



RMS 2050

METROPOLITAN TRANSPORTATION PLAN

MARCH 25, 2022



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This document was prepared in cooperation with:

The El Paso Metropolitan Planning Organization Transportation Project Advisory Committee

And

The Texas Department of Transportation

And

The New Mexico Department of Transportation

The document was reviewed and approved by:

The El Paso Metropolitan Planning Organization - Transportation Policy Board

On xx/xx/xxxx

El Paso Metropolitan Planning Organization (EPMPO)

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INTRODUCTION





1. INTRODUCTION

Metropolitan transportation planning is a cooperative, comprehensive, and continuous (“3-C”) process. This process is conducted by the Metropolitan Planning Organization (MPO), in coordination with Texas and New Mexico Departments of Transportation (DOTs), transit operators, numerous stakeholders from throughout the region, and the public to create a vision for the future of the community.

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 28 years through a proactive public participation process that involves all users of the transportation system.

This document is an update to the Metropolitan Transportation Plan (MTP) – also known as Regional Mobility Strategy (RMS) 2050 MTP - for the years 2022-2050. The El Paso Metropolitan Planning Organization (EPMPO) initiated this update in March 2020 with a presentation to the Transportation Policy Board.

RMS 2050 MTP builds upon local planning documents and performance-based analysis including the Congestion Management Process adopted in November of 2019 and the Regional Mobility Strategy (RMS) developed by the Texas Department of Transportation (TxDOT) El Paso District in cooperation with the El Paso Metropolitan Planning Organization, completed in December 2019.

RMS began in 2018 as an exercise among various stakeholders and partner agencies to help define the future of our region mobility, livability and economic development. RMS 2019 focused on the binational metropolitan area (referred to by some) as the borderplex which includes Ciudad Juarez,

Chihuahua, Mexico; Las Cruces, New Mexico; as well as municipalities inside El Paso County.



The planning area for the RMS 2050 MTP encompasses the entirety of El Paso County, Texas, as well as portions of Doña Ana and Otero Counties in New Mexico. **Figure 1-1** shows the boundary of the MPO study area, as well as the location of population centers, major transportation facilities, and major environmental features within the MPO study 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 continuing, cooperative, and comprehensive (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.



LEGISLATIVE AUTHORITY FOR THE MTP

Following passage of the Federal Highway Act of 1962, Congress has passed a series of surface transportation bills that have continued to require MPOs to develop a metropolitan transportation plan to be eligible for federal funding. The most recent surface transportation legislation was the Fixing America's Surface Transportation Act (FAST Act), which was passed in 2015. The RMS 2050 MTP was developed in compliance with this legislation.

EL PASO MPO

The El Paso Metropolitan Planning Organization is the organization designated by the Governor of Texas on August 30, 1988 as being responsible, together with the state, for carrying out the 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. The MPO is the forum for cooperative decision making by principal elected officials of general-purpose local governments, in the El Paso Metropolitan Planning Area (MPA).

TRANSPORTATION POLICY BOARD

Elected and appointed officials comprise the Transportation Policy Board (TPB), which is responsible for approving and adopting all the transportation planning activities and programs of the MPO. The TPB was established in 1973 to meet federal requirements. Membership of the TPB is governed by agreement between the affected local governments and the governors of Texas and New Mexico and is reviewed periodically to ensure adequate representation of all parties. Membership consists of 30 voting members, with representatives from the following member agencies as detailed below:





TITLE/REPRESENTATION	CURRENT REPRESENTATION BY
TEXAS	
Town of Anthony - Mayor	Benjamin Romero
City of El Paso - Mayor	Oscar Leeser
City of El Paso - Grant Funded Program Director	Yvette Hernandez
City of El Paso - City Manager	Tommy Gonzalez
City of El Paso - District 3 Representative	Cassandra Hernandez
City of El Paso - District 7 Representative	Henry Rivera
City of El Paso - District 8 Representative	Cissy Lizarraga
City of El Paso - Mass Transit Department Director	Ellen Smyth
Town of Clint - Alderman	Esteban Olivas
El Paso County Commissioner Precinct 3	Iliana Holguin
El Paso County - Public Works Director	Norma Palacios
El Paso County - County Judge	Ricardo Samaniego (V-Chair)
Town of Horizon City - Alderman 1	Walter L. Miller (Chair)
City of San Elizario - Mayor	Antonio Araujo
City of Socorro - District 3 Representative	Rudy Cruz Jr.
Village of Vinton - Mayor	Manuel Leos
Texas State Senator 29th District	César Blanco
Texas State Representative 75th District	Mary E. Gonzalez
Texas State Representative 76th District	Claudia Ordaz-Perez
Texas State Representative 77th District	Lina Ortega
Texas State Representative 78th District	Joe Moody
Texas State Representative 79th District	Art Fierro
El Paso International Airport - Director of Aviation Development	Sam Rodriguez
TxDOT-El Paso District - District Engineer	Tomas Trevino
NEW MEXICO	
City of Anthony - Mayor	Diana M. Trujillo
Doña Ana County - County Commissioner District 5	Manuel Sanchez
City of Sunland Park - Mayor	Javier Perea
New Mexico State Representative 53rd District	Willie Madrid
New Mexico State Senator 31st District	Joseph Cervantes
New Mexico DOT District 1 - District Engineer	Trent Doolittle

TRANSPORTATION PROJECT ADVISORY COMMITTEE

The Transportation Project Advisory Committee (TPAC) serves in an advisory role to the Transportation Policy Board (TPB) and is responsible for professional and technical review of work programs, policy recommendations, and transportation planning activities. Membership consists of 16 voting members who are local and state technical and professional personnel knowledgeable in the transportation field.

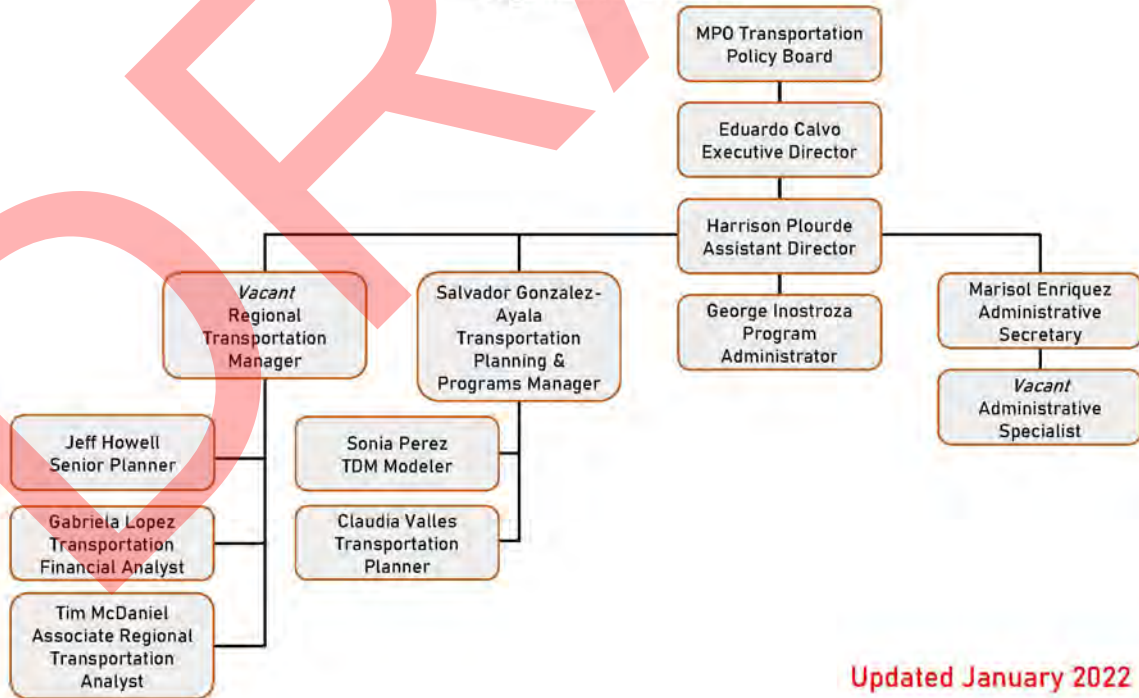


TITLE/REPRESENTATION	CURRENT REPRESENTATION BY
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City of El Paso	Yvette Hernandez
Sun Metro	Claudia K. Garcia
Town of Clint	Esteban Olivas
Town of Horizon City	Michelle Padilla
City of Socorro	Ivy Avalos
Village of Vinton	Santos Lucero
City of San Elizario	Maya Sanchez
El Paso County	Jose M. Landeros (V-Chair)
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City of Sunland Park	Hector Rangel
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New Mexico DOT	Harold Love

EPMPO STAFF

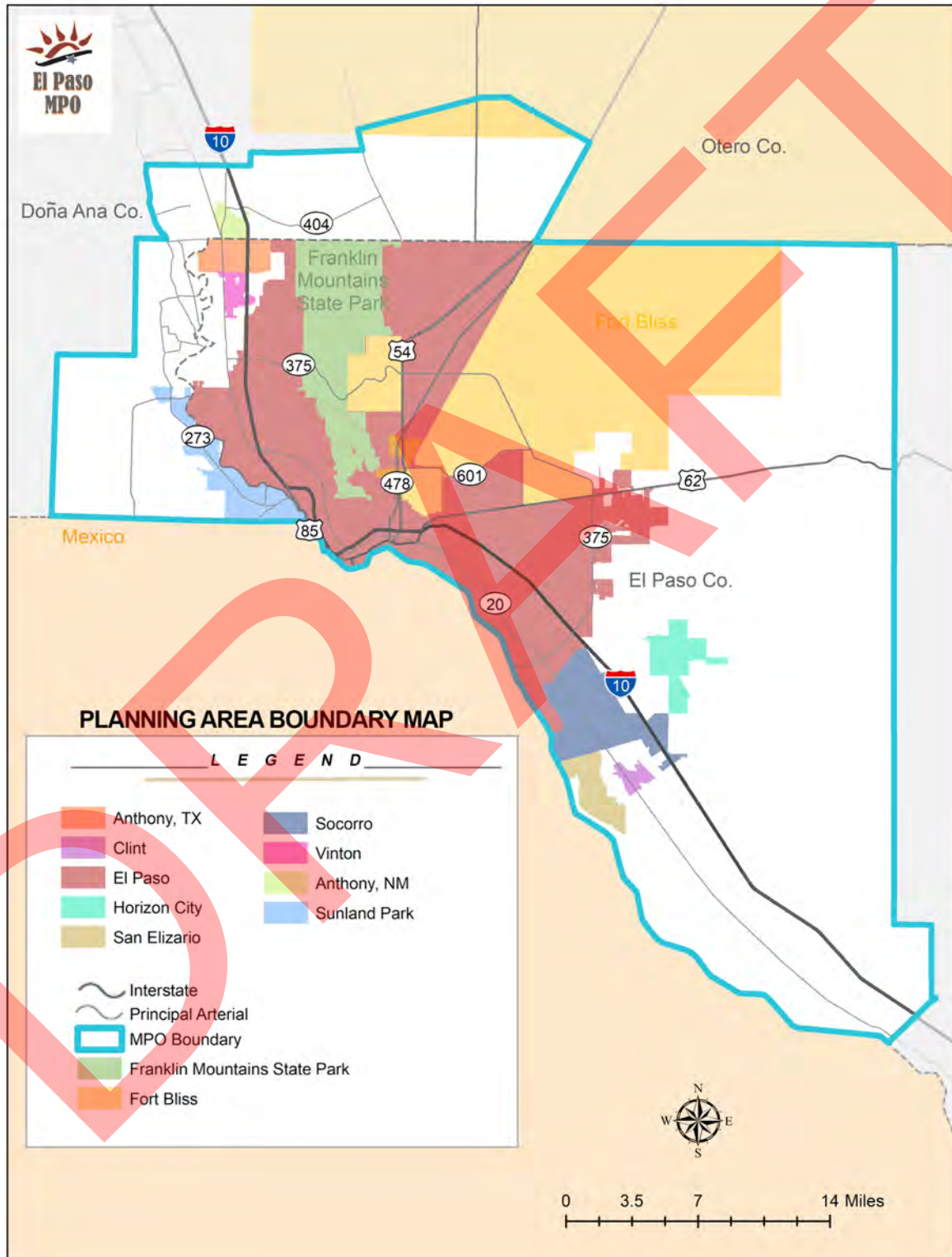
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Transportation Planner	Claudia Valles
Regional Transportation Manager	<i>Vacant</i>
Transportation Financial Analyst	Gabriela Lopez
Associate Regional Transportation Analyst	Tim McDaniel
Senior Planner	Jeff Howell
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Administrative Secretary	Marisol Enriquez
Administrative Specialist	<i>Vacant</i>

El Paso Metropolitan Planning Organization
Organizational Chart



Updated January 2022

FIGURE 1-1: EPMPD PLANNING AREA



MTP PLANNING PROCESS

The planning process used for the creation of the RMS 2050 MTP is prescribed by state and federal regulations, but the vision that drives the process is developed locally. This MTP visioning process, therefore, 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. The El Paso MPO is responsible for programming regional transportation projects for implementation using federal transportation funding. 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 El Paso Urbanized Area.



VISIONING PROCESS

The purpose of the MTP is to identify the transportation needs of the community over the next 28 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.

The process for updating the EPMPPO Long Range Metropolitan Transportation Plan (MTP) was initiated by a public comment period and online workshops. Pursuant to recent actions taken by Texas Governor Greg Abbott that suspended certain open meeting requirements due to COVID-19, two live workshops were conducted online. In addition, an on-demand workshop was accessible at the MPO website as well as an online survey available for download. The public visioning workshop and online activity results are presented in Chapter 2. An overview of the workshop and all the questions may be found in Appendix E.

The purpose of these workshops was to gather data and input on community needs and values in order to establish a framework for MTP development. Using this information, the MPO drafted a recommended vision, set of goals, and a list of evaluation criteria to assist in prioritizing transportation improvements for inclusion in the MTP.

NEEDS ASSESSMENT

To develop feasible and beneficial transportation solutions, it is imperative to assess the current state of the transportation system, as well as



community growth trends. For the RMS 2050 MTP, three main assessments were developed to help identify the future regional transportation needs: a) Regional Mobility Strategy –RMS 2019, b) Multimodal Network Evaluation and c) Segment Performance Analysis.

The Regional Mobility Strategy established a transportation vision for the El Paso region. The ultimate objective was to identify individual concepts and ideas that can be translated into formal projects and transition these into the MPO process for future development and implementation.

The Multimodal Network Evaluation identified safety and connectivity gaps that can help guide where capital improvements to the roadway network can have an immediate impact toward improving multimodal travel networks where they are used the most. This evaluation also identified multimodal-supportive projects among those recently proposed by TxDOT, NMDOT and local governments for inclusion in the RMS 2050 MTP. It should be noted that the gaps identified do not represent the only places where the multimodal network should be improved, but instead prioritize where initial investments can be made to address the most immediate needs.

The Segment Performance Analysis was developed as part of the ongoing analysis required to support the Congestion Management Process (CMP). Based on the CMP definition of congestion, the identified congested segments were analyzed utilizing the required performance measures in accordance with the Transportation Performance Management (TPM) guidance. The change in congestion levels and the impact of these on passenger hours of delay and emissions were evaluated and completed or potential projects along the congested segments were identified.

TRANSPORTATION STRATEGIES

The next step in the planning process was to identify potential strategies to consider for addressing regional transportation needs.

CONGESTION MITIGATION STRATEGIES

Building new facilities will not address all identified transportation needs. Not only is building new roadways expensive and funding limited, but some identified needs are best addressed by strategies that reduce demand and improve the operational efficiency of the existing transportation system. Therefore, the MTP planning process included consideration of preservation of the existing system through preventative and rehabilitative maintenance; the inclusion of access management strategies; and the incorporation of Travel Demand Management (TDMg) and Transportation System Management and Operations (TSMO) strategies. From the wide range of available strategies, some examples of the strategies that fit the character of our region are: bicycle connectivity infrastructure improvements, incident management/traffic surveillance and control systems, advanced traveler information systems, public transportation strategies such as Transit Service Enhancements, Bus Rapid Transit (BRT) and Park-and-Ride as well as access management strategies such as conversion of streets from one-way to two-way streets to help increase mobility.

As part of RMS 2050 strategy considerations, two alternative scenarios were analyzed to explore ways to reduce the percent of single occupancy vehicles (SOV) and increase non-SOV usage. These scenarios combine proposed High Occupancy Vehicle (HOV) lanes along major roadways and a robust network of interconnected BRT routes. But as important as the infrastructure is, the exercise also included the element of land use densification.

PROJECT IDENTIFICATION AND SELECTION PROCESS

Once the congestion mitigation strategies were considered, potential projects to expand or build new facilities were examined. The following were combined to develop a list of candidate projects for further analysis:

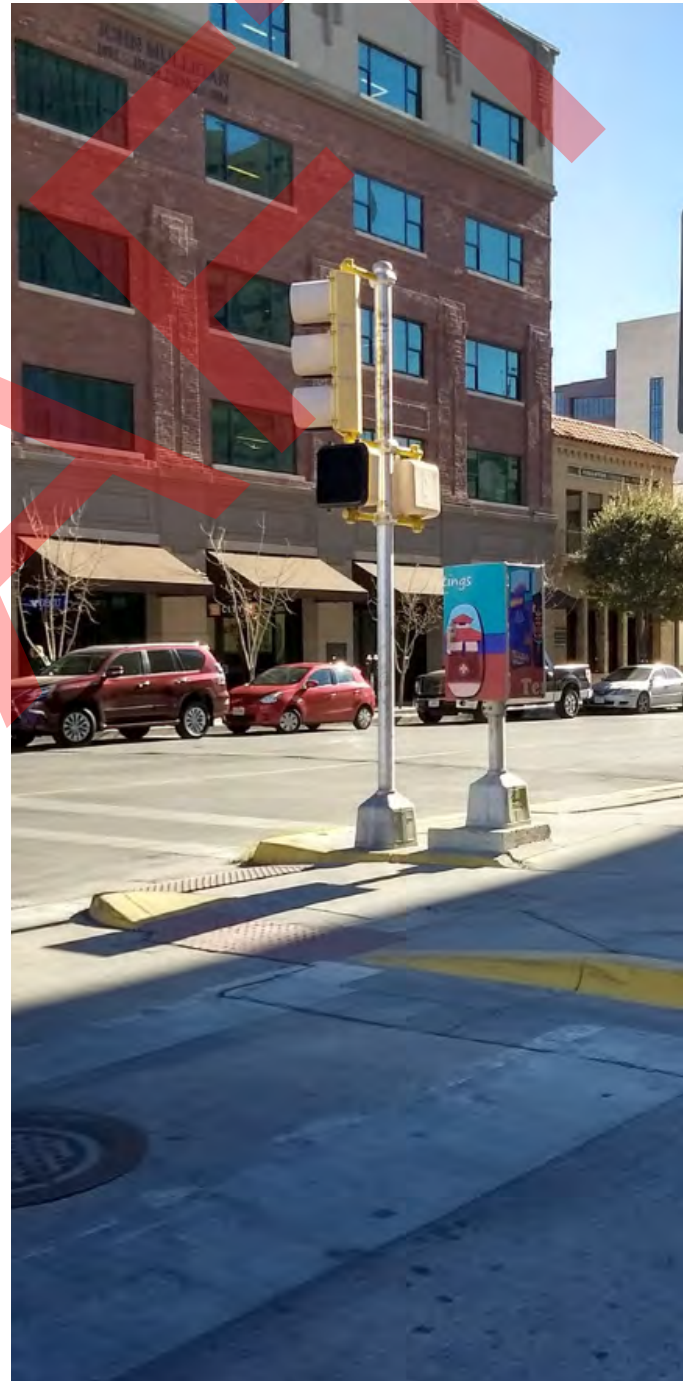
- results of technical reviews,
- available planning studies,
- highway and corridor studies,
- consultation with local traffic engineers, planners, and other stakeholders,
- a call for transportation projects,
- the results of the travel demand model* analysis.

Proposed projects were then coded into the travel demand model and tested to determine what impact they might have on addressing identified congestion and transportation system needs. Non-highway projects were also analyzed to determine what impact they would have on addressing deficiencies, using a combination of existing data, forecasts, and professional judgment.

Traffic volume, volume-to-capacity, and travel delay information provided by the travel demand model were used in conjunction with the weighted qualitative measures developed through the public visioning process to inform TPAC.

**A travel demand model is a statistical analysis tool that uses elements such as roadway and transit networks, population, and employment data to calculate the expected demand for transportation facilities.*

The ranked evaluation criteria and community goals developed through the visioning process was presented to the TPAC during their project selection process to ensure that community priorities were included in the final list of recommended projects.





SYSTEMS-LEVEL ANALYSIS

System level analyses examined how the candidate projects impact community issues that are of system and region-wide concern. This planning approach allowed for prioritization of transportation investments based on broader community issues in accordance with the community's vision.

AIR QUALITY CONFORMITY ANALYSIS

According to the Environmental Protection Agency, a portion of El Paso County is designated as a National Ambient Air Quality Standards (NAAQS) non-attainment area for particulate matter (PM-10) and limited maintenance area for Carbon Monoxide (CO), and El Paso County non-attainment for Ozone (O3). This designation requires the MPO to conduct a more thorough air-quality conformity analysis of the proposed projects included in the MTP. This analysis uses outputs from the travel demand model to populate an air quality model that estimates levels of different pollutants at discrete future year benchmarks over the planning horizon of the MTP.

On November 17, 2021, the U.S. Environmental Protection Agency (EPA) completed its review of certain area designations for the 2015 ozone National Ambient Air Quality Standards (NAAQS) in response to a July 10, 2020, decision by the District of Columbia Circuit Court of Appeals. EPA completed its response by expanding the initial nonattainment boundaries for the area of Doña Ana County (Sunland Park Area) by expanding the area. The nonattainment area now includes all of El Paso County, Texas and has been renamed El Paso-Las Cruces, Texas-New Mexico area and classified as marginal nonattainment. Therefore, the RMS 2050 MTP is required to maintain compliance with the 2015 Ozone rule.

The MTP is a long-range planning document and is reviewed and updated every four years for areas designated as non-attainment. Each iteration provides a chance to reassess conditions and ensure that the plan remains consistent with the desires and needs of the region as it changes over time.

COORDINATION WITH LOCAL PLANS AND PROGRAMS

Ensuring that proposed improvements are consistent with local programs, plans, and their goals and objectives, as well as supporting local values and preserving existing community resources is of vital importance to the MTP development. As part of RMS 2050 strategy considerations, two alternative scenarios were analyzed to explore ways to reduce the percent of single occupancy vehicles (SOV) and increase non-SOV usage. These scenarios combine proposed High Occupancy Vehicle (HOV) lanes along major roadways and a robust network of interconnected BRT routes. But as important as the infrastructure is, the exercise also included the element of land use densification.



Source: El Paso CVB via visitelpaso.org



FINANCIAL ANALYSIS AND CONSTRAINT

Fiscal feasibility is a significant priority in determining the final list of improvements. Not only does federal legislation mandate that the MTP be fiscally constrained and only include projects that can reasonably be 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 functional studies); engineering costs (e.g. preliminary engineering and design); preconstruction activities (e.g. line and grade studies, 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.

FISCAL CONSTRAINT ANALYSIS

A fiscal constraint analysis was performed that compared the anticipated year-of-expenditure 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.



SELECTION OF A PROPOSED PACKAGE OF PROJECTS

Based on the cost and revenue projections, the package of fiscally constrained projects anticipated to best accomplish community-defined goals and objectives was selected by the TPAC and then submitted to the Policy Board for review and approval. The TPB was then able to review these recommendations and make measured and fiscally constrained choices.

ADOPTION PROCESS

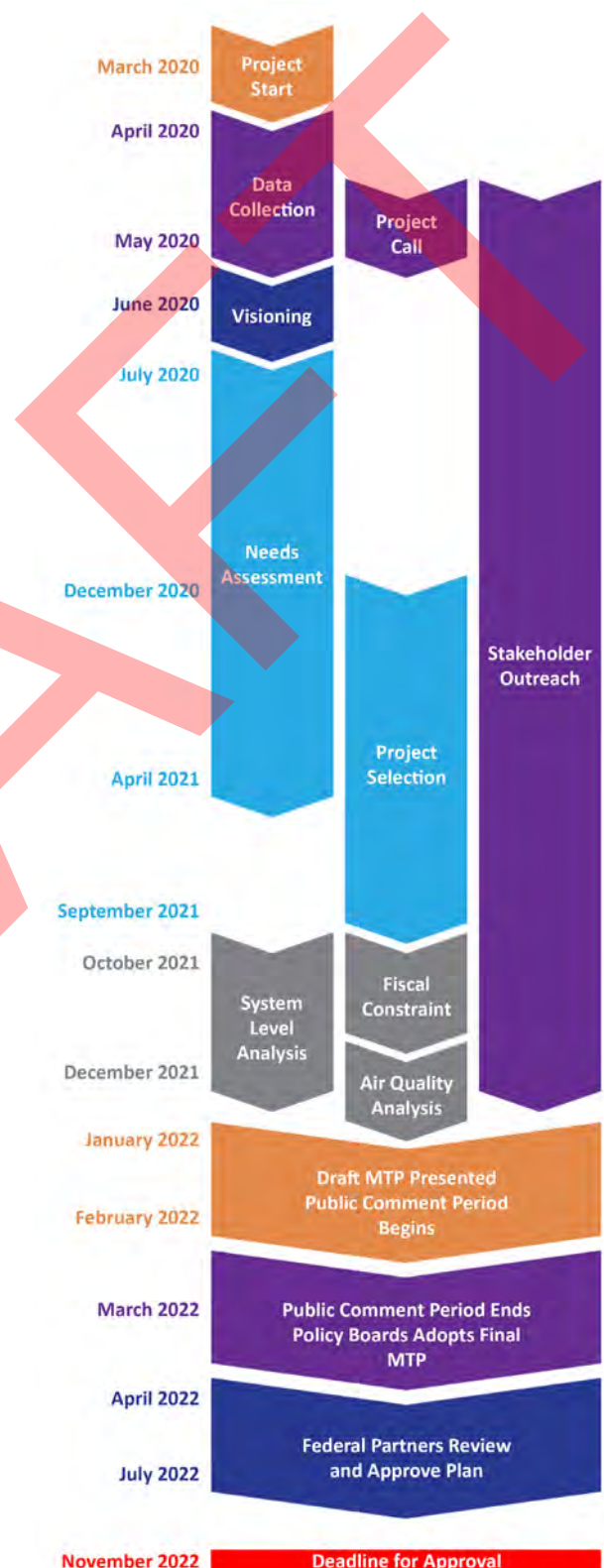
The preliminary program of projects was approved by the Policy Board on September 17, 2021. The preliminary transportation recommendations and associated list of proposed projects resulting from the project selection and fiscal constraint analysis were presented and approved to be used for air quality analysis and public review.

PUBLIC REVIEW OF THE DRAFT RMS 2050 MTP

On January 24, 2022, the draft plan was presented to the public and their feedback was solicited throughout the 30-day public review period as outlined in the MPO's adopted Public Participation Plan (PPP).

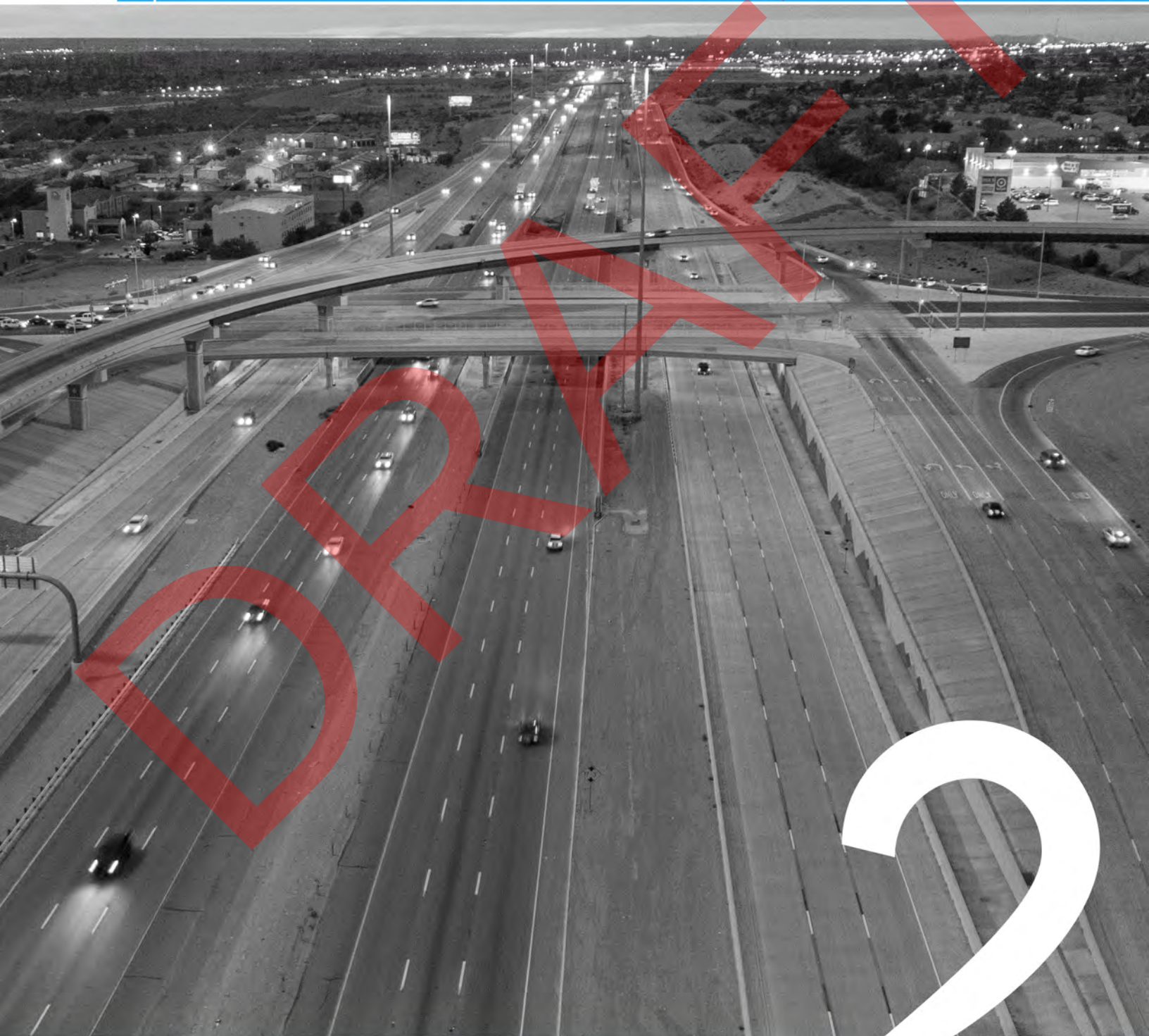
ADOPTION OF THE FINAL RMS 2050 MTP

The final MTP, which incorporated comments received during the 30-day public comment period, was presented to the Policy Board for adoption on March 25, 2022. The policy board's approval of the MTP kicked off a 90-day conformity review by FHWA that ends on June 23, 2022. The MTP should be approved prior to that date so that we do not enter into a conformity lapse. The approved MTP has an effective date of [Month Date], 2022.



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GUIDING PRINCIPLES



2



2. GUIDING PRINCIPLES

The planning process used for the creation of the Metropolitan Transportation Plan (MTP) is prescribed by state and federal regulations, but the vision that drives the process is developed locally; this chapter describes that process as implemented in the development of this plan.

It also describes the process by which performance measures are used to gauge whether the recommended program of transportation projects supports the established vision and goals that were developed. Together the vision, goals, objectives, and performance measures comprise RMS 2050 MTP's "Guiding Principles."

This MTP visioning process is therefore 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 requires the collaboration of regional stakeholders, including local, state and federal agencies and governing bodies, public and private transportation providers, the business community, and includes extensive public input. All these stakeholders must work together so that the community's vision and goals coalesce into well-defined principles that will guide transportation policy and investment decisions within the El Paso Urbanized Area. The resulting recommendations and proposed improvements will impact all users of the transportation system.

FEDERAL GUIDELINES

In 2015, the FAST Act became the fifth intermodal surface transportation bill passed by Congress since 1991, the previous four being: The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the Transportation Equity Act for the 21st Century (TEA-21) of 1998, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A

Legacy for Users (SAFETEA-LU) of 2009, and the Moving Ahead for Progress in the 21st Century (MAP-21) of 2012.

The FAST Act continues the eight federal planning factors established under ISTEA and expanded under SAFETEA-LU, while adding two additional factors for consideration in the planning process. The following ten factors must be considered during the planning process:

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 non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized 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; and
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. *
10. Enhance travel and tourism. *

**New factors introduced by the FAST Act*



The FAST Act also continues the requirement for a Continuing, Cooperative, and Comprehensive (“3-C”) long range transportation planning process for making transportation decisions in metropolitan areas, while continuing and further defining requirements for state DOTs and MPOs to set performance measures and goals, which were set forward in MAP-21.

2050 DEMOGRAPHIC AND EMPLOYMENT GROWTH

A major component of identifying future transportation needs is understanding future population and employment growth trends for the region. Land use and growth patterns directly impact how people travel. In places where development is spread out and land use is separated, people are likely to take more long-distance trips in a personal vehicle throughout the day. On the other hand, in denser, mixed-use environments, people can take shorter trips and utilize other modes of transportation such as transit and walking. To better assess the transportation needs of the region, RMS 2050 MTP first considered the potential growth trends that will impact both the performance of the transportation system as well as how travelers interact with the system.

Additional factors like household size and median income are major forces behind travel behavior. The 2019 American Community Survey (ACS) data indicates that the El Paso MPO Region’s median household income is roughly (\$37,069) and each household has an average size of 3.09 people. The region’s median household income is lower in comparison to those of Texas (\$62,843) and New Mexico (\$51,945), with concentrations of low-income households in areas along the international border with Ciudad Juarez, downtown El Paso, the Mission Valley, and in Doña Ana and Otero Counties just north of the Texas/New Mexico state line.

Since travel along a transportation system relies so heavily on where people live and work, the 2050 El Paso Travel Demand Model (TDM), a forecasting tool described in later sections, includes an estimate of population and employment distribution for current and future years. The base socioeconomic data needed as input the TDM was gathered from a mixture of sources, including public domain data sources, published commercial datasets, and stakeholder input via the Delphi Process.

For the allocation of future population and employment throughout the urbanized area, the El Paso MPO conducted a full demographic update via an interactive consensus-building process called the “Delphi Process” that uses the knowledge of local experts and community leaders to identify patterns in regional growth and development. The El Paso Delphi Process relied on the wisdom and experience of over 70 community leaders with various areas of expertise and community knowledge to identify patterns in the growth and development of the community. Panel members for the Delphi process were recruited from regional government agencies, community organizations, the real estate and development communities, area employers, financial institutions, educational institutions, transit agencies and other organizations. Invitations were sent to approximately 94 community leaders; of those invited, 74 accepted the invitation. The El Paso Delphi Process had three distinguishing features:

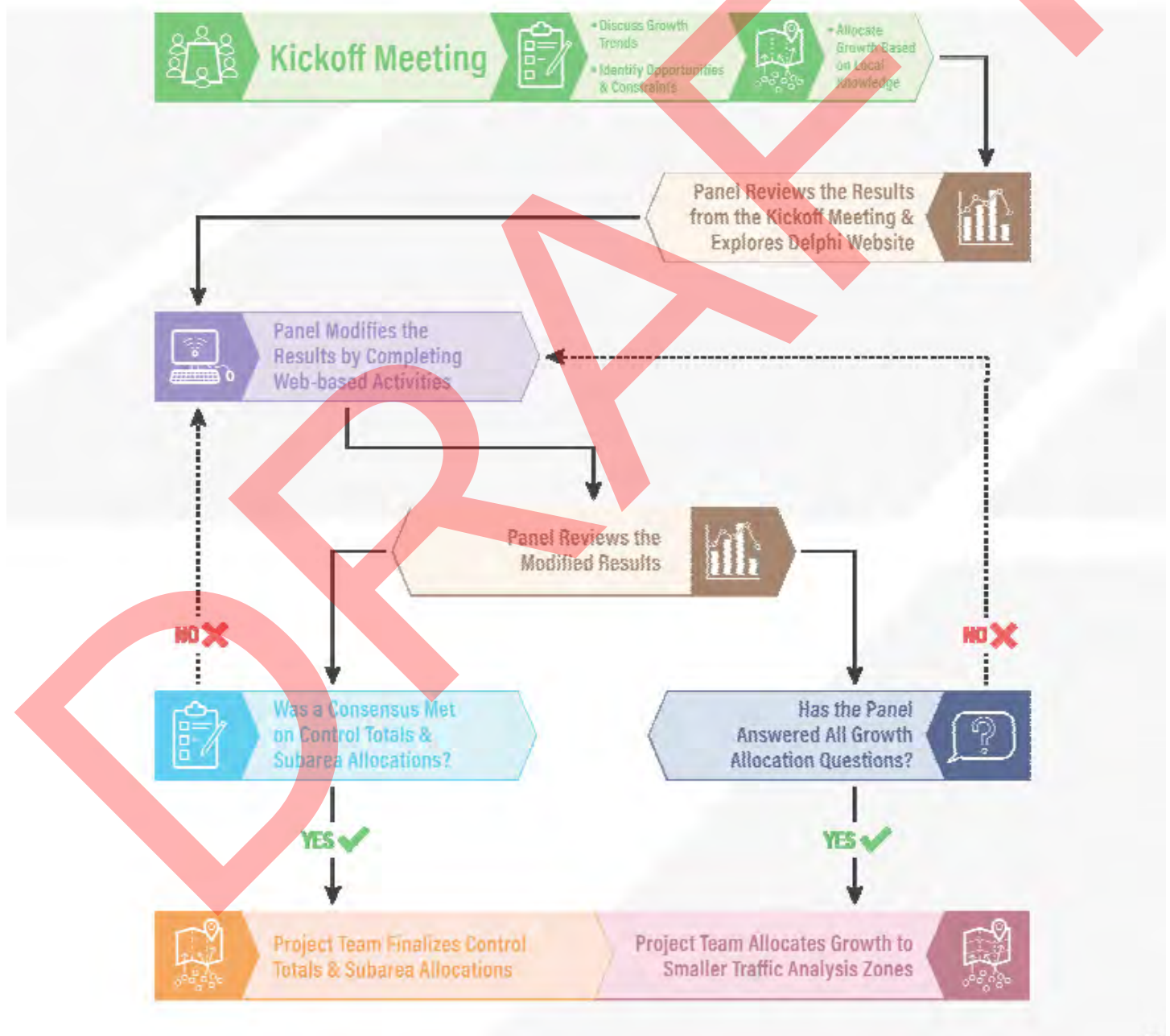
- Input was confidential (to the greatest extent possible) in that responses were not recorded using the name of the responder;
- The process was iterative until consensus was achieved; and
- Group responses were statistically interpretable.

The process was conducted through an initial kickoff meeting, followed by two rounds of online activities. Due to restrictions resulting from the COVID-19 pandemic, the initial kickoff meeting as well as the iterative consensus-building rounds were held online. The results of the Delphi Process

contributed to the development of socio-economic data forecasts for the region and were the inputs for the 2050 RMS TDM.

Additional information is provided in Appendix F.

FIGURE 2-1: DELPHI PROCESS



Based on the TDM demographic forecast, the region's population is anticipated to grow to nearly 1.1 million people by 2050, increasing roughly 25% from 2017. **Figure 2-2** shows high population growth areas in the region between 2017 and 2050 based on an annual average growth approach from estimates produced for the TDM from the full demographic update described above.

As shown on the map, the most dramatic changes are expected to occur on vacant, developable land east of the City of El Paso, particularly in and around Horizon City, and the unincorporated areas

near the City of El Paso's municipal boundaries. As development has expanded eastward from the original population center of the region in downtown El Paso, these high growth rate areas, previously utilized for farming and ranching purposes, have become attractive to land developers for conversion to tract housing and accompanying commercial uses. This trend can also be seen in the high growth rates of the northwestern part of the study area, where commercial farming activity continues to decline.

FIGURE 2-2: HIGH-GROWTH POPULATION AREAS (2017-2050)

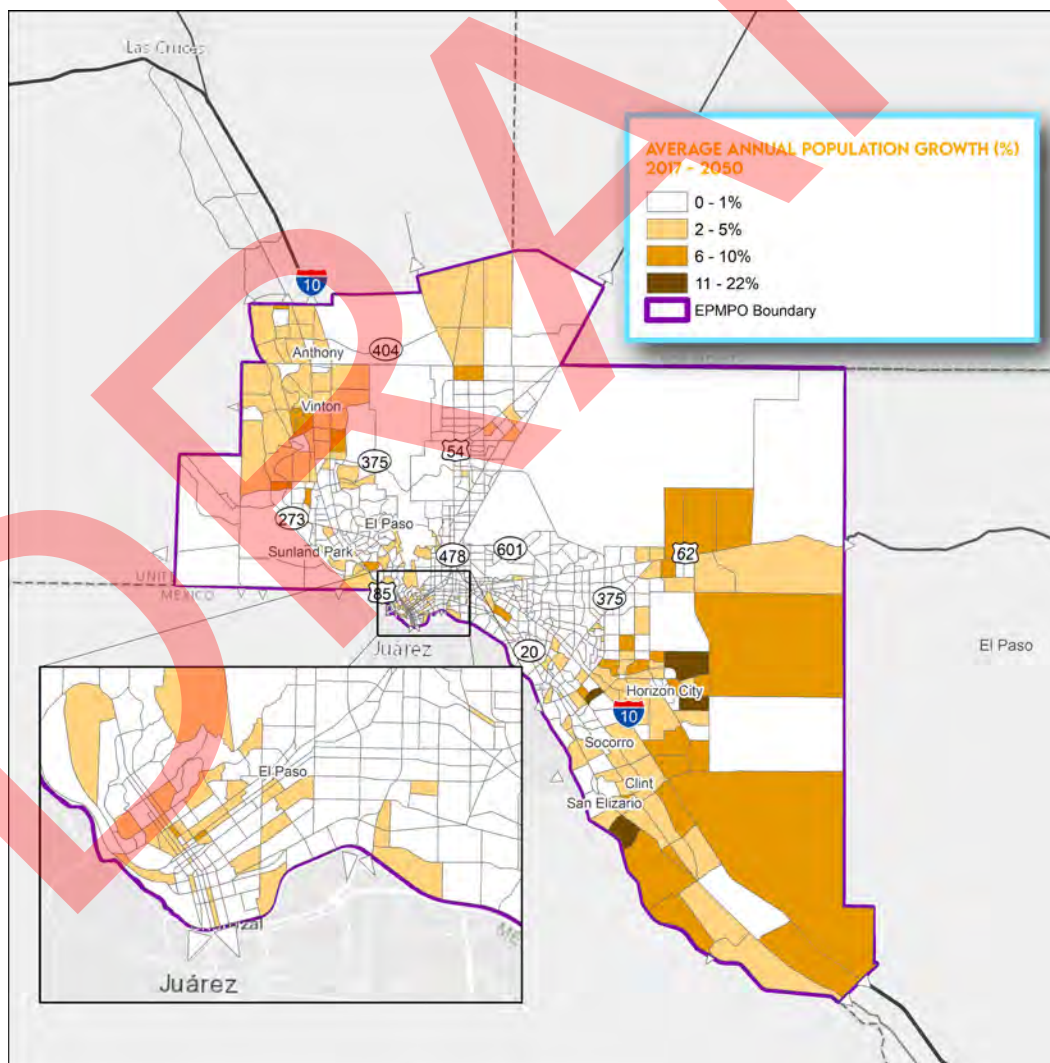
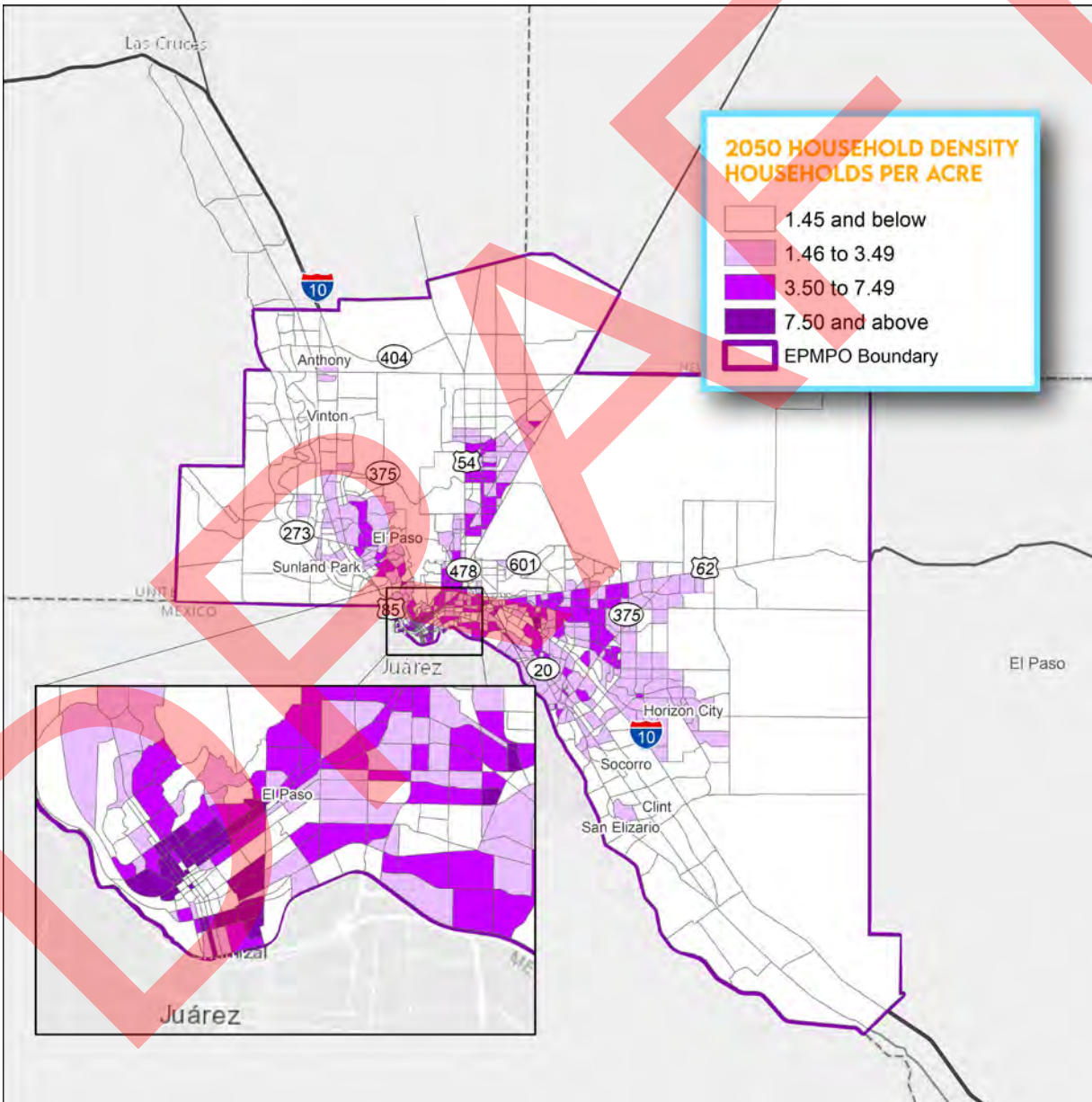


Figure 2-3 shows projected future household density. While areas at the edge of the region are projected to see the highest rate of growth, this map indicates that the population center

is expected to remain within previously well-developed parts of the City of El Paso, including areas around downtown.

FIGURE 2-3: HOUSEHOLD DENSITY, 2050



High employment growth areas are scattered throughout the region, according to the TDM demographic forecast (**Figure 2-4**). The largest concentration of employment growth appears near Horizon City as well as the area north of Pete

Dominici Boulevard near the Santa Teresa Airport in Doña Ana County and near the Santa Teresa Port of Entry. The forecast also shows high employment areas in the far east of El Paso County along the Montana Avenue corridor.

FIGURE 2-4: HIGH GROWTH EMPLOYMENT AREAS (2017-2050)

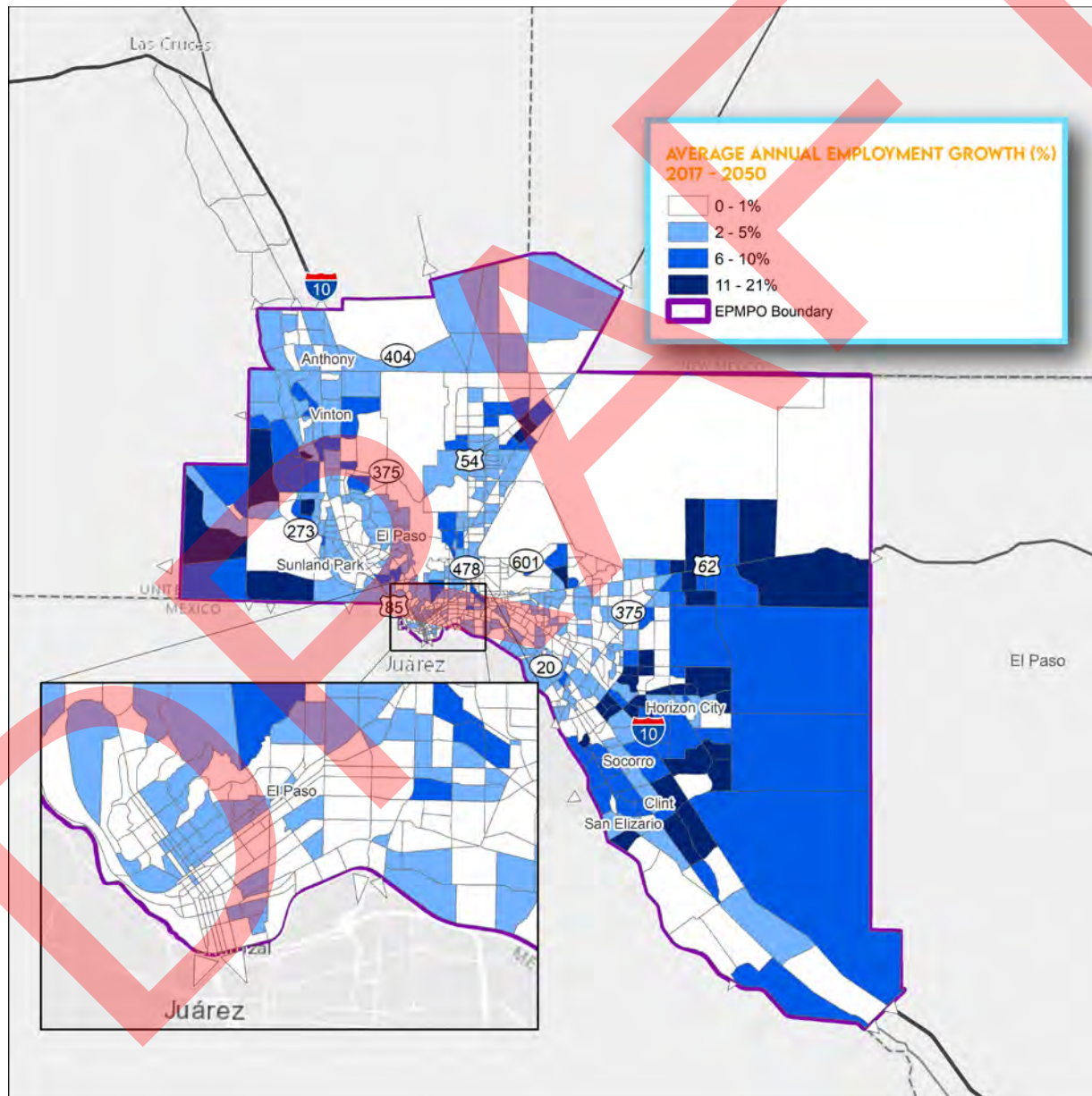
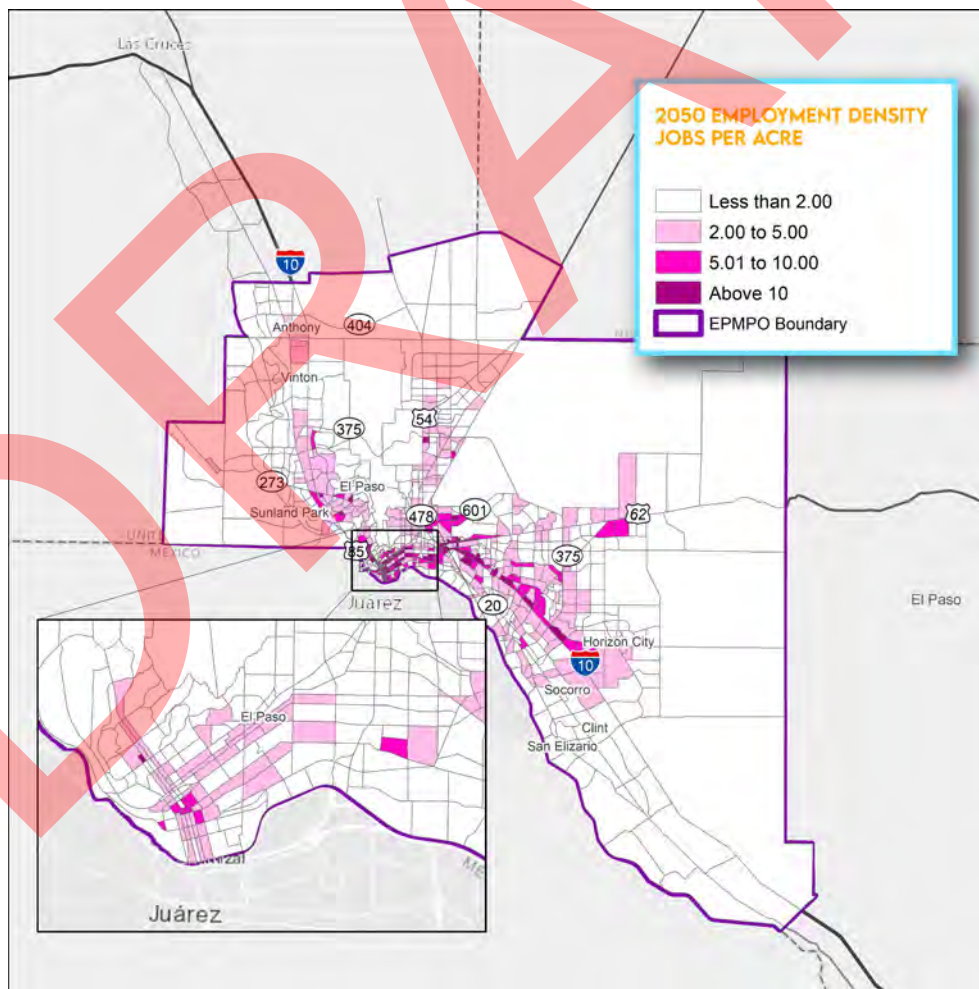


Figure 2-5 shows projected future employment density. It is observed that job concentrations will remain primarily within urban employment centers and corridors, extending along the IH-10 corridor from central El Paso to Horizon City, along the Montana Avenue corridor east of Zaragoza Boulevard, and on the far west side of El Paso in the vicinity of the intersection of IH-10 and Transmountain Drive. High job concentrations are also seen in the Central El Paso area at Fort Bliss and the industrial area by El Paso Airport.

As cited in *The Regional Mobility Strategy of 2019*, large concentrations of healthcare providers are

located around the Medical Center of Americas east of downtown El Paso, and in the area of Mesa Street and Schuster Avenue, adjacent to the University of Texas at El Paso (UTEP) campus. Two new hospitals were recently constructed; one in northwest El Paso near the Transmountain Drive/Resler Drive intersection, and one in the far east of El Paso, near the US 62/180 (Montana Avenue) and Loop 375/Joe Battle Boulevard intersection. Apart from Fort Bliss, which plays a critical role in the regional mobility, other employment centers include the college campuses, the Central Business District of downtown El Paso, and major retail centers.

FIGURE 2-5: EMPLOYMENT DENSITY, 2050



The demographic profile presented here was later used as an input to the Needs Assessment that can be found in Chapter 3.

ENVIRONMENTAL JUSTICE

In addition to future population and employment growth, environmental justice considerations are also a critical step in addressing a region's transportation needs. Environmental justice considerations aim to minimize negative externalities created by a transportation system and ensure that harmful effects of infrastructure investments are avoided in areas with concentrations of populations that have been disproportionately impacted by past interventions, such as neighborhoods demolished for freeway construction or families living near heavy-polluting industrial development. Introduced to metropolitan scale planning in 1994 by Executive Order 12898 and stemming from Title VI of the Civil Rights Act, the regulation specifically seeks to:

- Avoid or mitigate disproportionately high public health, socioeconomic, and environmental effects on low-income and minority populations;
- Locate and include all potentially impacted communities in the decision-making process;
- Prevent the denial or lack of receipt of benefits from the process by low-income and minority populations.

With SAFETEA-LU, MAP-21, and now the FAST Act further outlining these principles, RMS 2050 MTP utilized GIS analysis tools and 2018 American Community Survey (ACS) 5-year estimate data detailing households below the poverty line and minority populations.

To identify these populations, the Environmental Justice Index (EJI) was determined for low-income and minority populations as part of the

demographics profile for the EPMPO Title VI Program (See EPMPO website for Title VI Program information).

EJI is a method used to identify populations vulnerable to Environmental Justice concerns using demographic data at the census block group level. A census block group is considered to have a high concentration when the block group percentage for the socio-economic indicator exceeds the regional percentage.

Figure 2-6 shows the EJI map which is meant to identify where further analysis is needed and is not meant to act as the analysis itself. Chapter 5 presents an evaluation of affected Environmental Justice Zones (EJZs) based on proximity to the proposed projects in RMS 2050.

The EJI displays high concentration census block groups for two variables combined - Total Minority and Low Income. The Total Minority population includes individuals who identify as any race other than white, or who identify their ethnicity as Hispanic or Latino. The Low Income population includes individuals whose income is below the poverty percentage.

Socio-economic indicators for the EPMPO area are presented in the table below.

	2018	Percent of Total Population
Total Population	882,680	
Total Minority Population^a	776,182	87.93%
Black or African American	25,756	2.92%
American Indian or Alaska Native	2,266	0.26%
Asian	9,313	1.06%
Native Hawaiian or Other Pacific Islander	1,022	0.12%
Hispanic or Latino	730,262	82.73%
Some Other Race Alone	426	0.05%
Two or More Races	7,137	0.81%
White (Non-Hispanic)	106,498	12.06%
Total Population for Whom Poverty Status is determined	867,135	
Low Income Population^b	191,863	22.13%

^a Minority includes population who identify their race as any race other than white, or who identify their ethnicity as Hispanic or Latino. Table B03002

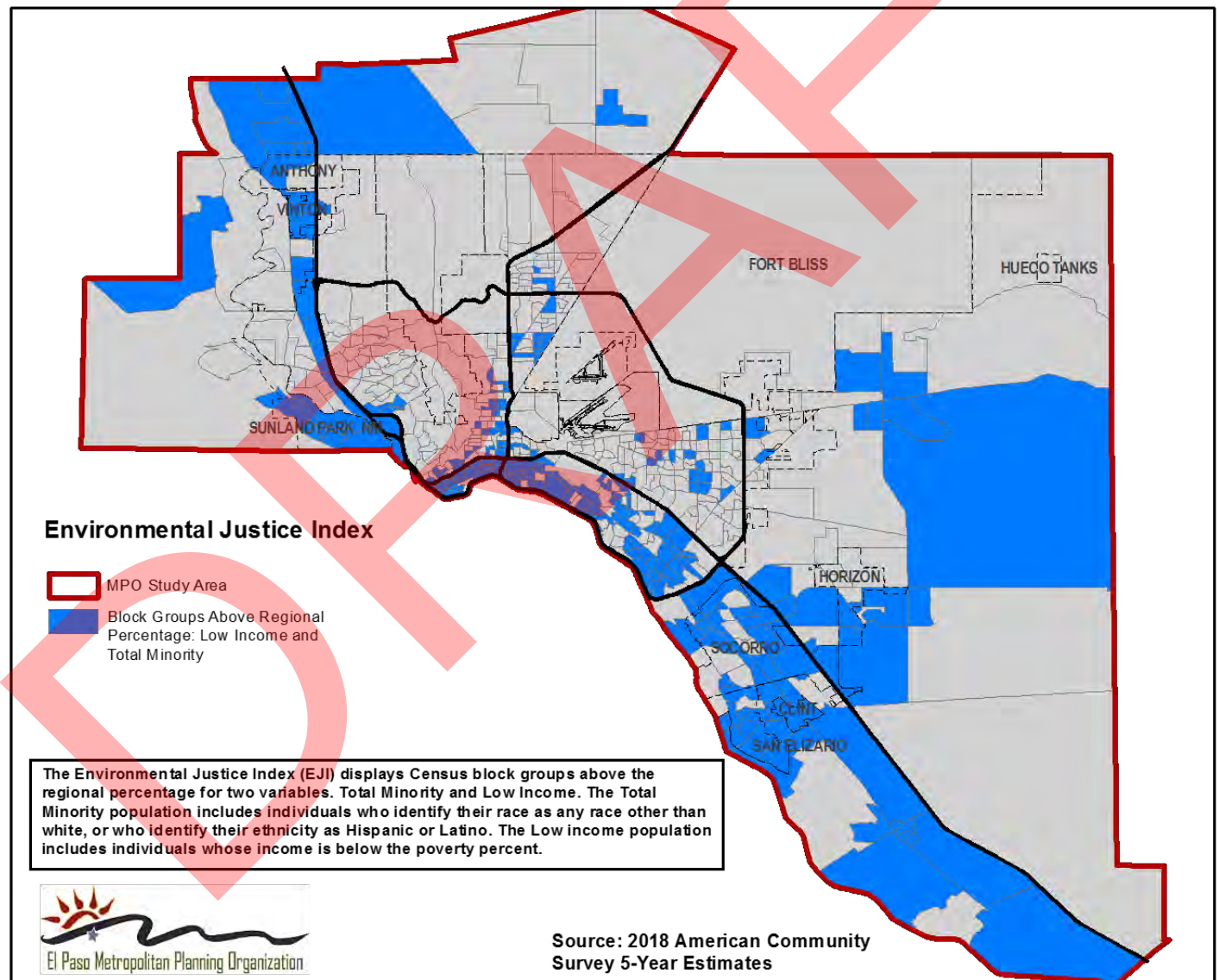
^b Low income population includes individuals whose income is below the poverty percentage. Table B17021

In general, the Mission Valley, the area south of IH-10 near downtown El Paso, and portions of Doña Ana County in the north of the study area show the census block groups above the regional percentage for the two variables.

The analysis of EJZs serves to identify and assess potential impacts created by proposed

transportation improvements, ultimately resulting in the development of mitigation strategies for the system. This process also explores the benefits of proposed transportation projects in terms of commute times and improvements specific to EJZs.

FIGURE 2-6: ENVIRONMENTAL JUSTICE INDEX

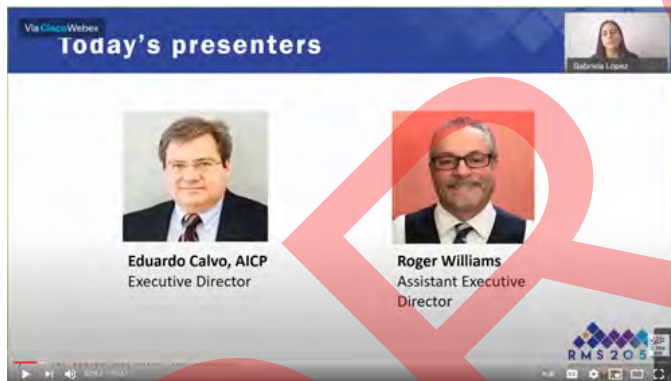




REGIONAL VISIONING PROCESS

To support the development of the RMS 2050 MTP, MPO staff hosted an on-demand, online visioning workshop whereby the public was asked to provide input and feedback for the new plan.

The public comment period and the online workshop was open June 14, 2020 through July 19, 2020. The on-demand virtual workshop was made available at the El Paso MPO website. In addition to the on-demand workshop, two live virtual workshops were offered. Additionally, to cultivate more public input, the visioning workshop materials were used to develop a downloadable and printable survey version for people who preferred to complete the survey on paper and submit through postal mail.



Complemented by voice narration, the workshop was organized into five exercises:

- Exercise 1. Tell us about yourself.
- Exercise 2. Tell us your thoughts about the current state of the transportation system.
- Exercise 3. Tell us your transportation priorities.
- Exercise 4. Give us your perspective on where you think the region is growing.

- Exercise 5. Tell us what your transportation needs will be over the next several decades.

An overview of the workshop including examples of all the exercises can be found in Chapter 7. Exercise 2 allowed participants to provide comments by dropping a pin onto an interactive map.

These on-demand workshops and live virtual workshops were designed to:

1. Gather information regarding transportation needs in the region;
2. Identify deficiencies in the current transportation system;
3. Develop a community vision for future growth within the region; and
4. Identify appropriate modes and infrastructure for supporting future growth.

During the public visioning workshops and online visioning outreach, participants identified several deficiencies with the existing transportation system, including; congested roadways and ports of entry, connectivity and cooperation throughout the region, mobility and accessibility barriers for older adults and individuals with disabilities, safety and security concerns, and a shortage of bicycle and pedestrian infrastructure. In addition to identifying transportation system deficiencies, participants completed activities to determine the most important focus areas for prioritizing projects in the MTP. These factors included: increasing multimodal options, improving safety and quality of life, connecting modes of travel, and improving access.

Via CiscoWebex

https://elpaso.scoutfeedback.com/

El Paso MPO On-Demand Virtual Workshop

The following map shows expected traffic volumes compared to the capacity of current streets and highways if the population and employment growth shown in the previous two maps is realized.

Do you believe that this map accurately shows expected areas of roadway congestion?

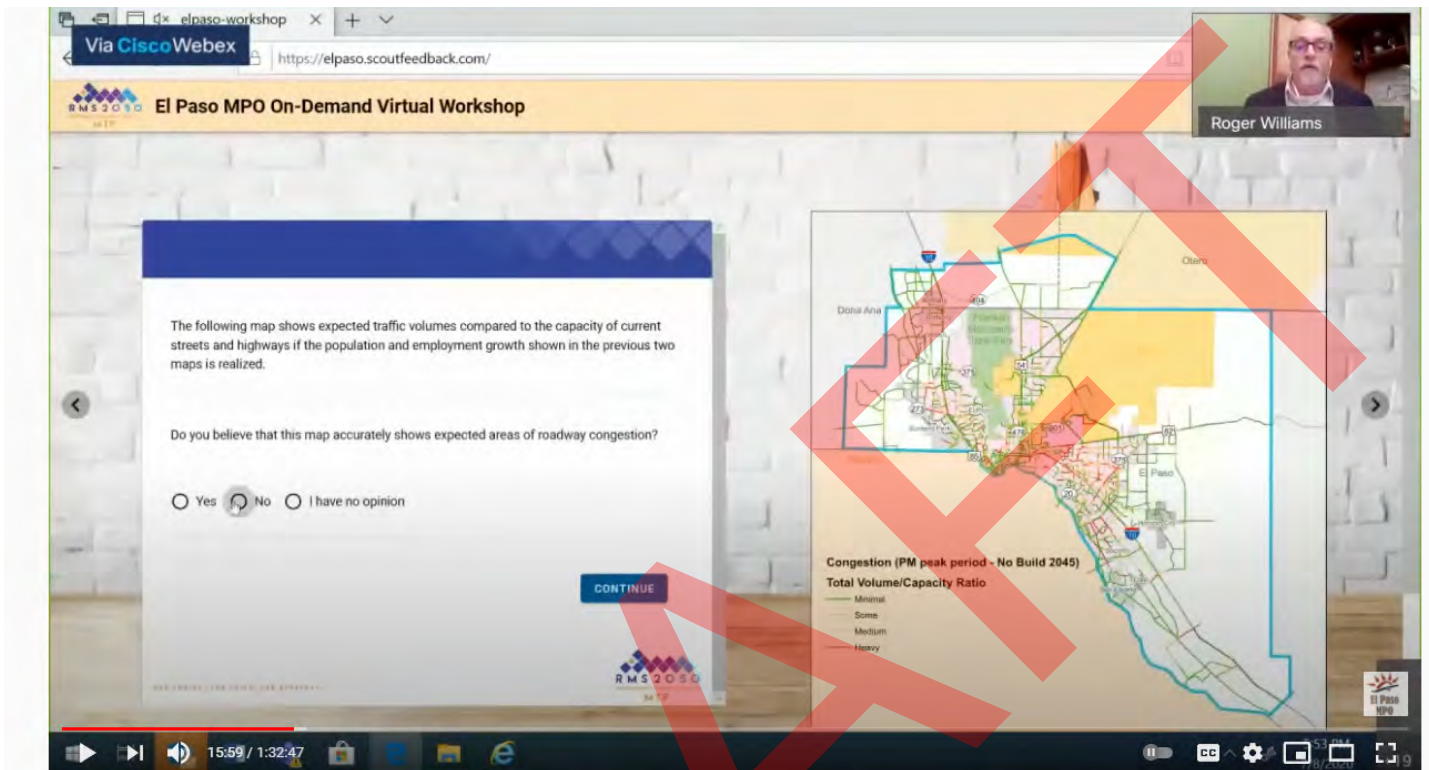
☐ Yes ☒ No ☐ I have no opinion

CONTINUE

Congestion (PM peak period - No Build 2045)
Total Volume/Capacity Ratio

- Minimal
- Some
- Medium
- Heavy

Roger Williams



Via CiscoWebex

Roger Williams

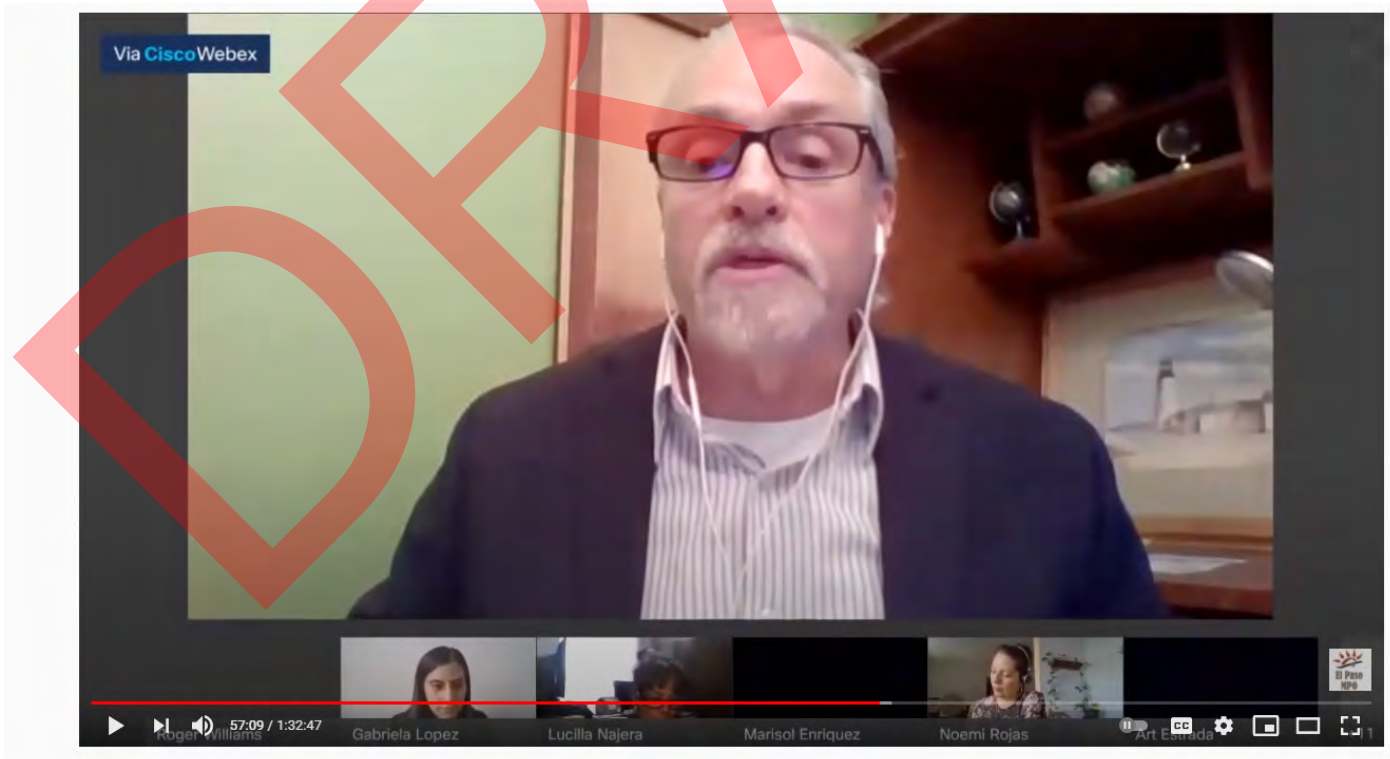
Gabriela Lopez

Lucilla Najera

Marisol Enriquez

Noemi Rojas

Art Estrada



VISIONING RESULTS

The public visioning workshop and online activity results were essential to identifying a community vision, and participants provided valuable comments on the current state of the transportation system and identified specific needs and desires for the future transportation system. This public input was utilized by the El Paso MPO during the development of RMS 2050 MTP.

For example, participants' ranking of the evaluation criteria for future transportation projects helped the MPO develop performance measures to guide the evaluation of transportation system alternatives in the MTP. The final ranking of evaluation criteria is shown in **Figure 2-7**. Also, the identified growth areas and areas of need help ensure limited resources are utilized to provide the most benefit to the region.

FIGURE 2-7: CRITERIA RANKINGS

CRITERIA		AVERAGE SCORE
1.	Improve Safety	4.2
2.	Improve Quality of Life	4.0
3.	Protect Environment	3.9
4.	Conserve Energy	3.7
5.	Promote Efficiency	3.6
6.	Improve Access	3.6
7.	Increase Multi-Modal Options	3.6
8.	Reduce Congestion	3.5
9.	Connect Travel	3.4
10.	Support Economic Development Goals	3.4
11.	Increase Connection	3.3
12.	Support Land Use Goals	3.3
13.	Preserve Rights-of-Way	3.0
14.	Improve Security	3.0

STAKEHOLDER PRIORITIZATION OF PROJECTS

To assist in the decision-making process, the MPO used Decision Lens Software as a tool to evaluate and prioritize projects using measurable information. Decision Lens had previously been used successfully in the development of RMS 2020 and provides a helpful comparison between projects. Transportation Policy Board members were asked to go over a pairwise comparison

exercise of the criteria outlined for the project selection process. This exercise helps in removing the bias by repetitively comparing one criterion against the other.

Below are the criteria categories and weights adopted by the Transportation Policy Board in September 2020. The Decision Lens categories include the FAST Act National Goals, Strategies from the Congestion Management Process, Project System and Strategic Priority elements.

FIGURE 2-8: DECISION LENS CRITERIA

CATEGORIES		WEIGHT	
Strategic Priority	35.45%	Resiliency and reliability	16.13%
		Connectivity	11.72%
		Scheduling	7.58%
Congestion Management Process Strategies	26.41%	Public Transportation	7.72%
		Traffic Operations and ITS	7.58%
		Travel Demand Management	6.46%
		Road Capacity	4.63%
Project System	22.75%	Block System	10.73%
		Active Transportation System	6.19%
		National Highway System	6.13%
National Goals	15.39%	Safety	3.77%
		Infrastructure Condition	3.37%
		Environmental Sustainability	2.43%
		System Reliability	1.94%
		Congestion Reduction	1.60%
		Freight Movement	1.20%
		Economic Vitality	1.07%



REGIONAL VISION STATEMENT

After establishing priorities through the visioning process and stakeholder project priorities, MPO staff recommended retaining the vision statement laid out in the Destino 2045 MTP:

“A seamless and reliable multimodal network which enables connectivity, promotes quality of life and economic wellbeing, and preserves the human environment.”

GOALS AND OBJECTIVES

To meet the mandates of its charter as a metropolitan planning organization (MPO), and because a great deal of the transportation funding that will support the implementation of the RMS 2050 MTP comes from the US Department of Transportation (USDOT), the El Paso MPO must seek to address both local and national transportation needs. The El Paso MPO must address the identified transportation issues of the region both in terms of local needs and the role that the region's transportation facilities play in the national transportation network, including international ports of entry. Therefore, the goals and objectives developed for the RMS 2050 MTP address identified local priorities while also considering the region's role in the national transportation system.

Goals and objectives provide the framework for selecting and prioritizing projects that will address identified needs. Goals provide broad statements about what the MTP is trying to achieve, and objectives are specific measurable actions to achieve the stated goal. The RMS 2050 MTP goals and objectives incorporate: public input; goals and objectives identified in previous planning efforts in the region; and the US Department of Transportation's national performance goals. The

RMS 2050 MTP states a set of comprehensive goals and objectives that balance local needs and national priorities.

The following sections describe these needs and priorities as established through public input and contained in local, state and national policy guidance.

NATIONAL PERFORMANCE GOALS AND PLANNING FACTORS

As mentioned at the beginning of this chapter, in 2015, the fifth intermodal surface transportation bill, Fixing America's Surface Transportation Act (FAST Act), was signed into law, providing long-term funding from the federal government for surface transportation programs. The FAST Act requires that MPOs use performance-based planning processes and consider national performance goals. These national performance goals, which MPOs are required to consider to be eligible for federal funding, are as follows:

- 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
- Reduced Project Delivery Delays - Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods

To help the MPO and the public fully understand what these national performance goals are designed to achieve, the FAST Act provides background information in the form of ten (10) planning factors (presented under federal guidelines at the beginning of this chapter) that identify the primary considerations affecting the interstate and national highway systems that drove the development of the goals.

To ensure that federal funds will be available for improving the regional transportation system, it is important that these federal FAST Act national performance goals, as well as the federal planning factors, are considered and incorporated into the development of local goals, objectives and performance measures.

SAFETY AND SECURITY

Regarding Safety, 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.” Strategies to address safety and security will at times differ significantly from one another and require coordination between different agencies but will more often overlap and involve members of the same agencies. Therefore, RMS 2050 considers safety and security both simultaneously and individually.

The EPMPPO 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 EPMPPO can ensure that its plans and studies are consistent with and help support safety and security planning in the El Paso Region.

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

SAFETY

“Safety” in the transportation planning context typically refers to the mitigation of traffic crashes, transit accidents, and other unintentional events resulting in fatalities, injuries, or loss of property on the transportation network. The FAST Act identifies a national goal for safety to significantly reduce fatalities and injuries on all public roadways. The U.S. Department of Transportation (USDOT) published a related Notice of Proposed Rulemaking (NPRM) in March 2014 proposing that safety targets and progress towards their achievement be measured as 5-year rolling averages for fatalities and serious injuries, as well as their respective rates for every 100 million vehicle miles traveled (VMT). The final rule was published March 15, 2016, with an effective date of April 14, 2016.



Safety planning, reducing the number of crashes, and decreasing the number of fatalities and injuries on the transportation network involves several different projects and programs, ranging from improving the operational efficiency of the transportation network to influence driver behavior. TXDOT, NMDOT, and EPMPO play the lead roles in transportation safety planning, but several non-traditional stakeholders should be included in the transportation safety planning process, including:

- State agencies responsible for safety data collection and management (TXDOT and NMDOT, Texas State Police – Highway Safety Office).
- Regional and local transportation agencies.
- First responders, fire and rescue, and EMS.
- State and local law enforcement.
- Transit agencies.
- Motor vehicle departments.
- Federal agencies; and
- The non-governmental highway safety community (e.g., AAA).

REVIEW OF AGENCIES AND PROGRAMS

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).

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 EPMPO considers addressing crash types and locations, as well as driving behaviors, that are responsible for the greatest number of crashes in the El Paso region – particularly those resulting in serious injuries or fatalities.

NEW MEXICO STRATEGIC HIGHWAY SAFETY PLAN (SHSP)

The 2016 New Mexico SHSP identifies actions and strategies to be undertaken over a five-year period to reduce traffic deaths and incapacitating injuries on the states surface transportation system, with the vision statement "Safe Mobility for Everyone." Using the "4E" approach of engaging stakeholders and participants from Engineering, Enforcement, Emergency response, and Education, the NM SHSP is intended to "coordinate traffic safety programs across the state, identify priorities and strategies, and provide a common measure and approach in

traffic safety efforts for all roadway users.” The plan identifies ten high priority emphasis areas and ten priority emphasis areas based on the number and severity of crashes in New Mexico and stakeholder input for data from 2007 to 2012.

SECURITY

Planning for transportation security seeks to mitigate or avoid harm to the transportation network inflicted either intentionally by people (such as terrorist acts or criminal activities), or circumstantially through natural disasters such as hurricanes, earthquakes, or other weather events. Security planning is carried out by multiple levels of government and involves all four phases of emergency management: preparedness, response, recovery, and mitigation.

In support of state, regional, and local security goals and objectives, the primary role of the MPO is to facilitate coordination between agencies responsible for transportation security, including law enforcement, emergency response, transit agencies, and homeland security departments.

To ensure that federal funds will be available for improving the regional transportation system, it is important that these federal FAST Act national performance goals, as well as the federal planning factors, are considered and incorporated into the development of local goals, objectives and performance measures.

REVIEW OF AGENCIES AND PROGRAMS

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.



Source: U.S. Customs and Border Protection [Public domain], via Wikimedia Commons

Updated in 2015, the Texas Emergency Management Plan describes how the State will mitigate the effects of, prepare for, respond to, and recover from hazards to public health and safety, including natural disasters, technological accidents, homeland security threats, and other emergency situations. The plan designates the Texas Department of Public Safety (DPS) as the primary State agency responsible for coordinating all transportation related emergency management activities, and designates TxDOT as a support



agency for transportation related emergency management activities which include:

- Clearing routes and temporarily restoring public facilities;
- Assisting with damage assessment of transportation infrastructure;
- Assisting state and local government entities in determining the most viable transportation networks to, from, and within disaster areas; and
- Providing assistance to other state and local government agencies in the transport of urgent supplies to impacted areas.

The plan also identifies key agencies and organizations that will support DPS's emergency management responsibilities and outlines each entity's role in or resource contribution to transportation-related emergency management activities.

NEW MEXICO DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY MANAGEMENT (DHSEM NEW MEXICO)

The State of New Mexico All-Hazard Emergency Operations Plan (EOP) establishes the New Mexico Emergency Operations System. This system organizes the state's response to emergencies and disasters while providing for the safety and welfare of its citizens. The plan assigns functional emergency management responsibilities to state departments, agencies, boards, and commissions.

The EOP identifies the State Department of Transportation as the primary State agency responsible for coordinating all transportation related emergency management activities (ESF#1), with support from the General Services Department, the Environment Department, Department of Military Affairs, Department of Public Safety, State Police Division, and Motor Transportation Division.

Responsibilities for transportation related emergency management activities include:

- Monitor and report status of and damage to the transportation system and infrastructure as a result of an incident.
- Identify temporary alternative transportation solutions that can be implemented by other agencies when systems or infrastructure are damaged, unavailable, or overwhelmed.
- Coordinate the restoration and recovery of the transportation systems and infrastructure.
- Coordinate the support, prevention, preparedness, response, recovery, and mitigation activities among transportation stakeholders within the authorities and resource limitations of ESF #1 agencies.

The plan also identifies key agencies and organizations that will support DHSEM's emergency management responsibilities and outlines each entity's role in or resource contribution to transportation-related emergency management activities.

FEMA HAZARD MITIGATION PLANS

The purpose of FEMA's Hazard Mitigation Grant Program (HMGP) is to "help communities implement hazard mitigation measures following a Presidential major disaster declaration." All counties in the greater El Paso Metropolitan Planning Area have completed a FEMA-approved Hazard Mitigation Plan, and although Otero County's plan is currently expired, they are in the process of working on a new plan, as noted on the DHSEM New Mexico website.

TEXAS & NEW MEXICO CONTINUITY OF OPERATIONS PLANS (COOP)

Continuity of Operations Plans focus state energy and resources on plans that minimize the impact

of natural and man-made disasters on state operations. Texas DPS and the New Mexico DHSEM provide technical assistance to local agencies or organizations wishing to establish a COOP.

RECOMMENDATIONS

The following recommendations, shown in no particular order, are designed to strengthen transportation security planning in the El Paso region and should be coupled with elements of the final rules as published by the FHWA and disseminated by TXDOT and NMDOT:

- Create a local definition of security;
- Continue to assess the most significant threats, high-potential targets, and least hardened infrastructure elements within the El Paso region;
- Work with federal, state, regional, and local jurisdictions and transportation providers to develop evacuation plans for the “transportation disadvantaged;”
- When eligible, establish a FEMA-approved Hazard Mitigation Plan for Otero County;
- Collaborate with security and emergency response professionals and organizations on an ongoing basis; and
- Provide training opportunities for MPO staff to increase their knowledge related to transportation security planning

SUMMARY OF GOALS AND OBJECTIVES WITHIN LOCAL PLANNING DOCUMENTS

In addition to reviewing national performance goals and planning factors, MPO staff reviewed local transportation planning documents prepared by the MPO and its planning partners to ensure that the goals and objectives of RMS 2050 MTP address and are informed by local priorities and identified needs.

MPO PLANNING DOCUMENT

Building upon the goals and objectives laid out for Destino 2045 MTP, which considered primarily the FAST Act National Performance Goals and Objectives as the guiding principles for transportation decision making, the MPO incorporated the recently completed update to the Congestion Management Process (CMP) (completed November 2019), which included a revision of the goals, objectives and performance measures, including providing mobility choices, mitigating congestion, minimizing air quality impacts, and promoting accessibility to efficient transportation. Some of the specific objectives from the CMP include increasing bicycle and pedestrian facilities, improving bus reliability, continuing investments in Intelligent Transportation System (ITS) technology, reducing travel delays at traffic signals, and creating shared ride programs.



CONGESTION MANAGEMENT PROCESS

Nov 2019

OUTLOOK ON CONGESTION

Congestion in El Paso Region was evaluated through the public involvement process for Destino 2045 MTP. The majority of the survey respondents (71%) believed that congestion needs were a top priority region wide, the Central El Paso (74%) and West Valley (71%) sub-regions had the highest respondent rates prioritizing congestion needs. Most respondents (65%) agreed with maps of forecasted V/C ratios provided during the public visioning workshops. Furthermore, 61% of respondents believed that automobiles in the El Paso study area would be inadequately served in the next 28 years.

El Paso MPO's responsibility as a non-attainment area, is to work closely with local member jurisdictions to manage congestion, either by a better distribution of travel demand, or by improving the efficiency of the transportation system.

REGIONAL MOBILITY STRATEGY (RMS)

Developed by the Texas Department of Transportation (TxDOT) El Paso District in cooperation with the El Paso MPO, RMS began in 2018 as an exercise among various stakeholders and partner agencies to help define the future of our region mobility, livability and economic development.



Stakeholder representation during the listening sessions for the development of the RMS brought perspective to long-standing challenges and translated the abstract into tangible needs. The RMS proposed future efforts laid out in the implementation plan as a main component of the RMS 2050 MTP guiding principles.

Among the potential projects presented in the implementation plan and identified by local entities are a need for improving IH-10, completing connections between major highway corridors, eliminating choke points at POEs, adding additional international rail routes, and improving bicycle and pedestrian infrastructure.

INTERNATIONAL PLANNING DOCUMENTS

The purpose of the Texas-Mexico Border Transportation Master Plan (BTMP) is to facilitate coordination and collaboration between Texas-Mexico planning, programming, and the implementation of policies, programs, and projects at border crossings and support facilities and multimodal transportation system that serves the Texas-Mexico border.



STATEWIDE PLANNING DOCUMENTS

At the state level, TxDOT and NMDOT share many of the same goal-setting sentiments. Safety is a high priority on both agencies' lists of goals, with Texas articulating the need to "improve multimodal transportation safety" and New Mexico seeking to "improve safety for all system users." Asset management is also a high priority for both DOTs, as resource preservation efforts tie into multiple goals and rank highly for the DOTs. Identifying potential funding sources that could then be distributed to many modes of transportation and managing those resources to improve accountability is a good example of these efforts.

Increasing investment in multi-modal forms of transportation is a high priority for both DOTs, with TxDOT officially publishing their Bicycle and Pedestrian Program Strategic Plan in 2017, in which they present a comprehensive approach to implementing bicycle infrastructure.



NMDOT included coordinating transportation improvements alongside land use planning, stating that "Cooperative planning by land use and transportation agencies represents one of the most powerful and effective tools that a state can use to address its mobility needs in a mutually beneficial manner." NMDOT also lists in *New Mexico 2040 Plan* "better access to public transit, shorter travel distances for cyclists and pedestrians, improved sustainability throughout the community, and less travel time for automobile users" as major benefits to this type of planning coordination.

LOCAL PLANNING DOCUMENTS

Local entities throughout the region focus their goals on responding to their jurisdictional context.

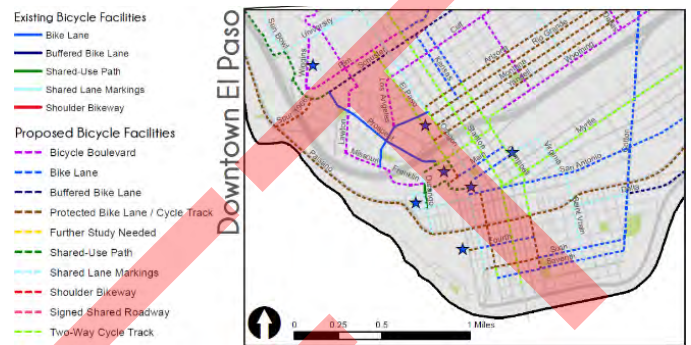
The County of El Paso FY2020-FY2024 Strategic Plan Dashboard presents the goals and plans for the year. Among these goals is to upgrade infrastructure to meet the needs of the community. Objectives include expanding the public transit system by developing interlocal agreements and identifying new bus stop/shelter locations.

Building upon previous planning in the region, the *El Paso County Regional Transit Institutional Options Feasibility Study*, developed in April 2019, examines the feasibility of a single, seamless, transit system in El Paso County, serving and connecting rural communities and urban areas in the county and the City of El Paso. The study identifies service, governance, and financial activities for countywide transit. At the time that the RMS 2050 MTP was adopted, coordination of necessary interlocal agreements with partner agencies related to launching the regional transit system were on their way, as well as an evaluation of the master thoroughfare plan and evaluation of roadway conditions to identify required infrastructure improvements.

Local agencies also expressed the importance of coordinated transportation and land use planning in their planning documents. For example, Plan El Paso, the City of El Paso's Comprehensive Plan, lists downtown revitalization as its top goal, with the addition that this includes "development linked with good transportation choices." In addition, the City of El Paso's objectives included adding new land uses, as well as actively working to develop homes and workplaces in closer proximity to one another. The Plan El Paso also states that: to improve mobility, the city must "Grow Up, Not Out." In this context, this means stopping urban sprawl with denser development around the core of the city and expanding the transit network - where every transfer center is an opportunity for redevelopment. The City of El Paso Sustainability Plan shares many of these sentiments, advocating for "an integrated, regional approach to transportation." While the El Paso MPO cannot statutorily regulate land use within the region, it can include goals to coordinate land use and transportation decision-making to facilities accessibility and improve transportation options.

Building on these local policy trends for sustainability and using its new TDM capabilities, the MPO has also developed test scenarios of BRT corridors with higher land-use densities, to evaluate the impact of such a scenario on the increase of transit and bicycle demand, and reduction of roadway congestion. These scenarios are presented in Chapter 5.

Active transportation consistently appeared as a priority in numerous agencies' plans. The City of El Paso has written a Bicycle Master Plan in which they promote cycling as a viable and safe everyday activity.



Source: City of El Paso Bike Plan

Numerous related goals are delineated within the document including: being awarded the designation of Silver-level Bicycle Friendly Community by the League of American Bicyclists; coordinating land use and policy planning to promote cycling infrastructure; supporting programs that educate or increase awareness about cycling as a viable form of transportation; and encouraging the consideration of bicycling at every level of civic government in their jurisdiction. This Bicycle Master Plan works in tandem with the City of El Paso's Great Streets and Corridor Plan, which aims to match the character of the streetscape to the character of the surrounding land use, form a well-connected network of complete streets that is conducive to all forms of transportation (e.g. driving, walking, biking, transit), and capitalize on opportunities to invest in transit service as well as investments in walking and bicycling infrastructure. This goal-setting within the Great Streets and Corridor Plan closely follows the TxDOT state-level Bicycle and Pedestrian Program.

RESILIENCY IN TRANSPORTATION

Updated metropolitan and statewide transportation planning regulations include a requirement that metropolitan transportation plans assess capital investment and other strategies that reduce vulnerability of the existing transportation



infrastructure to human-made and natural disasters.

Over the last three years, the City of El Paso has identified a variety of areas where substantial action is needed to build long term resiliency for our community. The City of El Paso's *Resilient El Paso* is a document that marks the culmination of intensive engagement, research and planning intended to provide a framework of actions that have the ability to make El Paso more adaptable.

The City of El Paso has identified a variety of areas where substantial action is needed to build long term resilience for our community including: Poverty, Transportation Networks, Extreme Heat, Flash Flooding, Drought, and Challenges of a Border Metroplex. Several goals are outlined within the document to provide long-term resilience including the design and implementation of infrastructure projects that maximize co-benefits, simultaneously addressing climatic and social stressors such as flooding, heat, energy and citizen mobility.

A specific action presented in this document that is intended to meet this goal is to mobilize an interagency working group to develop regional development performance metrics in the context of large scale community wide infrastructure projects. The City of El Paso will co-chair alongside the MPO task force made up of a diverse group of regional of stakeholders currently convened as the Borderplex 2020 Regional Planning Task Force. The group has over the past two years worked to identify the existing framework of plans and development initiatives from Southern New Mexico through West Texas and into Northern Chihuahua. The next goal for the group will be to leverage that information with identified regional priorities to create a dynamic performance matrix that can be utilized to maximize impact of major regional infrastructure projects.

GOALS AND OBJECTIVES RECOMMENDATION

Based on review of previous planning efforts within the region, consideration of the Federal planning factors and National performance goals, stakeholder project prioritization and listening to community input through the visioning workshops, the MPO staff recommended the following goals for the RMS 2050 MTP:

RMS 2050 MTP Goals
Safety
Maintenance & Operations
Mobility
Accessibility & Travel Choice
Sustainability
Economic Vitality
Quality of Life
Implementation*

To achieve these goals, the MPO developed objectives that describe specific, measurable actions that decision-makers should work towards when balancing transportation investments throughout the region. **Table 2-1** lists several recommended objectives related to each overall goal.



TABLE 2-1: GOALS AND OBJECTIVES

RMS 2050 GOAL	OBJECTIVES
Safety	• Reduce the number of fatalities and serious injuries related to traffic incidents. • Reduce the number of crashes at high-speed intersections with an abnormal number of incidents. • Reduce the number of conflict points between vehicles and active transportation users – e.g., pedestrian and cyclists.
Maintenance & Operations	• Decrease the percentage of facilities and assets not in a state of good repair. • Increase the number of Intelligent Transportation System (ITS) technology assets. • Reduce delay at traffic signals.
Mobility	• Reduce delay on major thoroughfares. • Reduce travel time to key destinations. • Improve response time and clearance capabilities for first responders and emergency personnel.
Accessibility & Travel Choices	• Increase the number of jobs and key destinations that are accessible by all transportation modes. • Ensure that transportation system improvements provide equitable benefits to the region. • Expand access to and improve reliability of transit services, particularly for underserved areas and areas with high transit need. • Fill major connectivity gaps in the side walk, bike lane, and trail networks that support regional travel. • Encourage infill development and transit-supportive land use. • Expand multi-modal access at regional Ports of Entry.
Sustainability	• Increase the attractiveness of transportation options other than single-occupancy vehicles. • Reduce emissions produced by vehicles. • Achieve maintenance designation from EPA from criteria pollutants. • Increase percentage of transportation assets that use alternative energy sources.
Economic Vitality	• Improve accessibility to key tourist destinations. • Reduce delay on designated freight corridors and roads connecting to intermodal or freight facilities. • Increase access to major employment centers. • Improve operational efficiency at regional Ports of Entry.
Quality of Life	• Preserve and enhance the natural environment, improve air quality, and promote active lifestyles. • Encourage livable communities which support sustainability and economic vitality.
Implementation	• To effectively schedule project development activities to LET the project on time (Project development schedules are monitored by the MPO thru the Project Readiness Report). • Develop cost-effective projects and programs aimed at reducing the cost associated with constructing, operating and maintain the regional transportation system.

PERFORMANCE MEASURES

Measuring and tracking the performance of the region's transportation system is a fundamental component of the RMS 2050 MTP and the performance-based planning process. Performance measurement allows planners to assess the current state of the system to develop recommendations for improvements, evaluate the effectiveness of recently implemented improvements, and forecast the effectiveness of planned improvements.

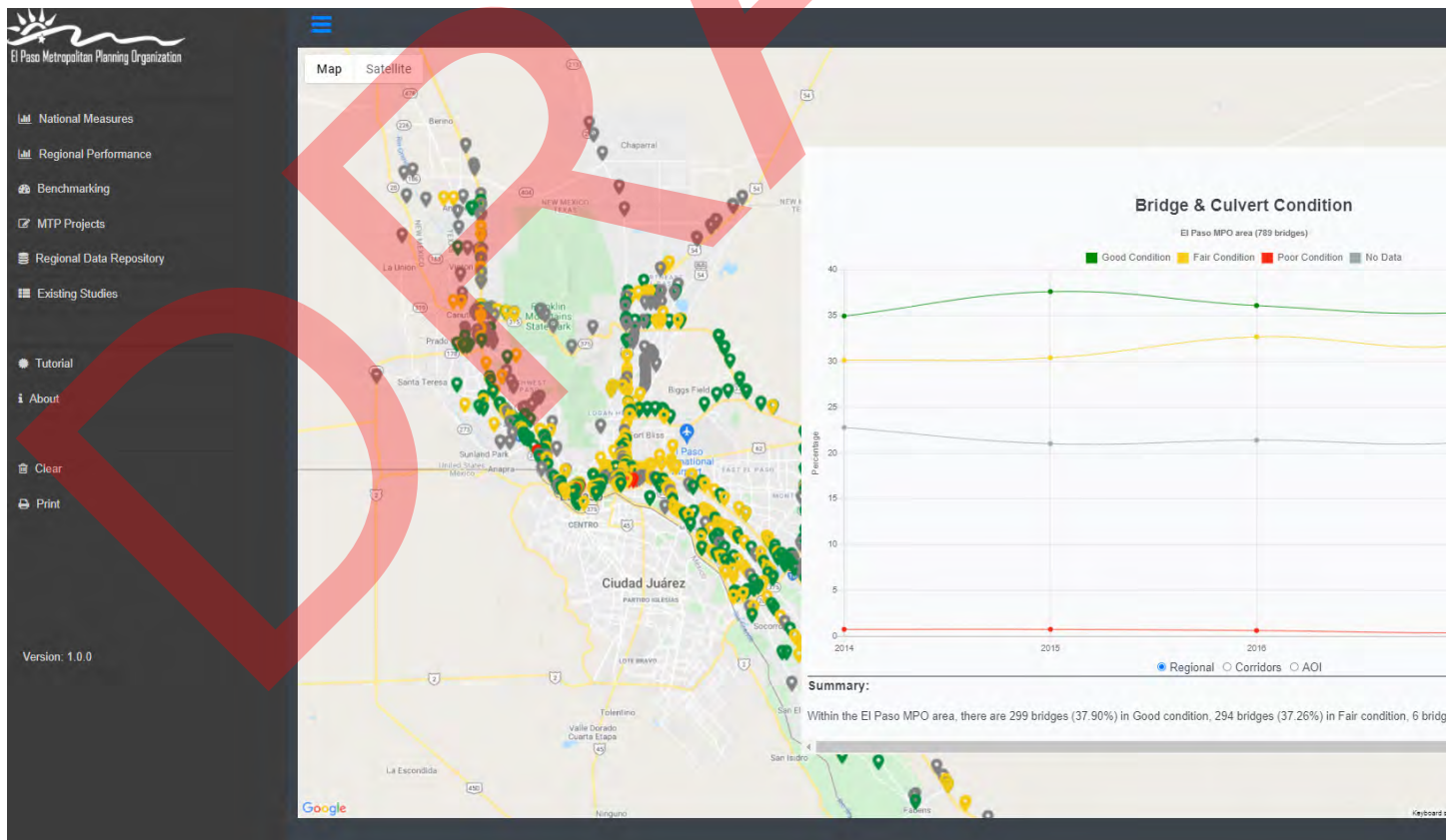
The EPMPO-monitors two kinds of performance as part of its performance-based planning efforts: Observed Performance and Forecasted or Modeled Performance.

Observed Performance: Performance is measured based on information from various sources

(national, state, local) and reported via a web-based application tool developed for geospatial visualization of performance of the transportation network. This webtool can be found at <https://www.elpasompo.org/Links> through the "EPMPO Performance Measures Tool" link.

The objectives of the Web Tool are:

- To track transportation performance over time
- To support identification of gaps in infrastructure across transportation modes
- To provide performance-based information for planning and programming decisions and
- To be a resource for local planning partners and general public.



The Multimodal Web Tool shows performance of transportation networks in the El Paso region captured by multimodal performance measures that were identified from Destino 2045 Metropolitan Transportation Plan (2018), Congestion Management Process (2013), and FHWA National Performance Measures (2017), and based on available local, state, and national data.

Forecasted or Modeled Performance: Using EPMPPO's TDM, planners can forecast the performance of the region's transportation system, considering both planned system improvements and forecasted demographics. Performance-based planning using these measures was initiated with the development of the previous MTP (Destino 2045 MTP), and additional measures have been incorporated as part of the development of the RMS 2050 TDM and the reporting output summary has been improved.

NATIONAL PERFORMANCE REQUIREMENTS

Federal legislation passed in 2012 introduced a new requirement to incorporate a performance-based approach into the transportation planning process. The federal transportation bill *Moving Ahead for Progress in 21st Century Act* (MAP-21) required state Departments of Transportation, MPOs, and transit authorities to set coordinated targets, report on a required set of performance measures, and prioritize projects using a coordinated performance-based planning process. These performance requirements were continued and bolstered by the *Fixing America's Surface Transportation (FAST) Act*, which was signed into law in 2015.

The federal performance measures fall into three main categories—safety, maintenance, and performance. Safety measures track highway and transit deaths and injuries and

include transit incidents like fires or crashes. Maintenance measures look at the age of transit fleets and the condition of roads and bridges. System performance measures look at highway congestion and reliability, freight movement, and environmental sustainability, including air quality.

TABLE 2-2: FEDERAL PERFORMANCE MEASURE CATEGORIES

Safety	Highway Safety
	Transit Safety (Public Transportation Agency Safety Plan)
Maintenance	Highway Pavement and Bridge Conditions
	Transit Asset Management (TAM)
System Performance	National Highway System (NHS) Congestion
	Freight
	Congestion Management and Air Quality (CMAQ) Program

Federal performance measure final rules establish deadlines for target setting and reporting for each of the required performance measures. For the measures identified in each final rule, MPOs are required to adopt targets and baseline performance measures, and to report progress toward achieving the targets in Regional Performance adopted two years after the effective date of the final rule. The five performance measures' final rules currently effective were established at different times, and therefore have different target-setting and implementation deadlines, as seen in **Table 2-3** below.

TABLE 2-3: SUMMARY OF IMPLEMENTATION TIMELINES

FINAL RULE	FINAL RULE EFFECTIVE DATE	TARGET SETTING DEADLINE			REQUIRED TO BE INCLUDED IN MTP BY	REPORTING PERIOD	REPORTING SCHEDULE
		STATE DOT	TRANSIT PROVIDER	MPO			
PM1: Safety	4/14/2016	8/31/2017	-	2/16/2018	5/27/2018	Annually	Annually
PM2: Infrastructure	5/20/2017	5/20/2018	-	11/16/2018	5/20/2019	2- and 4-year performance periods	Biannually (2018,2020, 2022,etc.)
PM3: System Performance							
Transit Asset Management (TAM)	10/1/2016	10/1/2017	-	12/27/2017	10/1/2018	Complete updated TAM Plan by Oct 2022	
Public Transportation Agency Safety Plan (PTASP)	7/19/2018	-	7/20/2020 (extended to 12/31/2020)	1/20/2021	7/20/2021	Updated and certified by transit agency annually.	

At the adoption date of RMS 2050 MTP, all five performance measure rules are effective, and the adoption of official targets is required and must be reported.

REQUIRED PERFORMANCE MEASURES AND TARGETS

A summary of the required National Performance Measures aligned with the seven National Goals

is presented below in **Table 2-4**. The EPMPPO has adopted targets set by the states (TxDOT and NMDOT) for all National Performance Measures. This section summarizes the adopted targets for each of the measures and provides an analysis to determine if the targets were met or not. Certain performance measures may be updated on an annual basis. See Appendix D for updated information.

TABLE 2-4: NATIONAL GOALS AND METRICS

NATIONAL GOAL	NATIONAL PERFORMANCE MEASURE(S)	
Safety	- Fatalities (# and rate)	
	- Serious Injuries (# and rate)	
	- Number of non-motorized fatalities and serious injuries	
Infrastructure Condition	- % of Interstate pavements in Good & Poor Condition	National Highway System =NHS
	- % of non-Interstate NHS pavements in Good & Poor condition	
	- % of HNS bridges classified as in Good & Poor condition	
Congestion Reduction	- Annual hours of PHED per capita	Peak Hour Excessive Delay =PHED
	-% Non-SOV Travel	
System Reliability	- % of PMT on the Interstate that are reliable	Passenger Miles Traveled=PMT
	- % of PMT on non- Interstate that are reliable	
Freight Movement & Economic Vitality	- TTTR Index on the Interstate System	Truck Travel Time Reliability Index =TTTRI
Environmental Sustainability	- % Change in CO2 Emissions on NHS Compared to Calendar year 2017	
Reduced project delivery delays	- No national measures in current legislation	



SAFETY (PM1)

State Targets adopted by the EPMPO Transportation Policy Board for previous fiscal years and for the most recent year up to the date of completion of RMS 2050 MTP are presented in the tables below for Texas and New Mexico respectively (Table 2-5 and Table 2-6).

TABLE 2-5: SAFETY - TEXAS STATE TARGETS BY CALENDAR YEAR

PM1: SAFETY	2018	2019	2020	2021	2022
Number of fatalities	3,704	3,791	3,840	3,687	3,563
Rate of fatalities	1.43	1.414	1.406	1.33	1.27
Number of serious injuries	17,565	17,751	17,394	17,151	16,677
Rate of serious injuries	6.74	6.55	6.286	6.06	5.76
Number of non-motorized fatalities and serious injuries	2,151	2,237.6	2,285	2,346.4	2,367

TABLE 2-6: SAFETY - NEW MEXICO STATE TARGETS BY CALENDAR YEAR

PM1: SAFETY	2018	2019	2020	2021	2022
Number of fatalities	364.1	375	401.9	411.6	421.9
Rate of fatalities	1.33	1.318	1.429	1.486	1.645
Number of serious injuries	1,219.4	1,100	1,074.2	1,030.5	1,030.5
Rate of serious injuries	4.456	3.825	3.82	3.722	3.842
Number of non-motorized fatalities and serious injuries	228	220.6	204	200	190.6

Although the EPMPO has adopted the state's safety targets, eventually regional targets based on data specific to the EPMPO area will be developed. For this purpose, the EPMPO has initiated an analysis in cooperation with UTEP to calculate regional targets and performance, based on adopted targets following TxDOT and NMDOT methodology. The analysis presented below is based on available data for El Paso County and portions of Doña Ana County within the study area. The analysis aims to determine whether targets were met for the EPMPO study area and to provide information for the development of the regional targets.

Given that year 2020 was an unusual year due to the impact of the COVID-19 pandemic on traffic volumes and congestion, crash data for year 2019 is being reported for RMS 2050 MTP. According to the 2019 performance in El Paso County, only

two out of five performance targets were either met or were better than baseline as presented in Table 2-7 for El Paso County and five out of the five performance targets were met for Doña Ana and Otero Counties as shown in Table 2-8.

The Final Rule allows states that do not meet a target to be considered as having made significant progress toward meeting the target if the outcome for that performance measure is better than the state's performance for the year prior to the year in which the target was established (i.e., baseline safety performance). A state DOT is determined to have met, or made significant progress toward meeting, its targets when at least four of the five required performance targets are either met or the safety outcome for the performance measure has improved.

TABLE 2-7: EL PASO COUNTY, PM1: SAFETY CALENDAR YEAR 2019

PM1: SAFETY	BASELINE PERFORMANCE 2013-2017	2019 ACTUAL PERFORMANCE	5-YEAR ROLLING AVERAGE 2015-2019	2019 TARGET	TARGET STATUS	BETTER THAN BASELINE	MET OR MADE SIGNIFICANT PROGRESS
Number of Fatalities	67	80	75	70	NOT MET	NO	NO
Fatality Rate	1.299	1.388	1.383	1.283	NOT MET	NO	
Number of Serious Injuries	282.6	262	288.8	362.5	MET ✓	N/A*	
Serious Injury Rate	5.47	4.545	5.359	6.64	MET ✓	N/A*	
Number of Non-motorized Fatalities and Serious Injuries	58.6	74	63.8	62.5	NOT MET	NO	

* N/A indicates that better than baseline analysis not applicable since the target was met

According to the 2019 performance in Doña Ana and Otero County, all five out of five performance targets were met.

TABLE 2-8: DOÑA ANA AND OTERO COUNTY, PM1: SAFETY CALENDAR YEAR 2019

PM1: SAFETY	BASELINE PERFORMANCE 2012-2016	2019 ACTUAL PERFORMANCE	5-YEAR ROLLING AVERAGE 2015-2019	2019 TARGET	TARGET STATUS	BETTER THAN BASELINE	MET OR MADE SIGNIFICANT PROGRESS
Number of Fatalities	5.6	7	5.2	6	MET ✓	N/A*	YES ✓
Fatality Rate	2.778	2.991	2.364	2.722	MET ✓	N/A*	
Number of Serious Injuries	19.2	6	12.2	15.8	MET ✓	N/A*	
Serious Injury Rate	9.592	2.6	5.59	7.194	MET ✓	N/A*	
Number of Non-motorized Fatalities and Serious Injuries	1.6	0	0.8	1.9	MET ✓	N/A*	

* N/A indicates that better than baseline analysis not applicable since the target was met

INFRASTRUCTURE CONDITION (PM2)

Texas state targets for Infrastructure Condition adopted by the EPMPO Transportation Policy Board are presented in the **Table 2-9**. 2-year and 4-year targets for FY 2022 were adopted on November 16, 2018 and 4-year targets were revised on March 26, 2021.

TABLE 2-9: INFRASTRUCTURE CONDITION - TEXAS STATE TARGETS

PM2: INFRASTRUCTURE CONDITION <i>ADOPTED BY TPB ON:</i>	BASELINE	2-YEAR CONDITION/ PERFORMANCE	2-YEAR TARGET	2022 TARGET	
				4-YR	4-YR ADJUSTED
				11/16/2018	3/26/2021
Percentage of <u>pavements</u> on the Interstate System in GOOD condition	-	66.60%	-	66.40%	65.50%
Percentage of <u>pavements</u> on the Interstate System in POOR condition	-	0.10%	-	0.30%	0.20%
Percentage of <u>pavements</u> on the non-Interstate NHS in GOOD condition	54.50%	55.20%	52%	52.30%	54.10%
Percentage of <u>pavements</u> on the non-Interstate NHS in POOR condition	14.00%	13.50%	14.30%	14.30%	14.20%
Percent of NHS <u>bridges</u> classified as in GOOD condition	50.70%	50.70%	50.60%	50.40%	-
Percent of NHS <u>bridges</u> classified as in POOR condition	0.90%	1.30%	0.80%	0.80%	1.50%

The New Mexico state 4-year targets for FY 2021 were adopted by the Transportation Policy Board on November 16, 2018 (**Table 2-10**).

TABLE 2-10: INFRASTRUCTURE CONDITION - NEW MEXICO STATE TARGETS

PM2: INFRASTRUCTURE CONDITION <i>ADOPTED BY TPB ON NOV, 16 2018</i>	4 YEAR (2021)
Percentage of <u>pavements</u> on the Interstate System in GOOD condition	59.10%
Percentage of <u>pavements</u> on the Interstate System in POOR condition	5.00%
Percentage of <u>pavements</u> on the non-Interstate NHS in GOOD condition	34.20%
Percentage of <u>pavements</u> on the non-Interstate NHS in POOR condition	12.00%
Percent of NHS <u>bridges</u> classified as in GOOD condition	30.00%
Percent of NHS <u>bridges</u> classified as in POOR condition	2.50%

Similarly, the EPMPPO has developed an analysis based on available regional data to determine whether the infrastructure condition targets were met for the EPMPPO study area. This analysis will be used in the development of future targets specific to the region.

The latest Highway Performance Monitoring System (HPMS) pavement condition data available at the time of development of RMS 2050 MTP was for year 2018 in El Paso, Doña Ana, and Otero

Counties. The latest National Bridge Investment Analysis System (NBIAS) bridge condition data was available for year 2019 in El Paso, Doña Ana, and Otero Counties.

Since Texas targets adopted by the state were only for years 2020 and 2022, the 2018 pavement data and 2019 bridge data are compared against these targets for El Paso County. As presented below in **Table 2-11**, only two of the six performance measures for El Paso County met the target.



TABLE 2-11: EL PASO COUNTY, PM2: INFRASTRUCTURE CONDITION

PM2: INFRASTRUCTURE CONDITION	TX	TX		EL PASO COUNTY ACTUAL PERFORMANCE
	BASELINE	ADOPTED TARGETS		
	2018	2020	2022	2018 HPMS, 2019 NBIAS
Percentage of <u>pavements</u> on the Interstate System in GOOD condition	-	-	66.40%	47.71%
Percentage of <u>pavements</u> on the Interstate System in POOR condition	-	-	0.30%	4.75%
Percentage of <u>pavements</u> on the non-Interstate NHS in GOOD condition	54.40%	52.00%	52.30%	29.28%
Percentage of <u>pavements</u> on the non-Interstate NHS in POOR condition	13.80%	14.30%	14.30%	25.55%
Percent of NHS <u>bridges</u> classified as in GOOD condition	50.63%	50.58%	50.42%	54.37% ✓
Percent of NHS <u>bridges</u> classified as in POOR condition	0.88%	0.80%	0.80%	0.00% ✓

✓ indicates target was met

Since NM targets adopted by the state were only for years 2019 and 2021, the 2018 pavement data and 2019 bridges data are compared against these targets for Doña Ana and Otero Counties. **Table 2-12** below demonstrates that all of the measures for Doña Ana and Otero Counties were met.

TABLE 2-12: DOÑA ANA AND OTERO COUNTY, PM2: INFRASTRUCTURE CONDITION

PM2: INFRASTRUCTURE CONDITION	NM ADOPTED TARGETS		ACTUAL PERFORMANCE
	2019	2021	2018 HPMS
Percentage of <u>pavements</u> on the Interstate System in GOOD condition	57.30%	59.10%	100% ✓
Percentage of <u>pavements</u> on the Interstate System in POOR condition	4.50%	5%	0.00% ✓
Percentage of <u>pavements</u> on the non-Interstate NHS in GOOD condition	35.60%	34.2%	72.16% ✓
Percentage of <u>pavements</u> on the non-Interstate NHS in POOR condition	9%	12%	7.58% ✓
Percent of NHS <u>bridges</u> classified as in GOOD condition	36%	30%	39.85% ✓
Percent of NHS <u>bridges</u> classified as in POOR condition	3.30%	2.50%	0.00% ✓

✓ indicates target was met



SYSTEM PERFORMANCE, FREIGHT, AND CMAQ (PM3)

Texas state targets for System Performance adopted by the EPMPO Transportation Policy Board are presented in **Table 2-13**. 2-year and 4-year targets for FY 2022 were adopted on November 16, 2018 and 4-year targets were revised on March 26, 2021.

TABLE 2-13: SYSTEM PERFORMANCE - TEXAS STATE TARGETS

PM3: SYSTEM PERFORMANCE ADOPTED BY TPB ON:	BASELINE	2-YEAR CONDITION / PERFORMANCE	2-YEAR TARGET	2022 TARGET	
				4-YR	4-YR ADJUSTED
				11/16/2018	3/26/2021
Percent of the Person-Miles Traveled on the Interstate That Are Reliable	79.50%	81.20%	61.20%	56.60%	70%
Percent of the Person-Miles Traveled on Non-Interstate That Are Reliable	-	83%	-	55.4%	70%
Truck Travel Time Reliability (TTTR) Index	1.40	1.44	1.7	1.79	1.78

The New Mexico state 4-year targets for FY 2021 were adopted by the Transportation Policy Board on November 16, 2018 (**Table 2-14**).

TABLE 2-14: SYSTEM PERFORMANCE - NEW MEXICO STATE TARGETS

PM3: SYSTEM PERFORMANCE ADOPTED BY TPB ON:	4 YEAR (2021) NOV 16, 2018
Percent of the Person-Miles Traveled on the Interstate that are Reliable	95.10%
Percent of the Person-Miles Traveled on Non-Interstate that are Reliable	90.40%
Truck Travel Time Reliability (TTTR) Index	1.15

Observing the current performance of the roadway system is an important component of assessing the system's needs and planning for its future. For the regional analysis and to determine if the system performance targets were met or not for the EPMPO study area, UTEP has done a comparison of the adopted targets to actual performance based on available data.

These measures are primarily calculated using the National Performance Management Research

Dataset (NPMRDS). The latest NPMRDS travel time reliability data was available for years 2017, 2018 and 2019 in El Paso County, Doña Ana and Otero Counties.

Since Texas targets were adopted only for years 2020 and 2022, the 2017/2018/2019 travel time reliability is compared against these targets for El Paso County.

TABLE 2-15: EL PASO COUNTY, PM3: SYSTEM PERFORMANCE

PM3: SYSTEM PERFORMANCE	TX BASELINE	TX ADOPTED TARGETS		ACTUAL PERFORMANCE		
		2020	2022	2017	2018	2019
Percent of the Person-Miles Traveled on the Interstate That Are Reliable	79.60%	61.20%	56.60%	88.4% ✓	88.3% ✓	91.20% ✓
Percent of the Person-Miles Traveled on Non-Interstate That Are Reliable	-	-	55.40%	79.2% ✓	76.7% ✓	83.1% ✓
Truck Travel Time Reliability (TTTR) Index	1.5	1.7	1.79	1.54 ✓	1.49 ✓	1.47 ✓

✓ indicates target was met

Since New Mexico targets were adopted only for years 2019 and 2021, the 2017/2018/2019 travel time reliability is compared against these targets for roadway links that belong to the El Paso MPO area in Doña Ana and Otero Counties.

TABLE 2-16: DOÑA ANA AND OTERO COUNTY, PM3: SYSTEM PERFORMANCE

PM3: SYSTEM PERFORMANCE	NM BASELINE	NM ADOPTED TARGETS		ACTUAL PERFORMANCE		
		2019	2021	2017	2018	2019
Percent of the Person-Miles Traveled on the Interstate that are Reliable	97.00%	96.10%	95.10%	100% ✓	100% ✓	100% ✓
Percent of the Person-Miles Traveled on Non-Interstate that are Reliable	90.50%	90.40%	90.40%	100% ✓	100% ✓	80.70%
Truck Travel Time Reliability (TTTR) Index	1.13	1.14	1.15	1.13 ✓	1.14 ✓	1.17

✓ indicates target was met

CMAQ/AIR QUALITY

Nonattainment MPOs are required to establish targets and report progress for the performance measures related to the Congestion Mitigation and Air Quality (CMAQ) program as established in 23 CFR Part 490 (§ 490.707 and § 490.807) for on-road mobile source emissions. As of the effective date for pollutant target setting, the EPMPO was the only Carbon Monoxide (CO) and Particulate matter-10 (PM-10) nonattainment area in Texas and the only PM-10 nonattainment area in New Mexico.

Methodologies and Emission Targets for these measures have been mutually agreed upon by EPMPO, TxDOT-Transportation Planning and Programming Division and NMDOT-Planning Division. The effectiveness of the Congestion Mitigation and Air Quality Improvement Program is gauged by the following measures:

- Annual Hours of Peak Hour Excessive Delay Per Capita
- Percent of Non-SOV travel
- Total Emissions Reduction: Particulate Matter less than or equal to 10 microns (PM-10)
- Total Emissions Reduction: Carbon Monoxide (CO)

Note that EPMPO is not required to set targets for the annual Hours of Peak Hour Excessive Delay Per Capita and the Percent of Non-SOV travel until the Second Performance Period in 2022-2025.

Mid-point-4-year target and methodology has been updated (23 CFR Part 490 Subparts A, E, F, G & H) due to more reliable data available in 2018 and 2019 for CO and PM-10. The established baseline for the updated 4-year targets, which relies on historical data from 2014-2017, will remain the same. After the first two years (2018-2019) of the first performance period were available, EPMPO

updated the 4-year targets and recommended these targets to TxDOT to use for the state's on road mobile source emissions for CO and PM-10.

The Midpoint Performance Period On-road Mobile Source Emissions targets were presented to the Transportation Policy Board for approval in September 2020. The updated 4-year targets and the original 2-year and 4-year targets for Texas are presented in **Table 2-17**.





TABLE 2-17: PM3: CMAQ - TEXAS STATE TARGETS

TEXAS	BASELINE (KG/DAY)	ORIGINAL 2-YEAR TARGETS (KG/DAY)	MID-POINT CONDITION REPORT 2-YEAR TARGETS (KG/DAY)	ORIGINAL 4-YEAR TARGETS (KG/DAY)	UPDATED MIDPOINT 4-YEAR TARGETS (KG/DAY)
Total Emissions Reduction: PM-10	0.97	4.73	11.37	13.71	21.96
Total Emissions Reduction: CO	580.24	434.93	490.75	891.11	841.62

The EPMPPO worked with NMDOT to develop on-road mobile source emission targets for PM-10. A cost benefit analysis methodology was used in 2018 to develop the original 2-year and 4-year emission targets for the first performance period. The same methodology was used for the update to the 4-year emissions target at the midpoint reporting period.

The established baseline was developed with the original targets that were set in 2018 and will remain the same until the development of targets for the next performance period. Because EPMPPO

updated the midpoint 4-year on-road mobile source emission target for PM-10 in Texas (based on actual, rather than projected, 2018-2019 data), and because the New Mexico methodology is tied to the Texas methodology by way of the cost benefit analysis, the New Mexico 4-year on road mobile source emission target for PM-10 has also been updated. The updated 4-year target and the original 2-year and 4-year targets for New Mexico are presented in **Table 2-18**.

TABLE 2-18: PM3: CMAQ - NEW MEXICO STATE TARGETS

NEW MEXICO	BASELINE (KG/DAY)	ORIGINAL 2-YEAR TARGET (KG/DAY)	MID-POINT CONDITION REPORT 2-YEAR TARGET (KG/DAY)	ORIGINAL 4-YEAR TARGET (KG/DAY)	UPDATED MIDPOINT 4-YEAR TARGET (KG/DAY)
Total Emissions Reduction: PM-10	0.17	0.65	1.14	1.79	3.48

It should be noted that the EPMPPO is currently working with NMDOT to develop a new target methodology based on available data and independent from Texas methodology. This will allow a better representation of New Mexico's project goals in terms of the CMAQ portion of Air Quality Benefits.



TRANSIT ASSET MANAGEMENT (TAM)

On September 21, 2018 the Transportation Policy Board approved two new MPO Planning Memorandums of Understanding (MOU), one for Texas and one for New Mexico. The MOUs outline the roles and responsibilities of the states, the MPO, and the mass transit provider, Sun Metro, in carrying out the metropolitan transportation planning process and associated performance measures. Based on the federal performance measure final rule on Transit Asset Management (TAM) issued in July 2016, MPOs are required to coordinate with transit providers to set performance targets and integrate individual transit providers' performance targets and TAM plans into planning documents. El Paso MPO reached out to the transit

providers in the region to include Sun Metro the mass transit provider for the region and requested targets. The El Paso MPO Transportation Project Advisory Committee (TPAC) reviewed Sun Metro targets, as well as targets for Texas and New Mexico and recommended that the El Paso MPO Transportation Policy Board (TPB) adopt the state of Texas' targets for the El Paso MPO. Sun Metro may have agency-level targets that differ from the El Paso MPO adopted targets. These agency-level targets may better meet their needs in planning for state of good repair for Sun Metro. EPMPO will continue to coordinate with Sun Metro to report, track, and adjust the targets over time to meet the El Paso MPO targets.

TABLE 2-19: EL PASO TRANSIT ASSET MANAGEMENT 4 YEAR TARGETS

TRANSIT ASSET MANAGEMENT	2022 TARGET
% revenue vehicles at or exceeding useful life benchmark	<15%
% service vehicles (non-revenue) at or exceeding useful life benchmark	<15%
% facilities rated below 3 on condition scale (TERM)	<15%
% track segments with performance restrictions	N/A

As part of the FAST Act, performance measures were incorporated for transit agencies, primarily through the Transit Asset Management (TAM) assessment and planning requirements. Sun Metro's TAM plan was developed to meet that requirement. Sun Metro continuously seeks grants through the regional MPO in order to supplement the competitive and formula funding grants available from the FTA. Primarily Sun Metro applies for FHWA Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Program (STP) funding through the MPO. Funding from these grants are crucial to the agency's State of Good Repair (SGR) program and the

resulting Transit Asset Management Plan (TAM). CMAQ funds provide for new and replacement bus funding, to include vehicles needed for new and extended services. Funding also allows for new or enhancements of terminals and stops to include accessibility and passenger amenities if associated with new or extended services. STP provides similar funding but without the new or extended service requirements. This grant funding not only permits Sun Metro to provide efficient and dependable service but supplements funding from other sources necessary to maintain State of Good Repair standards. In FY2019 CMAQ, the federal funding portion obtained through the regional MPO, will total approximately \$5.5M for operating assistance (Dyer and Alameda BRT's and Streetcar services) plus replacement funding for three buses. As of October 2018 Sun Metro had been awarded approximately \$7.1M of funds for new revenue vehicles that were unspent or pending, including grants obtained through the CMAQ program and other grant programs.

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN (PTASP)

On September 18, 2020 the El Paso MPO adopted the mass transit provider Sun Metro's PTASP. Sun Metro developed their PTASP in compliance with the requirements on 49 CFR 673.11(a) (1-6). The performance measures adopted in this PTASP for fix route, streetcar and paratransit per every 100,000 miles are for:

- Fatalities
- Injuries
- Safety Events
 - Accidents
 - Incidents
 - Occurrences
- System Reliability



TABLE 2-20: PERFORMANCE MEASURES ADOPTED IN THE PTASP

PERFORMANCE MEASURES-FIXED ROUTE PER EVERY 100,000 MILES		FISCAL YEAR			
		2019	2020	2021	2022
Fatalities		0	0	0	0
Injuries		50	45	40	35
Safety Events	Accidents	178	50	45	45
	Incidents	-	78	70	65
	Occurrences	-	50	45	45
System Reliability (Mean Distance Between Failures)		82,864 miles	90,000 miles	95,000 miles	100,000 miles

PERFORMANCE MEASURES-STREETCAR PER EVERY 100,000 MILES		FISCAL YEAR			
		2019	2020	2021	2022
Injuries		9	7	6	5
Safety Events	Accidents	2	1	1	0
	Incidents	9	7	6	5
	Occurrences	9	7	6	5
System Reliability (Mean Distance Between Failures)		2,879 hrs.	2,900 hrs.	2,950 hrs.	3,000 hrs.

PERFORMANCE MEASURES-PARATRANSIT PER EVERY 100,000 MILES		FISCAL YEAR			
		2019	2020	2021	2022
Injuries		8	8	6	5
Safety Events	Accidents	20	17	15	12
	Incidents	25	22	19	15
	Occurrences	32	25	23	20
System Reliability (Mean Distance Between Failures)		87,019 miles	88,000 miles	90,000 miles	91,000 miles

ADDRESSING PERFORMANCE IN RMS 2050

RMS 2050 MTP includes performance measures beyond those that are required by the final rules. These supplemental performance measures are quantifiable indicators of whether the policies and proposed program of projects in the RMS 2050 MTP help the region achieve the desired outcomes articulated in the adopted goals and objectives. This approach provides decision makers with the ability to objectively set policies and prioritize projects based on a project's anticipated outcomes and whether those outcomes truly address the region's transportation challenges by achieving the local, state and national goals and objectives.

The use of an outcome-based process using objective measures in the planning process also allows the MPO to track transportation system performance as the RMS 2050 MTP is implemented by tracking project performance after projects are constructed. This tracking of project performance will help the MPO determine whether the project's actual, real-world performance matches the results expected during the planning process.

This approach also allows the EPMPPO to meet its federal mandate for a process of continuous improvement of both the transportation system and the planning process itself.

The planning-level performance measures recommended for RMS 2050 MTP (Table 2-21) combine performance measures developed in collaboration with local stakeholders based on the adopted goals and objectives with performance measures required by the USDOT through federal regulations. In general, these performance measures fall into two broad categories. The first category includes those measures (such as mobility and accessibility) that can be modeled (using the MPO travel demand model of the regional transportation system) and quantified at the project level to evaluate the specific performance outcomes of individual projects or packages of projects. The second category includes measures (such as environmental sustainability) whose outcomes are more appropriately measured at the regional transportation system level (and which cannot be discretely modeled by the El Paso travel demand model).



TABLE 2-21: GOALS AND METRICS

GOALS	PLAN PERFORMANCE MEASURES	NATIONAL PERFORMANCE MEASURES
Safety	- Number of projects that include safety enhancements located near crash hotspots	- Crashes per 100 Million Vehicle Mile Traveled
		- Total crashes resulting in fatality or incapacitating injury
		- Total crashes involving cyclists and pedestrians
Maintenance & Operations	- Number of projects that repair or replace deficient bridges or pavements	- Number of deficient bridges
		- Lane miles of deficient pavement
Mobility	- Travel Time Index (Actual Travel Time Divided by Non-Congested Travel Time)	- Percent Miles Traveled on Network that are reliable
	- Annual hours of delay (millions)	- Peak Hours Excessive Delay Per Capita
	- Commute times from Environmental Justice zones (min)	- Truck Travel Time Reliability Index (TTTRI)
Accessibility & Travel Choice	- Percent of jobs, key destinations, and population within ½ mile of high-quality, rapid transit	- Percent non-SOV (single occupancy vehicle) trips
	- Average trip costs	
Sustainability	- Total Vehicle Miles Traveled (VMT)	- Estimated Max Daily CO Emissions (Tons/Day)
	- VMT per capita (regional)	- Estimated Max Daily PM10 Emissions (Tons/Day)
Economic Vitality	- Annual hours of delay along major freight corridors	-
	- Average wait times by mode at POEs	-
	- Number of projects that improve operations or multimodal access at current or future POEs	-
Quality of Life	- The indicator for this goal is a summary of performance on each goal for each alternative relative to the other alternatives	-
Implementation	- Number of projects ready for implementation based on the Project Readiness Report	-

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REGIONAL TRANSPORTATION NEEDS





3. REGIONAL TRANSPORTATION NEEDS & PRIORITIES

Presented in this chapter are three main assessments that were developed to help identify the future regional transportation needs for RMS 2050 MTP. Based on these evaluations, the MPO identified opportunities to leverage transportation investments to grow and improve multimodal mobility throughout the region. These assessments are:

- A) Regional Mobility Strategy – RMS 2019,
- B) Multimodal Network Evaluation, and
- C) Congestion Management Process

A) REGIONAL MOBILITY STRATEGY- RMS 2019

Conceived as a mechanism to establish a transportation vision as "One Voice" for the El Paso Region; the Regional Mobility Strategy (RMS), completed in 2019, was envisioned as an input to the MTP process since its early stages. It originated with several corridor studies developed by TxDOT and followed by stakeholder engagement (listening sessions) to obtain knowledge on their priorities. The ultimate objective was to identify individual concepts and ideas that can be translated into formal projects and transition these into the MPO process for future development and implementation. Refer to Appendix G for the full RMS document. Below is a summary of the RMS key elements.

RMS 2019 ELEMENTS

Central to RMS 2019 development was the gathering of input from stakeholders through listening sessions. Ranging from the public sector, the private sector and looking at a tri-state area

including Texas, New Mexico, and Chihuahua. Also, listening sessions included others from multiple agencies and levels of government: Federal, State, MPO, City, and County. Details on the listening sessions are presented in Chapter 7.

RMS 2019 evaluated several projects that were deemed significant to the region and had broad community support at different levels to better understand specific challenges and opportunities. Following this evaluation, a total of 27 priority projects were later identified by stakeholders during several rounds of discussions at the Transportation Policy Board meetings. The list includes operational projects and highway improvements, as well as transit and multimodal projects. These 27 priorities are considered the byproduct of RMS 2019 and now comprise the Regional Mobility Strategy - RMS 2020. Appendix H identifies the projects in a map.

Another key element of RMS 2019 was the data analysis developed for the different modes of transportation: Transit, Bicycle and Pedestrian, Freight, Cross-Border and Highway. A brief summary of this analysis developed for each mode is presented next in this chapter. At the time RMS 2019 was developed, the latest travel demand model available was from the Destino 2045 MTP. Therefore, the analysis is based on 2045 data.

ROADWAY NETWORK ANALYSIS

As part of the RMS 2019 evaluation of regional transportation needs, volume-to-capacity (V/C) ratios from the regional Travel Demand Model (2020 analysis year) provided insight into the relationship between vehicle travel demand and roadway capacity for the region. The V/C ratio is a measure that reflects mobility and quality of travel. It compares roadway demand (vehicle volumes) with roadway supply (carrying capacity).

A V/C ratio less than 0.75 generally indicates that adequate capacity is available, and vehicles are not expected to experience extensive queues and delays. As the V/C ratio rises above 0.75 traffic flow becomes unstable, and traffic operations begin to break down.

The main takeaways from the RMS V/C ratio analysis include:

- 50% of the region's travel demand occurs on the principal arterial system
- 72% of IH-10 and principal arterial mileage within the MPO region is congested
- 48% of IH-10 mileage within the MPO region is at or above capacity
- 28% of the principal arterial mileage is at or above capacity

V/C analysis was also conducted for the forecast year of 2045. The 2045 analysis included all fiscally constrained improvement programmed in the Destino 2045 MTP. Key takeaways from the 2045 V/C ratio analysis include:

- 30% increase in regional travel demand
- 51% of the region's demand occurs on the principal arterial system (**Figure 3-1**)
- 68% of IH-10 and principal arterial mileage within the MPO region is congested
- 51% of IH-10 is at or above capacity
- 42% of the principal arterial network is at or above capacity
- 35% increase in vehicle hours traveled (VHT)

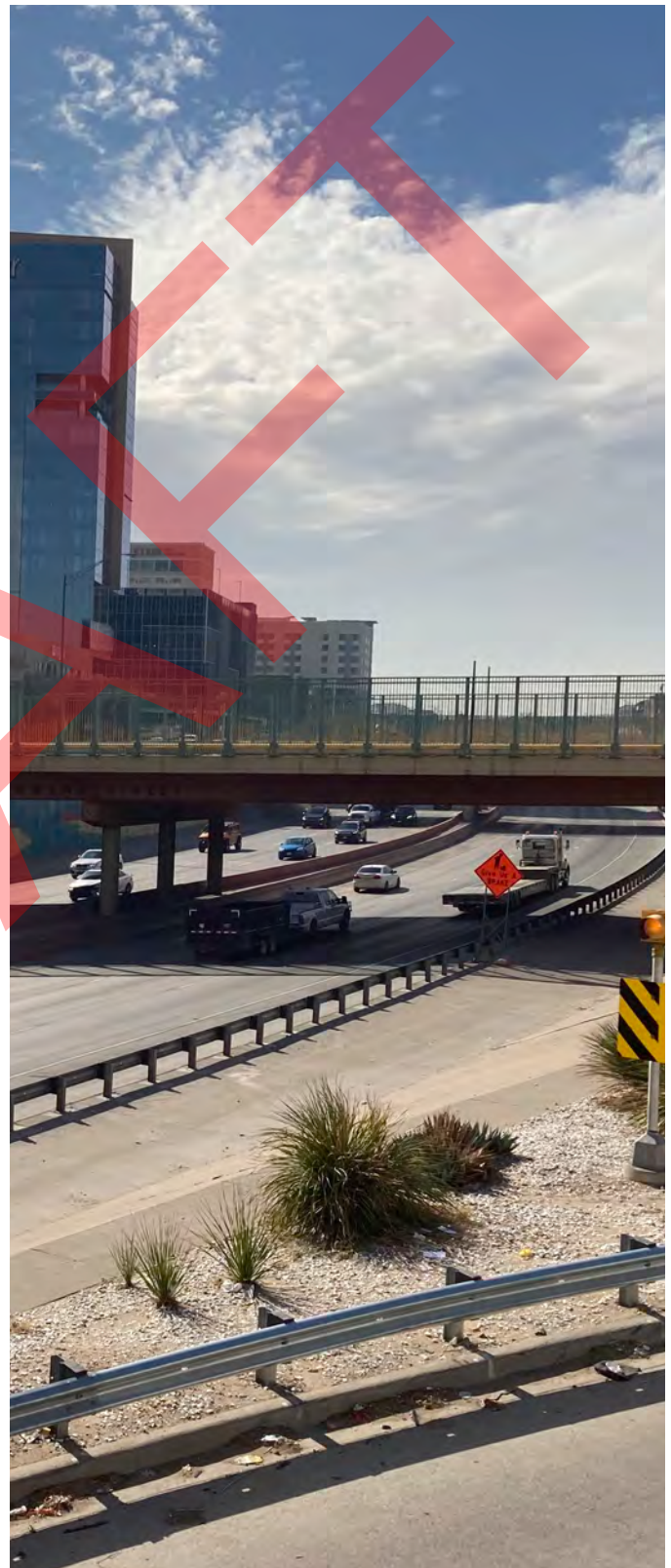
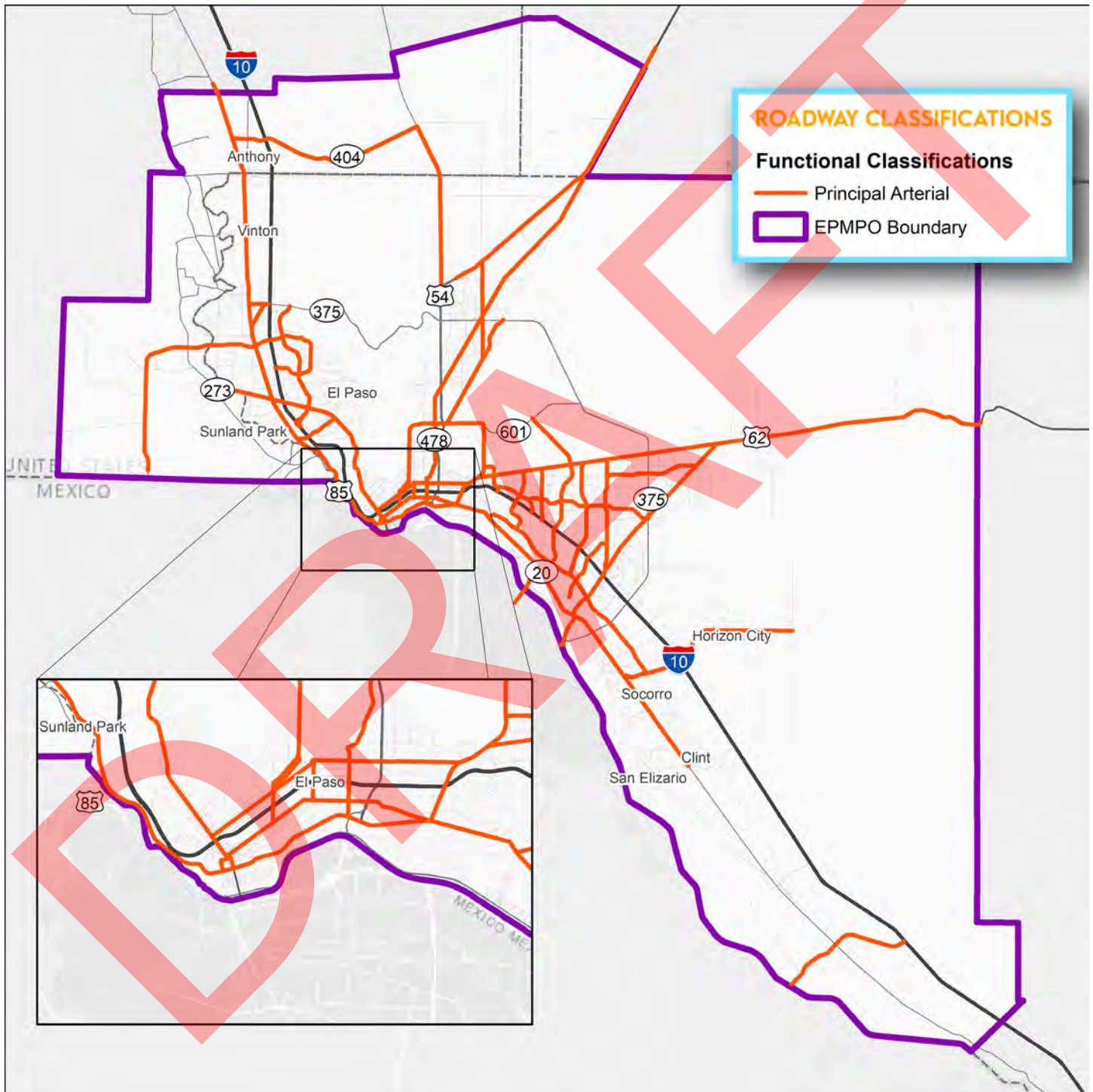


FIGURE 3-1: PRINCIPAL ARTERIAL



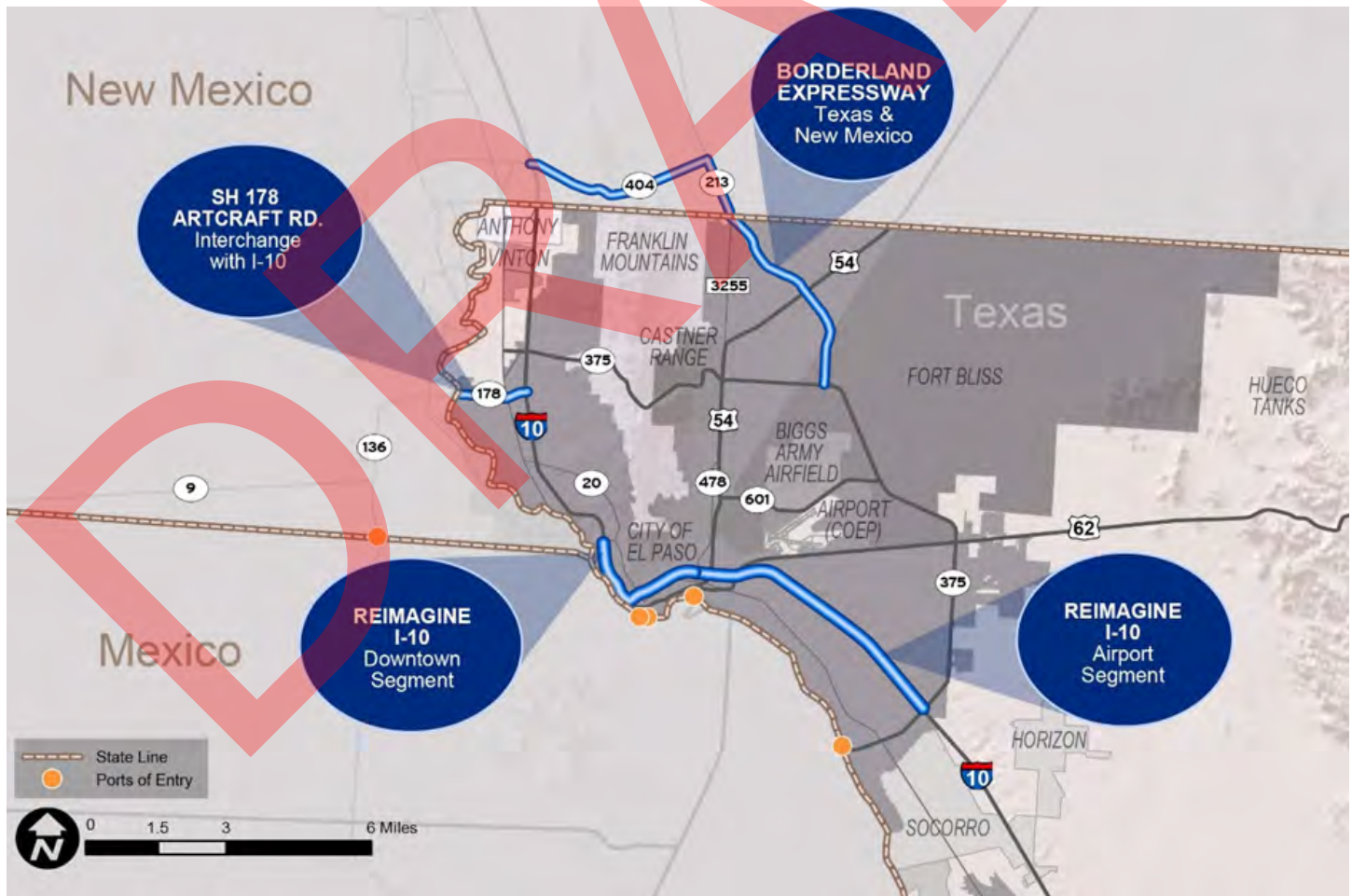
From the analysis it is observed that highways and principal arterials will experience an increase of 50% in demand by 2045. It is certain that as we continue to grow, problem areas on our roadways are likely to worsen and conditions will degrade over time. Therefore, RMS 2019 considered the function that multimodal improvements can have in improving overall mobility in the region, such as increases in roadway capacity, improvements to cross-border traffic flow, improved transit service, and better bicycle and pedestrian facilities.

As part of the highway analysis, RMS 2019 looked into “Outside the box” and unconstrained environment type of initiatives or concepts,

potential new connections/capacity expansion, and, through stakeholder listening sessions, identified support for four regionally significant projects shown in **Figure 3-2**. These projects are among the 27 proposed projects for inclusion in RMS 2050 MTP:

- Borderland Expressway (Texas & New Mexico)
- Artcraft Road (SH 178) and I-10 Interchange
- IH-10 Downtown Segment
- IH-10 Airport Segment

FIGURE 3-2: RMS IDENTIFIED REGIONALLY SIGNIFICANT PROJECTS



INTERNATIONAL CROSSINGS ANALYSIS

RMS 2019 also analyzed cross-border travel patterns by assessing both the existing and future transportation network using the El Paso regional travel demand model (TDM), Destino 2045. In regards to cross-border analysis, it is important to understand traffic patterns (origin-destination pairs) south of the border since they directly affect the El Paso Region in terms of the planning of our transportation.

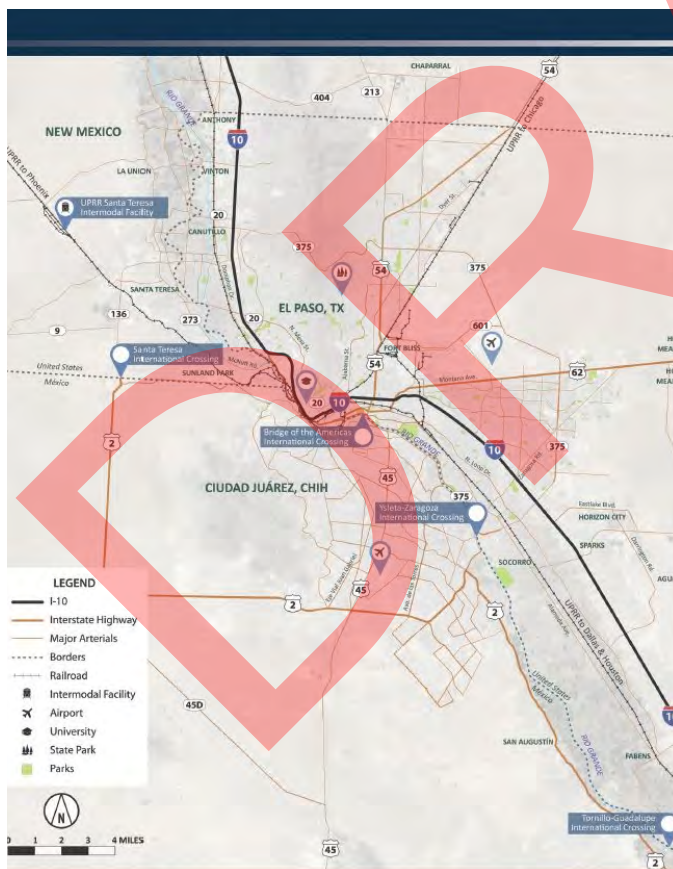
This analysis resulted in the identification of preferred POEs and key corridors along the U.S.-Mexico border that provide access to area POEs. Among the notable findings from this analysis are

the following:

- The Bridge of the Americas (BOTA) and Ysleta-Zaragoza Ports of Entry are the most commonly used border crossings
- The most commonly selected routes to industrial parks in El Paso are I-10, US 54, and Loop 375
- The most commonly selected routes to industrial parks in Mexico are Avenida Tecnológico, Boulevard Juan Pablo II, Avenida Bermudez and Avenida Independencia.

In 2019 the City of Sunland Park conducted a feasibility study for a proposed new international crossing to be located between the downtown El Paso bridges and the Santa Teresa crossing. In consideration of this study and a commitment from the city to contribute funding toward its completion, the TPB approved adding the project to the project list for this MTP.

FIGURE 3-3: INTERNATIONAL CROSSINGS



TRANSIT ANALYSIS

In terms of transit, RMS 2019 collected and analyzed Sun Metro's strategic plan, the County of El Paso Regional Transit Study and potential expansions and partnership for regional and cross-border opportunities. In addition, RMS 2019 analyzed pedestrian and bike plans within the region (i.e., TxDOT, City of El Paso, County, public-private partnerships) and identified gaps and opportunities.

Using information provided by regional transit providers (City of El Paso, Sun Metro, El Paso County Transit, the South Central Regional Transit District (SCRTD) and the BravoBus BRT service in Ciudad Juarez and independent research, an assessment that focused on existing fixed-route, shared mobility and intercity transit options available in the region was conducted to pinpoint current and future transit needs. Short-, mid-, and long-term opportunities were identified for enhancing the overall quality and attractiveness of the transit system. Among these opportunities were several large projects that have already been implemented or are under construction, such as:

- The expansion of the Sun Metro Brio service and improvement of headways and travel times
- Advancement of transit-oriented developments
- Integration of metropolitan and rural transit service into a seamless fare system

ACTIVE TRANSPORTATION ANALYSIS

Several regional bicycle and pedestrian plans prepared by TxDOT, the City of El Paso, the County of El Paso, and NMDOT were analyzed for RMS 2019 to understand current connectivity and gaps in the region-wide system. Furthermore, after discussions with Velo Paso Bicycle-Pedestrian coalition, RMS 2019 identified many needs that still exist within the region:

- Illustrative networks for bicycle and pedestrian facilities require significant capital to create a complete network with seamless linkages. No single revenue source will be able to fund all the identified connectivity improvements desired by residents and municipalities.
- Existing bike facilities may not be comfortable or accommodating for all riders, such as families with younger children or riders with less experience. A similar issue for sidewalks is that they may not serve all users due to insufficient lighting, lack of buffer from high speed traffic, and/or poor connectivity to schools and overall connectivity to neighborhoods, transit, etc.
- Addressing connectivity to/from key activity centers in existing and developing areas is challenging due to the distance between activity areas and housing.
- Accommodating car, bike, and pedestrian facilities on roadways sometimes impacts one or two modes of capacity and/or design features.

FREIGHT RAIL ANALYSIS

Since El Paso continues to be a very important trade hub, included in the RMS 2019 analysis was the Burlington Northern and Santa Fe Railway (BNSF) & Union Pacific Railroad (UPRR) freight rail that includes proposed passenger rail & freight rail corridors. Chapter 2 presents in more detail the review of these plans.



RMS 2019 conducted a high level assessment of BNSF and UPRR railroad corridors in the border region, including potential opportunities related to mobility within the region. Existing conditions of railroad crossings with major roadways, highways, and freeways were evaluated via Microsimulation (VISSIM) modeling and future conditions were forecasted.

Feedback from the listening sessions indicate that a bi-national rail bypass involving three railroad owners (Ferromex, UPRR, and BNSF), that would result in El Paso freight traffic being diverted to the Santa Teresa POE, continues to be a high priority for states of New Mexico and Chihuahua.

B) MULTIMODAL NETWORK EVALUATION

To supplement the RMS 2019 multimodal analysis, a multimodal needs assessment and gap analysis was also performed to help guide where capital improvements to the roadway network can have an immediate impact toward improving multimodal travel. This evaluation identified multimodal supportive projects among those recently proposed by TxDOT, NMDOT and local governments for inclusion in the RMS 2050 MTP. Contrary to RMS 2019, at the time the Multimodal

Network Evaluation was done, there was already updated demographic information for 2050 and the analysis was done with information from the Travel Demand Model under development for the RMS 2050 MTP.

The relationship between prioritized gaps in the network and proposed capital projects offers a way that investments in the roadway network can be programmed and leveraged to enhance the safety and connectivity of multimodal networks in the region. This section outlines the highlights of the Multimodal Network Evaluation (October 2020) and presents the outcomes and recommendations that were incorporated into the RMS 2050 MTP. The full document is presented in Appendix I. The final update to the document is presented as a Story Map and can be found at the following website: <https://storymaps.arcgis.com/stories/09bbbe98450b4f0d9f293041144c04a6>

EVALUATION CRITERIA AND DESCRIPTIONS

Consistent with the vision statement, goals, and objective of RMS 2050, the evaluation criteria (Table 3-1) directly aligns multimodal needs with proposed RMS 2050 MTP capital projects to make sure that investments are coordinated to the greatest extent possible. Focusing on pedestrian and bicycle safety, connectivity to the busiest bus stops in the region, and corridors with the highest multimodal demand, the purpose of the evaluation criteria was to identify multimodal network gaps and provide an objective, data-driven evaluation of how some projects proposed for inclusion in the RMS 2050 MTP would be supportive of multimodal networks.



TABLE 3-1: EVALUATION CRITERIA AND DESCRIPTION

EL PASO MPO REGIONAL TRANSPORTATION GOALS & OBJECTIVES		MULTIMODAL NETWORK EVALUATION CRITERIA	
RMS 2050 GOAL	OBJECTIVES		
Safety	-Reduce the number of fatalities and serious injuries related to traffic incidents. -Reduce the number of crashes at high-speed intersections with an abnormal number of incidents. -Reduce the number of conflict points between vehicles and active transportation users – e.g., pedestrian and cyclists.	-Severe Pedestrian Injury Areas -Severe Bicyclists Injury Areas	
Maintenance & Operations	-Decrease the percentage of facilities and assets not in a state of good repair. -Increase the number of Intelligent Transportation System (ITS) technology assets. -Reduce delay at traffic signals.	Many projects include these types of investments	Leveraging Investment in the transportation system
Mobility	-Reduce delay on major thoroughfares. -Reduce travel time to key destinations. -Improve response time and clearance capabilities for first responders and emergency personnel.	-Transit Reliability -Project Travel Time Reduction -Network Travel Time Reduction -Project Congestion Reduction	
Accessibility & Travel Choices	-Increase the number of jobs and key destinations that are accessible by all transportation modes. -Ensure that transportation system improvements provide equitable benefits to the region. -Expand access to and improve reliability of transit services, particularly for underserved areas and areas with high transit need. -Fill major connectivity gaps in the side walk, bike lane, and trail networks that support regional travel. -Encourage infill development and transit-supportive land use. -Expand multi-modal access at regional Ports of Entry.	-Sidewalk Gaps -Protected Bike Lane Gaps -Pedestrian Demand Corridors -Bicycle Demand Corridors -Transit Demand Corridors	
Sustainability	-Increase the attractiveness of transportation options other than single-occupancy vehicles. -Reduce emissions produced by vehicles. -Achieve maintenance designation from EPA from criteria pollutants. -Increase percentage of transportation assets that use alternative energy sources.	-Current High Density (2017 Pop/Emp) -Projected High Growth (2050 Pop/Emp)	
Economic Vitality	-Improve accessibility to key tourist destinations. -Reduce delay on designated freight corridors and roads connecting to intermodal or freight facilities. -Increase access to major employment centers. -Improve operational efficiency at regional Ports of Entry.		
Quality of Life	-Preserve and enhance the natural environment, improve air quality, and promote active lifestyles. -Encourage livable communities which support sustainability and economic vitality.	Meet 2 or more multimodal equation criteria	

Gaps and priorities for the purpose of the Multimodal Network Evaluation were considered as follows:

Gaps are locations in the region where pedestrian and bicycle safety are at highest risk, where pedestrian and bicycle connectivity to transit lacks sidewalks or protected bike lanes, and where pedestrian, bicycle and transit travel demand is greatest.

Priorities include improving gaps in safety and connectivity, improving reliability in terms of travel time and congestion, and building new infrastructure in areas around the region with higher densities and greater projected growth.



MULTIMODAL NETWORKS

The multimodal networks considered in this evaluation include pedestrian and bicycle infrastructure as well as public transportation. Local roads off of the TxDOT roadway system were also analyzed. Each of the networks is briefly described below.

Pedestrian Network includes the sidewalk and roadway crossing infrastructure throughout the region. In addition to sidewalks, landscaping, lighting and pedestrian crossing enhancements all

help to improve the quality and safety of the overall pedestrian network. Pedestrian infrastructure should be part of every major roadway project.

Bicycle Network includes clearly marked and dedicated bicycle lane infrastructure. Safe, protected, and continuous bike connections to public transit and areas where peak demand for bicycle travel has been identified should be prioritized.

Transit Network includes the Brio rapid transit system operated by Sun Metro which forms the “backbone” of the regional transit network, offering 10-minute peak service in four of the busiest transit corridors

Off-System Roadway includes the majority of roadway infrastructure in the region. The term “off-system” is employed to identify roadways that are not part of the TxDOT state-wide highway system, which includes most controlled-access freeways, farm-to-market roads and some of the region’s busiest arterial roadways. Off-System roadways are those maintained by the County and municipalities.

MULTIMODAL EVALUATION

The multimodal evaluation of projects that were proposed for inclusion in the RMS 2050 MTP began with identification of gaps and priorities as defined by the evaluation criteria and using available data, followed by identification of proposed projects that overlap with two or more gaps or priorities.

The process followed for this evaluation was composed of four steps as summarized below:

STEP 1:

- Collect data associated with criteria and organize for evaluation of proposed RMS 2050 MTP projects.

- Refine criteria and organize data according to gaps and priorities

STEP 2:

- Use data to identify gaps and priorities across the region where multimodal networks are in need of investment.
- Compare gaps and priorities with proposed RMS 2050 MTP projects.

STEP 3:

- Identify proposed RMS 2050 MTP projects that have the opportunity to address the needs.
- Highlight the proposed projects that overlap with 2 or more multimodal criteria

STEP 4:

- Recommend multimodal supportive projects, clarify the safety and connectivity gaps.
- Recommend next steps.

MULTIMODAL GAPS

As we look toward building out multimodal networks in the border region, there must be considerations for how to prioritize these investments. Of most importance are locations in the region where pedestrian and bicyclist safety are at highest risk, where pedestrian and bicycle connectivity to transit lacks sidewalks or protected bike lanes, and where pedestrian, bicycle and transit travel demand is greatest.

The gaps identified in this evaluation correspond with safety and connectivity. The pedestrian safety analysis identified 40 gap areas in El Paso County referred as Severe Pedestrian Injury Areas (SPIAs). The 40 SPIAs comprise 16 total miles of roadway, and represent just 0.4% of all the roadways in El Paso County. Approximately 44% of all severe and fatal pedestrian crashes occur within these SPIAs.

With just 1.3% of people in El Paso County walking as their primary mode of transportation to work and 17% of all severe and fatal crashes regardless of mode involving pedestrians (between 2015 and 2020), this safety analysis shows there are a disproportionate number of pedestrians involved in these crashes. In addition, the bicycle safety analysis identified four Severe Bicycle Injury Areas (SBIAs) in El Paso County comprising three total miles of roadway. Approximately 30% of all severe and fatal crashes involving bicyclists occurred within these four SBIAs. **Figure 3-4** identifies both of these areas (SPIAs and SBIAs).

To identify pedestrian and bike connectivity gaps to transit, the busiest transit stops in the system were located. Most of the busiest transit stops are Transit Centers where bus riders have access to customer services and multiple bus routes in the Sun Metro and in some cases in the El Paso County Transit systems. The first and last mile connections to these locations are likely to have a high demand for people primarily on foot, but also on bike, that are bound to transit. These are the portions of the trip where passengers walk or ride to and from the bus stop. This is important throughout the transit system, particularly where sidewalks are incomplete.

While a complete sidewalk system is very important, sidewalk gaps within a ½-mile of the busiest bus stops were prioritized for the purpose of this evaluation. This is the distance on average that a person can walk in about 15 minutes, which is typically about the maximum distance most people would be willing to walk to transit. Separated or protected bike lanes offer the safest travel path for bicyclists. Proposed protected bike lane gaps within 3 miles of the busiest bus stops were prioritized for the purposes of this evaluation. This is the distance on average that a person can typically ride in about 15 minutes, which is about

the maximum distance most people would be willing to ride to transit. **Figure 3-5** presents the sidewalk gaps and bicycle lane gaps identified for

this evaluation along with the highest ridership transit stops.

FIGURE 3-4: BICYCLE AND PEDESTRIAN SAFETY GAPS

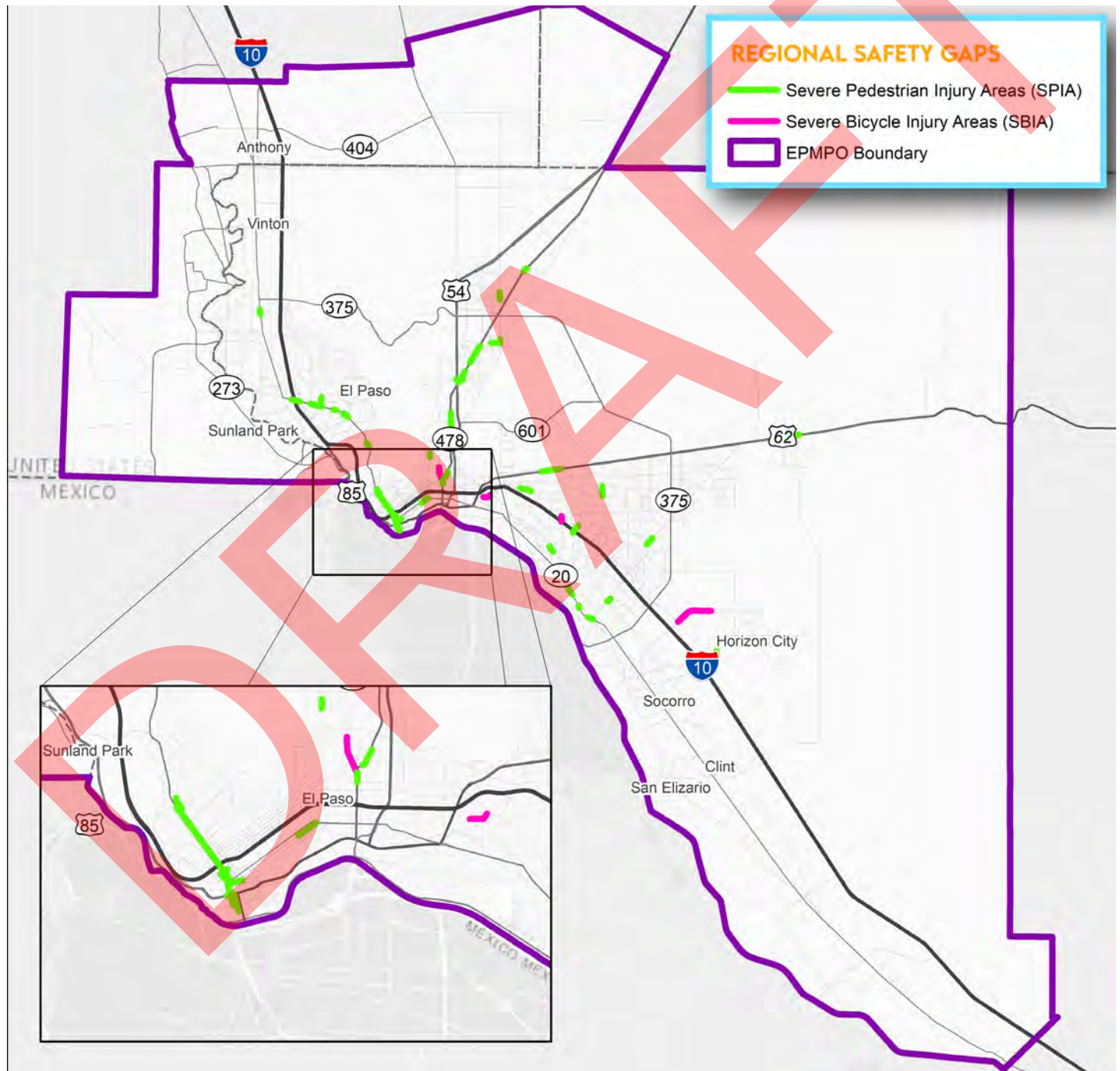
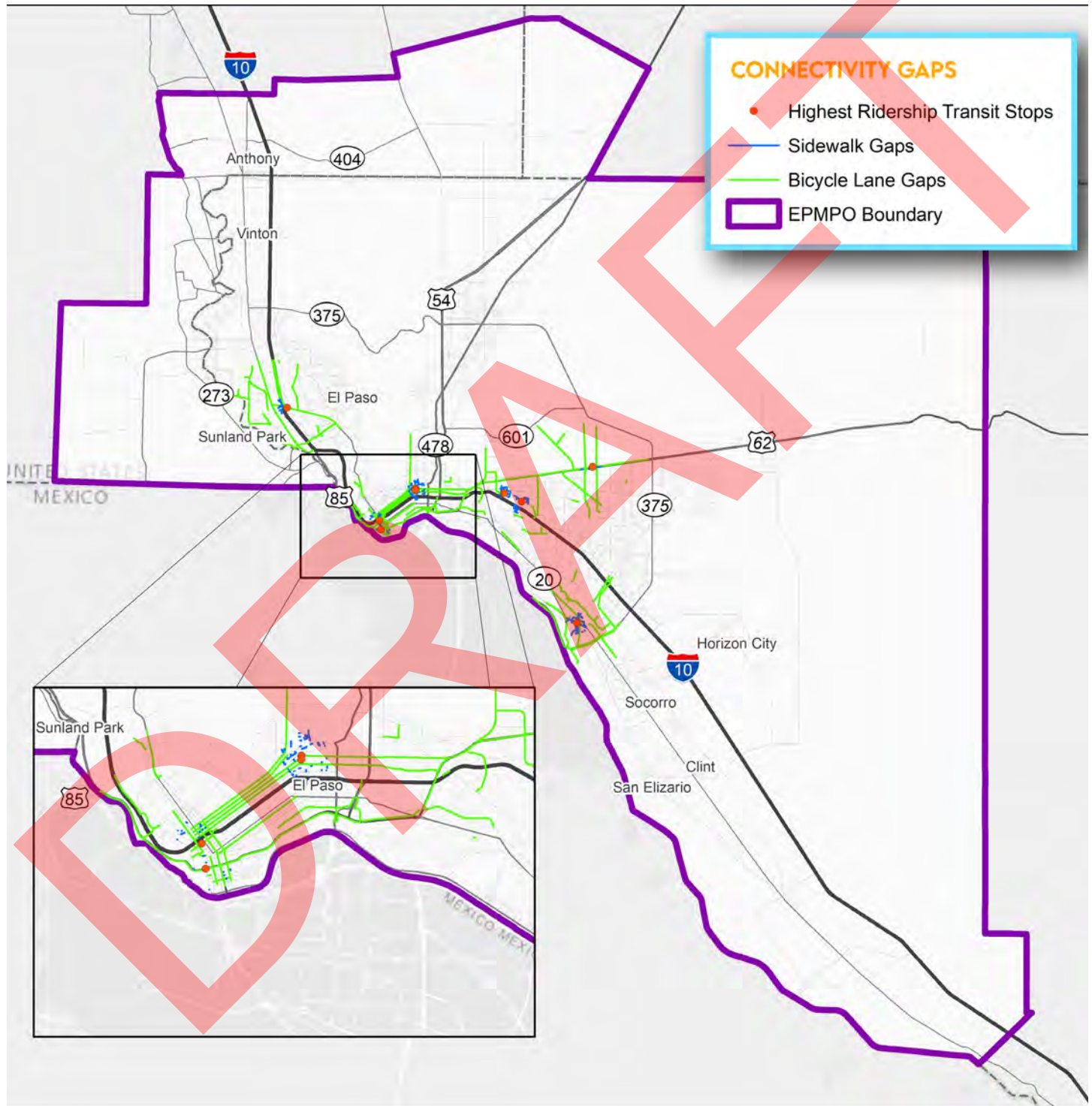


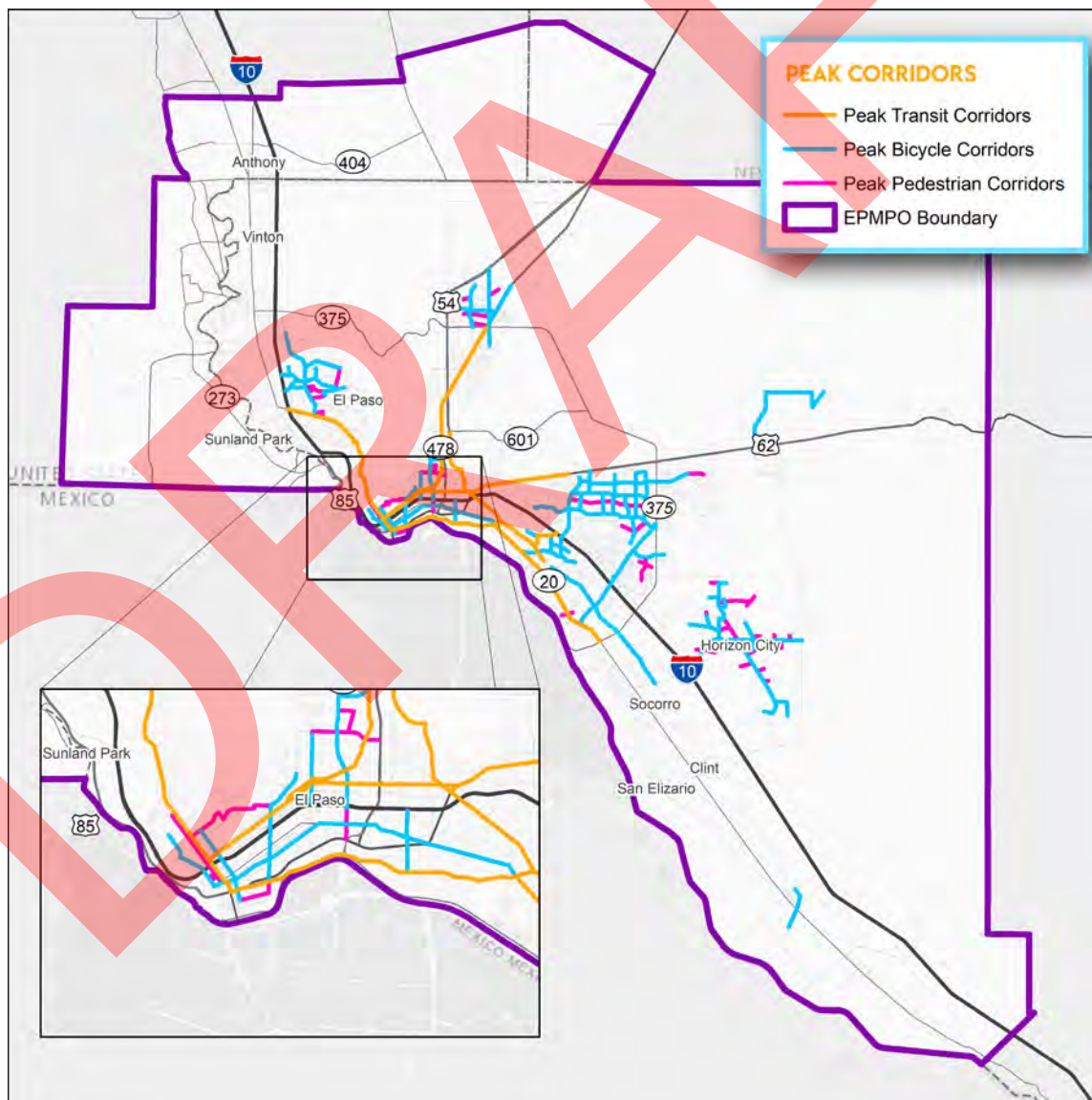
FIGURE 3-5: CONNECTIVITY GAPS



Peak demand corridors were determined as part of the connectivity criterion. Pedestrian, bicycle and transit travel flows projected for 2050 were first applied to the base year 2017 travel network. Then, any travel time impediments within the network were removed, allowing the travel demand model to identify segments of the roadway network that provide the shortest travel path and show where demand is highest. **Figure 3-6** shows corridors where there are several roadway segments with

the highest demand in that corridor and most direct path for pedestrian travel. Similarly, the peak bicycle corridors have the highest demand in the network for bicycle travel during peak travel hours of the day. Like the pedestrian and bicycle corridors, peak transit corridors were also determined by using the regional travel demand model to illustrate projected peak travel flow for each mode.

FIGURE 3-6: PEAK DEMAND CORRIDORS



In addition, a network reliability analysis was developed where projects that were proposed to be included in the RMS 2050 MTP that improve travel time or congested conditions on either the existing roadway or on the surrounding road network were identified. Specifically, vehicle hours traveled (VHT) were used to determine if the project improves travel time on both the adjacent local road network and on the project's existing roadway. The traffic volume to roadway capacity ratio (V/C ratio) was used to determine if congestion was improved on the project's existing roadway.

EVALUATION RESULTS

Proposed RMS 2050 MTP projects that have been identified as supportive of multimodal networks are shown in **Figure 3-7**. These are projects that overlapped with two or more of the evaluation criteria or that were identified as multimodal-specific, located off the road network. A list of all proposed RMS 2050 MTP Projects with Criteria Ratings is provided in Appendix I.

The Multimodal Network Evaluation identified safety and connectivity gaps that can help guide where capital improvements to the roadway network can have an immediate impact toward improving multimodal travel networks where there is highest demand. **Table 3-2** presents a list of only the projects that met the evaluation criteria. The identified projects were then evaluated during the project selection process and were assigned points as part of the criteria used as input into Decision Lens Software as described in Chapter 2.



PROJECTS SUPPORTIVE OF MULTIMODAL NETWORKS:

*Projects overlapping with two or
more gaps or priorities*



TABLE 3-2: LIST OF PROPOSED RMS 2050 MULTIMODAL SUPPORTIVE PROJECTS

PROPOSED PROJECT DETAILS			
PROJECT NAME	PROJECT DESCRIPTION	PROJECT SPONSOR	PROPOSED FISCAL YEAR OF EXPENDITURE
4-D Tigua Spur of Paso del Norte Trail	A 12-foot shared-use path for bicyclists and pedestrian along the Franklin Feeder canal (4-B Socorro Spur of PDN Trail)	Socorro	2022
Segment of 4-B Socorro Spur of Paso del Norte Trail	A 12-foot shared-use path for bicyclists and pedestrian along the Socorro Lateral segment of 4-B Socorro Spur of PDN Trail	Socorro	2022
Zaragoza POE Pedestrian Shade Canopies	Project includes design and construction of canopy shade structures for pedestrians, sidewalks as required, illumination, landscaping and irrigation.	COEP	2025
Horizon City Transit Plaza	Development of Transit Plaza with parking within the Horizon Country Club Estates Subdivision(s)	Horizon	2025
Trowbridge Dr I-10 to Marlow Street Improvements	Project includes complete roadway reconstruction, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Trowbridge Dr and Trowbridge Ave from Marlow Rd to Gateway Blvd East.	COEP	2025
Zaragoza POE Pedestrian Drop Off and Pick Up Areas	Project includes design and construction of pedestrian drop off and pick up areas for pedestrians walking to and from Juarez. Drop off and pick up areas will include sidewalks, illumination, landscaping and irrigation.	COEP	2026
Dyer Pedestrian and Parkway Improvements	Project includes pedestrian and parkway improvements, landscaping and irrigation, and striping on Dyer St from Gateway North to Hercules Ave.	COEP	2026
Arizona - Rio Grande Two Way Conversion	Project includes complete roadway reconstruction, two way conversion, road diet, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Arizona Ave and Rio Grande Ave from Oregon St. to N Cotton St.	COEP	2026

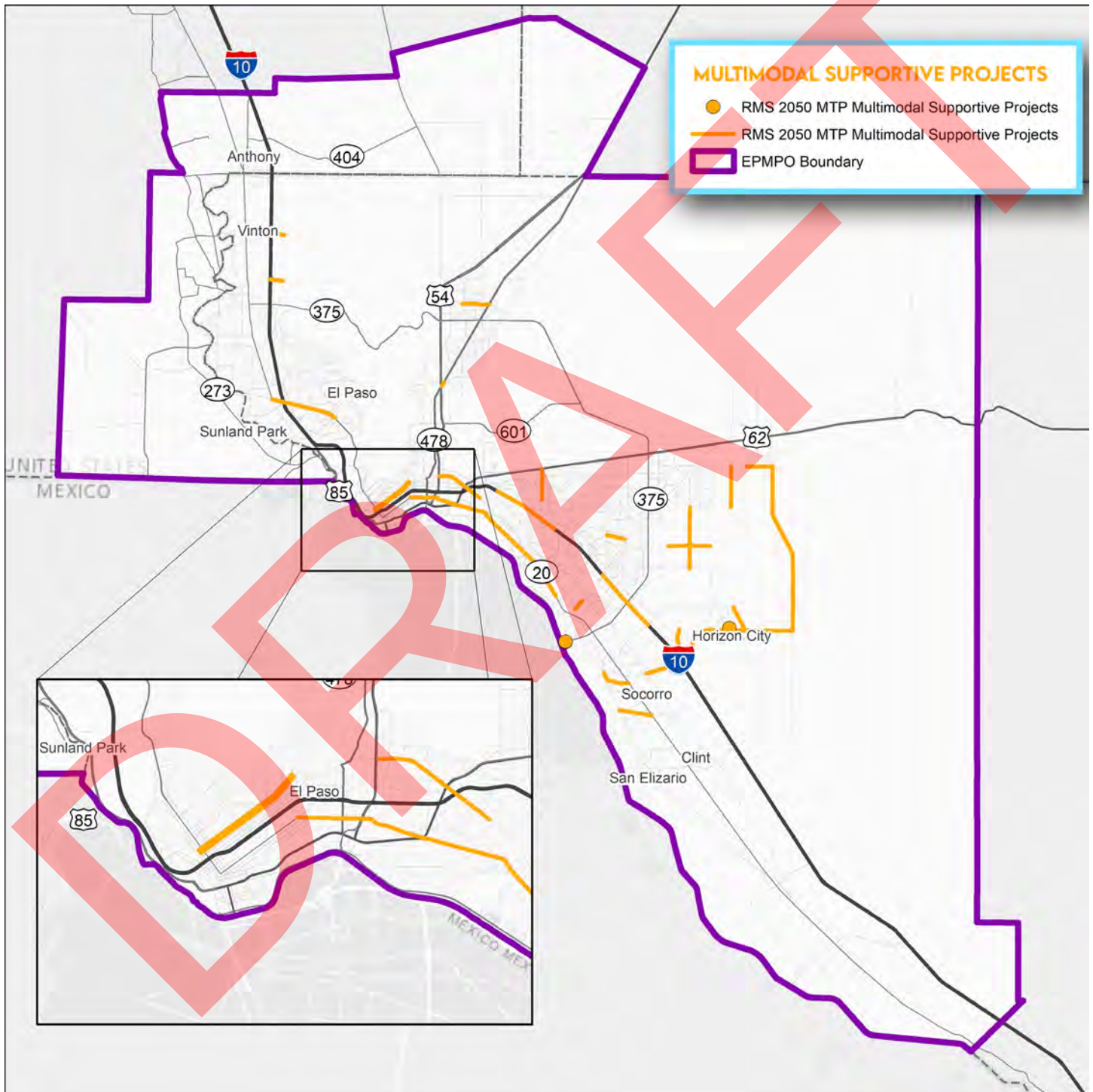


PROPOSED PROJECT DETAILS			
PROJECT NAME	PROJECT DESCRIPTION	PROJECT SPONSOR	PROPOSED FISCAL YEAR OF EXPENDITURE
McRae Shared Use Path	The project consists of a shared use path with shade trees, vegetation, pedestrian illumination and other amenities.	COEP	2027
Pipeline Trail Shared Use Path	The project consists of a shared use path with shade trees, vegetation, pedestrian illumination and other amenities.	COEP	2027
N. Kenazo Avenue Reconstruction	Reconstruction of existing 4-lane roadway to include pedestrian and bicycle facilities and illumination.	Horizon	2028
Trowbridge Dr US54 to I-10 Street Improvements	Project includes street rehabilitation, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Trowbridge Dr from Gateway Boulevard North to Gateway Boulevard West.	COEP	2028
Arizona - Grant Two Way Conversion Alabama to Cotton	Project includes complete roadway reconstruction, two way conversion, road diet, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Arizona Ave and Grant Ave from Alabama St. to N Cotton St.	COEP	2028
Greg Rd Widening/ Reconstruction	Widen/rebuild from 2-lane to a 4-Lane divided with bike lanes road	County EP	2028
Sun Valley Street Improvements Rushing to Dyer	Project includes complete roadway reconstruction, road diet, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Sun Valley Dr from Rushing Rd. to Dyer St.	COEP	2028
SH 20 Road/Interchange Imp.(Texas-Delta)	Replace Pavement, Center Raised Median, side lighting, continuous sidewalk, on-street parking, new signals, access management	TXDOT	2029
SH 20 Roadway & interchanges Improvements (Delta to Prado)	REPLACE PAVEMENT, CENTER RAISED MEDIAN, SIDE LIGHTING, CONTINUOUS SIDEWALK ON-STREET PARKING, NEW SIGNALS, ACCESS MANAGEMENT	TXDOT	2029
Ascension Widening	Build/Widening of a 2-lane road to a 6-Lane divided with bike lanes	County EP	2030



PROPOSED PROJECT DETAILS			
PROJECT NAME	PROJECT DESCRIPTION	PROJECT SPONSOR	PROPOSED FISCAL YEAR OF EXPENDITURE
I-10 SEG3C(AIRWAY TO YARBROUGH)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	TXDOT	2031
Zaragoza Rd. RR Overpass	Construction of a new bridge over the Railroad	COEP	2034
Westway Blvd. Widening/ Reconstruction	Build 6-Lane divided with bike lanes	County EP	2034
Tim Floyd	Widening road from 2-lane to 4-Lane divided with bike lanes	County EP	2036
I-10 SEG3D2 (FM659 TO EASTLAKE)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP AND DC IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	TXDOT	2037
SH20 Doniphan (Mesa-SPark) Widen & Op Imp	Widen to 6-Lanes divided, included: median and buffer, sidewalk, illumination, intersection improvements, aesthetic elements (Alternative A)	TXDOT	2039
Widen to 6 lane divided FM 1281 (I-10 to Ascension)	RECONSTRUCT HORIZON BLVD NORTH OF I-10 TO THREE LANES IN EACH DIRECTION WITH A 14' RAISED MEDIAN, DIRECTIONAL MEDIAN OPENINGS, AND BUS PULLOUTS	TXDOT	2039
Peyton Rd. Widening	Widening road from 2-lane to 4-Lane with bike lanes	County EP	2039
Widen to 4 lane divided FM 1281 (North Loop to I-10)	Reconstruct Horizon Blvd south of I-10 to two lanes in each direction with a 14' raised median directional median openings, and bus pullouts	TXDOT	2041
Vista del Sol Ext.	Build 4-Lane divided with bike lanes	County EP	2043
Rich Beam / Peyton Extension	Build 4-Lane divided with bike lanes	County EP	2044
Los Mochis Ext.	Build 4-Lane divided with bike lanes	County EP	2045

FIGURE 3-7: RMS 2050 MTP MULTIMODAL SUPPORTIVE PROJECTS

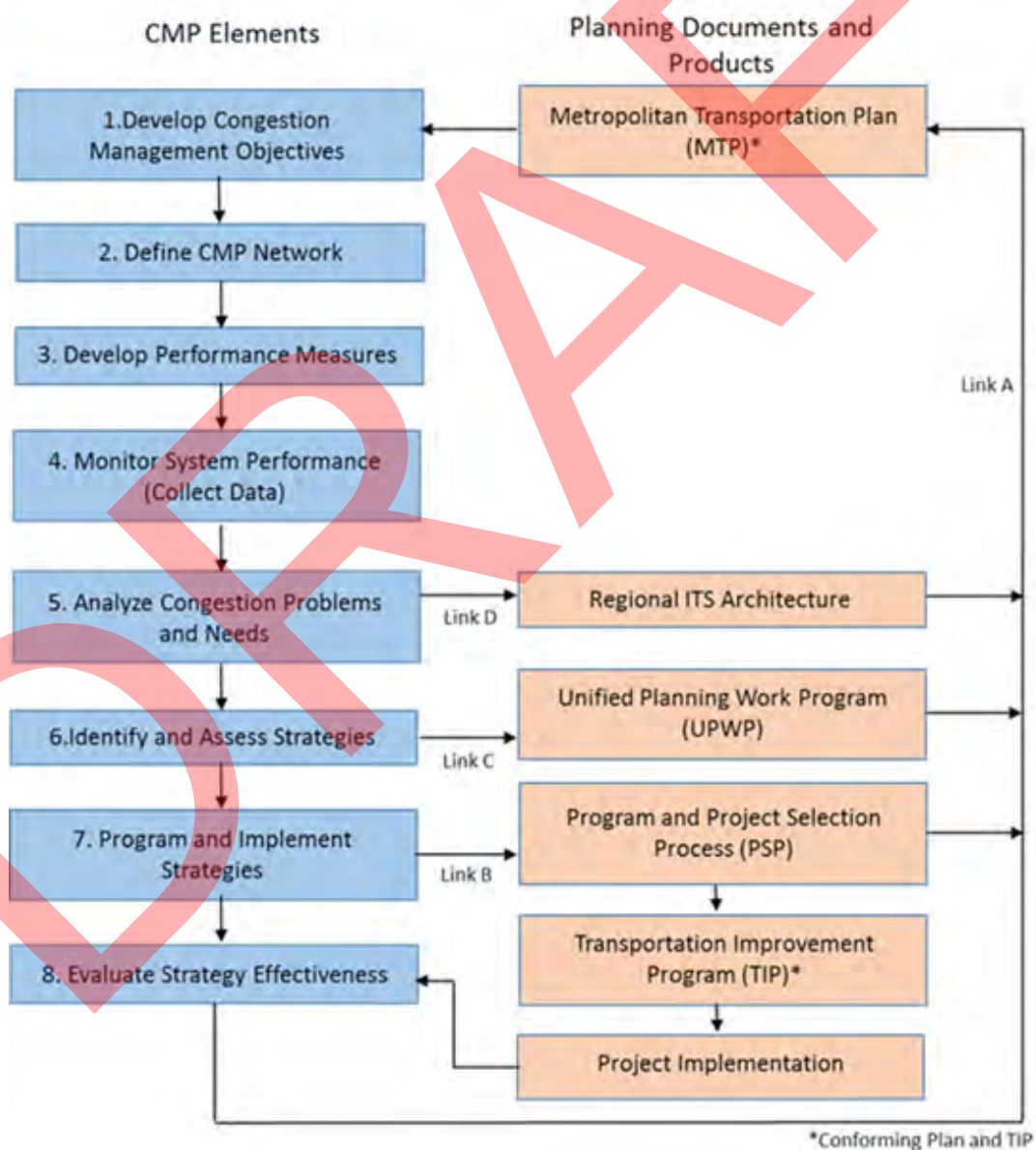


C) CONGESTION MANAGEMENT PROCESS

Identified congestion needs are assessed through the Congestion Management Process (CMP). The CMP is a systematic approach applied in a metropolitan region to identify congestion and its causes, propose mitigation strategies, and evaluate

the effectiveness of implemented strategies. The CMP is an integral part of the planning process and influences the decision-making process in the selection of projects and strategies for the MTP. **Figure 3-8** shows how all these pieces fit together in the planning process.

FIGURE 3-8: CMP ELEMENTS AND THE PLANNING PROCESS



An update to the Congestion Management Process was completed in 2019, in which the goals & objectives, network definition and performance measures were reviewed and revised, along with an update to the criteria definition of congestion. Based on this definition developed for the identification of congestion problems and needs, several highway and arterial segments were identified as congested (**Figure 3-9** and **Figure 3-10**).

As part of the rigorous ongoing data collection and analysis deemed necessary to support the CMP or implementation of CMP strategies, a segment performance analysis was developed for the identified congested segments. A summary of this analysis is presented in this section. The complete document can be found in Appendix J.

FIGURE 3-9: IDENTIFIED CONGESTED ARTERIAL SEGMENTS

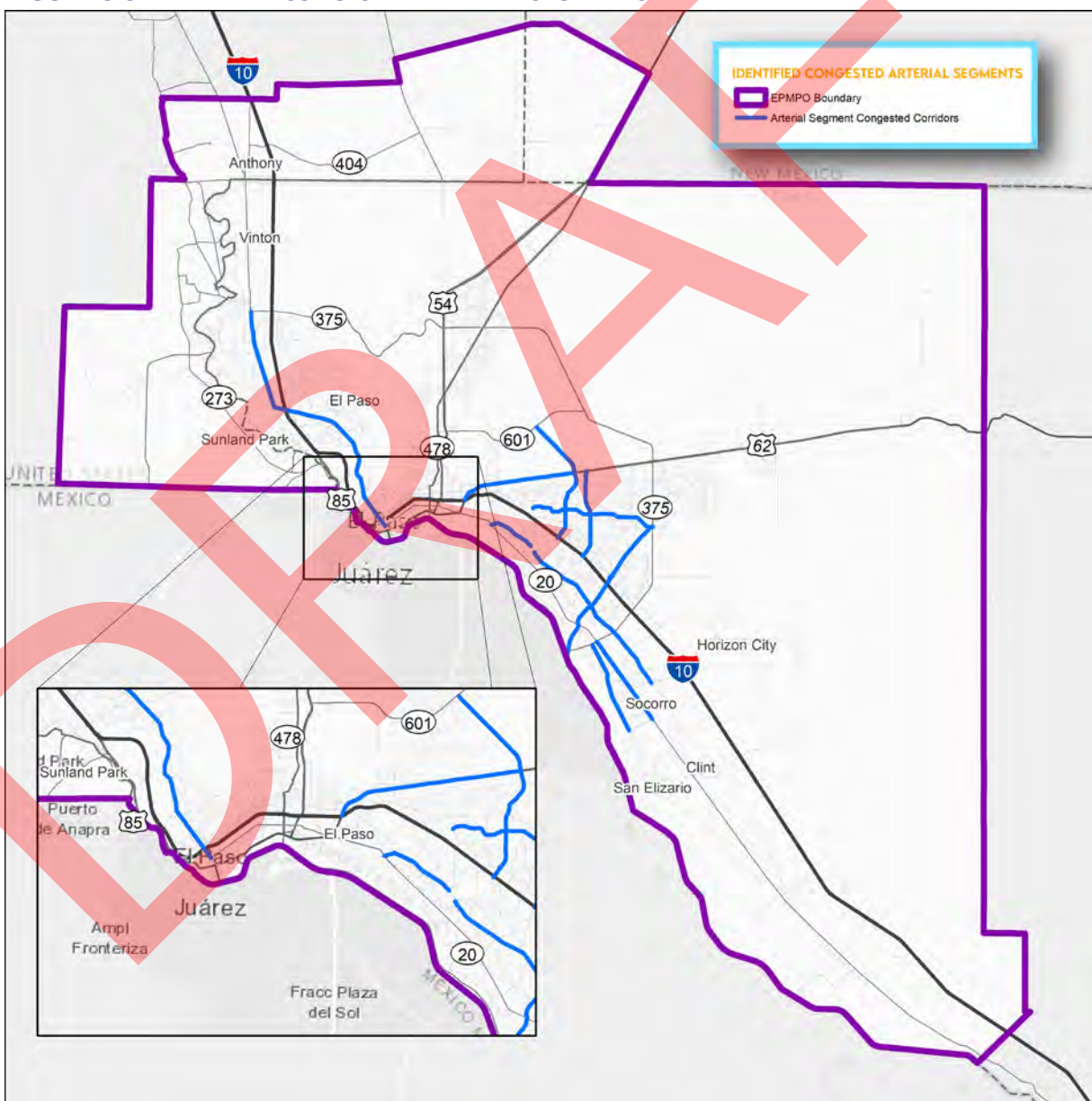
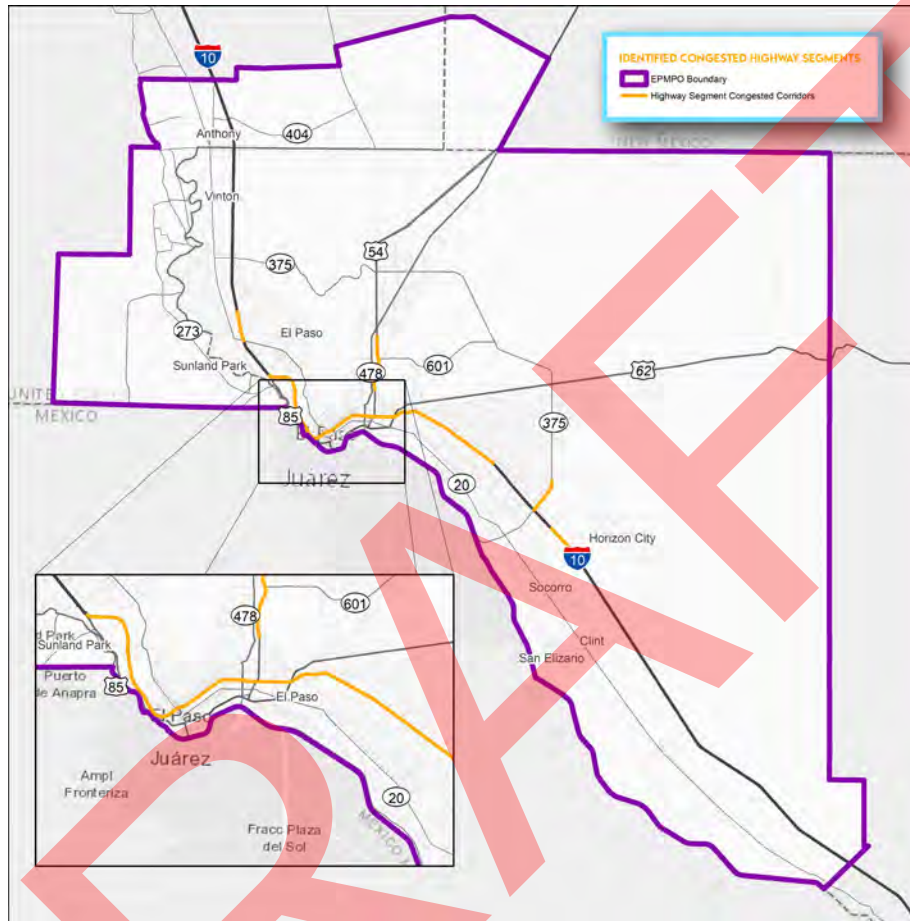


FIGURE 3-10: IDENTIFIED CONGESTED HIGHWAY SEGMENTS

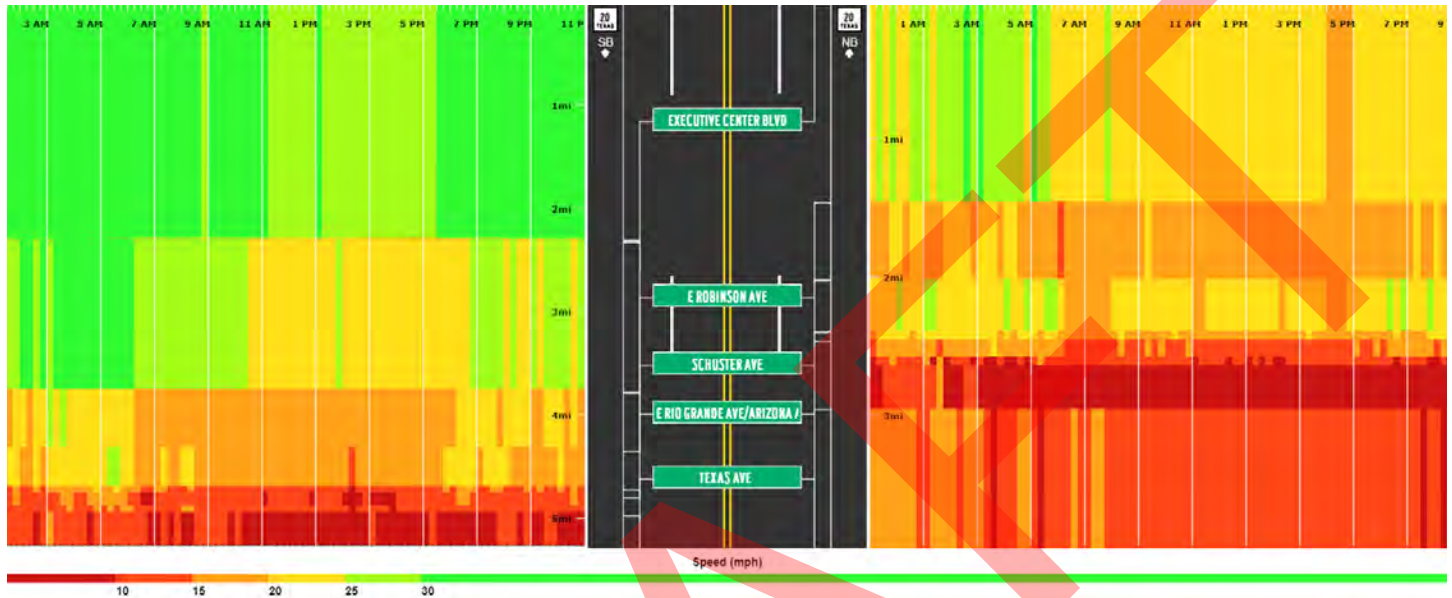


SEGMENT PERFORMANCE ANALYSIS

The initial step for this analysis was to develop a profile for each congested segment with the segment's specific characteristics such as length, type of access control, number of lanes, existing and forecasted traffic volumes, posted speed limits, and congested speeds. In addition, the profile identified any strategies that have already been implemented along the corridor, such as Intelligent Transportation Systems (ITS), Transit, Incident Management Strategies as well as projects that have recently been constructed and/or are planned or under study. These profiles provide a detailed look at each segment's congestion problems and needs.

Another element of the profile was a congestion scan, which is a color representation of the speeds throughout the day. This type of visualization tool allowed a more detailed analysis of the segment's congestion needs. As an example, **Figure 3-11** shows the segment of Mesa Street between Texas Avenue and Executive Center Boulevard. From this image it can be observed that low speeds are pretty much constant through the day at the lower end limits of the segment which is near downtown from Rio Grande Avenue to Schuster Avenue. Speeds are 10 to 15 miles per hour on both directions.

FIGURE 3-11: EXAMPLE OF CONGESTION SCAN FOR MESA STREET



In accordance with the Transportation Performance Management (TPM) guidance, travel time metrics for system performance, freight and air quality were analyzed for each segment for years 2017, 2018 and 2019. Travel time metrics gathered by the Texas A&M Transportation Institute are available to MPOs via the Congestion Management Process Tool (COMPAT). The gathered metrics are:

- Travel Time Index (TTI)
- Average Annual Passenger Hours of Delay
- Average Annual Truck Person Hours of Delay
- CO₂ Released

Figure 3-12 and **Figure 3-13** show the comparison analysis done for the congested segments in the Northwest area. For example, the congested segment on IH-10 from Downtown to North Mesa Street (IH-10 South) experienced an overall decrease in congestion levels as shown by the Travel Time Index from 2017 to 2019. Therefore, this translated into reduced commuting times in the corridor. This reduction also had an impact

on Passenger Person Hours of Delay and CO₂ released, as both metrics also saw a decrease for all years. This reduction in times/delay can be associated with the GO 10 Project from Mesa Street to Executive Center Boulevard which was a complete transformation of IH-10 that included 2 collector distributor lanes in each direction and various interchange improvements that were completed in 2019.

Looking at the northbound segment of IH-10 from Mesa Street to Artcraft Road, there was no major change for any of the performance metrics analyzed. There was a slight decrease in Travel Time Index and Passenger Person Hours of Delay, however, these changes are not significant enough to heavily alter the perceived congested levels.

FIGURE 3-12: NORTHWEST STUDY AREA CO₂ RELEASED

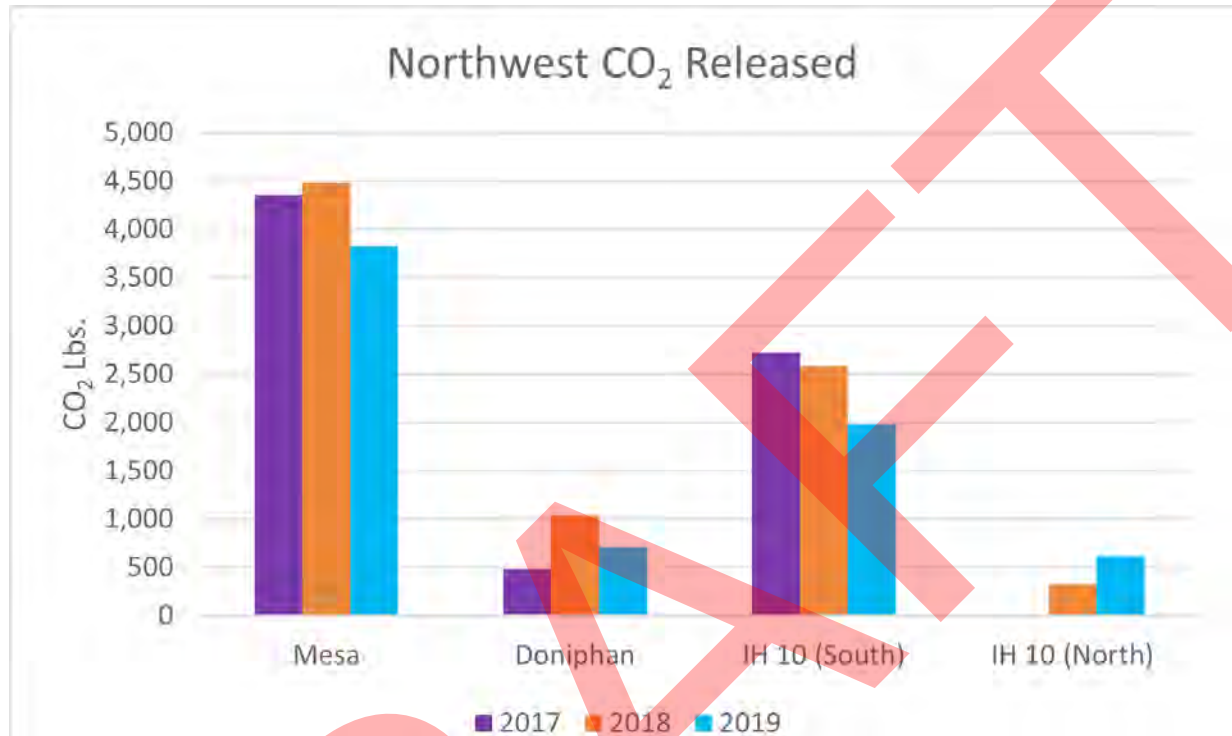
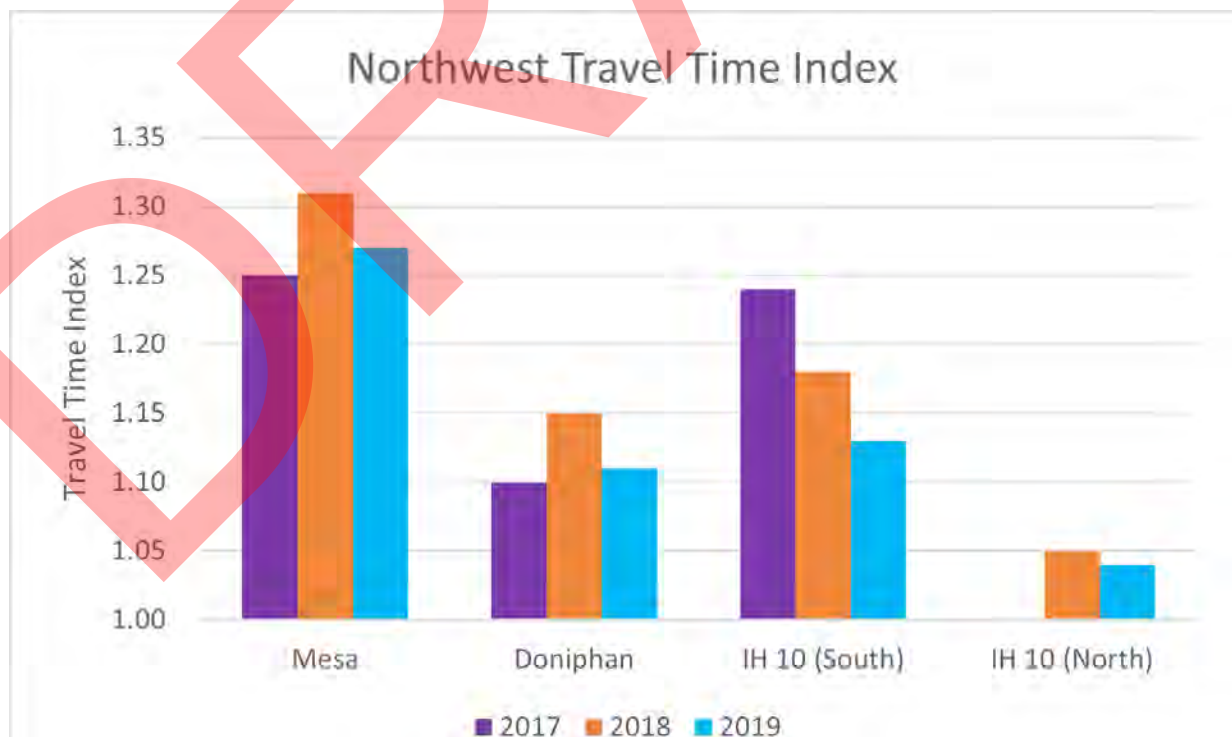


FIGURE 3-13: NORTHWEST STUDY AREA TRAVEL TIME INDEX



Within the framework of the segment profile analysis, the proposed RMS 2050 capacity and non-capacity projects were evaluated based on their proximity to an identified congested corridor

and the potential to reduce overall congestion levels. **Figure 3-14** and **Figure 3-15** depict the arterial and highway congested corridors along with the identified proposed projects.

FIGURE 3-14: IDENTIFIED CONGESTED ARTERIAL SEGMENTS AND PROPOSED PROJECTS

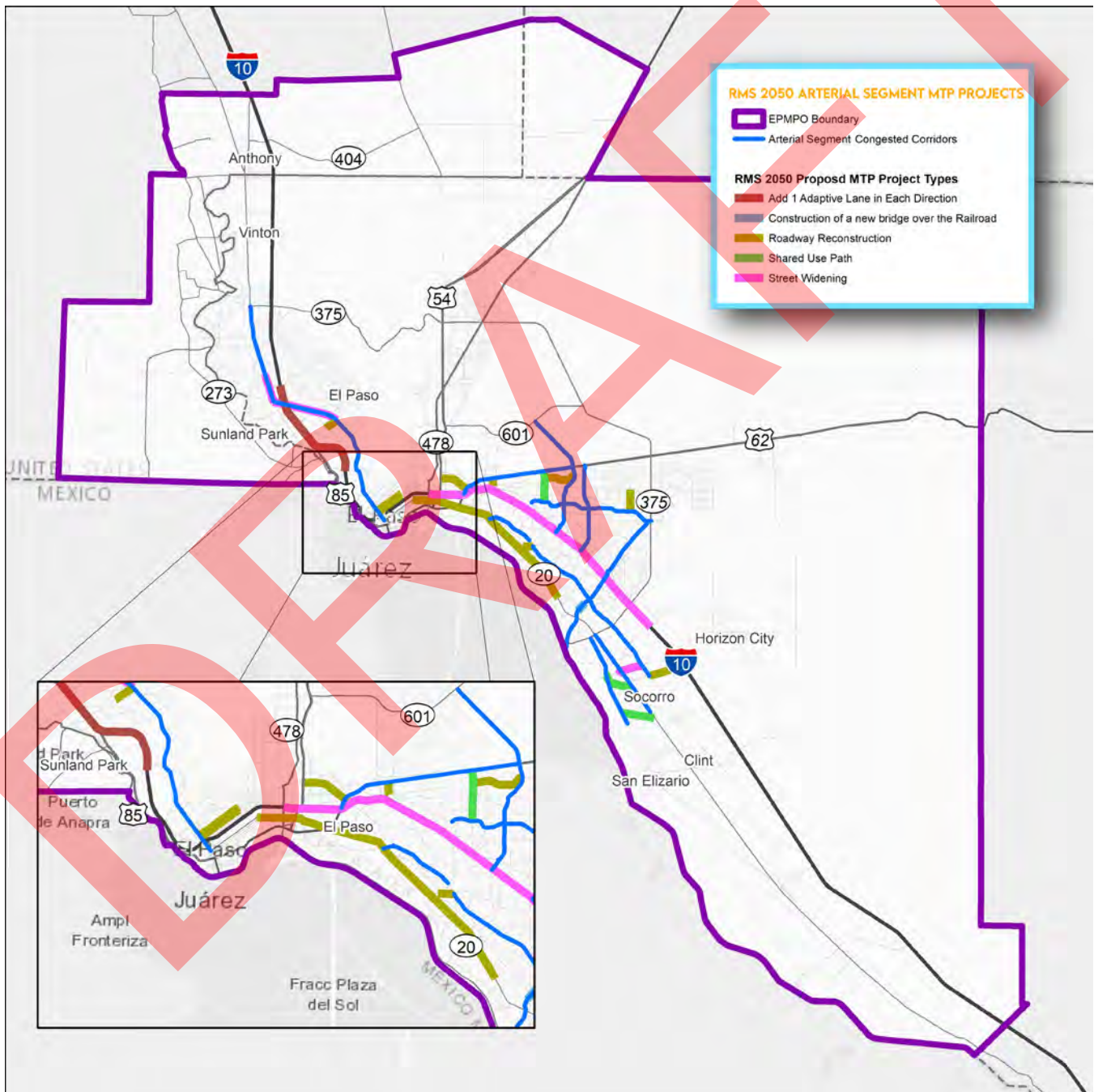
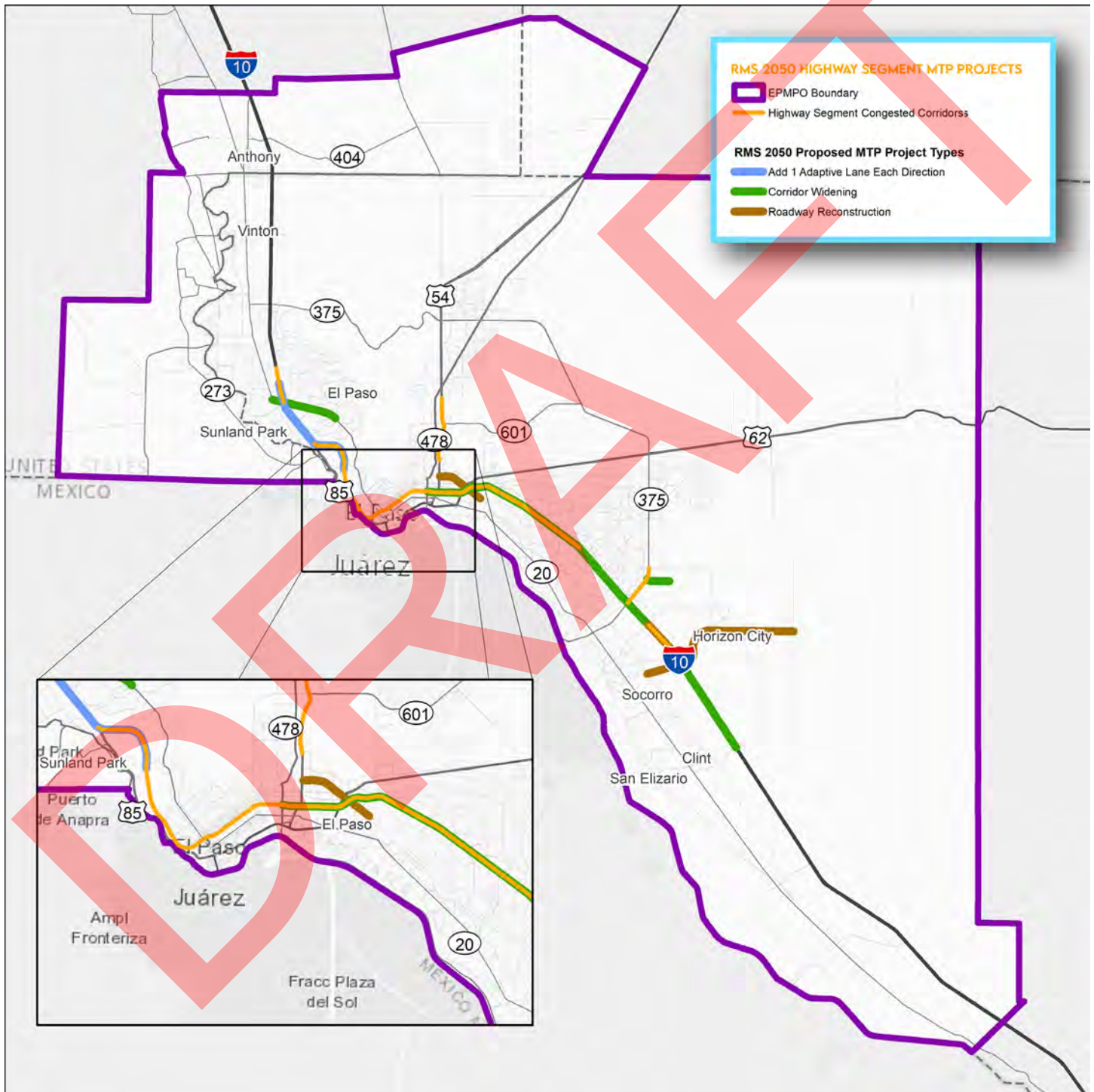


FIGURE 3-15: IDENTIFIED CONGESTED HIGHWAY SEGMENTS AND PROPOSED PROJECTS



CONGESTION ANALYSIS

The RMS 2050 follows the same methodology utilized for Destino 2045 which combines two performance measures into an index to better analyze congestion trends. These two measures are TDM outputs that are commonly used to project travel trends for the region.

- Volume over Capacity (VOC) Ratio - ratio of traffic flow to maximum allowable traffic flow on a road segment.

- Speed Index - ratio of peak hour speed and free-flow speed for a given roadway segment.

To calculate the Congestion Index, Speed Index and Volume over Capacity ratios were first calculated and assigned a rank value from 1 to 5, being 1 the lowest rank and 5 the highest rank as shown on **Table 3-3**. The next step was to calculate the congestion index by adding the two ranks and dividing them by two to obtain an average number that was categorized as shown on **Table 3-4** as either minimal, light, medium or heavy congestion.

TABLE 3-3: RANK VALUE FOR PERFORMANCE MEASURES

RANK VALUE	SPEED INDEX= MAX PEAK HOUR SPEED/FREE-FLOW SPEED	MAX PEAK VOC
1 (Low)	≥ 0.9	≥ 0 to < 0.6
2	≥ 0.8 to < 0.9	≥ 0.6 to < 0.7
3	≥ 0.7 to < 0.8	≥ 0.7 to < 0.8
4	≥ 0.6 to < 0.7	≥ 0.8 to < 0.95
5 (High)	≥ 0 to < 0.6	≥ 0.95

TABLE 3-4: CONGESTION INDEX CATEGORIES

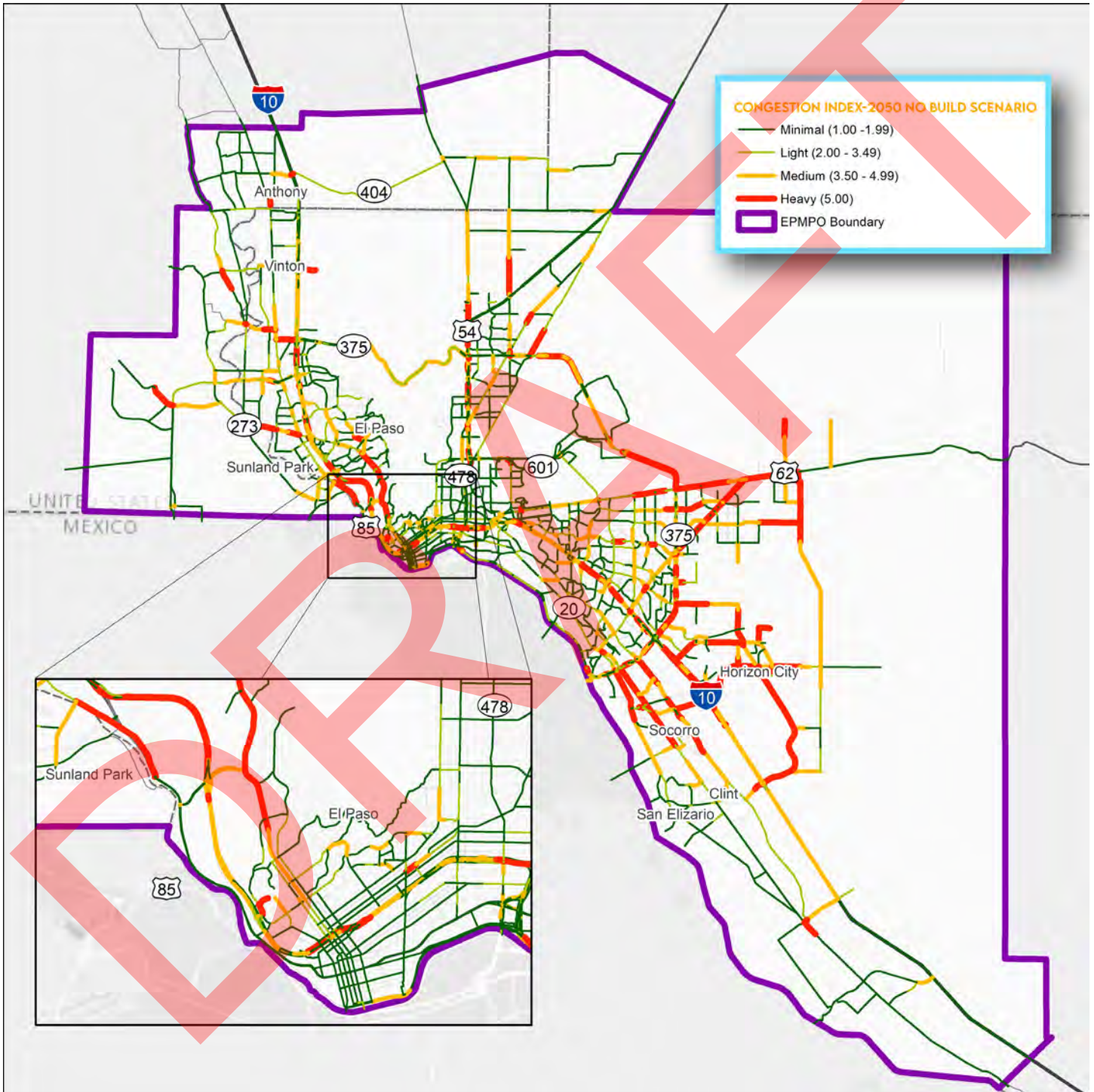
CONGESTION CATEGORIES	CONGESTION INDEX= (SPEED RANK + VOC RANK)/2
Minimal	1.00-1.99
Light	2.00-3.49
Medium	3.50-4.99
Heavy	5.00

The 2050 No Build roadway network shows congestion primarily occurring on major highways and regional connectors (**Figure 3-16**). IH-10 displays medium to heavy congestion along most of the network from Fabens to Vinton. Loop 375 shows medium to heavy congestion at various

portions from the Ysleta-Zaragoza POE to IH-10 and from Montana Avenue to Railroad Drive. Other noteworthy roadways displaying medium to heavy congestion are Mesa Street and Montana Avenue in the City of El Paso and several roadways in the City of Socorro and Horizon City.



FIGURE 3-16: CONGESTION INDEX - 2050 NO BUILD SCENARIO



FREIGHT CONGESTION ANALYSIS

The El Paso MPO Region is one of the most active land port regions in the United States and serves as a critical transfer point for goods crossing the United States-Mexico border. Accordingly, addressing current and future freight transportation issues is crucial to the region's economic success. For a freight system to perform well, delays along the transportation system should be minimized and traffic should be predictable. To understand how freight movement might be impacted by traffic delays, RMS 2050 analyzes congestion along the Texas highway freight network and New Mexico's Critical Urban and Rural Freight Corridors as approved by the FHWA NM office on March 2021.

Figure 3-17 displays the Texas and New Mexico highway freight corridors symbolized by the amount of daily forecasted freight traffic for the 2050 No Build scenario. Major highway facilities such as IH-10, US 54, and Loop 375 are forecasted to experience the most substantial freight traffic. Major arterials such as Mesa Street, Montana Avenue, Horizon Boulevard, North Loop Drive, and Alameda Avenue also show notable levels of freight traffic. Figure 3-18 shows the peak period congestion index for the Texas highway freight network, compared to areas with high industrial/manufacturing employment growth for the region. The figure displays increase in congestion generally correlate with large increases in employment.



FIGURE 3-17: NO BUILD DAILY FREIGHT TRUCK TRAFFIC (2050)

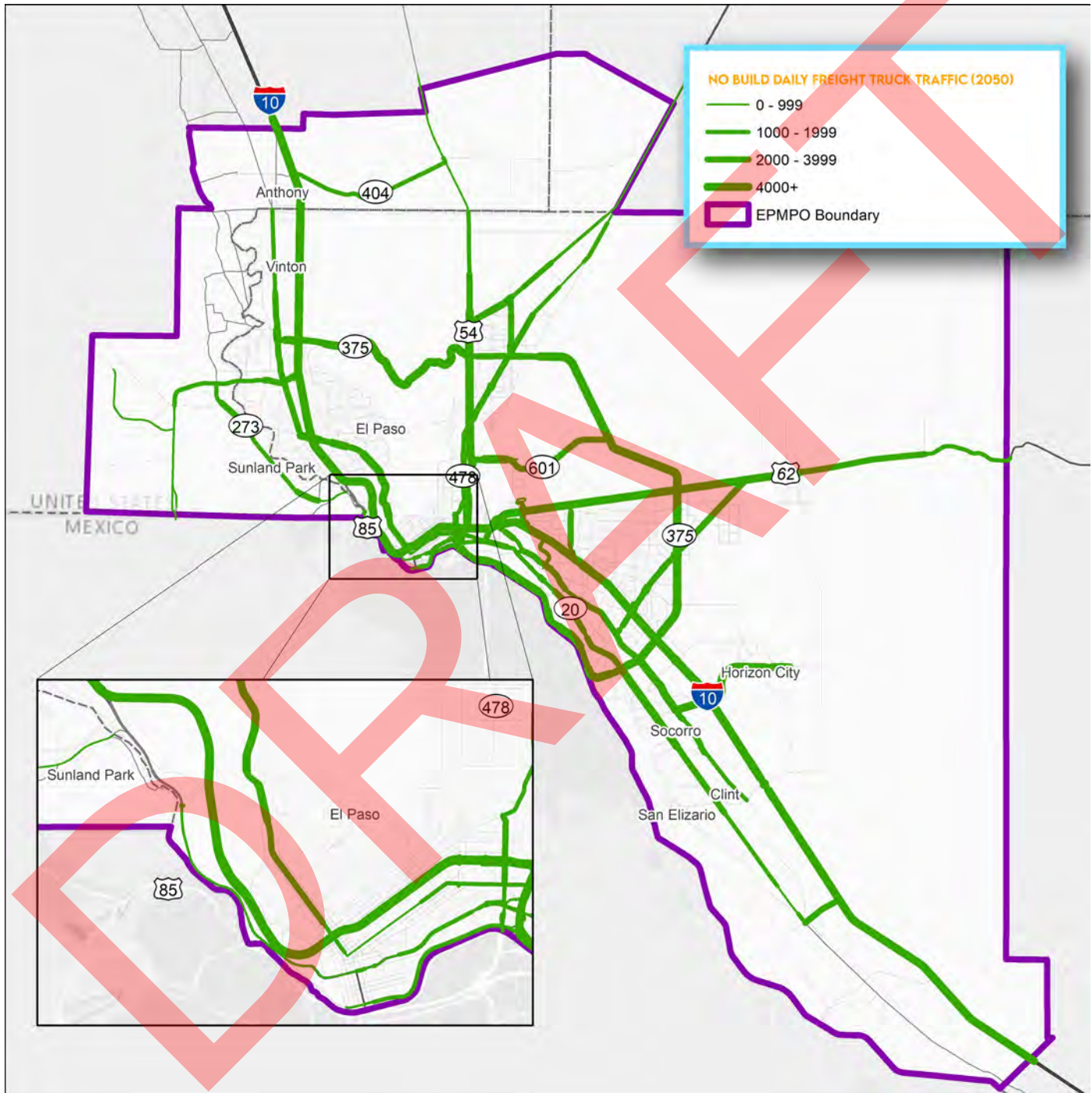
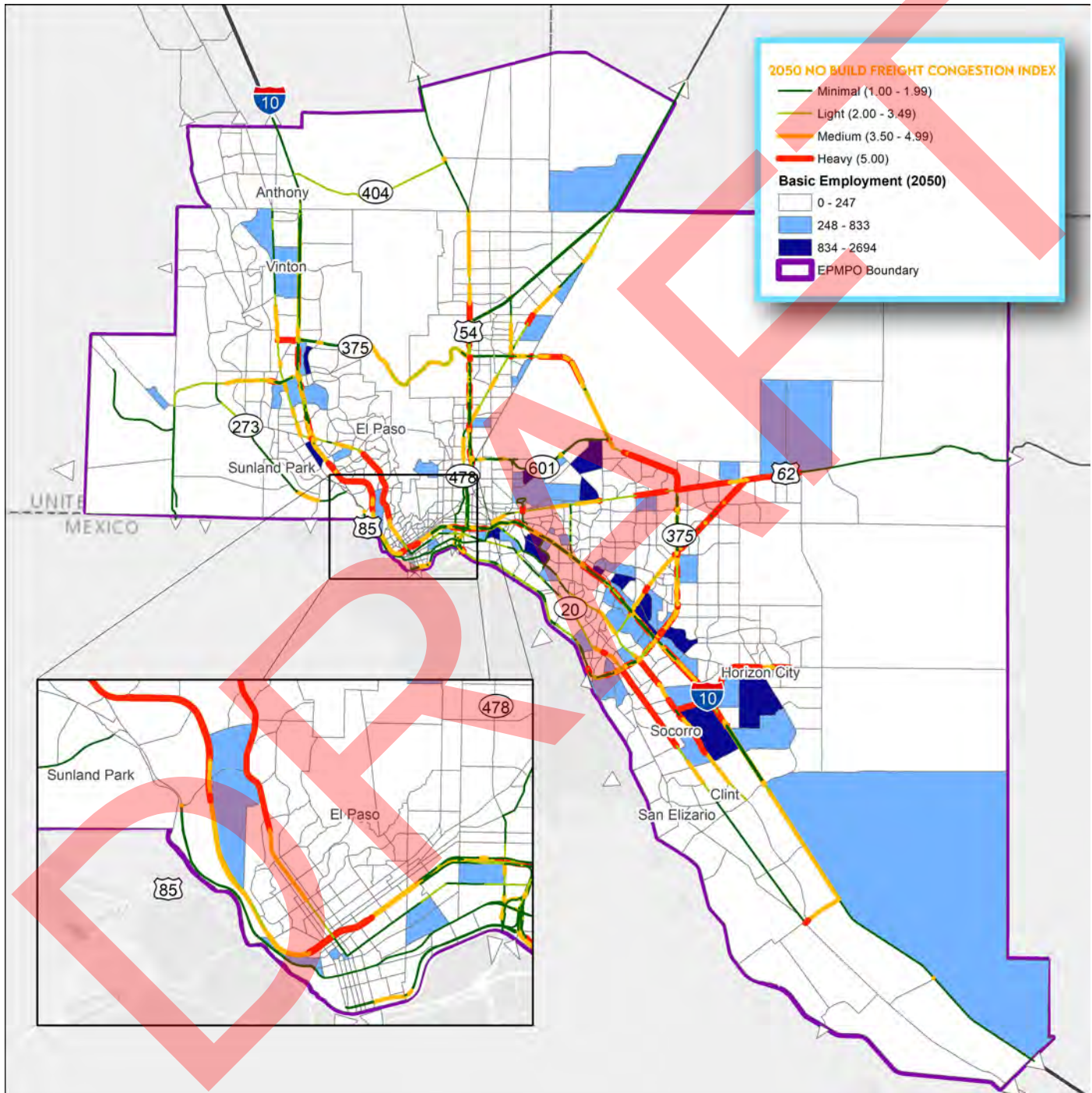


FIGURE 3-18: 2050 NO BUILD FREIGHT CONGESTION INDEX



TRANSPORTATION STRATEGIES



4. TRANSPORTATION STRATEGIES

Adding roadway capacity to the transportation system cannot address all mobility needs in the region. While funding is always the primary constraint, some needs are best met through the adoption of congestion mitigation strategies. Therefore, the MTP planning process included the consideration of strategies such as travel demand management (TDMg) and transportation system management and operations (TSM&O), in addition to facility construction (roadway capacity) projects. This chapter provides an overview of the wide range of congestion mitigation strategies available for the region and the consideration of the particular strategies that fit the character of our region, and best address unmet needs.

CONGESTION MITIGATION STRATEGIES TO ADDRESS UNMET NEEDS

Building new roads and adding capacity to existing roadways 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 TDMg, TSM&O, and “Complete Streets” 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 non-capacity strategies.

The following sections provide recommendations for incorporating best practices in TDMg, TSM&O, complete streets, and other strategies into the transportation planning process.

While EPMPPO 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.

TRAVEL DEMAND MANAGEMENT

Travel demand management (TDMg) 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 TDMg strategies reduce single-occupant vehicle (SOV) demand on existing roadways. Simply put, travel demand can be managed by providing travelers with a wide range of choices for reaching their destination.

With limited funding available to address congestion through new roadway capacity, TDMg is a cost-effective means to improve use of the transportation system. TDMg 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 system and by redistributing demand away from peak periods and existing bottlenecks;
- 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 trips that are largely responsible for the proportion of emissions generated from cold starts.

EL PASO REGION TRAVEL DEMAND MANAGEMENT STRATEGIES

Through the federally mandated Congestion Management Process, the EPMPO has been helping coordinate the programming of federal funds through the RMS 2023-2026 TIP. This coordination includes several projects that are TDMg strategies or include TDMg strategies. These projects are:

- ITS infrastructure at Zaragoza and Bridge of the Americas POE
- City of El Paso Traffic Management Center Upgrade
- Border Highway West Shared Use Path
- Regional Transit Start-up assistance for FY23
- Montana RTS Operating Assistance
- SH 178 Operational Improvements
- Downtown Bicycle Improvements
- Dyer Pedestrian and Parkway Improvements
- Horizon City Transit Plaza
- Park and Ride lot and Far East Express Service Bus (Far East Connector)

BEST PRACTICES

STRATEGIES TO INCREASE VEHICLE OCCUPANCY

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 ride-sharing.

RIDE-SHARING 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 search tool, or publicizing ride-matching applications that are available to the public, such as the Carma carpooling smartphone app.

ENCOURAGE EMPLOYERS TO INCENTIVIZE RIDE-SHARING

The MPO 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. A variety of employer-based incentives for carpooling are discussed in greater detail later in this section.

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 TDMg services that encourage more efficient use of transportation and parking resources, particularly through commute trip reduction strategies and ridesharing.



EMPLOYER-BASED TOOLS AND INCENTIVES

The commute to and from work is a significant contributor to traffic congestion along area roadways, particularly during peak travel times. TDMg 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 alternative modes for work trips, shifting work trips from peak hours, and reducing work travel times and the number of overall trips.

Employer-based TDMg strategies fall into four separate categories:

- Encouraging employees to travel by alternative modes;
- Shifting trips 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 and reduce the need for midday trips.

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 AND INCENTIVES

Parking management strategies and incentives encourage the use of alternative modes and can be implemented by both local jurisdictions and employers. These strategies typically rely on disincentivizing travel by single occupant vehicles 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 reduce parking requirements by 20 to 40 percent compared with conventional planning requirements. Examples of parking management strategies available (Litman, 2016)¹ include the following:

- Provide shared parking that serves multiple users or destinations, which is most efficient when the destinations have varied peak periods of activity.
- Implement parking regulations that control who, when, and how long vehicles may park at a particular location.
- Develop more accurate and flexible standards that take into account factors such as residential density, employment density, land use mix, transit accessibility, and income, among other factors, to establish parking requirements for a particular development or area.

¹ Litman. 2016. “Parking Management: Strategies, Evaluation and Planning”. Victoria Transportation Policy Institute. Available: http://www.vtpi.org/park_man.pdf



- Reduce residential street width requirements to encourage the development of neighborhoods with narrower streets and less parking to encourage the use of alternative modes.
- Provide remote parking and shuttle service to encourage the use of off-site parking facilities that are often shared facilities, served by special shuttle buses or free transit service.
- Limit on-street parking of large vehicles (e.g., vehicles over 22 feet long or trailers) to ease traffic flow and discourage use of public parking for storage of commercial vehicles.
- Prohibit on-street parking on certain routes at certain times (such as on arterials during rush hour) to increase the number of traffic lanes and peak capacity.

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 generally focus on the following objectives:

- Expand the service area of the transit system and connect infrastructure, which can reach more people and connect them to a greater number of destinations within the region;
- 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-auto 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 El Paso Region.

TRANSIT STRATEGIES

While traveling by car offers the ease and convenience of being able to “come and go as one pleases,” traveling by transit – particularly by bus – generally requires longer travel time and less flexibility in reaching one’s destination. Improving the quality of transit services involves strategies that shorten the overall travel times, increase traveler’s comfort both while waiting for the bus and when on-board, and provide added flexibility with travel time and destinations. While certain aspects of travel by bus will always be less convenient than travel by car, there are several improvements that can be made to significantly improve the quality of the experience.

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.

SUN METRO TRANSIT

In 2019 (pre-covid data), Sun Metro served more than 12 million passengers through a combination of 179 buses running on 60 fixed-routes, including the Brio Bus Rapid Transit (BRT) service. Sun Metro also operates 66 smaller vehicles for the LIFT service, which provides origin-to-destination transportation for ADA-eligible clients within the service area. Current planning efforts aim to implement a total of four additional Brio corridors and a streetcar system which will enhance downtown transportation connectivity.

The Brio Rapid Transit System (RTS) is a service that offers similar benefits to light rail transit, such as improved speed and reliability, but at a much lower implementation cost. This system's use of traffic signal prioritization lengthens green light durations for the bus, which allows for faster movement through the corridor, decreasing rider commute times.



Sun Metro has also expanded the Brio network and is now serving Alameda and Dyer corridors and will soon expand service to the Montana Corridor.

FIGURE 4-1: MONTANA-BRIO BRT



System-wide bus network redesign and integrating rapid transit service routes with existing routes by adjusting route transfers to accommodate, or feed into, the BRT corridors can have a tremendous impact on the service provided by the overall transit system. A similar system-wide redesign was recently developed for the Houston Metro area. This redesign increased the number of high frequency rapid bus routes with extended service hours to complement an expanded light rail and less-frequent local bus network. This initiative stemmed from Houston Metro's 2011 Metropolitan Long-Range Plan and resulted in a complete reimagining of the entire system. The change resulted in a 4% increase in bus ridership between 2015 and 2016.

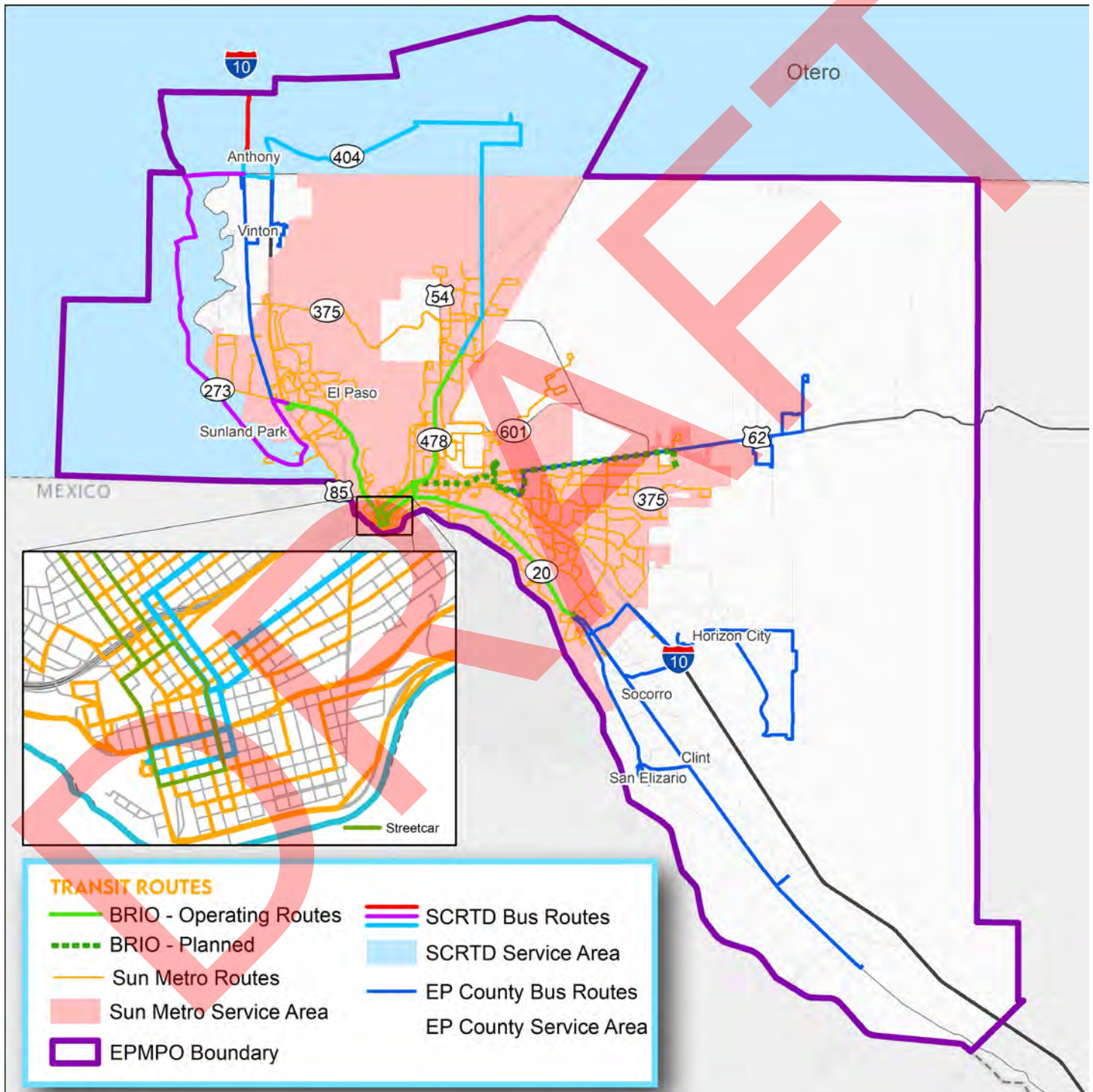
EL PASO COUNTY TRANSIT

Regional interconnectivity can also be supplemented by transit strategies. El Paso County Transit operates six rural transit routes that have listed stop locations but can also be boarded at any safe location along the route by flagging the bus. The County of El Paso recently completed a comprehensive study for regional transit outside of the City of El Paso that recommended several improvements to enhancing transit service outside of Sun Metro's service area.

SOUTH CENTRAL REGIONAL TRANSIT

The South Central Regional Transit District (SCRTD) provides transportation between rural areas, small unincorporated communities, and municipalities throughout its service area in southern New Mexico. The SCRTD primarily operates in Doña Ana County, with limited service in Sierra County and connections to Otero and El Paso Counties. Service connects with Sun Metro service via the Purple Line at the Westside Transfer Center.

FIGURE 4-2: EXISTING AND PROPOSED TRANSIT ROUTES (AS OF JUNE 2019)



REGIONAL INTEGRATION

Fare system integration and consolidation of fare collection methods across platforms at the regional level could improve service and accessibility, as well as reduce some operating costs for providers through central services. Real time travel information, integrating traffic API's and developing GTFS on consolidated app platforms could also provide users with information on travel time and supplement user routing choices.

ACTIVE TRANSPORTATION STRATEGIES

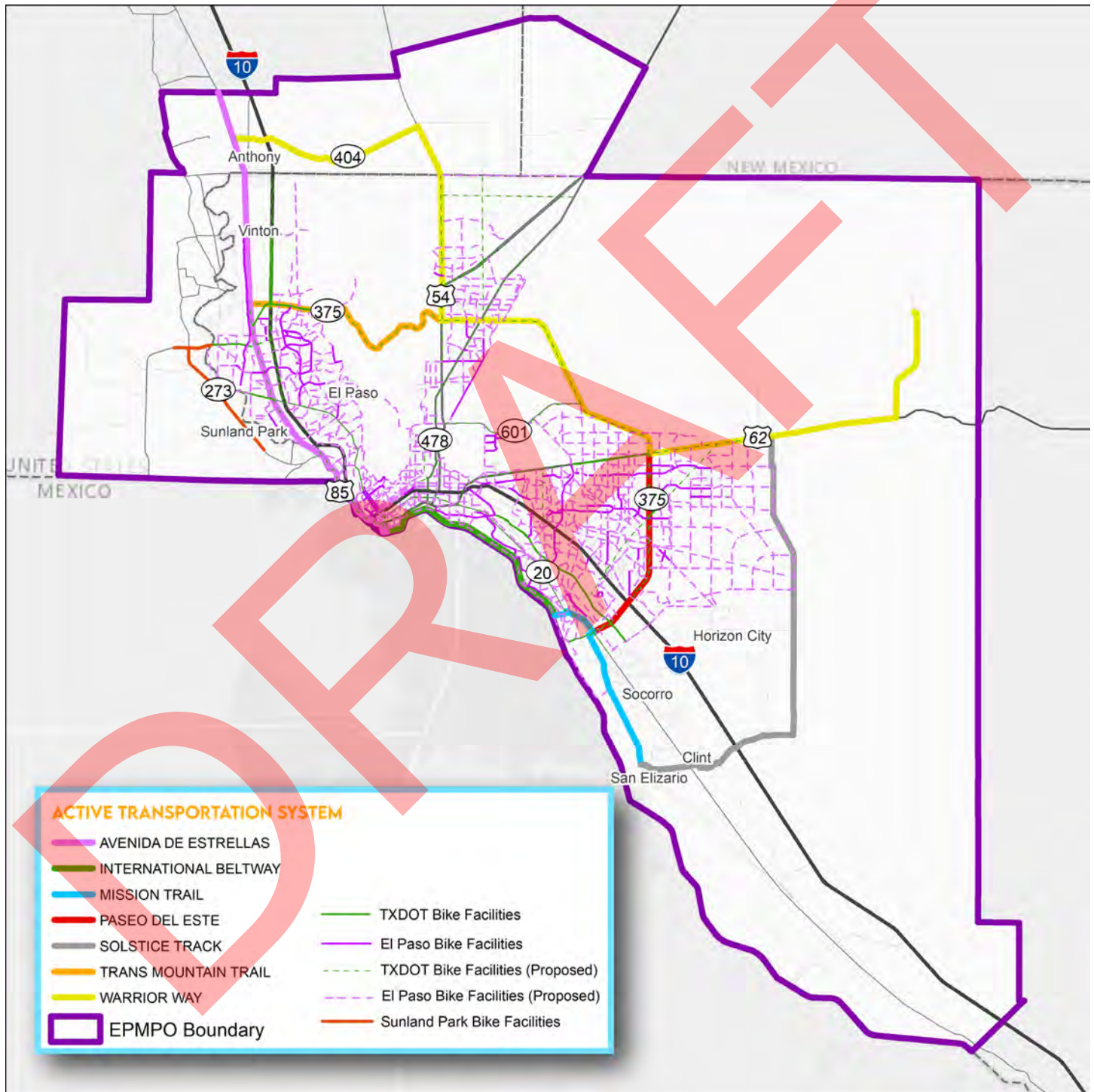
A large portion of visioning workshop contributors voiced their concerns for revamping the region's active transportation infrastructure, beginning with improved bicycling and pedestrian facilities. Active transportation investments also benefit transit ridership by enhancing accessibility of existing or future transit stops.

The EPMPPO Transportation Policy Board (TPB) passed a resolution on July 22, 2016 formally adopting the Active Transportation System. The Active Transportation System identifies regionally significant biking and walking infrastructure, both existing and planned. The identified segments are shown in **Figure 4-3**. The system also encompasses the El Paso Bike Share Program and any future expansion including a potential International Bike Share Project.

The Active Transportation System was formally adopted by the TPB with the recognition that the system will promote greater accessibility, mobility, tourism, access to historical and cultural assets, bicycle and pedestrian friendly retail development, greater economic opportunities, land use development and redevelopment, human health and greater quality of life within the region, including the Mesilla Valley MPO as well as the Instituto Municipal de Investigacion y Planeacion ("IMIP") in Ciudad Juarez.



FIGURE 4-3: EXISTING AND PROPOSED ACTIVE TRANSPORTATION SYSTEM FACILITIES (AS OF JUNE 2019)



BICYCLE STRATEGIES

One of the primary concerns for cyclists (and those who may be considering biking as a form of basic, every-day transportation) is safety. Additional considerations include integration with other modes, continuity of the bicycle facility network, availability of bicycle parking or storage, and availability of other amenities such as on-site showers.

The 2016 El Paso Bike Plan seeks to implement many of these strategies within the City of El Paso. The plan's recommended bikeway network is shown in **Figure 4-4**.

Many of these trails are incorporated into the region-wide Active Transportation Network and are augmented by facilities extending beyond El Paso County throughout the greater El Paso region.

The Paso del Norte (PDN) Health Foundation is currently promoting an initiative to connect more trails across the region. The heart of the Paso del Norte Trail initiative relies on mapping potential trail routes, as well as addressing health indicators using data from the Healthy Paso del Norte website and the CDC's 500 Cities Project. Some of the work PDN Health Foundation's work can be seen in **Figure 4-5** and **Figure 4-6**.

FIGURE 4-4: EL PASO BIKE PLAN RECOMMENDED BIKEWAY NETWORK

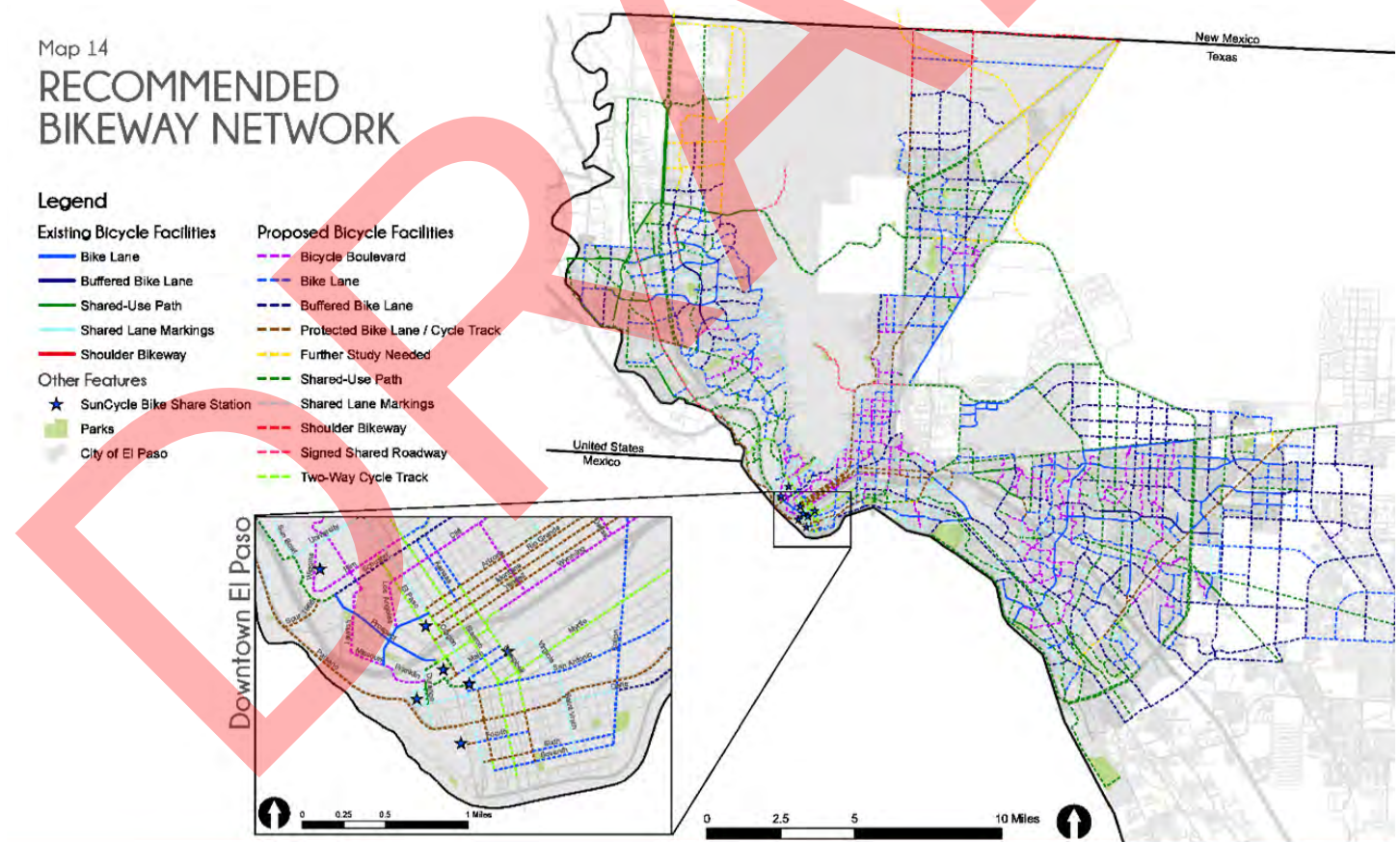
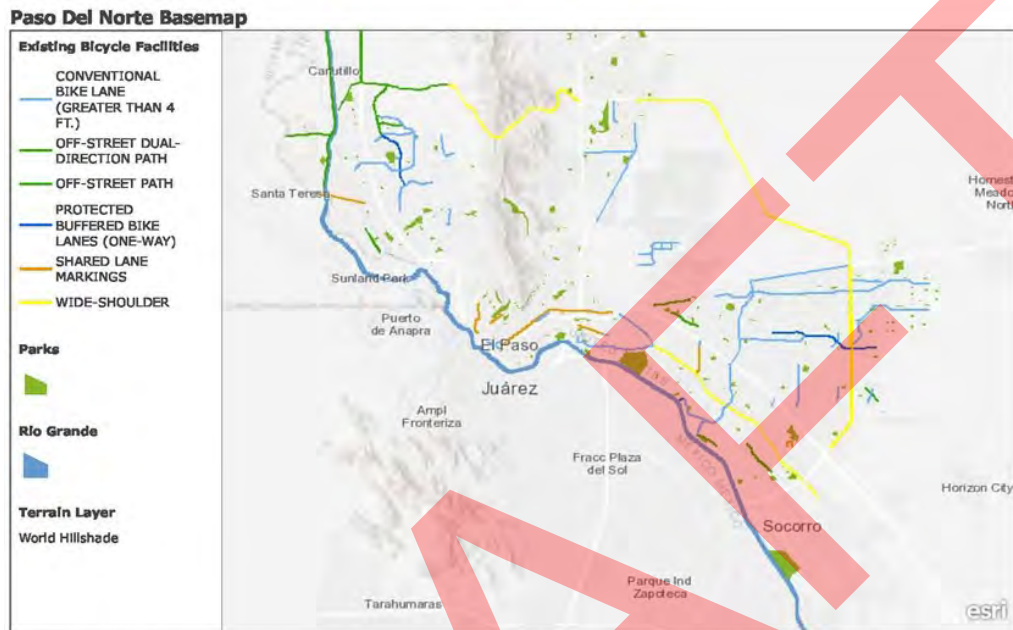


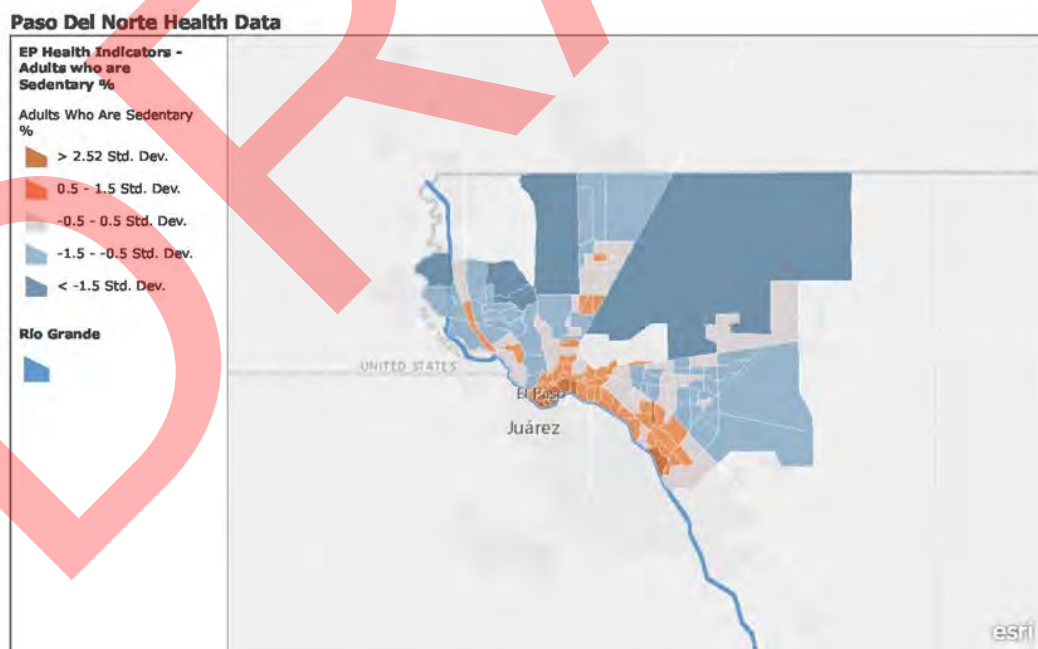
FIGURE 4-5: PASO DEL NORTE ONLINE GIS MAPPING INITIATIVE



City of El Paso, Esri, HERE, Garmin, NGA, USGS, NPS | Esri, NASA, NGA, USGS | Planning Dept, mariano soto | parks and recreation dept | Esri, HERE, NPS

Source: pdnhf.org

FIGURE 4-6: PASO DEL NORTE HEALTH DATA



Esri, HERE, Garmin, NGA, USGS, NPS | parks and recreation dept | Esri, HERE, NPS

Source: pdnhf.org

PEDESTRIAN STRATEGIES

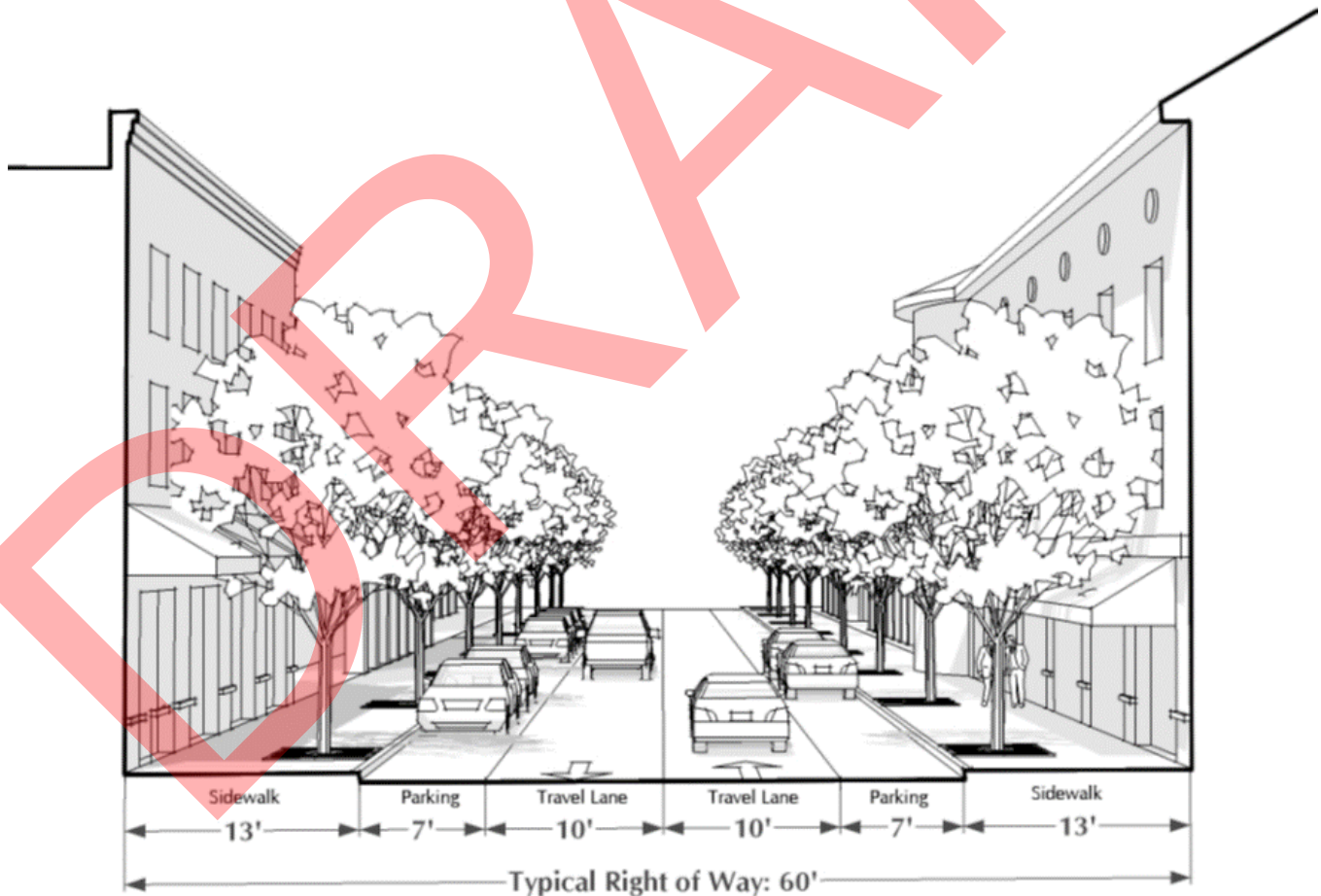
Improving the quality of the pedestrian experience involves addressing both real and perceived safety concerns and upgrading pedestrian facilities to make sure they are contiguous and comfortable. Additionally, promoting development at a more “human scale” encourages pedestrian activity by improving perceptions of safety and creating a visually interesting environment at street level. Examples of enhanced pedestrian strategies include:

- Provide buffers between sidewalks and automobile traffic;

- Enhance the visibility of crosswalks;
- Provide midblock pedestrian crossings; and
- Improve comfort of the walking public through street level amenities.

Plan El Paso, the comprehensive plan for the City of El Paso, which was adopted in 2012, provides design guidelines on a wide number of topics, including context appropriate pedestrian strategies for street and neighborhood development. **Figure 4-7** below shows a typical suggested cross section for a primary street in an urban setting with 60-foot right of way.

FIGURE 4-7: PLAN EL PASO TYPICAL ROAD CROSS SECTION FOR PRIMARY ROAD, 60FT ROW



Source: City of El Paso via elpasotexas.gov

LAND USE CONSIDERATIONS

Typical development patterns have generally encouraged a separation of land uses. Additionally, there has been an overall trend toward less dense development, particularly in the planning and design of suburban neighborhoods. These land use factors significantly impact travel, requiring more trips to be made by automobile due to the increased distances between origins and destinations. The EPMPO can work with local planning partners to encourage land use policies that facilitate the use of alternative modes of transportation and reduce the number of automobile trips.

SMART GROWTH

Smart growth generally refers to the protection and preservation of valuable natural and cultural resources through encouragement of more compact development patterns that optimize use of existing transportation infrastructure. Smart growth development is characterized by higher population and employment densities and a mix of land uses, which increases the viability of public transportation, walking, and

biking as transportation modes. Since smart growth principles encourage redevelopment and infill development of existing areas, investment in the transportation system is focused on the maintenance and operation of existing roadway infrastructure and providing safe opportunities to travel by bike or foot, rather than on building costly new roadways in previously undeveloped areas.

It is important to note that smart growth does not mean building dense high-rise structures or pitting transit or any other modes against highways. Instead, smart growth is about tailoring choices for individual settings. For example, in a suburban or rural community, smart growth may mean building smaller detached homes on smaller lots within walking distance of schools and other amenities. Smart growth encourages the development of a balanced intermodal transportation system that allows for the efficient and economical movement of people and goods. In some areas that may mean more transit, in other areas it may entail roadway improvements.



Source: Wikimedia Commons



TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS

Transportation System Management and Operations (TSM&O) strategies seek to improve the performance of existing roadways through increased efficiency and throughput of people on current infrastructure. TSM&O 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.

The following section provides a brief outline of the TSM&O strategies implemented in the El Paso region and lists additional strategies for consideration that can improve the performance of the existing transportation system.

EL PASO REGION TSM&O

TxDOT manages and operates the El Paso Intelligent Transportation System (ITS) website, which is a part of the ITS implemented by TxDOT in the El Paso area. The website provides up to date information on lane closures, incidents, congestion, and travel times. This portion of the El Paso ITS also allows access to area wide traffic cameras and information from US Customs and Border Protection on border wait times for freight, passenger, and pedestrian traffic. The City of El Paso Streets and Maintenance department also operates a Transportation Management Division that provides traffic engineering, traffic control and signal management services, and includes the oversight of the Traffic Management Center for the city. The City's Transportation Management Center Computerized Signal System includes the signal timing and coordination for approximately 650 traffic signals, and includes remote operations from the Management Center for 600 of these

signals with the ability to expand the system for all signals within the city

The El Paso ITS also helps augment TSM&O coordination efforts between:

- Texas Department of Transportation
- Texas Department of Public Safety
- City of El Paso
- El Paso Police Department
- El Paso Fire Department
- El Paso Electric
- Sun Metro
- Border Crossing Information System

TSM&O activities in the El Paso area also include programmed maintenance and maintained traffic operations through local, state, and federal funds, as well as Traffic Incident Management and Traffic Data Collection. Many of the best practices highlighted below can be seen implemented through EPMPD-programmed projects as well as ongoing efforts from TxDOT, and the local municipalities and authorities.

EL PASO REGIONAL ITS ARCHITECTURE-2020

The El Paso Regional ITS Architecture is a roadmap for transportation system integration in the El Paso Region. The architecture has been updated in 2020 to provide stakeholders within the region with a plan for ITS implementation over the next 20 years. The architecture was developed through a cooperative effort by the region's transportation agencies, covering all modes and all roads in the region. It represents a shared vision of how each agency's systems will work together in the future, sharing information and resources to provide a safer, more efficient, and more effective transportation system for travelers in the region.

The architecture provides an overarching framework that spans all of the region's transportation organizations and individual transportation projects. Using the architecture, each transportation project can be viewed as an element of the overall transportation system, providing visibility into the relationship between individual transportation projects and ways to cost-effectively build an integrated transportation system over time.

An ITS architecture web site was developed as part of the 2020 update and is available via the EPMPPO web site (<https://www.elpasompo.org/EIPasoRegionalITSArchitecture-2020>). The purpose of this regional ITS architecture web site is to encourage use of the regional ITS architecture and gather feedback so that the architecture is used and continues to reflect the ITS vision for the region.

BEST PRACTICES

In addition to the TSM&O strategies implemented in the region, other strategies employed successfully in other cities serve as best practices for optimizing the performance of the existing transportation systems to reduce congestion and improve safety.

MAINTENANCE

Infrastructure maintenance is a critical aspect of transportation system management and operations. 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. A calendar for repairs and reviews will also provide valuable information to concerned citizens. 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 with an eye towards upgrading deficient sections to modern criteria.



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.

For example, in-pavement magnetic loops are being phased out, while video detection and automatic detection devices for pedestrians and bicycles are gaining popularity. Advances in camera technology such as Gridsmart allow traffic engineers to monitor intersection conditions more efficiently than ever before. Traditional incandescent bulbs for signal heads have been replaced with more efficient light emitting diodes (LEDs). These new technologies offer increased durability and lower overall maintenance costs.

TRAFFIC SIGNAL AND 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. The MPO can work with its planning partners to identify corridors which would benefit from traffic signal improvements and to prioritize projects.

TRAFFIC SIGNAL OPTIMIZATION

The timing and phasing of signalized intersections should be reviewed periodically, especially in areas of rapid development or increased commercial activity. Most intersections should be reviewed for appropriate timing and phasing every six months, while more heavily traveled intersections could be reviewed more frequently. Whenever possible, the signal heads and controls should be uniform to facilitate ease of coordination and servicing of hardware. In locations of due east or due west travel, back plates and directional signal heads may be advantageous. In locations with significant wind and severe weather concerns, mast arm and pole dimensions should be designed appropriately. 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.



SIGNAL PRE-EMPTION

On busy roads with highly used transit routes, transit signal priority or pre-emption can improve the operations of the transit system. Transit signal priority refers to technology that reduces dwell time for transit vehicles at signalized intersections, typically by holding green lights longer or shortening the duration of the red-light cycle. The same kinds of technology can also be employed for emergency vehicles. Equipping all intersections

to accommodate signal prioritization can facilitate the deployment of such systems commensurate with demand.

ACCESS MANAGEMENT

Access management refers to the regulation of the number of access points between a development and the adjacent roadway network. Most discussions of access management involve the placement and number of driveway curb cuts, although the application can also include the location, size, and function of interior service roads. Many access management solutions involve installation of roadway medians where feasible to limit turning movements and improve traffic flow and safety.

TARGETED TRAFFIC ENFORCEMENT

Consistent and reliable enforcement of traffic laws helps address public concerns about traffic issues. In areas with complaints about speeding and reckless or inconsiderate driving, responsive law enforcement staff can do much towards gaining the public's trust and compliance. Focused speed studies (using radar trailers and traffic counters) can be employed to discourage speeding on residential streets.

TRAFFIC CALMING

Because there are many instances where the number of aggressive drivers is greater than human resources can address, 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. Traffic calming is often controversial and can be challenging to discuss.

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 particular roadway;
- To address excessive volumes for a particular roadway; and
- To remind drivers of or reinforce the residential nature of specific roadways.

Traffic calming measures are designed to slow down or impact all vehicles. In practice, this can lead to reduced access and response times for emergency and law enforcement personnel. Careful consideration must be given to any proposed traffic calming device, especially if the roadway under review provides critical access for emergency personnel. Representatives of fire, police, and emergency services departments should be involved in the review of proposed traffic calming devices. The EPMPO can work with its planning partners and emergency response agencies to identify locations suitable for traffic calming implementation.



HIGH OCCUPANCY VEHICLE LANES

High Occupancy Vehicle (HOV) lanes are dedicated for use by vehicles with more than one occupant and thereby serve to increase the total number of people that move through a congested corridor. HOV lanes offer substantial travel time savings and reliable, predictable travel times. HOV lanes move significantly more people during congested periods, even if the number of vehicles that use the lane is lower than on adjoining general-purpose lanes. In general, carpoolers, vanpoolers, and bus patrons are the primary beneficiaries of HOV lanes. In coordination with its planning partners, EPMPO can identify corridors that would benefit from the implementation of HOV lanes.

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 a number of 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 cash-strapped public agencies. 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 TSM&O 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 the traditional scope of the private vehicle 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 whole new tool kit of strategies to implement.

CONNECTED & AUTONOMOUS VEHICLES

Connected and autonomous vehicles (AV) can be integrated into existing ITS architecture, and while autonomous technology holds many promises for mobility, improved traffic operations, and safety, it should be noted that there are potential unknown and known drawbacks to this technology as well. While higher capacity automated public transportation could drastically reduce both emissions and congestion on the roads, as well as reduce the required right of way to accommodate current trends in single occupant vehicles, advances in this field can also require drastic shifts in land use and policy development. And through making these major shifts in land use and policy development might require greater upfront costs, the benefits for environmental justice and social equity could far outweigh the implementation costs. Other tremendous benefits to the implementation of AV could be drastic reductions in fatalities and severe injury due to less flawed drivers on the road. Questions of liability and vehicle ownership in this new paradigm are yet to be resolved, though vehicle manufacturers, software developers, insurance companies, and entrepreneurial companies are all vying for dominance in this emerging field.

This technology also holds benefits to freight and economic growth. Where freight drivers are currently limited by exhaustion as well as congestion in urban areas, improved travel distances and improved traffic operations could have very real

and positive impacts on the economic vitality of rural and urbanized area, as well as the integration of these regions into commercial megaregions.



Source: Gnanagarra via Wikimedia commons

Real time data collection could have immediate and long-term benefits for growth and operations planning, while third party data collection companies might face new challenges in securing and utilizing the influx of data.

The National Association of City Transportation Officials (NACTO) provides some advice and guidance 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.

The EPMPO staff can help the development and deployment of these technologies throughout the region by beginning discussions on policy and land use, as well as staying abreast of developments in autonomous vehicle technology.

SMART PHONE APPLICATIONS

Rideshare applications for smart phones are already influencing how people are choosing to commute. Uber recently unveiled (Feb 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 is 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 means more walking.

Smart phones are also already being used to improve transit service and user experience with route information apps, as well as instant payment and rider subscription services. The EPMPO can continue to work with its planning partners to enhance the functionality of smartphone transit applications to further encourage travelers to use transit.



Source: Santeri Viinamäki via Wikimedia commons

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 TDMg and TSM&O 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 such as improved safety, equity and 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.

PRELIMINARY EVALUATION OF TRAVEL DEMAND MANAGEMENT STRATEGIES

As presented in the previous section, there is a wide range of strategies that the region can consider for implementation to manage roadway congestion and improve air quality. From the previous MTP, only a limited number of projects with such strategies were implemented and thus, their contribution to VMT or emissions reductions is debatable. Notable examples of such projects are the BRIO RTS and various road diets with bicycle lanes. The BRIO concept is a transit improvement for the City of El Paso in terms of direct route alignments, headways, and coverage, with four RTS routes operating or planned. However, the BRIO service still lacks the benefits of a true BRT system, with dedicated/exclusive bus lanes that could improve transit travel times on congested roads and in peak periods. Furthermore, the City of El Paso has completed a number of road diets

that include bicycle lanes, as well as implementing the SunCycle bike-sharing program, but these design and service improvements have been implemented on a limited number of streets, mostly in downtown El Paso and near-downtown neighborhoods; as a result, their benefits to the regional travel network are limited. While these projects might have a small impact today, they could serve as the initial building block for a more comprehensive and robust system.

One TDMg strategy that can be explored to improve transit, bicycle and pedestrian infrastructure and could have a significant impact on VMT and emissions reductions is the encouragement of more compact and infill development, thereby increasing population and employment densities. While land use policies are controlled by municipal governments, as a result, the EPMPPO can only promote discussion on land use policies; nevertheless, using its travel modeling tools the EPMPPO can attempt to quantify their impact on regional transportation needs. No review of current municipal land use policies were conducted as part of the needs assessment evaluation for RMS 2050 MTP.

To explore the significance of Travel Demand Management (TDMg) strategies, in particular the significance of land use and density in travel patterns, two scenarios were conceptualized and evaluated using the RMS Travel Demand Model (TDM). These hypothetical scenarios were developed to test the sensitivity of the MPO's travel models to a set of border conditions, without a thorough review of the practicality or feasibility (economic, technical, cost, etc.) of achieving either scenario. The analyses of these two scenarios are provided in the section below. While these test scenarios are preliminary and thus simplified, the modeling exercise will help the EPMPPO in the development of more realistic scenarios that can be used to help inform the needs assessment

evaluation for the next MTP.

CONCEPTUALIZED DENSIFIED SCENARIO

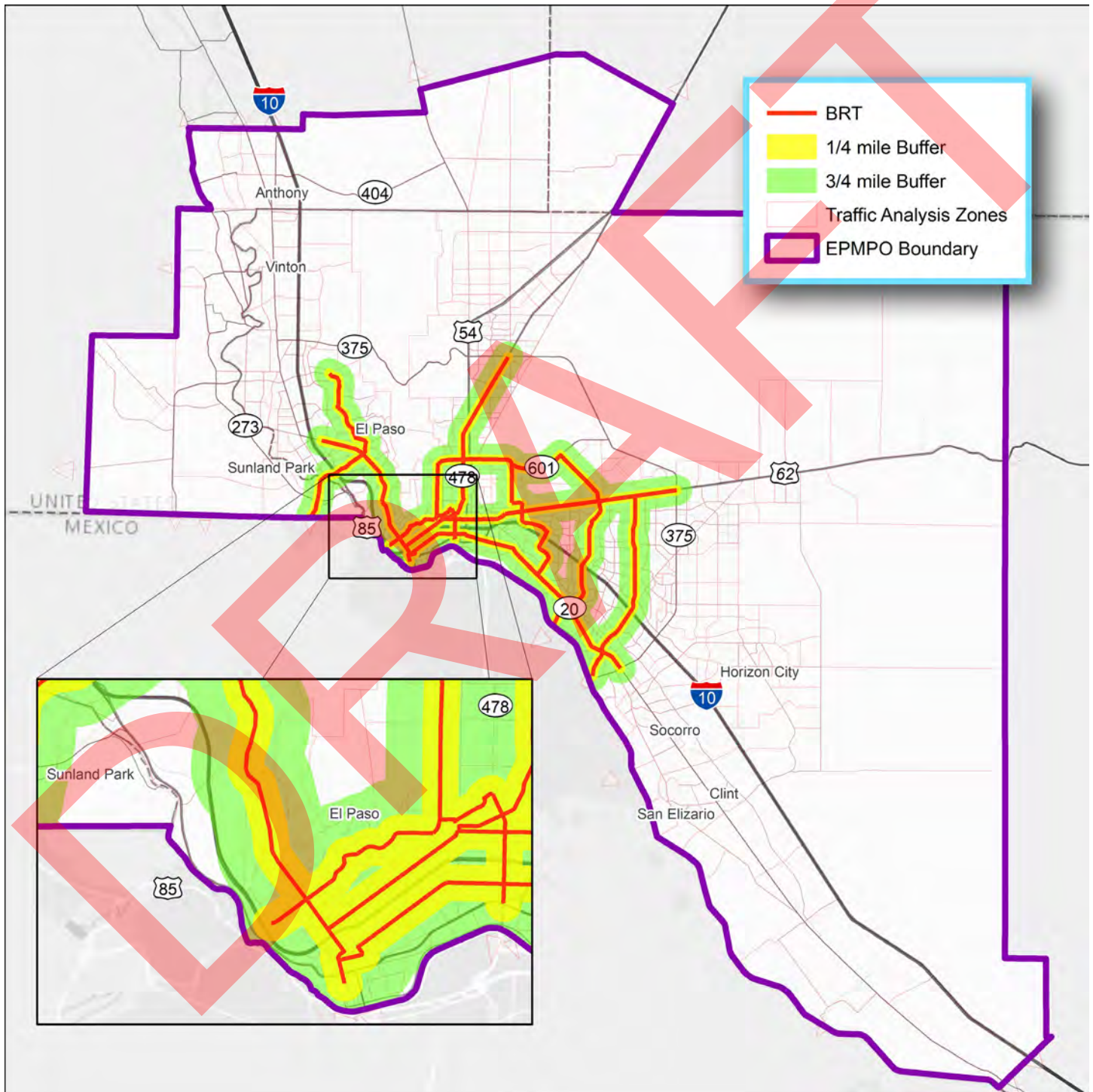
A set of transportation network and demographic conditions were coded on the RMSTDM and labeled as the “densified scenario”. In these scenarios the anticipated population and employment growth between 2022 and 2050 has been concentrated in 1.5-mile wide corridors corresponding to major roadways throughout the urban area. **Figure 4-8** shows the nine corridors, and the areas where the growth was concentrated.

DEMOGRAPHICS

Based on data from the Texas State Demographer along with New Mexico demographic trends, the total population and employment growth between 2022 and 2050 will be 150,000 and 180,000 respectively. Through a preliminary exercise of satellite image review of existing land uses along the nine corridors (including available land, brownfield areas and surface parking lots), the new population growth was distributed, as well as retail and services employment.

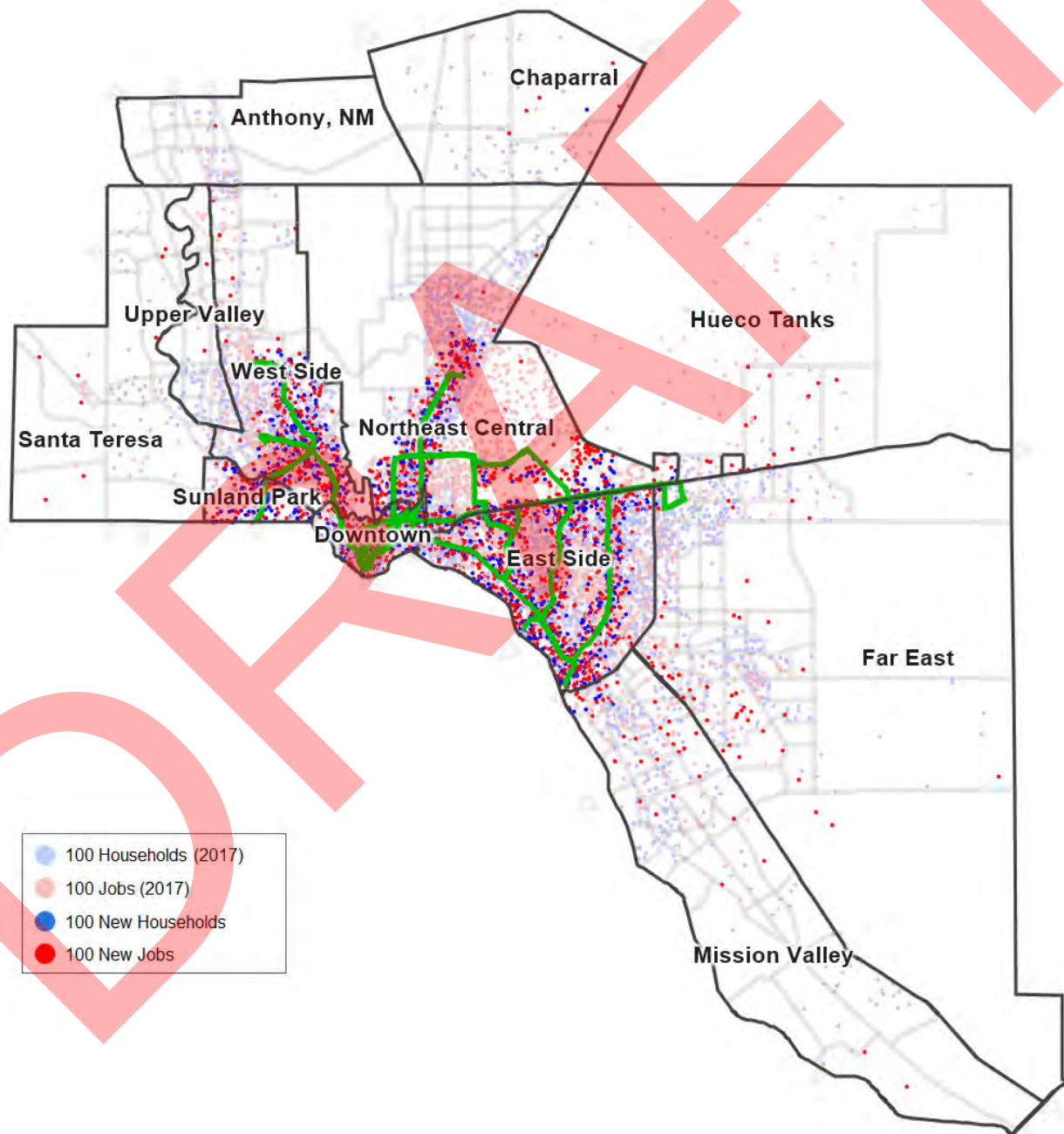


FIGURE 4-8: DEMOGRAPHIC GROWTH CONCENTRATION CORRIDORS UNDER THE DENSIFIED SCENARIO



About 80% of the population and employment growth was placed within a half-mile of each of the nine corridors, with the remaining 20% placed in the next mile. **Figure 4-9** shows schematically how this concentration of employment and population compares to the 2017 demographics.

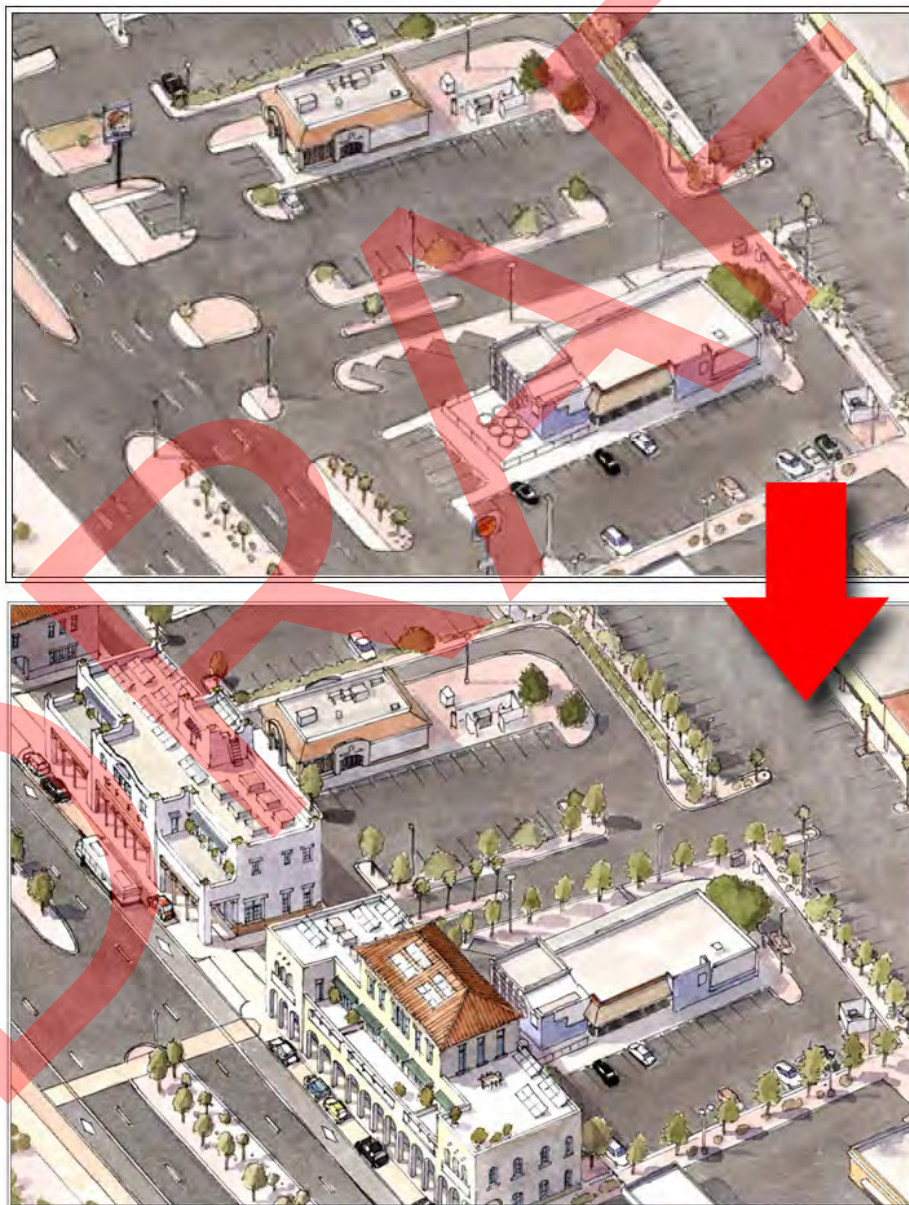
FIGURE 4-9: DISTRIBUTION OF YEAR 2050 EMPLOYMENT AND POPULATION UNDER THE DENSIFIED SCENARIO



On average the concentration of future growth amounts to an increase of 2 to 3 times the current densities in the half-mile area. Currently the population density in these corridors averages around 3,000 people per square mile. **Figure 4-10** illustrates an example of what this increase in density might look like on the ground.

Such population and employment concentration would considerably improve the pedestrian access to transit operating on the densified corridors, as well as increasing the share of trips that can be completed entirely on foot.

FIGURE 4-10: INFILL REDEVELOPMENT EXAMPLES FROM PLAN EL PASO



Source: City of El Paso via elpasotexas.gov

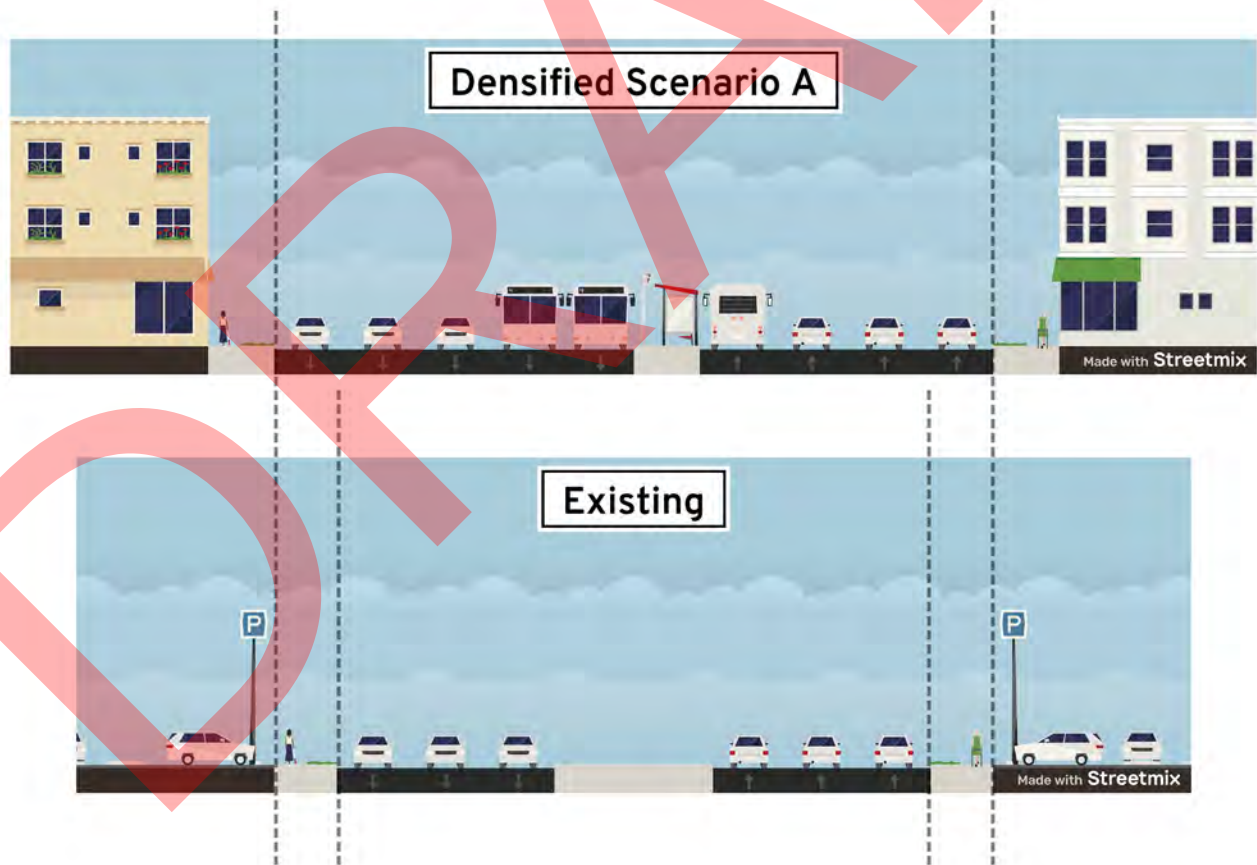
BRT INFRASTRUCTURE

To improve travel time, the transit service was coded along the densified corridors as Bus Rapid Transit (BRT), including the four routes of the BRIO RTS: Mesa, Dyer, Montana, Alameda. Five additional BRT routes were transversely located to explore the impact of an interconnecting network:

- Zaragoza-George Dieter
- Copia-Schuster
- Yarbrough-Global Reach
- Sunland Park- Westwind
- Airway-Hawkins

One of the major advantages of converting the BRIO system from RTS to BRT service is the use of dedicated bus lanes, allowing buses to avoid congestion occurring in regular travel lanes. Two approaches to creating dedicated bus lanes were analyzed; in Scenario A, an extra lane is added to the typical cross section on each major arterial with a BRT route, as shown in **Figure 4-11**, in order to compensate for the traffic lane taken for the BRT. This would maintain the existing roadway capacity for all other vehicles, but in some locations requires a wider right-of-way that currently exists.

FIGURE 4-11: PROTOTYPE CROSS-SECTION OF ARTERIALS WITH BRT LANES UNDER DENSIFIED SCENARIO A



Top: Modified cross-section (BRT with added lanes)

Bottom: Reference existing cross-section

In Scenario B, an existing travel lane is converted for exclusive use by transit, as shown in **Figure 4-12**. This would reduce the roadway capacity for all other vehicles, but could be achieved using existing right-of-way. Additionally, Scenario B applies a fee for private vehicle parking along the BRT corridors.

FIGURE 4-12: PROTOTYPE CROSS-SECTION OF ARTERIALS WITH BRT LANES UNDER DENSIFIED SCENARIO B



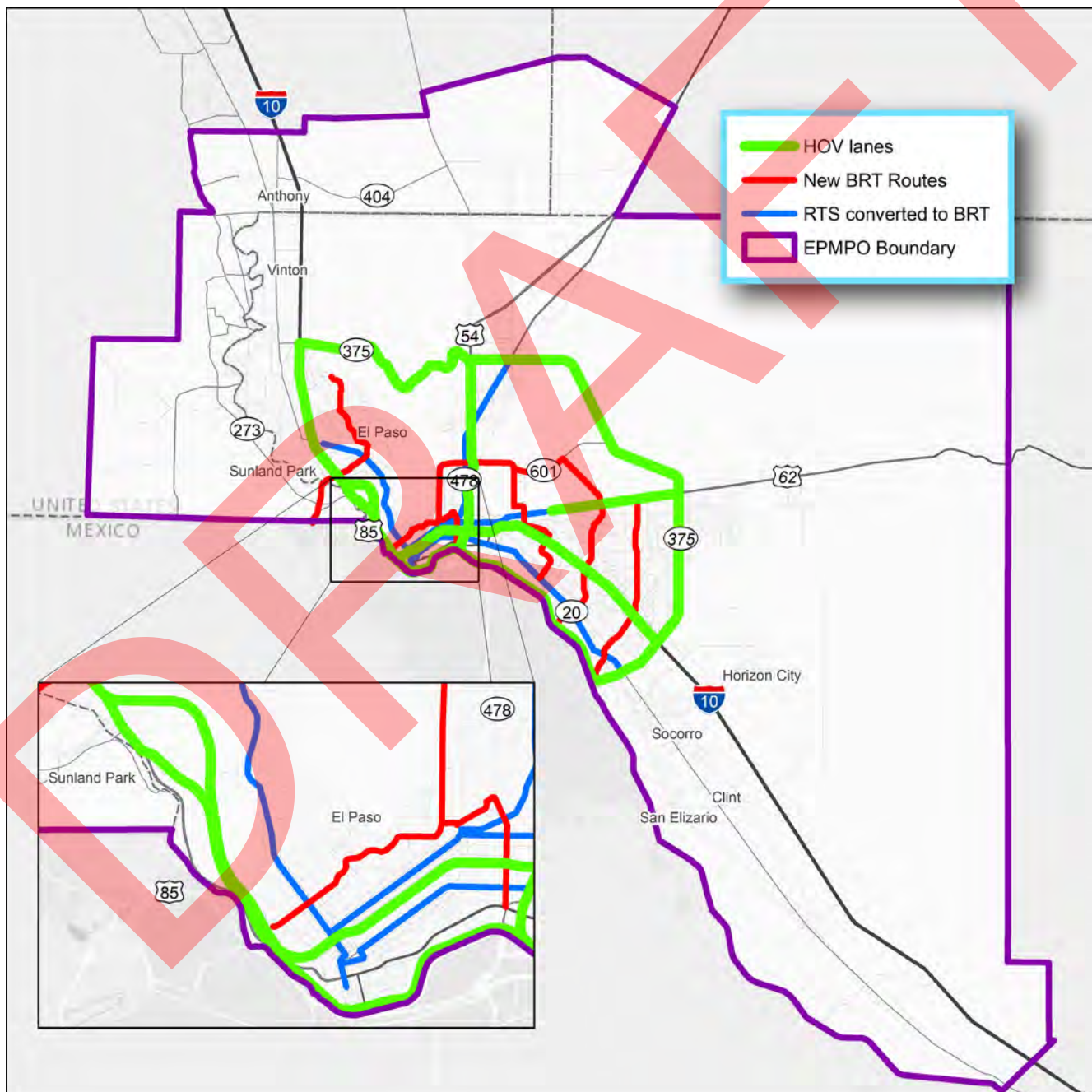
Top: Modified cross-section (BRT with no added lanes)

Bottom: Reference existing cross-section

HOV INFRASTRUCTURE

Both densified scenarios also applied HOV2+ lanes along the major freeways in the region (IH-10, US54, Loop 375, Border Highway and US180). The HOV infrastructure is shown in **Figure 4-13** along with the BRT routes.

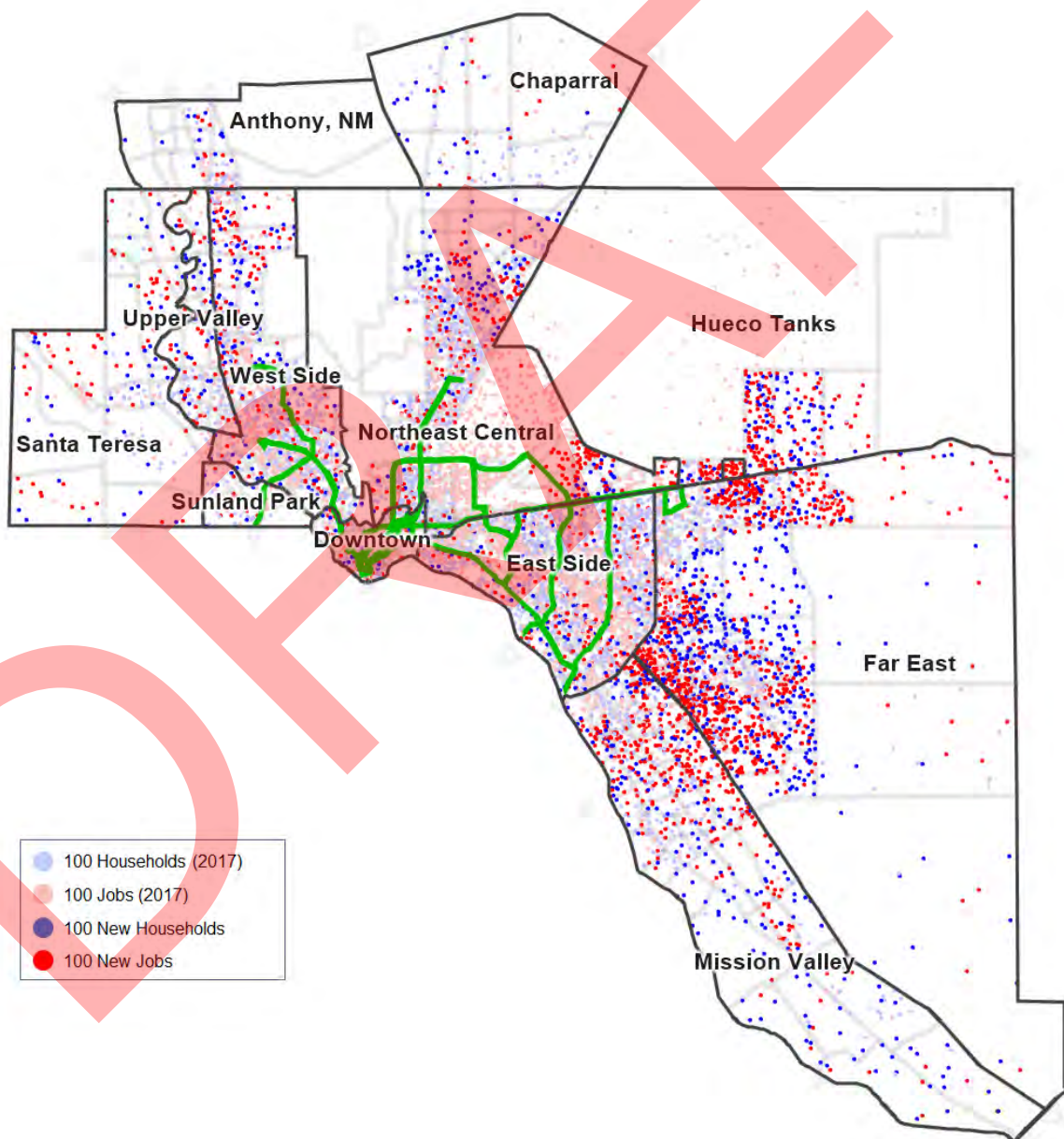
FIGURE 4-13: ALTERNATIVE TRANSPORTATION INFRASTRUCTURE CONSIDERED FOR THE DENSIFIED SCENARIOS



2050 DENSIFIED SCENARIOS VS. NO-BUILD SCENARIO

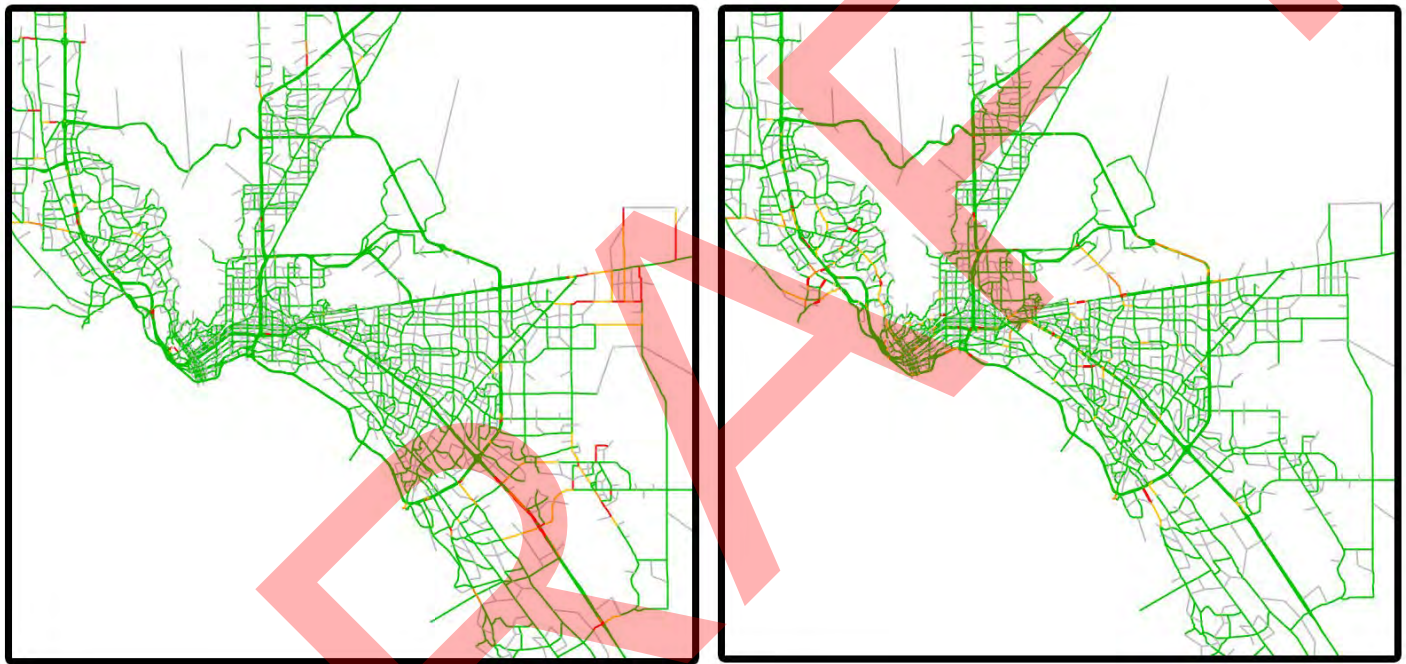
As an initial reference the densified scenarios were evaluated using the TDM and compared to the TDM results of a 2050 No-Build scenario. The 2050 No-Build considered the socio-demographic (SED) distribution of employment and population (established in part through a Delphi process) on the existing (2022) transportation infrastructure. **Figure 4-14** shows the 2050 SED distribution from the Delphi.

FIGURE 4-14: YEAR 2050 EMPLOYMENT AND POPULATION DISTRIBUTION ESTABLISHED FROM THE DELPHI PROCESS



Summary congestion maps from the TDM runs for the 2050 No-Build and Densified scenarios are shown on **Figure 4-15**. The red links indicate heavy congestion at peak periods, defined by values of volume/capacity (v/c) greater than 0.95, equivalent to a congestion index rank of 5. The No-Build map shows most red links beyond the Loop 375 outer ring, while the Densified map shows most red links inside the Loop 375 ring. In general, this correlates with the location of the employment and population growth.

FIGURE 4-15: PEAK ROADWAY CONGESTION COMPARISON (RED LINKS INDICATE HEAVY CONGESTION)



(a) 2050 No-Build Scenario

(b) 2050 Densified Scenario B

Table 4-1 provides a summary of other performance measures at the regional level for all scenarios. Among these, it is worthwhile to highlight that the regional Congestion Index in all cases is less than 3.5, falling within the range considered “light congestion”. Perhaps more significant is that Densified Scenario VMTs are lower than those observed in the No-Build Scenario, while transit mode share jumps from 0.8% in the No-Build to 4.9% and almost 8.8% in the Densified Scenarios A and B, respectively. More importantly for air quality

conformity purposes, all emissions are lower for the Densified scenarios compared to the No-Build.

These preliminary results show great potential for TDMg strategies, such as the densification of the urban corridors together with a robust network of alternative transportation modes.

TABLE 4-1: COMPARISON OF REGIONAL PERFORMANCE MEASURES

TRANSPORTATION AND DEMOGRAPHIC SCENARIO	TRANSIT SHARE	DRIVE ALONE SHARE	CONGESTION INDEX	VMT (MILLION)	CO (TM/DAY)	PM10 (TM/DAY)	VOC (TM/DAY)	NOX (TM/DAY)
2050 No-build	0.8%	43.5%	3.36	22.8	27.8	6.9	7.7	7.9
2050 Densified A	4.9%	41.3%	3.48	21.4	25.3	5.8	7.1	7.3
2050 Densified B	8.8%	39.5%	3.46	20.9	25.9	5.9	7.3	7.5

FINAL RECOMMENDATIONS

The following recommendations are listed in no particular order:

- Encourage continued coordination of the metropolitan transportation planning process with the development of local transportation and comprehensive plans to promote the inclusion of facilities and systems related to transit, biking, and walking.
- Encourage transportation planning partners to consider cost-effective, congestion mitigation strategies, such as TDMg, TSM&O, and Complete Streets design prior to investing in roadway capacity improvements.
- Work with large area employers to explore and implement employer-based TDMg tools and incentives.
- Consider giving funding preference to projects that incorporate TDMg and TSM&O strategies, reflect Complete Streets design principles, or set regional multi-modal transportation goals and objectives through a robust public involvement process.



SYSTEMS-LEVEL ANALYSIS



5. SYSTEMS-LEVEL ANALYSIS

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 metropolitan transportation plan, 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 systems-level analysis 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, to 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 systems-level analysis 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 MITIGATION ANALYSIS

The El Paso Metropolitan Planning Area is located in the far western corner of Texas, and encompasses the entirety of El Paso County, Texas, as well as portions of Doña Ana and Otero Counties in New Mexico. The City of El Paso stands on the Rio Grande across the US-Mexico border from Ciudad Juárez.

The El Paso region has a transitional climate between cold and hot desert climates with low humidity and winters that are cool and dry. El Paso experiences an average of 9.7 inches of rain per year, which can occur during severe thunderstorms, sometimes strong enough to produce flash flooding. The City of El Paso is home to Franklin Mountains State Park. The El Paso region sits atop

the Hueco Bolson aquifer, which stretches north into New Mexico and southwest under the Rio Grande in to Mexico. The location of the region's environmental and cultural resources, including rivers and streams, wetlands, floodplains, parks, open space, recreational areas, and historic sites, originally inventoried as part of the environmental analysis for Destino 2045 MTP, were reviewed and updated as needed.

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 and environmental protection resources. These inventoried resources are shown in **Figure 5-1** through **Figure 5-3**.

FIGURE 5-1: PARKS, HISTORIC DISTRICTS, AND CEMETERIES

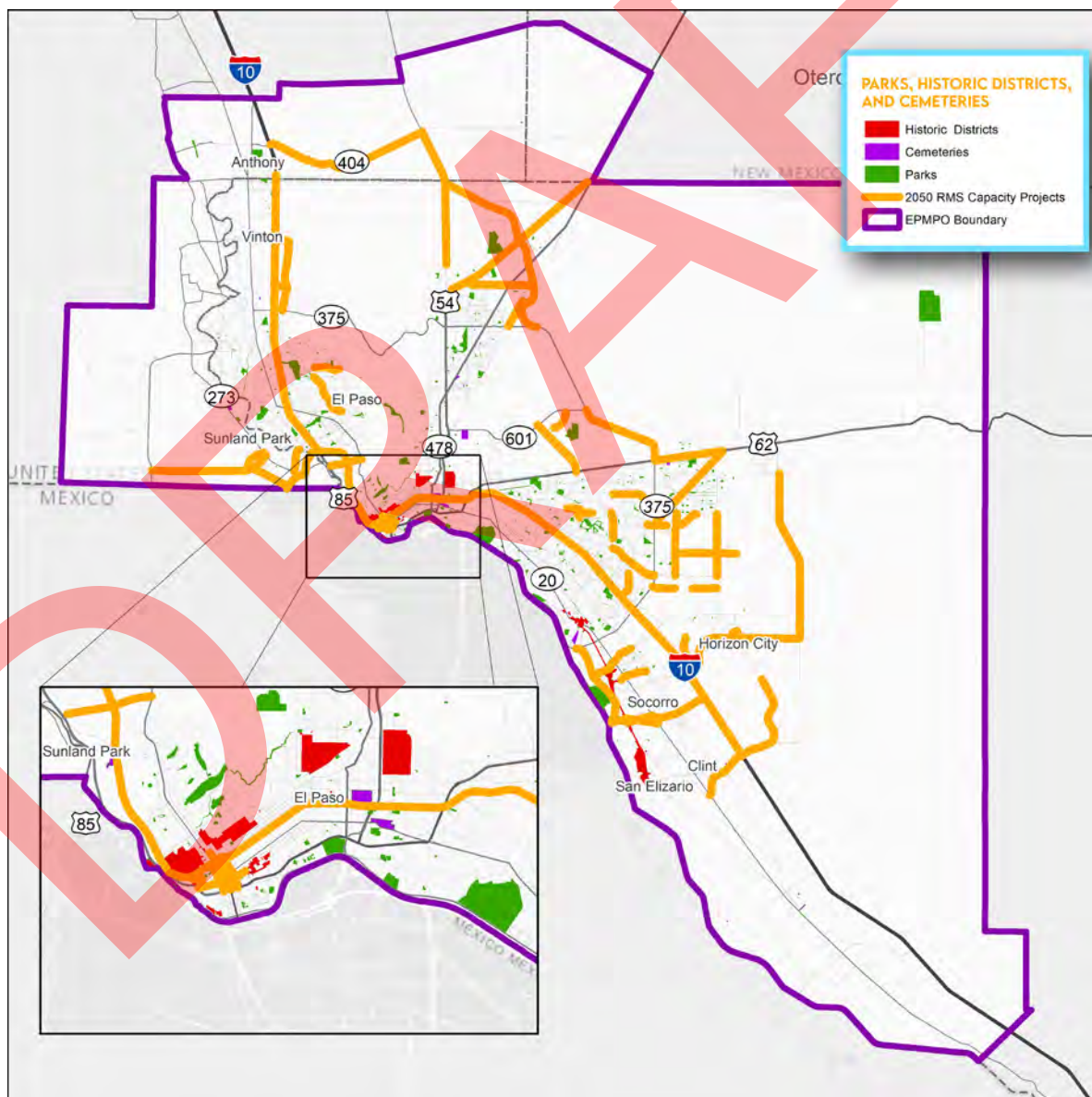


FIGURE 5-2: SCHOOLS AND CULTURAL RESOURCES

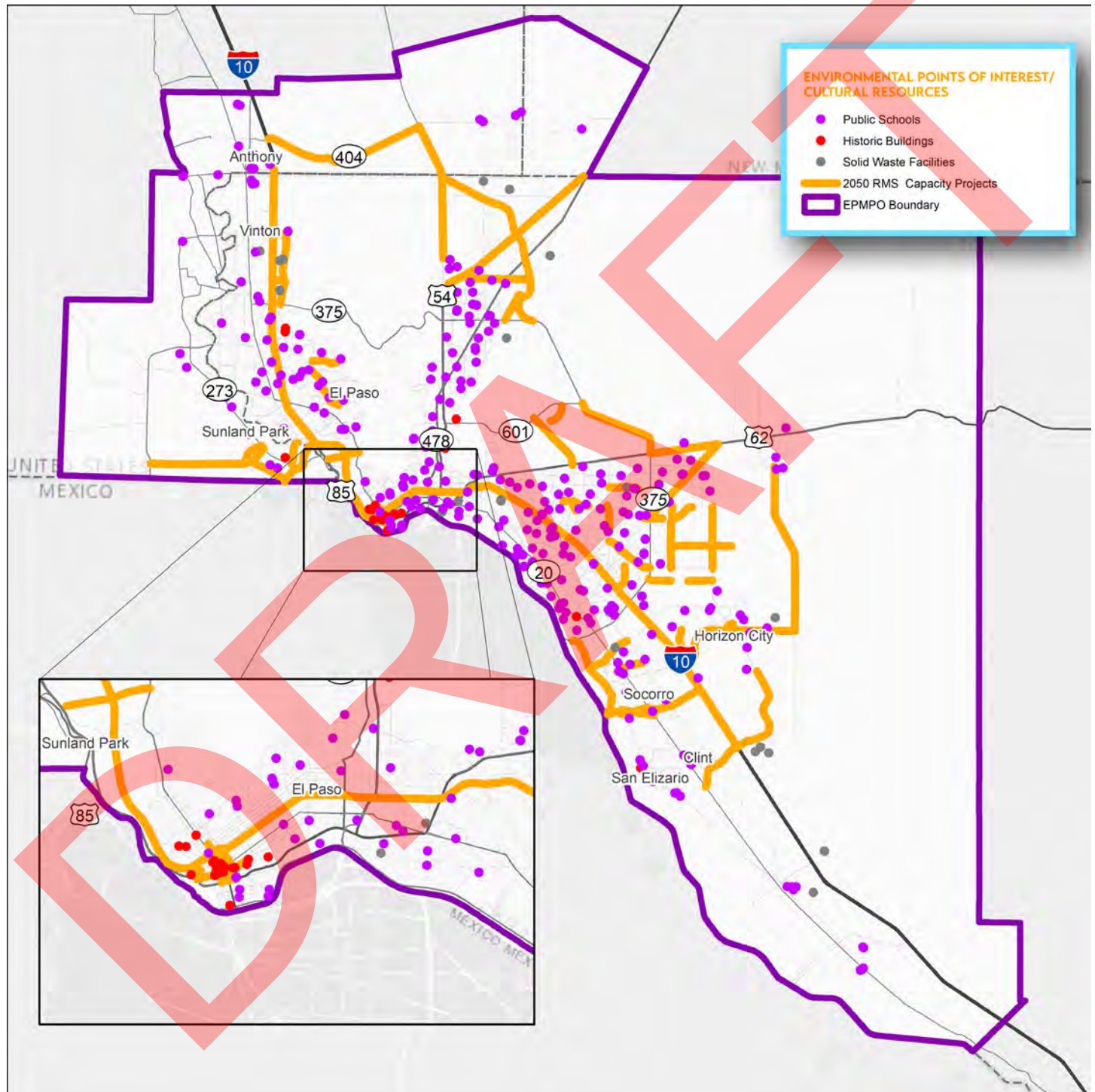
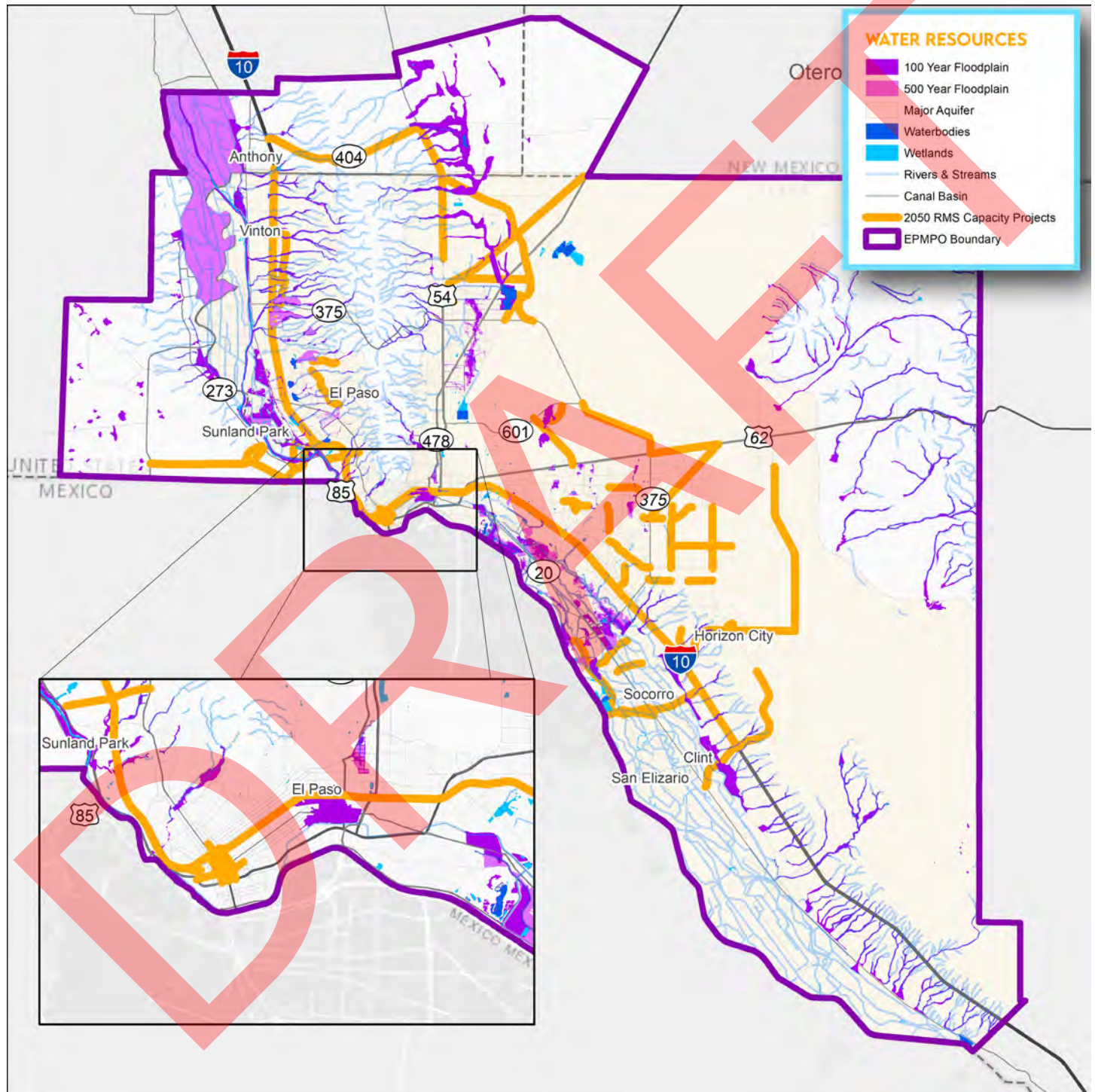


FIGURE 5-3: WATER RESOURCES



The same methodology used for Destino 2045 MTP was utilized to determine how projects identified in RMS 2050 might affect these resources. This methodology was originally developed by the Southeast Michigan Council of Governments and is an FHWA-endorsed GIS methodology. The analysis assembles projects into types, and then buffer zones are generated and mapped for each type of project. For the sake of the RMS 2050 system level analysis, only capacity projects were considered to have potential impacts on mapped data. Some projects, such as overlays, were excluded from this analysis; therefore, the total number of projects explored in this section does not reflect the total number of projects in the RMS 2050 MTP.

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 5-1** 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. **Figure 5-4** provides an example of the buffer analysis, showing proposed projects as well as areas of possible project impacts.

TABLE 5-1: ENVIRONMENTAL RESOURCE BUFFER SIZES

ENVIRONMENTAL RESOURCE	BUFFER SIZE
Floodways	.25 miles
Wetlands and Other Waters	.25 miles
Cemeteries	250 feet
Historic Sites	250 feet



Source: Wikimedia commons

FIGURE 5-4: EXAMPLE BUFFER ANALYSIS

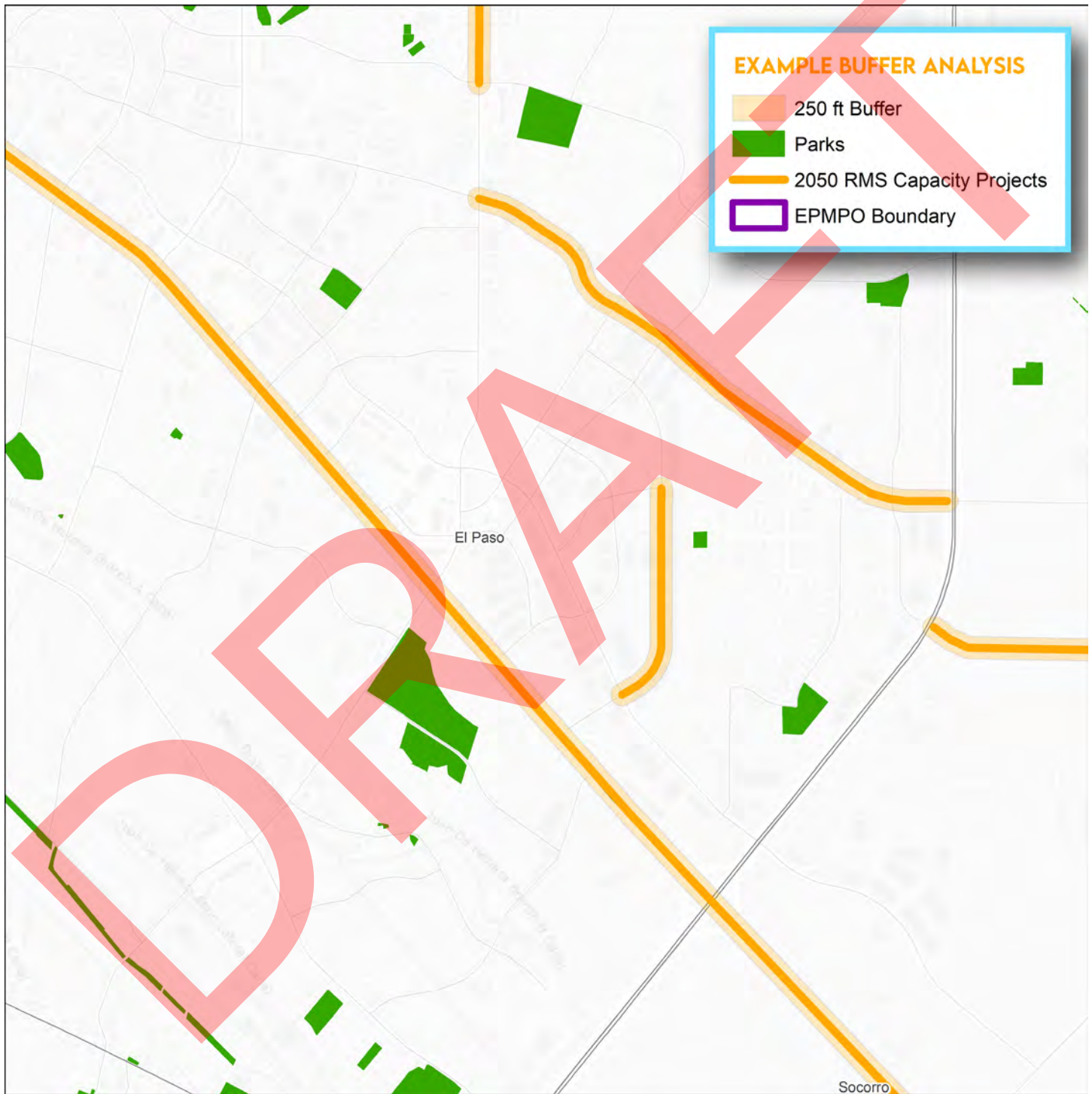


Table 5-2 and **Table 5-3** quantify the number of possible impacts to the inventoried resources for capacity projects. The risk to a major aquifer, wetlands, and flood hazard areas (100-year and 500-year floodplains) is the greatest with 49, 27, and 30 projects, respectively, potentially impacting those resources. The list of proposed potential improvements presents few concerns

regarding cemeteries or historic resources with only one project within close proximity of a historic site and two potentially impacting cemeteries, while fourteen projects are located within close proximity to a park. **Table 5-4** lists the historic sites and districts and parks that may be impacted by the proposed transportation improvements.

TABLE 5-2: NUMBER OF PROJECTS WITH POSSIBLE IMPACTS TO INVENTORIED WATER RESOURCES

WATER RESOURCE	NUMBER OF PROJECTS
Canal Basin	3
Flood Hazard Areas	30
Major Aquifer	49
Wetlands	27
Water Bodies	5
Rivers/Streams	28*

*Many areas classified as rivers and streams are also classified as wetlands and may have produced duplicate results.

TABLE 5-3: NUMBER OF PROJECTS WITH POSSIBLE IMPACTS TO PARKS AND CULTURAL RESOURCES

PARK/CULTURAL RESOURCE	NUMBER OF PROJECTS
Public Schools	8
Parks	9
Office of Stormwater Management (OSM) Parks	5**
Solid Waste Facility	2
Historic Sites	1
Cemeteries	2
Historic Districts	4

**Some parks are also classified as OSM parks and may have produced duplicate results

TABLE 5-4: RESOURCE SPECIFIC IMPACTS OF SPECIFIC PROJECTS

PROPOSED PROJECT	POTENTIALLY IMPACTED RESOURCES
I-10 Widening at Downtown	Old Fort Bliss Historic Buildings/Structures
	Old San Francisco District
	Sunset Heights District
	Multiple Historic Buildings
	Grace Chope Park
Nuevo Hueco Tanks Extension	Mission Trail Historic District
I-10 Seg3A (Copia to Paisano)	Lincoln Park
	Saipan-Ledo Park
Arterial 1 East (1682 Blvd.)	Ernesto Serna Elementary/Middle School
I-10 Widening (FM 1905 to SH 20)	Westside Community Park
I-10 Seg1G (Thorn to Executive)	Buena Vista Park
	Pacific Park
	Frank "Francis" T. Hourigan Park
Tierra Este (Arterial 1)	Mesquite Trails Park #6
Border Hwy East (BHE), PH2	Cougar Park
Rio Vista Rd. Widening	Bulldog Championship Park
Borderland Expressway	Northern Lights (South Park)
	Northern Lights (North Park)



The systems-level analysis of potential environmental impacts is intended to function as a resource for agencies and elected officials responsible for project implementation. 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 will not occur).

POTENTIAL MITIGATION ACTIVITIES

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, a toolbox of mitigation measures and general areas where these activities can be implemented was proposed for Destino 2045 MTP, the toolbox is still applicable for the RMS 2050 MTP.

These measures, listed in **Table 5-5**, are intended to be regional in scope and may not necessarily address potential project-level impacts. As proposed projects progress through the project development process, mitigation should be an integral part of alternatives development and the analysis process from the start in order to maximize effectiveness.

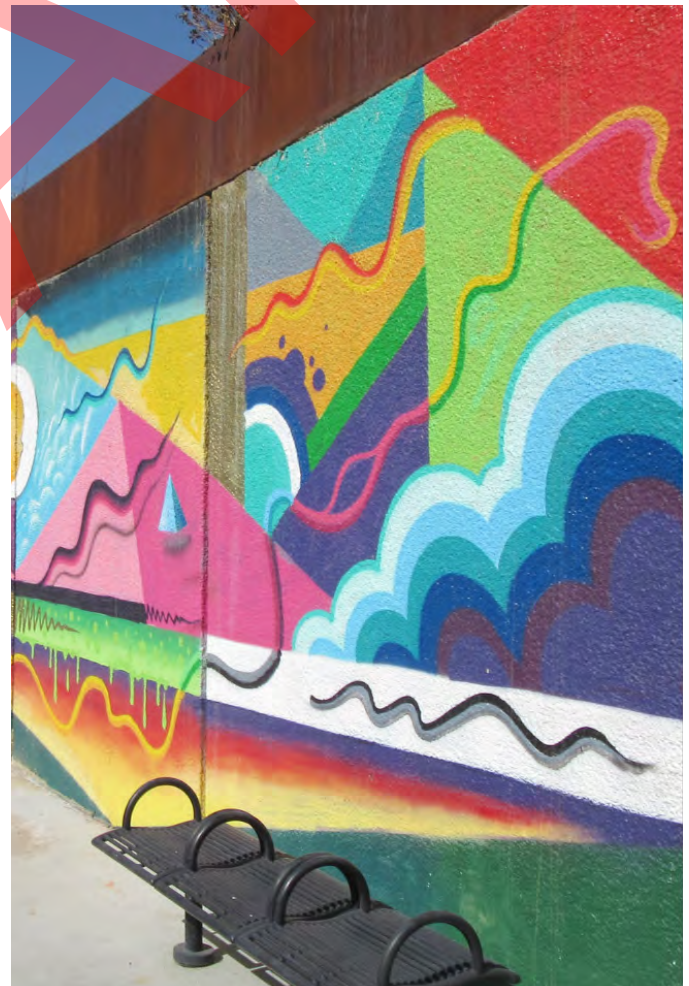


TABLE 5-5: POTENTIAL MITIGATION ACTIVITIES

RESOURCE	MITIGATION MEASURES
Wetlands Or Water Resources	Avoidance, minimization, compensation
	- Preservation
	- Creation
	- Restoration
	- In-lieu fees
	- Riparian buffers
	- Design exceptions and variances
Forested And Other Natural Areas	Environmental compliance monitoring
	Avoidance, minimization
	Replacement property for open space easements to be of equal fair market value and of equivalent usefulness
	Design exceptions and variances
Agricultural Areas	Environmental compliance monitoring
	Avoidance, minimization
	Design exceptions and variances
Endangered And Threatened Species	Environmental compliance monitoring
	Avoidance, minimization
	Time-of-year restrictions
	Construction sequencing
	Design exceptions and variances
	Species research/fact sheets
	Memoranda of Agreement for species management
Ambient Air Quality	Environmental compliance monitoring
	Transportation control measures
Cultural Resources	Transportation emission reduction measures
	Avoidance, minimization
	Landscaping for historic properties
	Preservation in place or excavation for archeological sites
	Design exceptions and variances
Parks And Recreation Areas	Environmental compliance monitoring
	Avoidance, minimization, mitigation
	Design exceptions and variances

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 study 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.



Source: tceq.texas.gov

The existing standards for each of the six criteria pollutants are listed in **Table 5-6**. 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 ($\mu\text{g}/\text{m}^3$).

In November 2021, EPA completed its response to the D.C. Circuit Court’s remand of certain air quality designations for the 2015 Ozone NAAQS by expanding its initial designations of 2018 for the Doña Ana County, New Mexico area. The Doña Ana County, New Mexico nonattainment area now includes all of El Paso County, Texas and has been renamed El Paso-Las Cruces, Texas-New Mexico marginal nonattainment area. Therefore, the RMS 2050 MTP is required to maintain compliance with the 2015 Ozone rule.

Regions are designated by the EPA as either in attainment or nonattainment 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,



TABLE 5-6: EXISTING STANDARDS FOR CRITERIA POLLUTANTS

POLLUTANT		PRIMARY/ SECONDARY	AVERAGING TIME	LEVEL	FORM
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO ₂)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb ⁽²⁾	Annual Mean
Ozone (O ₃)		primary and secondary	8 hours	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	PM _{2.5}	primary	1 year	12.0 µg/m ³	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)		primary	1 hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.

(2) The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O₃ standards.

(4) The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

designed to return the area to, and maintain, attainment status. Once a nonattainment 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.

AIR QUALITY IN THE EPMPO AREA

There are twelve air quality monitoring sites in the El Paso region that form part of Texas’ monitoring network. The Ojo De Agua site monitors CO, O₃, PM₁₀ (FRM) and wind. The Skyline Park location monitors O₃, temperature, and wind. The Van Buren Site monitors PM₁₀ using FRM, PM_{2.5} using a continuous tapered element oscillating microbalance (TEOM), relative humidity, temperature, and wind. The El Paso UTEP site monitors CO, Dew Point, NO_x, Ozone, PM₁₀ (TEOM), PM_{2.5} (FRM), PM_{2.5} (TEOM), UV radiation, solar radiation, precipitation, relative humidity, temperature, and wind.

The El Paso Chamizal site operates an automated gas chromatograph. Gas chromatography (GC) is a common type of chromatography used in analytical chemistry for separating and analyzing compounds that can be vaporized without decomposition. Typical uses of GC include testing the purity of a particular substance or separating the different components of a mixture (the relative amounts of such components can also be determined). This site monitors CO (high sensitivity), dew point, NO_x, NO_y (high sensitivity), Ozone, PM Coarse, PM_{2.5} (FRM), PM_{2.5} (speciation) SO₂ (high sensitivity), relative humidity, solar radiation, temperature, and wind. The Womble site operates a single canister and monitors temperature and wind.

The El Paso Delta site similarly monitors NO_x temperature and wind. The Ascarate Park SE site monitors barometric pressure, Dew Point, NO_x, Ozone, PM_{2.5} (TEOM), relative humidity, solar radiation, temperature, visibility, and wind. The Ivanhoe site monitors Ozone, PM₁₀ (FRM), relative humidity, temperature, and wind. The Mimosa Site monitors PM₁₀ (FRM). The El Paso Lower Valley site monitors H₂S, temperature, and wind. The Socorro Hueco site monitors Canister, O₃, PM₁₀ (FRM), PM₁₀ (TEOM), PM_{2.5} (TEOM), temperature, and wind. The locations of all El Paso air monitoring sites overseen by the Texas Commission on Environmental Quality (TCEQ) are shown in **Figure 5-5**.





TABLE 5-7: MOTOR VEHICLE EMISSIONS BUDGETS FOR OZONE AND PM10 NON-ATTAINMENT AREAS

	NOx	VOCs	PM10
Classification	Marginal Non Attainment	Marginal Non Attainment	Moderate Non Attainment
MVEB tons/day	39.76 ¹	36.23 ¹	12.05 ²

1) Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso Ozone)

2) Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso PM-10)

TABLE 5-8: EL PASO CONFORMITY ANALYSIS SUMMARY (EMISSIONS EXPRESSED IN TONS PER DAY)

POLLUTANT	BUDGET	2022	2032	2040	2050
VOC ¹	36.23 ⁴	7.01	3.99	3.07	2.90
NOx ¹	39.76 ⁴	13.02	6.95	5.93	6.10
PM10 ²	12.05 ³	7.03/7.61	7.85/8.47	8.36/9.02	9.09/9.81

1) Ozone (VOC and NOx) include summer figure. The VOC and NOx budget is based on the 1996 one-hour ozone SUPER SIP. Using 2017 weather station data.

2) PM10 emissions include summer/ winter figures. The PM10 budget is based on the 1994 PM10 Mobile Emissions Inventory. Using 2017 weather station data.

3) Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso PM-10).

4) Transportation Conformity: Motor Vehicle Emissions Budgets (MVEB) (Appendix A: El Paso Ozone).

TABLE 5-9: SUNLAND PARK OZONE NONATTAINMENT AREA ANALYSIS SUMMARY ¹ (EMISSIONS EXPRESSED IN TONS PER DAY)

YEAR	POLLUTANT (TONS/DAY)	
	VOC	NOx
2017 Baseline year	0.05	0.11
2022	0.05	0.08
2032	0.02	0.04
2040	0.02	0.03
2050	0.02	0.03

1) This conformity determination demonstrates that the total emissions calculated from the modeled roadway network for future years will be at levels below the baseline year (2017) as required for the interim emissions test no-greater-than baseline year. Table 5-9 provides the conformity results for the VOC and NOx no greater-than-baseline year emissions tests.

ENVIRONMENTAL JUSTICE ANALYSIS

Environmental Justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, educational level, or income with respect to the development, implementation, and enforcement of environmental laws. Environmental Justice seeks to ensure that minority and low-income communities have access to public information for human health, environmental planning, regulations, and enforcement. It ensures that no population, especially the elderly and children, are forced to shoulder a disproportionate burden of the negative human health and environmental impacts of pollution or other environmental hazards. Title VI of the Civil Rights Act (42 US Code 2000 and Executive Order 12898) requires an Environmental Justice review, which entails a thorough evaluation of project effects to persons belonging to low-income populations and minority groups.



Using the guidance contained in the metropolitan planning regulations, Environmental Justice considerations were incorporated into the development of the RMS 2050 MTP through the following steps:

ENVIRONMENTAL JUSTICE AND THE MTP

1. A GIS-based analysis of the proximity of proposed transportation improvements to Environmental Justice communities was performed;
2. The EPMPO ensured that public transportation providers, upon which the Environmental Justice community is most dependent, were strong partners in the planning process; and
3. The EPMPO focused on developing a multimodal transportation system that served diverse travel markets and supported the trip purposes of various transportation consumers, including the identified Environmental Justice population.

Identifying potential impacts on Environmental Justice communities involves a three-step process like the one used for the environmental mitigation analysis:

- Identify minority and low-income populations as described in Title VI;
- Identify and assess the potential impacts of proposed transportation improvements on these communities; and
- Address possible mitigation activities at a system-wide level

TABLE 5-10: SOCIO-ECONOMIC INDICATORS OF THE EPMPO METROPOLITAN PLANNING AREA

	2018	PERCENT OF TOTAL POPULATION
Total Population	882,680	
Total Minority Population ^a	776,182	87.93%
Black or African American	25,756	2.92%
American Indian or Alaska Native	2,266	0.26%
Asian	9,313	1.06%
Native Hawaiian or Other Pacific Islander	1,022	0.12%
Hispanic or Latino	730,262	82.73%
Some Other Race Alone	426	0.05%
Two or More Races	7,137	0.81%
White (Non-Hispanic)	106,498	12.06%
Total Population for Whom Poverty Status is determined	867,135	
Low Income Population ^b	191,863	22.13%

a) Minority includes population who identify their race as any race other than white, or who identify their ethnicity as Hispanic or Latino. Table B03002

b) Low income population includes individuals whose income is below the poverty percent. Table B17021

Source: 2018 American Community Survey 5-Year Estimates. ACS data are based on a sample and are subject to sampling variability



Executive Order 12989 defines Environmental Justice populations as low-income and minority groups. This rule states that federally funded agencies must identify and address disproportionately high and adverse impacts of their programs, policies, and activities on Environmental Justice populations. To identify these populations, an Environmental Justice Index was determined for low-income and minority population for 2018 (latest available at the time of the analysis).

Environmental Justice Index is a method that has been used by several MPOs including NCTCOG and H-GAC to satisfy FTA requirements. The method identifies Environmental Justice populations using demographic data at the census block group level. A census block group is considered to have a high concentration when the block group percentage for the socio-economic indicator exceeds the regional percentage. The Environmental Justice Index map is meant to identify where further analysis is needed and is not meant to act as the analysis itself. Data for the index is based on American Community Survey 5-year estimates.

Variables used to calculate the Environmental Justice Index are:

TOTAL MINORITY POPULATIONS

The Total Minority variable describes the percentage of Total Minority persons in the block group. Racial or ethnic minority groups that are included in the Total Minority variable for the Environmental Justice Index (EJI) include:

- American Indian or Alaska Native Race
- Asian Race
- Black or African American Race
- Hispanic or Latino Ethnicity
- Native Hawaiian or Other Pacific Islander Race

- Some other race (non-White)
- Two or More Races (could include white)

Total Minority is the sum of the number of individuals who are Hispanic or Latino and the number of non-Hispanic non-Latino individuals who identify as one of the above minority race categories. This prevents double-counting of Hispanics or Latinos who also identified themselves as a race or races other than white. Each block group is displayed as either above or below/equal to the regional percentage for Total Minority.

The EPMPO region is a “majority minority region”. Hispanic/Latino residents are the most numerous racial/ethnic group in the EPMPO area with 82.7%. The regional percentage for Total Minority is 87.9%

LOW-INCOME POPULATIONS

The regional percentage of persons below the poverty level for the EPMPO area is 22.1%. Low-income populations are the individuals identified below the poverty level as determined by the Census Bureau. The Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than the family threshold, then that family and every individual in it is considered in poverty.

The Environmental Justice Index was designed to represent block groups above the regional percentage for one or both EJ variables. The Environmental Justice map (Figure 5-6) presents the regional percentage for both EJ variables in relation to RMS 2050 capacity expansion transportation projects.



As stated earlier, project-scale studies should be conducted in the planning and environmental phases of each project to determine actual impacts to these communities. 34 MTP projects are potentially impacting the identified Environmental Justice areas. Approximately 61% percent of capacity expansion projects may impact identified Environmental Justice areas.

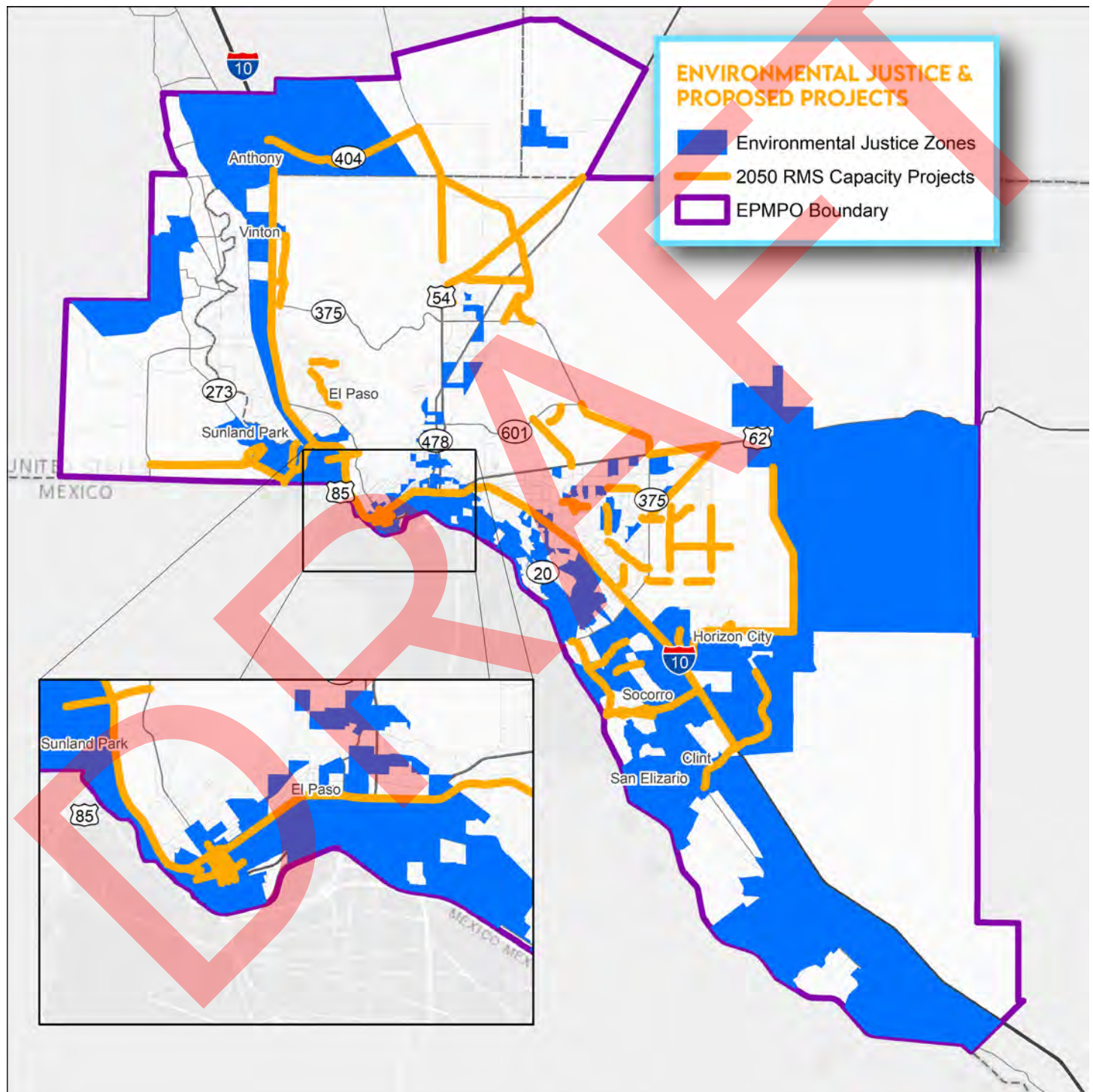
Like the environmental mitigation analysis, a more detailed, project-level analysis will need to be performed to better understand the likely impacts of transportation improvements on Environmental Justice populations. The proximity of projects to Environmental Justice populations may have both positive and negative impacts. For example, it is assumed that the mobility, access, and safety benefits of most projects accrue most strongly to those areas in close proximity to the project. Therefore, if the project objectives are consistent with the travel market needs of adjacent communities, the project is viewed as having a positive impact.

On the other hand, the physical impacts of project construction and footprint also have the greatest negative impacts on adjacent communities. Large infrastructure projects whose objectives are not consistent with community needs represent potential negative impacts. Examples include the construction of a new railway line that may create safety and noise pollution concerns, the construction of a new roadway that divides an existing community or creates barriers to other resources and/or activities, or improvements that may increase freight traffic or the movement of hazardous materials through low-income areas.

The key consideration in determining unintended consequences or disparate impacts to Environmental Justice populations is how the project objectives match the community's transportation needs.

The EPMPPO is committed to working with project sponsors to mitigate negative impacts on Environmental Justice communities using measures such as impact avoidance or minimization and context sensitive solutions (appropriate functional and/or aesthetic design features).

FIGURE 5-6: ENVIRONMENTAL JUSTICE AND PROPOSED PROJECTS



SYSTEM LEVEL PERFORMANCE EVALUATION

As described in Chapters 2 and 3, the EPMPPO has adopted a series of performance measures that allow the MPO to quantify the potential impacts that the RMS 2050 plan will have towards achieving the region's mobility and quality of life goals. The final evaluation performed as part of the systems level evaluation of the proposed projects compared the performance measures calculated for the 2017 Base Year and 2050 "No Build" Scenarios to the performance of the 2050 "Build" Scenario. In general, the Build Scenario improves on almost every performance measure when compared to the No-Build scenario, although there is a moderate increase in the total and per-capita VMT (and subsequently a modest increase in the estimated average trip cost).

The percent of non-single occupancy vehicle (SOV) trips remains the same in the Build and No Build scenarios, as there are no major differences in

implementation of Travel Demand Management Strategies between the two scenarios. Additional or more specific performance measures can be obtained directly from the Travel Demand Model's output Summary Report.

The results of the scenario analysis comparisons for performance measures are shown in **Table 5-11**.

When comparing maximum daily CO emissions base year to the Build and No-Build scenarios, a large reduction is observed due primarily to advances in motor vehicle technology. These emissions were calculated by utilizing the enhanced Transportation Air Quality Sketch Planning Tool for the El Paso Region (Sketch Tool), prepared under a grant from the Texas Commission on Environmental Quality (TCEQ) by Texas A&M Transportation Institute.

The Sketch Tool-TDM Module is based on MOVES emission rates for different vehicle types and activity types (See Appendix K).



TABLE 5-11: SCENARIO PERFORMANCE MEASURE COMPARISON

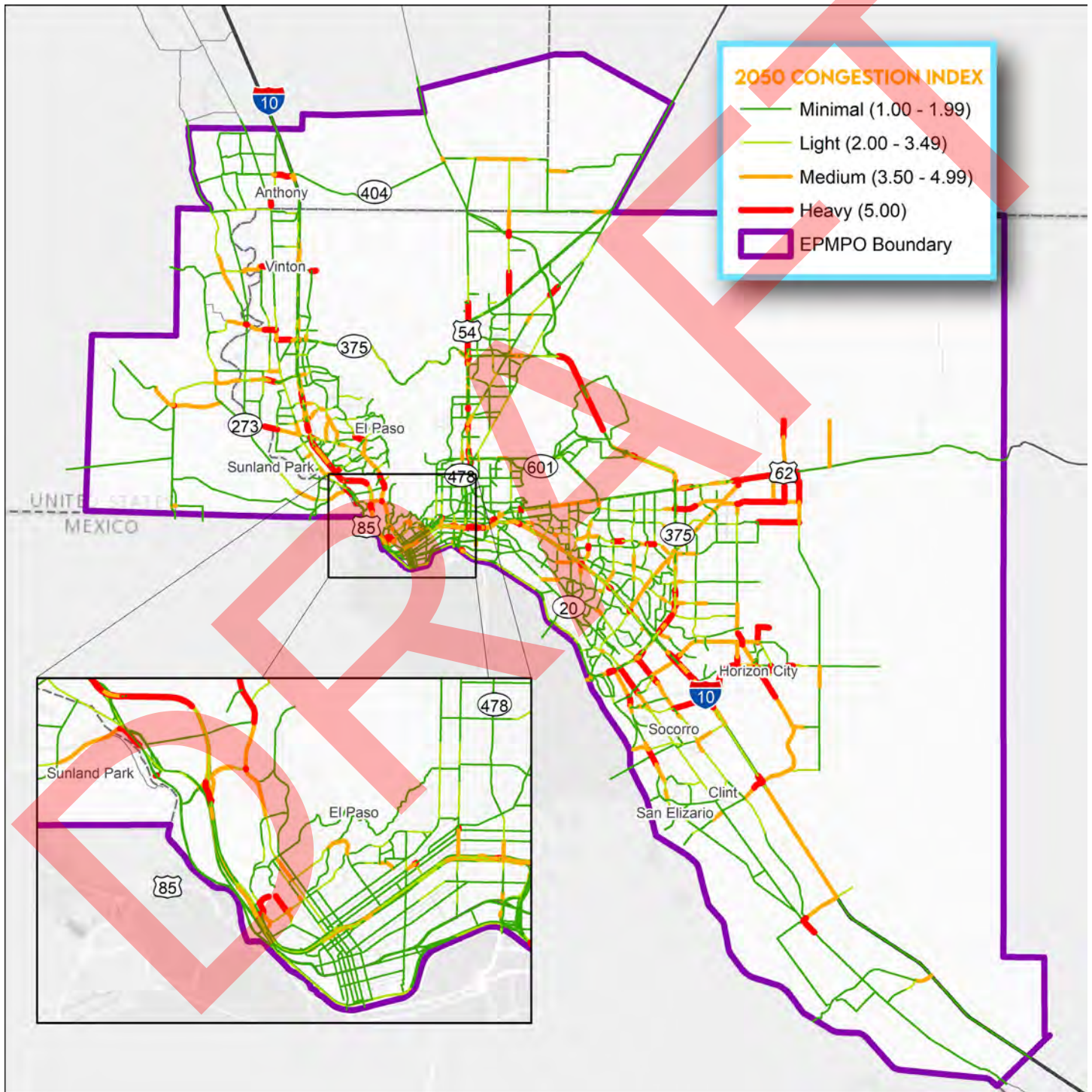
	2017 BASE	2050 NO-BUILD	2050 BUILD	NO-BUILD VS. BASE	BUILD VS. BASE	BUILD VS. NO-BUILD
Travel Time Index	1.13	1.18	1.14	+4%	+1%	-3.51%
PM Peak Hour Delay per Capita (mins)	0.38	0.62	0.48	+39%	+21%	-29.17%
Average peak-period commuter minutes in EJ zones	33.56	36.51	36.11	+8%	+7%	-1.11%
% of population within 1/2 mile of high-quality rapid transit stops	3.66%	18.81%	18.70%	+81%	+80%	-0.59%
% of jobs within 1/2 mile of high- quality rapid transit stops	11.23%	25.56%	25.47%	+56%	+56%	-0.35%
% of non-SOV trips	56.60%	56.50%	56.50%	0%	0%	0.00%
Average trip costs	\$2.33	\$2.34	\$2.42	0%	+4%	+3.31%
Max daily CO emissions [Ton/day]	82.33	27.77	32.77	-196%	-151%	+15.26%
Max daily PM10 emissions [Ton/ day]	5.02	6.86	6.86	+27%	+27%	0.00%
Daily VMT Total (million miles)	17	22.8	23.6	+25%	+28%	+3.39%
Daily VMT per capita	19.4	20.66	21.43	+6%	+9%	+3.59%

Forecasted year 2050 shows anticipated roadway performance including the proposed improvements for RMS 2050. In general, the outputs indicate reduction from heavy to medium congestion along IH-10 and Loop 375 south of Spur 601. However, there is also a significant increase in the amount of moderate to heavy congestion through the network. In general, forecasted increases in congestion are shown along Loop 375 north of Spur 601 and along Montana Avenue East of Zaragoza Boulevard. A

major takeaway from the analysis is the significant increase in congestion particularly in the Mission Valley region near the City of Socorro and far east region at the County of El Paso and Horizon City. These congestion patterns are prevalent even with the proposed improvements for RMS 2050 which provides an eye opening to stakeholders to either prevent or avoid the increase demographics by preventing sprawling and/or promoting alternate modes of transportation.



FIGURE 5-7: CONGESTION INDEX 2050



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FINANCIAL ANALYSIS AND FISCAL CONSTRAINT



6. FINANCIAL ANALYSIS AND FISCAL CONSTRAINT

According to federal regulations, transportation improvement projects included in a metropolitan transportation plan (MTP) must fall within the financial capabilities of the community. The final project list included in the MTP must therefore be fiscally constrained – i.e., 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 the RMS 2050 MTP. It also outlines the process by which funding levels were forecast 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.

ESTIMATING FUNDING

This section summarizes the process used to forecast roadway and transit funding over the 28-year period in the RMS 2050 MTP.

ROADWAY FUNDING SOURCES

The following programs were considered when calculating the total amount of roadway funding available for the RMS 2050 MTP. The funding estimated to be available for projects in the EPMPO area through the lifespan of the 2022 Unified Transportation Program (2022-2031) was used to form the base-year funding assumptions that were extrapolated to complete the funding forecast for the duration of the MTP (2022-2050).

Funding assumptions are listed for each category in **Table 6-2**.

The following section describes the state and federal funding sources available for roadway projects, as well as several local programs that can be used to fund local roadway projects.

FEDERAL FUNDING SOURCES

NATIONAL HIGHWAY PERFORMANCE PROGRAM (NHPP)

Most activities that were previously funded under the SAFETEA-LU National Highway System (NHS) program are now eligible under the National Highway Performance Program (NHPP) established through MAP-21 and continued through the FAST Act, the purpose of which is to:

- Provide support for the condition and performance of the National Highway System;
- Provide support for the construction of new facilities on the NHS; and
- Ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS.

SURFACE TRANSPORTATION PROGRAM (STP)

The STP is a block grant funding program with subcategories for states and urban areas. STP funding may be used for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects, and public bus terminals and facilities.

These funds can be used for any road, including an NHS roadway, that is not functionally classified as a local road or rural minor collector. The state portion can be used on roads within (or outside) an urbanized area, while the urban portion can only be used on roads within an urbanized area. The funding ratio is 80/20 (federal/local).

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The purpose of the Highway Safety Improvement Program 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.

HSIP requires that the state develop, implement, and update a Strategic Highway Safety Plan (SHSP); produce a program of projects or strategies to reduce identified safety problems; and evaluate the SHSP on a regular basis. The SHSP is a statewide coordinated plan developed in cooperation with a broad range of multidisciplinary stakeholders. As a part of the plan, states are required to have a safety data system to perform problem identification and countermeasure analysis on all public roads; adopt strategic and performance-based goals; advance data collection, analysis, and integration capabilities; determine priorities for the correction of identified safety problems; and establish evaluation procedures.

The FAST Act continues MAP-21 authorization of a lump sum for this program, and it is the responsibility of the state to divide up these funds according to the state's priorities. For a project to be eligible under the HSIP program, the project must be consistent with the state's SHSP and correct or improve a hazardous road location or feature or address a highway safety problem. Workforce development, training, and education activities are also eligible uses of HSIP funds.

TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

The FAST Act continues the MAP-21 Transportation Alternatives Program (TAP) to provide funding for a variety of alternative transportation projects that were previously eligible activities under separately funded programs. Unless a state opts out, it must use a specified portion of its TAP funds for recreational trails projects. Eligible activities include:

- Transportation alternatives
- Recreational Trails Program (RTP)
- Safe Routes to Schools (SRTS) program
- Planning, designing, or constructing roadways within the right of way of former Interstate routes or other divided highways

States and MPOs (for urbanized areas with more than 200,000 people) conduct a competitive application process for use of the sub-allocated funds. Other than the recreational trails set-aside, states are given broad flexibility to use these funds.



Source: news.utep.edu

CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

Urban areas that do not meet ambient air quality standards are designated as non-attainment areas by the U.S. Environmental Protection Agency (EPA). CMAQ funds are apportioned to those urban areas for use on projects that contribute to the reduction of mobile source air pollution through reducing vehicle miles traveled, fuel consumption, or other identifiable factors. Both roadway and transit projects are eligible for CMAQ funds. Starting in FY 2013, all CMAQ projects were required to provide a 20% local match, except for carpool and vanpool projects, which will remain 100% federal. Because the EPMP Study Area is currently a non-attainment area, some projects in the RMS 2050 MTP are eligible for CMAQ funds.

BRIDGE REPLACEMENT AND REHABILITATION PROGRAM (FBR)

These funds can be used to replace or repair any bridge on a public road. The federal/state funding ratio is 80/20.



STATE FUNDING SOURCES

State transportation funding comes from several sources of revenue. Traditionally this funding is used to match federal sources and to fund the operations of state Departments of Transportation. The primary funding source for the Texas state program comes from motor fuels taxes allocations, motor vehicle registration fees, severance taxes allocations, and many other revenue sources and fees, including voter-approved constitutional amendments Proposition 1 and Proposition 7, which redirect funding from the general fund to be spent on transportation projects. The primary funding source for the New Mexico state program is the state road fund; which is supported by the state gasoline tax, a special fuels tax on diesel, a weight-distance tax on commercial trucking, vehicle registration fees, and other minor fees.

Categories 1 through 9 of the Texas UTP are federal and state programmatic funding categories, while categories 10, 11, and 12 are strategic and discretionary funding categories. The 2022 Unified Transportation Program provides the following definitions and criteria for each funding category:

CATEGORY 1: PREVENTIVE MAINTENANCE AND REHABILITATION

Preventive maintenance and rehabilitation on the existing state highway system, including minor roadway modifications to improve operations and safety; and the installation, rehabilitation, replacement, and maintenance of pavement, bridges, traffic control devices, traffic management systems, and ancillary traffic devices.

Projects are selected by districts using a performance-based prioritization process. The Texas Transportation Commission allocates funds through a formula allocation program.

CATEGORY 2: METROPOLITAN AND URBAN AREA CORRIDOR PROJECTS

Mobility and added capacity projects along a corridor that improve transportation facilities to decrease travel time and the level or duration of traffic congestion, and safety, maintenance, or rehabilitation projects that increase the safe and efficient movement of people and freight in metropolitan and urbanized areas.

Projects are selected by MPOs in consultation with TxDOT using a performance-based prioritization process. Project funding must be authorized by the Texas Transportation Commission.

CATEGORY 3: NON-TRADITIONALLY FUNDED TRANSPORTATION PROJECTS

Transportation-related projects that qualify for funding from sources not traditionally part of the state highway fund including state bond financing, Texas Mobility Fund, pass-through financing, regional revenue and concession funds, and local funding.

Projects are determined by state legislation, Texas Transportation Commission-approved Minute Order, or local government commitments.

CATEGORY 4: STATEWIDE CONNECTIVITY CORRIDOR PROJECTS

Mobility and added capacity projects on major state highway system corridors that provide statewide connectivity between urban areas and corridors, to create a highway connectivity network composed of the Texas Highway Trunk System, National Highway System, and connections from those two systems to major ports of entry on international borders and Texas water ports.

Corridors are selected by the Texas Transportation Commission based on engineering analyses of three corridor types; mobility, connectivity, and strategic. Funds are allocated by the Commission to TxDOT districts. Districts select projects along approved corridors in consultation with MPO's, the Transportation Planning and Programming Division (TPP), and TxDOT Administration using a performance based evaluation.

CATEGORY 5: CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT

Congestion mitigation and air quality improvement projects address attainment of a national ambient air quality standard in non-attainment areas of the state.

Projects are selected by MPOs in consultation with TxDOT. The Texas Transportation Commission allocates funds distributed by population and weighted by air quality severity to non-attainment areas. Non-attainment areas are designated by the EPA.

CATEGORY 6: STRUCTURES REPLACEMENT AND REHABILITATION

Replacement and rehabilitation of deficient existing bridges located on public highways, roads, and streets in the state; construction of grade separations at existing highway and railroad grade crossings; and rehabilitation of deficient railroad underpasses on the state highway system.



Projects are selected by the Bridge Division (BRG) based on a listing of eligible TxDOT bridges prioritized first by deficiency categorization (structurally deficient followed by functionally obsolete) and then by sufficiency ratings. Railroad grade separation projects are selected based on a cost-benefit index rating. Projects in the Bridge Maintenance and Improvement Program (BMIP) are selected statewide based on identified bridge maintenance/improvement needs to aid in ensuring the management and safety of the state's bridge assets. The Texas Transportation Commission allocates funds through the Statewide Allocation Program.

CATEGORY 7: METROPOLITAN MOBILITY AND REHABILITATION

Projects that address transportation needs within the boundaries of designated metropolitan planning areas of MPOs located in a transportation management area (TMA).



Projects are selected by MPOs operating in TMAs, in consultation with TxDOT. The Texas Transportation Commission allocates funds through a federal program, distributed to MPOs with an urbanized area population of 200,000 or greater TMAs.

CATEGORY 8: SAFETY

Safety-related projects both on and off the state highway system including the federal Highway Safety Improvement Program, Systemic Widening Program, and Road to Zero program.

Funding is allocated to TxDOT's Traffic Safety Division, which selects projects statewide. Projects in the Highway Safety Improvement Program are evaluated, prioritized, and selected at the district level based on three years of crash data (targeted funds) or systemic approved projects as outlined in the guidance. Projects selected in the Systemic Widening Program are evaluated by roadway safety features for preventable severe crash types using total risk factor weights. The Texas Transportation Commission allocates funds through the Statewide Allocation Program.

CATEGORY 9: TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

Transportation-related activities as described in the Transportation Alternatives Set-Aside (TASA) Program, such as construction of sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic-calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act.

For urbanized areas with populations over 200,000, the MPO selects TASA projects through a competitive process in consultation with TxDOT. Funds allocated to small urban areas and non-urban areas (i.e., areas with populations below

200,000) are administered by TxDOT through a competitive process to be managed by the Public Transportation Division (PTN).



CATEGORY 10: SUPPLEMENTAL TRANSPORTATION PROJECTS

Transportation-related projects that do not qualify for funding in other categories, including landscape and aesthetic improvement, erosion control and environmental mitigation, construction and rehabilitation of roadways within or adjacent to

state parks, fish hatcheries, and similar facilities, replacement of railroad crossing surfaces, maintenance of railroad signals, construction or replacement of curb ramps for accessibility to pedestrians with disabilities, and miscellaneous federal programs.

CATEGORY 11: DISTRICT DISCRETIONARY

Projects eligible for federal or state funding selected at the district engineer's discretion. Projects are selected by districts. The Texas Transportation Commission allocates funds through a formula allocation program. A minimum \$2.5 million allocation goes to each district per legislative mandate. The Commission may supplement the funds allocated to individual districts on a case-by-case basis to cover project cost overruns, as well as energy sector initiatives.

RIDER 11(B) BORDER INFRASTRUCTURE

Rider 11(b) funding is distributed to the three TxDOT districts with international ports of entry (Pharr, Laredo, and El Paso Districts) for highway projects within 50 miles of a port of entry. Selection criteria include improvements that facilitate safe movement of motor vehicles at or across the land border between the United States and Mexico.

CATEGORY 12: STRATEGIC PRIORITY

Projects with specific importance to the state; including those that improve; congestion and connectivity, economic opportunity, energy sector access, border and port connectivity, efficiency of military deployment routes or retention military assets in response to the Federal Military Base Realignment and Closure Reports, and maintain the ability to respond to both manmade and natural emergencies. Common project types include roadway widening (both freeway and non-freeway), interchange improvements, and new-location roadways. Funding in Category 12 is awarded to specific projects at the discretion of the Texas Transportation Commission, which selects from



candidate projects nominated by TxDOT districts and MPOs.

LOCAL FUNDING SOURCES

Any costs not covered by federal and state programs are typically the responsibility of the local governmental jurisdictions. Local funding can come from a variety of sources including property taxes, sales taxes, user fees, special assessments, and impact fees. Local funding is also critical to maintain eligibility for several federal and state funding sources due to the usual requirements for a “local match” – which is typically around 20% of total project costs for federal funding sources.

PROPERTY TAXES

Property taxation has historically been the primary source of funding for local governments in the United States. Property taxes account for more than 80 percent of all local tax revenues. Property is not subject to federal government taxation but is taxed at a high rate within the state of Texas given the lack of state and local-option income taxes.

GENERAL SALES TAXES

The general sales and use tax is also an important funding source for local governments. The most commonly known form of the general sales tax is the retail sales tax. The retail sales tax is imposed on a wide range of commodities, and the rate is usually a uniform percentage of the selling price.

USER FEES

User fees are fees collected from those who use a service or facility. The fees are collected to pay for the cost of a facility, finance the cost of operations, and/or generate revenue for other uses. User fees are commonly charged for public parks, water and sewer services, transit systems, and solid waste facilities. The theory behind the user fee is that those who directly benefit from these public services pay for the costs.

SPECIAL ASSESSMENTS

Special assessment is a method of generating funds for public improvements, whereby the cost of a public improvement is collected from those who directly benefit from the improvement. In many instances, new streets are financed by special assessment. The owners of property located adjacent to the new streets are assessed a portion of the cost of the new streets based on the amount of frontage they own along the new streets.

IMPACT FEES

Development impact fees have been generally well received in other states and municipalities in the United States. New developments create increased traffic volumes on the streets around them, and development impact fees are a way of attempting to place a portion of the burden of funding improvements on developers who are creating or adding to the need for improvements. There are currently no municipalities in the El Paso region that assess a transportation-specific impact fee.

TRANSPORTATION REINVESTMENT ZONES

Texas Legislature has established innovative methods of developing and financing transportation projects. One such tool local entities use to advance transportation projects is a transportation reinvestment zone (TRZ).

The local governing body designates a zone in which it will promote a transportation project. Once the zone is created, a base year is established, and the incremental increase in property tax revenue collected inside the zone is used to finance a project in the zone.

BOND ISSUES

Property tax and sales tax funds can be used on a pay-as-you-go basis, or the revenues from them can be used to pay off general obligation or revenue bonds. These bonds are issued by local governments upon approval of the voting public.



MAINTENANCE AND OPERATIONS

The maintenance and operation of the transportation system was considered in the development of the RMS 2050 MTP and its staged improvement program. Typically, maintenance costs are applicable to the system as a whole. Where possible, maintenance projects are identified individually. However, it is not possible to develop project-specific maintenance schedules beyond the near term. The maintenance costs

identified in this plan are the responsibility of various governmental jurisdictions.

The balancing act of meeting identified transportation improvement needs and maintaining the present transportation system will continue as the system ages. Recommendations in this plan are conservative, because they factor in the impact of maintenance costs in the determination of available funding.

A variety of federal and state funds are used to implement the statewide overlay, maintenance, and operations program.

ROADWAY FUNDING FORECAST

To determine the fiscal feasibility of implementing a program of projects in the MTP, an analysis of programmed funding was conducted. During the development of the previous MTP, the EPMPO coordinated with TxDOT and NMDOT to determine projected funding and acceptable inflation rates for projects within their respective states. This resulted in compounded annual inflation rates of 4.0% in Texas, and 1.5% in New Mexico.

The first ten fiscal years of the RMS 2050 MTP (2022-2031) are fiscally constrained by funding category, with funds accounted for through the Texas 2022 UTP and New Mexico state funding program projections as coordinated with NMDOT.

The RMS 2050 fiscally constrained MTP is further broken up into subsequent bands of time, using the same state funding projections for 2032, followed by the outer years of the plan from 2033-2040 and 2041-2050, which were fiscally constrained by banding together multiple years that are associated with the EPMPO's travel demand model networks.

Some of the UTP funding categories are not used for specific projects but are a demonstration of programs, such as Category 1 (Preventative

Maintenance and Rehabilitation), Category 6 (Structure Replacement and Rehabilitation), and Category 8 (Safety Projects) of the UTP. Local contributions (which are beyond required local match to federal funds) are captured under Category 3 for projects in the Texas portion of the EPMPPO study area.

Unless otherwise noted, most of these funding categories continue throughout the RMS 2050 MTP, but no additional growth rate (other than the inflation rate) beyond 2032 was applied.

Though there are a number of funding categories administered throughout the MPO planning area, the EPMPPO directly administers three specific federal funding categories:

- Congestion Mitigation and Air Quality (CMAQ),
- Surface Transportation Program for metropolitan mobility projects (STP-MM)
- Transportation Alternative Program (TAP)

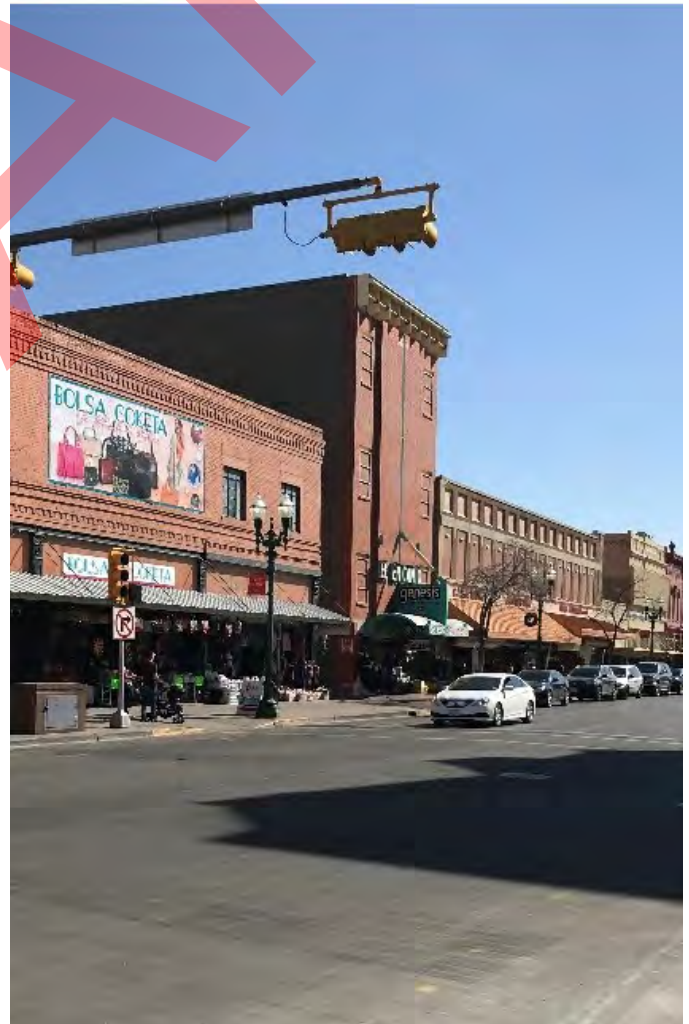
Texas CMAQ and STP-MM funds for years 2022-2031 of the RMS 2050 MTP are shown to grow at an average **1.0%** rate according to the 2022 UTP. This growth is in line with the historical average, and this growth rate is assumed to continue throughout the remaining years of the RMS 2050 MTP with total Texas CMAQ funding of **\$302M**, and total STP-MM revenue of **\$723M**.

New Mexico CMAQ and STP-Large Urban revenue expectations were coordinated with NMDOT with no growth rate applied to these programs in the RMS 2050 MTP, with a total NM CMAQ funding of **\$52M** and total STP-Large Urban funding of **\$29M**.

The total amount estimated to be available in the El Paso region through the Texas TAP program is **\$41M**. NMDOT provides TAP funds as they become available for planning and programming purposes.

TxDOT introduced additional funding assumptions in the RMS 2050 MTP for non-programmatic funding categories:

- \$138M bonding revenue for Borderland Expressway in 2027 and 2029
- \$180M of El Paso-District allocation of Rider 11(b) Border Infrastructure Funding between 2023-2031
- \$911M of Category 2 (Transportation Management Area Corridors) from 2032-2050
- \$900M of Clear Lanes Initiative Version 2 throughout the plan between 2028 and 2050



ROADWAY FUNDING OVERVIEW

The coordinated effort with both TxDOT and NMDOT to project funding, annual forecast amounts, appropriate growth rates to relevant funding categories, and appropriate inflation rates resulted in the following levels (Table 6-1) of roadway funding estimated to be available for each stage of the plan.

Table 6-2 displays the total funding estimated to be available by source over the 28-year period of the MTP. Federal funding administered by the EPMPPO in the RMS 2050 MTP is in line with historical trends and no reduction of these funds are expected in the future.

TABLE 6-1: TOTAL ROADWAY FUNDING BY STAGE

STAGE	AMOUNT
2022 (Immediate)	\$393,575,504
2023-2026 (Implementation)	\$1,096,194,614
2027-2032 (Short-Term)	\$2,167,531,986
2033-2040 (Medium-Term)	\$1,662,515,338
2041-2050 (Long-Term)	\$2,014,113,217
TOTAL (2022-2050)	\$7,333,930,659





TABLE 6-2: 2022-2050 TOTAL MTP FUNDING BY CATEGORY

FUNDING BY CATEGORIES	2022-2050 TOTAL
TEXAS HIGHWAY FUNDING CATEGORIES	
1 - Preventive Maintenance & Rehabilitation	\$1,310,254,973
2 - Metropolitan Area (TMA) Corridor Projects	\$1,200,727,843
3 - Local Contribution	\$307,961,472
3- Transportation Mobility Fund	\$18,000,000
4 - Statewide Urban Connectivity Corridor Projects	\$56,368,501
5 – CMAQ	\$302,269,026
6 - Structures Replacement & Rehabilitation	\$55,100,000
7 - STP – MM	\$715,624,225
7 - CRRSAA	\$7,670,000
8 - Safety Projects	\$19,432,726
9 - Transportation Alternatives-Set Aside	\$40,552,179
9 – Transportation Enhancements Program (TXDOT)	\$11,457,341
11 - District Discretionary	\$105,826,833
11 - BSIF	\$14,000,000
11 – Rider 11(b)	\$180,000,000
12 - Strategic Priority	\$960,820,000
Bonding CRRMA for Borderland Expressway	\$275,702,470
Clear Lanes Initiative v2	\$900,000,000
City of Socorro TRZ	\$35,000,000
City of Horizon TRZ	\$8,885,667
3 - Local PE Funds	\$1,939,647
3 - State PE Funds	\$280,879,233
3 - Local ROW Funds	\$6,871,952
3 - State ROW Funds	\$50,764,604
TOTAL TX HIGHWAY FUNDING	\$6,866,108,691
NEW MEXICO FUNDING CATEGORIES	
STPL (Surface Transportation Program - Large Urban)	\$29,375,782
STLE (Surface Transportation Program - Exempt)	\$6,742,848
STPF (Surface Transportation Program - Flex)	\$5,995,050
CMAQ (CMAQ -Mandatory)	\$51,632,122
NHPP - National Highway Performance Program	\$23,632,583
NHPP-F - National Highway Performance Program Freight	\$14,290,179
New Mexico State Funds	\$178,793,062
SBSI (Border) - Borderland Expressway	\$7,349,248
Anthony, NM	\$40,642,457
Sunland Park, NM	\$90,013,778
NM Border Authority	\$19,354,859
TOTAL NM ROADWAY FUNDING	\$467,821,968
TOTAL MTP ESTIMATED ROADWAY FUNDING	\$7,333,930,659

TRANSIT FUNDING SOURCES

Transit providers in the study area are funded through a combination of federal, state, and local sources. Aside from local funding, the Federal Transit Administration (FTA) administers the primary funding programs utilized by transit providers in the study area. Of these programs, the Section 5307 Urbanized Area Formula program is the largest source of funding. Other FTA funding programs are more limited in nature.

FEDERAL 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. There are set-asides within this program 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 FTA 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
- 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 5339 (BUS AND BUS FACILITIES)

This formula-based program (49 U.S.C. 5339) provides capital funding to states and designated recipients to replace, rehabilitate, and purchase buses, vans, and related equipment, and to construct bus-related facilities.

OTHER FTA FORMULA AND DISCRETIONARY GRANTS

There are several other FTA grant programs with funding available. Most of these grant programs are focused on fixed guideway systems or on temporary assistance.

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, and
- 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 receipt of 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.

FLEXIBLE FEDERAL FUNDING SOURCES

Funding from the National Highway Performance Program (NHPP), the Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Transportation Alternatives Program (TAP) can be “flexed” to transit projects, with certain eligibility restrictions depending on the funding source.

TRANSIT FUNDING FORECAST

From 2023-2025 approximately \$5M of CMAQ funds are programmed to be transferred from FHWA to FTA for Sun Metro to operate its Montana RTS projects. Sun Metro will continue to receive traditional FTA 5307 formula funds for programs such as capital maintenance, planning and ADA Paratransit for over \$570M, and for Transit Enhancement projects covered by FTA 5339 funds for nearly \$114M, which includes approximately \$60M for buses and bus facilities. The FTA 5307 and 5339 funds are expected to grow at a rate of 1% through 2050. This growth rate is expected to be different for 5307 funds to be used for Security Equipment and 5339 funds for Bus and Bus facilities expenses which are calculated with a 2.5% growth rate.

One Sun Metro project is programmed with the expectation of receiving FTA 5309 Very Small Starts funding. Historically, Sun Metro has received Very Small Starts funding when leveraged by local funding. Federal transit funding is programmed for the Streetcar Phase II in FY 2041 which assumes funding split between 50% Certificates of Obligation and 50% FTA 5309 Very Small Starts funding.



TRANSIT FUNDING OVERVIEW

Table 6-3 shows the total transit funding forecast for the for the various stages of the RMS 2050 MTP.

Table 6-4 breaks down forecast transit funding by source. Including local matching funds, the total amount of transit funding estimated to be available for the duration of the MTP is approximately **\$1B.**

TABLE 6-3: TOTAL TRANSIT FUNDING BY STAGE

STAGE	AMOUNT
2022 (Immediate)	\$20,761,645
2023-2026 (Implementation)	\$85,173,630
2027-2032 (Short-Term)	\$134,711,073
2033-2040 (Medium-Term)	\$193,875,445
2041-2050 (Long-Term)	\$568,989,802
TOTAL (2022-2050)	\$1,003,511,595

TABLE 6-4: 2022-2050 TRANSIT FUNDING BY SOURCE

FUNDING BY CATEGORIES	2022-2050 TOTAL
TRANSIT FUNDING CATEGORIES	
Large Urban Cities (Section 5307)	
1. Capital Maintenance	\$467,023,841
2. JARC	\$2,800,000
3. Security Equipment	\$7,495,123
4. Planning	\$35,153,247
5. ADA Para Transit	\$57,129,616
SUBTOTAL	\$569,601,827
Seniors and People with Disabilities (Section 5310)	\$17,034,572
Seniors and People with Disabilities (Section 5310) Administrative	\$1,892,731
SUBTOTAL	\$18,927,303
Bus and Bus facilities (Section 5339)	\$60,063,784
Curb Cuts/ADA Imp. (to include accessibility sidewalk enhancements) (Section 5339)	\$15,000,000
Support Vehicles/Bus Rehab (Section 5339)	\$18,528,170
Computer Hardware/ Software (Section 5339)	\$6,543,885
Transit Enhancements (to include shelters) (Section 5339)	\$14,000,000
Small Starts Funding (5309)	\$150,423,313
Certificates of Obligation	\$150,423,313
FACILITIES AND EQUIPMENT FUNDS - SUBTOTAL	\$414,982,465
TOTAL TRANSIT FUNDING	\$1,003,511,595

ESTIMATING COSTS

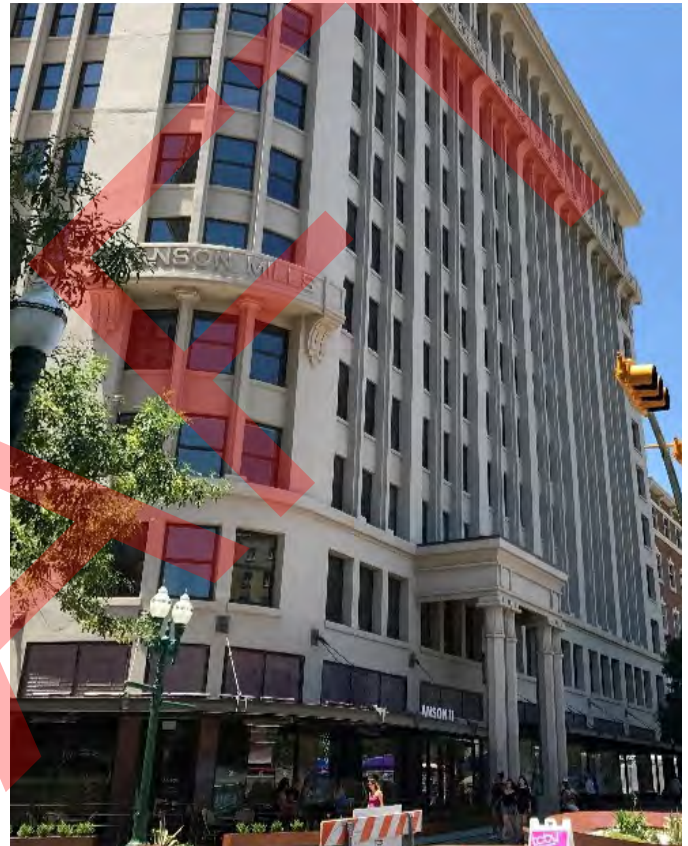
Federal regulations define “total project cost” for the purpose of estimating fiscal constraint in the MTP to include:

- Planning elements (e.g. environmental studies and functional studies);
- Engineering costs (e.g. preliminary engineering and design);
- Preconstruction activities (e.g. ROW acquisition);
- Construction activities; and
- Contingencies.

The following assumptions helped guide the development of cost estimates for the proposed projects in the MTP as well as the maintenance and operation of the existing transportation system.

1. Because federal regulations do not require that the cost of maintenance and operations activities be computed for individual projects, the funding needed for maintenance and operation of the transportation infrastructure was estimated on a system-wide level.
2. Whenever a detailed engineering estimate for a particular project was not available, generalized planning-level cost figures were used to assess the cost of each of the project’s elements. These generalized cost figures were based on estimates provided by TxDOT, NMDOT, and other available resources.
3. In the absence of detailed, local inflation information for construction related activities, an inflation rate of 4.0% for Texas portions of projects and 1.5% for New Mexico portions of projects was used for project cost estimation based on TxDOT and NMDOT guidance.

4. Project costs are estimated to include construction costs as well as right-of-way acquisition and engineering costs in consultation with project sponsors.



Both typical improvement costs and local knowledge of other project costs were used to develop cost estimates for the projects considered for the MTP. In keeping with federal regulations, cost estimates were computed in year-of-expenditure (YOE) dollars using the inflation factors outlined above in accordance with FHWA, TxDOT, and NMDOT guidance. **Table 6-5** displays the aggregate total estimated project costs for each period addressed by the MTP. Each period also includes programmatic cost estimates for general system maintenance and operation. The complete list of projects considered for inclusion in the MTP, along with estimated YOE costs, can be found in Chapter 8.

TABLE 6-5: 2022-2050 COST FORECAST (ALL PROJECTS)

STAGE	ROADWAY	TRANSIT	TOTAL
2022 (Immediate)	\$339,657,644	\$20,761,645	\$360,419,289
2023-2026 (Implementation)	\$959,018,132	\$85,173,630	\$1,044,191,762
2027-2032 (Short-Term)	\$2,026,147,620	\$134,711,073	\$2,160,858,693
2033-2040 (Medium-Term)	\$1,695,145,713	\$193,875,445	\$1,889,021,158
2041-2050 (Long-Term)	\$2,201,411,066	\$568,989,802	\$2,770,400,868
TOTAL (2022-2050)	\$7,221,380,175	\$1,003,511,595	\$8,224,891,770



CONSTRAINING THE PLAN

The anticipated total program funding for both highway and transit is expected to be roughly \$8.34 billion over the 28-year planning horizon of the MTP. Total program costs are estimated to be about \$8.22 billion in YOE dollars. Because the total program funding is expected to be greater than program costs – for each year of the plan through 2032, each stage of the plan from 2033-2050, and for the 28-year period overall – the RMS 2050 MTP is fiscally constrained. In accordance with TxDOT's UTP process, the first ten years of the plan (2022-2031) are also fiscally constrained by funding category.

Figure 6-1 shows the financial performance of the plan for each year between 2022 and 2032, and then average annual estimates between 2033-2040 and 2041-2050.

Table 6-6 shows the fiscal summary for the 2022-2050 MTP.

TABLE 6-6: RMS 2050 MTP FISCAL CONSTRAINT SUMMARY

	FUNDING	COST
Roadway	\$7,333,930,659	\$7,221,380,175
Transit	\$1,003,511,595	\$1,003,511,595
TOTAL	\$8,337,442,254	\$8,224,891,770

FIGURE 6-1: FINANCIAL PERFORMANCE OF THE RMS 2050 MTP; FUNDING VS COSTS



PUBLIC INVOLVEMENT SUMMARY



7. PUBLIC INVOLVEMENT SUMMARY

Public involvement is the heart and backbone of a well-developed Metropolitan Transportation Plan. The process for engaging public participation might vary by region, but the collaborative nature of public involvement remains essential and valuable to the planning process.

EL PASO MPO PUBLIC PARTICIPATION PLAN

The EPMPO maintains and enacts a Public Participation Plan (PPP), which serves as a program guide for the public participation process of the EPMPO by providing policies and principles that guide communication and coordination with residents, neighborhood associations, private and public agencies, transportation providers, and a wide array of interested parties and members of the public.

The primary principles of the EPMPO PPP are:

- Equal access is an essential part of the public involvement process.
- No major public policy decision is reached, or large project implemented, without significantly affecting someone.
- Professionals do not have a monopoly on good solutions.
- People are much more willing to live with a decision that affects different interests unequally if the decision-making process is open, objective, and considers all viewpoints.
- Interacting with an official representative of an organization or group is no substitute for interacting directly with that organization or group.

- Effective public notification and participation takes time and effort, and can be expensive, yet is essential to sound decision-making.

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.

PUBLIC INVOLVEMENT AND THE MTP

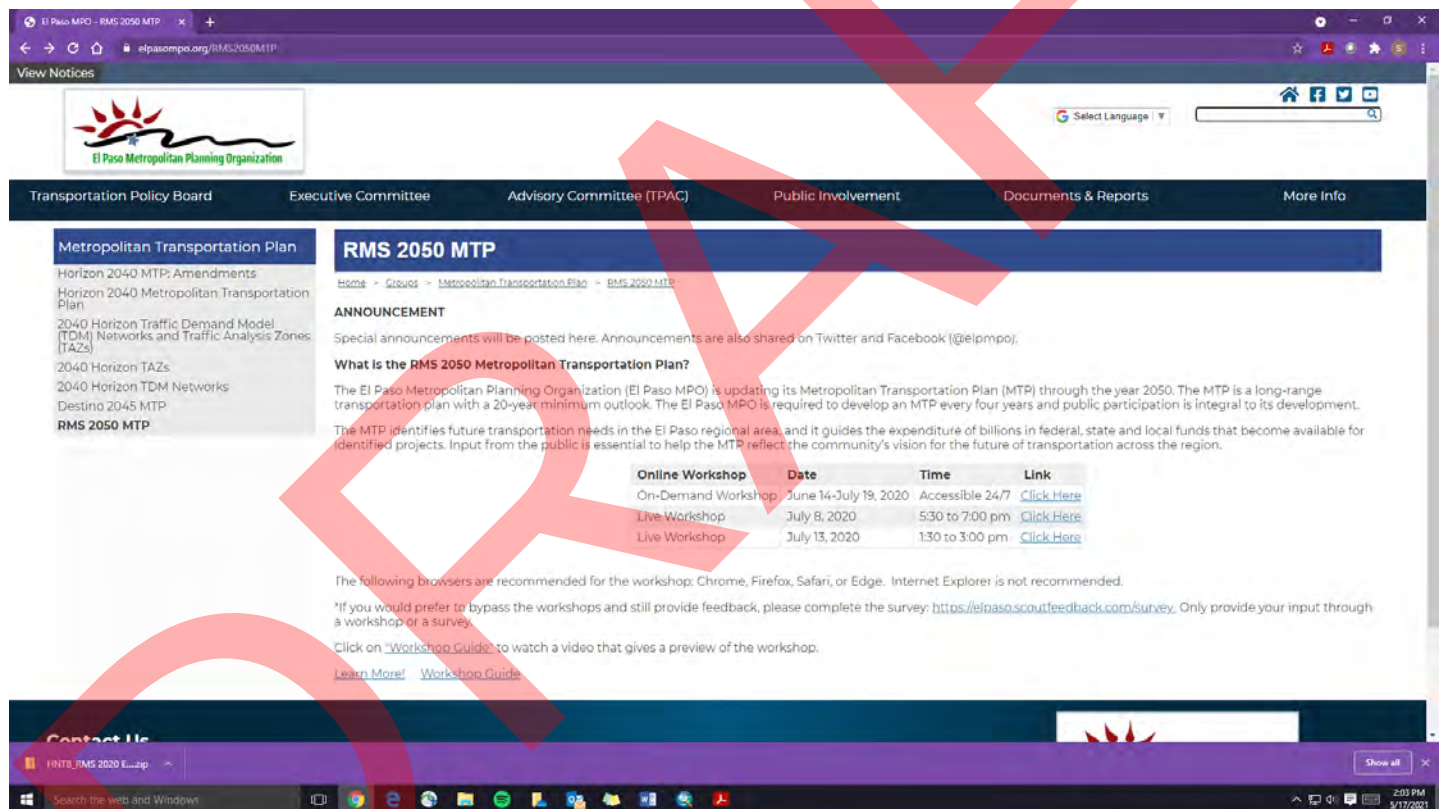
To support the development of the RMS 2050 Metropolitan Transportation Plan (MTP), EPMPO staff hosted an on-demand, online visioning workshop whereby the public was asked to provide input and feedback for the region’s new MTP.

The on-demand workshop was available 24/7 at the EPMPO website in both English and Spanish to allow for people who preferred to view the video at their own leisure. In addition to the on-demand workshop, two live virtual workshops were hosted by EPMPO staff to provide an additional opportunity for public involvement. The public comment period and the online workshops were available from June 14, 2020 through July 19, 2020. The two live virtual workshops were offered on Wednesday July 8, 2020 from 5:30pm to 7:00pm and Monday July 13, 2020 from 1:30pm to 3:00pm. (See **Table 7-1**).

TABLE 7-1: LIVE AND ON DEMAND WORKSHOPS

ONLINE WORKSHOP	DATE	TIME
On-Demand Workshop	June 14- July 19, 2020	Accessible 24/7
Live Workshop	July 8, 2020	5:30 to 7:00 pm
Live Workshop	July 13, 2020	1:30 to 3:00 pm

FIGURE 7-1: ANNOUNCEMENT SCREENSHOT ([HTTPS://ELPASOMPO.ORG/RMS2050MTP](https://elpasompo.org/RMS2050MTP))



VISIONING WORKSHOPS

During both the live virtual workshops conducted by MPO staff and the on-demand workshop, participants identified several deficiencies with the existing transportation system, including; congested roadways, connectivity and cooperation

throughout the region, mobility and accessibility barriers for older adults and individuals with disabilities, safety and security concerns, and a shortage of bicycle and pedestrian infrastructure. In addition to identifying transportation system deficiencies, participants completed activities to determine the most important focus areas



for prioritizing projects in the MTP. These focus areas included: increasing multimodal options, improving safety and quality of life, connecting modes of travel, and improving access.

Complemented by voice narration, the workshops were organized into five exercises:

1. Tell us about yourself (The questions for this exercise were voluntary and not required).
2. Tell us your thoughts about the current state of the transportation system
3. Tell us your transportation priorities.
4. Give us your perspective on where you think the region is growing.
5. Tell us what your transportation needs will be over the next several decades.

For people who preferred to complete the survey on paper and submit through postal mail, a downloadable and printable survey version of the workshop was provided on the MPO website. However, no surveys were submitted via mail.

In addition to the comments provided for each exercise and presented below in the next sections, participants had a chance to submit other comments or questions in the final slide of the on-demand workshop. These comments are presented in Appendix E. Furthermore, public participation during the live workshops were recorded and the comments and responses can be found in Appendix L.

EPMPO Executive Director Eduardo Calvo also participated in an interview on local National Public Radio affiliate 88.5 FM (KTEP) that aired on Saturday June 20, 2020. The interview included an invitation to the public to participate in the live virtual workshop and on-demand workshop. Mr. Calvo also provided an overview of the development of an MTP and why public input is critical if the MTP

is to reflect the communities' values and priorities.

During the five-week workshop period, 348 users visited the virtual workshop site and 43 users completed the workshop. Although participation was low, the information obtained gave MPO staff insight on public perception of the existing transportation system. The survey was not intended to be a scientific survey with a predetermined sample size, but rather strived for inclusivity and allowing substantial opportunity for community members to provide their input.

A summary of the public feedback was presented to the Transportation Policy Board (TPB) after the workshop period ended. In this regard, it was recommended by the TPB to improve the survey format for future use and have this type of survey done on a regular basis.

EXERCISE 1: STAKEHOLDERS PRESENT

During the first exercise, visioning participants were asked to self-identify the stakeholder groups to which they belong. This information was requested to gauge stakeholder representation during the visioning activities and identify stakeholder groups that were underrepresented, so additional targeted outreach could be done on subsequent public engagement activities. Many important stakeholder groups in the region were represented, such as community groups, and business owners as shown in **Table 7-2**.



TABLE 7-2: STAKEHOLDER GROUP PRESENTATION

STAKEHOLDER GROUP	NUMBER OF RESPONDENTS IDENTIFIED*
Private Auto/SUV/Pickup User	36
Pedestrian Facility (Sidewalks, Hike & Bike Trail, Tec) User	28
Airport User	23
Bicycle User	23
Public transit user of Sun Metro	8
Responsible for transportation of children	3
Member of Community Group (Such as Neighborhood Association, Civic Club, Etc.)	11
Member of environmental protection organization	2
Member of historic or cultural preservation organization	2
Member of A Population Traditionally Underserved by The Transportation System	3
Business Owner	6
Representative of an agency that is responsible for transportation safety	2
Intercity bus or rail user	3
Planning Organization Member	2
Public transit user of El Paso County Transit or SCRTD	1
Transit for the elderly and disabled user	1
Private Transportation Provider (taxis, bus, etc.)	1
Freight handler or company owner	1

*Participants were able to select more than one group

As part of the first exercise, participants also had the option to provide the zip code of where they live. Based on this information a density map was developed for visual representation of the area and frequency where the participants lived. As observed in **Figure 7-3**, the most represented zip code was 79902 (covering areas of central and west El Paso), followed by 79912, 79935, and 79936.

The first exercise also asked about participants' transportation modes. While the private vehicle mode was best represented, there was also good representation of pedestrian, airport and bicycle users. However, very few participants were public transit users, as shown in **Figure 7-2**.

Similarly, participants were asked to identify in a map, areas where they live and conduct their regular activities. **Figure 7-3** shows the resulting map. Most dense areas where participants lived appear to be the Central area (downtown) and Central-East area near the airport (See **Figure 7-7** for subareas). Similarly, most participants identified the Central area as their place to work and the Central and Central-East areas appears to be also the place where most of the participants go for recreational purposes (**Figure 7-4**). The densest areas for school location appear to be the Westside near downtown area and the Lower Valley area.

FIGURE 7-2: TRANSPORTATION MODES

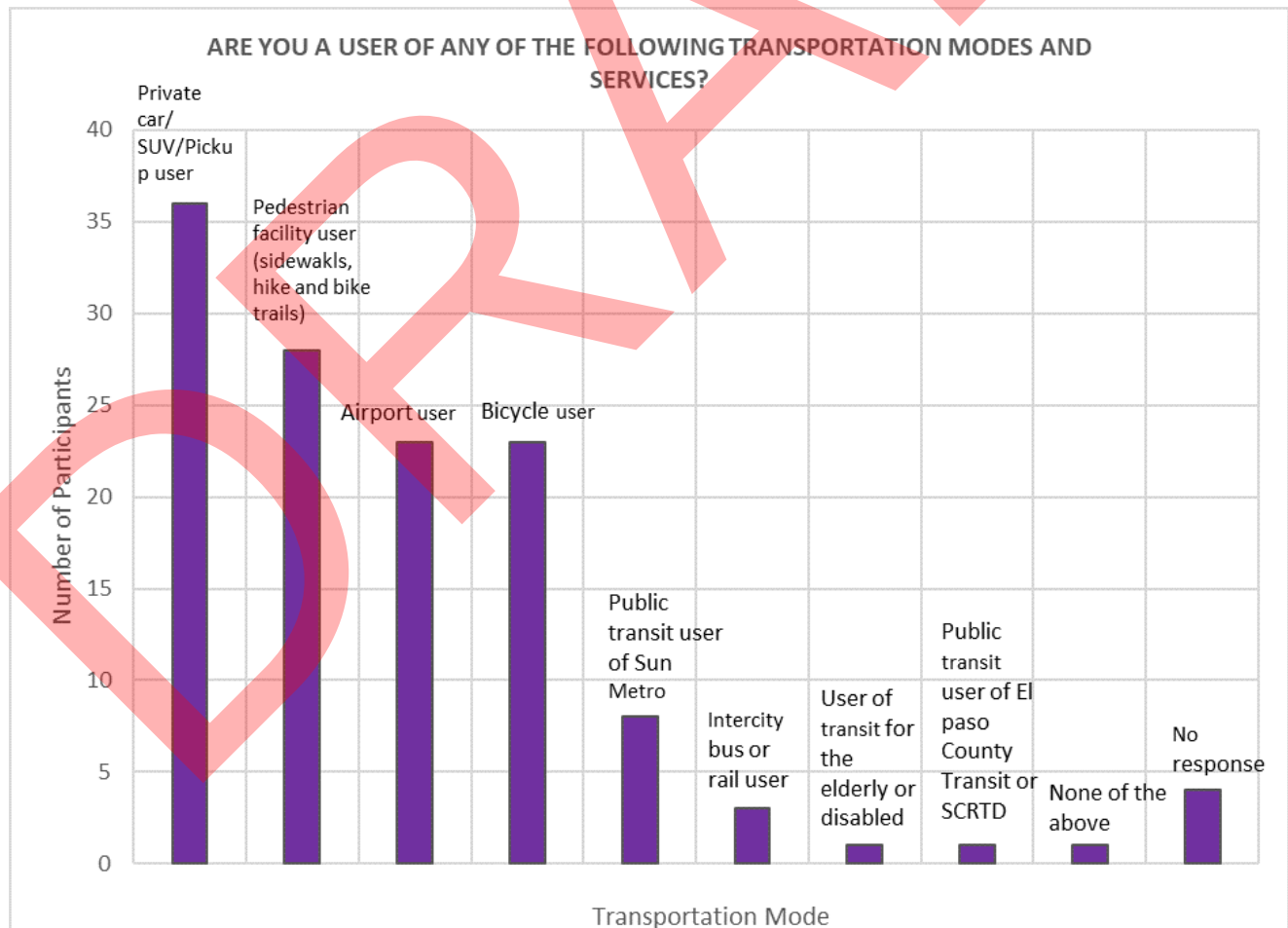


FIGURE 7-3: ZIP CODES MAP

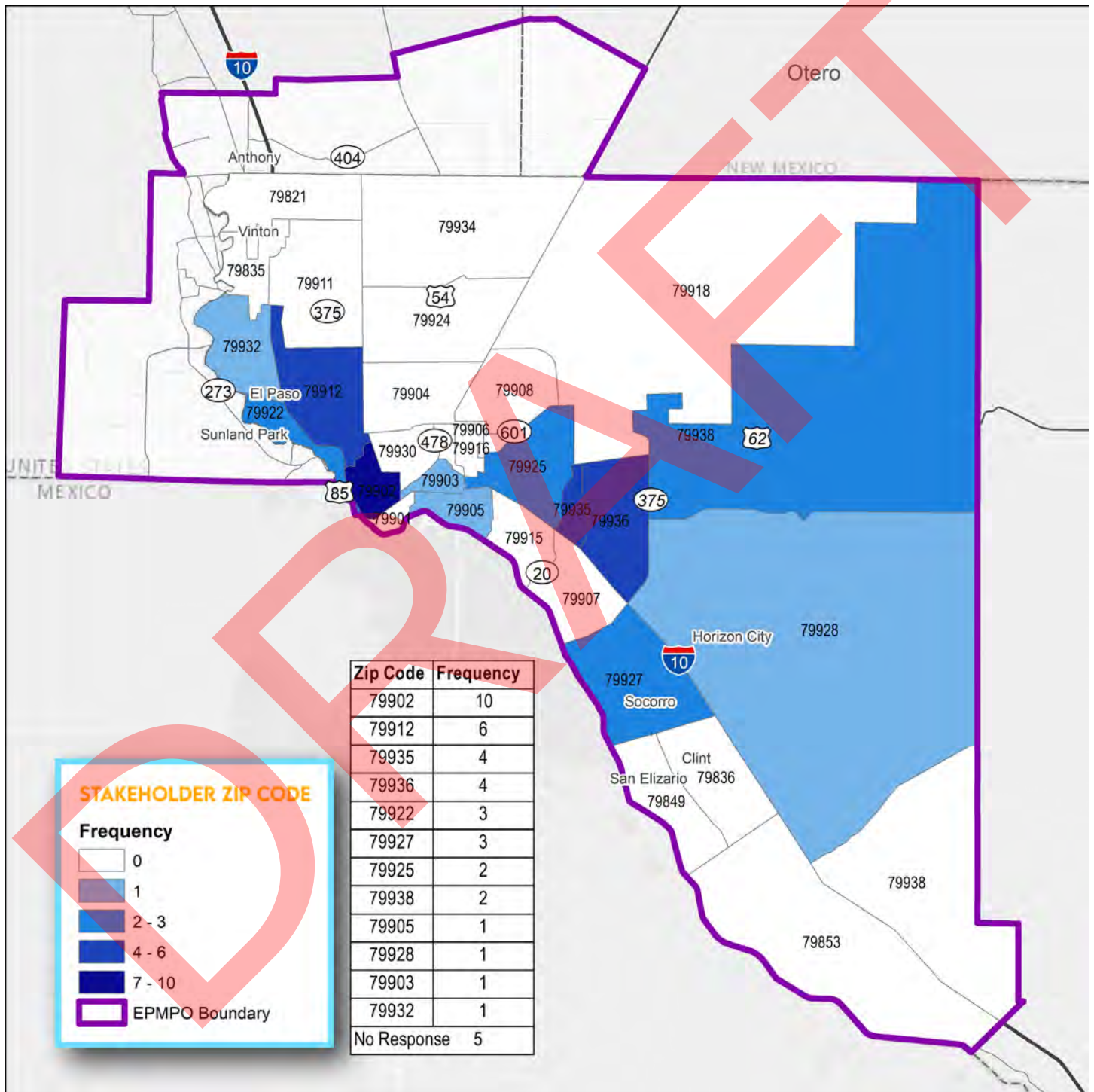
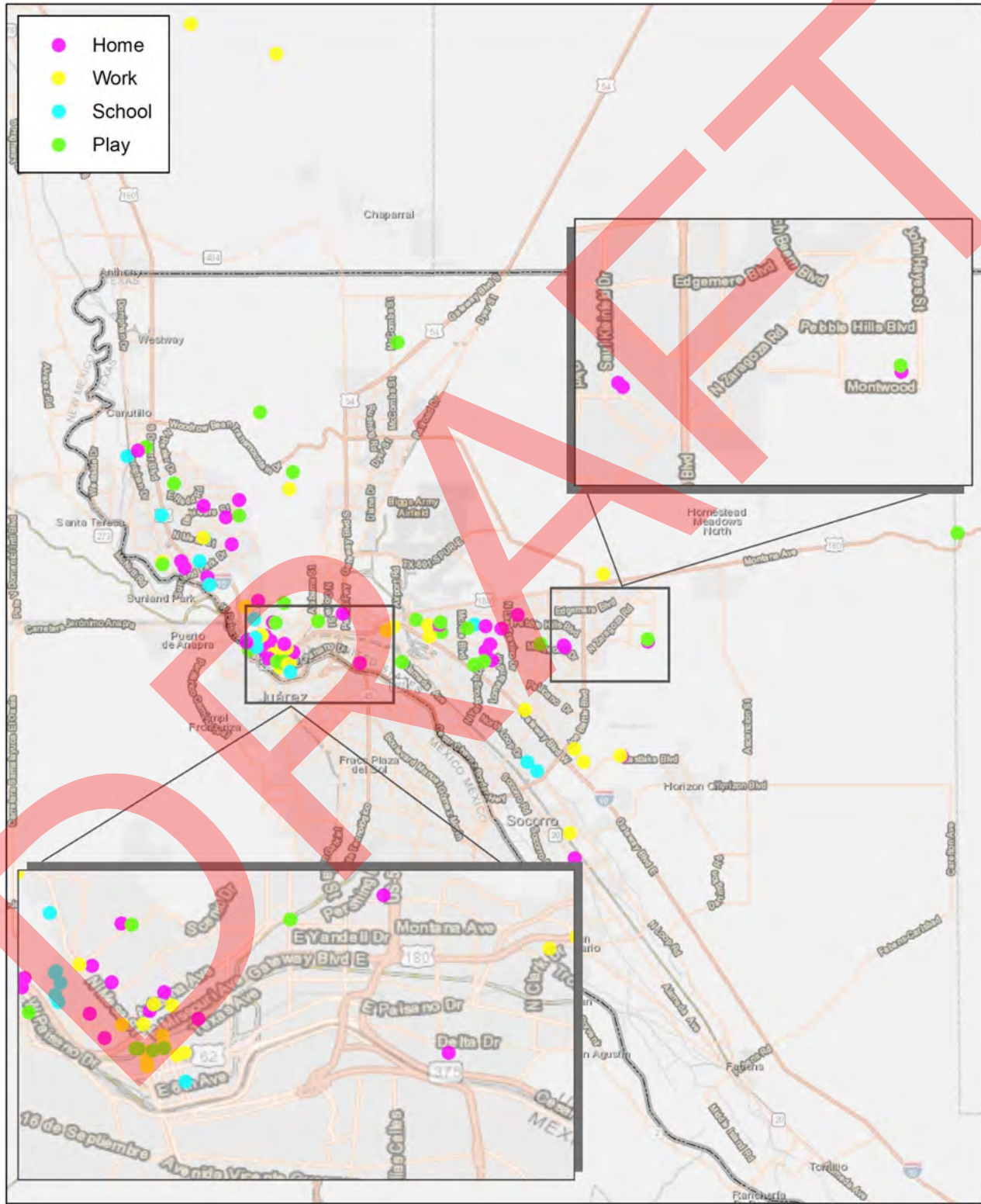


FIGURE 7-4: ACTIVITIES MAP



ROADWAYS

Participants identified several key issues regarding the existing roadway network. IH-10 downtown and the segment from US 54 to Bassett Place were highlighted as areas in which increased traffic was observed and reconstruction/widening is needed to support future growth. Special attention to the University Medical Center (UMC) area and various clinics and colleges was requested in regards to the increased traffic that has contributed to congestion in this area.

SAFETY

Safety was a top concern for many of the participants during the online visioning workshops. Participants identified several locations as dangerous, including the IH-10 at Hawkins interchange, and IH-10 near Lomaland and Yarbrough, mostly due to speeding freight trucks.

The area west of Hawkins Boulevard and south of Gateway Boulevard East (near Market Avenue) was identified as “dangerous and in need of a total zoning overhaul due to heavy concentration of freight trucks that intermingle with passenger vehicles carrying children on their way to extracurricular activities” (From public comment).

Many were also concerned with narrow sidewalks and unsafe intersections that put pedestrians in danger. Some highlighted locations by the public were the Mesa corridor: “Sidewalks too narrow, unsafe with fast traffic”; Alameda Avenue: “Safer intersection is needed to accommodate kids walking to Ernesto Serna School across Alameda Ave”; and Dyer corridor: “Safety issues on this corridor need to be addressed for cars and pedestrians”.

The traffic circle recently constructed at the intersection of Edgemere and Rich Beem was also identified as an area of safety concern. The participants believe many residents of the area

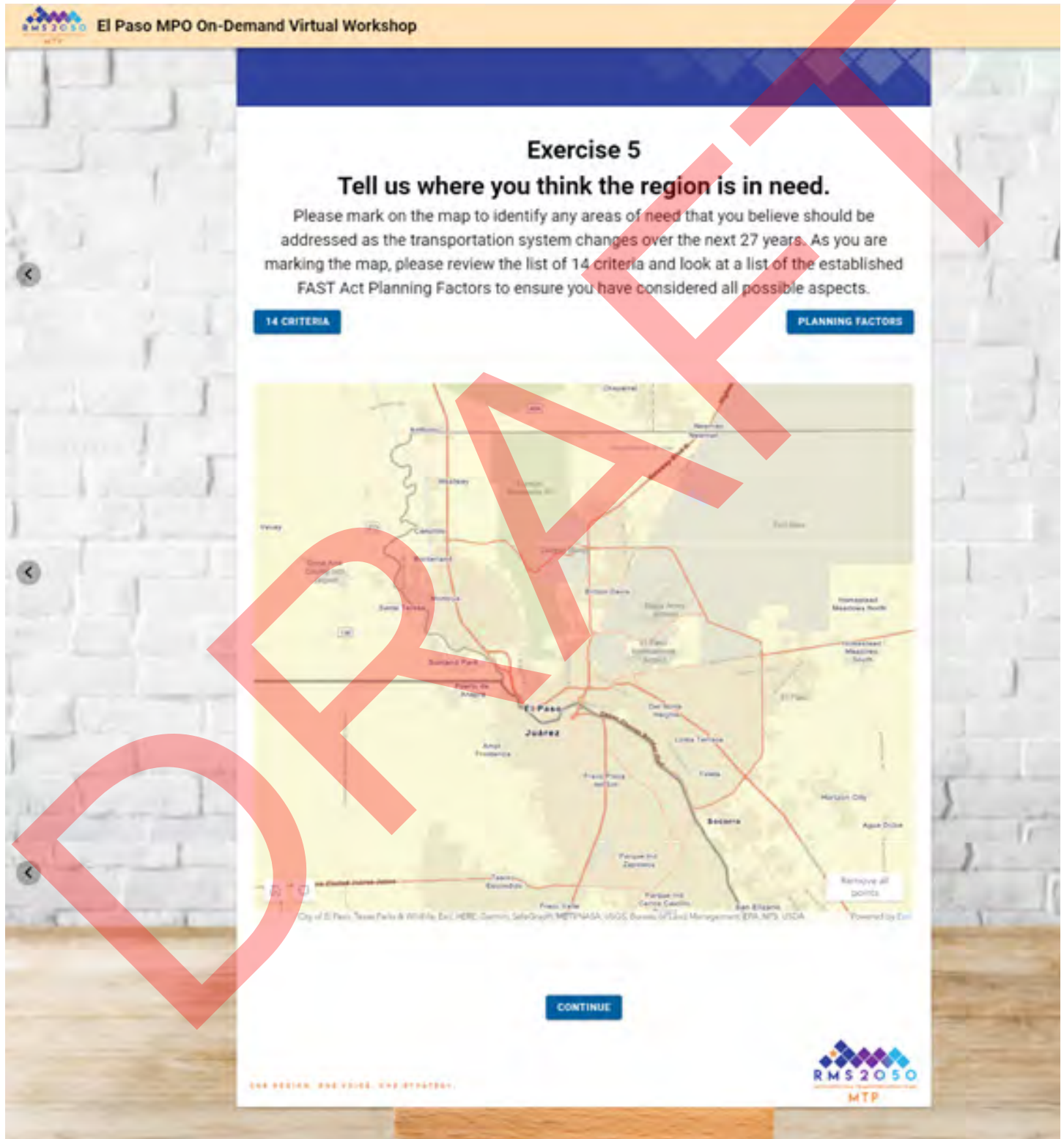
do not know how to use a traffic circle, in addition to the signage being counter to the needs of travelers accessing businesses directly off of the circle. There were also several locations identified with concerns regarding the safety of cycling infrastructure. Among these locations is Spur 1966, cited as hazardous for both bicyclists and pedestrians.

In addition, the aging of IH-10 overpasses in general, but specifically the McRae overpass - was noted. Local city streets in central El Paso are also aging, cracking and lacking ADA curb ramps.

Several locations were pointed out where there has been new developments and traffic has increased considerably. Some of these areas in the City of El Paso are Socorro Road and Alameda Avenue in the Lower Valley, Zaragoza Road at Rich Beem Boulevard in the Far East, Country Club Road in the Upper Valley and the IH-10/Artcraft interchange on the Westside.



FIGURE 7-6: EXAMPLE OF INTERACTIVE MAP





REGIONAL MOBILITY

Many participants noted areas of the city that are growing but have poor connectivity with other areas. Many of these comments were from participants located farther east in unincorporated El Paso County near Montwood Drive, and near Horizon City and the City of Socorro. There was specific mention of the lack of improvements along Socorro Road and the lack of alternate routes of travel for commercial vehicles (such as the future Border Highway East) that is holding back economic development to the historic Mission Trail, as well as lack of direct access to IH-10 and Loop 375 (Joe Battle). Other comments focused on the need for investment at the ports of entry. Participants mentioned that delays are a lost economic opportunity citing the need to do everything to reduce delay and maximize flow of people and goods.

PUBLIC TRANSPORTATION

Several locations were identified as currently being developed and participants cited the need to upgrade the roads for biking, walking and public transit in order to accommodate population growth. Some of the locations cited were North Loop Road near Darrington Road and Horizon Boulevard.

There was also a comment proposing a streetcar running along Montana Avenue with arterial bus lines to run down the major north-south roads, in which the participant cited that this streetcar route would be more useful than the existing route.

ACTIVE TRANSPORTATION

Similar to the comments identified in Destino 2045 MTP, citizens were concerned that the region may not be able to meet the demand of cyclists hoping for more active form of transportation if there are not improvements to the infrastructure. Although important investments have been made since the development of Destino 2045 MTP, there is still a

lack of infrastructure that needs to be addressed as part of RMS 2050 MTP.

Moreover, concerns around pedestrian and cycling safety were frequent comments. Specifically, the intersection at Mesa/Sunland Park was identified as in need of safety improvements. Participants also identified several locations that need improvement in hiking and biking trails, such as northeast El Paso, far east El Paso, and some locations within the City of Socorro. Furthermore, participants cited the need for hike/bike trails to connect neighborhoods to public transit. In regards to lack of pedestrian connectivity the Ysleta POE as well as Sunland Park Drive were some of the identified locations.

Other comments mentioned a desire to keep the Lost Dog trail network open, to improve access to the Rio Bosque wetland, as well as a lack of sufficient active transportation infrastructure at the areas north and south of Transmountain Road and in downtown El Paso.

EXERCISE 3: RANKING AND SCORING CRITERIA

Exercise 3 asked participants to rank criteria based on each criterion's importance to the region. At the online workshops, participants completed an individual exercise which helped the EPMPO develop performance measures for the MTP and provide context for prioritizing potential MTP projects.

EVALUATION CRITERIA

Taking as a base the criteria developed for the Destino 2045 MTP, participants were provided explanations of the criteria that will assist in the ranking process. The criteria were developed to assist in the evaluation of transportation programs and projects for inclusion in RMS 2050 MTP. Refer to Chapter 4 for a complete description of the evaluation criteria.

PRIORITIZING THE EVALUATION CRITERIA

For the individual exercise, participants were asked to rate the importance of 14 visioning evaluation criteria on a scale from 1 to 5 with 1 meaning unimportant and 5 meaning extremely important.

Table 7-3 shows the final ranking for each of the criteria. The evaluation criteria help provide a clear picture of community priorities regarding the future of the regional transportation system.

FIGURE 7-7: PIN LOCATION ASSOCIATED WITH COMMENTS BY CATEGORY

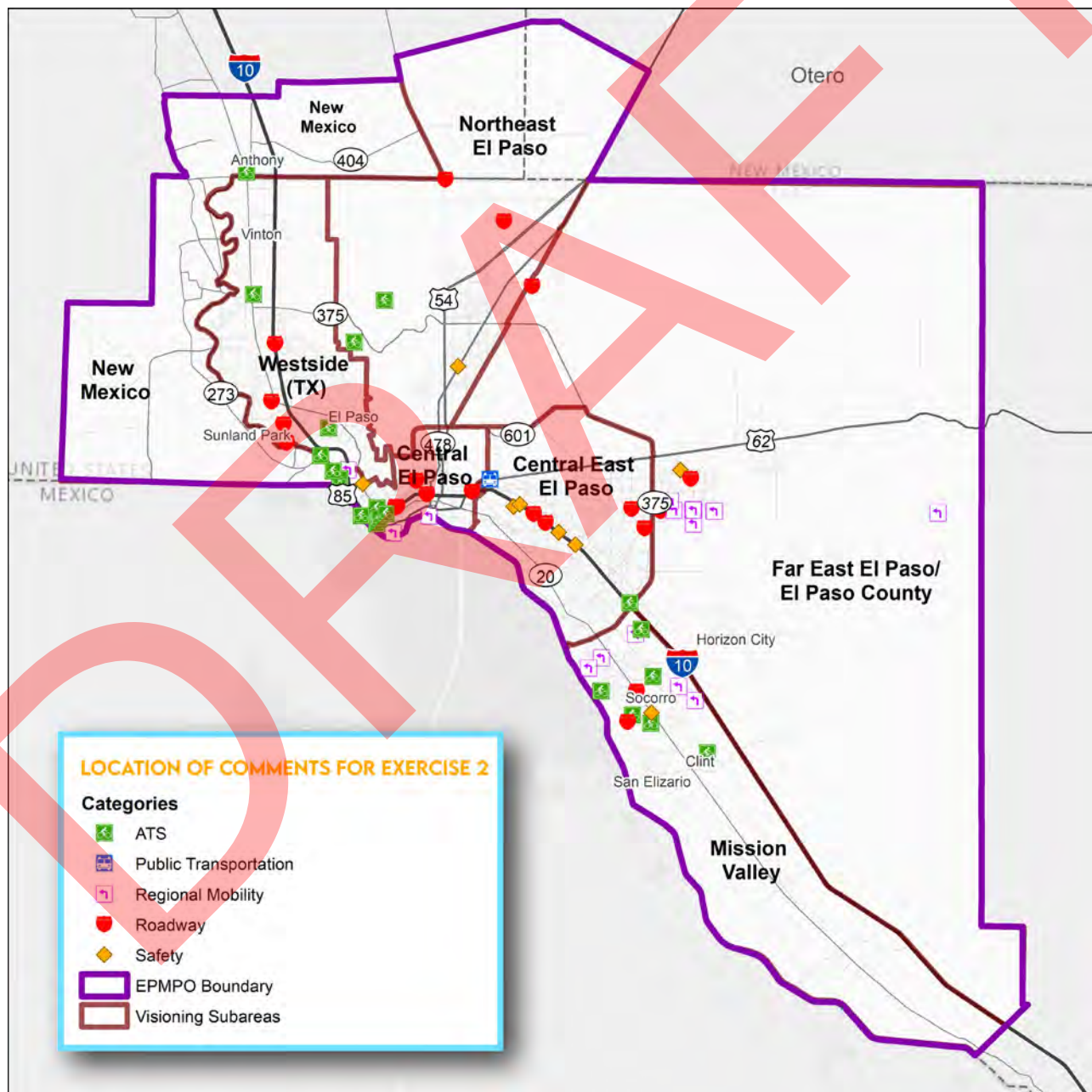


TABLE 7-3: CRITERIA RANKING

CRITERIA	AVERAGE SCORE
Improve Safety	4.2
Improve Quality of Life	4
Protect Environment	3.9
Conserve Energy	3.7
Promote Efficiency	3.6
Improve Access	3.6
Increase Multi-Modal Options	3.6
Reduce Congestion	3.5
Connect Travel	3.4
Support Economic Development Goals	3.4
Increase Connection	3.3
Support Land Use Goals	3.3
Preserve Rights-of-Way	3
Improve Security	3

EXERCISES 4 & 5: GROWTH TRENDS & ENVISIONING THE FUTURE TRANSPORTATION SYSTEM

For the final exercises participants were asked to identify the location of growth areas and transportation needs by means of an interactive map similar to the map in Exercise 2 (Figure 7-6).

In Exercise 4 participants were presented with recent growth trend data and were asked to provide their view about the current state of the transportation system. At the time of the visioning workshops the most current data was that generated for Destino 2045 MTP. Maps based on the Destino 2045 MTP data were provided to participants, and are presented in this section. The demographic projections developed for RMS 2050 are presented in Chapter 2: MTP Guiding Principles.

The questions were organized as follows: Population Growth, Employment Growth, Traffic Volume Data, Transit Route Data, and Non-Motorized Transportation Data. Below is a summary of the responses obtained. Detailed information and graphs are in Appendix E.

POPULATION AND EMPLOYMENT GROWTH

For population growth, participants were provided a map of the projected population growth from 2012 to 2045 as seen in Figure 7-8. A plurality of participants (44%) believed the provided population growth trends were accurate. Twenty-three percent (23%) believed they were not accurate and thirty-three percent (33%) had no opinion or did not submit a response.

If participants believed the provided growth trends did not accurately display population and employment growth trends and responded “no” to the questions, they were then provided the opportunity to identify the subareas (New Mexico, Westside, Northeast, Central, Central-East, Far-East, and Mission Valley) of the region where they believed population and/or employment growth was inaccurately represented.

The most frequently identified subarea was the Westside subarea (6 out of 24 responses), followed by the Mission Valley subarea (5 out of 24) where participants felt that the population trends were overestimating growth.

In regards to employment trends, based on the projected employment growth from 2012-2045 (Figure 7-9), forty-two percent (42%) believed employment was displayed accurately, twenty-one percent (21%) believed it was not-accurate and thirty-seven percent (37%) did not respond or had no opinion.

In addition, participants were asked if they believed that employment changes in the region will have a positive or negative effect on the transportation system. Forty-nine percent (49%) of participants

believe it will have a negative effect, thirty-seven percent (37%) believe it will have a positive effect and fourteen percent (14%) did not respond.

FIGURE 7-8: POPULATION GROWTH 2012-2045

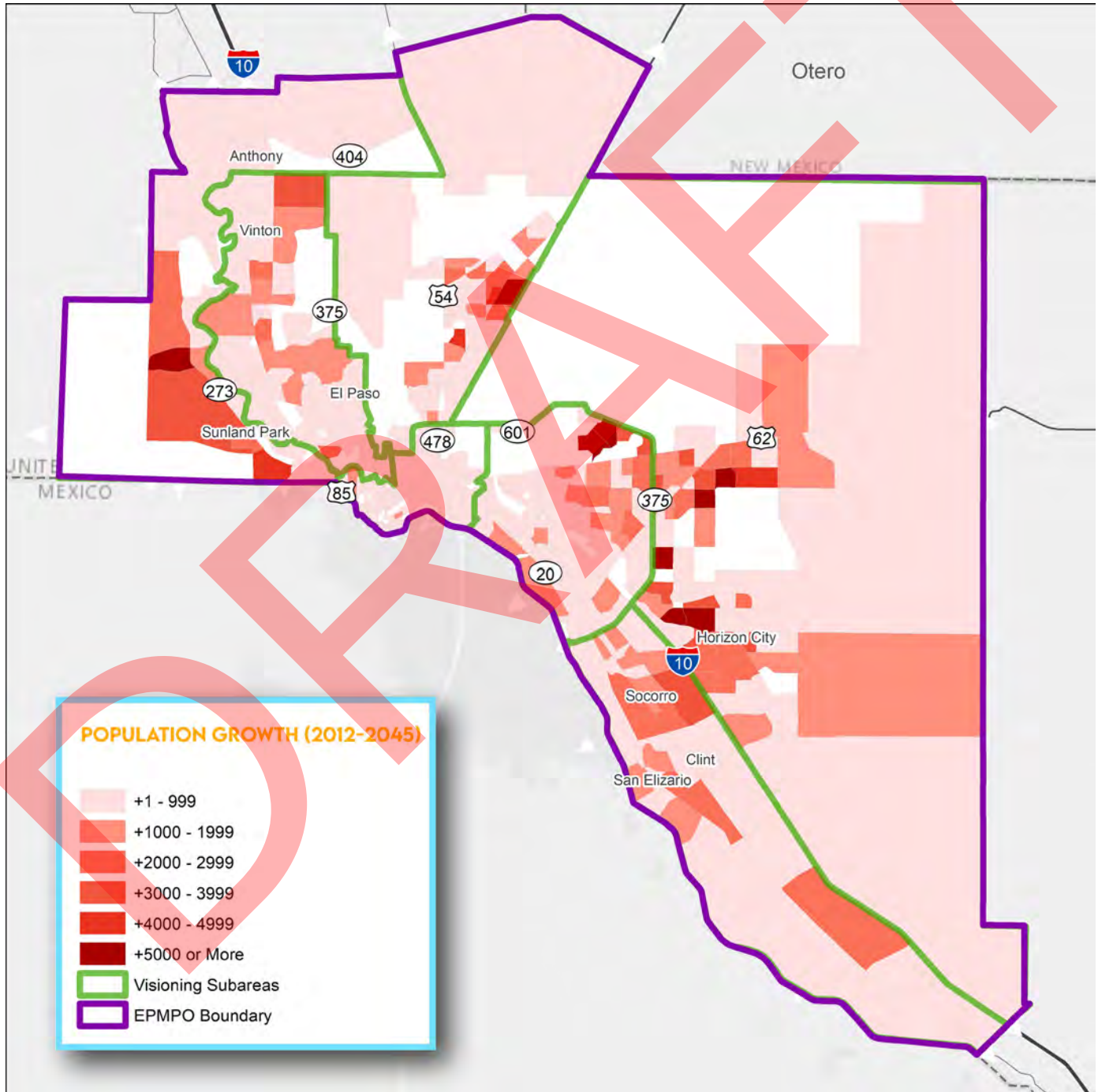
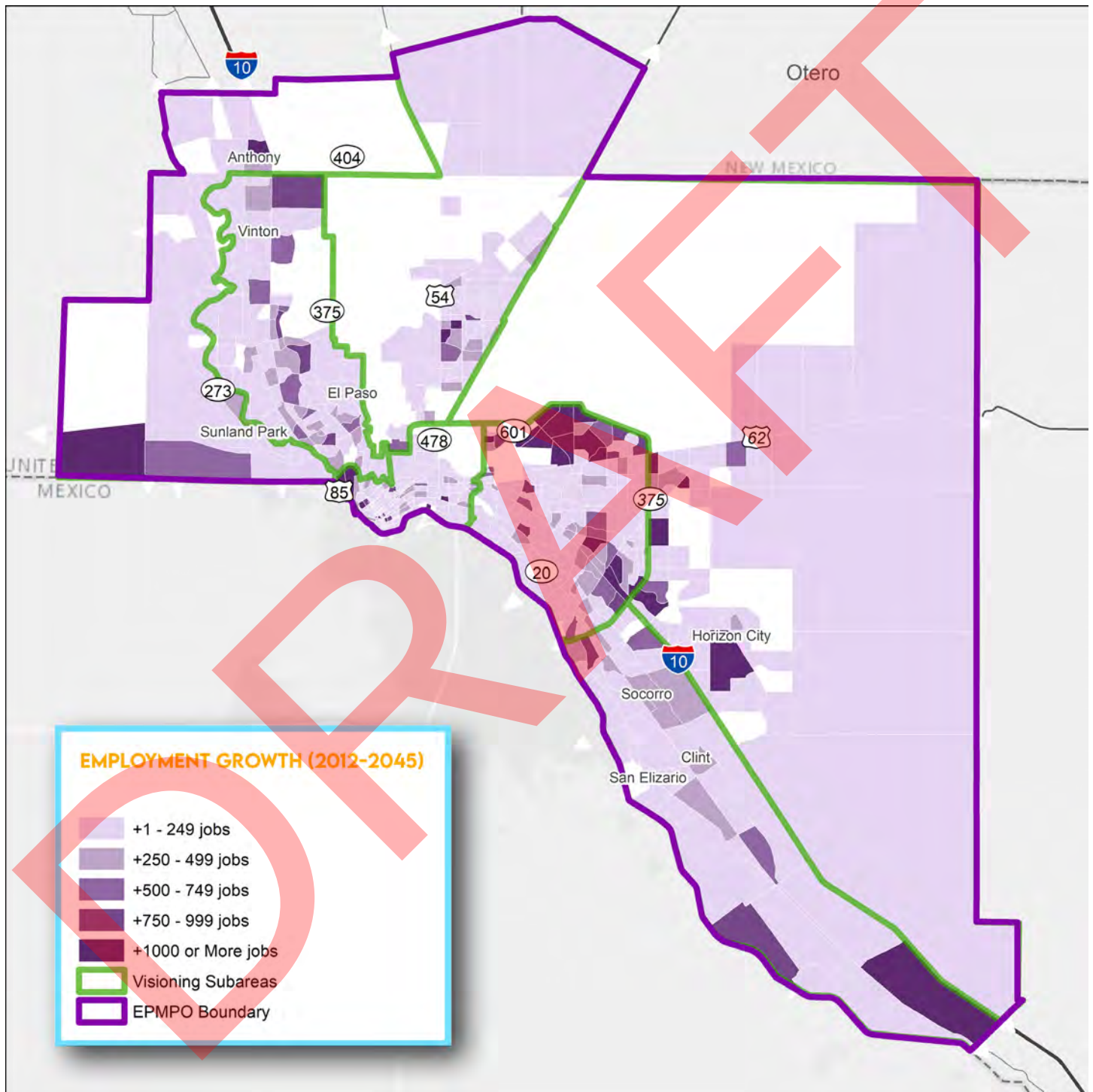


FIGURE 7-9: EMPLOYMENT GROWTH 2012-2045



TRAFFIC VOLUMES

Participants were provided a map (**Figure 7-11**) showing the expected traffic volumes compared to the capacity of current streets and highways if the population and employment growth shown in the previous two maps is realized. As mentioned before, the provided traffic volumes were those developed for Destino 2045 MTP. The 2050 No-Build traffic volumes are presented in Chapter 3. Forty-two percent (42%) of the participants felt the map was accurate, while thirty percent (30%) believed it was not accurate, and twenty-eight percent (28%) did not respond or had no opinion.

TRANSIT ROUTES

The existing and proposed transit routes for Sun Metro, El Paso County Transit, and South Central Regional Transit District were presented in a map (**Figure 7-12**) for participants to respond if they

believed the routes would serve the transit needs the region will have in 2050. Forty-seven percent (47%) of the participants believed that the existing and proposed routes will not serve the transit needs the region will have in 2050. Twenty-one percent (21%) believed they will serve transit needs, and thirty-two percent (32%) did not respond or had no opinion.

If participants responded “no” to the question, they were then provided the opportunity to identify the subareas of the region where they believed existing transit is insufficient or where future transit needs will occur. The diversity of votes for each of the subareas as shown in **Figure 7-10** suggests that participants believe transit service is/will be lacking throughout the region.

FIGURE 7-10: SUBAREAS WHERE TRANSIT NEEDS WERE IDENTIFIED

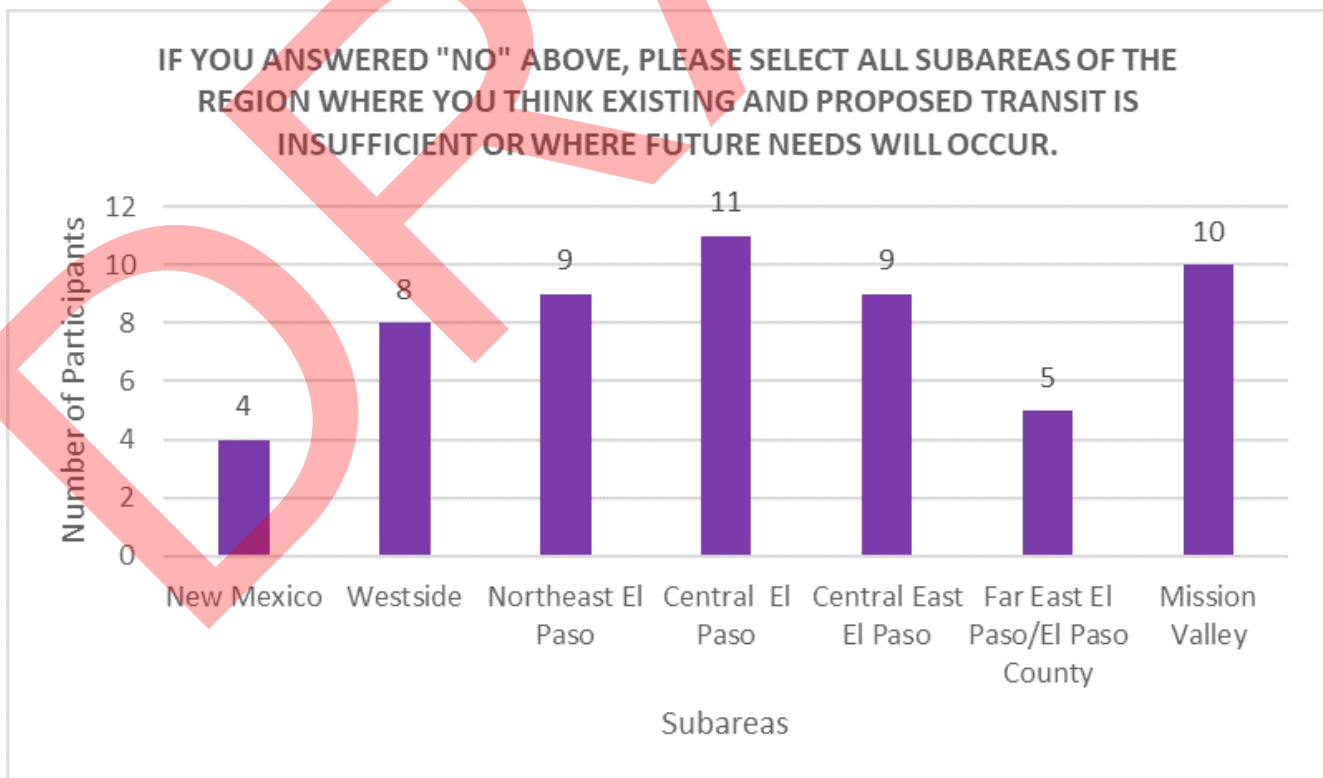


FIGURE 7-11: 2045 NO BUILD TRAFFIC VOLUMES

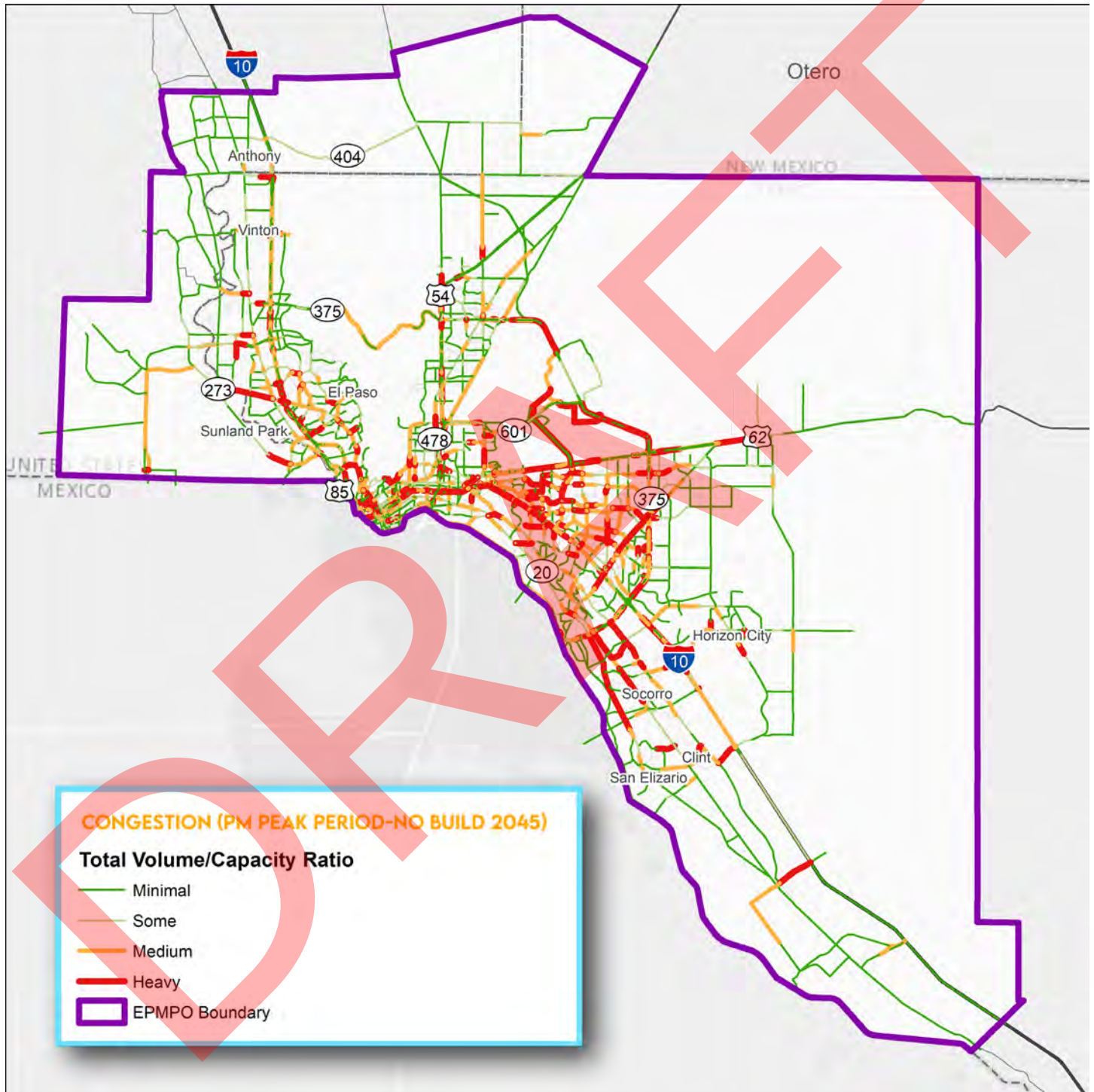
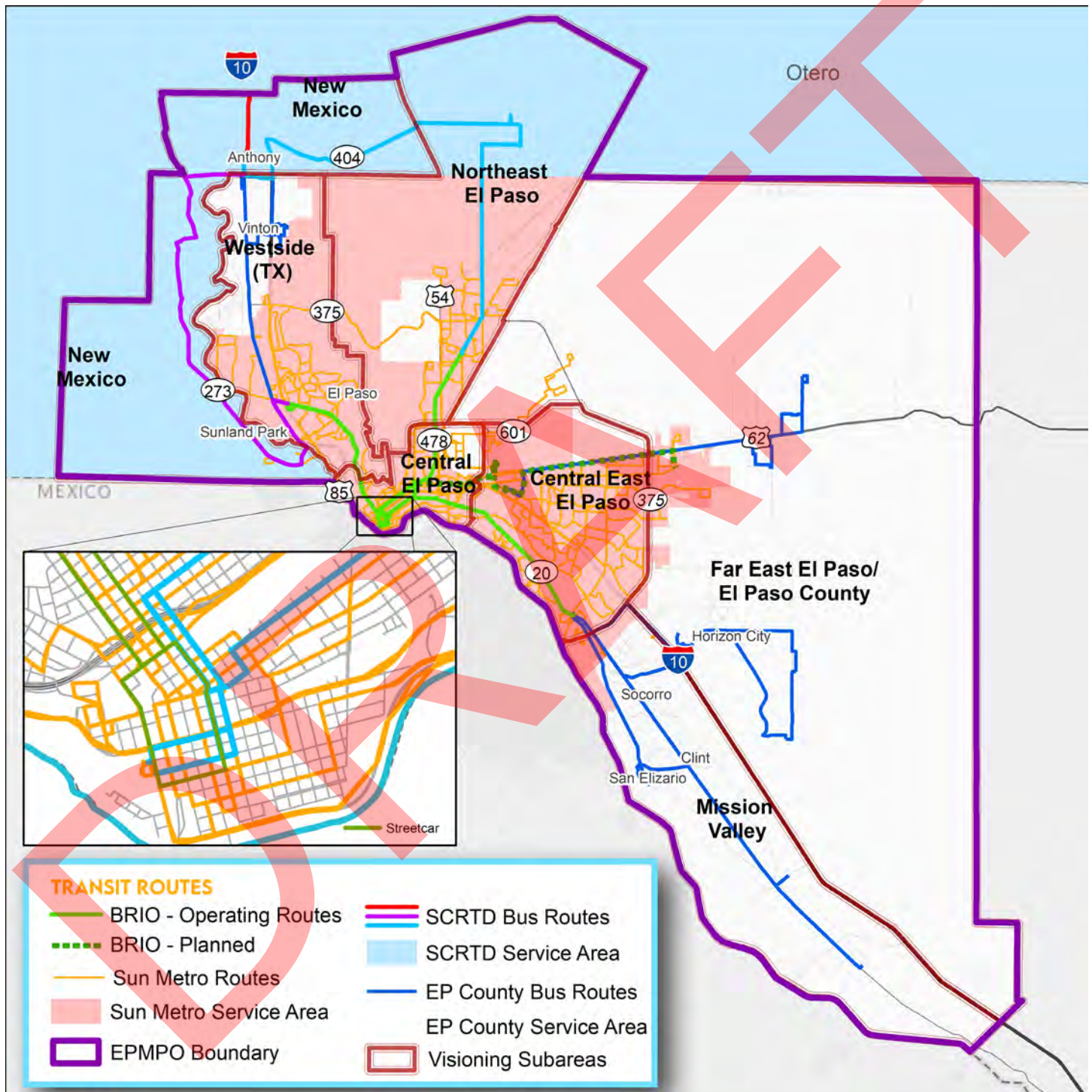


FIGURE 7-12: EXISTING AND PROPOSED TRANSIT ROUTES (AS OF JUNE 2019)



NON-MOTORIZED TRANSPORTATION

Similarly, a map with existing and proposed bike facilities (**Figure 7-13**) was provided to the participants to identify if they believed they will serve the non-motorized transportation needs of the region through 2050. The most frequent response (44%) indicated that the existing and proposed facilities would not serve needs through 2050, while twenty-one percent (21%) felt that they

will, and thirty-five percent (35%) had no opinion or did not respond.

The response to the question of what subareas do participants believe are in need of improvements was very similar to the transit response where the diversity of votes suggest that participants believe the need is throughout the region as reflected in **Figure 7-14**.

FIGURE 7-13: EXISTING AND PROPOSED ACTIVE TRANSPORTATION SYSTEM FACILITIES (AS OF JUNE 2019)

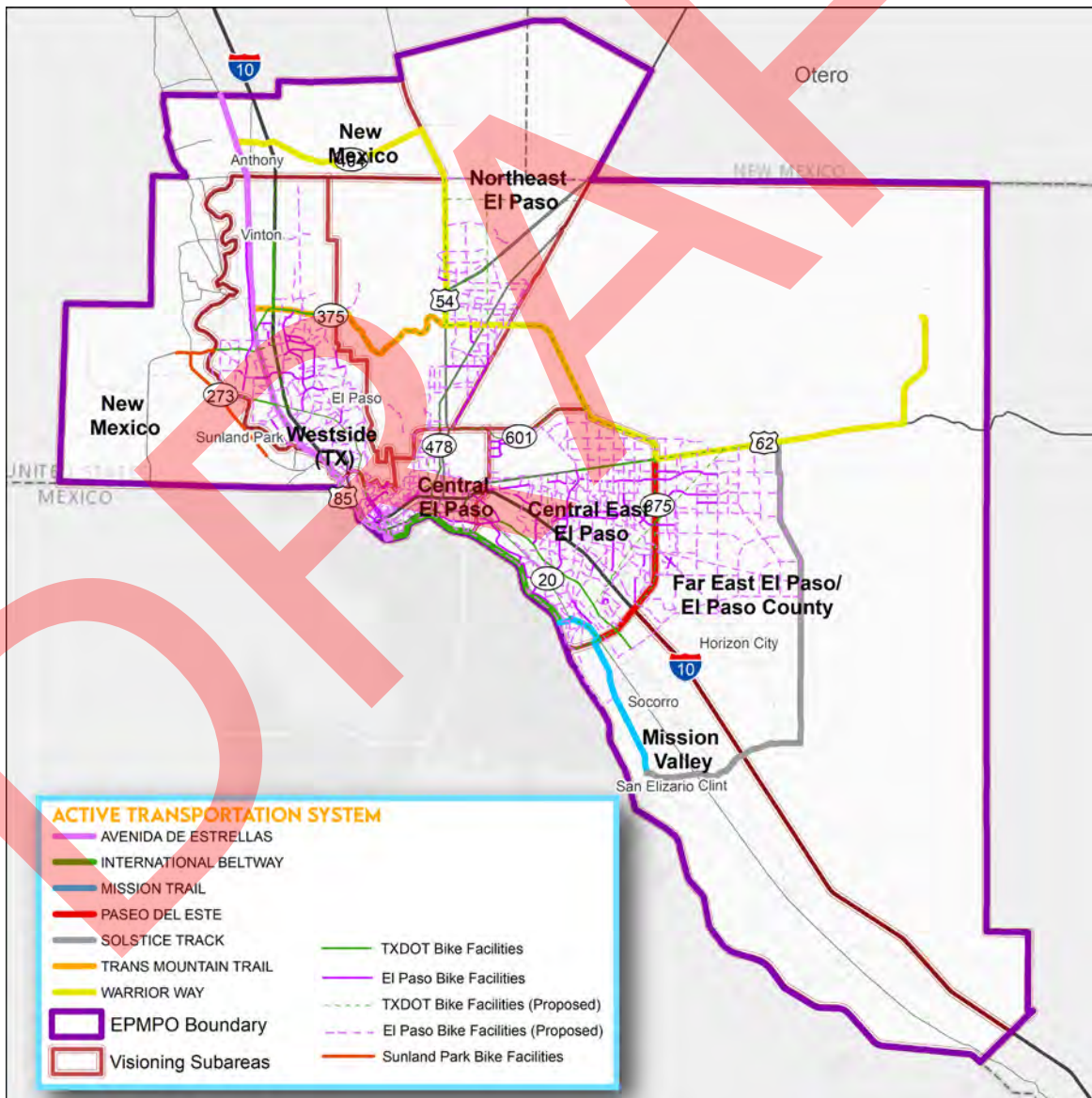
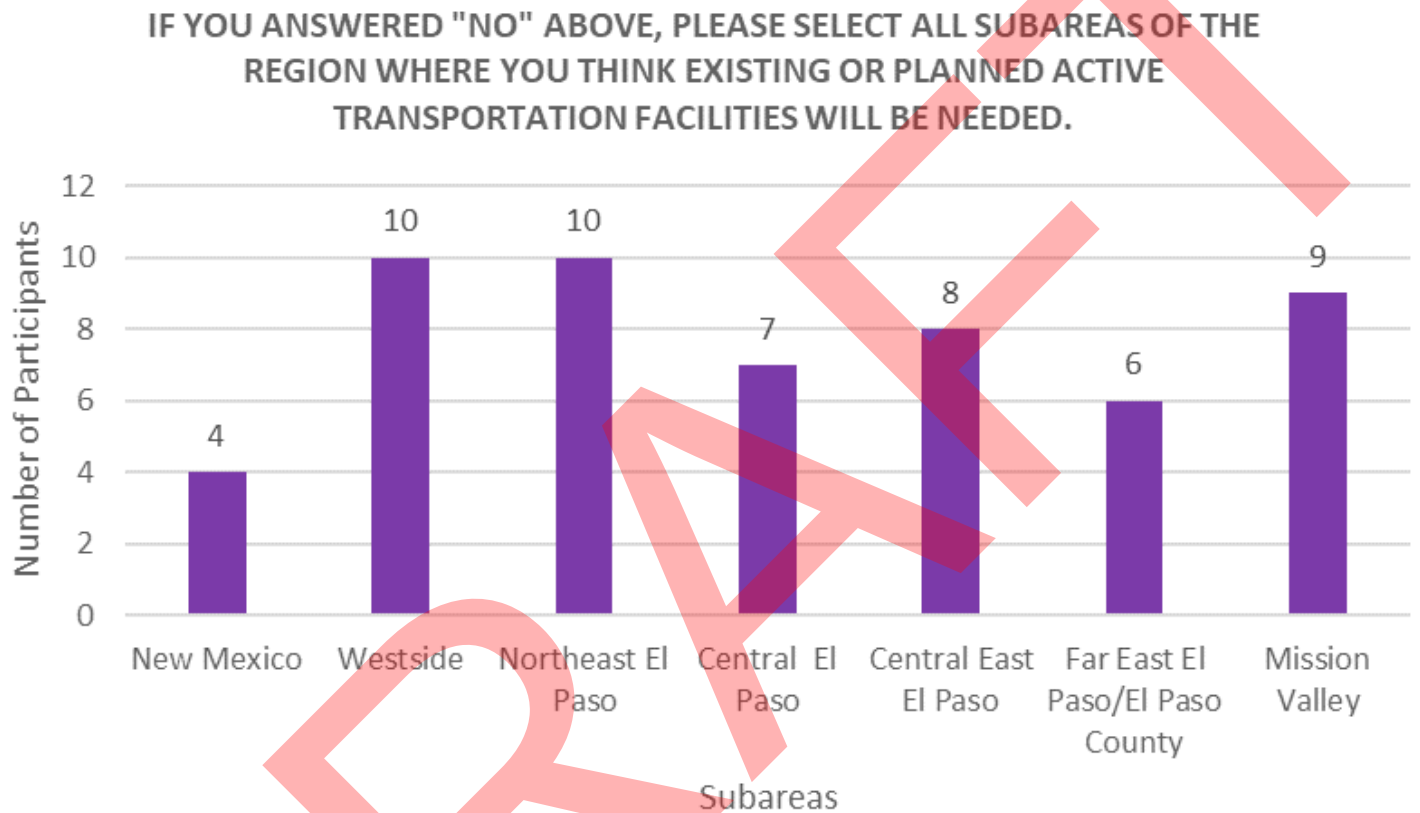


FIGURE 7-14: SUBAREAS WHERE ACTIVE TRANSPORTATION SYSTEM FACILITIES NEEDS WERE IDENTIFIED



Exercise 5 provided an interactive pin map where participants were asked to identify any areas of need that they believed should be addressed as the transportation system changes over the next 27 years. As they placed pins on the map they were asked to review the list of 14 criteria and look at the established FAST Act Planning Factors (previously presented in Chapter 1) to ensure they have considered all possible aspects. **Figure 7-15** shows the location of pins placed on the interactive map. The comments associated with each pin are presented in Appendix E.

Most participants believed the needs to be addressed by 2050 were region-wide needs (**Figure 7-16**) with transit availability/service quality the most selected region-wide need, followed by bicycle access. Relatively few participants said that needs to be addressed by 2050 were needs in the New Mexico subarea, and they identified a variety of specific needs as seen in **Figure 7-17**.

FIGURE 7-15: LOCATION OF PIN COMMENTS FOR EXERCISE 5

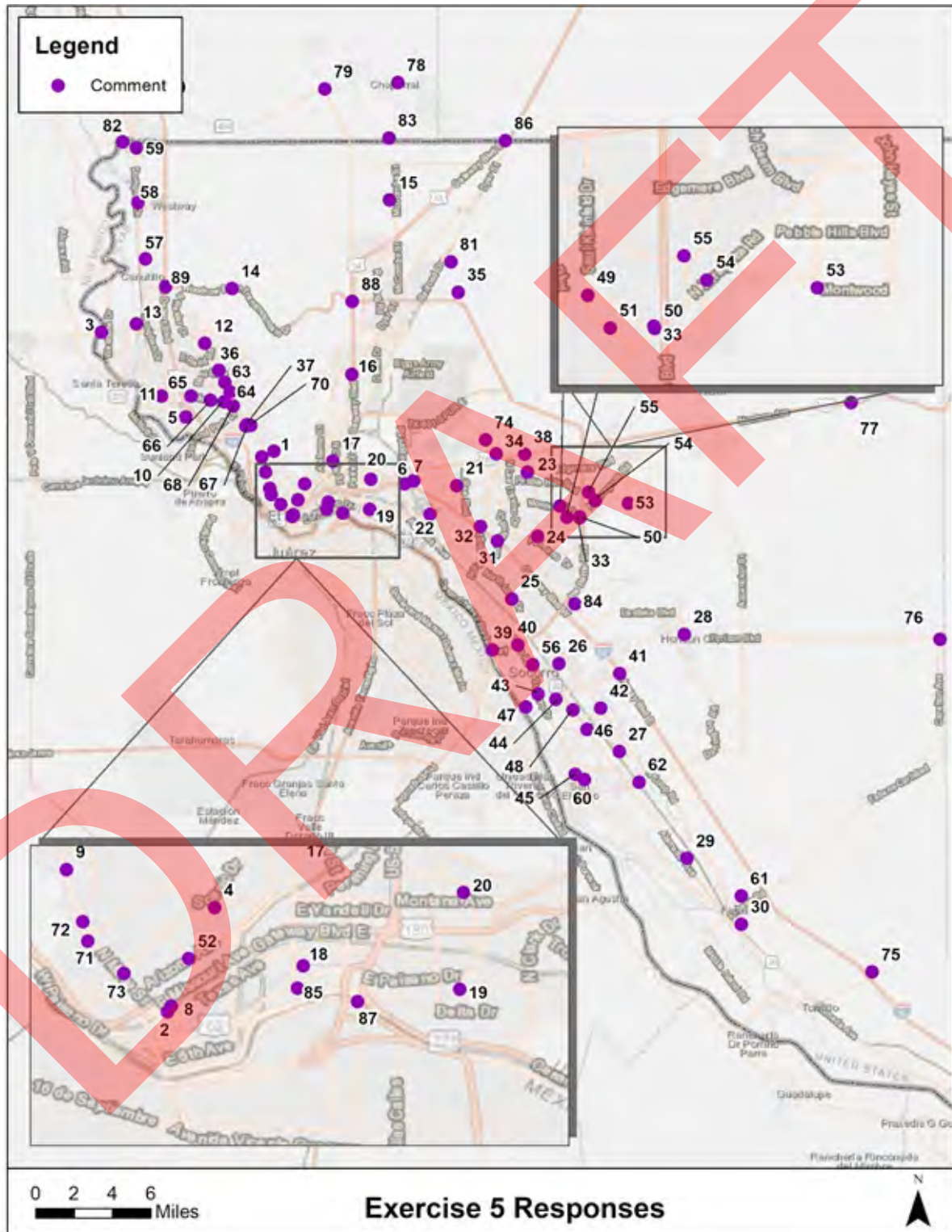


FIGURE 7-16: TYPES OF NEEDS THAT NEED TO BE ADDRESSED REGION-WIDE



FIGURE 7-17: TYPES OF NEEDS THAT NEED TO BE ADDRESSED IN NEW MEXICO



STAKEHOLDER ENGAGEMENT

Early stakeholder engagement began in 2018 with the development of the Regional Mobility Strategy (RMS). In 2018, the Texas Department of Transportation (TxDOT) El Paso District, in cooperation with the El Paso Metropolitan Planning Organization (EPMPO), developed this document, which became a strategic plan beneficial to the region, as summarized in Chapter 2. Since its conception, the RMS was targeted to assist EPMPO efforts for the development of the update of the RMS 2050 MTP.

More than 20 stakeholder listening sessions were conducted between November 2018 and August 2019. Stakeholder participation included: the private sector, the Borderplex Alliance, the University of Texas at El Paso, the Hunt Institute, and several elected officials. The sessions focused on issues, opportunities, challenges, priorities, and ideas as identified by stakeholders themselves. In total, more than 70 stakeholders participated in the listening sessions.

Chapter 2 of the RMS Final Report (Appendix G), highlights the stakeholder listening session efforts, which were the centerpiece of the RMS. The primary goal of these sessions was to capture a multimodal representative cross-section of stakeholders across the region, which included Texas, New Mexico, and the State of Chihuahua, Mexico.

LISTENING SESSIONS

To collectively establish a vision for the regional transportation network that supports future growth and economic vitality, participating stakeholders and partnering agencies were asked to evaluate the current and future operational conditions of key highway corridors in the region, to identify constraints and areas of opportunity, and to identify potential opportunities for increased arterial connectivity. The final output was a list of recommendations for project prioritization based on the agency and stakeholder input received that supports the region's vision for the RMS 2050 MTP.

RMS evaluated infrastructure, policy, and technology opportunities at the regional level to accomplish several goals:

- Address safety issues
- Decrease travel times
- Increase connectivity
- Improve level of service
- Increase network reliability and redundancy
- Provide additional modal opportunities
- Preserve community character, cohesion, and quality of life
- Identify projects for funding and implementation
- Promote economic development opportunities

Several emerging themes of the listening sessions that were repeated by multiple stakeholders (**Figure 7-18**) were identified as a result of these sessions. Based on these major themes, a matrix was developed to organize the top regional needs and strategies. Some were tangible issues, such as traffic flow, while other themes were more abstract, such as leadership. A summary of the

collected feedback for some of the themes is presented in this section below. The complete information, including the themes matrix, is found in Appendix G.

FIGURE 7-18: MAJOR THEMES FOR LISTENING SESSIONS FROM RMS 2019



TRAFFIC FLOW AND CONNECTIVITY

To improve connectivity and traffic flow, the needed reconstruction of IH-10 (Reimagine I-10), improvements to alleviate congestion on Artcraft Road, construction of the Borderland Expressway in northeast El Paso, and the extension of NM 9 to NM 273 (McNutt Road) were noted as important projects. Additionally, stakeholders emphasized the importance of an outer loop, such as Borderland Expressway, (formerly known as the Northeast Parkway) as an alternative to IH-10, diverting traffic away from downtown where congestion and planned reconstruction are concerns.

Other recurrent topics were rail, eliminating choke points at ports of entry, improvements to bicycle and pedestrian infrastructure, and air quality non-conformity related to traffic congestion. Air quality non-conformity has been an issue in the region

and has led to delayed or unrealized projects, and risks to transportation funding.

ECONOMIC DEVELOPMENT & INCOME GROWTH

Stakeholders agreed that international trade is central to the economic success of the region and recognized that economic development can be spurred by mobility projects that provide access to jobs with higher salaries and improve quality of life for residents.

Stakeholders also agreed on the need to provide quality of life features, more multimodal transportation options, and better ways to move people between El Paso, Las Cruces and Juarez as a solution to attract young professionals to the region. Furthermore, the need to renovate and beautify public rights of way and build attractive destinations such as bike and pedestrian paths that leverage the region's landscape and landmarks.

POLICIES

Listening sessions made clear that some stakeholders had different and, at times, conflicting policies and priorities. However, several common priorities were identified that could be used to develop policies to benefit the region. These are some examples of the discussed priorities: promote industry and manufacturing to incentivize investments and job growth; expedite and streamline the environmental review process for projects; include bicycle and pedestrian-friendly infrastructure as a required component of design of projects; target projects that improve quality of life.

MULTIMODAL

Stakeholder discussion focused on multimodal solutions that will help alleviate congestion downtown and provide connections from surrounding communities to major destinations, such as the University of Texas at El Paso (UTEP).

The opinions and ideas offered by stakeholders were considered as the basis for the analysis presented in Chapter 5 that evaluated a scenario with new BRT corridors and higher land-use densities.

FUNDING

The funding topics discussed during the listening sessions included a lack of understanding of funding when comparing El Paso to other Texas metros (i.e. Houston, Dallas, Austin or San Antonio), the identification of priorities for the region before funding can be addressed, and the understanding that different types of funding sources should be targeted or considered, such as tolling, federal funds, and public private partnerships. Other commonly discussed topics included obtaining a TxDOT metro designation for El Paso and securing more funding for bicycle and pedestrian improvements.

DRAFT PLAN AND PUBLIC PARTICIPATION

The 30-day public comment period began January 24th and ended February 22nd. Further, public

meetings were conducted February 3rd through February 21st as part of the public involvement process defined in the EPMPO PPP, as well as to give the public and stakeholders a chance to view the draft plan and make comment before final adoption. The MPO held a series of public meetings to present the Draft RMS 2050 MTP document, Draft FY2023-2026 Transportation Improvement Program (TIP), and Draft Transportation Conformity Report simultaneously. Electronic copies of the draft documents were available on the EPMPO website for public viewing and hard-copies may be available upon request. The table below outlines the meeting dates and locations of the public outreach. A video recording of the presentation was also posted on the EPMPO website during the 30-day public comment period for those unable to attend the meetings. Information was also provided via social media.

A full summary of public comments and responses from the MPO can be found in Appendix A.

TABLE 7-4: DRAFT PLAN REVIEW PUBLIC MEETING DATES AND LOCATIONS

DATE	TIME	LOCATION	ADDRESS
February 3, 2022	6pm to 8pm	El Paso MPO Boardroom (Suite 103) ¹	211 N. Florence, El Paso, TX 79901
February 9, 2022	11am to 1pm	Virtual Meeting ²	https://www.elpasompo.org/RMS2050MTP
February 15, 2022	3pm to 5pm	Virtual Meeting ²	https://www.elpasompo.org/RMS2050MTP
February 21, 2022	6pm to 8pm	Virtual Meeting ²	https://www.elpasompo.org/RMS2050MTP

1) Due to increased safety precautions implemented as a result of the ongoing COVID-19 pandemic, one public meeting will be conducted in a hybrid format which provided both an in-person meeting, as well as a virtual meeting option to join by phone and/or computer via link on the MPO website.

2) Due to increased safety precautions implemented as a result of the ongoing COVID-19 pandemic, the remaining public meetings were held exclusively in a virtual format with option to join by phone and/or computer via link on the MPO website.

STAGED IMPROVEMENT PLAN



8. STAGED IMPROVEMENT PLAN

This chapter provides tables and maps that describe and illustrate the package of projects included in the Regional Mobility Strategy (RMS) 2050 MTP. The fiscally constrained projects have been grouped into five periods/stages:

- 2022 (Immediate)
- 2023-2026 (Implementation)
- 2027-2032 (Short-Term)
- 2033-2040 (Medium-Term)
- 2041-2050 (Long-Term)

Year of expenditure (YOE) costs are shown for each project, accounting for inflation as discussed in Chapter 6. For the official EPMPO project listing see Appendix C

Projects within the MTP have been grouped into the following program categories:

NEW/EXPANDED ROADWAY

Includes projects that add additional capacity on a roadway, either through the addition of more lanes of traffic or through operational improvements that increase the effective capacity of a roadway (e.g. intersection improvements).

PUBLIC TRANSIT

Includes projects for both the maintenance and expansion of transit services and programs as well as projects funded through FHWA to FTA transfer and CMAQ congestion mitigation and air quality/mitigation projects.

ACTIVE TRANSPORTATION (BIKE/PED)

Includes projects that repair and build sidewalks, paved asphalt bike lanes, buffered bike lanes, conventional bike lanes, bicycle boulevards, shared lane markings, and protected bicycle lanes. Projects also can include ADA wheelchair

ramps, drive-pads, crosswalks, and intersection treatments like landscaping, furnishings and illumination, as well as associated signage, wayfinding, and striping. Projects often provide connectivity to fixed route and rapid transit lines.

CROSS BORDER TRAVEL

Includes projects to design and construct infrastructure to better facilitate the safe, secure, and efficient movement of people and goods across the US/Mexico border as well as planning and PE specifications and construction crossing services to provide the most efficient and productive methodology to move pedestrians through downtown bridges and connect to transit service. Projects also include regional cross-border travel information, provided to local travelers, commercial vehicles, fleet managers, manufacturers, maquiladoras, and others.

OPERATIONS AND MAINTENANCE

Includes projects that maintain the transportation system in a state of good repair, including roadway resurfacing, overlays, and bridge replacements, as well as the implementation of the Regional ITS Architecture.





TABLE 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026)

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
ITS Infra. @ Zaragoza/BOTA POE (ON-SYS)	The Design, Construction, and Installation of Intelligent Transportation Systems (ITS) at the Bridge of the Americas (BOTA) and Zaragoza Ports of Entry.	At Bridge of the Americas, 1 mile north, south, east, and west of I-10 at US 54 interchange	At Zaragoza Port of Entry, along I-10, 1 mile east and west of Loop 375 interchange, along Loop375 from Padres Drive to 1 mile north of I-10 interchange.	Operations and Maintenance	\$14,000,000	2022	COEP	S502X	1
Traffic Management Center Upgrade Phase 1	The project included the upgrade of the COEP Traffic Management Center and Traffic Signal controller equipment citywide. Ph. 1 is the design phase. Ph. 2-5 are implementation and construction phases.	City of El Paso city limits.	City of El Paso city limits.	Operations and Maintenance	\$5,360,329	2022	COEP	S301D	N/A
I-10 Deck Plaza Planning Study	This project will develop study for a Deck Plaza over I-10 in the downtown area. The proposed deck would add about 12 acres, including amenities such as green space, public gathering space, and entertainment venues.	Prospect Street	Campbell Street	Active Transportation (Bike/Ped)	\$1,260,000	2022	COEP	M309X	N/A
Regional Transit Start-up assistance for FY22	Establish Transit Service to provide a more efficient, single, seamless, transit system in El Paso County, Horizon City, Vinton, Anthony, San Elizario, Clint, and Socorro.	County wide	County wide	Public Transit	\$1,000,000	2022	County EP	T001-2	N/A
ELP Safety Service Patrol-HERO	HIGHWAY EMERGENCY RESPONSE OPERATIONS (HERO)	Countywide	Along I-10, US 54, & LP 375	Operations and Maintenance	\$2,461,146	2022	TXDOT	M091X	N/A



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
IH 10 WIDENING (FM 1905 to SH 20)	EXPAND FROM 4 TO 6 LANES; RAMP RECONFIGURATIONS; RECONSTRUCT EXISTING FRONTAGE ROADS AND OPERATIONAL IMPROVEMENTS	0.22 MILES WEST OF FM 1905 (ANTONIO ST)	SH 20 (MESA ST)	New/ Expanded Roadway	\$173,650,246	2022	TXDOT	I405X-CAP	26
Loop 375 (Purple Heart) Widening and Construction of Frontage Roads	Widen 4 to 6 lanes on mainlanes and construct 2 lane frontage roads in each direction	Spur 601	US 62/180 (Montana Ave)	New/ Expanded Roadway	\$64,711,295	2022	TXDOT	F057X-CAP	27
NM 404 Widening Project	Widen NM 404 from I-10 to NM 213 from 2 lanes to 4 lanes	NM 404: I-10	NM 404: NM 213 Intersection	New/ Expanded Roadway	\$44,758,000	2022	NMDOT	P620X-CAP	39
FTA Section 5310 El Paso Urbanized Area Grant 2020 - Project Amistad dba Amistad	FTA Section 5310 El Paso Urbanized Area Grant 2020- Project Amistad dba Amistad: Funding for the purchase of four ADA-compliant vehicles and operational funding for 5310 program	El Paso MPO Region	El Paso MPO Region	Public Transit	\$616,037	2022	Project Amistad	T011-20	N/A
FTA 5310 EPMPPO Program Administration FFY 2020 Funds	FTA 5310 Enhanced Mobility for Seniors and Individuals with Disabilities Program for EPMPPO Program Administration FFY 2020 Funds for use in FY 2022.	N/A		Public Transit	\$68,449	2022	EPMPPO	T011-22	N/A
ITS Infra. @ Zaragoza/BOTA POE (OFF-SYS)	The Design, Construction, and Installation of Intelligent Transportation Systems (ITS) at the Bridge of the Americas (BOTA) and Zaragoza Ports of Entry.	At Bridge of the Americas, 1 mile north, south, east, and west of I-10 at US 54 interchange	At Zaragoza Port of Entry, along I-10, 1 mile east and west of Loop 375 interchange, along Loop375 from Padres Drive to 1 mile north of I-10 interchange.	Operations and Maintenance	\$18,000,000	2023	COEP	S501X	4
Sean Haggerty Dr Extension	Construct new 4-Lane bridge with pedestrian and bike facilities from Nathan Bay Dr to Dyer St.	Nathan Bay Dr	Dyer St	New/ Expanded Roadway	\$21,280,341	2023	COEP	B201X-CAP	5



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Traffic Management Center Upgrade Phase 2	The project included the upgrade of the COEP Traffic Management Center and Traffic Signal controller equipment citywide. Ph. 1 is the design phase. Ph. 2-5 are implementation and construction phases.	City of El Paso city limits.	City of El Paso city limits.	Operations and Maintenance	\$3,669,976	2023	COEP	S301E	N/A
John Hayes (Darrington/Berryville) (Construction Phase 1)	Build 2-lane roadway (1 lane in each direction with raised median)	Pellicano Dr.	Montwood	New/ Expanded Roadway	\$12,000,000	2023	County EP	P004X-CAP-1	17
Regional Transit Start-up assistance for FY23	Establish Transit Service to provide a more efficient, single, seamless, transit system in El Paso County, Horizon City, Vinton, Anthony, San Elizario, Clint, and Socorro.	County wide	County wide	Public Transit	\$2,245,213	2023	County EP	T001-3	N/A
N. Darrington Reconstruction	Reconstruction of an existing 4-lane roadway	Eastlake Boulevard	Oxbow Drive	Operations and Maintenance	\$24,780,000	2023	Horizon	A432X	21
Horizon at Darrington Intersection Imp.	Intersection & Operational Imprv	Horizon at Darrington Intersection		Operations and Maintenance	\$6,360,000	2023	TXDOT	A435X	28
SH 178 OPERATIONAL IMPROVEMENTS	Interchange improvements to include grade separation(s), rebuild I-10 overpass, U-turns, 4 Direct Connectors (DC) (3, 2-lane DC and only EB to WB DC will be 1-Lane)	NM/TX STATELINE	IH 10	Operations and Maintenance	\$202,981,500	2023	TXDOT	P136X	29
Spur 320 PH I (BU 54 to Railroad Dr)	SS 320 Borderland Expressway Phase I Construct 2-lane Frontage Roads in each direction and Intersections between BU54 (Dyer) to Railroad Drive	BU54 (Dyer St.)	Railroad Dr.	New/ Expanded Roadway	\$77,647,531	2023	TXDOT	P201B-CAP	30
Montana RTS 1st year Operating Assistance	1st year of Montana RTS operations	Downtown terminal- Santa Fe	Far East Terminal - RC Poe & Edgemere	Public Transit	\$1,917,592	2023	Sun Metro-Transit	T092X	36



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
FTA Section 5310 El Paso Urbanized Area Grant 2021 - Project Amistad dba Amistad	FTA Section 5310 El Paso Urbanized Area Grant 2021- Project Amistad dba Amistad: Funding for the purchase of four ADA-compliant vehicles and operational funding for 5310 program	El Paso MPO Region	El Paso MPO Region	Public Transit	\$623,535	2023	Project Amistad	T011-21	N/A
FTA 5310 EPMPO Program Administration FFY 2021 Funds	FTA 5310 Enhanced Mobility for Seniors and Individuals with Disabilities Program for EPMPO Program Administration FFY 2021 Funds for use in FY 2023.	N/A		Public Transit	\$69,282	2023	EPMPO	T011-23	N/A
Montana RTS 1st year Operating Assistance	1st year of Montana RTS operations	Downtown terminal- Santa Fe	Far East Terminal - RC Poe & Edgemere	Public Transit	\$1,917,592	2023	Sun Metro-Transit	T092X	N/A
Border Highway West Shared Use Path	Project includes installation of an 11-foot asphalt pavement hike and bike trail with irrigated landscaping	Racetrack (2) interchange	Executive Center (2) interchange	Active Transportation (Bike/Ped)	\$1,869,824	2024	COEP	E112X	7
Downtown Bicycle Improvements Phase I	Construct bike facilities downtown to include: buffered bike lanes, conventional bike lanes, bike boulevards, shared lane markings, & protected bike lanes. The project will include road diets, associated signage, wayfinding, striping, & intersection treatments.	Campbell from Missouri; El Paso from Sheldon; Main from Oregon; Mills from Sheldon; Missouri from Santa Fe; Myrtle from Stanton; San Antonio from Anthony; Sheldon from Santa Fe; Virginia to Mills; Magoffin from San Antonio	Campbell to Paisano; El Paso to Overland; Main to Campbell; Mills to Virginia; Missouri to Campbell; Myrtle to Campbell; San Antonio to Virginia; Sheldon to El Paso; Virginia to San Antonio; Magoffin to Virginia	Active Transportation (Bike/Ped)	\$2,572,079	2024	COEP	M089A	8
Traffic Management Center Upgrade Phase 3	The project included the upgrade of the COEP Traffic Management Center and Traffic Signal controller equipment citywide. Ph. 1 is the design phase. Ph. 2-5 are implementation and construction phases.	City of El Paso city limits.	City of El Paso city limits.	Operations and Maintenance	\$5,000,000	2024	COEP	S301F	N/A
Nuevo Hueco Tanks Extension (FM 76 to SH20) - Construction	Build 4 lane roadway and shared-use path	FM 76 North Loop Dr	SH 20- Alameda Avenue	New/ Expanded Roadway	\$21,500,000	2024	Socorro	A527X-CAP-1	24



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
VALLEY CHILE RD RECONSTRUCTION	RECONSTRUCTION OF ROADWAY TO INCLUDE SIDEWALKS, DRAINAGE, LIGHTING AND ILLUMINATION, LANDSCAPING, AND IRRIGATION	SH 20 (DONIPHAN DR)	IH-10	Operations and Maintenance	\$9,550,000	2024	Vinton	A137X	35
Montana RTS 2nd year Operating Assistance	2nd year of Montana RTS operations	Downtown terminal- Santa Fe	Far East Terminal - RC Poe & Edgemere	Public Transit	\$1,300,000	2024	Sun Metro-Transit	T097X	37
Montana RTS 2nd year Operating Assistance	2nd year of Montana RTS operations	Downtown terminal- Santa Fe	Far East Terminal - RC Poe & Edgemere	Public Transit	\$1,300,000	2024	Sun Metro-Transit	T097X	N/A
Dyer Pedestrian and Parkway Improvements	Project includes improvements to pedestrian connectivity and accessibility on Dyer St from Gateway to Hercules Ave. Improves access to BRIO stations at Dyer and Hercules.	Gateway Boulevard North	Hercules Ave	Active Transportation (Bike/Ped)	\$1,816,229	2025	COEP	E201X	10
Traffic Management Center Upgrade Phase 4	The project included the upgrade of the COEP Traffic Management Center and Traffic Signal controller equipment citywide. Ph. 1 is the design phase. Ph. 2-5 are implementation and construction phases.	City of El Paso city limits.	City of El Paso city limits.	Operations and Maintenance	\$5,180,000	2025	COEP	S301G	N/A
John Hayes (Darrington/ Berryville) (Construction Phase 2)	Add 2 lanes in each direction with bike lanes	Pellicano Dr.	Montwood	New/ Expanded Roadway	\$18,000,000	2025	County EP	P004X-CAP-2	19
Downtown Deck Plaza	To construct a Deck Plaza over the sunken I-10 in the downtown area. The proposed deck would add about twelve acres, including amenities such as green space, public gathering space, and entertainment venues.	Prospect Street	Campbell Street	Active Transportation (Bike/Ped)	\$168,800,000	2025	Downtown Deck Plaza Foundation	M308X	20



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Dilley Road and Delake Street Construction	Construction of two roadways, each with two lanes, enhanced pedestrian facilities, bike lanes and illumination to provide access to the Horizon City Transit Oriented Town Center.	Darrington Road	Rodman Street	New/ Expanded Roadway	\$6,184,474	2025	Horizon	A442X	22
Horizon City Transit Plaza	Development of Transit Plaza with parking within the Horizon Country Club Estates Subdivision(s)	Bordered by Darrington Road (west) and Rodman Street (east)	Bordered by Horizon Boulevard (south)	Public Transit	\$3,198,138	2025	Horizon	T410X	23
I-10 FR Ext PH I (Executive to Sunland Park)	Construct 2-lane Westbound Frontage Road, Frontage Road Improvements, and Ramp Improvements	EXECUTIVE CENTER BLVD	SUNLAND PARK DR	New/ Expanded Roadway	\$17,283,296	2025	TXDOT	I061X-CAP-1	31
IH 10 Interchange at Pendale (Lee Trevino to FM659)	CONSTRUCT INTERCHANGE	Lee Trevino	East of FM 659 (Zaragoza Rd)	Operations and Maintenance	\$17,644,180	2025	TXDOT	I006X-15A	32
US54 (PATRIOT FWY) MAINLANES (KENWORTHY TO FM2529) AND RAMP RECONFIGURATION	BUILD 4 LANE DIVIDED HWY AND GRADE SEPARATIONS AND RAMP RECONFIGURATION	KENWORTHY ST	FM 2529 (MCCOMBS ST)	New/ Expanded Roadway	\$41,328,002	2025	TXDOT	F001B-15A	33
Montana RTS 3rd year Operating assistance	3rd year of Montana BRT-RTS operations.	Five Points Terminal- 2830 Montana	Far East Terminal - R.C. Poe- Edgemere	Public Transit	\$2,000,000	2025	Sun Metro-Transit	T093X	38
NM 273/Airport Road Signals	Install traffic signals at intersection NM 273/Airport Road	NM 273 (McNutt Road)/Airport Road Intersection	NM 273 (McNutt Road)/Airport Road Intersection	Operations and Maintenance	\$1,325,481	2025	NMDOT	S601X	40
Montana RTS 3rd year Operating assistance	3rd year of Montana BRT-RTS operations.	Five Points Terminal- 2830 Montana	Far East Terminal - R.C. Poe- Edgemere	Public Transit	\$2,000,000	2025	Sun Metro-Transit	T093X	N/A
Buffalo Soldier Street Improvements	Project includes complete roadway reconstruction, parkway improvements, sidewalks, bicycle facilities, street illumination, landscaping and irrigation, and striping.	Edgemere Blvd	Montana Ave	Active Transportation (Bike/Ped)	\$4,856,897	2026	COEP	R401X	12



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Carolina Street Improvements	Project includes complete roadway reconstruction, parkway improvements, bicycle facilities, street illumination, and striping on Carolina Dr from Stiles Dr to North Loop Dr.	Stiles Dr	North Loop Dr	Active Transportation (Bike/Ped)	\$3,273,082	2026	COEP	R501X	13
Railroad Dr. Widening and Reconstruction	Addition of one lane in each direction from Purple Heart Highway to Shrub Oak to increase capacity from two to four lanes. Project includes road rehabilitation and reconstruction of existing road from Purple Heart Highway to Shrub Oak Drive.	Purple Heart Highway	Shrub Oak Drive	New/ Expanded Roadway	\$14,856,000	2026	COEP	P219X-CAP	14
Traffic Management Center Upgrade Phase 5	The project included the upgrade of the COEP Traffic Management Center and Traffic Signal controller equipment citywide. Ph. 1 is the design phase. Ph. 2-5 are implementation and construction phases.	City of El Paso city limits.	City of El Paso city limits.	Operations and Maintenance	\$6,294,000	2026	COEP	S301H	N/A



Table 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
US 62/180 (Montana Ave.) Expressway & Frontage Roads, Phase II	Construct 6 lane (expressway) MLs EB/WB with auxiliary lanes and grade separations at intersections from Tierra Este Rd to FM 659 (Zaragoza Rd). Build 2 lane WB/EB FRs in each direction from Tierra Este Rd to FM 659 Zaragoza Rd. Reconstruct 6 lane WB/EB ML from Global Reach Dr. to Lee Trevino Dr. to include auxiliary lanes and grade separation at intersection. Reconstruct existing EB FR from Global Reach Dr. to Tierra Este Rd in concrete (no added capacity). Work includes drainage, advanced signing, striping, transitional and incidental work (operation improvements) up to FM 659 (Zaragoza Rd). Project scope may be further phased depending on funding availability.	Global Reach Dr.	Zaragoza Rd. (FM 659)	New/ Expanded Roadway	\$153,766,234	2026	TXDOT	F407B-CAP	34
NM 213 Widening Project	Widen NM 213 from 2 to 4 lanes	Intersection with NM 404 (MP 0)	TX State Line (MP 3)	New/ Expanded Roadway	\$9,000,000	2026	NMDOT	P621X-CAP	41

FIGURE 8-1: RMS 2050 MTP IMMEDIATE (2022) & IMPLEMENTATION STAGE PROJECTS (2023-2026)

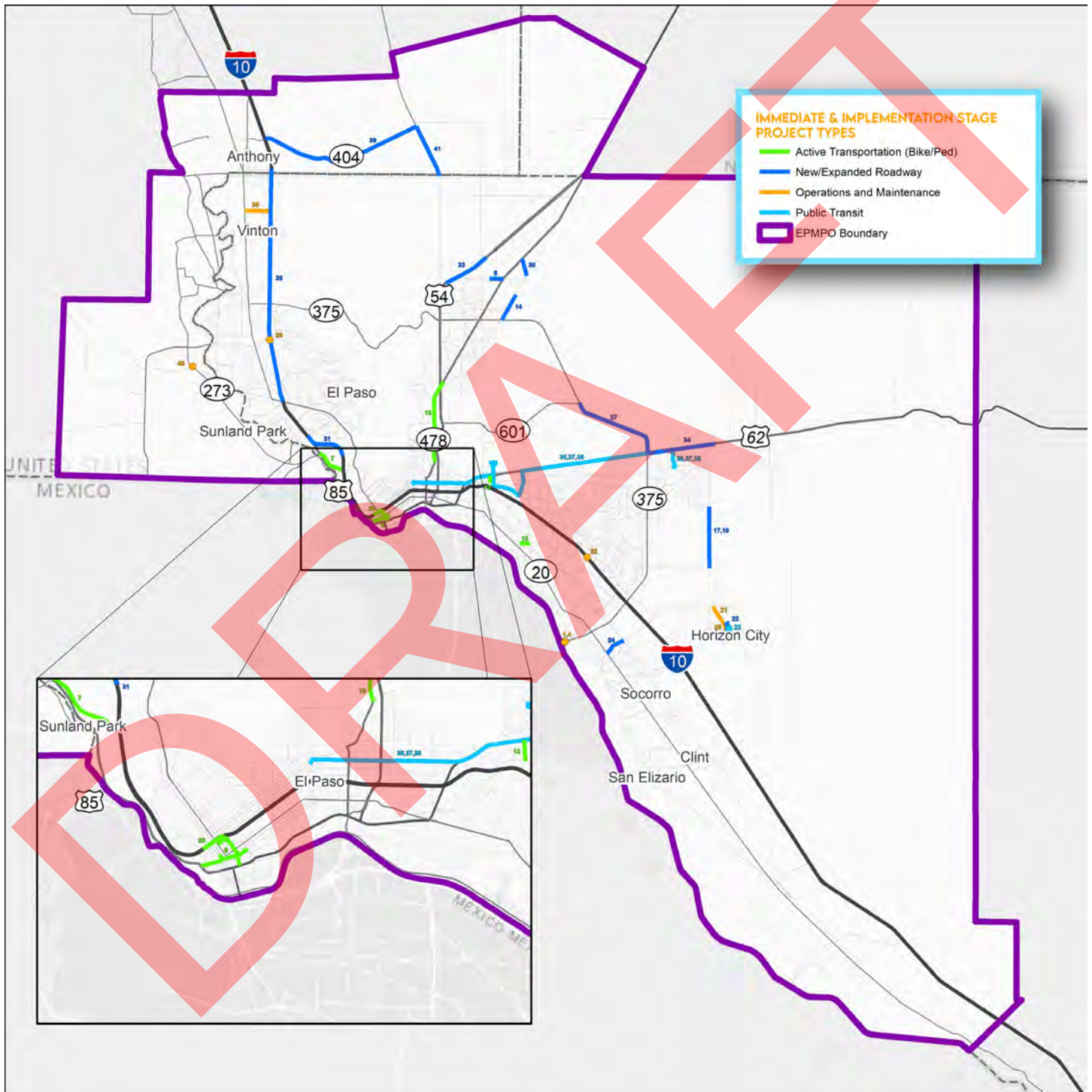


TABLE 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032)

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Bicycle Infrastructure Citywide	Construct bicycle facilities citywide to include: buffered bike lanes, conventional bike lanes, bicycle boulevards, shared lane markings, and protected bicycle lanes. The project will include, associated signage, wayfinding, striping, and intersection treatments	High Ridge from Resler; Ojo de Agua from Westwind; Sean Haggerty to US 54 (Patriot Freeway); Montwood from Yarbrough; Lomaland from Montwood; Pellicano from George Dieter; Peter Cooper from Pellicano; George Dieter from Vista del Sol; Pebble Hills from George Dieter	High Ridge to Franklin Hills; Ojo de Agua to Via Descanso; ; ; Montwood to Lee Trevino; Lomaland to Trawood; Pellicano to Loop 375; Peter Cooper to Missy Yvette Dr.; George Dieter to Montwood; Pebble Hills to Lisa Scherr	Active Transportation (Bike/Ped)	\$6,649,443	2027	COEP	M090X	42
Playa Drain Hike and Bike Trail (Yarbrough to Midway)	Pedestrian and bicycle facilities with signage, sidewalks, landscaping, furnishings and illumination.	Yarbrough Dr	Midway Dr	Active Transportation (Bike/Ped)	\$4,047,624	2027	COEP	E501X-2	43
Sun Valley Street Improvements Gateway Blvd North to Kenworthy	Roadway reconstruction of existing roadway, road diet reduction from 4 lanes to 2 lanes, buffered bike lane, street illumination, landscaping and irrigation, and striping on Sun Valley Dr from Gateway Blvd North to Kenworthy St.	Gateway Blvd North	Kenworthy St.	Operations and Maintenance	\$3,490,138	2027	COEP	R201X	44
Tierra Este (Arterial 1) -Phase I	Build 2-lane roadway (1 lane in each direction with raised median)	Cozy Cove Ave.	Pellicano Dr.	New/ Expanded Roadway	\$18,600,000	2027	County EP	P002X-CAP-1	52
Borderland Expressway, Phase 2: FM3255 to Railroad Dr.	Borderland Expressway Phase II Construct New Divided 4 Lane Facility between FM 3255 to Railroad Drive	FM3255	Railroad Dr.	New/ Expanded Roadway	\$150,390,183	2027	TXDOT	P201B-CAP2	61



Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
DOWNTOWN 10 EXECUTIVE CENTER to SL478COPIA Segment 2	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE/ TRANSIT LANE EACH DIRECTION, ADD 2-LANE FRONTAGE ROADS EACH DIRECTION, RAMP AND OPERATIONAL IMPROVEMENTS, AND BIKE PATHS.	EXECUTIVE CENTER	SL 478 (COPIA ST)	New/ Expanded Roadway	\$787,274,500	2027	TXDOT	I063X-CAP	62
Far East Connector	Zaragoza, Alameda, Montana Connection (Bus and Roadway Improvements); build park and ride lot @ Zaragoza @ Pellicano or Vista Del Sol for connectivity to R.C. Poe terminal and Loop 375 plus provide express service to terminals and Zaragoza POE.	Montana	Zaragoza POE	Active Transportation (Bike/Ped)	\$9,620,794	2027	Sun Metro-Transit	T081X	69
NM 498 (Anapra)	Reconstruction of an existing 2-lane roadway. Scope includes Design, Construction and Construction Management of roadway reconstruction, drainage, erosion control, and permanent signing & striping. Shared use path to be included.	McNutt Road	Sunland Park Extension	Operations and Maintenance	\$1,758,626	2027	Sunland Park	R615X	71
Race Track Drive	Reconstruction of an existing 2-lane roadway. Scope includes Design Construction and Construction Management of roadway reconstruction, drainage, erosion control, and permanent signing & striping. Shared use path to be included.	Doniphan Drive	McNutt Road	Operations and Maintenance	\$1,605,007	2027	Sunland Park	R616X	72

Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Sunland Park Drive Extension	Add 1 lane in each direction from State Line to McNutt. Build 4-lane roadway from McNutt to Sunland Park POE. Scope includes Design Construction and Construction Management of roadway widening and new roadway construction, drainage, erosion control, and permanent signing & striping.	Texas State Line	Sunland Park POE	New/ Expanded Roadway	\$4,953,302	2027	Sunland Park	A607X	73
Sunland Park (Camino Real de Tierra Adentro) POE	New International Port of Entry (POE) Crossings for passenger vehicles and pedestrians in Sunland Park, NM. This POE will connect Sunland Park, NM to Anapra/Ciudad Juarez, in Chihuahua, Mexico.	To be built at the international border , with 4-lane roadway connecting to the Sunland Park Extension and to U.S/Mexico Border		Cross Border Travel	\$81,696,843	2027	Sunland Park	C601X	74
St. Francis Drive Extension	Build 2-lane roadway. Scope includes Design, Construction and Construction Management of new roadway construction, drainage, environmental, erosion control, and permanent signing & striping. Shared use path to be included.	Pete Domenici Memorial Hwy (NM 136)	Sunland Park Extension	New/ Expanded Roadway	\$19,354,859	2027	NM Border Authority	A606X	75
Border Traveler and Cargo ITS	Regional Cross-Border Travel Information to Local Travelers, Commercial Vehicles, Fleet Managers, Manufacturers, Maquiladoras, and Others.	Zaragoza POE	Zaragoza POE	Operations and Maintenance	\$1,727,956	2028	COEP	C032X	45

Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Video Surveillance and Count Stations Phase II	The project includes installation or integration of new count stations, dynamic message signs, hardware and software, conduit, fiber optic cable and the communication systems into the City of El Paso's Traffic Management Center (TMC) and TXDOT's Trans-Vista. The proposed locations include: Resler & Helen of Troy, Doniphan & Sunland Park, Diana & Railroad, Airport & Airway, Resler & High Ridge, Mesa & Executive Center, Montana & Copia, Airway & Boeing, Resler & Redd Rd., Paisano & Santa Fe, Montana & Reynolds, Edgemere & Airway Redd Rd. & Thorn, Hondo Pass & Dyer, Montana & Trowbridge, Airway & Viscount, Redd Rd. & Doniphan, Hondo Pass & Railroad, Alameda & Piedras, Hawkins & Edgemere, Hawkins & Viscount, Hawkins & Market, Hawkins & Phoenix, Lee Trevino & Yermoland, Lee Trevino & Castner, George Dieter & Trawood, George Dieter & Rojas, Redd & Derrickson, Redd Rd (60 Ft west of Southwestern) Yarbrough (30 Ft. SW of North Loop) Resler & Plaza Taurina, Viscount (100 Ft. east of Golden Key), Viscount & Grover.	Multiple roadway intersections within the community as described in the project description.	Multiple roadway intersections within the community as described in the project description.	Operations and Maintenance	\$3,366,838	2028	COEP	M025B	N/A



Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Bob Hope Ext. Phase I	Build 6- Lane divided with bike lanes	Loop 375	Mission Ridge Blvd (Arterial 1)	New/ Expanded Roadway	\$9,386,014	2028	County EP	A434X-CAP-1	53
Tierra Este (Arterial 1) -Phase II	Add 1 lane in each direction from Cozy Cove Ave. to Montwood Dr., and add 2 lanes in each direction from Montwood Dr. to Pellicano Dr. with bike lanes	Cozy Cove Ave.	Pellicano Dr.	New/ Expanded Roadway	\$11,400,000	2028	County EP	P002X-CAP-2	54
4-D Tigua Spur of Paso del Norte Trail	A 12-foot shared-use path for bicyclists and pedestrian along the Franklin Feeder canal (4-B Socorro Spur of PDN Trail)	Alameda Avenue/ Franklin Feeder Canal	Socorro Rd./ Franklin Feeder Canal	Active Transportation (Bike/Ped)	\$1,726,308	2028	Socorro	M506X	58
NM 404/NM 213 Interchange Improvement Project	This project is proposed to improve the safety and capacity of the NM 40 4/NM 213 Intersection (round about). Full build-out would include grade separation (fly-over) to support free flow freight traffic.	NM 404, MP 8.0 and NM 213 MP 2.5	NM 404 MP 9.0 and NM 213 MP 3.5	Operations and Maintenance	\$38,867,581	2028	NMDOT	B608X	70
Saul Kleinfeld Street Improvements	Project includes complete roadway reconstruction, parkway improvements, bicycle facilities, landscaping and irrigation, and striping on Saul Kleinfeld Dr from Montwood Dr to Pebble Hills Blvd.	Montwood Dr	Pebble Hills Blvd	Active Transportation (Bike/Ped)	\$18,982,200	2029	COEP	R402X	46
Zaragoza POE Pedestrian Drop Off and Pick Up Areas	Project includes design and construction of pedestrian drop off and pick up areas for pedestrians walking to and from Juarez. Drop off and pick up areas will include sidewalks, illumination, landscaping and irrigation.	Zaragoza POE		Active Transportation (Bike/Ped)	\$3,797,232	2029	COEP	E406X	47



Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Horizon City - Socorro Bus Circulator	A transit route that provides service to and from the City of Socorro, Horizon City, and the Mission Del Paso EPPC Campus. This is being proposed as a three year pilot program; the cost presented is for the three year total.	Horizon City, TX (stop at future TOD site at Horizon Blvd. and Darrington Road)	Socorro, TX (stops near Nuevo Hueco Tanks Road and North Loop Drive and at EPPC Mission Del Paso Campus)	Active Transportation (Bike/Ped)	\$923,784	2029	Horizon	T411X	56
Horizon City to UTEP Express Route	A transit route that provides service to UTEP from Horizon City at peak hours. This is a pilot program that will begin with two morning routes and two afternoon routes. This is being proposed as a three year pilot program; the cost presented is for the three year total.	Horizon City, TX	Glory Road Transit Station	Active Transportation (Bike/Ped)	\$611,908	2029	Horizon	T412X	57
Segment of 4-B Socorro Spur of Paso del Norte Trail	A 12-foot shared-use path for bicyclists and pedestrian along the Socorro Lateral segment of 4-B Socorro Spur of PDN Trail	Alameda Avenue/ Place Road	Socorro Rd./ Holguin Rd.	Active Transportation (Bike/Ped)	\$1,369,538	2029	Socorro	M507X	59
Borderland Expressway, Phase 3: BU54 (Dyer St.) to SL 375	Borderland Expressway Phase III Construct New Divided 4 Lane Facility from Railroad to SL 375 and Transitional work from BU54 (Dyer) to Railroad Drive	BU54 (Dyer St.)	SL 375	New/ Expanded Roadway	\$139,044,178	2029	TXDOT	P201B-CAP3	63
Intersection Operational Improvements at Montana Ave./ Paisano Dr.	Intersection Operational Improvements at Montana Ave./ Paisano Dr.	At Montana Ave		Operations and Maintenance	\$839,140	2029	TXDOT	P334X	64
Mesa Park Dr (I-10 to Mesa)	Build 4-Lane Divided. This is for the construction phase only.	I-10	Mesa	New/ Expanded Roadway	\$40,733,186	2030	COEP	A126X-CAP	48



Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Sunland Park Hike and Bike Trail	Reconstruction of Sunland Park Dr and construction of a pedestrian and bicycle facility with associated signage, landscaping and irrigation, furnishings, and illumination.	Cadiz St.	Mesa St.	Active Transportation (Bike/Ped)	\$9,642,159	2030	COEP	E111X	49
Montwood Ext.	Build 6-Lane divided with bike lanes	Sheyra St.	Rich Beam	New/ Expanded Roadway	\$19,828,699	2030	County EP	A438X	55
George Perry Extension	Build 4-Lane Divided.	George Perry Boulevard	Constitution	New/ Expanded Roadway	\$27,729,886	2031	COEP	A437X	50
Zaragoza POE Pedestrian Shade Canopies	Project includes design and construction of canopy shade structures for pedestrians, sidewalks as required, illumination, landscaping and irrigation.	Zaragoza POE		Active Transportation (Bike/Ped)	\$12,368,756	2031	COEP	E407X	51
Arterial 1 East (1682 Blvd.)	Construction of new roadway with 4 lanes divided, bike lane and shared use path	FM258 (Socorro Rd.)	IH-10	New/ Expanded Roadway	\$19,214,709	2031	Socorro	A433X-CAP-1	60
FM659 Widening (LP375 to US62/180)	WIDEN FROM 4 LANE TO 6 LANE AND INTERSECTION IMPROVEMENTS	SL 375 (JOE BATTLE)	US 62/180 (Montana)	New/ Expanded Roadway	\$49,134,284	2031	TXDOT	P428X-MOD	65
I-10 SEG3A (Copia to Paisano)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE/ TRANSIT LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS AND RAMP IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	SL 478 (COPIA ST)	US 62 (PAISANO DR)	New/ Expanded Roadway	\$319,090,800	2031	TXDOT	I064X-CAP	66



Table 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Widen to 6 lane divided FM 1281 (I-10 to Ascension)	RECONSTRUCT HORIZON BLVD NORTH OF I-10 TO THREE LANES IN EACH DIRECTION WITH A 14' RAISED MEDIAN, DIRECTIONAL MEDIAN OPENINGS, AND BUS PULLOUTS	I-10	Ascension	New/ Expanded Roadway	\$32,892,489	2031	TXDOT	P466X-CAP	67
UTEP Transportation Improvements of Glory Road	Geometry design and intersection improvements to Glory Road to improve vehicular flow without adding roadway capacity	Oregon Street	Sun Bowl Drive	Operations and Maintenance	\$5,636,578	2032	UTEP	A307X-B	68

FIGURE 8-2: RMS 2050 MTP SHORT-TERM STAGE PROJECTS (2027-2032)

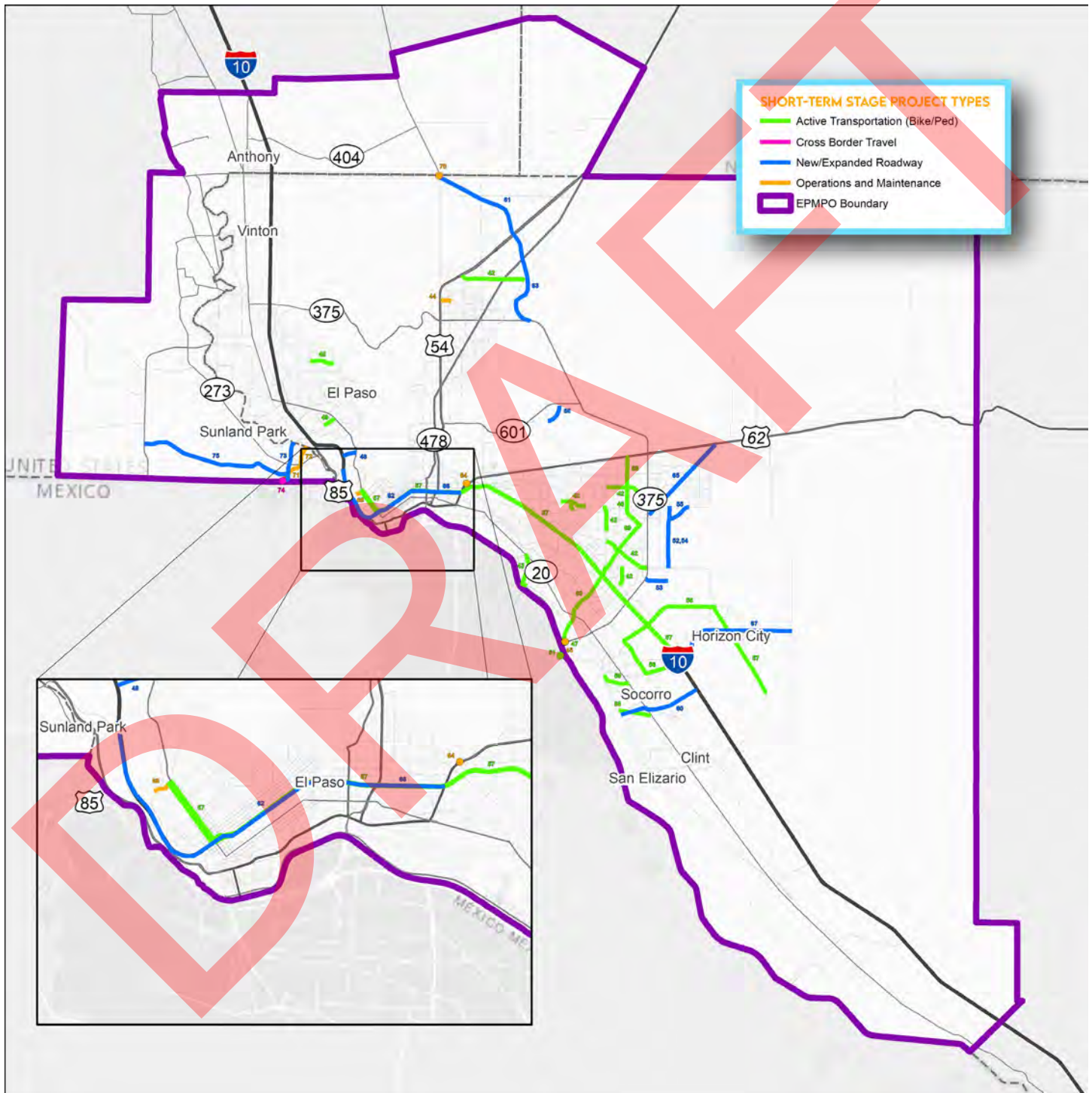


TABLE 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040)

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Edgemere Street Improvements	Project includes complete roadway reconstruction, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Edgemere Blvd from McRae Blvd to Yarbrough Dr.	McRae Blvd	Yarbrough Dr	Active Transportation (Bike/Ped)	\$14,060,983	2033	COEP	R402X	76
GLOBAL REACH DR RECONSTRUCTION AND ADDITION OF FRONTAGE ROADS	Reconstruction of existing mainlanes (6 lanes, 3 in each direction), construct 4 lane frontage roads (2 in each direction), and single lane direct connectors at SS 601 NB to WB and EB to SB.	(ON GLOBAL REACH DR) US 62/180 MONTANA AVE	SS 601	New/ Expanded Roadway	\$32,421,300	2033	COEP	F405X-CAP	77
MONTANA AVE. OVERPASS AT RAILROAD	CONSTRUCT OVERPASS AT RAILROAD ON MONTANA AVE.	COTTON RD	PALM ST	Operations and Maintenance	\$27,547,245	2033	COEP	B300X	78
Montwood Drive Widening	Addition of one lane in each direction to increase capacity from 4 to 6 lanes and a bike facility within existing right of way. Project includes road rehabilitation and ADA compliant pedestrian ramps.	Firehouse Drive	Sun Fire Boulevard	New/ Expanded Roadway	\$15,233,733	2033	COEP	P443X-CAP	79
Playa Drain Hike and Bike Trail (Liberty-Whittier)	Pedestrian and bicycle facilities with signage, sidewalks, landscaping, furnishings and illumination.	Liberty St.	Whittier Dr.	Active Transportation (Bike/Ped)	\$1,404,952	2033	COEP	E501X-1	80
Stanton Two-Way Cycle Track Roadway Improvements	Project includes installation of two-way cycle track facilities. Project will include road diet reduction from 3 lanes to 2 lanes.	San Antonio Avenue	Rio Grande Avenue	Active Transportation (Bike/Ped)	\$964,543	2033	COEP	E303X	81



Table 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Sunland Park Street Improvements	Project includes complete roadway reconstruction, parkway improvements, shared use path, street illumination, landscaping and irrigation, and striping on Sunland Park Dr.	Mesa St	Cadiz St	Operations and Maintenance	\$15,194,165	2033	COEP	R100X	82
Trowbridge Dr I-10 to Marlow Street Improvements	Project includes complete roadway reconstruction, parkway improvements, bicycle facilities, street illumination, landscaping and irrigation, and striping on Trowbridge Dr and Trowbridge Ave from Marlow Rd to Gateway Blvd East	Marlow Rd	Gateway Blvd East	Operations and Maintenance	\$13,777,141	2033	COEP	R403X	83
Westwind Bicycle Improvements	Striping, pedestrian, signal and signage improvements to incorporate bicycle facilities.	Redd Rd	Thunderbird Dr.	Active Transportation (Bike/Ped)	\$2,806,132	2033	COEP	E110X	84
Zaragoza Rd. RR Overpass	Construction of a new bridge over the Railroad	Rabe Ct.	Sunland Rd	Operations and Maintenance	\$27,203,184	2033	COEP	B504X	85
Ascension Widening Phase 1	Build/Widening of a 2-lane road to a 4-Lane divided with bike lanes	Horizon Blvd	Pellicano Dr.	New/ Expanded Roadway	\$26,250,000	2033	County EP	A439A	86
Bob Hope Ext. Phase II	Build 4- Lane divided with bike lanes	Peyton	Berryville/ Darrington	New/ Expanded Roadway	\$11,588,097	2033	County EP	A434X-CAP-2	87
FM1110 New Location (SH20 to FM76)	CONSTRUCT A NEW 4 LANE DIVIDED ARTERIAL	SH 20 (ALAMEDA AVE)	FM 76 (NORTH LOOP)	New/ Expanded Roadway	\$30,945,500	2033	County EP	P520B-2-15A	88
FM1110 Widening (FM76 to IH10)	CONSTRUCT AND UPGRADE TO 4 LANE DIVIDED ARTERIAL	FM 76 (NORTH LOOP)	I-10	New/ Expanded Roadway	\$8,881,880	2033	County EP	P520B-1-15A	89
Peyton Rd. Widening/ Reconstruction	Widening road from 2-lane to 4-Lane with bike lanes	Mark Twain Ave.	Horizon Blvd.	New/ Expanded Roadway	\$18,587,159	2033	County EP	A440X	90
Vista del Sol Ext.	Build 4-Lane divided with bike lanes	Cherrington St.	Horizon Mesa Dr.	New/ Expanded Roadway	\$17,308,500	2033	County EP	A436X	91



Table 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Westway Blvd. Widening/ Reconstruction	Add 1 lane in each direction from Desert Blvd. to De Alva Dr. and add 2 lanes in each direction from De Alva Dr. to Tom Mays Dr.. Divided roadway with bike lanes	Desert Blvd	Tom Mays Dr.	New/ Expanded Roadway	\$9,184,243	2033	County EP	A138X	92
Tom Mays/ Northwestern Ext. (Construction)	Build 2- Lane divided with bike lanes	Westway Blvd	Transmountain (Loop 375)	New/ Expanded Roadway	\$15,948,744	2033	County EP & COEP	A135X-CAP	93
Arterial 1 West (1682 Blvd.)	Construction of new roadway with 4 lanes divided, bike lane and shared use path	Future Border Highway East (BHE)	FM258 Socorro Rd.)	New/ Expanded Roadway	\$8,466,997	2033	Socorro	A433X-CAP-2	94
Nuevo Hueco Tanks Extension-Phase II	Build a 4-lane roadway and shared-use path	SH 20- Alameda Avenue	Border Highway East (BHE)	New/ Expanded Roadway	\$15,394,541	2033	Socorro	A527X-CAP-2	95
Rio Vista Road Widening	Widen Rio Vista Road to a 4-lane roadway and shared-use path	FM 76- North Loop Drive	Buford Road	New/ Expanded Roadway	\$30,228,699	2033	Socorro	A529X	96
BORDER HWY EAST (BHE), PH 1	BUILD 4 LANES DIVIDED HWY INCLUDING 2-lane Direct connectors at SL 375 (WB-WB and EB-EB direction coming in/out of BHE) and connection to Pan American at Winn Road	SL 375 (AMERICAS AVE)	NUEVO HUECO TANKS EXTENSION	New/ Expanded Roadway	\$165,404,610	2033	TXDOT	F059X-CAP-1	97
FM 3255 (MARTIN LUTHER KING JR BLVD.) WIDENING	WIDEN FROM 2 LANES TO 4 LANES DIVIDED INCLUDING REHAB ON EXISTING 4 LANE SEGMENT.	TX/NM STATELINE	LOMA REAL AVE	New/ Expanded Roadway	\$22,071,366	2033	TXDOT	P206B-15A	98
I-10 FR Ext PH II (Sunland Park to Executive)	Construct 2-lane Eastbound Frontage Road, Frontage Road Improvements, and Ramp Improvements	SUNLAND PARK DR	EXECUTIVE CENTER BLVD	New/ Expanded Roadway	\$30,100,503	2033	TXDOT	I061X-CAP-2	99
I-10 SEG3B (Paisano to Airway)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE/ TRANSIT LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP AND OPERATIONAL IMPROVEMENTS, AND BIKE/PED AMENITIES.	US 62 (PAISANO DR)	AIRWAY BLVD	New/ Expanded Roadway	\$238,552,524	2033	TXDOT	I065X-CAP	100



Table 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
IH10 Rehab (FM1905 to SS37) PH4	REHAB AND OPERATIONAL IMPROVEMENTS - EASTBOUND FRONTAGE ROAD (PHASE IV)	FM 1905 (ANTONIO STREET)	STATE SPUR 37 (WESTWAY BLVD)	Operations and Maintenance	\$9,273,160	2033	TXDOT	I102X	101
IH10 Widening (FM1281 to FM1110)	ADD 1 LANE EACH DIRECTION, OPERATIONAL AND INTERSECTION IMPROVEMENTS, INCLUDES NEW INTERCHANGE	FM 1281 (HORIZON BLVD)	FM 1110 (CLINT)	New/ Expanded Roadway	\$96,893,238	2033	TXDOT	I066X-CAP	102
Mesa Park Dr (I-10 to Doniphan)	BUILD 4 LANE UNDIVIDED ROAD EXTENSION	IH-10	SH 20 (DONIPHAN DR.)	New/ Expanded Roadway	\$15,088,948	2033	TXDOT	A136X-CAP	103
US 54 (PATRIOT FWY) MAINLANES	BUILD 4 LANE DIVIDED (2-LANES EACH DIRECTION) HWY AND GRADE SEPARATIONS.	FM 2529 (MCCOMBS ST)	STATE LINE RD	New/ Expanded Roadway	\$242,233,096	2033	TXDOT	P218X-CAP	104
Park and Ride Far West	Create a Park and Ride site in Far West El Paso in the area of I-10 and Transmountain	Loop 375 Westside	Desert Boulevard	Public Transit	\$5,283,086	2033	Sun Metro-Transit	T106	105
Acosta Road Rehabilitation	Scope includes planning, design, and construction and construction management of a full depth roadway reconstruction, drainage, underground storm drain, erosion control, sidewalk and ADA wheelchair ramps, and permanent signing & striping. The project also includes bike lanes and/or bike routes.	I-10 W Frontage Road	Anthony Drive	Operations and Maintenance	\$13,994,033	2033	Anthony, NM	R612X	106



Table 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Clark Avenue Rehabilitation	Scope includes planning, design, and construction and construction management of a full depth roadway reconstruction, drainage, underground storm drain, erosion control, sidewalk and ADA wheelchair ramps, and permanent signing & striping. The project also includes bike lanes and/or bike routes.	Texas State Line	Landers Ave	Operations and Maintenance	\$10,884,248	2033	Anthony, NM	R613X	107
NM 136/Airport Road Grade Separation	Convert NM 136/ Airport Road from an at-grade intersection to a grade separated interchange with exit/entrance ramps	Intersection NM 136 (Pete Dominici Hwy) and Airport Road	Intersection NM 136 (Pete Dominici Hwy) and Airport Road	Operations and Maintenance	\$60,500,000	2033	NMDOT	B609X	108
NM 136/NM 273 Grade Separation	Convert NM 136/ NM 273 from an at-grade intersection to a grade separated interchange with exit/entrance ramps	Intersection NM 136 (Pete Dominici Hwy) and NM 273 (McNutt Road)	Intersection NM 136 (Pete Dominici Hwy) and NM 273 (McNutt Road)	Operations and Maintenance	\$67,100,000	2033	NMDOT	B610X	109
Downtown Bicycle Improvements Phase II	Construct bicycle facilities downtown to include: buffered bike lanes, conventional bike lanes, bicycle boulevards, shared lane markings, and protected lanes. The project will include associated signage, wayfinding, striping, and intersection treatments.	Myrtle from Campbell; Oregon from Missouri; Stanton from San Antonio; Franklin from Los Angeles	Myrtle to Virginia; Oregon to Paisano; Stanton to Paisano; Franklin to Durango	Active Transportation (Bike/Ped)	\$2,181,134	2033	COEP	E304X	110

FIGURE 8-3: RMS 2050 MTP MEDIUM-TERM STAGE PROJECTS (2033-2040)

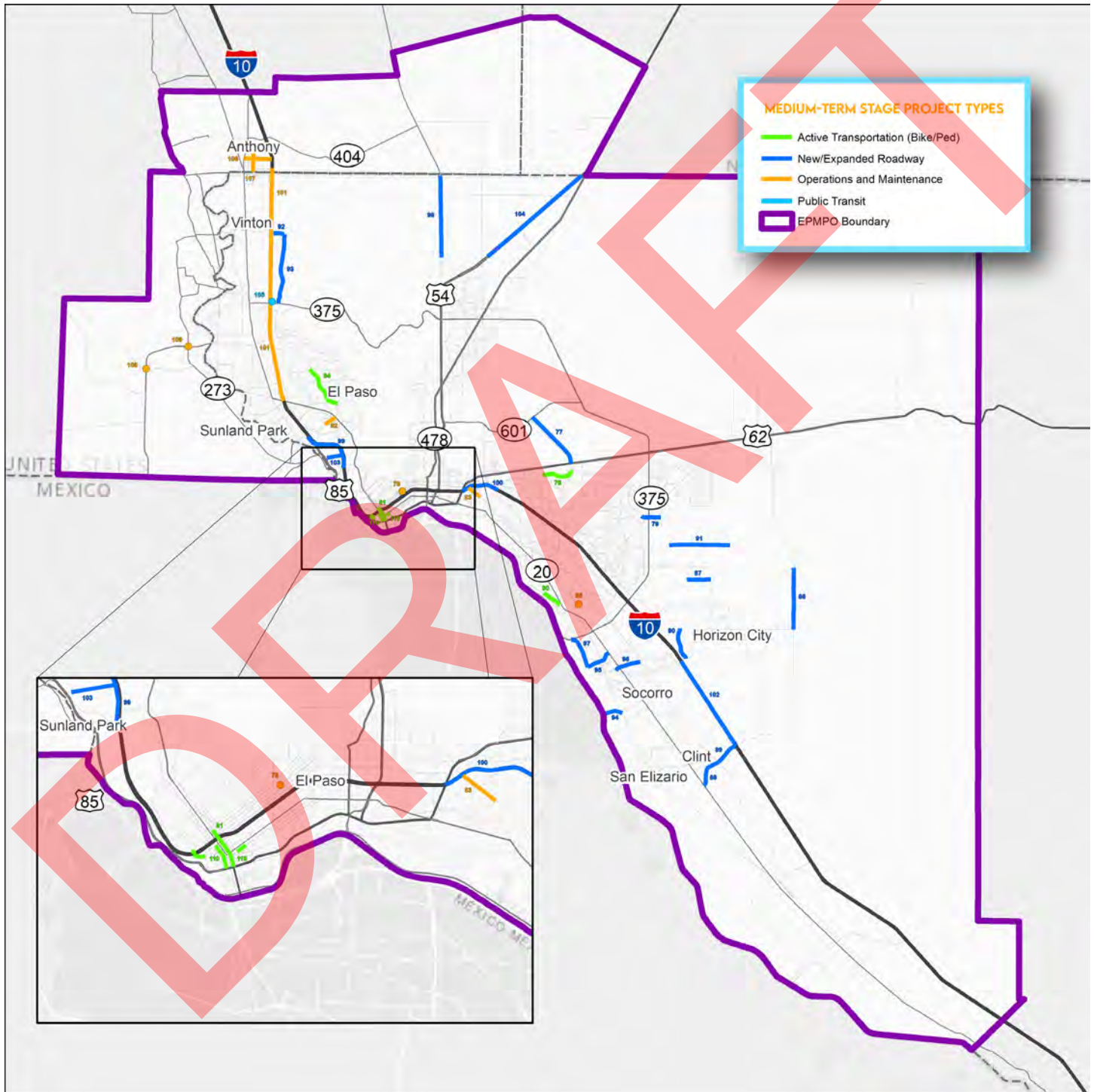




TABLE 8-4: RMS 2050 MTP LONG-TERM STAGE PROJECTS (2041-2050)

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Ascension Widening Phase 2	Build/Widening of a 2-lane road to a 4-Lane divided with bike lanes	Pellicano Dr.	Greg St	New/ Expanded Roadway	\$45,937,500	2041	County EP	A439B	111
Darrington Widening	Widen from 2-lane to 4-Lane divided	LTV Rd	IH-10	New/ Expanded Roadway	\$61,111,794	2041	County EP	A407X-25A	112
Los Mochis Ext.	Build 4-Lane divided with bike lanes	I-10	Northwestern Dr.	New/ Expanded Roadway	\$11,602,945	2041	County EP	A139X	113
Alberton Avenue/ Antwerp Road Construction	Construction and Reconstruction of Alberton Avenue and Antwerp Road to include pedestrian and bicycle facilities and illumination.	FM 1281 (HORIZON BLVD)	Darrington Road	New/ Expanded Roadway	\$13,335,727	2041	Horizon	A441X	114
N. Kenazo Avenue Reconstruction	Reconstruction of existing 4-lane roadway to include pedestrian and bicycle facilities and illumination.	Eastlake Boulevard	FM 1281 (HORIZON BLVD)	Operations and Maintenance	\$15,035,863	2041	Horizon	R404X	115
South Darrington Road Repaving	Repaving of South Darrington Road from Oxbow Drive to Alberton Avenue	Oxbow Drive	Alberton Avenue	Operations and Maintenance	\$10,048,861	2041	Horizon	A431X	116
BORDER HWY EAST (BHE), PH 2	BUILD 4 LANES DIVIDED HWY	NUEVO HUECO TANKS EXTENSION	ARTERIAL 1	New/ Expanded Roadway	\$52,671,229	2041	TXDOT	F059X-CAP-2	117
I-10 Reconstruction (EASTLAKE BLVD to FM 1281 (HORIZON BLVD))	MAINLANES RECONST, RAMP IMPROVEMENTS, EASTLAKE AND HORIZON INTERCHANGE RECONST.	EASTLAKE BLVD	FM 1281 (HORIZON BLVD)	New/ Expanded Roadway	\$147,909,000	2041	TXDOT	I407X	118
I-10 SEG1G (THORN TO EXECUTIVE)	ADD 1 ADAPTIVE LANE EACH DIRECTION AND RAMP/FLYOVER IMPROVEMENTS	THORN AVE	EXECUTIVE CENTER BLVD	New/ Expanded Roadway	\$62,153,251	2041	TXDOT	I067X-CAP	119



Table 8-4: RMS 2050 MTP LONG-TERM STAGE PROJECTS (2041-2050) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
I-10 SEG3C(AIRWAY TO YARBROUGH)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	AIRWAY BLVD	YARBROUGH DR	New/ Expanded Roadway	\$433,811,173	2041	TXDOT	I068X-CAP	120
I-10 SEG3D1 (YARBROUGH TO FM659)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP AND DC IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	YARBROUGH DR	FM 659 (ZARAGOZA)	New/ Expanded Roadway	\$337,408,690	2041	TXDOT	I069X-CAP	121
I-10 SEG3D2 (FM659 TO EASTLAKE)	ADD 1 LANE EACH DIRECTION, ADD 1 ADAPTIVE LANE EACH DIRECTION, FRONTAGE ROAD IMPROVEMENTS, RAMP AND DC IMPROVEMENTS, INTERSECTION IMPROVEMENTS, AND BIKE/PED AMENITIES.	FM 659 (ZARAGOZA)	EASTLAKE	New/ Expanded Roadway	\$337,408,690	2041	TXDOT	I070X-CAP	122
US62/180 (Global-FM659) Op Imp & DCs	Construction of single lane Direct Connector ramps at US 62/180 and Global Reach Dr. (SB-EB and WB-NB) and at US 62/180 and Loop 375 (EB-SB, NB-WB, SB-EB, WB-NB) for operational improvements at the intersections. Work to include advanced signing, striping and incidental work to FM 659 (Zaragoza Rd.)	Global Reach Dr.	Zaragoza Rd. (FM 659)	Operations and Maintenance	\$102,171,694	2041	TXDOT	F407C	123



Table 8-4: RMS 2050 MTP LONG-TERM STAGE PROJECTS (2041-2050) cont.

PROJECT	DESCRIPTION	FROM	TO	TYPE	TOTAL PROJECT COST	YEAR	SPONSOR	PROJECT ID	MAP ID
Church Street Rehabilitation	Scope includes planning, design, and construction and construction management of a full depth roadway reconstruction, drainage, underground storm drain, erosion control, sidewalk and ADA wheelchair ramps, and permanent signing & striping. The project also includes bike lanes and/or bike routes.	I-10 W Frontage Road	N 1st Street	Operations and Maintenance	\$15,764,175	2041	Anthony, NM	R614X	124
NM 9 Safety Corridor	Add shoulder and passing lanes to existing two lane roadway	NM 80	Junction NM 136 (Pete Dominici HWY)	Operations and Maintenance	\$11,000,000	2041	NMDOT	P622X	125
Design and Construction for Streetcar Phase II - Service to MCA	Design & Construction planning, specifications & construction for extending streetcar route to MCA, Texas Tech, Foster School area.	Downtown Terminal - Santa Fe	Alameda at Colfax	Public Transit	\$300,846,627	2041	SUN METRO-TRANSIT	T305-CAP-2	126

FIGURE 8-4: RMS 2050 MTP LONG-TERM STAGE PROJECTS (2041-2050)

