involved in the plan development process; and an interactive map of the region where participants could place comments in exact locations regarding specific needs or issues related to transportation at those locations.

Harlingen-San Benito MPO

The online tool was opened in April of 2019 and closed in August of 2019. During this time the tool received a total of 90 English and 15 Spanish survey responses, as well as 49 English and 3 Spanish comments on the interactive map. **Figure 6-1** displays a screenshot of the feedback map module from the HSB MPO online tool.

Figure 6-1: HSB MPO Online Visioning Tool – Feedback Map Module

Hidalgo County MPO

The visioning process for the HC MPO 2040 MTP used the framework of the online tool described above for HSB MPO, however custom-developed for HC MPO's MTP development process.

The online tool for HC MPO was opened in June of 2019 and closed in August of 2019. During this time the tool received a total of 44 English and 12 Spanish survey responses and 34 English and 2 Spanish comments on the interactive map. **Figure 6-2** is a screenshot of the feedback map module from the HC MPO online tool.

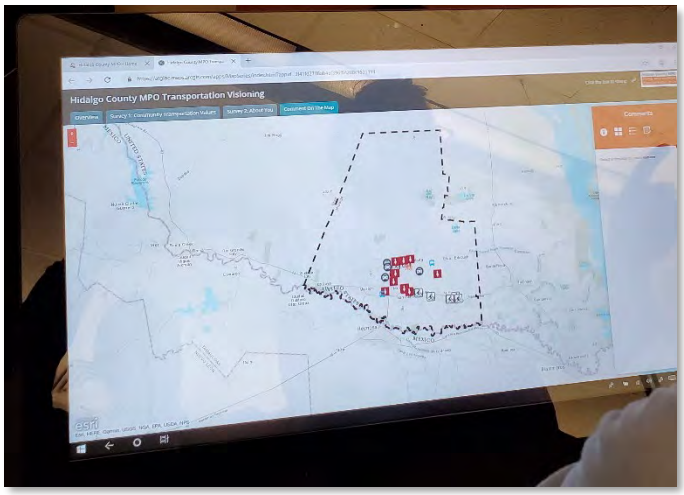
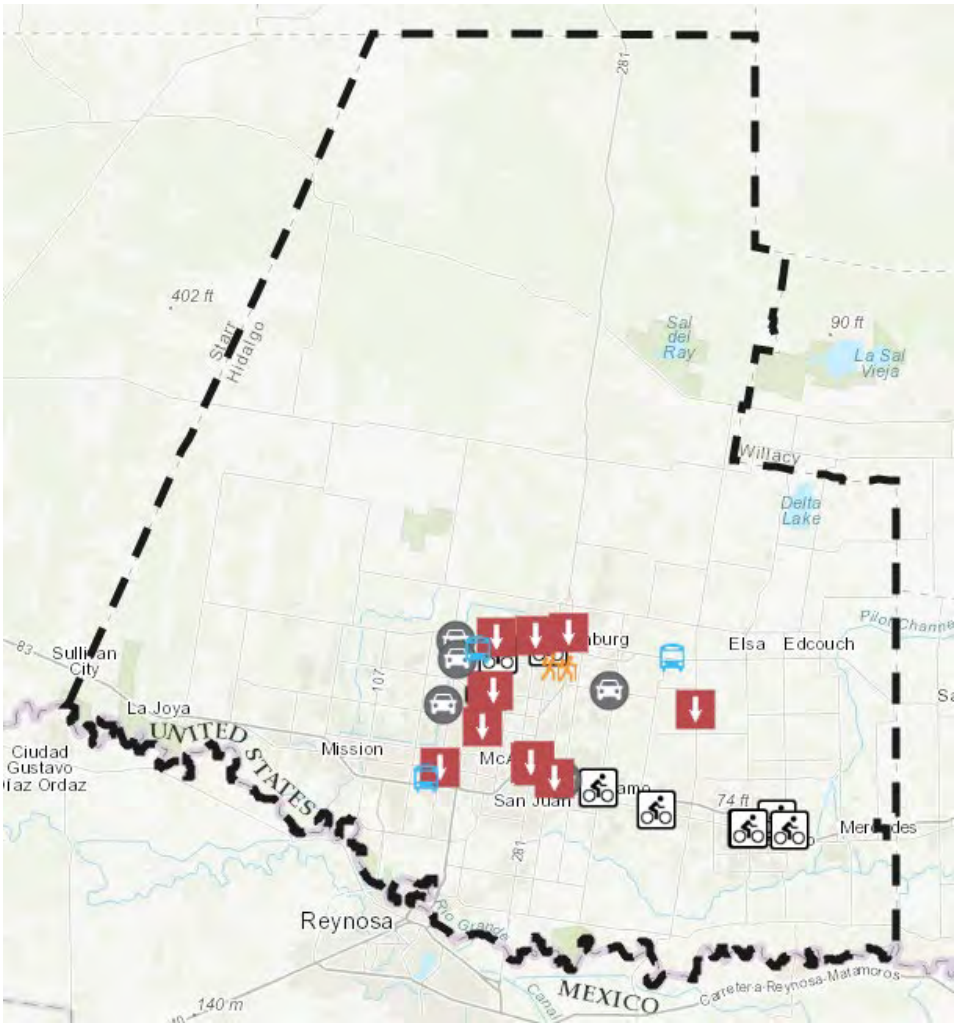


Exhibit 6-3: Hidalgo County MTP Online Visioning Tool

Figure 6-2: HC MPO Online Visioning Tool – Feedback Map Module



Stakeholder Interviews

In March and June 2019, respectively, the HSB MPO and HC MPO conducted a series of interviews (specific to each MPO) with different groups of stakeholders from various backgrounds and localities throughout the region. Based on their backgrounds, stakeholders were asked questions that they were best suited to answer regarding current conditions of the transportation system for their respective MPO planning area. Topics and generalized stakeholder concerns for both MPOs about the transportation system discussed during the interviews are listed in Table 6-1 and Table 6-2.

Table 6-1: HSB MPO Interview Groups & Generalized Stakeholder Concerns

Stakeholder Groups	Generalized Stakeholder Concerns
Emergency Response & Transportation Safety	Schools are being built without adequate transportation infrastructure which causes safety concerns
	Freight traffic is increasing from the Port of Harlingen and surrounding areas which increases safety hazards
	Accidents a result of lack of bicycle/pedestrian infrastructure; those without automobiles are forced to use unsafe infrastructure at times
	Generally, a lack of right-of-way/emergency lanes; all lanes are used for traffic in most areas
Environmental, Community/Business, & Tourism Organizations	Opening of the convention center may have an impact on transportation system
	Safety/congestion concerns specifically for: access to McKelvey Park, Commerce St, Business 77
Higher Education & Non-Profit Organizations	Focus on expanding transit coverage and service span; connect students to region and provide non-peak hour service
	Need to emphasize transportation for those needing connectivity to medical facilities
	Better marketing for existing services; improve ADA compliance
	Safety/congestion concerns specifically for: FM 509, Ed Carey Dr, Harrison Ave
Transportation Operators	Better connectivity/safety from Port of Harlingen to Airport; freight traffic is impacting rural roadways and school zones, as well as general pavement conditions
	Transit service in Harlingen is lacking/more amenities in surrounding MPOs; would like to see opportunities for connectivity to surrounding college campuses and medical amenities
	Safety/congestion concerns specifically for: FM 106, FM 509, FM 1420
Elected Officials	There is a need to focus on regional connectivity/look at the larger picture; freight is only increasing and needs to be accommodated
	Congestion created from regional traffic flow (i.e. IH 2 and IH 69) is impacting surrounding roadway infrastructure; ramps are becoming backed up and causing safety concerns
	The Port of Harlingen is creating major freight traffic that is impacting rural highways; need to focus on alleviating stress caused by freight traffic
	There needs to be better coordination with transit providers in the RGV region
	The current trail system provides a means of connectivity to many who live in the area; focus on creating more connectivity using irrigation paths/other right-of-way
	Safety/congestion concerns specifically for: Ed Carey Dr, FM 509, Tyler/Harrison Ave, Williams Rd

Table 6-2: HC MPO Interview Groups & Generalized Stakeholder Concerns

Stakeholder Groups	Generalized Stakeholder Concerns
Emergency Response & Transportation Safety	Expressway (McAllen and Pharr to Mission) heavily congested
	Pharr southbound interchange safety
	SH 107 needs better bicycle infrastructure
	Flooding on frontage roads (possibly impacts evacuation routes)
Education	Flooding/road conditions/lack of sidewalks
	107/University Dr (hazardous pickup/drop-off locations for buses)
	281 North (buses forced off the road due to 75 mph speed limit)
	Pharr Interchange (IH 69 north and south and IH 2 east and west)
Transportation Advisory Committee	Lack of funding for right-of-way expansion
	Regional transit connectivity and overall congestion/growth in the region
	Border policy
	Safety/congestion concerns specifically for: Military/US 1, US 23, and 1925 North to IH 69
Transit	Safety/congestion concerns along following roadways: Military/IH 2 and Expressway heading west from McAllen to Edinburg
	Need for ROW increases for lane additions/expansions
	Better coordination amongst transit providers in the RGV region
	Dedicated local funding sources for transit; the system is currently flag-a-stop and lacks amenities and decent frequencies
Bike & Pedestrian Advisory Committee	Need for bicycle awareness/education in the MPO planning area and RGV region
	The region is poorly served/currently poor connectivity due to lack of actual transit amenities
	Need for strategic infrastructure and partnerships
	The region lacks ADA compliancy which limits overall mobility for those who do not own a personal automobile

Public Open Houses

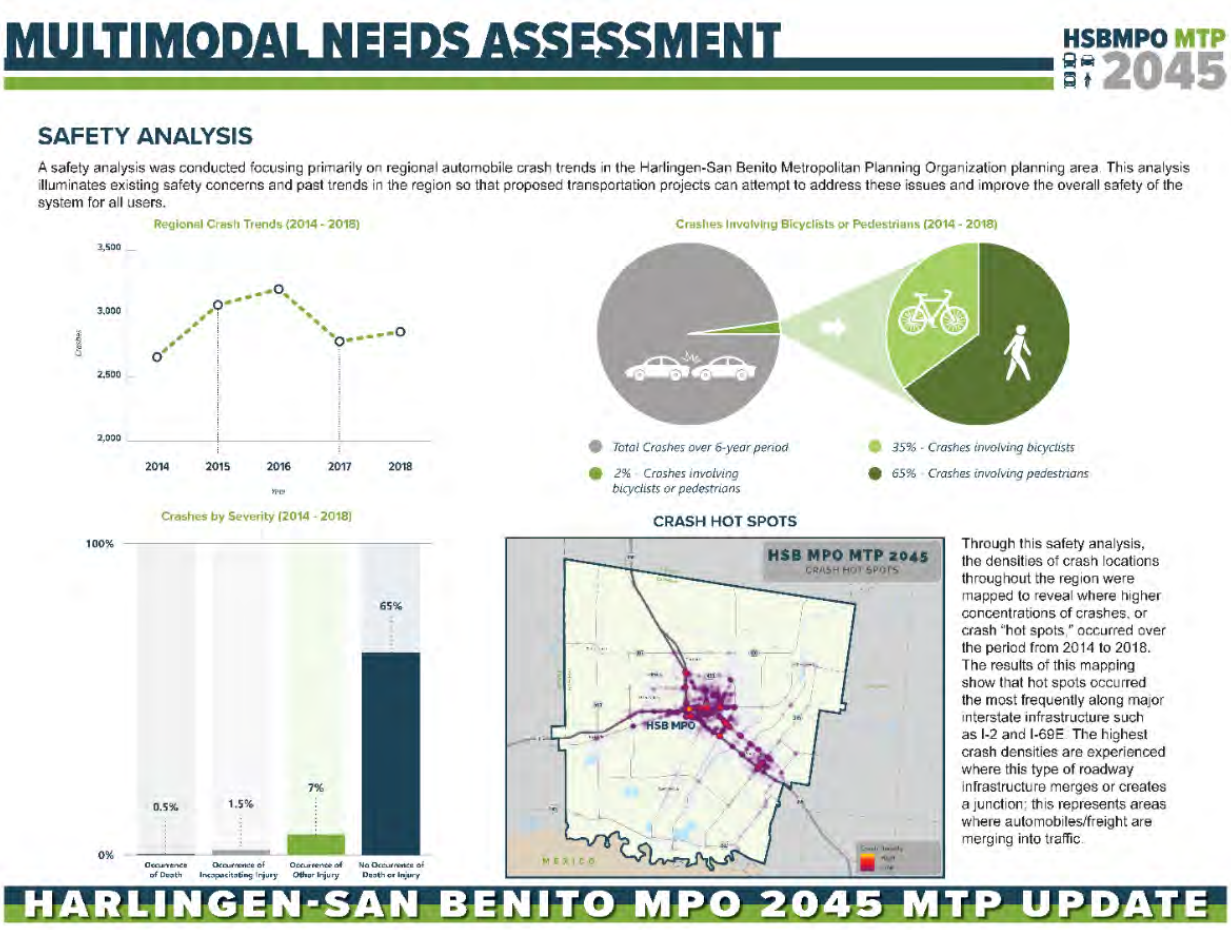
Each MPO hosted open houses during the development of their MTPs. These were held with the purpose of presenting the work done to-date on the development of the plan, which included educational aspects about what an MTP is and why the MPO needs to develop one, as well as the results of the Current Conditions Assessment discussed in Chapter 3. These public open housed consisted of a set of exhibit boards that displayed information about the plan and the analyses using text, graphics, and maps. One open house was held at the Harlingen Cultural Arts Center where all three MPOs were in attendance.

Exhibit 6-4: Harlingen-San Benito MPO Public Open House

Harlingen-San Benito MPO

Figure 6-3 shows and example of one of the boards displayed at the open house. The full set of open house boards can be seen in Appendix X.

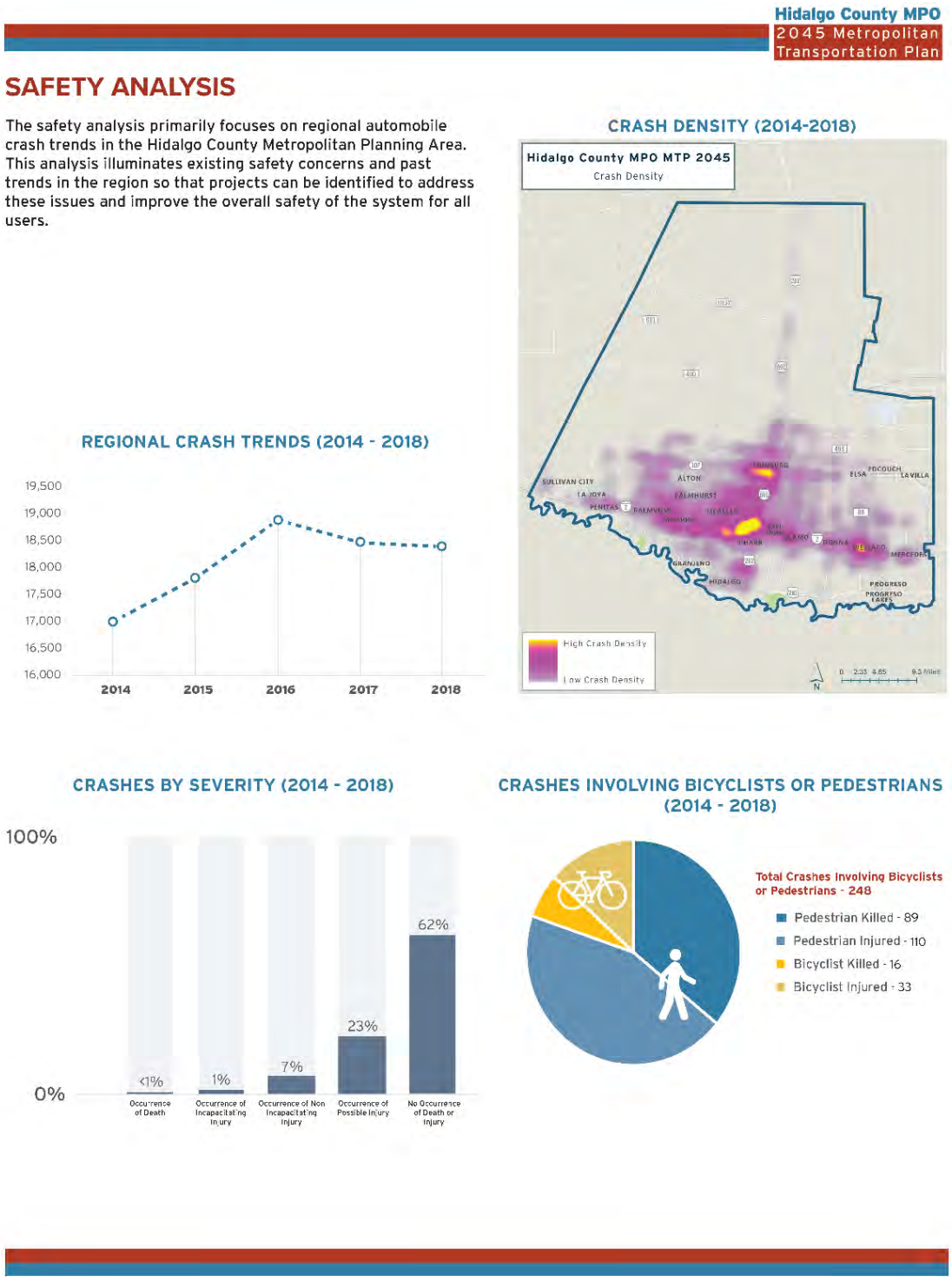
Figure 6-3: Example of Board at First Open House



Hidalgo County MPO

Figure 6-4 shows and example of one of the boards displayed at the open house. The full set of open house boards can be seen in Appendix X.

Figure 6-4: Example of Board at First Open House



A second set of public open houses were held in October 2019 and were located throughout the RGV MPO planning area. The purpose of these open houses is to provide the public with an overview of the draft RGVMPO MTP, including available proposed program of projects for

each existing MPO, and further solicit public feedback. Like the first open houses held for both HSB MPO and HC MPO, the second set of open houses will include a set of exhibit boards to convey information about the draft plan and the proposed projects using text, graphics, and maps.

Brownsville MPO Public Engagement Efforts

Goals & Objectives

The MPO Public Participation and Involvement Policies (PPIP) have been designed to encourage public participation in the transportation planning process.

Exhibit 6-5: Brownsville MPO Public Open House

Public Involvement Strategies

MPO Public Involvement strategies may include the following:

- Legal and display advertising in the (Brownsville) Herald;
- Posting advance notice of MPO meetings on the City of Brownsville Public Access TV Bulletin Board;
- Televised MPO meetings are available for live viewing (Brownsville TV) (https://www.cob.us/823/BrownsvilleTV)
- Posting of information on the MPO's webpage (http://mpo.cob.us)
- Online Surveys (Survey Monkey)
- Sharing MPO information on Social Media – Facebook (www.facebook.com/BrownsvilleMPO)
- Direct mailing to stakeholders/groups likely to be affected by a proposed transportation improvement.
- Holding of special meetings, workshops, etc. to encourage input;
- Sharing of MPO information with other agencies, to utilize their distribution networks, (e.g. e-mail blasts).
- MPO Newsletter

Background

The MPO's Public Participation and Involvement Policies (PPIP) were revised at the end of 2018. Formal adoption of the Amended Participation and Involvement Public Policies took place at the MPO projects Policy Committee meeting held on January 16, 2019. This update began in October 2018. Public notices were placed in the local newspaper (and on the MPO website on several occasions- https://www.cob.us/1614/Public-Notices), to solicit input from local citizens.

One significant change is that provisions of the MPO's "stand alone" Limited English Proficiency Plan (LEP) were incorporated or combined to be a part of the Public Participation & Involvement Policies. Also, text changes were added to the LEP to clarify (for citizens) how to ask for extra assistance at the MPO meetings. The LEP was added to the Involvement Policies in order to raise or augment its visibility to local residents, since the Involvement Policies are prominently featured on the MPO websites.

Revision of the MPO's Public Participation & Involvement Policies (PPIP)

Another addition was the inclusion or citation of the MPO's Title VI Assurances. Under Title VI, the MPO planning process and tasks shall not be discriminatory of race, color, or natural origin. The MPO's PPIP now informs local citizens and other parties about the MPO's Title VI Policy Statement and provides information about how to contact MPO staff if they wish to learn more about these matters. Other improvements to the MPO's Public Participation and Involvement Policies were made to outline the purposes or overall goals of having these policies. Specifically, new text was added to explain these goals and guidelines. Some of these additions include the following:

- Employ visualization techniques and use non-technical language to describe changes proposed by the MPO Committees
- Connect with organizations and community leaders to help the MPO reach more people. Hold MPO public workshops and MPO Open house (Forums) at convenient times and locations to solicit public input.
- Increase public awareness and understanding of the MPO.
- Review and update the MPO's public participation plan, as needed, to ensure a full, open process.
- Evaluate (on a periodic basis) effectiveness of the MPO's public participation strategies, methods and means of informing the public.

Exhibit 6-6: Brownsville MPO Public Involvement

MTP Development

Many opportunities have been provided for citizens to suggest ideas and input towards MTP formation. MPO staff asked citizens for MTP projects (ideas or problems to address) some two years ago.

Brownsville MPO notifies citizens and agency staff throughout the year about on-going plans. MPO staff provide continuous notifications. For example, staff at the U.S. Fish & Wildlife Services receive the MPO Committee meeting packets each month. In other cases, notices are sent to citizens based upon their concerns (e.g. bicycle/pedestrian planning) expressed via contact with MPO staff.

Aside from such notifications described above, Brownsville MPO provides other opportunities for participation. For example, MPO staff have sponsored Open House Events and Workshops. Typically, these open forums or gatherings have been held at the Brownsville Public Library or the Community Network Centers.

In the past couple of years, the MPO has successfully held the following public open house/workshops:

- **04/11/2018-** MPO Open House – Brownsville Historic Museum
- **10/03/2018-** MPO Bike and Pedestrian Mobility Workshop – Brownsville Southmost Community Network Center
- **12/06/2018-** MPO Open House/ Bike and Pedestrian Mobility Workshop – Brownsville Public Library
- **05/09/2019-** MPO Open House/ Bike and Pedestrian Mobility Workshop – El Centro Cultural, (Cameron Park).

Exhibit 6-7: Brownsville MPO Public Open House

Brownsville MPO has also participated in public events such as Brownsville Cyclobia, Hurricane Awareness and BMETRO's October Fest. Our participation in these events help to inform and engage the public on the short- and long-range transportation plans for this area.

Participating in non-transportation related events allows the Brownsville MPO to obtain input from different audience with diverse point of views on our transportation needs.

By asking and receiving input well in advance for TIP/MTP development, MPO staff hope to involve stakeholders very early in the planning process.

When it is feasible, MPO staff takes advantage of cooperative publicity efforts. For example, MPO staff attend quarterly meetings of the Collaborative Action Board (CAB). By sharing advance notice of pending MPO Open House Events with CAB staff, the CAB personnel have sent out email notices on behalf of the MPO to other social agency stakeholders. This CAB notice extends the MPO's "reach" to help educate and advise new parties about on-going MPO plans and policies.

Exhibit 6-8: Brownsville MPO Public Open House

In May 2019 an MPO presentation was given to the Cameron County Promotoras Task Force Group at the Cameron Park Colonia. As the Cameron County promoters prepare for the 2020 US Census, gaining knowledge on the MPO is important as this is a federally funded transportation program.

In addition, the Brownsville MPO creates Newsletters with the intent to inform the public about current ongoing projects, plans, and events. The newsletters include a comment sheet that allows for public comments to be submitted to the MPO. Newsletters are printed and distributed to various locations where the public can have a hard copy. MPO staff also shares these newsletters online via website and social media.

In late 2017, the Brownsville MPO began to use Facebook. Utilizing social media as an alternate means of communication is very important due to the large number of users that Facebook has. The MPO has utilized Facebook to share meeting announcements, upcoming events, newsletters, meeting videos, and public notices. No comments regarding the MPO have been received via Facebook however the number of followers and "Likes" to MPO posts have increased throughout the last couple of years.

Soliciting Input/Feedback from Area Stakeholders

In early and Mid-August of 2019, MPO staff forwarded the Draft MTP area stakeholders. This notice asked staff members to review the draft MTP and provide feedback. Also, notice was given of pending MTP adoption, scheduled for September 18, 2019.

Figure 6-5: Brownsville MPO Public Meeting Notice

PUBLIC MEETING NOTICE (NOTICIA PUBLICA)

SI USTED QUIERE UNA EXPLICACION EN ESPANOL DE LA SIGUIENTE NOTIFICACION, LLAME AL DEPARTAMENTO DE PLANEACION AL NUMERO (956) 548-6150.

Notice is hereby given that the Brownsville Metropolitan Planning Organization (MPO) will receive comments on the MPO's Draft FY 2020-2045 Metropolitan Transportation Plan (MTP).

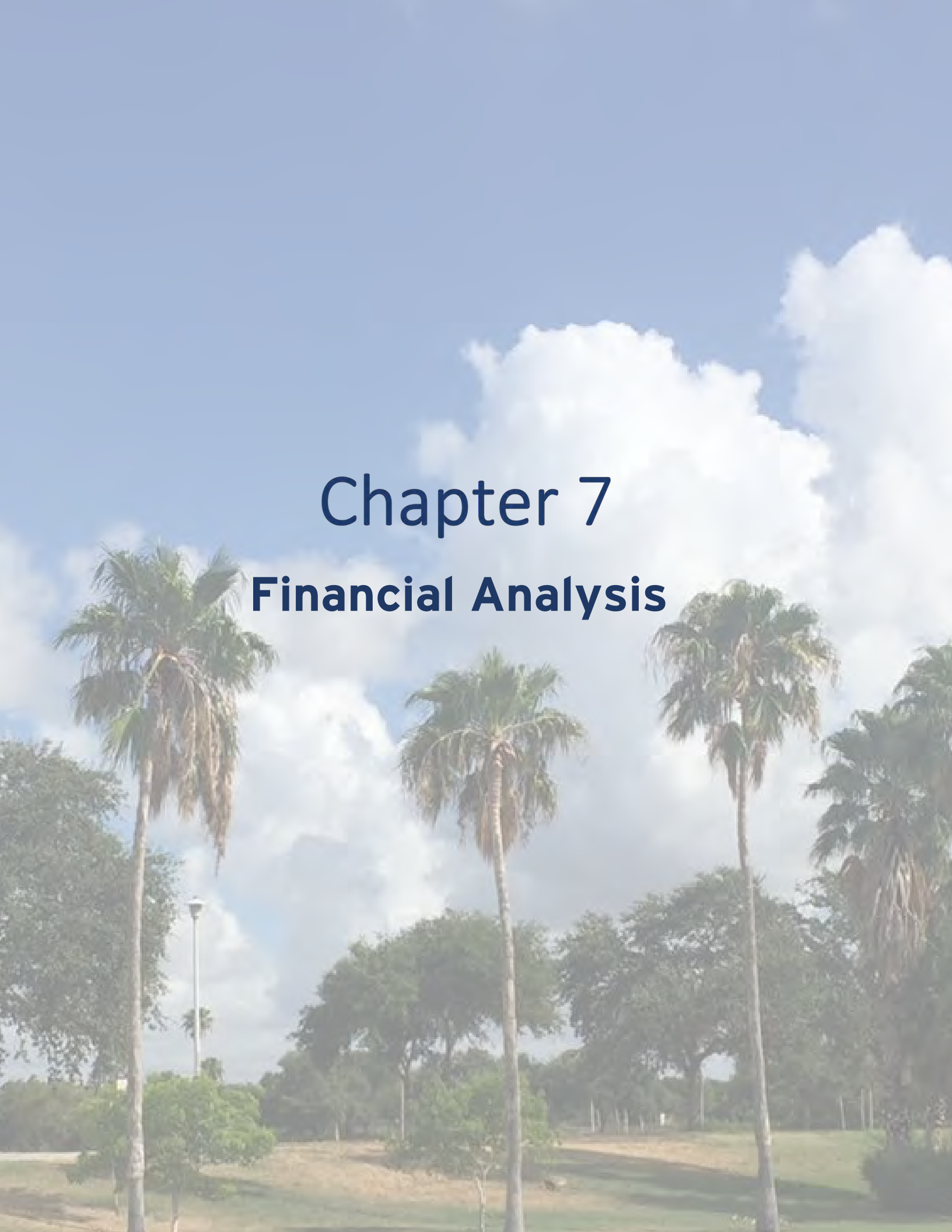
The MPO's MTP is a blueprint for meeting the area's transportation needs for all modes, including highway, bicycle, pedestrian and public transportation. A draft document has been developed which outlines available funds and specific transportation improvement projects.

The MTP is expected to be adopted at the MPO Policy Committee Meeting set for Wednesday September 18, 2019 at 10 am at City Hall, 2nd floor Commission Chambers, 1001 E. Elizabeth St., Brownsville, Texas.

A draft document is available for public inspection at the Brownsville MPO office located at 1034 E. Levee St., 2nd floor, Brownsville, Texas. For more information, please call Antonio Zubieta, MPO Planner, at (956) 574-6696.

Witness my hand on
August 14, 2019

Mark Lund
MPO Director



Chapter 7

Financial Analysis

Estimated Funding

According to federal regulations, transportation improvement projects included in an MTP must fall within the financial capabilities of the community. The final project list included in the MTP must therefore be fiscally constrained, meaning that the funding available for projects must be greater than or equal to the anticipated cost of the projects.

This chapter includes a list of funding sources and dollar amounts anticipated to be available to fund projects included in this MTP. It also outlines the process by which funding levels were established to determine the amount of funds available.

Because federal regulations stipulate that the financial forecast consider the change in value of the dollar over time due to inflation, funding and costs discussed in this chapter were estimated in year-of-receipt and year-of-expenditure dollars, respectively.

Roadway Funding Categories

TxDOT annually sub-allocates a portion of federal transportation funds to each Texas MPO based on agreed upon formulas. These funds are distributed through twelve categories. The MPO Policy Boards are responsible for managing and directing the development of a multi-year program of local government sponsored projects within available annual budget amounts.

Category 1-Preventive Maintenance and Rehabilitation

Preventive maintenance works to preserve, rather than improve the structural integrity of the pavement or structure. Rehabilitation funds can be expended on any highway in the state highway system and are intended for the rehabilitation of existing main lanes, structures, and frontage roads including approved preventive maintenance measures. Rehabilitation of an existing two-lane highway to a "super 2" highway may be funded within this category. The installation or rehabilitation of signs and their appurtenances, pavement markings, thermoplastic striping, traffic signals, and illumination systems, including minor roadway modifications to improve operations are also allowed under this category. Funds can be used to install new traffic signals as well as modernize existing signals.

Category 2-Metropolitan Corridor Projects

Funds may be used for mobility and added capacity projects along a corridor that improves transportation facilities in order to decrease travel time, decrease the level or duration of traffic congestion, and/or to increase the safe and efficient movement of people and freight in Transportation Management Areas (TMAs). Projects are recommended by Department of Transportation Districts based on corridors that are selected by MPOs through the metropolitan planning process. A TMA is a metropolitan planning area with a population of 200,000 or greater and is represented by an MPO. These projects are selected by TxDOT through coordination with the MPO.

Category 3-Non-traditionally Funded Transportation Projects

These are transportation related projects that qualify for funding from sources not traditionally part of the State Highway Funding (SHF) including state bond financing under programs such as Proposition 12, Proposition 14, Texas Mobility Fund, pass through financing, regional revenue and concession funds, and local participation funding. These funds are approved by legislation through the Texas Transportation Commission (TTC), Minute Orders, and local government commitments. Additionally, Federal earmarks or special federal programs are allocated within Category 3.

Category 4-Statewide Connectivity Corridor Projects

Funds may be used for mobility and added capacity projects on major state highway system corridors, which serve the mobility needs of statewide connectivity between urban areas and corridors serving mobility needs throughout the state. Selection of these projects is based on engineering analysis of projects on three corridor types: mobility corridors based on congestion, connectivity corridors such as 2-lane roadways requiring upgrade to 4-lane divided, and strategic corridors such as strategic corridor additions to the state highway network. Corridors are composed of a highway connectivity network which includes:

- The Texas Trunk System
- The National Highway System (NHS)
- Connections from Texas Trunk System or NHS to major ports on international borders or Texas water ports

Category 5-Congestion Mitigation and Air Quality Improvement

Funds may be used for projects selected by MPOs in consultation with TxDOT and funded by the district's Allocation Program. The commission allocates money based on population percentages within areas failing to meet air quality standards. Failing to meet these air quality standards is also known as being in non-attainment for air quality. These funds are popularly known as Congestion Mitigation and Air Quality (CMAQ) funds.

Category 6-Structures Replacement and Rehabilitation

Funding within this category is provided through three main programs, the Highway Bridge Program, Railroad Grade Separation Program, and the Bridge Maintenance and Improvement Program. Within the Highway Bridge Program, bridges are selected statewide based on eligibility and prioritized based on sufficiency ratings. Eligible bridges have a deficiency status of "structurally deficient" or "functionally obsolete" and have sufficiency ratings below a score of 80.

Within the Railroad Grade Separation Program, projects are selected based on a cost-benefit index rating that encompasses vehicle and train traffic, accident rates, casualty costs, and personnel and equipment delay costs. The index is used to select at-grade railroad crossing elimination projects or uses vertical clearance and roadway characteristics for selecting replacement or rehabilitation of railroad underpass projects. Within the Bridge Maintenance and Improvement Program, projects are selected statewide based on identified bridge

maintenance/improvement needs to aid in ensuring the management and safety of the state's bridge assets. For projects that are selected, all bridge elements will meet a predetermined condition threshold after rehabilitation.

These programs replace eligible bridges on and off the state's highway system that are considered functionally obsolete or structurally deficient. Bridges with a sufficiency rating below 50 are eligible for replacement. Bridges with a sufficiency rating of 80 or less are eligible for rehabilitation. A minimum of 15% of the funding must go toward replacement or rehabilitation of off-system bridges. This funding also eliminates at-grade highway-railroad crossings through the construction of highway overpasses or railroad underpasses and rehabilitates or replaces deficient railroad underpasses on the state highway system.

Category 7-Metropolitan Mobility/Rehabilitation

Funds in this category are part of a federal program that distributes money to MPOs with an urbanized area population of 200,000 or greater known as TMAs. The projects are selected by the MPO through coordination with TxDOT.

Category 8-Safety

Funding in this category is provided through four programs; the Highway Safety Improvement Program (HSIP), Safety Bond Program, Systematic Widening Program, and Railroad Crossing Program. The HSIP focuses on safety-related projects on and off the state highway system using the safety improvement index. The index uses three years of crash data to evaluate and rank projects' safety. Workforce development, training, and education activities are also eligible uses of HSIP funds.

High Risk Rural Roads projects previously authorized remain in Category 8. Future High-Risk Rural Roads projects will be managed under the HSIP if required by special rule. The Safe Routes to School projects previously authorized remain in Category 8. Future Safe Routes to School projects will be managed under the Transportation Alternatives Program guidelines in Category 9.

The Safety Bond Program addresses the safety improvement index, roadway safety characteristics, and anticipated time required to complete a candidate project. Allocations for the safety bond program are approved by the Texas Transportation Commission (TTC), with the program managed as an allocation program on a statewide basis. Projects are evaluated, ranked, prioritized, and selected by the Traffic Rail Foundation (TRF).

The Systemic Widening Program funds projects that improve roadway safety features to prevent severe crash types on the state highway system. Projects are evaluated using roadway safety features for preventable severe crash types. Projects are evaluated, ranked, prioritized and selected by the Traffic Operations Division.

Funding within the Railroad Crossing Program is set aside from the HSIP for safety improvements to reduce the number of fatalities, injuries, and crashes at public grade crossings. Funds can be used for the installation of automatic railroad warning devices at railroad crossings both on and off the state highway system. Projects are selected from a

statewide inventory list, which is prioritized by a rail crossing specific safety index using a crash prediction formula. This index is similar in process to the above-mentioned highway safety index but draws from a grade crossing safety database known as Texas Railroad Information Management System (TRIMS). The program provides incentive payments to local governments for closing crossings, improving signal preemption and coordination of train control signals, and improves passive warning devices to comply with federal guidelines.

Category 9-Transportation Alternatives Set-Aside (TA Set-Aside)

The FAST Act eliminates the MAP-21 Transportation Alternatives Program (TAP) and replaces it with a set-aside of Surface Transportation Block Grant (STBG) program funding for transportation alternatives (TA). These set-aside funds include all projects and activities that were previously eligible under TAP, encompassing a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

Category 10-Supplemental Transportation Projects

There are multiple agencies and several programs that administer funding in this category. The Texas Parks and Wildlife Department focuses on construction and rehabilitation of roadways within or adjacent to state parks, fish hatcheries, etc. The Texas Historical Commission focuses on construction and rehabilitation of roadways within or adjacent to historical sites. The Landscape Incentive Awards program focuses on the negotiation and execution of joint landscape development projects in nine locations based on population categories in association with the Keep Texas Beautiful Governor's Community Achievement Awards program. The awards recognize participating cities or communities' efforts in litter control, quality of life issues, and beautification programs and projects.

The Green Ribbon program addresses new landscape development and establishes projects within districts that have air quality non-attainment or near non-attainment counties. The Curb Ramp program focuses on construction or replacement of curb ramps at intersections to make the intersections more accessible to people with mobility limitations. The Coordinated Border Infrastructure Program focuses on projects selected to improve the safe movement of motor vehicles at or across the land border between the United States and Mexico. The Federal Lands Access Program focuses on facilities that are located on or adjacent to or provide access to federal lands.

The Rail Grade Crossing and Re-planking Program focuses on replacement of rough railroad crossing surfaces on the state highway system. Projects are selected based on the conditions of the riding surface such as highway, railroad, and drainage and the benefit to cost per vehicle using the crossing. The Railroad Signal Maintenance Program provides financing to individual railroad companies based on the number of state highway system crossings and type of automatic devices present at each crossing on the company's lines.

Category 11-District Discretionary/Rider 11B/ Rider 45

The Texas Transportation Commission (TTC) allocates these projects by formula. The projects are selected by the TxDOT districts and include transportation projects selected at the district's discretion to meet Pharr District project shortfalls and/or unexpected change orders. The Pharr District receives several million dollars per year to respond to needs over eight counties. Category 11 funds must be used to address many needs over a very large area. Rider 11B funds are directed to the TxDOT Border Districts. These are funds used to support improvements for movement of goods and people through the Ports of Entry. Rider 45, Port Access Improvements, directs up to $20 million in each FY to be spent on the state's public roadway projects as selected by the Port Authority Advisory Committee and approved by the Texas Transportation Commission to improve access to Texas ports.

Category 12-Strategic Priority

The TTC selects projects which generally promote economic opportunity, increase efficiency on military deployment routes, retain military assets in response to the federal military base realignment and closure report, or maintain the ability to respond to both man-made and natural emergencies. The TTC approves pass through financing projects in order to help local communities address their transportation needs. Through this category, TxDOT provides Category 5-Congestion Mitigation and Air Quality (CMAQ) and Category 7- Surface Transportation Program – Metro Mobility (STP-MM) reconciliation funding back to each corresponding MPO.

Coordinated Border Infrastructure Program (CBI)

In the past, the MPO has received Coordinated Border Infrastructure (CBI) federal funding. This CBI program was created under the old transportation bill SAFETEA-LU. Now under MAP-21, this program has been eliminated. The MPOs may have some remaining CBI funding from the closed program.

Other Possible Funding Sources

Economically Disadvantaged Counties Program

Senate Bill 370 of the 75th Texas Legislature established the Economically Disadvantaged Counties Program (EDCP). The TTC amended the Texas Administrative Code on November 20, 1997 allowing the program to become effective on January 1, 1998. The bill requires the TTC to evaluate proposals for highway improvement projects located within economically disadvantaged counties. An economically disadvantaged county is defined by below average per capita taxable property value, below average per capita income, and above average unemployment compared to other counties within the state. Generally, 80% of the total cost of the project are federally funded and 20% are locally funded. A notable exception is federal safety funds, which require only a 10% local funding match. TxDOT provides the matching funds for roadways on the state highway system (Farm-to-Market, State Highways, U.S. Highways and Interstate Highways) and local jurisdictions provide the local match for off system roadways. The EDCP provides an opportunity for political subdivisions to adjust their

local match requirements. The RGVMPO planning area is included within economically disadvantaged counties. Since political subdivisions within the EDCP can also participate in the program, the local match burden to these entities can be substantially reduced, allowing for more projects requiring scarce local funding. Projects identified in the 2015-2040 MTP can be evaluated as candidate projects for the EDCP.

Innovative Finance

The FAST Act restructured the MAP 21's credit and innovative finance programs and created the National Surface Transportation and Innovative Finance Bureau. This new office was created to help streamline and improve the application process for the Department's credit assistance programs. One such program, the Transportation Infrastructure Finance and Innovation Act (TIFIA) program leverages federal dollars by facilitating private participation in transportation projects and encouraging innovative financing mechanisms that help advance projects more quickly. While the FAST Act cuts funding to the TIFIA program and reduces the minimum project size for TIFIA, it provides funding to cover the loan evaluation costs typically borne by the borrower and provides flexibility to TxDOT to use Federal formula dollars to cover credit subsidy costs. The FAST Act also increased eligible projects under the Railroad Rehabilitation and Improvement Financing (RRIF) program. This program lends funds to entities that are building rail infrastructure. The FAST Act makes transit-oriented-development elements of passenger rail station projects eligible for RRIF. The FAST Act directs the above-mentioned Bureau to improve the application processes for Departmental credit programs through streamlined review and transparent approval processes, and to promote innovative financing best practices for Public Private Partnerships (PPP) across all modes and ensures that credit assistance provided to PPP projects is transparent to the public. The Bureau also helps coordinate the progress of environmental review and permitting processes to ensure consistency with USDOT goals. To improve project timelines, the FAST Act also requires the Bureau to coordinate efforts to improve efficiency and effectiveness of the environmental review and permitting processes.

Transit Funding Sources

Section 5307 Urbanized Area Formula Program

Section 5307, the Urbanized Area Formula program (49 U.S.C. 5307) makes federal funding available to urbanized areas for transit capital and operating assistance and for transit-related planning activities. Funding for the formula program is determined based on the level of transit service provision, population, and other factors.

Section 5311 (Formula Grants for Rural Areas)

This formula-based program (49 U.S.C. 5311) provides states and tribal governments with funding for administration, capital, planning, and operating assistance to support public transportation in rural areas, defined as areas with fewer than 50,000 residents. A percentage of funds in this program are set aside for the Intercity Bus Program, the Rural Transit Assistance Program (RTAP), Public Transportation on Indian Reservations, and the Appalachian Development Public Transportation Program.

Section 5310 (Enhanced Mobility of Seniors and Individuals with Disabilities)

The Enhanced Mobility program provides formula funding to assist in meeting the transportation needs of the elderly and persons with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. The purpose of this program is to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and paratransit services.

Funds from the 5310 program can be used for both capital improvements and operating expenses. However, at least 55% of program funds must be used on capital projects that are public transportation projects planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities when public transportation is insufficient, inappropriate, or unavailable. The remaining 45% of program funds may be used for:

- Public transportation projects that exceed the requirements of the Americans with Disabilities Act (ADA);
- Public transportation projects that improve access to fixed-route service and decrease reliance by individuals with disabilities on complementary paratransit; and
- Alternatives to public transportation that assist seniors and individuals with disabilities.

Funds are apportioned for urbanized and rural areas based on the number of seniors and individuals with disabilities. The federal share for capital projects (including acquisition of public transportation services) is 80%; the federal share for operating assistance is 50%.

Section 5337 (State of Good Repair Program)

The purpose of 49 U.S.C. 5337, a new grant program, is to maintain public transportation systems in a state of good repair. This program replaces the Fixed Guideway Modernization Program, Section 5309. Funding is limited to fixed guideway systems (including rail, bus, rapid transit, and passenger ferries) and high intensity bus (buses operating in high occupancy vehicle lanes). Projects are limited to replacement and rehabilitation or capital projects required to maintain public transportation systems in a state of good repair.

Section 5339 Alternatives Analysis Program (Bus and Bus Facilities)

The purpose of 49 U.S.C. 5339 is to assist in financing the evaluation of all reasonable modal and multimodal alternatives and general alignment options for identified transportation needs in a specific, broadly defined travel corridor. Funds may be used to assist state and local governmental authorities in conducting alternatives analyses when at least one of the alternatives is a new fixed guideway system or an extension to an existing fixed guideway system. The transportation planning process of alternatives analysis includes:

- An assessment of a wide range of public transportation or multimodal alternatives, which will address transportation problems within a corridor or subarea;

- Provides ample information to enable the secretary to evaluate project justification and local financial commitment;
- Supports the selection of a locally preferred alternative; and
- Enables the local Metropolitan Planning Organization to adopt the locally preferred alternative as part of the long-range transportation plan.

Section 5309 (Capital Investment Grants)

The Capital Investment Grant (CIG) Section 5309 program is a discretionary grant program for funding major transit capital investments. This includes:

- heavy rail
- commuter rail
- light rail
- streetcars
- bus rapid transit

By law, projects seeking CIG funding must complete a series of steps over several years to be eligible for funding. New Starts and Core Capacity projects are required by law to complete the Project Development and Engineering phases in advance of receipt of a construction grant agreement. Small Starts projects are required by law to complete the Project Development phase in advance of receiving a construction grant agreement. By law FTA rates projects at various points in the process, evaluating project justification and local financial commitment according to statutory criteria. FTA provides policy guidance on the CIG process and the evaluation criteria on their website.

Applying Fiscal Constraint

The expenditures and revenues being utilized in this MTP are financially constrained by the Year of Expenditure (YOE), as set forth by FAST Act/MAP-21. The Year of Expenditure (YOE) and the associate inflated costs have been identified for all projects and the annual inflation rate used is four percent (4%). An exception to this is the consultant services that are employed by TxDOT, to perform the Preliminary Engineering (PE) work. These costs are not derived by use of the aforementioned percentage instead, these costs represent the actual contract cost negotiated with a particular consultant for a specific project.

MPO staff, in coordination with TxDOT Pharr District staff have compiled information and prepared a forecast of available revenues to fund future improvement projects. This includes a compilation of proposed transportation projects for inclusion in the Unified Transportation Plan (UTP). The development of this information helps inform a forecasted amount of likely available funding by category over the 25-year span of the plan. The MPO staff, in cooperation with TxDOT, have reviewed this forecast. MPO Technical Committee members in turn examined the financial assumptions used to build these funding forecasts. The MPO Policy Board members by consideration of the update of the MPO's MTP, also undertake an examination and endorsement of the working assumptions behind the MTP Financial Plan.

For this MTP update, total project costs include several factors. Total project costs take into consideration the different components utilized in deriving the total project cost for a specific project. Preliminary engineering, right of way purchase, and in the case of transit projects, operating, planning, maintenance and capital all comprise possible components of the total project cost.

The following tables show fiscal constraint by summarizing total funding over the life of the plan in relation to total expected project costs in YOE dollars. For the purposes of this fiscal constraint, and because of the merger of the three MPOs, funding levels from prior MTPs have been used for these assumptions. The MPO staff and TxDOT Pharr District staff will work in close coordination to clarify adjusted funding assumptions by category for the newly combined RGVMPO. A full listing of projects by preexisting MPO, and associated costs are shown in Chapter 8.

Harlingen-San Benito MPO

For these costs to be properly estimated and suitably programmed, construction estimates from the HSB MPO listing of projects incorporated the following data. For Construction Engineering (CE) and Contingency costs, the following factors are utilized. Project cost ranges and associated CE and Contingencies are shown in **Table 7-1**.

Table 7-1: Project Costs; Associated CE & Contingencies

Cost Range	CE	Contingencies
Less than $1 M	9%	8%
$1 M to $5 M	6%	7%
$5 M to $25 M	5%	7%
+$25 M	5%	6%

In calculating the Indirect Cost, a set rate of 4.97% of the estimated YOE construction cost will is used. The Right of Way (ROW) Costs are obtained from TxDOT's ROW section and/or Advance Funding Agreements (AFA). For the Preliminary Engineering (PE), costs are obtained from TxDOT's consultant management section. Please note that some of the Preliminary Engineering or ROW costs are subject to be incurred by the local municipalities, County, or state (TxDOT).

The 25-year revenue forecasts shown in **Table 7-2** are derived from those total project costs established as reasonable and constrained under HSB MPO 2015-2040 MTP. Spending by category over the 2015-2040 25-year period was used to project an estimate for an additional 5 years (2041-2045) while accounting for termed and non-recurring funding sources. The 25-year YOE Total Project Costs shown in the table are equal to the aforementioned 25-year total of YOE project costs, less projects already completed (2015-2018).

Table 7-2: HSB MPO Fiscal Constraint

Funding Category	Revenue Forecast (25 yr.)	25 yr. YOE Total Project Costs
Category 1 Rehab & Maintenance	$134,456,872	$134,456,872
Category 2 Urban Corridors	$127,190,000	$115,157,905
Category 9 TAP	$4,188,902	$3,464,402
Category 11	$7,500,000	$21,486,890
CBI	$3,686,000	$3,686,000
Rider 45	$4,500,000	$4,500,000
Earmark	$0	
Local	$206,102,518	$206,102,518
Total	$487,624,292	$488,854,587

Hidalgo County MPO

The 25-year revenue forecasts shown in **Table 7-3** are derived from those total project costs established as reasonable and constrained under HC MPO 2015-2040 MTP. Spending by category over the 2015-2040 25-year period was used to project an estimate for an additional 5 years (2041-2045) while accounting for termed and non-recurring funding sources. The 25-year YOE Total Project Costs shown in the table are equal to the aforementioned 25-year project costs, less projects already completed (2015-2018).

Table 7-3: HC MPO Fiscal Constraint

Funding Category	Revenue Forecast (25 yr.)	25 yr. YOE Total Project Costs
Category 1 Rehab & Maintenance	$9,870,000	$9,870,000
Category 2 Urban Corridors	$356,639,177	$356,639,177
Category 3 Non-Traditional	$0	*
Category 4 Statewide Connectivity	$248,390,001	$248,390,001
Category 7 Urban Mobility	$392,222,825	$392,022,825
Category 8 Safety		*
Category 9 TAP	$5,180,001	$5,180,001
Category 11	$44,834,374	$44,834,374
Category 12	$346,450,835	$339,950,835
CBI	$18,326,958	$18,326,958
Earmark	$8,092,113	$5,334,613
Other Funds (Local, bonds)	$1,482,964,935	$1,464,254,899
Trends	$267,800,212	$267,800,212
Total	$3,180,771,432	$3,152,603,895

Brownsville MPO

Project cost estimates have been developed for each individual Brownsville MPO MTP project. For those improvement projects listed in the Brownsville MPO's Transportation Improvement Program (TIP), the existing cost information from the TIP has been utilized on the MTP spreadsheet. Cost estimates for most projects are based on the length of the roadway and type of proposed cross-section or roadway width. Construction costs for typical cross-sections were calculated as follows:

- Urban section/2 lanes with turn (middle) lane - $2,000,000/mile
- 64 ft. curb and gutter/4 lanes-CLTT/Continuous left-turn lane) - $4,900,000/mile
- 68 ft. rural section/4 lanes, undivided - $1,800,000/mile
- 101 ft. curb and gutter/6 lanes with median and shoulders - $6,200,000/mile

These estimated costs (above) include drainage, subgrade, flex-base, the pavement itself, as well as sidewalk construction and concrete curb and gutter. **Table 7-4** shows a comparison of revenue forecasts by category over the 25-year period developed in coordination with the TxDOT Pharr District.

Table 7-4: Brownsville MPO Fiscal Constraint

Funding Category	Revenue Forecast (25 yr.)	25 yr. YOE Total Project Costs
Category 1 Rehab & Maintenance	$172,760,000	TBD
Category 2 Urban Corridors	$ 253,998,000	$253,451,800
Category 3 Non-Traditional	$ 5,000,000	TBD *
Category 4 Rural Connectivity	$ 50,000,000	TBD *
Category 7 Urban Mobility	$ 154,320,000	$149,404,918
Category 8 Safety	$ 6,883,000	TBD
Category 9 TAP	$ 9,980,000	$2,365,886
Category 10 CBI	$12,713,515	$12,713,515
Rider 11B	$ 10,000,000	TBD
Category 12	$ 114,000,000	TBD *
Other Funds (Local, bonds)	$56,012,014	$58,000,000
Total	**$786,398,000**	$476,572,248

* NOTE: Discretionary funds (e.g. Category 3, Category 12 and other) are awarded for specific projects.

Chapter 8

Staged Improvement Plan

STAGED IMPROVEMENT PLAN

This section includes tables that illustrate the program of projects in the RGVMPO 2045 MTP. The fiscally constrained projects have been grouped into four periods/stages in table format based on the existing MPOs found in the Rio Grande Valley. The Implementation stage coincides with projects in the Transportation Improvement Program (TIP) and the Short-Term stage includes projects occurring within the Unified Transportation Program (UTP):

- 2019-2022 (Implementation)
- 2023-2029 (Short-Term)
- 2030-2039 (Medium-Term)
- 2040-2045 (Long-Term)

In addition to fiscally constrained project lists, this chapter includes a breakdown of locally funded, unfunded, lump sum, or illustrative projects when applicable. For full RGVMPO project descriptions and listings, please see **Appendix X**.

Harlingen-San Benito MPO

The following tables (**Table 8-1** through **Table 8-6**) list the four project periods/stages, as well as illustrative/unfunded projects for the HSB MPO planning area. Lump sum projects, or projects that occur over various project stages, are listed separately.

Table 8-1: Harlingen-San Benito MPO Implementation Stage Projects (2019-2022)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 506 (For Illustrative Purposes)	Widen to Add Continuous Left Turn Lane	Cooper Ln	Dodd Ln	--	2019	--	PHR-HSB-114
Spur 54 Reconstruction	Widen to 6 Lanes with a Raised Median	IH 2 to IH 69E	IH 69E SB Frontage Rd	$8,732,650	2019	--	PHR-HSB-112
BU 77 (For Illustrative Purposes)	Construction of ADA Compliant Sidewalks	Loop 499	Treasure Hills Blvd	$747,039	2019	--	PHR-HSB-129
Expressway 77/83 (For Illustrative Purposes)	Construction of ADA Compliant Sidewalks	Wilson Rd	Whalen Rd	$1,119,446	2019	--	PHR-HSB-130

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Loop 499	Construction of 1.2 mi of ADA-accessible 5 to 6-foot wide sidewalk	Rio Hondo Rd	FM 106 (Harrison Ave)	$519,019	2020	--	PHR-HSB-127
Stuart Place Rd	Construction of 1.2 mi of ADA-accessible 5 to 6-foot wide sidewalk	On Stuart Place Rd, from 0.18 Mi N of Primera Rd	FM 2994 / Wilson Rd	$578,412	2020	--	PHR-HSB-128
FM 509 Ext	New Location - 2 Lane Rural Roadway	FM 508	FM 1599	$11,046,883	2021	--	PHR-HSB-024
IH 69E/US 77 Ramp Reversals	NB and SB Ramp Reversals	Industrial Blvd	Loop 499/Primera Rd	$3,281,300	2021	--	PHR-HSB-115
SH 107	Reconstruct to 4 Lanes C&G and add ADA sidewalk	Louisiana St	Hooks E Hodges Rd	$12,115,414	2021	--	PHR-HSB-118
South Parallel Corridor (Phase II)	New Location - 2 Lane Rural Roadway	On S Parallel Corridor, FM 509	FM 2520	$10,574,579	2021	--	PHR-HSB-133
BUS 77-X - Widen Non-Freeway	Construct Raised Median	FM 507	Commerce St	$5,101,566	2022	--	PHR-HSB-135
BUS 77-X - Widen Non-Freeway	Construct Raised Median	Commerce St	Arroyo Bridge	$708,434	2022	--	PHR-HSB-136
SL 499 - Widen Non-Freeway	Construct Raised Median	IH 69E	BUS 77X	$2,000,000	2022	--	--
SL 499 - Widen Non-Freeway	Construct 6 Lane with Raised Median	BUS 77X	SS 206	$15,000,000	2022	--	PHR-HSB-137

Table 8-2: Harlingen-San Benito MPO Short-Term Stage Projects (2023-2029)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
South Parallel Corridor (Phase III)	New Location - 2 Lane Rural Roadway	FM 2520	FM 1577	$654,225	2023	--	PHR-HSB-110
BUS 77	Proposed 6 Lane with A Raised Median	FM 509	Arroyo Colorado Bridge	$34,971,300	2023	--	PHR-HSB-122

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Outer Parkway (PE)	New Location - Controlled Access 4 Lane Toll Facility	IH 69E	FM 106/General Brandt Rd	$3,330,600	2024	--	PHR-HSB-126
Outer Parkway	New Location - Controlled Access 4 Lane Toll Facility	IH 69E	FM 106/General Brandt Rd	$171,644,850	2024	--	PHR-HSB-126
IH 69E/US 77/83 Northbound	Proposed Continuous Frontage Roads and Intersection Improvements	At FM 732	--	$21,184,995	2024	--	PHR-HSB-123
US 281	Widen To 4 Lane Rural	FM 732	FM 1577	$11,895,000	2028	--	PHR-HSB-134

Table 8-3: Harlingen-San Benito MPO Medium-Term Stage Projects (2030-2040)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 1925	New Location - 4 Lane Roadway	IH 69E	Cameron/ Hidalgo County Line	$41,632,500	2030	--	PHR-HSB-124
US 77/83 South Parallel Corridor (Ultimate)	Widen to 4 Lanes	FM 1479	FM 1577	$36,790,733	2040	--	PHR-HSB-081

Table 8-4: Harlingen-San Benito MPO Long-Term Stage Projects (20401-2045)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
T Street - Streetscape	Reconstruct Roadway, ADA Sidewalks and Curb Cuts, Street Lights, Striping,	IH 69E Frontage Rd	W Jefferson Ave	--	2041-45	--	--

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
	Landscaping, Signage						
Harlingen Railroad Improvements	Extend track between Jefferson Ave and Adams Ave, create new connection to the west, Eliminate Rail Yard and 8 Street/Rail Crossings	Commerce @ 0.25 mi N of W Jackson Ave	BUS 77	--	2041-45	--	--
Garrett Rd	ROW Acquisition, Widen, Drainage Improvements, Reconstruct to Urban Standards, Add Shoulders, Add ADA sidewalks; Add Street Lights	Altas Palmas Rd	Dixieland Rd	--	2041-45	--	--
Calle Paloma	ROW Acquisition, Add Shoulders, Add ADA Sidewalks, Drainage Improvements, Street Lights	FM 732	Calle Rancho Grande W	--	2041-45	--	--

Table 8-5: Harlingen-San Benito MPO Lump Sum (Grouped) Projects

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Lump Sum (Grouped Projects)	Rehabilitation and Preventive Maintenance, seal coats, overlays.	Various	Various	$134,456,872	--	--	PHR-HSB-95
Lump Sum	Safety Improvements, Intersection Improvements, and RR Crossing Improvements.	Various	Various	Lump Sum	--	--	PHR-HSB-090

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Lump Sum	Transportation Enhancements	Various	Various	Lump Sum	--	--	PHR-HSB-093
Lump Sum	Transportation Enhancements	Various	Various	Lump Sum	--	--	PHR-HSB-091
Lump Sum	Operational Improvements	Various	Various	Lump Sum	--	--	PHR-HSB-003
US 77	Safety and Connectivity Improvements	Various	Within HSBMPO Planning Area	Lump Sum	--	--	PHR-HSB-100c

Table 8-6: Harlingen-San Benito MPO Unfunded Needs Projects

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
East-West Parallel Corridor (Jefferson Ave)	Add Lanes and Signalized Intersections	IH 69E Frontage Rd	Loop 499	$20,000,000	Harlingen	20
Commerce St	Add Lanes	BU 77	BU 77	$18,000,000	Harlingen	14
East-West Parallel Corridor (Garrett Rd)	Add Lanes and Signalized Intersections	IH 69E Frontage Rd	BU 83	$28,500,000	Harlingen	21
Matz / New Combes	Add Lanes (Local Road)	Loop 499	BU 77	$8,700,000	Harlingen	17
Tamm Ln	Highway; widen road, improve drainage, add turn and deceleration lanes, add shoulders, add ADA sidewalks	SH 107	IH 2 Frontage Rd	$14,961,000	Cameron County	9
Calle Rancho Grande E	Highway; add shoulders, add ADA sidewalks, improve drainage, add streetlights	US 281	Calle Rancho Grande N	$6,054,000	Cameron County	3
Calle Rancho Grande W	Highway; add shoulders, add ADA sidewalks, improve drainage, add streetlights	US 281	Calle Rancho Grande N	$5,608,000	Cameron County	4

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Primera Rd	Intersection Improvements	Stuart Place Rd	IH 69E Frontage Rd	$8,000	Primera	23
Dilworth Rd	Highway; widen road, improve drainage, add shoulders, add ADA sidewalks	FM 2994 / Wilson Rd	IH 2 Frontage Rd	$1,500,000	Cameron County	6
Ed Carey Dr / Loop 499	Highway; add 2nd right turn lane	499 @ IH 69E Frontage Rd	--	$1,750,000	Harlingen	15
Joines Rd	Road Reconstruction	City Limits	FM 732	$492,822	San Benito	26
Grimes Rd	Highway; development of 4 lane road on new location	FM 509	FM 106	$12,789,000	CCRMA	13
Blum Ln	Highway; widen road, add shoulders, add ADA sidewalks, improve drainage, reconstruct	FM 800	S Tamm Ln	$2,201,000	Cameron County	1
Wilcox Rd	Highway; widen road, improve drainage, add shoulders, add ADA sidewalks	SH 107	Primera Rd	$6,780,000	Cameron County	10
New Combes Highway	Highway; widen road, improve drainage, add shoulders, add ADA sidewalks	FM 508	Loop 499	$6,289,000	Cameron County	8
Yost Rd	Road Reconstruction	Sam Houston	FM 1577 (Sherer)	$3,285,482	San Benito	32
IH 69E Frontage Road	Road Reconstruction/Turn around Lane	Primera Rd @ IH 69E Frontage Rd	--	$4,110,000	Primera	24
Ratliff Dr	Road Reconstruction	Turner Rd	US 77	$821,370	San Benito	28
Turner Rd	Road Reconstruction	Oscar Williams Rd	Sam Houston Blvd	$2,464,111	San Benito	29
Whalen Rd	Road Reconstruction	Expressway 77	BU 77	$1,642,741	San Benito	31
New Hampshire St	Add Lanes (Collector)	IH 69E Frontage	BU 77	$5,800,000	Harlingen	16
Line 17 Rd	Road Reconstruction	McCullough Rd	FM 510	$1,642,741	McCullough	27
Robertson St Improvements	Reconstruction	Southern Limit of TxDOT Roadway	Southern Limit of Intersection of Robertson and 6th	$375,000	Los Indios	22
Grimes Rd	Add Lanes (Collector)	FM 509	FM 106	$12,789,000	Harlingen	19
Pennsylvania Ave	Road Reconstruction	Thompson Rd	FM 1577	$821,370	San Benito	30

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Hale Dr	Add Lanes (Local Road)	Victoria Ln	FM 509	$3,840,000	Harlingen	18
Pennsylvania Ave	Road Reconstruction	Thompson Rd	FM 1577	$821,370	San Benito	25
Grimes Rd	Align with CCRMA project, widen road, improve drainage, add shoulders, new roadway with 4 Lanes	FM 509	FM 106	$12,789,000	Cameron County	11
Clark Rd	Highway; widen road, improve drainage, add shoulders	Mile 3 E	FM 506	$8,820,000	Cameron County	5

Hidalgo County MPO

The following tables (**Table 8-7** through **Table 8-10**) list the three project periods/stages, as well as illustrative/unfunded projects for the HC MPO planning area. It must be noted that HC MPO opted to keep the priority rankings and order of projects listed in the 2040 MTP. HC MPO elected to postpone development of additional projects for the Long-Term Stage of this plan, with the understanding that a new MTP would follow the merger of the RGVMPO.

Table 8-7: Hidalgo County MPO Implementation Stage Projects (2019-2022)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Owassa Rd - ROW	Construct a 4 Lane Urban Roadway	I Rd	Cesar Chavez Rd	$800,000	2019	County 2 - 4	HC-335r
CS - Nolana - PE	Widen and Reconstruct to 4 Lanes Divided Urban	FM 907	FM 88	$21,555,778	2019	County 1-2 / San Juan	HC-152
CS - Veterans Blvd (Future SH 495) - ROW	4 Lanes Divided Urban	IH 2/US 83	SH 364 (La Homa Rd)	$16,856,420	2019	Palmview / County 3	HC-50r
FM 676 (Mile 5 N) - ROW	ROW Acquisition services	SH 107 (Conway)	Taylor Rd	$13,220,806	2019	Alton / County 3	HC-117r
Liberty Blvd (Phase I) - ROW	Widen to 4 Lanes with Dedicated Left Turn Lane	Mile 3 Rd	US 83	$12,526,330	2019	Penitas	HC-284ar
Taylor Rd - ROW	Widen 4 Lanes with Left Turn Lane	BU 83	IH 2 (US 83)	$7,277,407	2019	Mission / McAllen	HC-256r
CS - Taylor Rd - ROW	4 Lanes Divided Urban	On Taylor Rd @Mile 2 N	BU 83	$10,385,439	2019	Mission / McAllen	HC-257r

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 1926 (23rd St)	Addition of North and South Bound Center Turn Lanes	FM 1926 (23rd St) & Hackberry Ave	--	$115,306	2019	McAllen	HC-310
FM 1926 (23rd St)	Addition of North and South Bound Center Turn Lanes	SH 1926 (23rd St) & Kendlewood Ave	--	$125,114	2019	McAllen	HC-311
SH 336	Addition of North Bound Right Turn Lane	Intersection US BU 83	135ft S Intersection US BU 83	$120,743	2019	McAllen	HC-312
FM 1926 (23rd St)	Addition of East, North and South bound center turn lanes	FM 1926 (23rd St) & Ebony Ave	--	$183,567	2019	McAllen	HC-313
FM 1926 (23rd St)	Addition of North and South bound center turn lanes	FM 1926 (23rd St) & Jackson Ave	--	$165,248	2019	McAllen	HC-314
Bicentennial Blvd (Hoehn Rd)	Construct New 4 Lane Urban Roadway	SH 107	Trenton Rd	$18,767,298	2019	McAllen	HC-91
Signal improvements	Traffic signal hardware improvements	Within Hidalgo County	--	$1,256,000	2019	Various	HC-363
N Alamo Rd Extension	New location 2 Lane rural roadway	FM 1925	0.54mi N FM 1925	$1,083,018	2019	County 4	HC-289
Dicker Rd - PE	Widen to 4 Lane with continuous left turn	Spur 115 (23rd St)	FM 2061 (Jackson Rd)	$20,813,075	2019	County 2 / McAllen	HC-291
Dicker Rd	Widen to 4 Lane with continuous left turn	Spur 115 (23rd St)	FM 2061 (Jackson Rd)	$20,813,075	2019	County 2 / McAllen	HC-291
Liberty Blvd (Phase II) - PE	Construct 2 Lanes with shoulders	Mile 3 Rd	FM 2221	$13,337,955	2019	County 3	HC-284b
Liberty Blvd (Phase II) - ROW	Construct 2 Lanes with shoulders	Mile 3 Rd	FM 2221	$13,337,955	2019	County 3	HC-284br
Eldora Rd - PE	Divided Urban Section	FM 3362 (Jackson Rd)	Veterans Blvd (I Rd)	$16,672,565	2019	Pharr / County 2	HC-322
Eldora Rd - ROW	Divided Urban Section	FM 3362 (Jackson Rd)	Veterans Blvd (I Rd)	$16,672,565	2019	Pharr/San Juan/County 2	HC-322r
365 Tollway	A toll improvement being a 4 Lane controlled access facility	FM 396 (Anzalduas Highway)	US 281 Military Highway	$245,073,954	2019	HCRMA	RMA-1aa
Pharr Comprehensive Pedestrian Safety Wellness Plan - TAP	Planning study for new construction pedestrian safety improvements	City limits	City limits	$254,000	2019	Pharr	HC-357

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
SH 107	Construct 6 Lane divided rural	US 281	FM 493 (La Blanca)	$16,092,588	2019	Edinburg / County 4	HC-227
Vision Zero Planning Study- TAP	Vision Zero Planning Study	City limits	City limits	$150,000	2019	McAllen	HC-356
Pharr Int'l Bridge Northbound lanes	Construction additional NB Lane and related canopies and booths into the Pharr POE inspection area	@ Pharr Int'l Bridge	--	$3,272,871	2019	Pharr	HC-354
Pharr Int'l Bridge 2nd BSIF Exit	Construction of additional exit lane and related canopies and booths out of Pharr POE BSIF	@ Pharr Int'l Bridge	--	$3,289,393	2019	Pharr	HC-355
Donna Int'l Bridge Commercial Approach - ROW	Construct 4 Lane controlled access tolled facility	Donna BSIF	Future IBTC / FM 493 intersection	$55,121,636	2019	Donna	HC-275r
Mile 1 East - PE	Reconstruct & widen to Urban 2 Lanes & shoulders	BU 83	Mile 8 North	$12,240,270	2019	Mercedes	HC-269
SH 68 - ROW	Construct new 4 Lane divided rural highway facility	US 83	FM 1925	$163,864,626	2019	TxDOT	HC-295b
Mile 3 N (Phase I) - PE	Widen to 4 Lane Divided - Curb & Gutter Section	Tom Gill Road	FM 492 (Goodwin Rd)	$18,353,281	2019	County 3	HC-286a
Mile 3 N (Phase II) - PE	New location 2 Lane rural roadway	Tom Gill Rd	FM 2221	$7,892,849	2019	County 3	HC-286b
CS - Cesar Chavez - PE	Widen to 4 Lanes	BU 83	Ridge	$8,482,172	2019	San Juan / Alamo / County 1-2	HC-344
CS - Cesar Chávez Rd - PE	Widen to 4 Lanes	BU 83	Nolana Loop	$28,358,177	2019	San Juan / Alamo / County 1-2	HC-326
FM 676 - PE	Widen to 4 Lane Divided	Taylor Rd	FM 2220	$6,950,870	2019	McAllen / County 3	HC-144
Sharp Road Realignment - PE	Road Realignment 2 Lane rural roadway	FM 1925	0.46mi North	$2,102,947	2019	County / 4	HC-12ab
Mile 10 North - PE	Widen to 4 Lanes - Urban	Westgate (Mile 6 W)	FM 1015	$18,675,784	2019	Weslaco / County 1	HC-264
CS - Inspiration Rd/ Military Pkwy Loop - PE	Widen to 4 Lane Divided	IH 2	FM 1016	$27,624,057	2019	Mission / County 3	HC-341
CS - Nolana Loop (S1) - ROW	Widen to 4 Lane Divided	FM 1426 (Raul Longoria)	FM 907	$17,112,526	2019	County 2 / McAllen	HC-152ar

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
US 83 La Joya Relief Route	Construct controlled access facility	FM 2221 (Jara Chinas)	0.28mi W Showers Rd	$154,651,000	2019	TxDOT	HC-293
IH 2 / IH 69C Interchange	Construct Interchange	IH 2	1.82mi N IH 2	$74,408,144	2019	Pharr	HC-366
IH 2 / IH 69C Interchange	Interchange improvements	FM 2557 (Stewart Rd)	2nd St	$241,951,404	2019	Pharr	HC-362
PSJA Tri-City Pedestrian Safety Improvements-TAP	New construction pedestrian safety improvements	City of Pharr	City of Alamo	$2,286,000	2019	Alamo / San Juan / Pharr	HC-358
Elsa Community Trail Park - TAP	Construction of multiuse trails	W Hidalgo St	Mile 4 Rd @ EEISD High School	$1,235,300	2019	Elsa	HC-367
RGV Bicycle BikeShare - TAP	RGV B-Cycle for regional health and wellness thru bikeshare program	Within Hidalgo County	Within Hidalgo County	$544,000	2019	Valley Metro	HC-368
Hidalgo County Active Mobility Plan - TAP	Mobility Plan to identify gaps in current bicycle/pedestrian plans	Within Hidalgo County	Within Hidalgo County	$330,000	2019	Valley Metro	HC-369
Pharr Bridge Dock Expansion Phase I	Dock Expansion Phase I	@ Pharr Int'l Bridge	--	$6,490,000	2019	Pharr	HC-372
Pharr Bridge Dock Expansion Phase II	Dock Expansion Phase II	@ Pharr Int'l Bridge	--	$13,610,000	2019	Pharr	HC-373
Pharr Bridge Commercial Staging Site	Pharr Commercial Vehicle Staging Area	@ Pharr Int'l Bridge	--	$8,850,000	2019	Pharr	HC-374
FM 1015 - PE	Widen to 4 Lane Divided 1228-03-900	Mile 12 N Rd	SH 107	$12,952,950	2019	Edcouch / County 1	HC-2
CS - Cesar Chavez Rd - ROW	Widen to 4 Lanes	BUS 83	Nolana Loop	$28,358,177	2020	San Juan / Alamo / County 1-2	HC-326r
CS - Cesar Chavez - ROW	Widen to 4 Lanes	BUS 83	Ridge	$8,482,172	2020	San Juan / Alamo / County 1-2	HC-344r
Taylor Rd	Widen 4 Lanes with left turn lane	BUS 83	IH 2 (US 83)	$7,277,407	2020	Mission / McAllen	HC-256
FM 676 (Mile 5 N)	Widen to 4 Lane Divided	SH 364 (La Homa Rd)	SH 107 (Conway)	$18,343,987	2020	Alton / County 3	HC-117b
SH 68	Construct new 4 Lane divided rural highway facility	US 83	FM 1925	$163,864,626	2020	TxDOT	HC-295c

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
International Bridge Trade Corridor (IBTC) - ROW	4 Lane divided - at grade - non toll facility	365 Tollway at FM 493	IH 2	$121,936,327	2020	HCRMA	RMA-3
BUS 281 / SH 107	Operational Improvements and Rehabilitation	BUS 281-W	IH 69C (US 281)	$24,487,012	2020	County 4	HC-337
Jackson Hike Bike Phase II - TAP	Jackson Rd Hike & Bike Project Phase II	Bicentennial H/B & Wisconsin (McAllen)	Canton Rd & Jackson Rd (Edinburg)	$3,123,775	2020	McAllen / Edinburg	HC-370
Mile 3 N (Phase I)	Widen to 4 Lane Divided - Curb & Gutter Section	Tom Gill Rd	FM 492 (Goodwin Rd)	$18,353,281	2021	County 3	HC-286a
Mile 10 North - ROW	Widen to 4 Lanes - Urban	Westgate (Mile 6 W)	FM 1015	$18,675,784	2021	Weslaco / County 1	HC-264r
CS - Inspiration Rd/ Military Pkwy Loop - ROW	Widen to 4 Lane Divided	IH 2	FM 1016	$27,624,057	2021	Mission / McAllen / Hidalgo	HC-341r
Cano Hike & Bike Trail Lighting Project - TAP	Installation of solar powered lighting along the Cano walking trail	Cano St	Freddy Gonzalez	$534,400	2021	Edinburg	HC-359
Donna Sidewalk Project - TAP	Rehabilitation of deteriorated sidewalks and construction of new sidewalks	S International Blvd	--	$340,741	2021	Donna	HC-360
Mile 6 W Rd	Widen to 4 Lane	Mile 9 N	Mile 11 N	$16,726,293	2021	Weslaco / County 1	HC-148ba
Anzalduas Int'l Port of Entry (NB)	Inbound commercial inspection pre-primary inspection pre-cleared cargo traffic	Anzalduas Land Port of Entry NB Empties	--	$5,375,413	2021	Analduas Int'l Bridge Board	HC-352
Donna Int'l Bridge	Construction commercial facilities NB loaded/empty & SB loaded trucks	@ Donna Int'l Bridge	--	$43,398,084	2021	Donna	HC-361
FM 494	Widen to 4 Lane	FM 1924 (Mile 3)	FM 676 (Mile 5)	$11,485,000	2021	County 3	HC-292b
CS - Taylor Rd	4 Lanes divided urban	On Taylor Rd @Mile 2 N	BU 83	$10,385,439	2022	Mission / McAllen / County 3	HC-257
Mile 6 W Rd - ROW	Widen to 4 Lane	SH 107	Mile 11 N	$42,571,802	2022	County 1	HC-148bbr
Liberty Blvd (Phase I)	Widen to 4 Lanes with dedicated left turn lane	Mile 3 Rd	US 83	$12,526,330	2022	Penitas	HC-284a
FM 494	Widen to 4 Lane	SH 107	FM 676 (Mile 5)	$12,543,905	2022	County 3	HC-292a

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 1925	Widen to 6 Lane with raised median	10th St	McColl Rd	$10,320,240	2022	Edinburg / County 4	HC-290
FM 2220 (Ware Rd)	6 Lanes Divided Urban Section	FM 1925 (Monte Cristo)	SH 107	$23,196,830	2022	McAllen / County 3-4	HC-20
CS - Veterans Blvd (Future SH 495)	4 Lanes divided urban	IH 2/US 83	SH 364 (La Homa Rd)	$16,856,420	2022	Palmview / County 3	HC-50
FM 1925	6 Lane with raised median	Wallace	10th St	$27,420,000	2022	County 4	HC-338
FM 1925	Widen to 4 Lane Divided	FM 88 E	FM 491 (Mile 1 W)	$24,369,700	2022	HCRMA	HC-13
FM 676 (Mile 5 N)	Widen to 4 Lane Divided	SH 107 (Conway)	Taylor Rd	$13,220,806	2022	Alton / County 3	HC-117c
FM 1925	Widen to 4 Lane Divided	FM 907 (Alamo Rd)	Sharp Rd	$13,119,543	2022	County 4	HC-12aa
SH 107 (Conway)	Construct 6 Lane divided urban	FM 676	SH 107	$18,315,000	2022	Alton / County 3	HC-343
SH 107 (Conway)	Construct 6 Lane Divided Rural	FM 676 (Mile 5 N)	FM 1924 (Mile 3 N)	$11,856,100	2022	Palmhurst / Alton / County 3	HC-224
SH 107 (Conway)	Construct 6 Lane w Raised Median	FM 1924 (Mile 3 N)	SH 495	$22,370,000	2022	Mission / Palmhurst/ County 3	HC-383
Anzalduas Int'l Port of Entry	Construction of Southbound Inspection Station	Anzalduas Int'l Port of Entry	--	$8,877,482	2022	Analduas Int'l Bridge Board	HC-277
PSJA TriCity Ped Improv Ph II - TAP	New construction of pedestrian safety improvements	City Pharr	City Alamo	$2,196,840	2022	Pharr / San Juan / Alamo	HC-371
CS - Hi Line East	Widen to 2 Lane with continuous left turn lane	Cage	Veterans	$5,466,774	2022	Pharr	HC-336
CS - Dove Ave	Construct 4 Lane urban roadway	41st St	Bentsen	$1,721,580	2022	McAllen	HC-315
US 281	Rural Expressway Facility	0.273 mi S SH 186	0.023 mi N FM 490	$93,549,000	2022	County 4	HC-384

Table 8-8: Hidalgo County MPO Short-Term Stage Projects (2023-2029)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 676	Widen to 4 Lane Divided	Taylor Rd	FM 2220	$6,950,870	2023	McAllen / County 3	HC-144
Anaya Rd	Widen to 5 Lanes	Cage	Veterans	$7,111,980	2023	Pharr	HC-340
CS - Hi Line West	Widen to 2 Lane with continuous left turn lane	Cage	Jackson Rd	$7,035,200	2023	Pharr	HC-339

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Sharp Road Realignment	Road Realignment 2 Lane rural roadway	FM 1925	0.46mi North	$2,056,496	2023	County / 4	HC-12ab
FM 1426 (Raul Longoria)	Proposed 6 Lanes raised median	IH 2 / US 83	Nolana	$19,536,000	2023	San Juan / County 2	HC-345
International Bridge Trade Corridor (IBTC) - Phase I	4 Lane Divided - at Grade - Non-Toll Facility	365 Tollway at FM 493	IH 2	$121,936,327	2023	HCRMA	RMA-3
Owassa Rd	Widen to 4 Lane	US 281	I Rd	$6,517,000	2024	Pharr / San Juan / County 2 - 4	HC-156a
SH 364 (La Homa)	Widen to 5 Lane Curb and Gutter	FM 2221	FM 676	$7,279,400	2024	County 3	HC-182ab
FM 2220 (Ware Rd)	Proposed 6 Lane Median	SH 107	Mile 5 N (Auburn Ave)	$25,207,670	2024	McAllen / County 3-4	HC-19a
Mile 3 N (Phase II)	New Location 2 Lane Rural Roadway	Tom Gill Rd	FM 2221	$7,892,849	2025	County 3	HC-286b
Mile 1 East	Reconstruct & Widen to Urban 2 Lanes & Shoulders	BU 83	Mile 8 North	$12,240,270	2025	Mercedes	HC-269
Nolana Loop (S1)	Widen to 4 Lane Divided	FM 1426 (Raul Longoria)	FM 907	$17,112,526	2025	County 2 / McAllen	HC-152a
FM 493 (La Blanca)	Widen to 4 Lane Divided	Mile 10 N Rd	Mile 14 N Rd	$11,212,180	2025	County 1-4	HC-34a
FM 1015	Widen to 4 Lane Divided 1228-03-900	Mile 12 N Rd	SH 107	$12,952,950	2025	Edcouch / County 1	HC-2
Freddy Gonzalez - ROW	Widen to 5 Lane with Traffic Street Improvements	SH 336 (10th St)	FM 2061 (McColl Rd)	$7,954,870	2026	Edinburg	HC-120
Mon Mack Road - ROW	4 Lane Urban Section	Sprague	SH 107	$4,896,325	2026	Edinburg	HC-353
Trenton Rd - ROW	Construct 4 Lane	US 281	FM 1426 (Raul Longoria)	$10,271,347	2026	Edinburg / County 4	HC-177a
I Rd	Construct 2 Lane w/ Shoulders	Rancho Blanco	Military Hwy	$14,283,973	2026	Pharr/San Juan/County 2	HC-127
FM 1925	Proposed 4 lanes curb and gutter	FM 681	Wallace Rd	$29,304,001	2026	County 3	HC-348
SH 107	--	FM 681	FM 2220	$18,315,000	2026	County 3	HC-349

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 681	Widen to 6 Lane with raised median	FM 2221	SH 107 (Conway)	$8,388,750	2026	County 3	HC-385
Cesar Chavez	--	BU 83	Ridge	$8,482,172	2027	San Juan / Alamo / County 1-2	HC-344
Cesar Chavez Rd	Divided Urban Section	BU 83	Nolana Loop	$28,358,177	2027	San Juan / Alamo / County 1-2	HC-326
Inspiration Rd/ Military Pkwy Loop	Widen to 4 Lane Divided	IH 2	FM 1016	$27,624,057	2027	Mission / McAllen / Hidalgo	HC-341
Liberty Blvd (Phase II)	Construct 2 Lanes with shoulders	Mile 3 Rd	FM 2221	$13,337,965	2028	County 3	HC-284b
Eldora Rd	Divided Urban Section	FM 3362 (Jackson Rd)	Veterans Blvd (I Rd)	$16,672,565	2028	Pharr / San Juan / County 2	HC-322
Mile 10 North	Widen to 4 Lanes - Urban	Westgate (Mile 6 W)	FM 1015	$18,675,784	2029	Weslaco / County 1	HC-264
Nolana Loop (S 2-4) - ROW	Widen to 4 Lane Divided	FM 907	FM 88	$19,899,935	2029	County 1-2	HC-152r
Mile 6 W Rd	Widen to 4 Lane	SH 107	Mile 14 1/2 N	$14,894,295	2029	County 1	HC-148bba
Nolana Loop	Widen to 6 Lane	FM 2220 (Ware Rd)	FM 1926 (23rd St)	$5,201,580	2029	McAllen	HC-155a

Table 8-9: Hidalgo County MPO Medium-Term Stage Projects (2030-2040)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
E Yuma Ave	Widen to 4 Lane Urban with siphon	Jackson Rd	McColl Rd	$2,573,019	2030	McAllen	HC-248
Freddy Gonzalez	Widen to 5 Lane with traffic street improvements	SH 336 (10th St)	FM 2061 (McColl Rd)	$7,954,870	2030	Edinburg	HC-120
Mon Mack Road	4 Lane urban section	Sprague	SH 107	$4,896,325	2030	Edinburg	HC-353
Trenton Rd	Construct 4 Lane	US 281	FM 1426 (Raul Longoria)	$10,271,347	2030	Edinburg / County 4	HC-177a
Sprague Ave	Widen to 4 Lane	Sugar Rd	SH 336 (N 10th St)	$7,869,914	2030	Edinburg	HC-170
Nolana Loop (S2)	Widen to 4 Lane Divided	FM 907	FM 1423	$5,256,452	2030	County 1-2	HC-152b
Nolana Loop (S3)	Widen to 4 Lane Divided	FM 1423	FM 493	$6,835,940	2030	County 1	HC-152c
Nolana Loop (S4)	Widen to 4 Lane Divided	FM 493	FM 88	$5,477,822	2030	County 1	HC-152d

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
SH 336 (10th St)	Widen to 6 Lanes	Trenton Rd	SH 107	$13,106,441	2030	Edinburg / McAllen	HC-249b
Mile 4 1/2 W Rd	Widen to 4 Lane Divided	US 83	Mile 9 N Rd	$3,214,584	2030	Weslaco	HC-244
Trenton Rd	Widen 6 Lanes divided with landscaped median	FM 1926 (23rd St)	SH 336 (10th St)	$4,503,920	2030	McAllen	HC-253
FM 3461 (Nolana)	Widen to 6 Lanes	FM 2061 (McColl Rd)	US 281	$13,034,526	2030	McAllen / Pharr	HC-113
US 83	Widen to 6 Lanes	0.5 Mi E of BU 83	FM 1427 (Abram)	$7,033,250	2030	TxDOT	HC-178b
Hutto Rd	Widen to 4 Lane	US 83	BU 83	$2,812,761	2030	Donna	HC-125
FM 495	Widen to 6 Lane divided	2nd St (McAllen)	US 281	$17,078,298	2030	McAllen / Pharr	HC-62a
FM 493 (La Blanca)	Widen to 4 Lane Divided	Mile 14 N Rd	SH 107	$11,991,764	2030	County 1-4	HC-34b
6th St (Weslaco)	Widen to 4 Lane	Westgate Drive	BU 83	$9,241,928	2030	Weslaco	HC-83
SH 68 - Phase II	Divided Rural Highway	FM 1925	IH 69C / US 281	$148,292,151	2030	TxDOT	HC-327
SH 68 - Phase III	Main Lanes with Overpasses	IH 2 / US 83	IH 69C / US 281	$620,652,704	2030	TxDOT	HC-328
SH 365 (Phase II)	Toll improvement being a 4 Lane controlled access facility	FM 396 (Anzalduas Highway)	FM 1016 (Conway Rd)	$62,259,241	2030	HCRMA	RMA-1b
SH 365 (Ultimate Construction) PE	Expansion from a 4 Lane to 6 Lane controlled access toll facility (constructing an additional 2 Lanes)	US 281 Military Highway	FM 1016 (Conway Rd)	$113,022,597	2030	HCRMA	RMA-1c
Pharr Bridge Agricultural Lab	Agricultural Lab and Training Center	@ Pharr Int'l Bridge	--	$12,428,552	2030	Pharr	HC-376
Airport Drive (Weslaco)	Widen to 4 Lane	BU 83	US 83	$4,347,616	2031-35	Weslaco	HC-85
Mile 6 W Rd	Widen to 4 Lane	Mile 14 1/2 N	Mile 11 N	$27,677,507	2031-35	County 1	HC-148bbb
Sugar Rd	Widen to 4 Lane	SH 107	Schunior Ave	$2,560,350	2031-35	Edinburg	HC-171
FM 2062 (Bentsen Palm)	Widen to 4 Lane Divided	US 83 S	BU 83	$4,106,082	2031-35	Mission	HC-18
SP 115 (S 23rd St)	Widen to 6 Lane Divided Urban	US 83	FM 1016 (Military Hwy)	$28,983,428	2031-35	McAllen / Hidalgo / County 2	HC-51a

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
FM 1925	Widen to 4 Lane Divided	3rd Street	FM 493 (La Blanca)	$13,002,536	2031-35	County 4	HC-12b
Oakland Ave	Add 4 Lanes	K-Center	Jackson Rd	$830,630	2031-35	McAllen	HC-316
Border Ave	Widen to 4 Lane	S 18th St (Mile 6 N)	BU 83	$7,084,578	2031-35	Weslaco	HC-92
Sioux Rd	Widen to 4 Lane	I Rd	FM 1426 (Raul Longoria)	$3,864,548	2031-35	San Juan	HC-167
Paso del Norte	Widen to 4 Lane Divided	BU 83	2nd St	$1,482,698	2031-35	Weslaco	HC-242
Kennedy	2 Lane divided with bike lanes	Ware Road (FM 2220)	Bentsen Rd	$5,771,282	2031-35	McAllen	HC-318
Schunior Ave	Widen to 4 Lane	Sugar Rd	4th St	$2,621,412	2031-35	Edinburg	HC-166
Jackson Ave	Widen to 4 Lane	S Bicentennial Ave	S 2nd St	$4,106,082	2031-35	McAllen	HC-130
FM 676 (Mile 5 N)	Widen to 4 Lane Rev TIP 05'06 Revised Estimate	FM 492 (Doffing)	SH 364 (La Homa Rd)	$7,513,586	2031-35	County 3	HC-117a
Westgate	Widen to 4 Lane divided	BU 83	Mile 5 N	$26,928,425	2031-35	Weslaco	HC-321
Mile 6 N (18th St)	Widen to 4 Lane	FM 88	Mile 2 W	$15,398,648	2031-35	Weslaco / Mercedes / County 1	HC-146
SH 365 (Ultimate Construction)	Expansion from a 4 Lane to 6 Lane controlled access toll facility (constructing an additional 2 Lanes)	US 281 Military Highway	FM 1016 (Conway Rd)	$85,242,974	2031-35	HCRMA	RMA-1c
Las Milpas Rd W	Widen to 4 Lane curb and gutter Rd	Jackson Rd	Cage Rd	$6,063,923	2031-35	Pharr	HC-377
Las Milpas Rd E	Widen to 4 Lane curb and gutter Rd	Cage Rd	I Rd	$6,063,923	2031-35	Pharr	HC-378
Moore Rd W	Widen to 5 Lane curb and gutter road with left turn lane	Jackson Rd	Cage Rd	$9,009,887	2031-35	Pharr	HC-379
Moore Rd E	Widen to 5 Lane curb and gutter road with left turn lane	Cage Rd	I Rd	$9,009,887	2031-35	Pharr	HC-380
Sioux Rd	Divided Urban Section	Cesar Chavez Rd	I Rd (Veterans Blvd)	$34,804,509	2036-40	San Juan	HC-306

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
E Eldora Rd (Segment II)	Divided Urban Section	FM 907 (Alamo Rd)	I Rd	$14,657,018	2036-40	San Juan/ County 2	HC-323
FM 88	Widen to 4 Lane Divided	SH 107	0.2mi N of FM 1925	$17,804,528	2036-40	Elsa/ County 1	HC-39cb
Alberta Rd	Widen to 4 Lane	McColl Rd	US 281	$12,250,281	2036-40	Edinburg	HC-87
Abram Rd	4 Lane Divided Urban Section	BU 83	US Expressway 83	$12,236,430	2036-40	Palmview / County 3	HC-84a
FM 3072 (Dicker Rd)	Widen to 4 Lane Divided	S Cage Blvd	FM 907 (Alamo Rd)	$23,186,086	2036-40	San Juan / Pharr	HC-26
FM 1015	Widen to 4 Lane Divided	SH 107	FM 1925	$4,194,809	2036-40	Edcouch / County 1	HC-3
International Bridge Trade Corridor (IBTC) - Phase II Ultimate	6 Lane non-tolled controlled access facility with 4 Lane access roads	365 Tollway at FM 493	IH 2	$320,342,670	2036-40	HCRMA	RMA-3
Minnesota Rd W	Widen to 3 Lane curb and gutter road with shoulders and left turn lane	Jackson Rd	Cage Rd	$9,442,544	2036-40	Pharr	HC-381
Minnesota Rd E	Widen to 3 Lane curb and gutter road with shoulders and left turn lane	Cage Rd	I Rd	$9,442,544	2036-40	Pharr	HC-382

Table 8-10: Hidalgo County MPO Unfunded Needs Projects

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Pharr Int'l Bridge	Improvements (cold storage) at Pharr/Reynosa Int'l bridge	At Pharr/Reynosa Int'l bridge	--	$484,352	County	HC-231c
Trenton Rd	Widen 6 Lanes divided with landscaped median	SH 336 (10th St)	FM 2061 (McColl Rd)	$1,682,160	Edinburg/ McAllen	HC-252
FM 907 (Alamo Rd)	Proposed 4 Lanes curb and gutter	SH 107	Nolana	$32,184,000	County 2-4	HC-40
FM 907 (Alamo Rd)	Widen to 4 Lanes	FM 1925 (Monte Cristo)	SH 107	$7,520,775	County	HC-42
US 83	Widen to 6 Lanes	0.25 Mi W of FM 2221	FM 1427	$17,049,474	TXDOT	HC-178a
Bryan Rd	Widen to 4 Lane Divided	FM 676 (Mi 5 N)	FM 495	$12,033,240	Alton / Palmhurst /Mission	HC-94

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Sioux Rd (La Vista Ave)	Widen to 4 Lane	FM 2061 (McColl Rd)	US 281	$5,414,958	McAllen / Pharr / County	HC-168
Mile 17 N Rd	Widen to 4 Lane	Mile 6 West	FM 491	$17,083,670	County	HC-139
Pike Blvd	Widen to 4 Lane Divided	Mile 6 W (Westgate)	US 83	$5,715,789	Weslaco	HC-159
SH 336 (10th St)	Widen to 6 Lanes Divided 2966-01-009	S 2nd St	US 281 Military Hwy (widening of Bridge)	$15,737,976	McAllen / Hidalgo / County 2	HC-47
Daffodil Ave	Widen to 4 Lane	Taylor Rd	FM 2220 (Ware Rd)	$3,038,393	McAllen / Mission	HC-102
FM 495	Widen to 6 Lane divided	Conway Ave	FM 1926 (23rd Street)	$16,721,600	McAllen	HC-62b
FM 495	Extend 2 Lane FM Road	FM 1423 (Val Verde)	FM 1015	$23,480,240	County	HC-44
Roosevelt (Mile 12 1/2 N Rd)	Widen to 4 Lane	FM 1423	FM 88	$15,884,816	County	HC-160
Wisconsin Rd	Construct new 4 Lanes Urban	Main street	SH 336 (10th St)	$1,184,014	McAllen	HC-255
Cesar Chavez	Widen to 4 Lane	FM 2128 (Schunior)	Sioux Rd	$18,881,951	County	HC-100
FM 492	Widen to 4 Lane	US 83	FM 2221	$19,481,378	County	HC-121
FM 492 (Doffing)	Widen to 4 Lane Divided	FM 1924 (Mile 3 N)	FM 2221	$12,033,240	Palmview	HC-30
Violet Ave (Minnesota)	Widen to 4 Lane	FM 2061 (McColl Rd)	US 281	$5,414,958	McAllen	HC-180
Jackson Rd	Widen to 4 Lane	FM 1925 (Monte Cristo)	Chapin Rd	$4,512,465	Edinburg	HC-132
Victoria Rd	Widen to 4 Lane	Mile 10 N Rd	US 83	$4,512,465	Donna / county	HC-179
FM 2993 (N Conway)	Widen to 4 Lane Rural	FM 1925 (Monte Cristo)	SH 107	$9,024,930	County	HC-25
Sugar Rd	Widen to 4 Lane Divided	FM 495	Sam Houston Blvd	$6,016,620	Pharr	HC-174
FM 491 (Base Line)	Widen to 4 Lane Divided	Mile 10 N Rd	SH 107	$19,481,378	La Villa / County	HC-28
Daffodil Ave	Widen to 4 Lane	FM 2220 (Ware Rd)	FM 1926 (23rd Street)	$3,008,310	McAllen	HC-81
FM 1925	Widen to 4 Lane Rural	FM 2993 (N Conway)	FM 2220 (Ware Rd)	$10,829,916	County	HC-11
El Rancho/Hall Acres	Widen to 4 Lane	2nd St (McAllen)	S Cage Blvd	$7,219,944	McAllen / Pharr	HC-123

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Military Hwy	Widen to 4 Lane Divided Rural 0220-01-901, 902 903; 0220-02-900; 0220-01-023	S Cage Blvd	Mile 3 E - Cameron County Line	$67,471,521	County	HC-55
Owassa Rd	Widen to 4 Lane	I Rd	FM 1426 (Raul Longoria)	$6,124,300	Pharr / San Juan / County	HC-156b
FM 1425	Widen to 4 Lane Divided	SH 107	MILE 9 N	$17,982,810	County	HC-6
FM 491 (Base Line)	Widen to 4 Lane Divided	SH 107	FM 1925 (Monte Cristo)	$4,512,465	La Villa	HC-29
Goodwin Rd	Widen to 4 Lane	US 83	FM 1924 (Mile 3 N)	$6,618,282	County	HC-31
Pleasantview Dr (Mile 3 1/2 W Rd)	Widen to 4 Lane Divided	Mile 5 N	Mile 9 N	$12,033,240	Weslaco	HC-243
Mile 11 N Rd	Widen to 4 Lane	Mile 6 West	FM 491	$17,982,810	County	HC-137
Mile 6 1/2 W Rd	Widen to 4 Lane	Mile 12 North	Mile 5 N Rd	$20,979,945	Weslaco / County	HC-145
Tower Rd	Widen to 4 Lane	US 83	SH 107	$21,579,372	Alamo	HC-176
Abram Rd	Widen to 4 Lane	US 83	FM 2221	$17,982,810	Palmview / County	HC-84b
Trenton Rd	Construct 4 Lane	FM 1426 (Raul Longoria)	FM 1423 (Val Verde)	$12,935,733	County	HC-177b
FM 1016 (S Conway)	Widen to 6 Lanes	US 83	Military Hwy	$7,075,586	Mission / County	HC-4
Sugar Rd	Widen to 4 Lane	Schunior Ave	FM 1925	$6,016,620	County	HC-172
FM 907 (Alamo Rd)	Widen to 4 Lane Divided	Ridge Rd	Military Hwy	$17,982,810	County	HC-41
Wisconsin Rd	Widen to 4 Lane	0.25 miles E of 2nd St	US 281	$8,724,099	Edinburg	HC-182
Bentsen Palm Drive (FM 2062)	Widen to 4 Lane	1 Mile Line Rd	US 83	$615,072	Palmview	HC-88
Mon Mack Rd	Widen to 4 Lane	SH 107	FM 1925	$7,520,775	Edinburg	HC-260
8th St	Widen to 4 Lane Divided	Mile 5 1/2 W Rd	Airport Dr	$4,512,465	Weslaco	HC-247
Owassa Rd	Widen to 4 Lane	FM 1426 (Raul Longoria)	FM 907	$12,114,000	County	HC-157
Mile 12 N Rd	Widen to 4 Lane	Mile 6 West	FM 1015	$9,024,930	County	HC-138
Los Ebanos Rd	Widen to 4 Lane	FM 1924 (3 Mile N)	Bus 83	$9,024,930	Palmhurst/Mission/County	HC-135
Alberta Rd	Widen to 4 Lane	I road	FM 1423 (Val Verde)	$15,285,389	County	HC-86b

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Nebraska Ave (Alamo)	Widen to 4 Lane	Cesar Chavez	Border Ave	$7,520,775	Alamo	HC-151
Goodwin Rd	Widen to 4 Lane	BU 83	FM 492	$3,008,310	County	HC-122
FM 2062 (Bentsen Palm)	Widen to 4 Lane Divided	BU 83 S	Bentsen State Park	$8,122,437	County	HC-17
FM 491 (Base Line)	Widen to 4 Lane Divided	US 83	Mile 10 N Rd	$9,024,930	Mercedes	HC-43
FM 493 (La Blanca)	Widen to 4 Lane Divided	SH 107	FM 1925 (Monte Cristo)	$5,715,789	La Blanca	HC-33
FM 1425	Widen to 4 Lane Rural	US 83	Mile 9 N Rd	$5,414,958	County	HC-5
Seminary Rd	Widen to 4 Lane	FM 1925	FM 2812 (W of US 281)	$8,573,684	Edinburg	HC-263
Russell Rd	Widen to 4 Lane	Bus 281 (Closner Blvd)	Doolittle Rd	$3,910,803	Edinburg	HC-262
Doolittle Rd	Widen to 4 Lane	FM 2128 (Richardson Road)	FM 1925	$6,016,620	Edinburg	HC-261
Doolittle Rd	Widen to 4 Lane Divided w/ Br	FM 1925	FM 2812	$10,529,085	Edinburg / County	HC-227a
Schunior Ave	Widen to 4 Lane	Mon Mack Rd	Sugar Rd	$4,512,465	Edinburg	HC-164
FM 2812	Widen to 4 Lane with left turn lane	US 281	2 mi E of US 281	$8,076,000	Edinburg	HC-24
FM 676 (Mile 5 N)	Extend 2 Lane FM Road	Jara Chinas	FM 492	$16,436,168	County	HC-143
SP 433 (Main St-Donna)	Widen to 4 Lane Divided	US 83	Bus 83	$2,460,288	Donna	HC-169
El Gato Rd	Widen to 4 Lane	S Cage Blvd	FM 907 (Alamo Rd)	$11,431,578	Pharr / San Juan	HC-124
Military Hwy	Construct 4 Lane	FM 494 (Shary Rd)	FM 1427 (Abram)	$17,982,810	Mission	HC-149
28th St (Mile 5 1/2 N Rd)	Widen to 4 Lane Divided	S. Bridge St	FM 1015	$4,512,465	Weslaco	HC-246
Border Ave	Widen to 4 Lane Divided	Bus 83	Mile 10 N Rd	$7,821,606	Weslaco	HC-245
Moore Field Rd	Widen to 4 Lane	FM 2221	US 83	$19,481,378	County	HC-150
Inspiration Rd	Widen to 4 Lane	2 Mile Line Rd	US 83	$8,724,099	Mission	HC-129
Delta Blvd	Construct new 4 Lane	US 83	Mile 9 N Rd	$2,460,288	Weslaco	HC-226
Tower Rd	Widen to 4 Lane	BU 83	Ridge Rd	$2,306,520	Alamo	HC-175
Jara Chinas	Widen to 4 Lane Divided Rural	FM 2221	US 83	$18,762,065	La Joya	HC-23

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
Russell Rd	Widen to 4 Lane	Doolittle	FM 907 (Alamo Rd)	$4,512,465	County	HC-161
Wichita Ave	Widen to 4 Lane	SH 336 (S 10th St)	2nd St	$1,845,216	McAllen	HC-181
Oxford (Hobbs)	Construct New 4 Lane	Ware Rd	FM 1926 (Depot Rd)	$3,609,972	McAllen	HC-158
Colbath Ave	Widen to 4 Lane	FM 2220	Taylor Rd	$3,008,310	McAllen	HC-101
Mile 6 N (Mercedes)	Widen to 4 Lane	FM 491 E to Mile 1 East	Mile 1 East	$1,537,680	Mercedes	HC-78
Nolana Loop	Construct New 4 Lane	FM 494 (Shary Rd)	Taylor Rd	$768,840	Mission / Palmhurst	HC-153
FM 1427	Widen to 4 Lane Divided	US 83	Abram	$13,487,108	County	HC-7
Rooth Rd	Widen 4 Lanes with left turn lane	Russell Rd	FM 1925 (Monte Cristo)	$3,008,310	McAllen	HC-251
Rooth Rd	Widen 4 Lanes with left turn lane	SH 107	Russell Rd	$4,512,465	McAllen	HC-250
Trenton Rd	Construct New 4 Lane Divided	FM 1423 (Val Verde)	FM 1015	$21,579,372	County	HC-178
Mile 4 1/2 W Rd	Widen to 4 Lane	SH 107	Mile 9 N Rd	$22,478,513	County	HC-142
Mile 1 E	Improve widen to 4 Lane	Mile 11 North	US 83	$11,130,747	Mercedes	HC-136
FM 1427	Widen to 4 Lane Divided	Abram E & N	BU 83	$6,317,451	Peñitas / Mission	HC-8
FM 2812 W	Construct new 4 Lane	Seminary Rd	US 281	$3,609,972	Edinburg	HC-266
Kennedy Ave	Construct New 4 Lane	Taylor Rd	Bentsen Rd	$4,519,868	McAllen	HC-134
Inspiration Rd	Widen to 4 Lane	US 83	Military Hwy	$9,325,761	Mission	HC-128
Alberta Rd	Widen to 4 Lane	US 281	I Rd	$2,152,752	County	HC-86a
FM 493 (Salinas)	Widen to 4 Lane	Champion St	Military Hwy (US281)	$16,092,000	TxDOT	HC-32
Thomas Rd	Construct 52-foot urban roadway with curb and gutter	FM 2061 (McColl Rd)	FM 2557 (Stewart Rd)	$15,671,600	County	HC-268
29th St	2 Lane with center turn lane	Oxford Ave	SH 107	$5,103,750	McAllen	HC-319
Mile 5 N	Widen to 4 Lane divided	FM 1015	Westgate	$20,828,943	Weslaco / County 1	HC-320
W Eldora Rd	Divided Urban Section	FM 3662 (Jackson Rd)	US 281	$7,947,400	Pharr	HC-324

Project	Description	From	To	Total Project Cost	Sponsor	MTP ID
US 83 @ 2nd St	Convert existing Underpass to diamond intersection Overpass	FM 2061 (McColl Rd)	SH 336 (10th St)	$29,843,590	McAllen / County 2	HC-325
Anzalduas Int'l POE	Construction of 2 additional NB passenger Lanes	@ Anzalduas Int'l POE	--	$6,688,600	Anzalduas Int'l Bridge	HC-331
FM 1423 (Val Verde)	Proposed 4 Lanes curb and gutter	Roosevelt	SH 107	$32,424,000	County 4	HC-346
Russell Rd	--	FM 2220	US 281	$13,610,000	Edinburg/McAllen/County 4	HC-347
Freddy Gonzalez Dr	Construct & Widen 4 Lane Urban Roadway	Ware Rd (FM 2220)	10th St (SH 336)	$16,424,002	McAllen / County 4	HC-365
S Jackson Rd	Widen to 6 Lane curb and gutter road	W Moore Rd	BU 83	$16,000,000	Pharr	HC-375

Brownsville MPO

The following tables (**Table 8-11** through **Table 8-15**) list the four project periods/stages for the Brownsville MPO planning area.

Table 8-11: Brownsville MPO Implementation Stage Projects (2019-2022)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
South Port Connector	Construct a direct connector at Port of Brownsville	Ostos Rd	SH 4	$17,613,700	2020	BND	BMPO-P1
FM 802	Proposed 6 Lanes with raised center median.	FM 1847	Old Port Isabel Rd	$15,659,000	2020	TxDOT	BMPO-TT1
SH 550	Construct controlled access facility	0.203 Mi S OF FM 1847	1.13 Mi SE of UPRR Overpass @ FM 3248	$19,165,272	2020	CCRMA	BMPO- CCR1
IH 69E Grade Separation	Construct a grade separation	0.5 Mi N of University Blvd	0.5 Mi S of University Blvd	$18,180,000	2020	CCRMA	BMPO- CCR3
Brownsville to Los Fresnos Connect Phase 1	Construct a 10-foot trail	2 Mi North of FM 511/FM 1847 intersection	Along Canal, 0.7 Mi E, 0.38 Mi N, 0.3 Mi W	$1,067,916	2020	City of Brownsville	BMPO- BL1
Veterans Int'l Bridge at Los Tomates	Expansion of primary lanes for passenger vehicles	CBP Primary Inspection Lanes	CBP Primary Inspection Lanes	$21,969,359	2020	CCRMA	BMPO- CCR2
FM 3248	Construct 6 lanes with raised center median	IH 69E	FM 1847	$17,619,720	2021	TxDOT	BMPO-AG1
Brownsville to Los Fresnos Connect Phase 2	Construct a 10-foot trail	Phase 1 terminus, 1 Mile North	Along Canal, 0.7 Mi E, 0.38 Mi N, 0.3 Mi W	$1,067,916	2021	City of Brownsville	BMPO- BL2
West Blvd	Construct Multimodal Facility	Palm Blvd	IH 69E SB Frontage Rd, W of Old Alice Rd	$2,160,000	2022	CCRMA	BMPO-E7
Indiana Ave Realignment	Realignment, construct 2 Lane rural roadway	0.1 Mile N of California Rd	0.62 Mile N of FM 1419	$2,522,500	2022	CCRMA	BMPO_E11
SH 550	Construct controlled access facility	0.203 Mi S of FM 1847	1.13 Mi SE of UPRR Overpass @ FM 3248	$19,165,272	2022	CCRMA	BMPO- RM6

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
East Loop	Preliminary Engineering	IH 69E	SH 4	$89,375,000	2022	CCRMA	BMPO-E4
Veterans Int'l Bridge GSA Facility	Construction of Border Safety Inspection Facility	Vicinity of GSA Facility	At Brownsville Veterans Int'l Bridge at Los Tomates	$9,776,802	2022	TxDOT	BMPO- LS17
Southmost Nature Trail Phase II	Construct 10-foot concrete Hike and Bike trail	FM 1847 near Los Ebanos	La Posada Dr/ Monsees Rd	$7,450,792	2022	City of Brownsville	BMPO-ST2
LF North High School Park Connection	Construct a 5-foot concrete trail	Along the W side FM 1847, from Henderson Rd	1st St	$412,608	2022	City of Los Fresnos	BMPO-LF3

Table 8-12: Brownsville MPO Short-Term Stage Projects (2023-2029)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Olmito Sidewalk Improvements	Construct 5-foot concrete sidewalks	Interior Roads at Olmito Townsite	FM 1732	$426,177	2023	Cameron County	BMPO- CTY1
Las Palmas Sidewalk Improvements	Construct 5-foot concrete sidewalks	Interior Roads at Las Palmas Mobile Estates	FM 802	$321,918	2024	Cameron County	BMPO- CTY2
FM 1732	Widen to 4 Lane rural	US 281	IH 69E	$24,114,384	2024	TxDOT	BMPO- BB1
SH 48	Proposed 6 Lanes with raised median	SH 4	FM 511	$29,975,163	2025	TxDOT	BMPO-G2
Perkins to Champions Trail	Establish Hike and Bike Trail	Zena Dr	Central Ave	$2,314,724	2025	City of Brownsville	BMPO- TE11
US 281	Widen to 4 Lane rural	FM 1421	FM 1577	$15,690,750	2025	TxDOT	BMPO-D3
International Blvd. (SH 4)	Construct Sidewalks	Lincoln Street	Southmost Hike and Bike Trail	$346,074	2025	City of Brownsville	BMPO-SR1
Los Fresnos Hike and Bike Trail	Establish Hike and Bike Trail	Circles the City of Los Fresnos	--	$3,235,667	2026	City of Los Fresnos	BMPO-LF2
SRTS Porter Early College High School	Construct sidewalks	E.23rd Street	German Street	$189,007	2026	City of Brownsville	BMPO-SR2

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Veterans Int'l Bridge at Los Tomates	Expansion of primary lanes for passenger vehicles	CBP Primary Inspection Lanes	CBP Primary Inspection Lanes	$19,900,221	2026	CCRMA	BMPO- AA1
SRTS Lincoln Park/Faulk & Canales	Construct sidewalks	On E. 19th St, E. 20th St, E. 21st St	Johnson St, and Lincoln St.	$397,685	2027	City of Brownsville	BMPO- SR3
Old Alice Rd	Construct 4 Lane urban roadway	SH 550	SH 100	$14,850,000	2028	Cameron County	BMPO-CC1
South Brownsville Projects	Construct Sidewalks	On Olmito St. from Manzano St to Tulipan St	Riverside Blvd. from W. Fronton St. to End.	$245,505	2028	City of Brownsville	BMPO-SB1
Whipple Rd	Proposed 2 Lane roadway with continuous left turn lane	FM 1847	FM 1575	$5,080,300	2029	City of Los Fresnos	BMPO-P2
Old Alice Rd	Construct 4 Lane urban roadway	SH 550	Sports Park Blvd	$3,875,000	2029	Cameron County	BMPO- CTY3
West Blvd.	Construct Trail	Palm Blvd.	U.S. 281/ Boca Chica	$1,626,010	2029	Cameron County	BMPO- WR1

Table 8-13: Brownsville MPO Medium-Term Stage Projects (2030-2040)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Dana Rd	Widen roadway and add sidewalks	FM 802	FM 3248	$11,811,360	2030	City of Brownsville	BMPO-DR1
Indiana Ave Realignment	Realignment, construct 2 Lane rural roadway	0.1 Mile North of California Rd.	0.62 Mile North of F.M. 1419	$3,003,691	2030	CCRMA	BMPO-I2
Morrison Rd	Construct 4 Lane urban roadway	FM 1847	FM 511	$18,343,400	2031-35	CCRMA	BMPO-M1
IH 69E Grade Separation	Construct a grade separation	0.5 Mi N of University Blvd	0.5 Mi S of University Blvd	$12,303,500	2031-35	TxDOT	BMPO-UB1
FM 1847	Expand to 4 Lanes-rural	FM 510	FM 2925	$30,758,750	2031-35	TxDOT	BMPO-PL3
Billy Mitchell Blvd FM 2519	Raised median, sidewalks, pavement overlay	SH 4	Jose Colunga St	$1,677,750	2031-35	TxDOT	BMPO-BM3
International Blvd	Install raised median	IH 69E	Washington St	$671,100	2031-35	TxDOT	BMPO-IB 3

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Coffee Port Rd	Full road reconstruction	FM 802	SH 48	$11,811,360	2036-40	City of Brownsville	BMPO-CP4
San Roman Rd	Full road reconstruction	FM 2480	SH 100	$3,037,118	2036-40	CCRMA	BMPO-SR3
Old Port Isabel Rd	Full road reconstruction	Morrison Rd	240-feet NE of Randy Lee Rd	$4,087,050	2036-40	Cameron County	BMPO-OP4
14th St	Road Reconstruction	Security Dr	Tyler St	$4,348,728	2036-40	City of Brownsville	BMPO-CB3
SH 48	Construct 2 lane frontage road and ramps (East bound)	1/4 mile East of FM 511	1/4 mile East of entrance to the Fishing Harbor	$10,625,750	2036-40	TxDOT	BMPO-SH5
SH 48	Construct 2 lane frontage road and ramps (West bound)	1/4 mile East of entrance to the Fishing Harbor	FM 511/SH48 Overpass	$11,073,150	2036-40	TxDOT	BMPO-SH6
FM 3248, Extension to Flor de Mayo Bridge	Construct 4 divided highway to the Flor de Mayo Intl. Bridge	US 281	Flor De Mayo Bridge	$7,605,800	2036-40	CCRMA	BMPO-AG4

Table 8-14: Brownsville MPO Long-Term Stage Projects (2041-2045)

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
Henderson Rd	Expand to 4 Lane rural roadway	FM 803	0.5 Mi E of FM 1547	$9,198,000	2041-45	CCRMA	BMPO-HR2
Dockberry Rd	Proposed 2 Lanes with continuous left turn lane	FM 3068	FM 1419	$5,892,500	2041-45	CCRMA	BMPO-DB3
Florida Rd	Proposed 2 lane roadway with continuous left turn lane	FM 511	FM 1419	$4,724,000	2041-45	CCRMA	BMPO-FR2
Coffee Port Rd	Rehabilitate road	FM 802	FM 313	$964,988	2041-45	Cameron County	BMPO-CP5
SH 48	Build overpass at 4.7 mi. East of Chemical Road with ramps	--	--	$16,777,500	2041-45	TxDOT	BMPO_SH7
SH 48	Build overpass at entrance to Amfels with ramps	--	--	$16,777,500	2041-45	TxDOT	BMPO-SH8

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
US 281 Connector	Acquire ROW and PE	US 281	SH 100	$5,000,000	2041-45	TxDOT	BMPO-EE11

Table 8-15: Brownsville MPO Unfunded Needs Projects

Project	Description	From	To	Total Project Cost	Year	Sponsor	MTP ID
SH 550 Connector	Construct direct connector	IH 69E	IH 169E	$47,740,000	--	CCRMA	BMPO-SHC1
Flor de Mayo Bridge	Construct International Bridge	FM 3248	US 281	$22,370,000	--	CCRMA	BMPO-FMB1
Old Port Isabel Rd	Construct 2 Lane rural	SH 550	SH 100	$22,870,000	--	CCRMA	BMPO-OP5
N Vermillion Ave	Reconstruct roadway and add shoulders	SH 4	FM 802	$6,891,563	--	Cameron County	BMPO-NV1
IH-69E	Construct a Park and Ride facility under IH-69E	13th St	14th St	$3,355,500	--	City of Brownsville	BMPO-PR3
FM 3248	Construct a North-West side transit transfer station	On FM 3248, .2 miles west of IH-69E	----	$1,648,125	--	City of Brownsville	BMPO-TS2
Palo Alto Hike and Bike Trail	Construct Hike and Bike trail	Palo Alto Battlefield National Historical Park	Eco Tourism at Laguna Vista	$8,948,000	--	CCRMA	BMPO-PA3
West Blvd.	Construct Multimodal Facility	US 281/ Boca Chica Blvd.	IH-69E SB Frontage Road, W. of Old Alice Rd.	$13,422,000	--	CCRMA	BMPO-WR2
ITS Changeable Message Signs	Reconstruct roadway and add shoulders	IH-69E Various Locations	--	$1,677,750	--	TxDOT	BMPO-IT6
SH 48	Build SH 48 overpass (with ramps) at the entrance to the Next Decade LNG facility	--	--	$15,000,000	--	TxDOT	BMPO-SH9