



Permian Basin
MPO Metropolitan
Planning
Organization

Solving Midland and Odessa's Transportation Challenges

VISION 2040 PLAN AMENDMENT NO.4

Let's Get Moving





Permian Basin MPO

Metropolitan
Planning
Organization

Solving Midland and Odessa's Transportation Challenges

- **Resolution for Amendment #4 Approved August 21, 2017**
- **Resolution for Amendment #3 Approved December 19, 2016**
- **Administrative Modifications Approved by Policy Board December 19, 2016**
- **Administrative Modifications Approved by Policy Board October 17, 2016**
- **Administrative Modifications Approved by Policy Board December 21, 2015**
- **Resolution for Amendment #2 Approved September 28, 2015**
- **Resolution for Amendment #1 Approved April 13, 2015**
- **Resolution for Original Vision 2040 Plan Approved November 17, 2014**

ACKNOWLEDGEMENTS



This Metropolitan Transportation Plan was developed in collaboration with the following entities:

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What has changed since the adoption of the 2010-2035 MTP?

The 2010-2035 MTP was adopted in November 2009. Economic and social changes in the Midland Odessa region have occurred on a large scale since then. Recent advancements in mineral exploration and capture technologies combined with a national desire to become less dependent on foreign oil have fueled a significant increase in the region's drilling activity resulting in a tremendous impact on the local economies. Population growth, as reflected in the Census data and population projections, housing starts, and employment opportunities have occurred at unprecedented levels. Help wanted signs are commonplace, school enrollments are higher, health care facilities have expanded rapidly, housing shortages exist and costs have spiraled upward. An accompanying repercussion tied to the overall economic growth has been the impact on the transportation system. A region-wide increase in traffic volumes, freight (trucks and rail) movement including the prevalence of oversize/overweight trucks carrying oil and gas industry cargo, is expected to continue over the short term. The approval by Texas voters to implement Proposition 1 will provide additional funds for use in the metropolitan area boundary but there are many transportation needs and few funding resources. Each of these factors was considered during the preparation of the *Vision 2040 Plan*.

The document includes thirteen chapters, each one covering an important aspect of the transportation planning process as follows:

- Chapter 1 covers the planning context including a legislative update, requirements of a Transportation Management Area, member agencies and roles of the Technical Advisory Committee and Policy Board;
- Chapter 2 covers the plan development process including public and stakeholder input as well as TAC and Policy Board guidance in the preparation of the plan;
- Chapter 3 provides a perspective on the region's population and employment as well as a brief history of socio-economic factors influencing the region;
- Chapter 4 covers anticipated growth and development and indicates stakeholder and focus group input;
- Chapter 5 discusses safety and security in detail and includes local measures to address both topics;
- Chapter 6 covers the roadway network including regionally important corridors;
- Chapter 7 gives a summary of transit and transit related topics including a proposed multi-modal center;
- Chapter 8 summarizes bicycle, pedestrian and trail systems;
- Chapter 9 covers air and rail with details on three airports and one rail provider as well as the need for additional freight rail service;
- Chapter 10 addresses freight in and out of the region;

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- Chapter 11 includes a list of proposed projects over the 25 year period as generated from public, stakeholder, and member agency comments;
- Chapter 12 discusses anticipated revenue sources with emphasis on potential alternatives;
- Chapter 13 covers performance based planning/congestion management, and environmental mitigation.

Permian Basin MPO and its member agencies have a vision to provide and maintain a safe and efficient transportation system for citizens and visitors to the Midland Odessa region. The vision, as reflected in the plan, is always open for public review and discussion. Permian Basin MPO may be contacted through the website, www.permianbasinmpo.com, by phone at 432-617-0129, or by email using info@permianbasinmpo.com. The Permian Basin MPO mailing address is P.O. Box 60916, Midland, Texas 79711. Permian Basin MPO encourages public input and comment.



Introduction

The years following World War II witnessed the rapid development of suburban communities throughout the nation and increased the use of private automobiles as the main mode for personal transportation. With this historical social phenomenon came a great demand for roadways and a decreased demand for public transit services in core urban areas. Recent decades have seen reversals of this trend where many cities are seeing redevelopment of the urban areas and more demand for walkable and pedestrian-oriented developments. Job location has become a higher priority for some workers in order to shorten commute times and thereby spend more time with family and recreational interests. Also, an increase in home-based employment will have an effect on the typical commute to and from work on a national level. With the computer being the main work tool for many, it is expected that this tendency leading to more home-based employment will continue. This modern trend closely mirrors the land use patterns that existed prior to World War II when the corner store, neighborhood medical services, churches and recreational needs were located within walking distance. Even with this recent desire for a walkable, mixed use neighborhood that includes jobs, services, and public amenities, there is still a great need for transportation planning in order to meet both short and long-term needs.



The region's transportation system is a major component of the local Midland and Odessa economies and it has a direct effect on commerce, employment, and the quality of life of citizens living in the area and for visitors as well. As a result of the Federal Aid Highway Act of 1962, the Midland-Odessa Regional Transportation Study (MORTS) was initiated in April 1965. This was the first Metropolitan Transportation Organization (MPO) in the region. An MPO is a federally mandated, quasi-governmental agency responsible for coordinating transportation planning, establishing planning policies, and programming approved construction funding in urbanized areas with populations over 50,000, all within a defined urban boundary. Guidance and direction of activities in the initial phase was furnished by the Coordinating Committee composed of representatives from the various participating governmental agencies. It was at this time that the cities of Midland and Odessa passed the minimum population threshold of 50,000 to become MPO's; however, rather than establishing two MPO jurisdictions in close proximity, the Federal Highway Administration (FHWA) decided to establish a single MPO to represent the Midland-Odessa area.



Although Federal transportation planning laws have been amended numerous times over the decades, it has remained consistent that MPOs must have a continuing, cooperative, and comprehensive planning process with their partner agencies. In 1973, the organizational structure was revised to create a Policy Advisory Committee (PAC) and a Steering Committee. The PAC consisted of one elected official from each member entity plus the TxDOT Odessa District Engineer. The Steering Committee was composed of staff members from participating entities, representatives of State and Federal agencies, key regional stakeholders, and local, state, and federal elected officials until the MPO was reorganized in August 2006. Following reorganization, MORTS became known as the Midland Odessa Transportation Organization (MOTOR) MPO and the PAC and Steering Committee were renamed the Policy Board and the Technical Advisory Committee respectively. In August 2015, the Policy Board voted to rename the organization to Permian Basin MPO in order to better represent the area and to eliminate confusion with other transportation agencies. It is important to note these historic details early in the process of preparing this 2015-2040 Metropolitan Transportation Plan since the same entities still form the core of Permian Basin MPO.

Transportation Management Area

In July 2012, the MPO was designated a federal Transportation Management Area (TMA) by the Secretary of U.S. Department of Transportation. Several regulations became effective following the TMA designation. Permian Basin MPO must now generate and maintain a Congestion Management Process (CMP), add the local transit provider to the Policy Board as mentioned above, and be prepared to complete a federal certification review within four years of becoming a TMA. To date the following TMA related accomplishments have occurred:

- Adopted initial Congestion Management Process in February 2014.
- Midland Odessa Urban Transit District (MOUSD) voting member added to Policy Board.
- Pre-certification review scheduled for February 2015 followed by a full certification review in February 2016.

Area of Responsibility

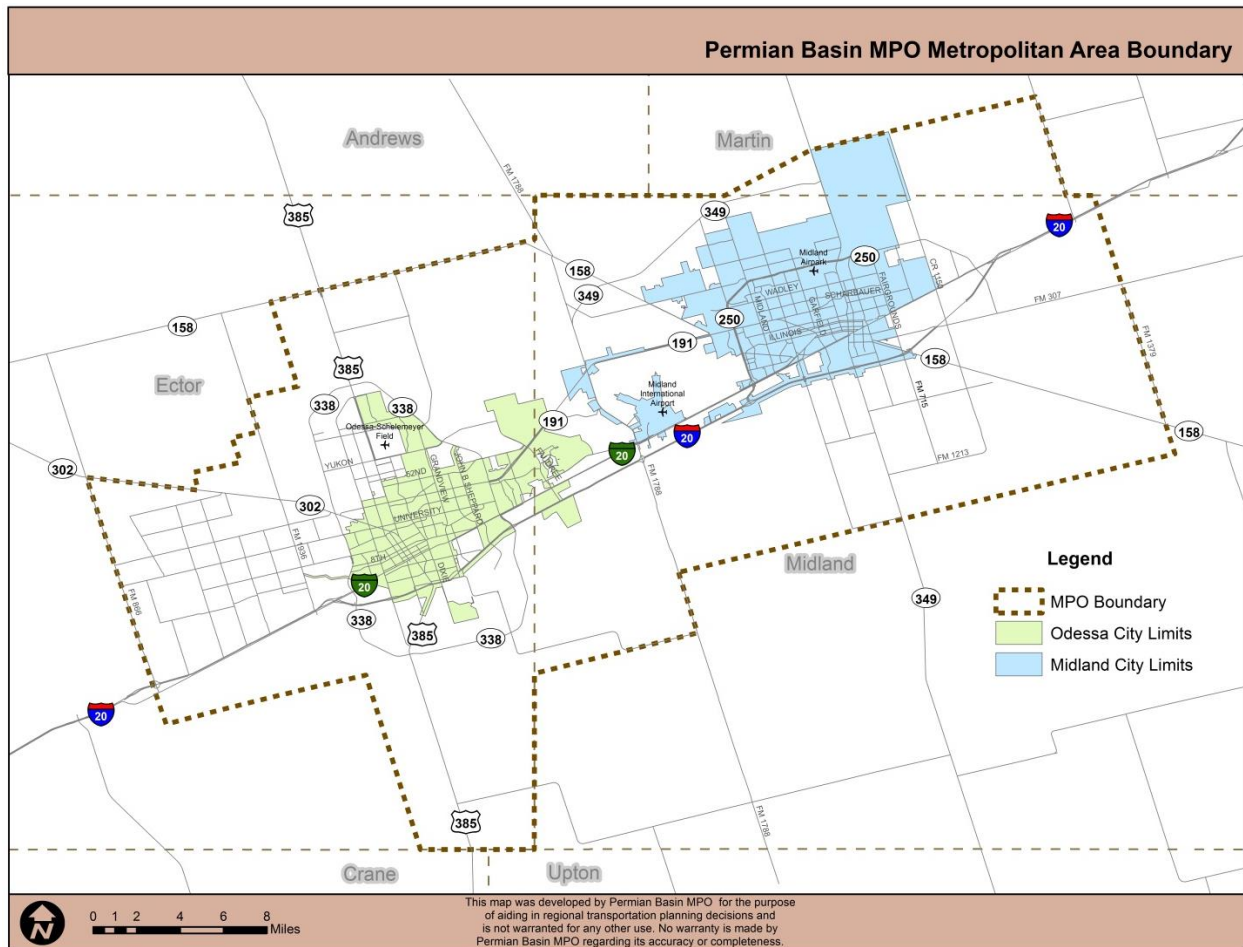
Permian Basin MPO is responsible for long-range transportation planning in a defined area known as the Metropolitan Area Boundary (MAB). The MAB is a geographic area determined by agreement between the local MPO and the Governor in which the metropolitan transportation planning process is carried out (23 CFR 450). The Permian Basin

CHAPTER 1 - PLANNING CONTEXT



MPO MAB includes most of the incorporated land within the City of Midland, all of the City of Odessa, and portions of Ector, Midland, and Martin Counties as shown on the map below. In 2013, the MAB was adjusted to include urbanizing areas on both sides of US 385 in southern Ector County, as well as an area near unincorporated Greenwood in eastern Midland County.

Map 1.1 Permian Basin MPO Metropolitan Area Boundary



Legislative Mandates

Legislative mandates from the Federal and State level direct the MPO planning process and must be followed by the MPO and all its working committees. Under federal legislation, Permian Basin MPO works with its member agencies to promote and lead transportation planning in the MAB. As of July 2014, the MPO consists of seven member agencies including Midland, Ector, and Martin Counties, the City of Odessa, the City of Midland, the TxDOT Odessa District, and Midland Odessa Urban Transportation District (MOUTD). These entities are all represented on a Policy Board whose duty is to oversee the policy making and



decision-making process from general oversight of planning efforts to approval of the funding of specific transportation construction work. An important advisory Committee of the MPO is known as the Technical Advisory Committee (TAC). This group consists of representatives of each of the member entities plus additional non-voting members with skill specialties that are tied to long range planning – such as GIS and communications. The TAC meets on a monthly basis to review transportation planning needs and to provide recommendations to the Policy Board. The TAC often holds special meetings in addition to the regularly scheduled meetings when key documents are under review. These extra meetings occur during the TIP review, the annual Unified Planning Work Program (UPWP), any amendments to adopted documents which may include the Bylaws, the Public Participation Plan (PPP), as well as the Title VI/Environmental Justice (EJ) Program, the Limited English Proficiency (LEP) Plan, and the MTP.

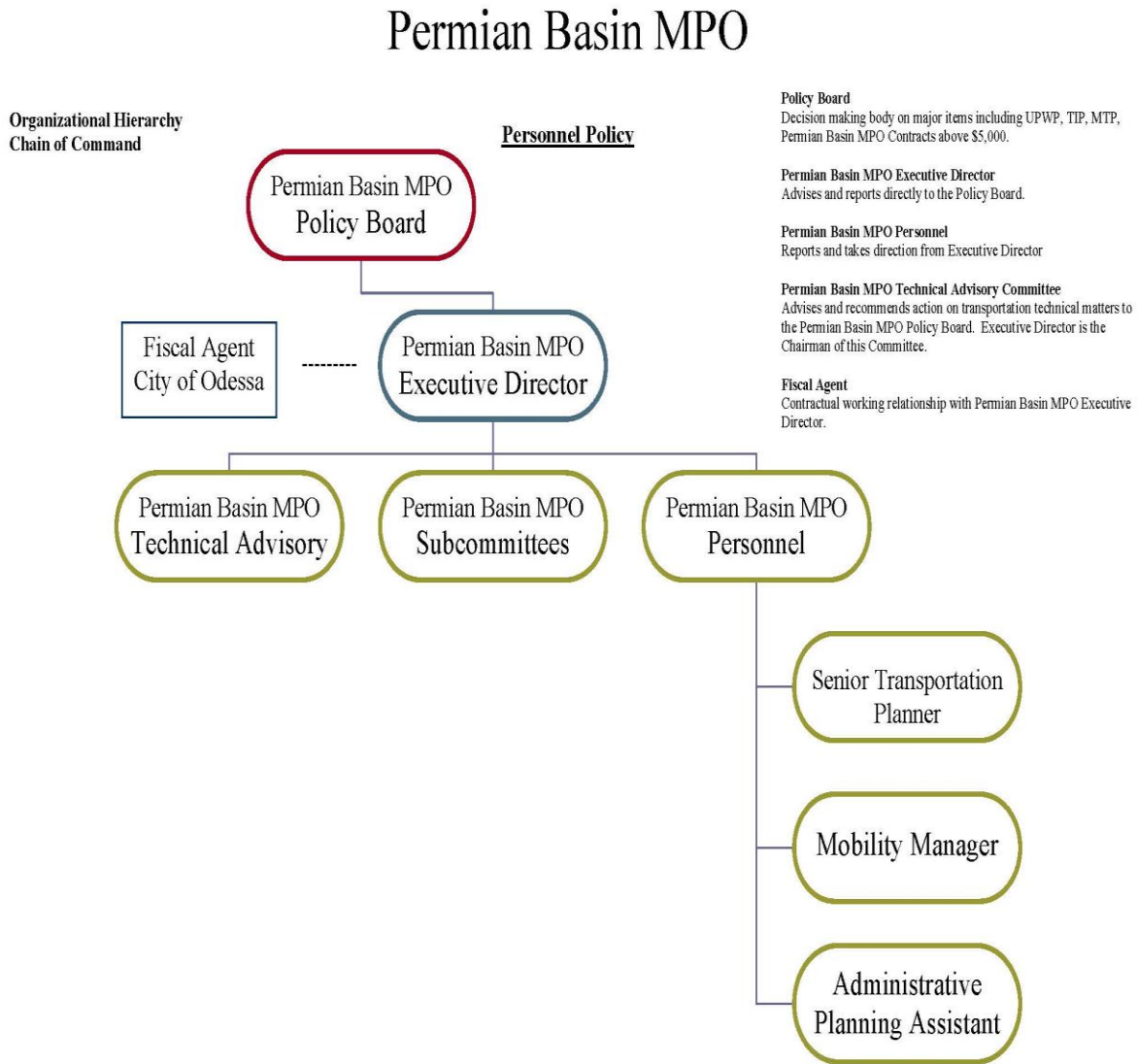
In 2015, the Texas Legislature passed House Bill 20 (HB 20) which requires TxDOT and MPOs to implement a performance-based planning and programming process tied to the state’s ten-year planning horizon. MPOs must provide TxDOT with documentation indicating that the region is in alignment with state wide goals and objectives. HB 20 also requires the establishment of a scoring system to prioritize projects seeking state funding. The Permian Basin MPO has established a scoring system (Chapter 11) and was in compliance with HB 20 at the time the *Vision 2040* MTP Amendment No. 4 was approved. Appendix 1.1 displays how Permian Basin MPO has met the requirements set forth by both the federal and state legislation.

Staffing

Permian Basin MPO staff consists of four positions – an administrative planning assistant, a mobility manager, a senior transportation planner and an executive director. All four are permanently funded positions. The following Organizational Chart displays the Permian Basin MPO hierarchy.



Figure 1.1 Organizational Chart





Permian Basin MPO Guiding Principles

Since the early 1960s following the USDOT mandated “continuous, comprehensive and cooperative” planning process to be conducted by the nation’s metropolitan planning organizations, the Permian Basin MPO has adopted and revised numerous mission and vision statements along with associated goals and objectives. The statements contained herein reflect the Policy Board’s desire to complete necessary work related to livability; transportation system safety; collaboration among stakeholders and affected parties; connectivity; congestion; and to be effective in the use of public funds.

Mission Statement

Provide leadership to the region in the planning, funding, and development of a safe, efficient multimodal transportation system.

Vision Statement

To develop a sustainable multimodal transportation system that meets the future needs of all users.

Goals and Objectives

Livability

Goal 1: Improve the overall quality of life for the traveling public.

Objective: Work with partner entities and stakeholders to address livability issues and local policies affecting transportation, neighborhoods, and safety.

Goal 2: Incorporate multiple modes of transportation in the planning process.

Objective: Facilitate discussions with the member agencies, the public and transit providers related to transit service.

Objective: Partner with public agencies and private companies to increase bicycle and pedestrian traffic.

Goal 3: Address transportation needs in unincorporated communities.

Objective: Work with community groups in unincorporated areas to improve public transportation accessibility.



Safety

Goal 4: Incorporate best practices related to safety during the planning process.

Objective: Reduce crashes resulting in fatalities, injuries, and property damage within the region.

Objective: Promote regional efforts to maintain the existing system to keep it in optimal condition.

Goal 5: Assist with educational efforts to bring awareness to users of the transportation system.

Objective: Provide and promote opportunities to educate the public on transportation safety.

Cohesive/Cooperative

Goal 6: Increase collaboration with member entities to provide continuous, cooperative, and comprehensive transportation planning.

Objective: Attend planning meetings, workshops, and public hearings to gather information and provide input on regional transportation projects and issues.

Goal 7: Increase outreach efforts to further educate the general public and Title VI/Environmental Justice communities of how the transportation planning process impacts them.

Objective: Inform the public of the MPO's role regarding current and future transportation decision-making efforts.

Objective: Increase participation from the public throughout the transportation planning process.

Connectivity/System Continuity

Goal 8: Connect infrastructure and services by reducing gaps and conflicts in the multimodal transportation system.

Objective: Utilize Planning and Environmental Linkage studies and other tools for developing new infrastructure prior to considering significant investment.

Goal 9: Ensure that freight is moved safely, efficiently, and seamlessly throughout the region.



Objective: Coordinate efforts with partner entities and stakeholders to improve the movement of freight.

Congestion/Mobility

Goal 10: Reduce congestion and decrease time delays on the transportation system.

Objective: Implement and maintain the Congestion Management Process as a tool to analyze and identify congestion problems and needs.

Objective: Encourage ride sharing and alternative working hours to alleviate congestion.

Goal 11: Promote awareness of alternative transportation modes.

Objective: Encourage increased participation in transit, cycling, and walking for purposes beyond recreation.

Efficient Use of Funding

Goal 12: Identify critical system issues and areas as identified through the Congestion Management Process.

Objective: Employ tools such as Intelligent Transportation Systems and enhanced technology to maximize system efficiency.

Goal 13: Identify non-traditional funding sources or apply for resources beyond what is allocated.

Objective: Increase available funding sources to complete more projects on the transportation system.

The VISION 2040 PLAN: Metropolitan Transportation Plan Update

The *Vision 2040 Plan* has been developed to comply with Senate Bill S. 1813, enacted and signed into law as the *Moving Ahead for Progress in the 21st Century Act (MAP-21)*. MAP-21 creates a streamlined, performance based, and multi-modal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. Existing programs are simplified, substantially consolidating the program structure into a smaller number of broader core programs.

MAP-21 builds on and refines many of the highway, transit, bike and pedestrian programs and policies established in 1991 with the Intermodal Surface Transportation Efficiency Act



(ISTEA), and continued with the subsequent Transportation Equity Act for the 21st Century (TEA-21) and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation.

MAP-21 mandated the incorporation of eight planning factors into the metropolitan transportation planning process. Congress enacted the Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94) in December of 2015. These new regulations affect the funding and reporting of transportation planning activities completed by the MPO. In addition, the FAST Act includes two additional factors shown below:

The Eight Planning Factors are:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency
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 the accessibility and mobility options available to people and for freight
5. Protect and enhance the environment, promote energy conservation, and improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system

The two additional FAST Act Factors are:

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

One key additional point to emphasize is that the MAP-21 and FAST Act legislation also require recipients of planning funds to establish performance measures and targets. MPOs are now required to coordinate with the state, member agencies and public transportation providers to establish performance targets that address federal performance measures; the seven performance goals are listed below:



1. Safety – To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. Infrastructure condition – To maintain the highway infrastructure asset system in a state of good repair.
3. Congestion reduction – To achieve a significant reduction in congestion on the NHS.
4. System reliability – To improve the efficiency of the surface transportation system.
5. Freight movement and economic vitality – To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. Environmental sustainability – To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. Reduced project delivery delays – To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The *Vision 2040 Plan* identifies policies, programs, and projects for each mode of transportation that will be necessary to meet the region's transportation needs through 2040. It is the guide for major transportation improvements and investments in the Midland-Odessa region for the next 25 years. As part of the MTP development process, current and future regional issues as well as existing transportation conditions are analyzed in order to prioritize future transportation programs and projects. Moreover, available financial resources and funds have also been identified in order to implement the programs and projects in the MTP. It is mandated that the plan is a fiscally constrained document, meaning that funding for a project must be reasonably available prior to it being listed as a priority or fundable project in the MTP. In addition to identifying a list of fiscally constrained projects, the MTP update will also identify a list of unfunded transportation needs which may become priority projects depending on available funding.

MTP Purpose, Outcomes, and Future Utilization

Purpose:

- To determine and document a transportation vision for Permian Basin MPO;
- To identify regional investments, policies and strategies that support the vision;



- To actively engage transportation stakeholders and other community members when developing strategies;
- To meet federal requirements tied to the function and responsibilities of an MPO.

Desired Outcomes:

- An increased regional understanding of transportation planning in the MAB and how it affects the economy and quality of life;
- An easy to follow MTP update covering the period 2015-2040;
- Increased cooperation and communication between transportation partners and stakeholders to support the regional transportation vision.

Future Utilization:

- The 2040 MTP update will articulate the regional transportation planning vision and provide a basis for project funding.

Long Range Transportation Planning and Implementation Tools

The Code of Federal Regulations (23 CFR 450, Subpart C) states that the Metropolitan Transportation Plan must cover a period of no less than 20 years and include both short and long-range strategies/actions, and must be updated at least every five years. It also includes a list of other items and must show a constrained financial plan.

What does long range transportation planning involve?

- Analyzing projected population growth and growth patterns in order to establish some certainty and conclusion(s) about future travel demand within the transportation system;
- Utilizing Permian Basin MPO's TAC and hosting periodic workshops to engage stakeholders and the public in meaningful ways as participants in the planning process;
- Collectively determining how to direct the investment of federal funds on local and regionally significant transportation projects and programs.

What are the tools used to implement the long range plan?

- The MTP, called the *Vision 2040 Plan* – the long range transportation plan;



- The TIP – a four year, short range document that directs federal transportation funds;
- A Public Participation Plan (PPP) – to ensure that the Permian Basin MPO Policy Board is following federal regulations to provide the public and interested parties and stakeholders with reasonable and meaningful opportunities to be involved in the planning process;
- A Congestion Management Process (CMP) – a document addressing congestion and congestion management that requires periodic review and analysis of performance within the transportation system and considering all modes;
- The Unified Planning Work Program (UPWP) – an annual budget and action plan generated by Permian Basin MPO and adopted by the Policy Board to list expected work products within a 12-month time frame;
- The Annual Performance and Expenditure Report (APER) – a document produced by Permian Basin MPO and submitted to TxDOT that describes the work completed during a fiscal year as the work relates to the UPWP;
- The Annual Listing of Obligated Projects (ALOP) – a document submitted to TxDOT after each fiscal year indicating the construction projects initiated the previous fiscal year.
- The Regionally Coordinated Transportation Planning (RCTP) Quarterly Reports – a document submitted to TxDOT during the FTA Section 5304 Planning Grant period. These documents describe all of the coordination activities promoted and completed by Permian Basin MPO and the RCTP member agencies;
- Title VI Plan/Limited English Proficiency (LEP) and Environmental Justice



Permian Basin MPO is a recipient of federal financial assistance. The Federal share for Metropolitan Planning funds is discussed in detail in Title 23 of the United States Code (23 U.S.C.). The funds are title PL funds and are used for transportation planning purposes; they are distributed to the states which in turn distributes to the MPOs based on a formula tied to population and other factors.



As a recipient of federal financial assistance, the agency must comply with various nondiscrimination laws and regulations, including Title VI of the Civil Rights Act of 1964 (Title VI). Title VI forbids discrimination against anyone in the United States because of race, color, or national origin by any agency receiving federal financial assistance. The Federal-Aid Highway Act of 1973 added the requirement that there be no discrimination on the grounds of sex. Additionally, the Civil Rights Restoration Act of 1987 defined the word “program” to make clear that discrimination is prohibited throughout an entire agency if any part of the agency receives federal financial assistance. FHWA requires recipients of federal financial assistance to prepare a plan to clarify its roles, responsibilities, and procedures established to ensure compliance with Title VI. The Permian Basin MPO’s Title VI/EJ Program was adopted in May 2014.

What are some of Permian Basin MPO’s functions related to the documents?

- Ensuring that the public has access to the adopted Permian Basin MPO plans and publications through meetings and the Permian Basin MPO website;
- Prioritizing transportation projects for highways and the distribution of funds;
- Maintaining traffic counts provided by member agencies;
- Planning for bicycle and pedestrian facilities;
- Coordinating transit planning within the MAB and seventeen surrounding counties.

How can citizens participate in the transportation planning process?

The Permian Basin MPO Policy Board meets on the third Monday of each month at 5:00 p.m. at the Permian Basin MPO office located at 9601 Wright Drive, Midland, TX 79706. Anyone interested in attending is encouraged to view the online calendar at www.permianbasinmpo.com since occasionally the Policy Board meetings will be rescheduled to accommodate holidays and Board member commitments. At each meeting, there is an opportunity for public participation and comment.

The Permian Basin MPO website contains dates of public hearings, workshops and documents out for public review. During public review periods, documents are also available at both City Secretary’s offices, Midland and Ector County libraries, TxDOT Odessa District office, and at Permian Basin MPO. Comments can be made in writing at the above locations, through the website, or in writing to Permian Basin MPO, P.O. 60916, Midland, TX 79711.



Data and Boundaries

As stated earlier, the Midland Odessa communities are key hubs in the Permian Basin region. The reader should be aware that the area of responsibility for Permian Basin MPO is an area known as the Metropolitan Area Boundary; this is an area that is already urbanized or is expected to become urbanized over the next 20 years. Not all of the geographic area of Midland and Ector Counties is within the Metropolitan Area Boundary (see Map 1.1 on page 1-3). However, some of the data used in the plan applies at the county level; this includes some census data, crash data, commercial drivers licensing, oversize and overweight truck loading and more. With the majority of the population and traffic being generated within the Metropolitan Area Boundary, Permian Basin MPO believes it is reasonable to apply the data as if it were all collected within the Metropolitan Area Boundary.



Can the plan be amended?

Yes. Amendments to the 2015-2040 MTP may be proposed to the TAC and approved by the Policy Board at any time in the life of the MTP subject to the provisions in the adopted PPP. Any amendment involving a change in project scope and/or description must be consistent with the MTP and the four-year adopted TIP. Administrative amendments are not subject to the requirements contained in the PPP.

Consistency with State Plans

TxDOT is responsible for planning, designing, building, operating, and maintaining the state's transportation system, in cooperation with local and regional entities. TxDOT is governed by the Texas Transportation Commission, which is a five member commission appointed by the governor with the advice and consent of the Texas Senate. TxDOT's Odessa District works in cooperation with Permian Basin MPO to carry out transportation planning tasks and activities in the Midland Odessa MAB to ensure compliance with federal and state laws and regulations. In addition, it oversees the implementation of federal and state funded transportation projects in the Midland Odessa regional transportation system. The following plans have been identified as pertinent to the metropolitan transportation plan development process.



Plan Documents — Federal, State and Local

Unified Transportation Program (UTP): A 10-year, medium-range planning document that is consistent with MTPs across the state. Approved by the Texas Transportation Commission, it

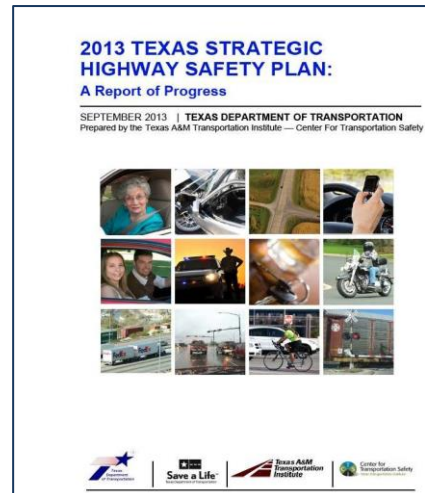


addresses 12 different categories of funding that will guide transportation project development and construction in Texas.

Statewide Transportation Improvement Program (STIP): The Statewide Transportation Improvement Program (STIP) is Texas’s federally required transportation improvement program that identifies transit and highway construction and maintenance projects that will utilize federal funding, or for which federal approval will be required. The federal requirement for updating the STIP is four years; however, TxDOT elects to update the STIP every two years. The STIP includes all federally funded and regionally

The Statewide Transportation

significant transportation projects, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian) and projects on roadways in Texas National Parks and National Forests. The STIP must also include all projects in a Metropolitan Planning Organization’s (MPO) Transportation Improvement Plan (TIP) as well as projects in non-MPO areas.



Texas Strategic Highway Safety Plan (SHSP): In 2005, Section 1401 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) required each state to develop and implement a Strategic Highway Safety Plan (SHSP). The purpose of the SHSP is to identify key safety needs and guide investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roads. SAFETEA-LU required that each state have a SHSP signed and in place by October 1, 2007, in order to receive a fully apportioned share of federally allocated Highway Safety Improvement Program (HSIP) funds. This program was continued under Map-21.

The mission of the Texas Strategic Highway Safety Plan is to reduce the human and societal costs of motor vehicle traffic crashes, deaths, and injuries by:

- Implementing effective highway safety countermeasures;
- Changing the current driving culture in Texas to a Traffic Safety Culture, one that emphasizes: Safety; Economy; and Civility

Report on Texas Bridges: This report describes Texas publicly owned vehicular bridges and their condition as of September 2012 based on information in the Bridge Inspection Database, the Unified Transportation Program (UTP) planning document, and the Design and Construction Information System (DCIS). It describes bridges categorized by location either on or off the state highway system. It also describes the condition of Texas bridges in terms of sufficiency:



sufficient bridges (bridges in good or better condition), structurally deficient bridges, functionally obsolete bridges, and sub-standard-for-load-only bridges. The report tracks the progress toward TxDOT's goals to: Make 80% of Texas bridges in good or better condition by the end of FY 2011; and to eliminate structurally deficient on-system bridges.

Metropolitan Transportation Plan 2010-2035 (MTP): The Midland-Odessa 2035 MTP is the current transportation plan for the Midland-Odessa area. As with most planning documents, it both builds upon and incorporates the ideas, issues, and recommendations of past and current planning efforts.

City of Midland Master Plan 2025: Adopted in May 2005 by the City of Midland, this plan is a long-range planning tool that is used to guide the growth and physical development of the city. The City of Midland will consider amending its master plan in 2015.

Midland Smart Downtown Plan: This plan, published in the spring of 2007, was developed to guide future revitalization improvements in downtown Midland.

City of Odessa Comprehensive Plan: Currently under revision, this plan provides a basis and vision for a coordinated planning approach in managing the city's future growth. Anticipated completion date is mid-2015.

Permian Basin Region ITS Architecture and Deployment Plan: Developed in March 2005, this plan was part of a series of statewide plans that identified market packages and interfaces tailored to the needs of the region and identified a consensus-based architecture for regional ITS strategies. See adopted CMP

Public Participation Plan (PPP): Developed by the Permian Basin MPO, this document serves as the plan for involving all citizens and transportation stakeholders in the public involvement process for metropolitan transportation planning. It was revised following the passage of MAP-21 and adopted in December 2013.

Regional Service Plan for Coordinated Transportation in the Permian Basin: This plan was developed in an effort to coordinate the delivery of public transportation services to optimize the efficiency and effectiveness of regional transit services. Regional transit representatives meet monthly at Permian Basin MPO offices to coordinate both short and long range efforts, including the 2040 MTP.



Transportation Improvement Program (TIP): A four year, short-term programming document that lists funded (committed from local, state, and federal sources) transportation projects. The projects are designed to construct, complete, implement, operate and maintain regional and statewide transportation systems in accordance with the recommendations of the long-range STIP and Permian Basin MPO's adopted MTP. The STIP is the statewide version of the local TIP.

Congestion Management Process (CMP): The application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. A CMP is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. The CMP is intended to move congestion management strategies into the funding and implementation stages.



Introduction

The 2015-2040 Metropolitan Transportation Plan development process was conducted in a comprehensive and cooperative manner. Over a 21-month period beginning in the spring of 2013, the MPO engaged a wide variety of stakeholders throughout the region in order to receive public and stakeholder comments as part of the plan development process. In addition, Permian Basin MPO's Policy Board and Technical Advisory Committee played an important role in guiding the development of the *Vision 2040 Plan*. The outreach and engagement activities described in this chapter include community visioning workshops, roundtable meetings, and discussions with key stakeholders to provide guidance throughout the process and ensure the development of a detailed plan.

MPO Communication Efforts

In March 2013, Permian Basin MPO began a community outreach effort by broadcasting public notifications in both English and Spanish across a spectrum of media outlets to encourage participation in eight public workshops designed to solicit public input in the transportation planning process. Additional work involved finding appropriate and convenient locations in areas of Limited English Proficiency populations and places where concentrations of minority and low-income stakeholders might be more likely to participate. The workshops were conducted from April - May 2013 as shown in Figure 2.1 Workshop Schedule below.

Figure 2.1 Workshop Schedule

ODESSA WORKSHOPS	
April 1, 2013- Sherwood Community Building	1020 E. Murphy St.
April 2, 2013-Woodson Community Building	4819 N. Everglade Ave.
April 16, 2013- Slator Community Building	1001 W. 38 th St.
April 18, 2013- Kellus Turner Community Building	2261 W. Sycamore Dr.
MIDLAND WORKSHOPS	
April 22, 2013- Sibley Nature Center	1307 E. Wadley Ave.
May 6, 2013- Midland County Horseshoe Arena	2514 Arena Trail
May 7, 2013- Centennial Public Library	2503 W. Loop 250
MID-CITIES WORKSHOP	
May 22, 2013- Atmos Energy Fischer Community Room	2304 Loop 40



Figure 2.2 Sample Press Release

PRESS RELEASE

FROM: Permian Basin Transportation Organization

DATE: May 15, 2013

SUBJECT: **Community Workshop**

Wednesday, May 22, 2013

5:00 p.m. - 7:30 p.m.

Atmos Fischer Community Room, 2304 Loop 40, Midland, TX

The Permian Basin Metropolitan Planning Organization will be hosting a public involvement workshop for transportation planning purposes. This workshop will provide an opportunity for residents of the region to express their ideas and concerns regarding transportation issues such as:

- Safety
- Congestion
- Transit
- Bicycle/Pedestrian
- Funding

The workshop is open to everyone and we would greatly appreciate any media coverage given to this event. For more information or to learn more about Permian Basin MPO, please visit our website, permianbasinmpo.com or call 432-617-0129 ext. 1004.



Prior to conducting the workshops, Permian Basin MPO staff met with representatives of the Texas A&M Transportation Institute to generate the proposed framework for the public meetings. A series of goals, as well as a meeting process and format were established as follows:

- A desire to obtain public input for multiple planning documents and processes;
- To provide the general public with multiple, convenient opportunities to be genuinely involved in the transportation planning process;
- To comply with (and exceed) federal public involvement requirements;
- To build good public relationships with transportation advocates and citizens.

The process involved several important criteria, like identifying the proposed number and locations of meetings in west Odessa, south Odessa, central Odessa, north Odessa, south Midland, east Midland, northwest Midland, and a mid-cities location. Meeting design details included the format, necessary personnel in attendance and workshop duration. Important details that followed were to schedule meeting facilities, reach out to elected officials and the media to inform them of the process and the meetings, obtain TAC and Policy Board input, conduct the meetings, compile public input into a database, summarize the input, determine how public input will affect various documents and processes such as the TIP and the MTP, and write a summary report of the public meeting process.

The meeting format was an open house style with up to seven tables or “work stations” dedicated to specific topics such as safety, bike/pedestrian needs, transit, streets and highways including congestion, funding, and maintenance. Included in the process were members of outside agencies including MOTRAN, TxDOT, and both cities, both counties and EZ Rider. A minimum of one person was positioned at each of the seven tables to answer questions and to describe the process and its goals to the public.



In addition, specific information was requested from workshop participants regarding *safety issues* such as speeding, red light running, freeway ramps on and off ramps being too short,



truck traffic volumes, intersection (sight distance) or intersection(s) needing stop signs/signals, too many driveways, other intersection issues including clear signage, and other road segments. Workshop participants were also requested to comment on *congestion issues* with the following possible items:

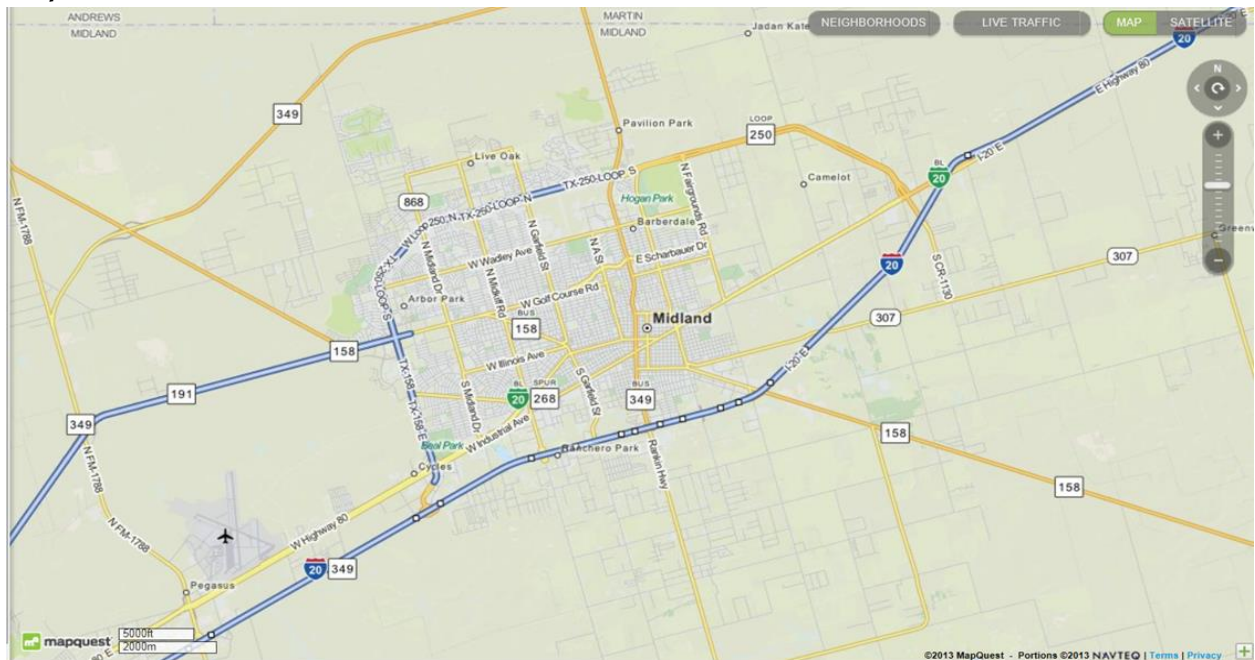
- Traffic flows are slower than posted speed
- Exit ramp backs up to main lanes
- Traffic backs up from signals and blocks driveway and/or side streets
- So much traffic, hard to find a safe gap to turn
- Traffic signals with short green phases or sitting through multiple red lights
- High volumes of vehicles
- Other street segments or intersection issues.

Another significant part of the requested information from people attending the workshops involved a description of their typical travel patterns for certain vehicle trips including trips to and from work, school, shopping, home and others. For this purpose the attendees were asked to place colored paper dots on a map showing the typical trip origin and destination points.

CHAPTER 2 - PLAN DEVELOPMENT



Map 2.1 Midland Area as Reference for Public Comment



CHAPTER 2 - PLAN DEVELOPMENT



A summary of the feedback received from the community workshops was presented to the Permian Basin MPO TAC and Policy Board in the spring of 2013. The results of the citizen input were quantified and are shown below in the following tables and charts. Figure 2.5 below indicates how workshop attendees would prioritize the expenditure of federal, state and local transportation funds if the decision related to spending was theirs to make. As the responses indicate, congestion and safety were the two largest concerns expressed during the workshops. Two sample comments from concerned stakeholders were:

- “West side of 1788 between MAF and 191 needs some way for big trucks to get on and off 1788 without having to slow/stop traffic to do so or else just pulling out in front of highway speed oncoming traffic”
- “Need more radar signs throughout city – It’s better to drive slow than take a life away”

Figure 2.3 Public Funding Priorities by Community

Odessa Totals			Midland Totals			Combined Totals		
	Dollars	%		Dollars	%		Dollars	%
Congestion	100	35%	Congestion	13	19%	Congestion	120	32%
Safety	84	29%	Safety	21	30%	Safety	111	29%
Transit	34	12%	Transit	9	13%	Transit	43	11%
Maintenance	51	18%	Maintenance	8	12%	Maintenance	68	18%
Sidewalks	11	4%	Sidewalks	5	7%	Sidewalks	16	4%
Bike	6	2%	Bike	13	19%	Bike	19	5%
Total Dollars	286		Total Dollars	69		Total Dollars	377	

CHAPTER 2 - PLAN DEVELOPMENT



A further analysis of the expenditure prioritization by specific meeting location is shown below.

Figure 2.4 Public Funding Priorities by Meeting Location.

	4/1/2013 Sherwood Community Bldg 4819 N. Everglade, OD		4/2/2013 Woodson Community Bldg 1020 E. Murphy, OD		4/16/2013 Slator Community Bldg 1001 W. 38th, OD		4/18/2013 Kellus Turner Community Bldg 2261 W. Sycamore, OD		4/22/2013 Sibley Nature Center 1307 E. Wadley, MID		5/6/2013 Horseshoe Arena 2514 Arena Trl, MID		5/7/2013 Centennial Public Library 2503 W. Loop 250, MID		5/22/2013 Atmos Fischer Community Rm 2304 Loop 40, MID	
	Dollars	%	Dollars	%	Dollars	%	Dollars	%	Dollars	%	Dollars	%	Dollars	%	Dollars	%
Congestion	36	34%	25	31%	0		39	39%	0	0%	2	20%	11	22%	7	32%
Safety	38	36%	24	30%	0		22	22%	10	100%	2	20%	9	18%	6	27%
Transit	13	12%	6	8%	0		15	15%	0	0%	3	30%	6	12%	0	0%
Maintenance	15	14%	12	15%	0		24	24%	0	0%	1	10%	7	14%	9	41%
Sidewalks	2	2%	9	11%	0		0	0%	0	0%	1	10%	4	8%	0	0%
Bike	2	2%	4	5%	0		0	0%	0	0%	1	10%	12	24%	0	0%
Total Dollars	106		80		0		100		10		10		49		22	

In addition to the public workshops which have been described in detail, Permian Basin MPO held stakeholder workshops on numerous occasions during two special studies completed in FY 2014 and during general planning workshops in July and August of 2014. The studies were the *South Midland Mobility Planning and Environmental Linkage (PEL) Study* and the *Midessa Land Use Transportation Study* respectively. The *PEL Study* was the first planning and environmental linkage study completed in Texas. The planning and environmental linkage concept and supportive guidelines were part of the MAP-21 legislation passed in 2012. As part of the *PEL Study*, Permian Basin MPO held a productive stakeholder meeting and 5 workshops to solicit public input over a one year period leading to the completion of the study in March of 2014. The *Midessa Study* involved a continuation of land use and transportation concepts along a fourteen-mile corridor (SH 191) that connects the two cities and counties. A 2012 study, known as the *191 Corridor Study*, was completed in the summer of 2012, just prior to the announcement made by the City of Midland that it intended to seek a federal spaceport designation under Federal Aviation Administration (FAA) authority and regulations. This decision prompted the *Midessa Study* to be commenced in May 2013 so new information related to the Midland International Air & Space Port operations would be included.

During the workshops and follow-up presentations held for these two studies, many stakeholders made comments that could have an effect on transportation both inside and outside of the special study area boundaries. Both studies included a well-documented summary of comments and attendance. The comments may be found at www.permianbasinmpo.com.



An important by-product of the two studies has been the creation of a wide-reaching contact list of people and organizations that have an interest in transportation within the region. This list is used by the Permian Basin MPO staff to notify interested parties of MTP progress, upcoming workshops, and other information impacting regional transportation.

Permian Basin MPO assisted with the second round of the Texas Freight Mobility Plan listening sessions on June 25, 2014. Permian Basin MPO staff attended the first round of listening sessions in Lubbock in June 2013. In addition, a video conference was held at TxDOT Offices throughout the state in December 2013; 14 people attended at the Odessa District office, more than any other district. A second listening session was held in Midland in June 2014. This provided an additional opportunity for participants to express their ideas regarding freight transportation. Approximately 30 persons attended this meeting. Additionally, Permian Basin MPO helped to host a meeting of the Texas Freight Advisory Committee (TxFAC) meeting in August of 2014. The Freight Advisory Committee serves as an ad hoc committee which provides a forum for public input regarding the draft Freight Mobility Plan. The Committee's work will impact TxDOT agency transportation decisions thereby affecting Texas freight mobility for all modes.



Statewide meetings coordinated by TxDOT to better understand freight issues in Texas began in 2013 at the time the decision was made to undertake a Freight Mobility Plan, which reduces the required local match for projects on the Texas designated freight highway system. Twelve quarterly meetings were held prior to the completion of the Mobility Plan. A significant benefit from hosting one of the Advisory Committee meetings was to hear and participate in the proceedings and to submit comments directly to the Committee. As expected, public comments were made about the transportation network and particularly its impact on the movement of freight throughout the MPO region. Attendance at the two meetings was more than anticipated with 26 attendees at the June listening session and 70 at the August meeting. Comments heard at these meetings may be found at:

<ftp.dot.state.tx.us/pub/txdot-info/freight/archive/motor.pdf>.

MTP Preparation

As stated earlier, the workshops, stakeholder meetings and other public comments allowed the Permian Basin MPO staff to collect a wide variety of information to be used in the preparation of the MTP. Permian Basin MPO staff worked closely with the TAC, the Policy Board, partner agencies, members of local bicycle and pedestrian activity groups, transit providers, trucking companies, rail and freight industry representatives, airport operational and administrative staffs, engineering and public works departments, development corporations and chambers of



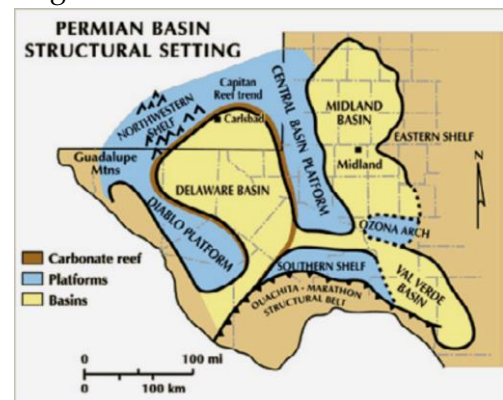
commerce, law enforcement and emergency management professionals, higher education facility leaders, and others to complete the *Vision 2040 Plan*. The Plan indicates to the reader what has changed in the region since the adoption of the last MTP. It also specifies portions of the 2010-2035 plan that have continued value within the new plan. This includes a description of the region's characteristics, its transportation assets and anticipated capital needs over the 25-year life of the plan. Many of the chapters provide a focus on a specific portion of the transportation network such as the air, rail and freight modes as well as the road network, transit operations, and non-motorized transportation.

Introduction

Midland and Odessa are both thriving communities that are situated in the heart of West Texas. The two cities are close in proximity to one another and both communities have diversified economically and culturally to meet the needs of residents and visitors. Throughout their histories, Midland and Odessa have capitalized on the economics of the petroleum industry. The major source of income for the two cities is literally pumped from the ground and shipped across the state of Texas and to the rest of the nation, and likely across the world in the near future. Midland and Odessa are both ideal locations for trade due to the easy access along Interstate Highway 20, a major east-west corridor and U.S. Highway 385, a main north-south corridor and with Union Pacific's Class 1 rail service and the Midland International Air & Space Port. The movement of people and goods across the region has always been a top priority for both Midland and Odessa. Recent resurgence of the oil and gas industry due to modern exploration techniques such as hydraulic fracturing and horizontal drilling has brought workers from all over the United States to the west Texas area. Midland and Odessa have become the metropolis center points of the Permian Basin. However, with any growth comes the anticipation of demands on the existing transportation system. Permian Basin MPO has strived to analyze the trends of population and economic growth in the region in order to plan and implement projects that address transportation needs and patterns of the metropolitan area.

Geography

The region is located midway between El Paso and Dallas and includes the cities of Midland and Odessa and covers the counties of Midland, Ector, and Martin. The entire surface area encompasses approximately 533 square miles of flat plain and mesquite-mixed grassland terrain. The climate of the area is described as semi-arid with long, hot summers and short, moderate winters. The Midland Odessa region does not experience sufficient precipitation throughout the year and rainfall occurs during the spring and early summer months. The public sources of usable ground water for residents living in the region come from the Colorado River Municipal Water District, water wells in Martin County and Ward County, and the newly created Midland County Fresh Water Supply District No. 1. Public entities have taken proactive measures in securing and conserving adequate water sources during times of severe drought conditions. While the Midland Odessa region is characterized as a rugged desert, it has abundant natural resources; as noted previously. Midland and Odessa are located in an area of Texas commonly referred to as the Permian Basin.



The name of the Permian Basin was derived from the unique area in which the world's largest deposits of rock were formed during the Permian geologic period. The Permian Sea, a shallow body of water densely populated with animals and plants once covered the area. As the sea dried up, it left decaying plants and animals, which aided in the formation of the region's oil and gas reserves. The Permian Basin includes several basins and platforms, including the Northwestern Shelf, Diablo Platform, Central Basin Platform, Southern Shelf, Ozona Arch, Delaware Basin, Midland Basin and the Val Verde Basin. The minerals and natural resources found in the Permian Basin have helped shape the economic landscape for the western portion of the state of Texas. Midland and Odessa, in particular, have served as individual hubs for oil and natural gas production activities within the Permian Basin. The petroleum rich area has influenced and transformed both Midland and Odessa from quiet ranching settlements into fast growing urban areas with development types found in larger cities.

History

The western expansion of the United States and the discovery of oil were two major factors that contributed to the existence and growth of the Midland Odessa region. Settlers were seeking an alternate route around the Rocky Mountains to the West Coast as Texas became a prime location for transportation routes. The arrival of the Texas and Pacific Railroad in the late 1880s established Midland and Odessa as midway destination points between Dallas and El Paso. The two communities began as cattle ranching settlements but would change significantly due to



the discovery of oil in the mid-1920s. The petroleum industry has helped to change and shape the people, culture and economy of the Permian Basin. Midland soon became known as the administrative and professional center for the oil fields of west Texas. Odessa was transformed into the workforce backbone of the petroleum industry for the Permian Basin. The cities and counties together have become the heart of the nation's top producer of oil and natural gas. The success of the petroleum industry has allowed the Midland Odessa region to attract people and diversify the economy.





Population

The previous MTP reported in 2007 the population for Ector County was 129,570 and for Midland County it was 126,408. However, considerable growth has occurred in both counties since the figures were last documented in the long-range plan. The U.S. Census Bureau has provided official and estimated numbers for 2000, 2010 and 2013. The following table illustrates the overall population growth from 2000. The region has had substantial growth within the first decade of the 2000s. For example, Midland County witnessed a rapid increase in population with a 2.9% growth per year. Also, the estimated population figures from 2013 indicate that Midland County has surpassed Ector County in population.

Table 3.1 Total Population

	2000	2010	2013 (Estimate)	Growth (2000-2013)		Growth (2010-2013)	
				Annual Growth (2000-2013)	Percent Change (2000-2013)	Annual Growth (2010-2013)	Percent Change (2010-2013)
ECTOR	121,123	137,130	149,378	1.8%	23.3%	3.0%	8.9%
MIDLAND	116,009	136,872	151,468	2.9%	30.6%	3.7%	10.7%
TOTALS	237,132	274,002	300,846	2.1%	26.9%	3.3%	9.8%

Source: U.S. Census Bureau

The Texas Water Development Board has posted population projections for the 2016 Regional Water Plan. The data used for the plan covers a 50 year timeframe from 2020-2070. The state agency has projected increases in population over the course of several decades for the Midland Odessa region. The following table provides insight of the future growth of the region. For the purpose of the MTP, the most useful figures are through 2040.

Table 3.2 Population Projection for 2020-2070

	2020	2030	2040	2050	2060	2070
ECTOR	156,957	177,157	198,446	220,268	242,371	264,646
MIDLAND	160,018	173,387	191,665	210,100	228,299	246,134
TOTALS	316,975	350,544	390,111	430,368	470,670	510,780

Source: Texas Water Development Board



Table 3.3 Total Population and Employment 2010-2014

Ector County		Population (2013 estimate)		144,559
Labor Force Employment (Texas Workforce Commission)				
2010	Jan	Ector County	Not Adjusted	65,287
2014	Sept	Ector County	Not Adjusted	85,482
Midland County		Population (2013 estimate)		146,085
Labor Force Employment (Texas Workforce Commission)				
2010	Jan	Midland County	Not Adjusted	70,895
2014	Sept	Midland County	Not Adjusted	97,543

Table 3.3 provided by Workforce Solutions Permian Basin indicates that jobs in the Odessa area grew by 20,195 or almost 31% in a period of four and three quarter years. Employment increased in the Midland area even more dramatically with 26,648 new jobs or 37.5%. The Perryman Group is another resource used by Permian Basin MPO in an effort to reflect the projected population growth for the Midland Odessa region. The figures below have been projected through 2018 as the population gains and growth percentages for both Midland and Odessa exceed the other metropolitan areas of comparable size.

Table 3.4 Projected Population

Metropolitan Statistical Areas	Population 2013	Projected Population 2018	Projected Population Gain 2013-2018	Compound Annual Growth Rate 2013-2018
Abilene MSA	169,809	178,137	8,328	0.96%
Amarillo MSA	260,166	276,010	15,844	1.19%
Lubbock MSA	297,984	318,089	20,106	1.31%
Midland MSA	168,108	190,747	22,639	2.56%
Odessa MSA	170,746	211,209	40,463	4.35%
San Angelo MSA	116,342	123,597	7,255	1.22%
Wichita Fall MSA	152,178	156,672	4,494	0.58%
STATE OF TEXAS	26,609,487	28,878,483	2,268,996	1.65%

Source: The Perryman Group



Households

In 2010, the number of households was 48,688 in Ector County and 50,845 in Midland County. The table below illustrates the historic growth in households from 2000. Midland County has experienced significant growth as compared to the households in Ector County. Also, the U.S. Census Bureau and American Fact Finder reported the median household income for Ector and Midland counties from 2008-2012 to be \$50,851 and \$59,391 respectively. The 2010-2035 MTP indicated that the median household income for Ector and Midland counties in 2000 was \$31,152 and \$39,082. The region has experienced a leap in median household income over the years due to the growth of the local economy and the abundance of high paying jobs.

Table 3.5 Total Households

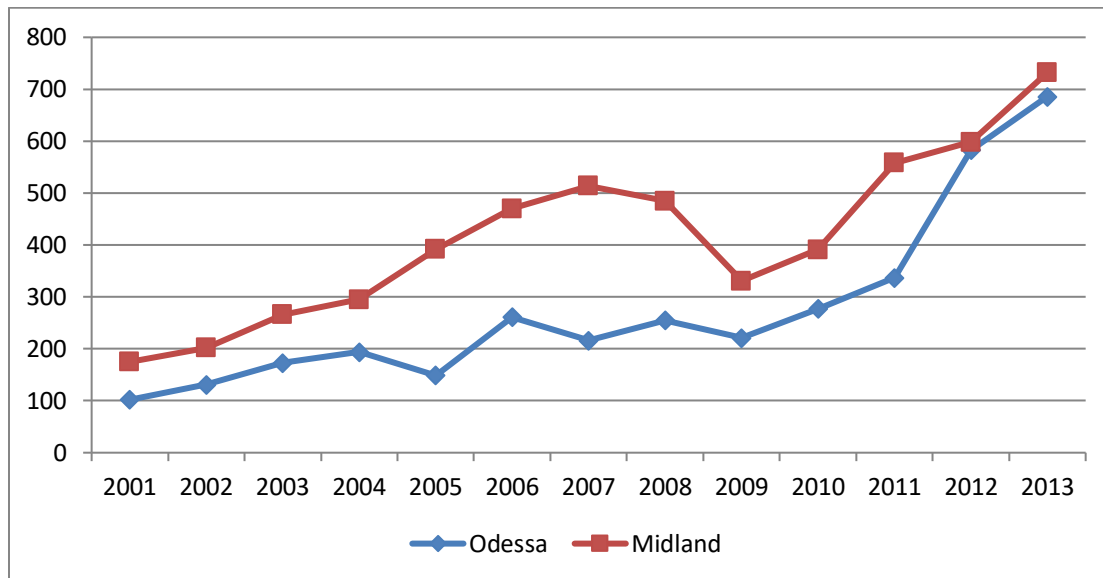
	2000	2010	Growth (2000-2010)	
			Annual Growth (2000-2010)	Percent Change (2000-2010)
Ector	43,846	48,688	1.1%	11.0%
Midland	42,745	50,845	1.9%	18.9%
Total Households	86,591	99,533	1.5%	14.9%

Source: U.S. Census Bureau

As previously mentioned, the Midland Odessa region has experienced significant gains in population. The proof is expressed through the number of residential permits issued by both cities. Midland and Odessa collectively have surpassed 1,000 new residential construction permits per calendar year for 2012 and 2013. The figure below illustrates the historical trend and comparison of new residential permits issued in both Midland and Odessa. The 2013 annual total, set a record at 1,418 permits issued, an increase of 20% compared to the 2012 annual total. New residential construction permits are an indication of the demand for housing in the metropolitan area.



Figure 3.1 New Residential Permits Issued



Source: Building Departments for the Cities of Midland and Odessa

Employment

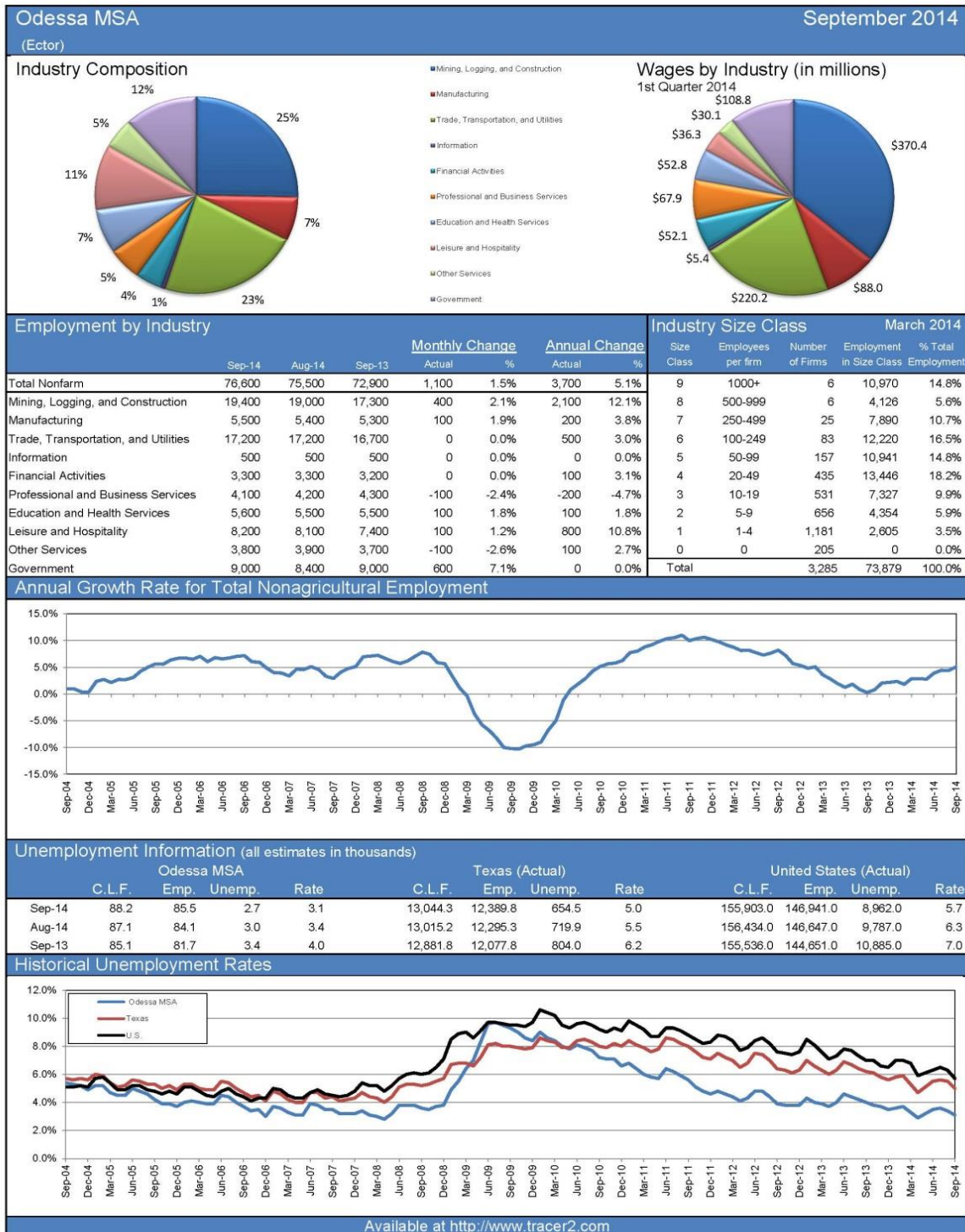
The Midland Odessa region is recognized as an economic generator for employment among workers and industries. The economy of the Midland Odessa region continues to be fueled by the petroleum industry but in recent years has diversified with jobs from the educational and health services industries. Figures 3.2 and 3.3 illustrate the distribution of employment by sector in year 2014 for the Odessa and Midland Metropolitan Statistical Areas (MSAs). The type of employment with the largest share of jobs in the Midland Odessa region has been the natural resources, mining and construction sector with 25 percent. However, the trade, transportation and utilities sector is close behind with 22 percent of all employment in the region. The two sectors have had steady gains over the last five years since the data was last reported in the previous MTP. Diversification is an important goal of the local economy but the petroleum industry is still the driving force behind the surges of employment in the Midland Odessa region.



CHAPTER 3 - REGIONAL CONTEXT



Figure 3.2 2014 Employment by Type and Unemployment Trends - Odessa, Texas

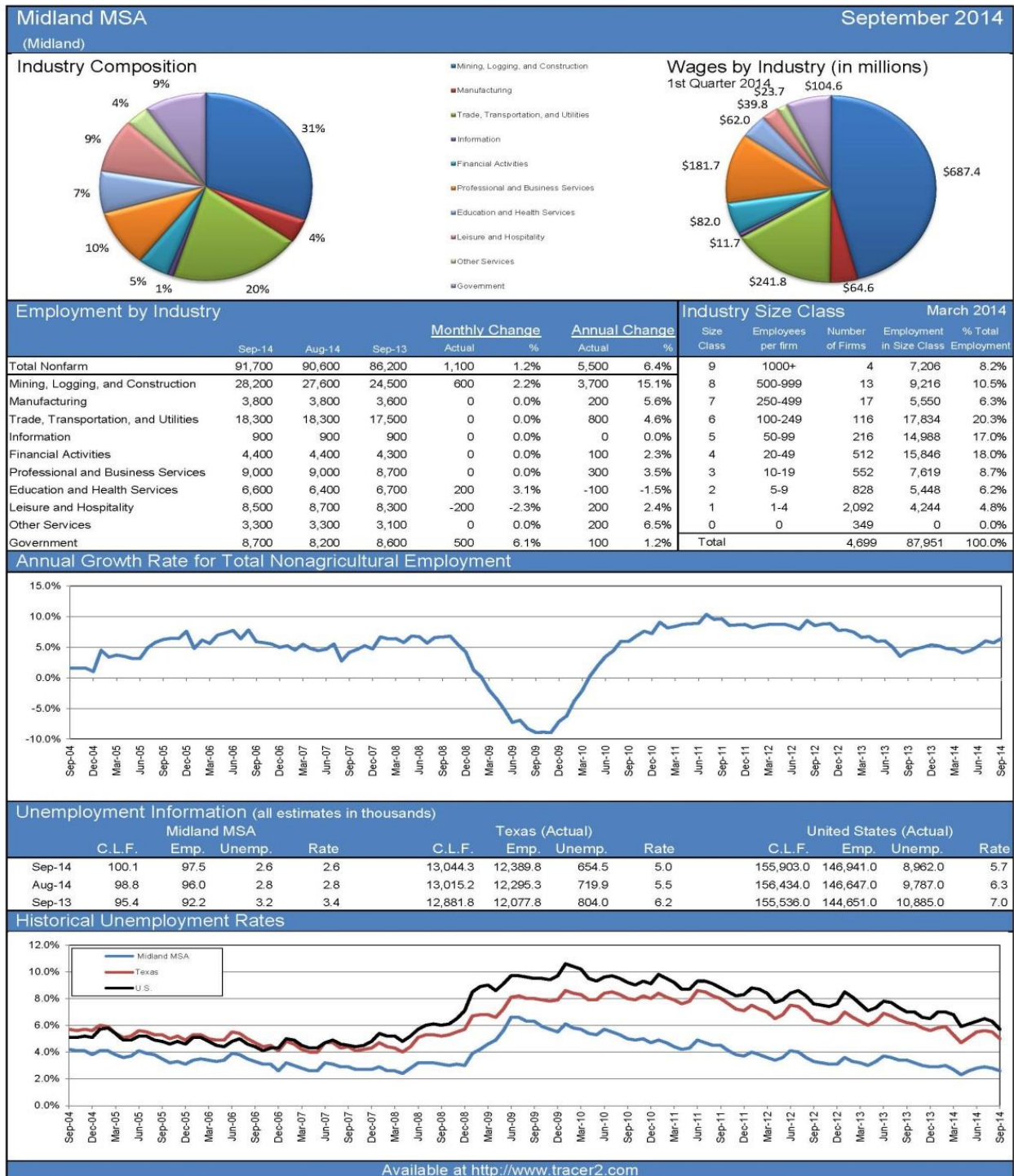


Source: U.S. Census Bureau

CHAPTER 3 - REGIONAL CONTEXT



Figure 3.3 2014 Employment by Type and Unemployment Trends - Midland, Texas



Source: U.S. Census Bureau



Major Employers

The table below is a list of the major employers in the Midland Odessa region. The information was compiled from each city's Chamber of Commerce and Economic Development Corporations. The data indicates that the school districts followed by the medical facilities are the largest employers in the Midland Odessa region.

Table 3.6 2013 Top Employers

Employees	Employer	Sector	Type
Over 2,550	Ector County ISD	Public	Education
	Midland ISD	Public	Education
1,500 to 2,000	Medical Center Hospital	Public	Medical Services
	Midland Memorial Hospital	Public	Medical Services
	Saulsbury Industries	Private	Electric & Construction
1,000 to 1,500	Warren Equipment Companies	Private	Compressor Systems
	Halliburton Services	Private	Oil & Gas
	Dawson Geophysical	Private	Oil & Gas
	Weatherford	Private	Oil & Gas
750 to 1,000	City of Midland	Public	City Government
	Walmart	Private	Retail
	City of Odessa	Public	City Government
	Patterson Drilling UTI	Private	Oil & Gas
	Odessa Regional Medical Center	Public	Medical Services
500 to 750	Holloman Construction	Private	Oil Field Construction
	Dixie Electric	Private	Electric
	Nurses Unlimited, Inc.	Private	Medical Services
	Ector County	Public	Government
	Midland County	Public	Government

Source: U.S. Census Bureau

Major Traffic Generators

Traffic volumes and flow patterns of a transportation system are influenced by the location and nature of any activity center. For example, the major traffic generators that are located throughout the Midland Odessa region include public facilities, medical facilities, education institutions, shopping centers, regional distribution centers, and other transportation hubs.



Public Facilities



Government buildings such as city halls, post offices and courthouses attract traffic because business and public services are conducted at these locations. While many of these services are offered online, many people still prefer the traditional method of interacting in-person. Also, major event venues, such as the Scharbauer Sports Complex, Midland County Horseshoe Arena, Ector County Coliseum, Ratliff Stadium and the Wagner Noël Performing Arts Center, generate substantial traffic as crowds gather for athletic games, musical concerts and other events.

Medical Facilities

Medical Center Hospital, Odessa Regional Medical Center, Midland Memorial Hospital, and the newly constructed Veteran's Affairs clinic are four of the major medical facilities in the region. The hospitals are located adjacent to major roadways and corridors of the area.



Educational Institutions

The major educational institutions located in the Midland Odessa region include:

- The University of Texas of the Permian Basin is part of the University of Texas system and offers undergraduate and graduate degrees. Due to increases in student enrollment, the campus has expanded with newly constructed dorms and buildings. Also, in recent years the university has added a petroleum and mechanical engineering program to its list of academics. The university is located in Odessa on University Avenue and John Ben Sheppard Parkway.



- Odessa College has an estimated 5,000 students each year. The college is located along US 385 on the north side of Odessa.
- Midland College has kept a steady enrollment of 6,000 students per year. The main campus sits on 224 acres and is located on Garfield St. and is in close proximity to Loop 250.



- Texas Tech University Health Sciences Center of the Permian Basin has campuses in Midland and Odessa that include the School of Allied Health Sciences, the School of Medicine, and the School of Nursing.

Shopping Centers



Shopping centers are indicated as major traffic generators due to the level of traffic experienced during peak times, weekends and evenings. Large shopping malls, retail centers and chain grocery stores in both Midland and Odessa have residents and visitors flocking to the commercial areas. Music City Mall, Midland Park Mall, the Colonnade Shopping Center, Westgate Plaza, Walmart and H-E-B are all examples of major shopping centers in the

Midland Odessa region.

Transportation Hubs

Midland International Air & Space Port, Odessa-Schlemeyer Field, Midland Airpark and EZ-Rider's Multi-Modal Facility are all facilities that serve the travel needs of people living in the area. The transportation hubs within the Permian Basin MPO area boundary have been essential to connecting people to a desired location.



Transportation-Related Statistics

Vehicle Availability

Data concerning vehicle availability is collected by the U.S. Census Bureau and the latest available data is for 2012. The following table presents the percentages of vehicle availability in Midland and Ector County compared to Texas and the United States.

Table 3.7 Vehicle Availability

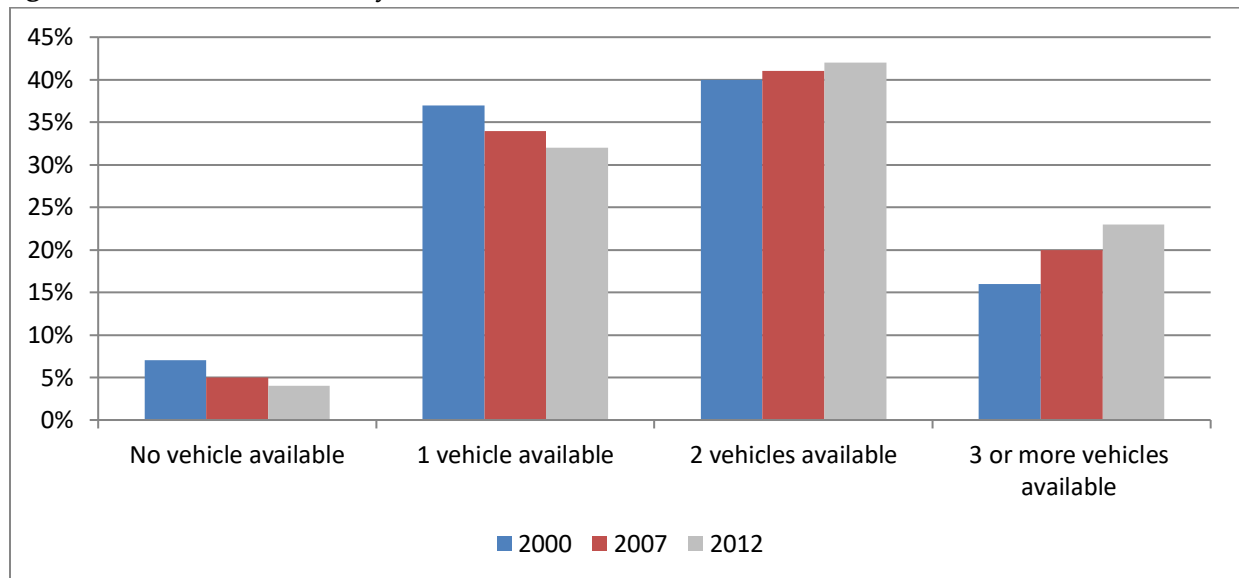
	Ector County	Midland County	Texas	United States
Occupied Housing Units	49,382	51,216	8,970,959	115,969,540
No vehicle available	4.2%	2.8%	5.8%	9.2%
1 vehicle available	32.5%	31.6%	34.6%	34.1%
2 vehicles available	40.8%	42.8%	40.3%	37.3%
3 or more vehicles available	22.5%	22.8%	19.3%	19.3%

Source: U.S. Census Bureau

A lower percentage of occupied housing units in the Midland Odessa region have no access to vehicles as compared to the rest of the state and the nation. However, the percentage of occupied housing units owning three or more cars was more than the state and national average. The data would suggest that the residents living in the Midland Odessa region have a high dependency on automobiles. The majority of people use an automobile in order to have access to the transportation network for daily activities such as employment, education, shopping, medical and recreation. The following figure illustrates a historical trend in vehicle availability from 2000. Over the years, the percentage of households with no vehicles has declined, while the percentage of households with two or more vehicles has increased after 2007.



Figure 3.4 Vehicle Availability



Source: U.S. Census Bureau

The Midland-Odessa Regional Economic Index and the Texas Permian Basin Petroleum Index is a summary of the state of the economy for the local area. The analysis was completed in conjunction with the Midland Development Corporation, Security Bank and Ingham Economic Reporting. The report highlights the economic growth and ongoing measures of regional oil and gas activity. The document reemphasizes that, “the activities of production, drilling, and service companies that are bringing about these fantastic increases in production are also driving general economic growth across the region and in the Midland-Odessa combined metro area” (Ingham Report). Wage and salary employment along with auto sales are but of a few components of the Midland-Odessa Regional Economic Index. High employment growth rates and low unemployment rates have had a direct correlation with the spending on new and used automobiles.

The table below is a sample taken from the Midland-Odessa Regional Economic Index and illustrates the record levels of auto purchases and employment for the region. A representative from Ingham Economic Reporting has been quoted by the Midland Reporter Telegram in that, “the most important indicator of local economic health is consumer spending” (MRT 04/29/14). The data reinforces the notion that with continued low unemployment rates, high job growths and a tight labor market, the Midland Odessa region is on an upward mobility with local wages and salaries. The increased number of auto purchases validates the indication of a healthy economy and that people still have a high dependency on vehicles. The automobile continues to be the driving factor behind the transportation network for the Midland Odessa MAB.



Table 3.8 Midland-Odessa Regional Economic Index

ECONOMIC INDICATORS	Base Year 1996	Last Year 2013	This Year 2014	% Change 2013-2014
Dollars spent on Auto Purchases - May	\$14,714,865	\$55,367,333	\$56,702,242	2.4%
Dollars spent on Auto Purchases - YTD Through May	\$72,245,117	\$233,009,108	\$299,667,730	28.6%
EMPLOYMENT				
Wage and Salary Employment - May	\$52,000	\$85,300	\$88,900	4.2%
Wage and Salary Employment - YTD Through May	\$51,300	\$84,100	\$87,960	4.6%

Source: Ingham Economic Reporting

Means of Transportation to Work

People travel to work by using a mix of travel modes. Automobiles, walking, bicycles, public transit and taxis are all means of transportation that serve the daily needs of individuals. Based on the 2010 census data, the majority of residents living in the Midland Odessa region relied heavily on private automobiles as a means of transportation. The table below illustrates a comparison of rates by mode for 2012. The counties of Midland and Ector are compared to the state and the nation. Percentages were higher in the Midland Odessa region as compared to state and the nation as the total number of workers preferred to drive alone. The use of public transportation to get to work was the least preferred mode of choice for the Midland Odessa region.

Table 3.9 2012 Mode of Choice Comparison

	Ector County	Midland County	Texas	United States
Total Workers	66,619	71,880	11,608,001	140,862,960
Drove Alone	85.9%	82.9%	80.1%	76.3%
Carpooled	10.8%	12.2%	11.0%	9.7%
Public Transportation	0.6%	0.1%	1.6%	5.0%
Walked	0.8%	1.7%	1.6%	2.8%
Other Means	0.0%	0.5%	1.7%	1.8%
Worked at home	1.9%	2.4%	3.9%	4.4%

Source: U.S. Census Bureau



Travel Time to Work

Mean travel times from home to work are from the U.S. Census Bureau’s American Fact Finder Survey with data collected from 2010 to 2012 and in 2014. The data indicates trends in travel time to work over a five year period. According to the data the mean travel time for workers in both Midland and Ector counties was lower than the state and national times. However, travel time percentages in both counties were higher in the 10 to 19 minute range as compared to state and national averages. The assumption is made that people living in the region commute to either city or county for work. The 2014 data indicates that travel times have increased in both Ector and Midland Counties with the biggest percentage increase occurring in Midland County where the number of commuters travelling more than 60 minutes increased by over 70 percent.

Table 3.10 2010-2012 Versus 2014 Travel Times to Work

2010-2012	Ector County	Midland County	Texas	United States
Total Commuters	63,752	68,826	11,370,628	138,825,126
< 10 minutes	18.0%	18.2%	13.2%	13.5%
10 to 14 Minutes	22.3%	22.3%	14.4%	14.3%
15 to 19 Minutes	23.1%	24.4%	16.0%	15.5%
20 to 24 Minutes	14.3%	14.0%	14.8%	14.8%
25 to 29 Minutes	3.1%	3.4%	5.8%	6.1%
30 to 34 Minutes	8.0%	8.3%	15.1%	13.7%
35 to 44 Minutes	2.5%	2.8%	6.2%	6.4%
45 to 59 Minutes	2.4%	2.5%	7.6%	7.5%
> 60 Minutes	6.4%	4.2%	7.0%	8.1%
Mean Travel Time (Min)	20.6	19.2	24.9	25.5

Source: U.S. Census Bureau-American Fact Finder

2014	Ector County	Midland County
< 10 minutes	15.9%	16.4%
10 to 14 Minutes	21.0%	20.1%
15 to 19 Minutes	22.7%	22.7%
20 to 24 Minutes	15.3%	14.6%
25 to 29 Minutes	3.7%	3.3%
30 to 34 Minutes	9.9%	10.1%
35 to 44 Minutes	2.5%	2.8%
45 to 59 Minutes	2.7%	2.7%
> 60 Minutes	6.3%	7.2%
Mean Travel Time (Min)	21.2	23.0

Environmental Justice

Title VI of the Civil Rights Act of 1964 is a federal law that protects individuals, groups and organizations from discrimination on the basis of race, color or national origin in federally assisted programs and activities. Since other nondiscrimination authorities have expanded the scope and range of Title VI application and reach, reference to Title VI includes other provisions of federal statutes and related authorities to the extent that they prohibit discrimination in programs and activities receiving federal financial assistance. On February 11, 1994, President Clinton signed *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The Executive Order requires that each Federal agency shall, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations. Permian Basin MPO's environmental justice initiatives are considered in all phases of planning and focuses on enhanced public involvement and an analysis of the distribution of benefits and impacts. The *Vision 2040 Plan* is based on the following environmental justice principles derived from the United States Department of Transportation (USDOT):

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process;
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

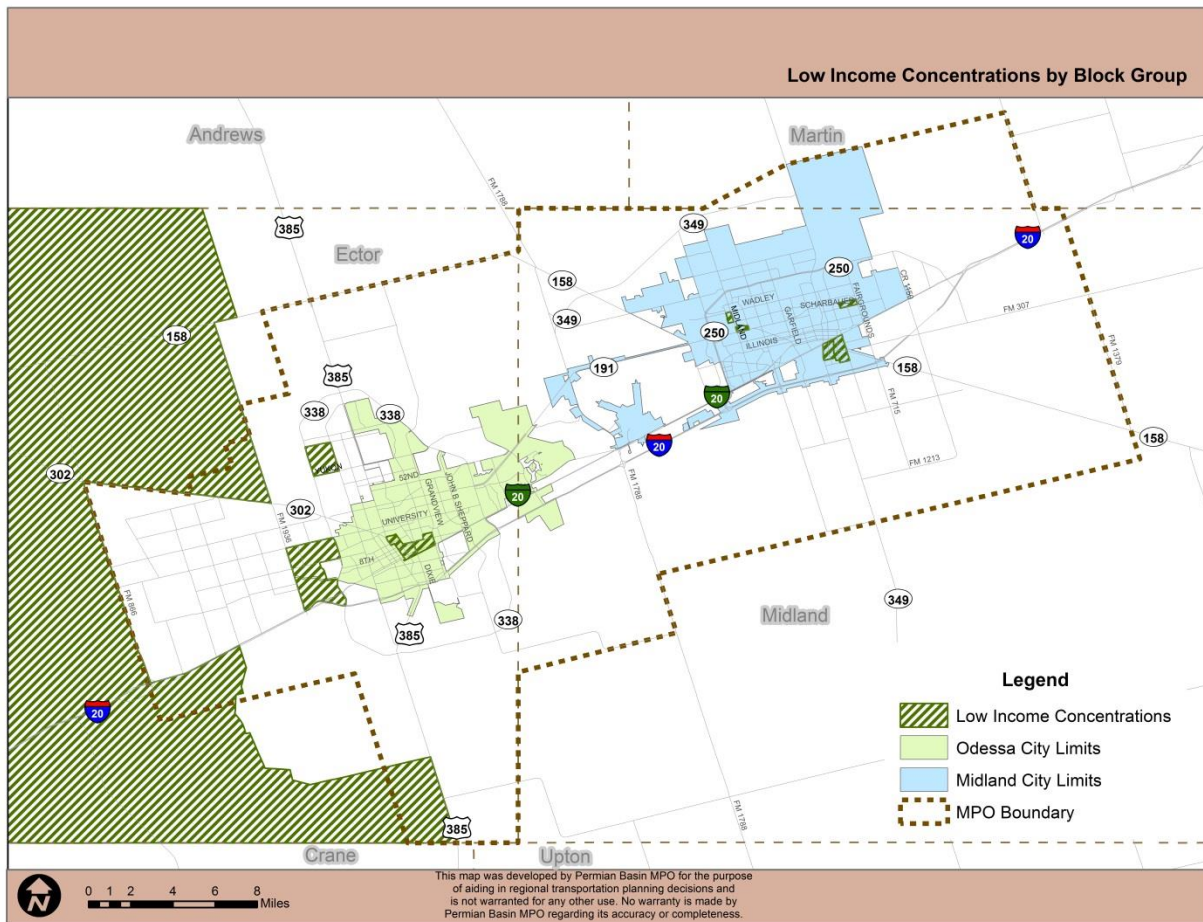
As part of the MTP update, census data from 2012 was used to identify the geographic distribution of low-income, limited English proficiency and minority populations. The lowest level of census data available through the 2012 American Community Survey is at the block group level. This limitation is a challenge when attempting to analyze the data available for the portion of Martin County within the MAB. The block group within the Permian Basin MPO boundary covers the vast majority of Martin County and has not been included in the *Vision 2040 Plan Amendment No. 2*. This data will be analyzed further and the Title VI analysis will be updated in the next Title VI/Environmental Justice Program amendment.



Low Income Households

The USDOT defines low-income as a person whose household income is at or below the Department of Health and Human Services poverty guidelines. The U.S. Census Bureau has reported the percentages of persons below the poverty level for Ector and Midland Counties from 2008-2012 to be 15.8% and 9.8%. The figures are lower than the state percentage as Texas has 17.4% of persons living below the poverty level.

Map 3.1 Low Income Households

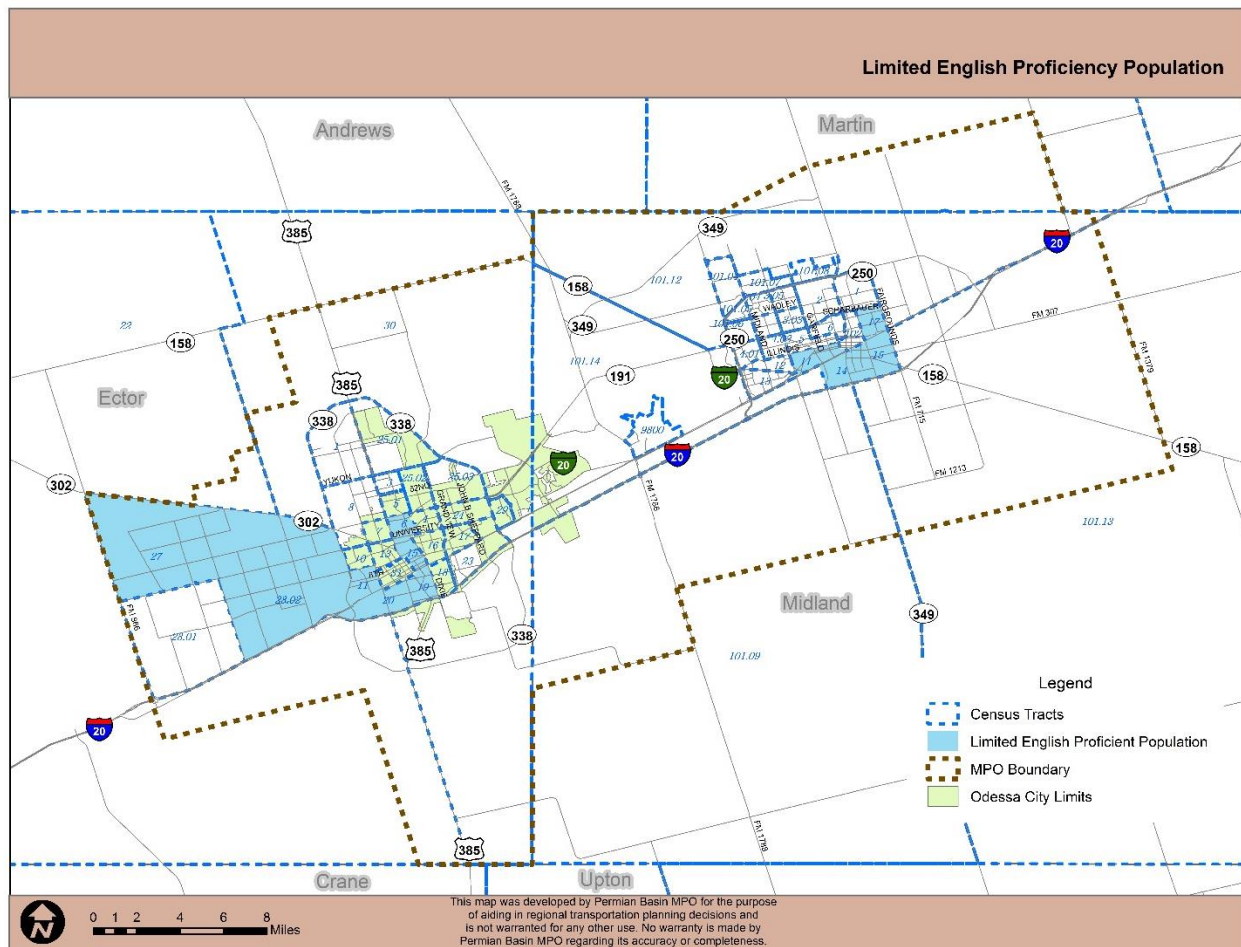




Limited English Proficiency

Executive Order 13166: Improving Access to Services for Persons with Limited English Proficiency, defines Limited English Proficiency (LEP) persons as those who do not speak English as their primary language and have limited ability to read, speak, write or understand English. Permian Basin MPO has identified the geographic concentrations of LEP individuals in the metropolitan area boundary. LEP populations are located in the areas of west Odessa and south Midland. The U.S. Census Bureau has listed Spanish as the largest language spoken by LEP individuals within the MPO boundary.

Map 3.2 Limited English Proficiency Population





Minority Population

Under Title VI, the USDOT and the Federal Highway Administration (FHWA) must consider environmental justice issues when addressing persons of African-American, Hispanic, Asian, American Indian and Alaskan Native descent.

The map below illustrates the 2012 distribution of minority population over the block groups within the MPO boundary. The block groups with high concentrations of minority populations are located on the west and south sides of Odessa and the east and south sides of Midland. Also, the following figures represent the distribution of different races and the percentage comparison between Hispanics and Non-Hispanics. The Midland Odessa region is predominantly populated by whites and Hispanics.

Map 3.3 Year 2012 Minority Population

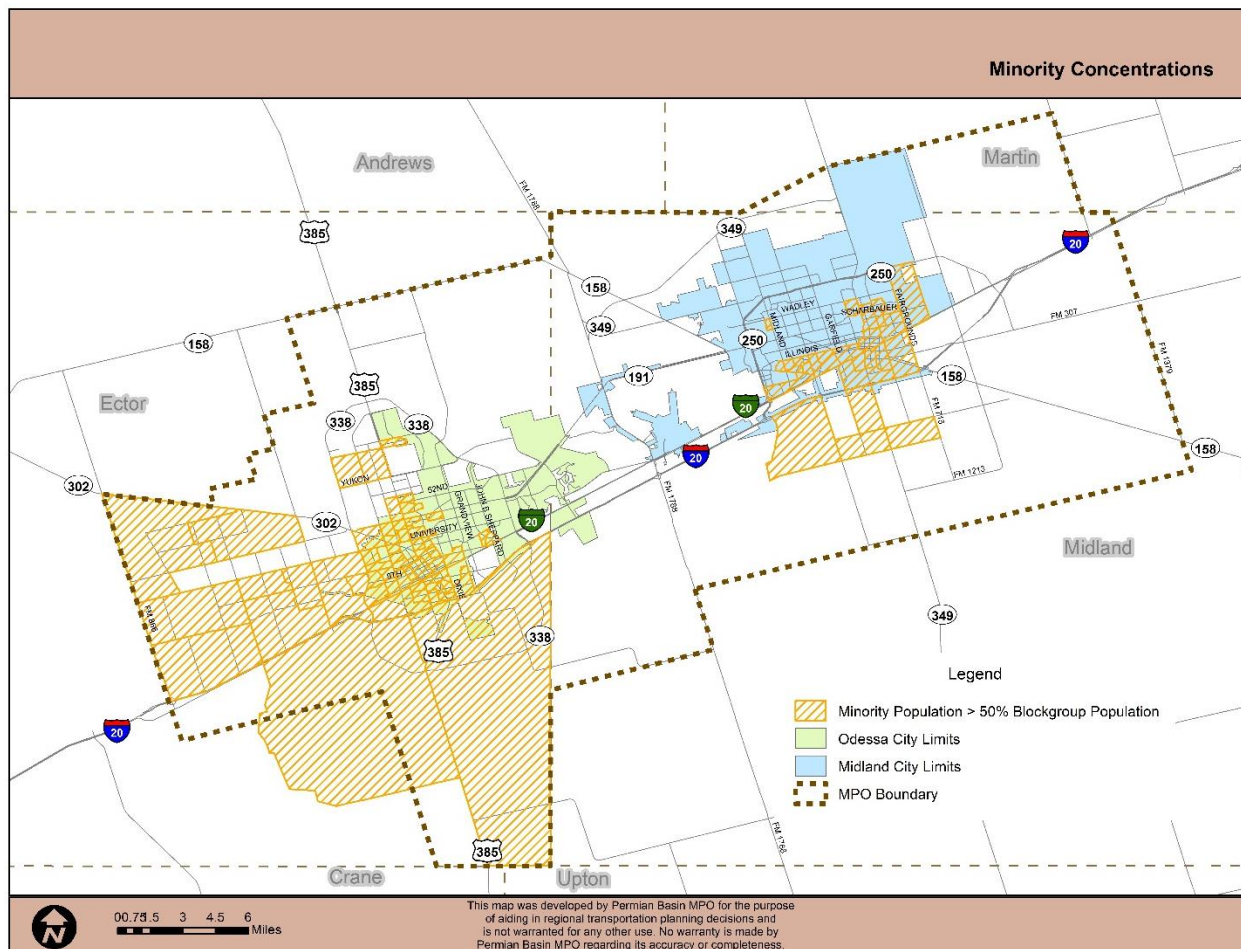




Figure 3.5 Race Distribution for Ector County

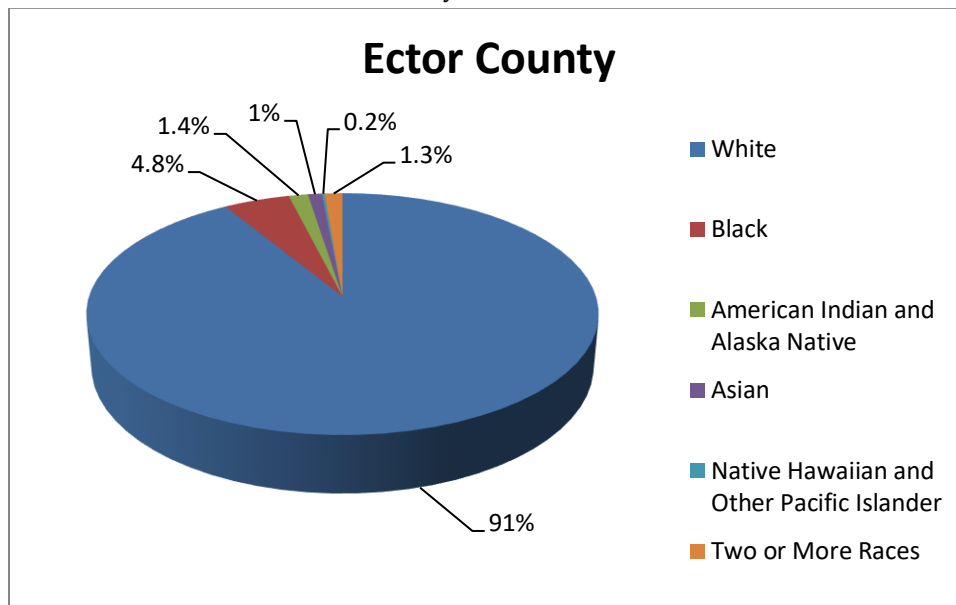


Figure 3.6 Race Distribution for Midland County

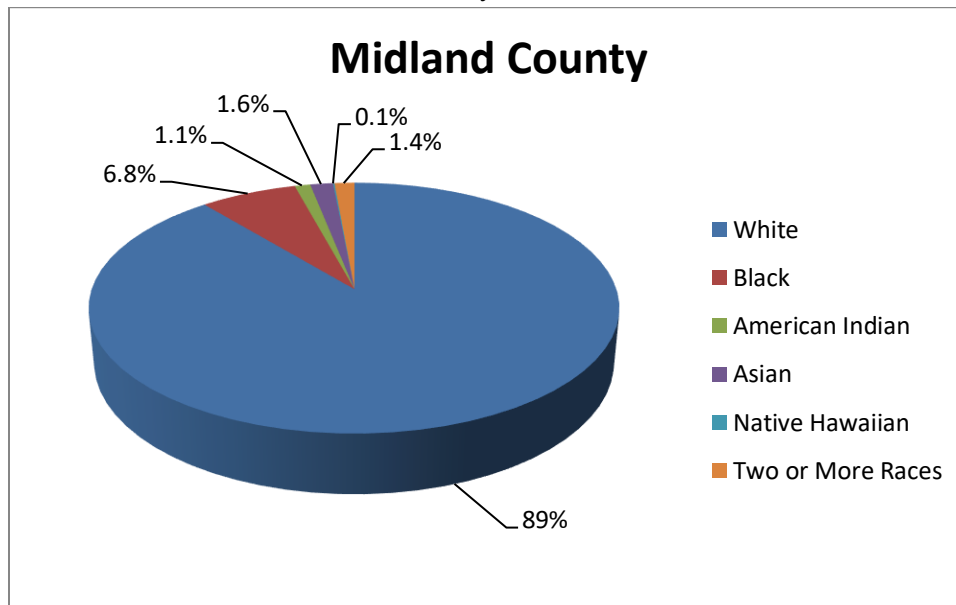




Figure 3.7 Hispanic and Non-Hispanic in Ector County

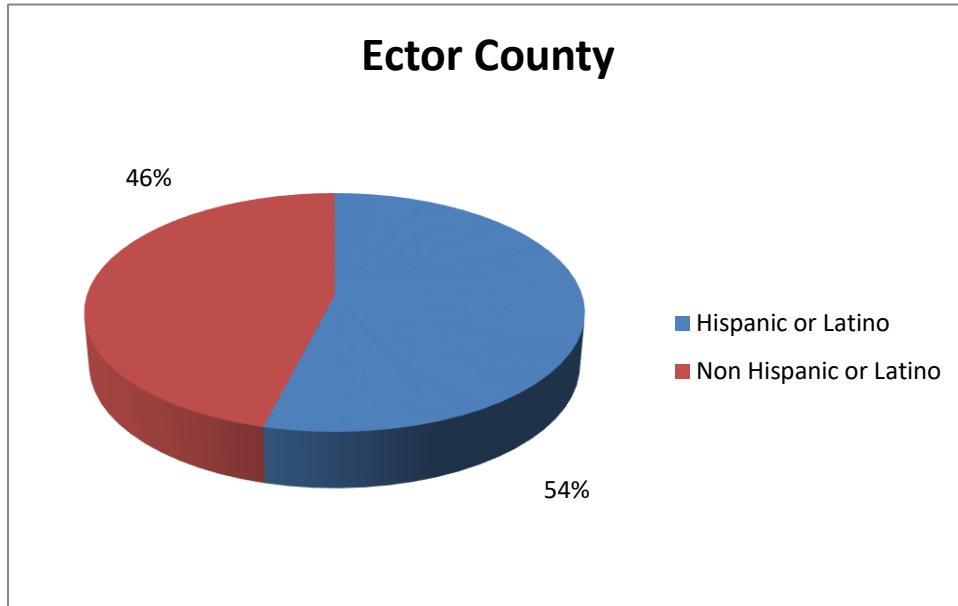


Figure 3.8 Hispanic and Non-Hispanic in Midland County

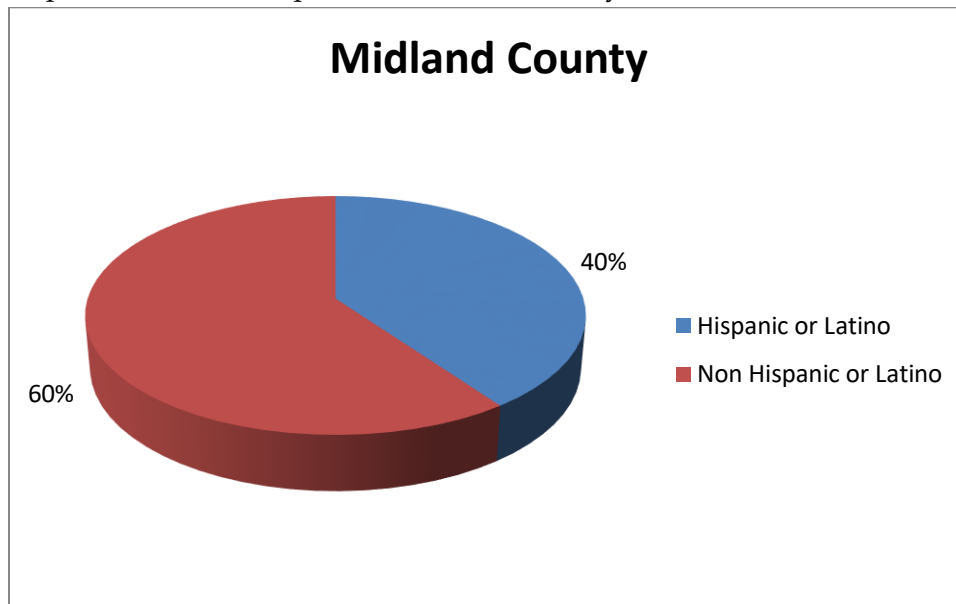




Table 3.11 Year 2010 Population by Race

Race	Ector County	Midland County	Total
One Race	133,728	133,602	267,330
White	104,653	105,302	209,955
Black or African American	6,141	9,087	15,228
American Indian and Alaska Native	1,351	1,013	2,364
Asian	1,080	1,715	2,795
Native Hawaiian and Other	119	54	173
Some other race	20,384	16,431	36,815
Two or more races	3,402	3,270	6,672
Total Population	137,130	136,872	274,002
Hispanic or Latino (of any race)	72,331	51,600	123,931

Source: U.S. Census Bureau



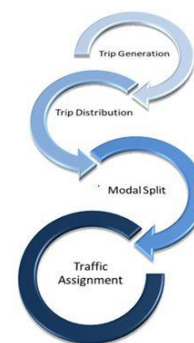
Introduction

Transportation systems and land use patterns have a direct and complex relationship with one another. Neighborhoods, industry, and businesses would not exist without a transportation system and would not be necessary without the demand of people using it. Roads, transit, and other transportation elements shape land development, while the distribution and types of land uses affect travel patterns and transportation facilities. For example, a dispersed pattern of low-density development requires a traveler to rely almost exclusively on cars as the primary mode for transportation. Alternatively, dense mixed use urban development features a variety of land uses in close proximity, encouraging walking, biking, and other non-motorized travel.

An important step within the MTP preparation process is to provide the public and decision makers with an accurate description of existing socio-economic and transportation characteristics within the region. These include traffic trends, crash data, air travel statistics, freight patterns, and other features unique to the area. Chapter 3 provides a valuable summarization of the existing character of the region including population growth, economic vitality, and employment projections. Other chapters provide detailed information on specific topics, all of which help describe existing conditions within the region. Because land use and the transportation network are so closely linked and mutually impacting, it is important for Permian Basin MPO to be aware of both existing and future conditions in the region. One tool that can be especially useful is a travel demand model.

Travel Demand Model

In many cases, an MPO will benefit from the preparation of a travel demand model which is used to validate a base year of socio-economic and travel patterns to forecast future travel patterns based on projected population growth or decline. The use of a travel demand model for the 2040 forecast year may result in better decision making concerning transportation system investments. A travel demand model was not completed in the MAB as part of the preparation of the *Vision 2040 Plan*; therefore, as an alternative, Permian Basin MPO



relied heavily on Census data and other future population and employment projections, public workshops, stakeholder meetings, focus group discussions and member agency knowledge of land development projections to formulate conclusions about growth and transportation needs in the region.

Midland and Odessa have been growing toward one another for decades. Recent evidence may be seen along SH 191 where the eastern portion of the City of Odessa is growing rapidly with apartments, single family neighborhoods, retail centers, regional health care facilities, and



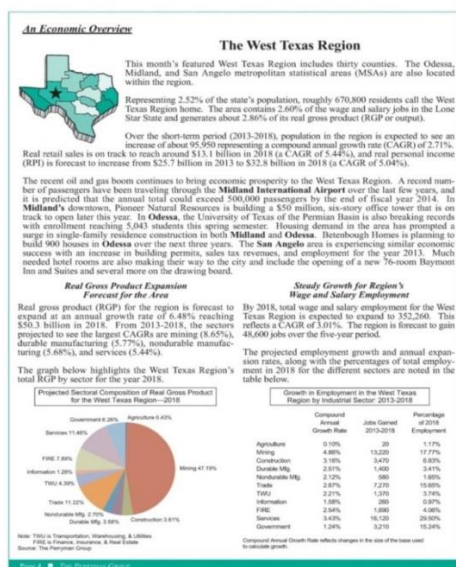
industrial expansions to the southeast. Conversely, Midland has seen major growth in its western sector including numerous hotels, restaurants, auto dealerships, regional corporate headquarters for oil and gas companies and other office developments, apartments and single-family neighborhoods. Both cities have seen record years of construction as reflected in the number of building permits issued for residential and non-residential construction (Chapter 3). This current growth trend is not completely new; it has been in place since the latter months of 2010.

Staff began working with TxDOT and consultants in 2015 to complete an updated Travel Demand Model. The year 2012 was chosen as the base year for the model with 2017 for short-range projections and 2040 for long-range projections. The model will likely be available for staff analysis and use in the fall of 2017.

Socio-Economic Factors

Valuable information obtained for the *Vision 2040 Plan* came from member agencies, city and county representatives and others who have forecasted economic growth in the region. Permian Basin MPO believes it is important to include the work of the Perryman Group because it has provided keen insights into the Texas economy, especially West Texas and the energy sector, for decades. Published work by the Perryman Group includes economic modeling and forecasting, market and industry analysis, demographic studies, and impact assessment. Public agencies including the Census Bureau, Texas Water Development Board and the Texas State Data Center have also provided population projections as shown in Chapter 3.

Figure 4.1 Example of the Perryman Group Economic Forecast





City and County Growth Projections

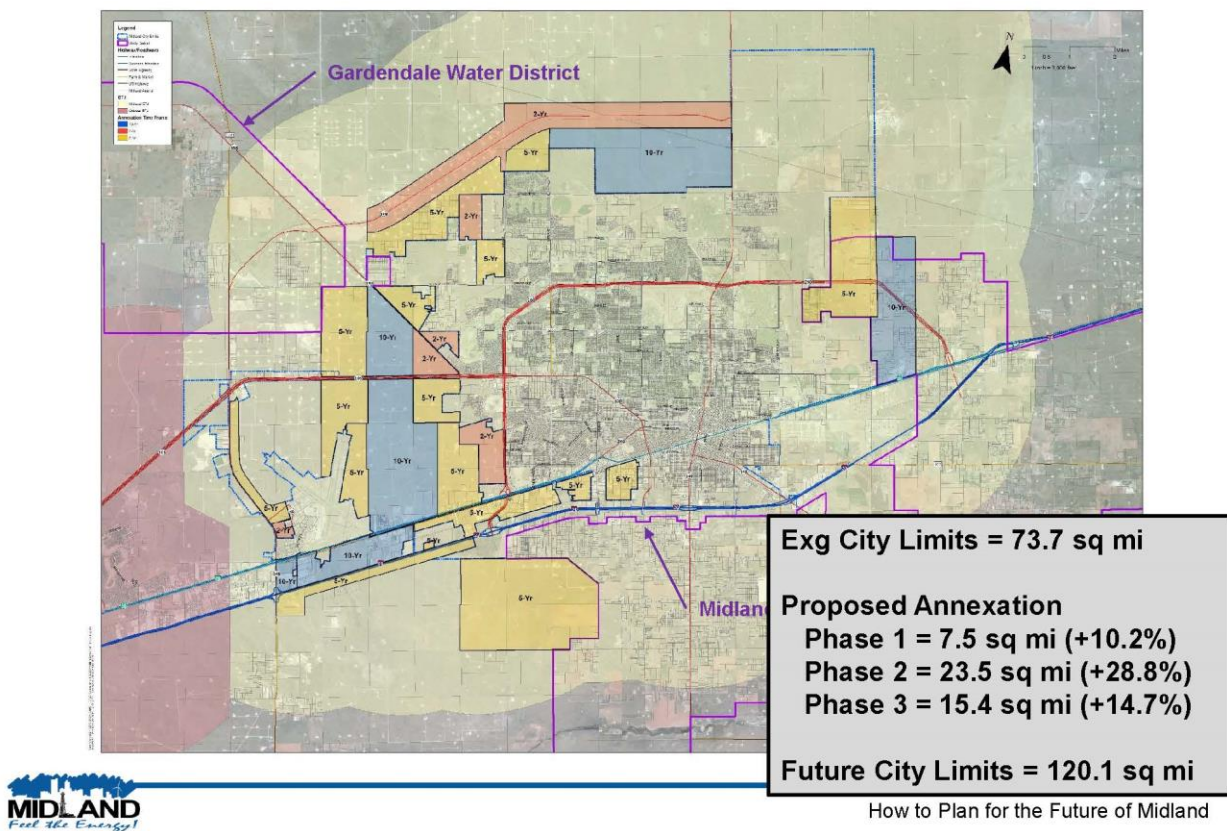
Work generated by the City of Midland, City of Odessa and the utility districts in Ector and Midland County indicates that growth is not expected to become stagnant within the 25 year planning horizon.

City of Midland

The City of Midland has proposed three phases of annexation. Land proposed for incorporation is located to the north and west of the city for the most part; however, growth occurring in the northeastern part of the city is expected to continue. A large annexation to the southwest of the city is also anticipated within a five-year time period.

Figure 4.2 City of Midland Annexation Plan

City Boundaries - Annexation

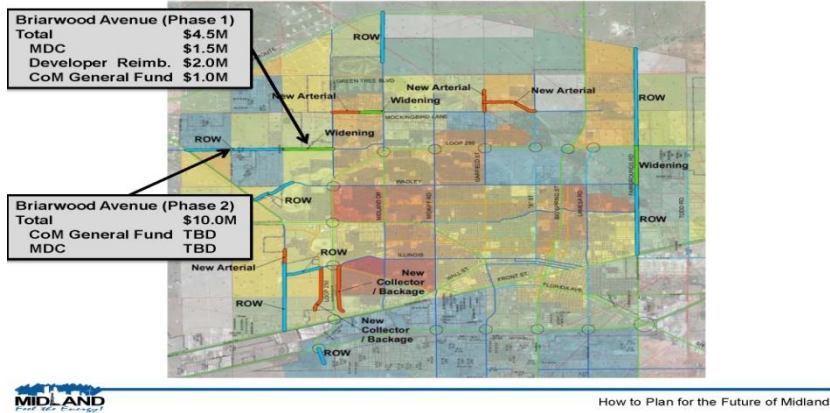


Important immediate and short term needs in the City of Midland include new arterial street locations, right-of-way acquisition, and road widening. Long term needs in Midland include a south mobility corridor, widening of SH 349 to the north, multiple new arterial street locations to the north and east of the city's core, and new interchanges along Loop 250 E.

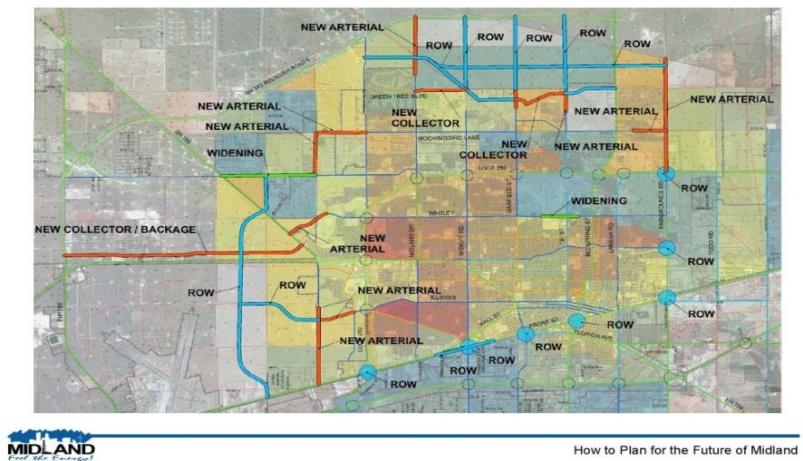


Figure 4.3 City of Midland Thoroughfare Plan – Immediate, Short Term, and Long-Term Needs

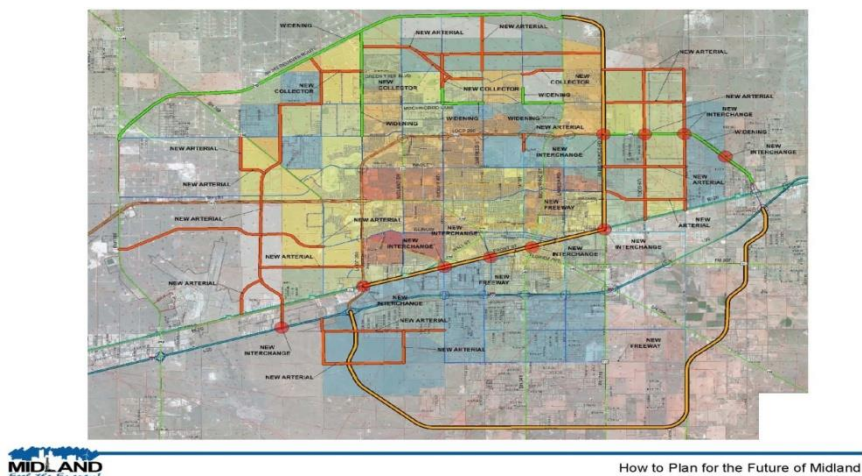
Thoroughfare Plan – Immediate Needs



Thoroughfare Plan – Short-Term Needs



Thoroughfare Plan – Long-Term Needs





City of Odessa

The City of Odessa could possibly annex areas in all directions as shown in Figure 4.5. However, certain areas that are recommended to be annexed are shown in Figure 4.6. With continued growth in the region, Odessa must be able to accommodate the mass amount of individuals and families coming to the area seeking employment.

Figure 4.4 City of Odessa Potential Areas of Annexation

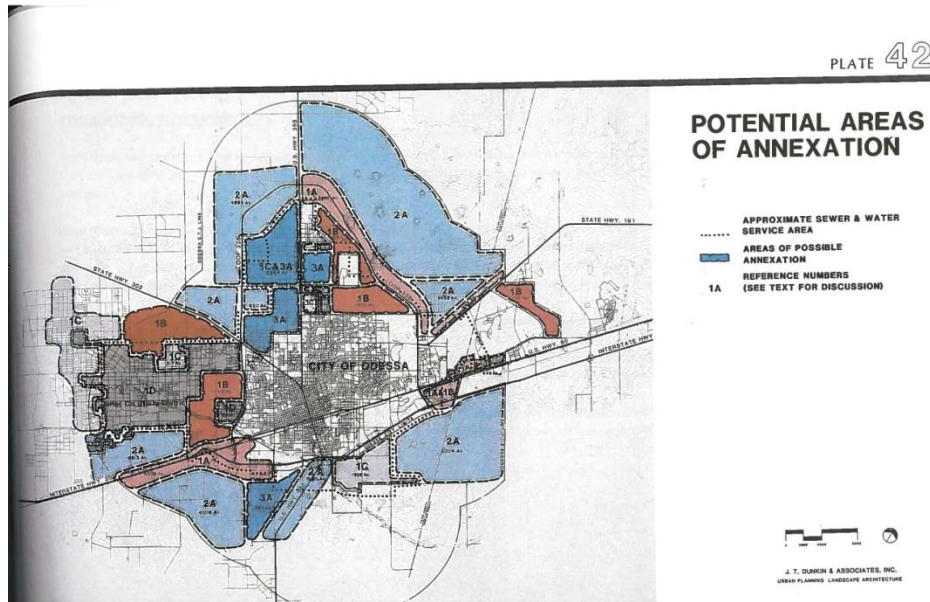
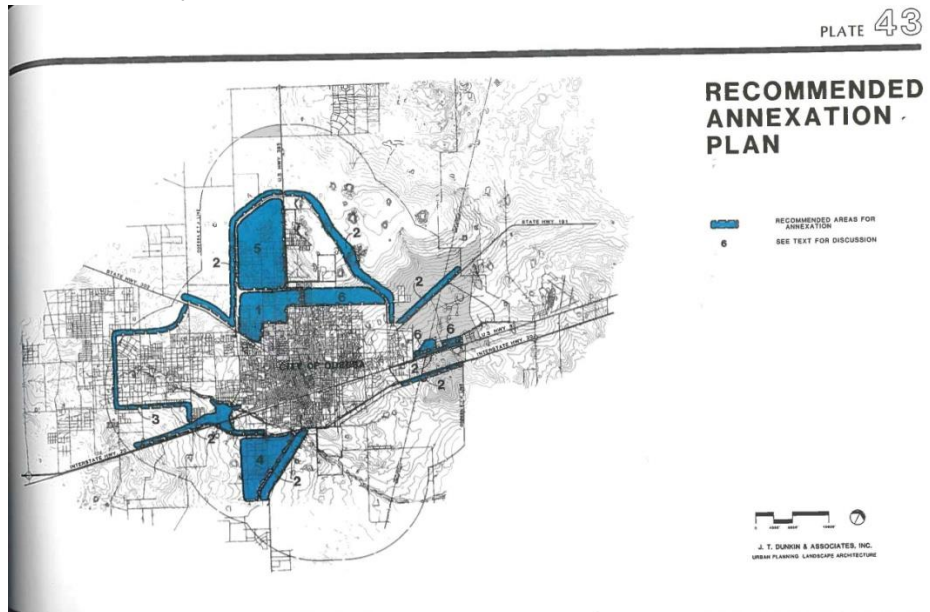


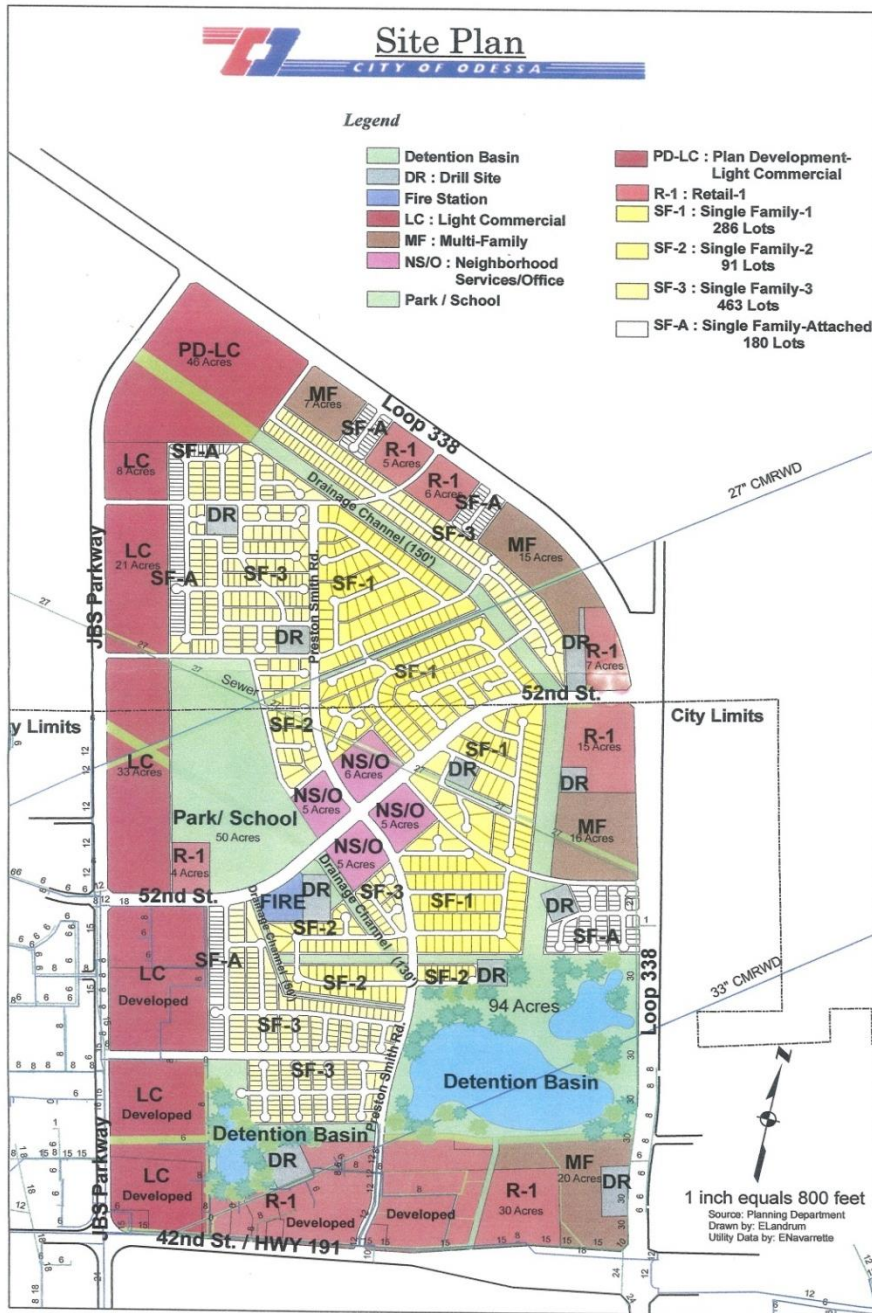
Figure 4.5 City of Odessa Recommended Annexation Plan



CHAPTER 4 - FUTURE DEVELOPMENT SCENARIO



Figure 4.6 City of Odessa Large Area Development Plan



CHAPTER 4 - FUTURE DEVELOPMENT SCENARIO



As part of its comprehensive plan update, the City of Odessa is completing a major thoroughfare plan. A portion of the proposed plan is shown below even though the area in the map includes western Midland and Midland County. The two systems (Midland's and Odessa's) connect with each other west of the county line.

Figure 4.7 City of Odessa Transportation Plan

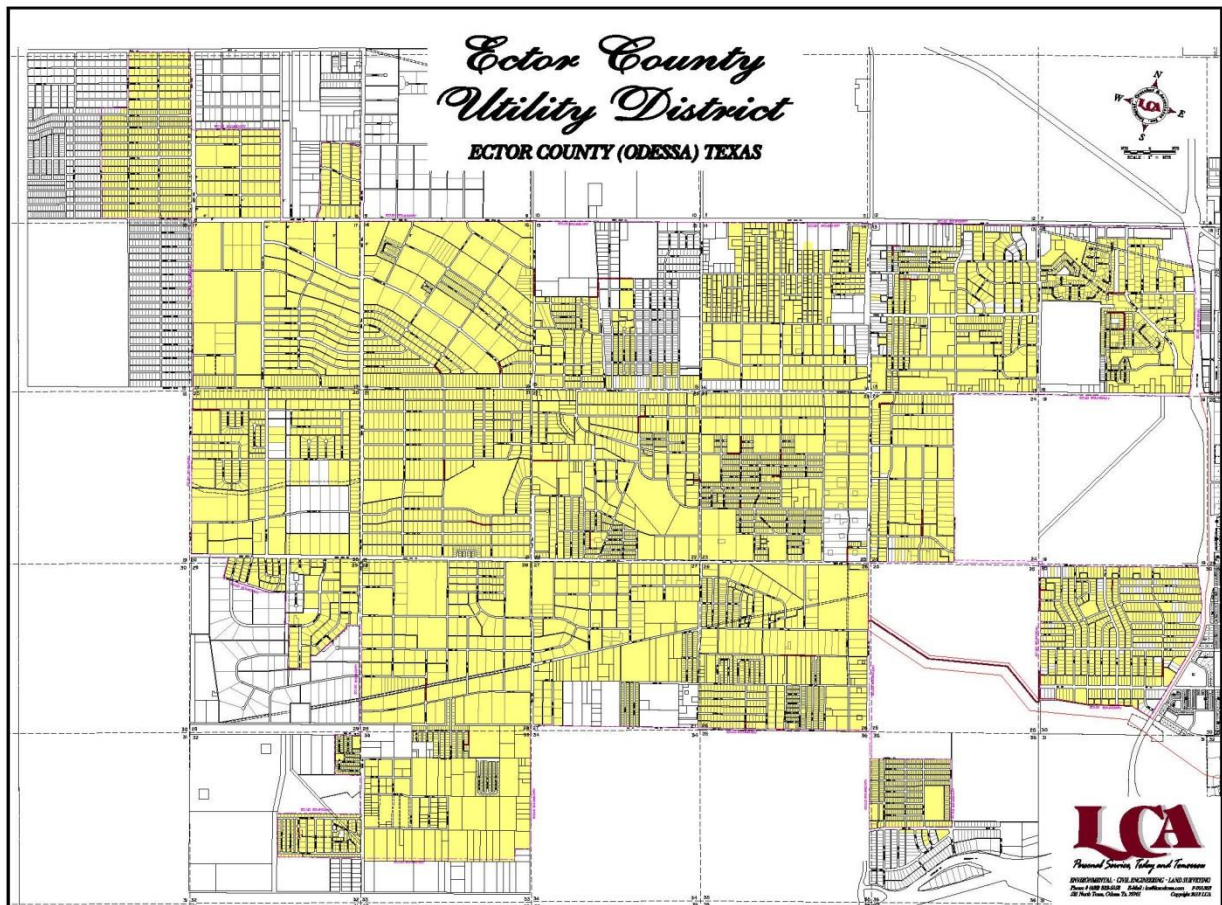




Ector County Utility District

The Ector County Utility District includes all or portions of 21 sections of land. The approximate number of water customers is 5,000; this includes both residences and businesses.

Map 4.1 Ector County Utility District

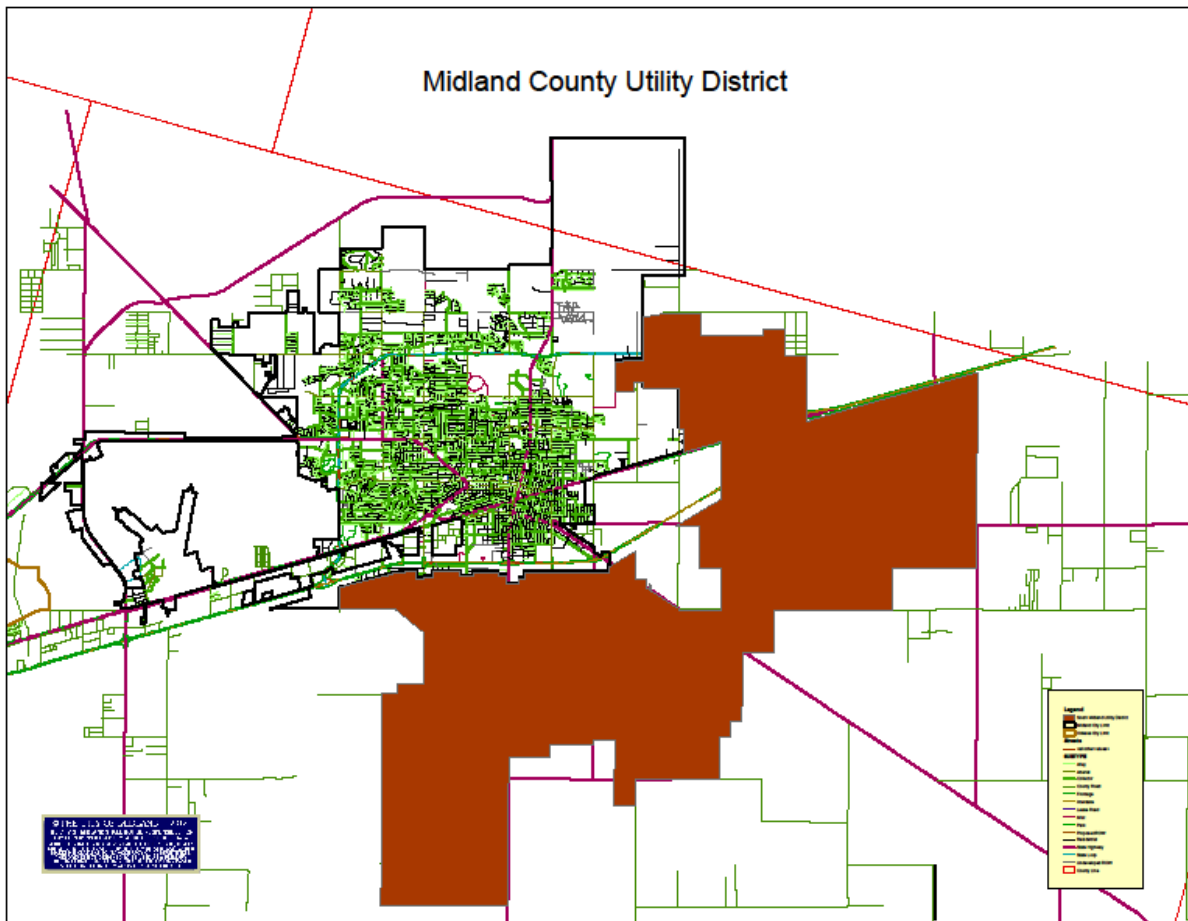




Midland County Utility District

The Midland County Utility District was formed in 2013 under state legislative authority. The district boundary was created to bring water to a large portion of Midland County that has no public water supply. It is intended that the water will be piped in from outside of Midland County. The District has eminent domain and taxing authority. Should the provision of water to this area come to realization, it is anticipated that more growth will occur. Currently a development for residential use should be no smaller than one acre in order to accommodate an on-site septic system and meet state law requirements. With a public water supply, the land area minimum will be reduced, likely resulting in higher density of development.

Map 4.2 Midland County Utility District





Development Scenarios

The 2010 MTP contained some general development scenarios that remain useful in this plan update.

- New suburban development will occur around key highway intersections and along potential transit routes.
- Transit supporting densities will be a result of more compact neighborhoods.
- New transit oriented commercial/civic center will be encouraged between the two cities.
- Industrial and commercial development will occur along the corridors around the Midland International Air & Space Port area.
- New development is likely to continue to occur.
- About 5% to 10% of new growth in and near the two downtowns.
- There will be a continued market for suburban residential and commercial development.

As stated earlier Permian Basin MPO held numerous stakeholder meetings and workshops to obtain input in the development of the *Vision 2040 Plan*. Map 4.3 below indicates areas where growth is anticipated to occur in five to ten years as stated by representatives of the City of Midland, the City of Odessa, TxDOT, Ector and Midland Counties, the Midland Development Corporation and the Odessa Economic Development Corporation. The main themes relevant to the growth of the region that surfaced on numerous occasions during workshops and focus group meetings are as follows:

- A north/south rail service is needed within the region and would enhance industrial growth around additional tracks.
 - Union Pacific will bring in 16 new rail lines for pipe and sand; four are built.
- A northeast corridor is needed near the Midland/Martin County line where growth is expected to occur.
- Water availability is critical to growth.
 - The cities have a 20-25 year supply of water, but the rate of growth may reduce that time frame.



- Growth in areas within both counties is hindered due to the lack of city water.
- Since Midland International Air & Space Port received its license to operate as a spaceport, research and development jobs will rise; however, growth will be relocated as a result of open space and land use restrictions around the Airport.
- Some large employers are providing day care centers, gymnasiums, private medical services in or near their employment centers which enhances growth in the region.
- Some employers are providing housing for their employees. This continues to bring in workforce since it solves the issue of high housing costs.
- Growing industries include hotel, energy, medical field, construction and transportation – both trucking and rail.
- Grow Odessa owns 519 acres which is being developed for commercial and industrial users on JBS Parkway south of IH 20
- Texas Tech Health Science Center has increased enrollment and is expected to be the #1 Medical School in Texas. The Odessa location graduates 28-32 residents yearly and 27% of those graduates begin practicing in the area of their residency.
- The City of Odessa is adding a \$3M water line to serve south of IH 20 for Halliburton and Baker Hughes
- Many developers were wary about building new large neighborhoods due to threat of a decline in the petroleum industry. However, this is no longer relevant since experts speculate the petroleum industry will continue to grow in the area indefinitely.
- Midland's growth as an administrative center will continue as it a more vibrant downtown and retail area along Loop 250.
- Odessa's continued growth will remain in oil field services and industrial centers.



Introduction

As mentioned previously, significant growth in the area has made a positive impact on the economy. However, along with increased economic activity come transportation related challenges including safety, traffic congestion, and security issues. Transportation agencies have found the need to modify transportation safety and security strategies in order to ensure that the greatest amount of protection is being extended to all residents and visitors. Permian Basin MPO actively communicates and coordinates with multiple agencies that have direct influences on specific security, safety, or emergency planning efforts.

Throughout the chapter, there are documented statistics, including crash data, in order for decision makers to analyze the information to strive to improve the safety and security of the transportation system for motorized and non-motorized users.

MAP-21 Safety and Security

"This is a good, bipartisan bill that will create jobs, strengthen our transportation system and grow our economy. It builds on our aggressive safety efforts, including our fight against distracted driving and our push to improve transit and carrier safety. The bill also provides states and communities with two years of steady funding to build the roads, bridges and transit systems they need. We look forward to working with Congress, states and local communities to put this bill to work quickly and effectively."

Former Transportation Secretary Ray LaHood

The Highway Safety Improvement Program (HSIP) is the key program in MAP-21 regarding safety. According to the Federal Highway Administration (FHWA):

Safety throughout all transportation programs remains DOT's number one priority. MAP-21 continues the successful HSIP, with average annual funding of \$2.4 billion, including \$220 million per year for the Rail-Highway Crossings program.

The HSIP emphasizes a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The foundation for this approach is a safety data system, which each State is required to have to identify key safety problems, establish their relative severity, and then adopt strategic and performance-based goals to maximize safety. Every State is required to develop a Strategic Highway Safety Plan (SHSP) that lays out strategies to address these key safety problems. Every State now has an SHSP in place, and MAP-21 ensures ongoing progress toward achieving safety targets by requiring regular plan updates and defining a clear linkage between behavioral (NHTSA funded) State safety programs and the SHSP. A State that fails to have an approved updated plan will not be eligible to receive additional obligation limitation during the overall redistribution of unused obligation limitation that takes place during the last part



of the fiscal year. The SHSP remains a statewide coordinated plan developed in cooperation with a broad range of multidisciplinary stakeholders.

Safety Performance

- States will set targets for the number of serious injuries and fatalities and the number per vehicle mile of travel. If a State fails to make progress toward its safety targets, it will have to devote a certain portion of its formula obligation limitation to the safety program and submit an annual implementation plan on how the State will make progress to meet performance targets.
- Although MAP-21 eliminates the requirement for every State to set aside funds for High Risk Rural Roads, a State is required to obligate funds for this purpose if the fatality rate on such roads increases.
- The Secretary is required to carry out a study of High Risk Rural Road “best practices”.
- States are required to incorporate strategies focused on older drivers and pedestrians if fatalities and injuries per capita for those groups increase.

<http://www.fhwa.dot.gov/map21/summaryinfo.cfm>

Goals and Objectives

The staff of the Permian Basin MPO plans to achieve the Goals and Objectives regarding safety, which were adopted by the Policy Board in August 2015, through applying safety considerations in the planning process.

Goal 1: Incorporate best practices related to safety during the planning process.

Objective 1: Reduce crashes resulting in fatalities, injuries, and property damage within the region.

Objective 2: Promote regional efforts to maintain the existing system to keep it in optimal condition.

Goal 2: Assist with educational efforts to bring awareness to users of the transportation system.

Objective 1: Provide and promote opportunities to educate the public on transportation safety.



Performance Measures: Over time, specific measures will be identified and used as they relate to safety and security. At this time, Permian Basin MPO is beginning to collect data as part of its Congestion Management Process (CMP) and Transportation Management Area (TMA) responsibilities.

Strategies: Final performance measures have not been published by the US Department of Transportation (USDOT). Permian Basin MPO will conform to the measures once they become available, including an amendment to the current CMP.



SAFETY

Crash Information

Through all of the transportation modes in the region, Permian Basin MPO's priority is to safeguard the citizens and visitors by identifying areas of safety concern, analyzing crash data and traffic trends, and relaying this information to decision-makers as they establish project selection priorities. The information given is intended to offer a sense of well-being to the people and to make the metropolitan area a place to live, work, and play...safely.

Please note: All crash data collected is within Midland and Ector Counties, however a portion occurred outside the Permian Basin MPO Metropolitan Area Boundary (MAB). All data was collected through the Crash Records Information System (CRIS) unless otherwise noted.

Crashes Causing Fatalities and Incapacitating Injury

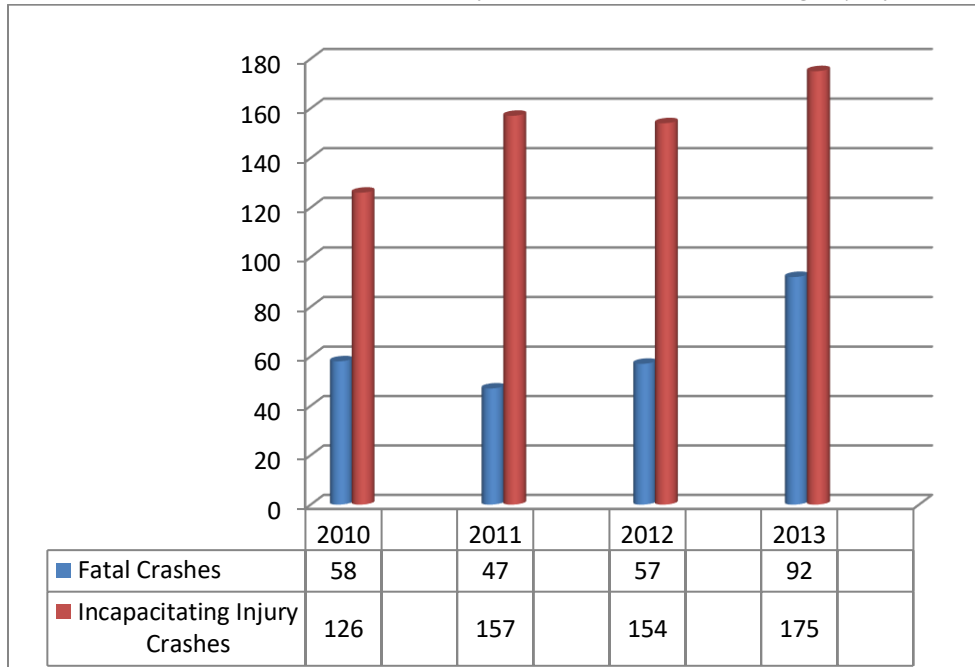
The volume of vehicles on the roads in the Midland Odessa region has increased to such a degree that there are more crashes resulting in fatalities and incapacitating injuries. The chart below depicts the increases in crashes with fatalities and incapacitating injuries from the beginning of 2010 through 2013. (Fig. 5.1)

A lieutenant with the Midland Police Department's Special Operations Division indicated that increased traffic congestion, driver inattention and speed are the biggest issues he has seen on Midland's city streets. The Texas Department of Transportation (TxDOT) - Odessa District Public Information Officer stated that many fatalities are preventable and the decisions drivers make impact the rates of serious to fatal crashes across the state. "Numerous drivers speed, text, and engage in activities that take their attention away from driving." (mrt.com) Representatives from the Odessa Police Department agree, saying "a lot of wrecks occur here because of speeding and driver inattention; running red lights, another safety hazard, has led to wrecks as well." "Pay attention, look both ways, be a defensive driver." (oaoa.com)





Figure 5.1 2010-2013 Ector and Midland County Fatal and Incapacitating Injury Crashes



Contributing Factors

There are many factors contributing to the root cause of each crash – faulty evasive action, driver inattention, failure to yield to the right of way – just to name a few. However, the most common issues that have contributed to fatal and incapacitating injury crashes over the past four years are speed, alcohol, and/or stop sign or traffic signal factors. As shown in Figure 5.2, over 50% of fatal and/or incapacitating crashes from 2010-2013 have involved one or more of these factors.





Figure 5.2 2010-2013 Midland and Ector County Top Contributing Factors

2010 Midland & Ector County Top Contributing Factors		
Incapacitating Injury	Total Crashes	Total Injuries
	126	152
Number of Crashes....		Percent of total crashes
Involving Speed Factors	26	21%
Involving Alcohol	26	21%
Light/Stop Sign Factors	20	16%
	72	57%
Fatalities	Total Crashes	Total Fatalities
	58	65
Number of Crashes....		Percent of total crashes
Involving Speed Factors	17	29%
Involving Alcohol	15	26%
Light/Stop Sign Factors	6	10%
	38	66%

2011 Midland & Ector County Top Contributing Factors		
Incapacitating Injury	Total Crashes	Total Injuries
	157	187
Number of Crashes....		Percent of total crashes
Involving Speed Factors	37	24%
Involving Alcohol	24	15%
Light/Stop Sign Factors	21	13%
	82	52%
Fatalities	Total Crashes	Total Fatalities
	47	51
Number of Crashes....		Percent of total crashes
Involving Speed Factors	11	23%
Involving Alcohol	12	26%
Light/Stop Sign Factors	7	15%
	30	64%

2012 Midland & Ector County Top Contributing Factors		
Incapacitating Injury	Total Crashes	Total Injuries
	154	187
Number of Crashes....		Percent of total crashes
Involving Speed Factors	42	27%
Involving Alcohol	33	21%
Light/Stop Sign Factors	9	6%
	84	55%
Fatalities	Total Crashes	Total Fatalities
	57	78
Number of Crashes....		Percent of total crashes
Involving Speed Factors	17	30%
Involving Alcohol	15	26%
Light/Stop Sign Factors	5	9%
	37	65%

2013 Midland & Ector County Top Contributing Factors		
Incapacitating Injury	Total Crashes	Total Injuries
	175	195
Number of Crashes....		Percent of total crashes
Involving Speed Factors	40	23%
Involving Alcohol	37	21%
Light/Stop Sign Factors	20	11%
	97	55%
Fatalities	Total Crashes	Total Fatalities
	92	102
Number of Crashes....		Percent of total crashes
Involving Speed Factors	27	29%
Involving Alcohol	18	20%
Light/Stop Sign Factors	20	22%
	65	71%

Types of Vehicles

The type of vehicle involved in most crashes is the automobile. However, motorcycles, commercial motor vehicles, and other non-motorized vehicles are often involved in crashes which cause fatalities and/or incapacitating injuries.

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Tables 5.1 through 5.3 depict the amount of crashes involving specific vehicle types and the number of those crashes that resulted in a fatality and/or incapacitating injury. The tables also show the percent of crashes which a fatality or incapacitating injury occurred and the percentage of total crashes that involve the specific type of vehicle.

Table 5.1 Motorcycle Crash Data

Crash Year	Fatal Crashes	Incapacitating Crashes	Total Crashes Involving Motorcycles	% of Fatal/Incapacitating	Total Crashes in Counties	% of Total Crashes Involving Motorcycles
2010	11	17	107	26.17%	5,772	1.85%
2011	7	20	132	20.45%	6,541	2.02%
2012	6	25	141	21.99%	7,692	1.83%
2013	14	25	130	30.00%	7,806	1.67%
Totals:	38	87	510	24.51%	27,811	1.83%

Table 5.2 Commercial Motor Vehicle Crash Data

Crash Year	Fatal Crashes	Incapacitating Crashes	Total Crashes Involving CMVs	% of Fatal/Incapacitating	Total Crashes in Counties	% of Total Crashes Involving CMVs
2010	7	9	339	4.72%	5,772	5.87%
2011	16	15	398	7.79%	6,541	6.08%
2012	16	25	574	7.14%	7,692	7.46%
2013	20	21	627	6.54%	7,806	8.03%
Totals:	59	70	1,938	6.66%	27,811	6.97%



Table 5.3 Pedal Cyclist Crash Data

Crash Year	Fatal Crashes	Incapacitating Crashes	Total Crashes Involving Pedalcyclists	% of Fatal/Incapacitating	Total Crashes in Counties	% of Total Crashes Involving Pedalcyclists
2010	3	1	20	20.00%	5,772	0.35%
2011	0	1	30	3.33%	6,541	0.46%
2012	2	2	27	14.81%	7,692	0.35%
2013	1	1	12	16.67%	7,806	0.15%
Totals:	6	5	89	12.36%	27,811	0.32%

It is not uncommon for a pedestrian to be involved in a vehicle accident. Crashes and other incidences may occur when a pedestrian does not yield the right-of-way to a vehicle or when driver negligence results in a pedestrian fatality or incapacitating injury. (Table 5.4) For more information on the non-motorized transportation system in the Permian Basin MPO MAB, please refer to Chapter 8 *Bicycle and Pedestrian Transportation*.

Table 5.4 Pedestrian Crash Data

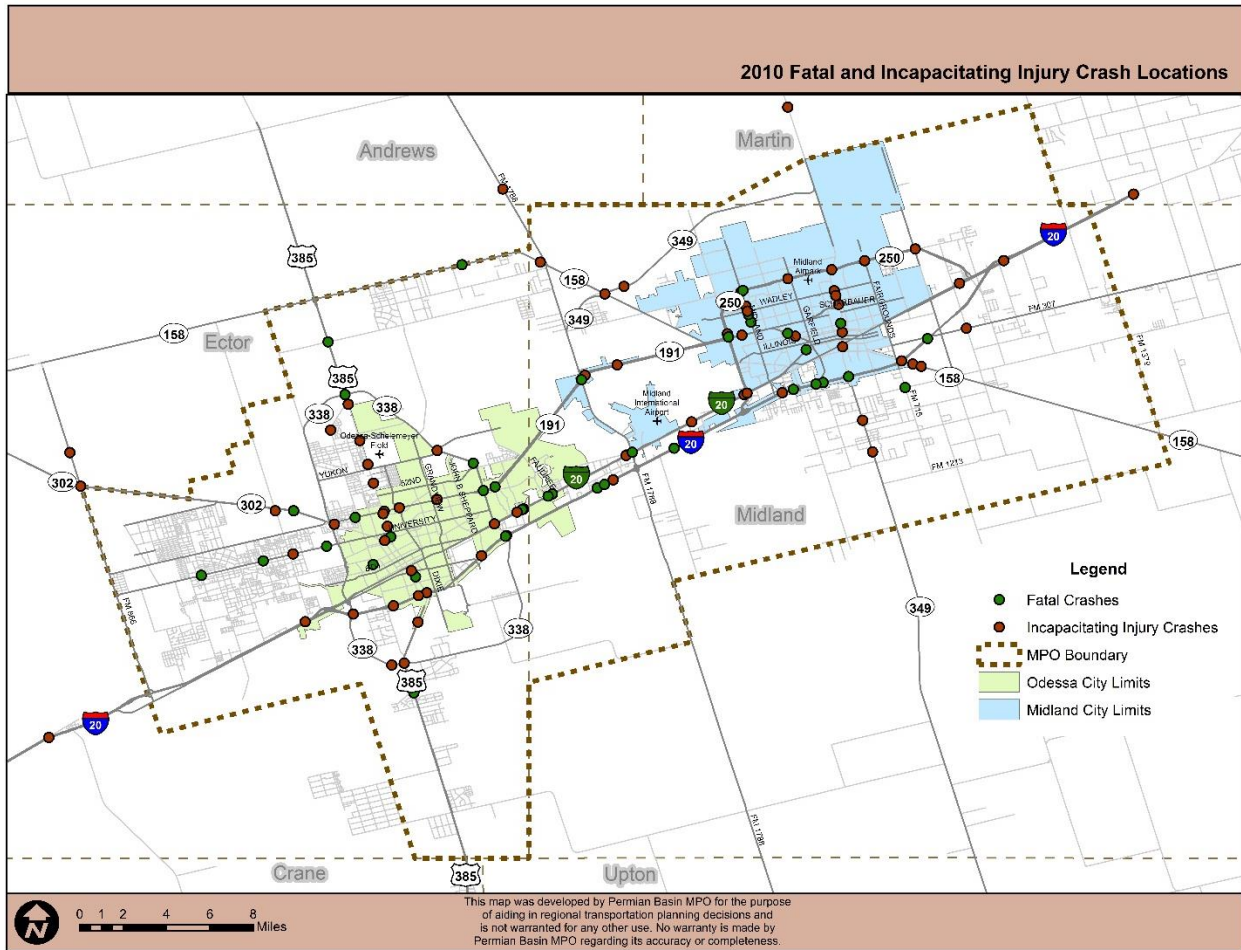
Crash Year	Fatal Crashes	Incapacitating Crashes	Total Crashes Involving Pedestrians	% of Fatal/Incapacitating	Total Crashes in Counties	% of Total Crashes Involving Pedestrians
2010	5	10	55	27.27%	5,772	0.95%
2011	4	12	77	20.78%	6,541	1.18%
2012	6	14	96	20.83%	7,692	1.25%
2013	9	17	96	27.08%	7,806	1.23%
Totals:	24	53	324	23.77%	27,811	1.17%



Crash Locations

It is important for the locations of fatal and incapacitating injury crashes to be analyzed so it can be determined how the transportation system may be reconfigured to improve safety. Maps 5.1 through 5.4 below display fatal and incapacitating injury crash locations in years 2010-2013.

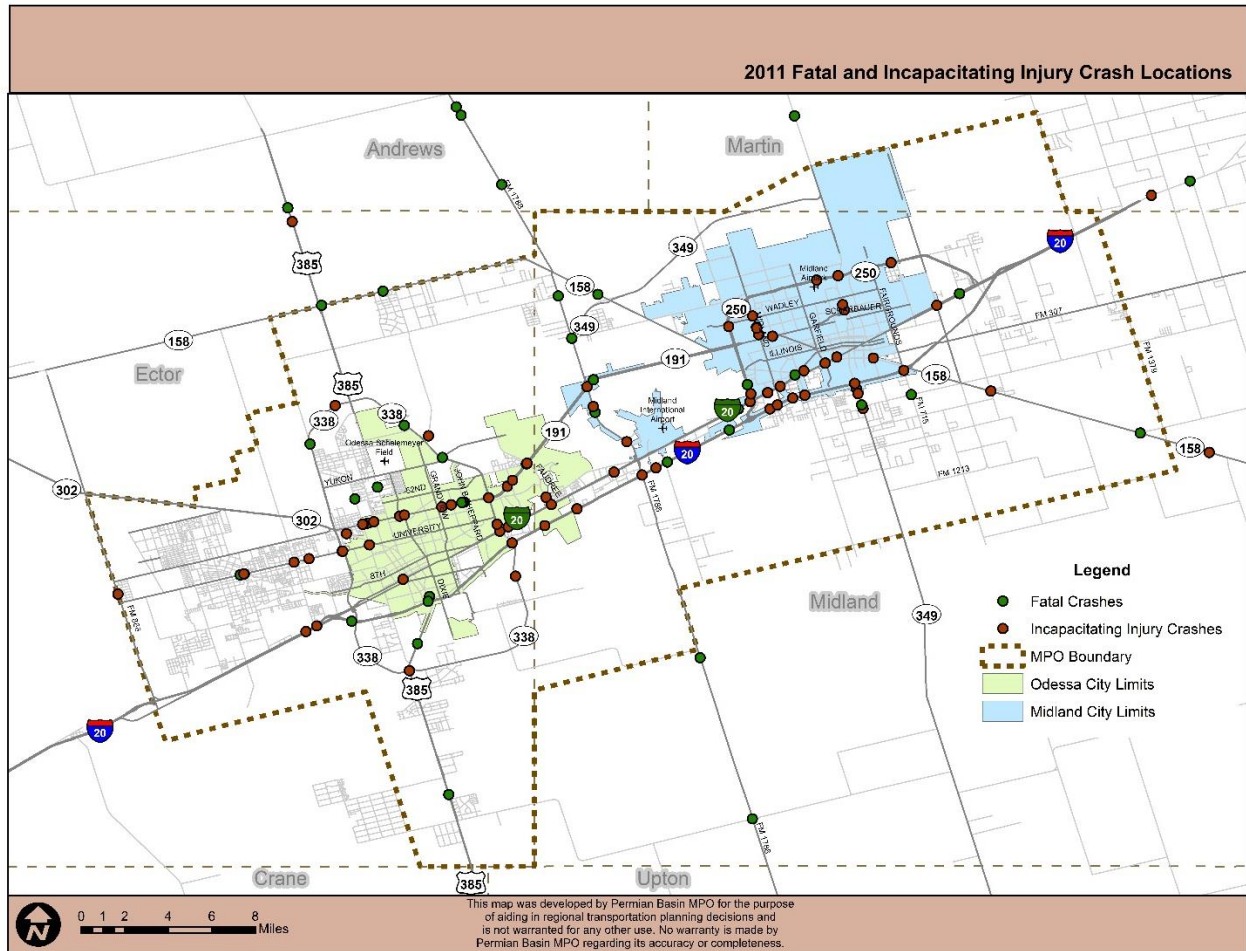
Map 5.1 2010 Fatal & Incapacitating Injury Crash Locations



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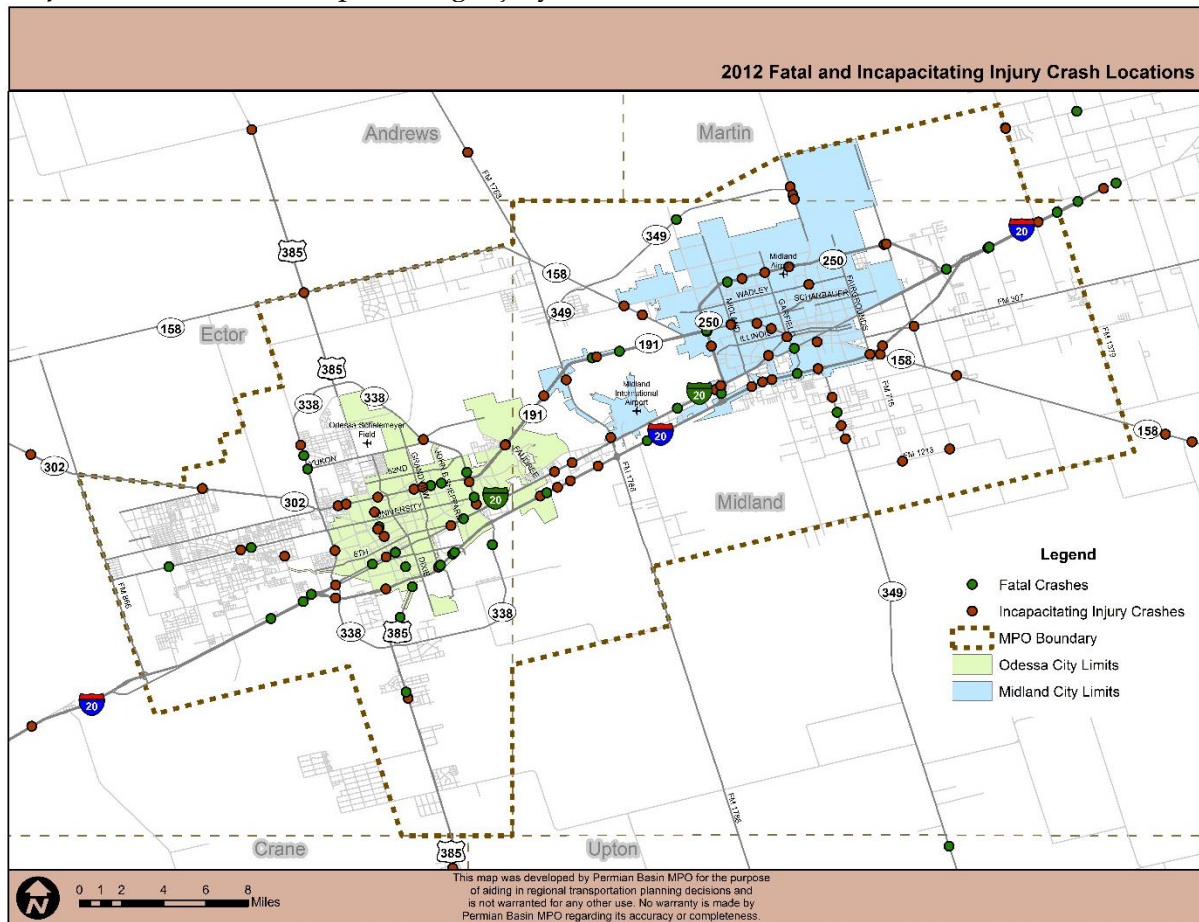
Map 5.2 2011 Fatal & Incapacitating Injury Crash Locations



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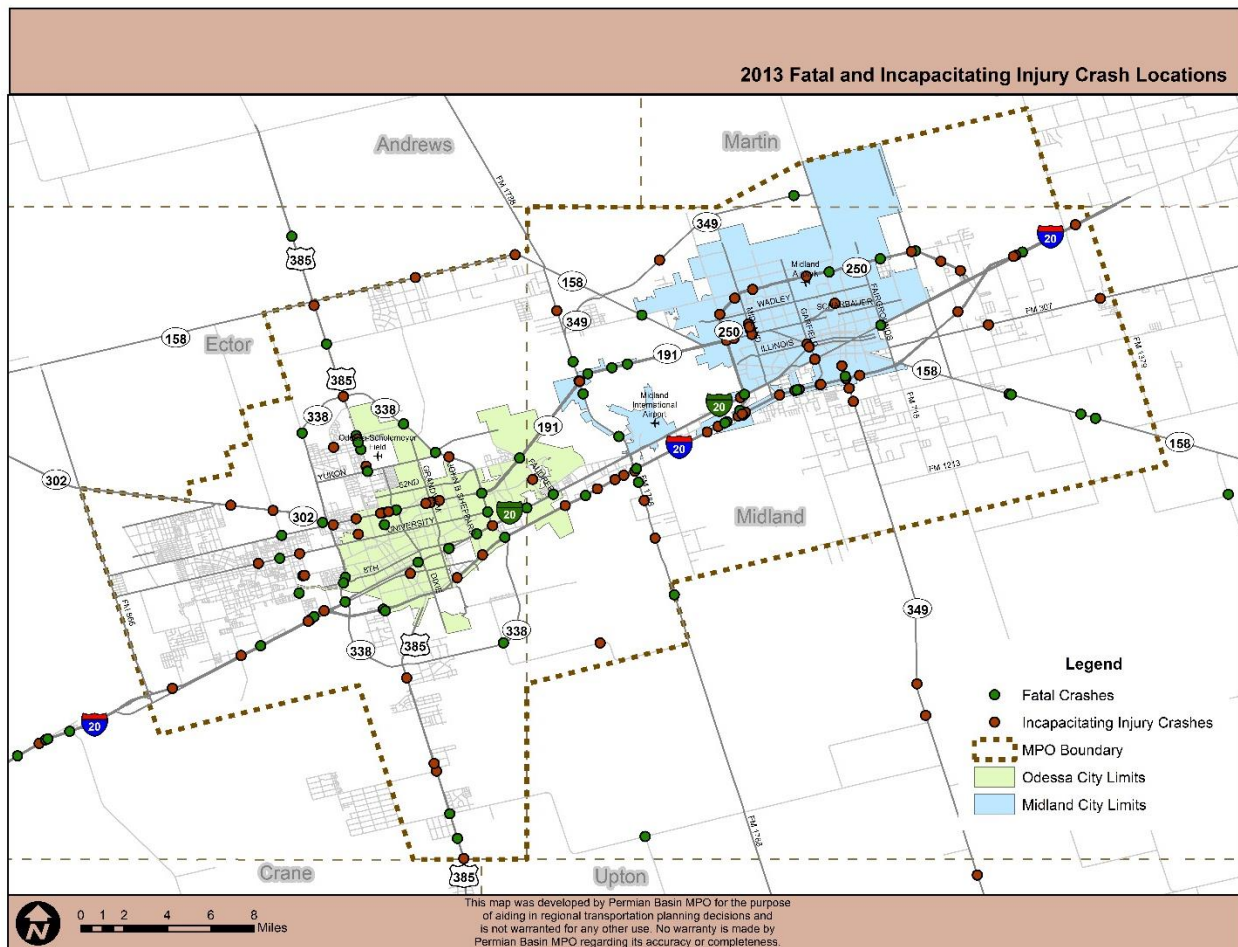


Map 5.3 2012 Fatal & Incapacitating Injury Crash Locations





Map 5.4 2013 Fatal & Incapacitating Injury Crash Locations





High Volume Crash Locations

Within the city limits of both Midland and Odessa, there are specific intersections that may be analyzed in order to find the root cause of these accidents. A better understanding of why more accidents happen at certain intersections can be used to create a plan to improve safety at these “hot spots”. The figures below display the top ten intersections in each city where a majority of crashes occurred in 2013. The crash rate depicts the amount of accidents per one million vehicles going through the intersection.

Figure 5.3 Top 10 High Volume Crash Locations in 2013 - Midland

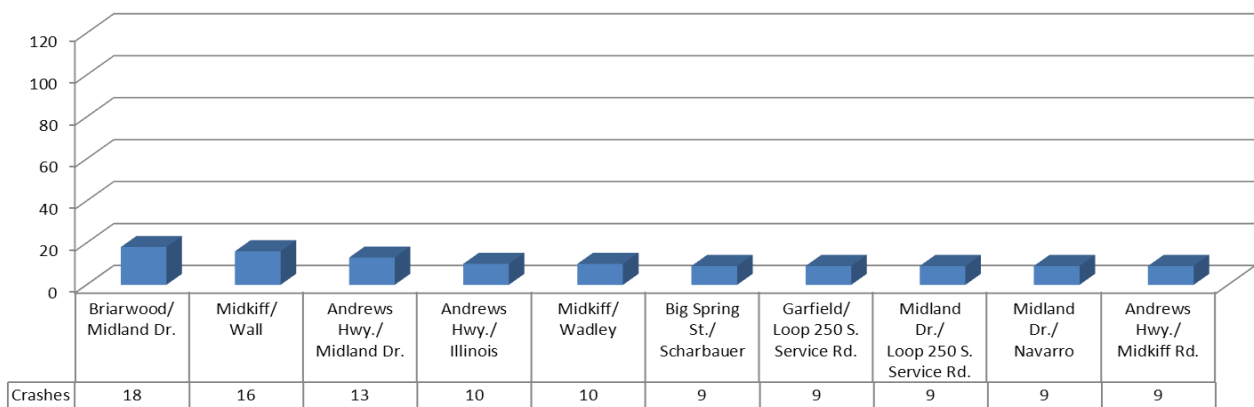
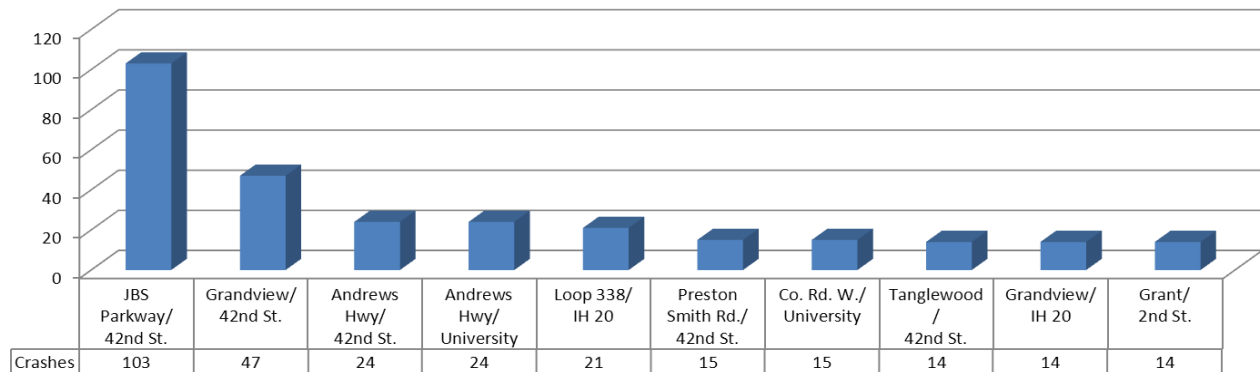


Figure 5.4 Top 10 High Volume Crash Locations in 2013 - Odessa



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	Crash Rate
JBS Parkway/42nd St.	4.37
Grandview/42nd St.	1.88
Andrews Hwy/42nd St.	1.44
Andrews Hwy/University	1.64
Loop 338/IH 20	NA*
Preston Smith Rd./42nd St.	1.06
Co. Rd. W./University	0.96
Tanglewood/42nd St.	0.71
Grandview/IH 20	NA*
Grant/2nd St.	1.22

*Traffic Counts Not Available

	Crash Rate
Briarwood/Midland Dr.	4.54
Midkiff/Wall	2.41
Andrews Hwy./Midland Dr.	1.47
Andrews Hwy./Illinois	2.83
Midkiff/Wadley	1.15
Big Spring St./Scharbauer	0.85
Garfield/ Loop 250 S. Service Rd.	1.88
Midland Dr./Loop 250 S. Service Rd.	1.73
Midland Dr./Navarro	1.18
Andrews Hwy./Midkiff Rd.	1.08

County Comparison

The increase of fatal and incapacitating injury crashes gives a perception of “dangerous roads” in the area but in reality, the increase is due to the growth the Midland Odessa region is currently experiencing. Growth that occurred at such a rapid pace, the area was not prepared for the transportation issues that come with such progression. As the data below shows, the amount of fatalities and incapacitating injury crashes is greater in Ector and Midland counties than other Texas counties of similar size within 300 miles of the Permian Basin MPO MAB. (*Randall County figures do not include the city of Canyon)

Figure 5.5 2012 Fatal/Incapacitating Crashes per County

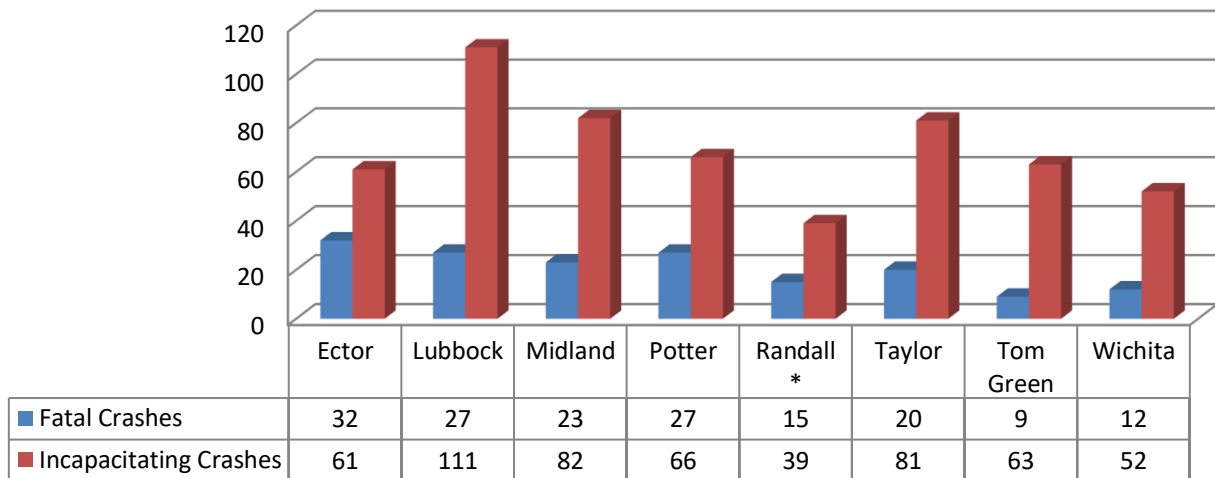
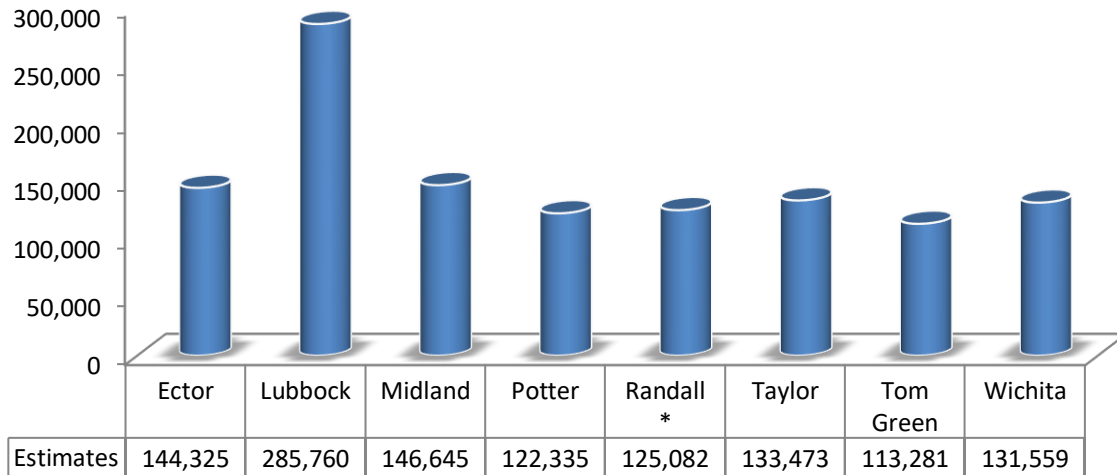


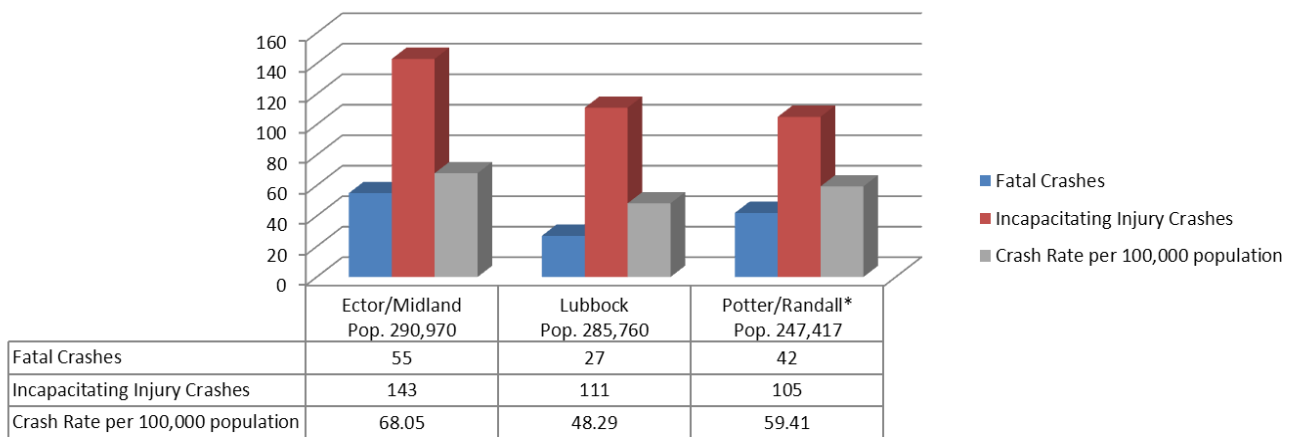


Figure 5.6 2012 Census County Population Estimates



When comparing data, Figure 5.7 displays the combining of counties to create a total population estimate above 200,000. This shows that the crash rate is highest at 68.05 in Ector and Midland Counties combined. In Figure 5.8, the local counties are separated to be paralleled with counties of similar size. While not the utmost, the counties of Midland and Ector have the 2nd and 3rd highest crash rates compared to counties of similar size. These crash rates show that there is more of a chance of being involved in a fatal or incapacitating injury crash within Ector or Midland Counties than most other corresponding counties.

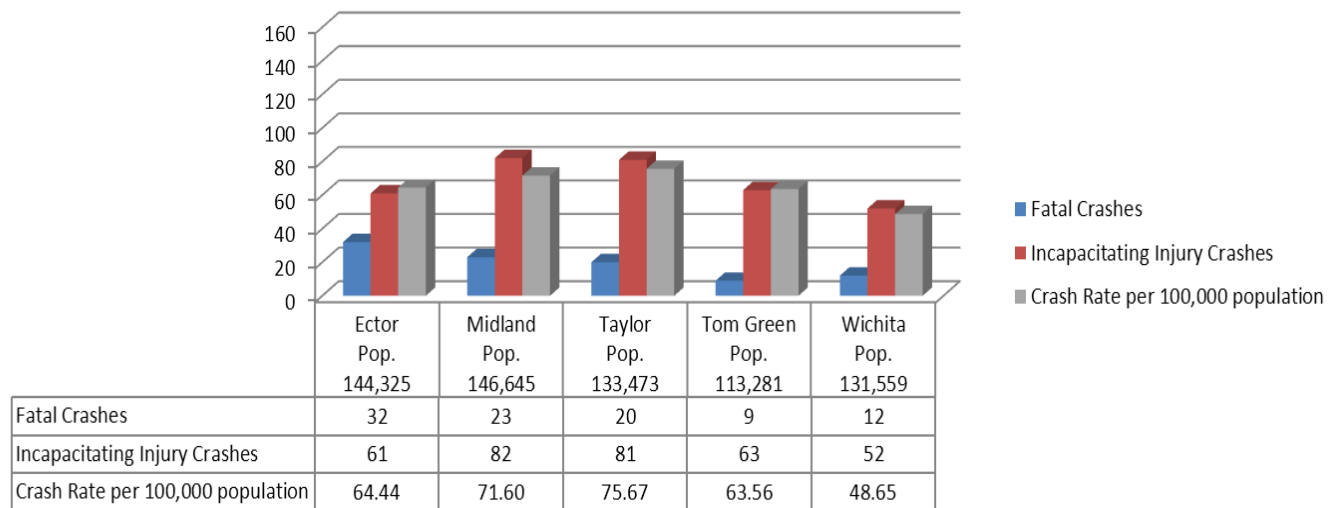
Figure 5.7 County Comparison Above 200,000 Population



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Figure 5.8 County Comparison Below 200,000 Population





Safety Initiatives

It is important to outline some of the steps local entities are taking to increase safety on the roads in the Midland Odessa region. Stakeholders involved in the transportation planning process view safety as a top priority and continuously strive toward improving the conditions of the transportation system. There are many agencies and individuals participating in long-range planning development and this section describes how these advocates are working to reduce crash rates and improve safety.

Permian Basin MPO

Permian Basin MPO gathers and analyzes crash data from the TxDOT-Odessa District, city and county offices, and the TxDOT Crash Records Information System (CRIS). Evaluating this information gives Permian Basin MPO the opportunity to discover traffic trends and root causes of crashes; therefore, making its member agencies and interested citizens aware of probable actions which may be taken to develop safety measures to implement into transportation planning.

Permian Basin MPO will coordinate with member agencies to provide Public Service Announcements (PSAs) through media outlets to inform the public of crash statistics and root causes of fatal and incapacitating injury crashes. It is anticipated that providing this service will alter driver behavior and increase awareness on the region's public road system. Permian Basin MPO holds a variety of events to involve the public and to receive feedback about safety including open houses, workshops, and networking meetings.

TxDOT

TxDOT's mission is to *Work with others to provide safe and reliable transportation solutions for Texas*. Along with that, one of its goals is to maintain a safe system. Through several channels, TxDOT is working to decrease fatalities and injuries sustained in crashes. All efforts to improve safety throughout the state are directly affecting conditions in Midland and Odessa. In addition to emphasizing safety in road design, TxDOT actively seeks to identify and respond to safety needs.

TxDOT remains very active in public awareness campaigns designed to improve safety for drivers on Texas highways. It increases public awareness through campaigns dedicated to changing driver behavior and making them more aware of their surroundings. The table below describes the most recent PSAs and campaigns published and aired by TxDOT throughout the state.



Table 5.5 TxDOT Safety Campaigns


<p>Move Over or Slow Down. We're Working Here.</p> <p>The Move Over Law When you see a TxDOT worker or vehicle with flashing blue or amber lights, you must move over or slow down.</p> <p>BE SAFE. DRIVE SMART.</p>	<p>Effective September 1, 2013, drivers must move over or slow down when approaching TxDOT workers and vehicles that are stopped with overhead flashing blue or amber lights. This was an expansion from the original law that required drivers to yield to police, fire, and emergency vehicles.</p>
<p>Drive FRIENDLY. Drive SAFE.</p>	<p>TxDOT has launched a public awareness campaign using outdoor and newspaper ads, radio PSAs and information cards to urge drivers to be aware of their surroundings and to remind everyone that when you drive friendly and drive safe, you save lives. TxDOT wants all motorists to remember these four important rules of the road:</p> <ul style="list-style-type: none"> <i>Watch for pedestrians and don't block crosswalks with your vehicle</i> <i>Slow down in work zones and watch for construction detours</i> <i>Keep an eye out for cyclists and never drive in a bike lane</i> <i>Adjust your speed to road conditions.</i>
<p>BE SAFE. DRIVE SMART.</p>	<p>The recent boom in oil and gas production across Texas has created thousands of jobs and many new opportunities for energy-producing areas. Unfortunately, with an influx in traffic in these areas, there also has been an increase in crashes. TxDOT has launched Be Safe, Drive Smart., a public education campaign to remind motorists to use extra caution when driving through energy work zones. TxDOT is partnering with oil and gas companies, the Texas Department of Public Safety and communities across the Permian Basin and Eagle Ford Shale energy sectors to promote roadway safety. The campaign includes safety messages on TV, radio, billboards, and gas pumps.</p>
<p>TALK TEXT CRASH</p>	<p>April is National Distracted Driving Awareness Month and TxDOT is continuing our Talk. Text. Crash. campaign to raise awareness of the dangers associated with distracted driving and to encourage Texans to put down their cell phones while driving. Distracted driving, which includes distraction, driver inattention or cell-phone use, is becoming increasingly common and dangerous, causing traffic crashes and fatalities. In fact, nearly one in four crashes in Texas involves driver distraction. Although cell phone use is the most easily recognized distractions, all in-vehicle distractions are unsafe and can cause crashes or fatalities. TxDOT calls on all Texans to focus on the road and wait until arriving at their destinations to conduct non-driving activities.</p>
<p>TICKETS AVAILABLE FOR EVERY SEAT.</p> <p>When law requires everyone in the vehicle to be buckled up, always seated in the front seat or back. A seat belt is your best defense in the event of a crash, and it also can prevent you from getting an expensive ticket.</p> <p>TexasClickItOrTicket.com</p> <p>ClickIt or Ticket</p>	<p>Safety belts save lives. That's why Texas is drawing the line for drivers and passengers: Buckle up or face a fine! Law enforcement officials statewide are participating in the "Click It or Ticket" campaign to increase safety belt use. All drivers and all passengers in the vehicle must be properly restrained or run the risk of a fine up to \$250. The National Highway Traffic Safety estimates that since its inception, the "Click It or Ticket" campaign in Texas has resulted in 3,962 fewer traffic fatalities while preventing 66,823 serious injuries and saving more than \$15 billion in related economic costs.</p>

TxDOT – Odessa District

TxDOT-Odessa District is an important partner in the Permian Basin MPO transportation planning process. As members of the Technical Advisory Committee (TAC) and the Policy Board, TxDOT staff makes recommendations and votes on transportation policy including safety. Below is a list of some of the recent major safety projects completed in either the Permian



Basin MPO MAB or in adjacent counties. These projects relished the support of Permian Basin MPO.

- A three-strand cable barrier fence has been built in the median of Interstate Highway 20 (IH 20). This safety measure is used to mitigate head-on collisions. Currently the fence covers 41 miles from West Odessa, through Midland and ending at Stanton, a small town just outside the Permian Basin MPO MAB. Plans are to extend the fence westward about 11 miles to Penwell. The cable barrier immediately proved its worth by preventing several vehicles from crossing the center median of IH 20. More than 20 vehicles struck the cable barrier during the construction period alone.
- 
- Loop 338 improvements are in the process of being made on the northeast side of Odessa between Yukon Road and US Highway 385 (US 385). Instead of a two-lane road, the corridor will be a divided, four-lane section of roadway. In addition, signals will be added at the intersections of FM 554 and US 385. Permian Basin MPO helped fund this project which cost around \$8.8 million.
 - Traffic signals on west Loop 250 and IH 20 service roads are designed to improve safety and access at the intersections of the IH 20 service roads and Loop 250 on the west side of Midland. The project cost a little more than \$600,000.
 - Traffic signals at Yukon Road and East Loop 338 in Odessa are designed to improve safety at the intersection. The project, funded by the Highway Safety Improvement Program, cost around \$370,000. This contract also includes some improvements to the traffic signal at Business Interstate 20 (BI 20) and Coors Road (County Road (CR) 1290).
 - TxDOT has been installing rumble strips and raised pavement markings to several major highways in the area. These alert the driver if they drift off the travel lane. As the vehicle drives over these bumps, a loud rumbling sound makes the driver aware of the error. The rumble effect when tires hit these pavement markings has been proven to save lives and prevent accidents. Between this project and a similar one that will be done at a later date, nearly 200 miles of texturing will be done inside the Permian Basin MPO MAB.



- TxDOT has installed traffic cameras at four major intersections: BI 20/Loop 250, IH 20/Loop 250, w. Loop 250 at Tremont, and FM 1788/State Highway (SH) 191 to analyze traffic counts, congestion issues, and root cause of accidents.



While not funded as safety projects, several other projects will carry the added benefit of improving safety. Among these is the widening of SH 349 through Martin County, just to the north of the Permian Basin MPO MAB. What once was a two-lane road will be a four-lane undivided road from Midland to Lamesa once all the projects along the corridor are complete. Cost of all the projects was in excess of \$30 million for the Martin County sections. Permian Basin MPO helped fund this project. Also, passing lanes have been added to SH 349 south of Midland.

City of Midland

The City of Midland has developed plans for directly improving transportation safety within the city limits. City staff also works collaboratively with Midland County officials to meet safety standards throughout the area. Past and present projects originated specifically to improve safety are included below.

Beginning in 2009, the City of Midland installed an Advanced Traffic Management System (ATMS) which is used to manage and monitor signalized intersections. In 2010, flashing LED stop signs were placed at Midkiff Road and Bluebird Lane; a traffic signal and LED street lights were put up at Briarwood Avenue and Holiday Hill Road. Large, 48 inch, stop signs were used at a four-way stop at the intersection of Mockingbird and A streets in 2011. In 2012, flashing yellow left turn signals were added at the intersection of Briarwood and Midland Drive; street lighting was put up on Garfield Street from Cottonflat Road to IH 20. The City of Midland recently upgraded its system to control all 117 signalized intersections in the city, which are synchronized with each other. The two-way communications system allows city engineers to modify traffic signals from its Traffic Management Center, rather than at the actual signal location. This new ATMS reduces delays by approximately 27 percent, stops per vehicle by 18 percent, and fuel consumption and emissions by ten percent.

The Engineering Services Department has also begun putting in battery backup for signals. This project will be ongoing over the next few years and a total of 118 will be installed throughout the City. Another ongoing project is the installation of Bike/Pedestrian audio boxes at signalized intersections. This new concept will verbally notify non-motorized users who are visually impaired when it is safe to cross the joining streets. The Midland Independent School District (MISD) is also working with city officials to improve driving around high school campuses. At the beginning of the 2014-2015 school year, a partnership was developed and the MISD police department will be *“engaged in efforts to make the streets around the campuses as safe as possible, which means really focusing on the younger driving population.”* (MRT 08/30/2014)



City of Odessa

The City of Odessa has increased safety by installing radar speed signs throughout the City. These signs make drivers aware of the speed they are going and expectantly encourages motorists to slow down if they are detected driving a speed above the posted limit. These are at five locations in Odessa:

- Whitaker at Santa Rita
- Clements at Bankhead
- Laredo at Dixie
- Esmond at Richmond
- Dixie at Bellaire



The Odessa Police Department (OPD) began a more aggressive approach as a result of increased crashes. Officers no longer issue warnings or citations to reckless drivers; they arrest them. “The main thing that we want to address is to remind the public that if somebody is driving recklessly [includes street racing], they will be arrested” an OPD corporal said in a statement to the Odessa American. (03/14/2014)

The City of Odessa is working towards implementing ITS solutions for its traffic signals in the near future. The city is taking an important first step in that effort by allocating funds in its Capital Improvement Program to invest in traffic signal software upgrades.

Midland County



When initiating safety projects, Midland County considers the safety concerns of all residents within the county, which reaches well beyond the Midland city limits. Rumble strips were added CR 114 to notify a driver when drifting off the roadway. LED stop signs were installed on CR 120 at CR 1140 during August and September 2013 and a School Zone was added to WCR 60 in July 2014.

Ector County

In order to help protect county road travelers, Ector County’s Public Works department provides routine maintenance on all county roads. In addition, upgrades and restriping of county roads are performed when deemed necessary by personnel. All county signs are currently being replaced with signs having larger fonts and higher reflectivity. Culverts, which allow water to flow under the road, were replaced on Cottonwood Road in April 2013 and on Mark Twain Ave. and 64th St. in June 2014.



Two local community colleges offer a program to obtain a Commercial Driver's License (CDL) - Midland College and Odessa College; both include a great deal of safety training to their students. This effort is intended to improve driver awareness and to ensure those obtaining a CDL practice correct safety precautions and procedures, hazardous material transport, and obey applicable commercial vehicle laws.

Midland College - Transportation Training



The Midland College Transportation Training program provides individuals with the proper training in order to obtain a CDL License to operate a commercial motor vehicle (CMV) safely within the rules and regulations set by the Department of Transportation. The program is 160 hours completed over four weeks. According to the director, the courses are fast-paced so attendance and punctuality are imperative to ensure all information is received. Students learn how to perform pre-trip inspections, Federal Motor Carrier Safety Regulations, hazardous materials transport and H₂S safety training. The information encompasses safety in all areas through hands-on training, videos, and lectures. Public awareness is an important aspect in attempting to change driver behavior of everyday commuters who encounter CMVs regularly. Drivers must be aware of what it takes to maneuver a large-scale vehicle in order to take necessary precautions in the event of an emergency.

Odessa College - Professional Truck Driving School

Odessa College offers a 160 hour course to prepare individuals for taking the CDL tests through the Texas Department of Public Safety (TxDPS). Students are taught the fundamentals of tractor trailer driving with key emphasis on safety. The amount of safety taught through this program cannot be determined by course segments or time, it's an element that is included throughout the course - every chapter, every section. Once the course is complete, students should be able to pass the five written exams, air brake test, backing test, and driving test. Each person must also pass a federal Department of Transportation (DOT) physical which is repeated every two years. A federal pre-trip test consisting of naming parts and functions of large-scale vehicles will be reinstated in 2015.





Citizens of Midland and Ector Counties



The citizens of Midland and Ector Counties have been known to not only express concerns but to take action regarding safety matters. Many stories from the local newspapers, Midland Reporter-Telegram (MRT) and Odessa American (OA), report community involvement by residents on the topic of roadway safety.

- Several area companies provide safety training which may include driving safely, safety in driving a commercial motor vehicle, hauling oversized/overweight cargo safely, and general roadway safety training.
- Parents and teachers vied for the speed limit to be reduced from 75 mph to 20 mph outside a private, special needs school. Discussions are ongoing. (MRT 03/14/2014)
- After losing two teenagers in a fatal crash involving a CMV, one family used an online petition to improve tractor-trailer safety. They requested the Department of Transportation (DOT) to:
 - Raise minimum levels of insurance required for truck drivers
 - Improve under-ride guards, which prevent vehicles from sliding under trucks
 - Decrease driver fatigue and monitor hours with electronic logging devicesThe DOT is currently considering these requests. (MRT 04/04/2014)
- When a child riding a bicycle suffered fatal injuries from being struck by a vehicle, a friend successfully petitioned Midland County to have the speed limit reduced from 45 mph to 30 mph on the residential street. (OA 03/06/2014)
- Local bicyclists promote responsibility for both riders and drivers in memory of twelve bicyclists who have been struck and killed on area roads since 1985. (MRT 05/25/2014) After his son died in a motorcycle crash, a local resident and member of a motorcycle club began campaigning for increased motorcycle safety awareness across the area. Many government agencies and local organizations became involved in the efforts to remind citizens to “Look twice for motorcycles and share the road.” (OA 05/21/2014)

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VEHICLE VS MOTORCYCLE

SAFETY FEATURES

- NO Overhead Air Bags
- NO Seat Belt Locking Mechanism
- NO Front-impact Airbags
- NO Back-Up Camera
- NO Roof
- NO Extended Bumper
- NO Crumple Zone
- NO Side-Impact Air Bags
- NO Doors

Most of what comes standard on the best-selling vehicles in America is missing on motorcycles. That's why it's so important for all drivers to help keep motorcyclists out of crashes.

LOOK TWICE
for motorcycles

Share the Road.
Texas Department of Transportation

VEHÍCULO VS MOTOCICLETA

CARACTERÍSTICAS DE SEGURIDAD

- NINGUNA Bolsa de Aire Superior
- NINGUN Cinturón de Seguridad
- NINGUNA Bolsa de Aire de Impacto Delantero
- NINGUNA Cámara de Reversa
- NINGUN Parachoques extendido
- NINGUNA Bolsa de Aire de Impacto Lateral
- NINGUN Techo
- NINGUNA Zona de Deformación
- NINGUNA Puerta

La mayoría de lo que viene de serie en la mejor venta de vehículos en los Estados Unidos está ausente en las motocicletas. Es por eso que es muy importante que los conductores ayuden a mantener a los motociclistas fuera de accidentes.

**MIRA DOS VECES PARA
VER LAS MOTOS**

Comparta el Camino.
Departamento de Transporte del Estado de Texas



Desired Safety Improvements

The above safety initiatives provide needed enhancements to the roadway system and safety of its users; however, advances in technology, increased traffic, and changes in legislation illustrate that this effort must be continuous. This section displays the wants and needs of Permian Basin MPO and its member entities, the community colleges, and citizens of Midland and Ector counties.

Permian Basin MPO

The goal of Permian Basin MPO is to be the leader in transportation planning so the cooperative and comprehensive process must be continual. As member entities express concerns of safety, Permian Basin MPO will dedicate time and resources to address the issues and find practical solutions. Permian Basin MPO will gain the support of the Policy Board and the TAC and begin to put a plan in place to make certain safety is the main concern within the Permian Basin MPO MAB.

TxDOT

The Unified Transportation Plan (UTP) is TxDOT's 10-year plan that guides transportation project development. It is developed annually in accordance with the Texas Administrative Code (TAC § 16.105) and is approved by the TxDOT Commission. This document authorizes projects for construction, development, and planning activities.

The draft 2015 UTP contains a safety category and includes the following project description and the determining factors:

- *Safety related projects on and off the state highway system. Projects are evaluated using three years of crash data, and ranked by Safety Improvement Index. Workforce development, training, and education activities are also an eligible use of HSIP funds.*
- *Future High Risk Rural Roads projects will be managed under the HSIP if required by special rule.*
- *Allocations for the safety bond program are approved by the Texas Transportation Commission, with the program managed as an allocation program on a statewide basis.*
- *Projects evaluated, ranked, prioritized and selected by the Traffic Operations Division.*
- *Roadway widening projects on the state highway system. Projects are evaluated using Roadway Safety Features for Preventable Severe Crash Types. Projects evaluated, ranked, prioritized and selected by the Traffic Operations Division.*

<ftp.dot.state.tx.us/pub/txdot-info/tpp/utp/2015/programming-guidance.pdf>



TxDOT - Odessa District

Future safety projects range from simple things like adding warning signs or flashing beacons to larger-scale projects that improve safety along an entire corridor. Several minor projects in the Permian Basin MPO MAB include such items as rumble strips, pavement markings, flashing beacons and signage that will improve safety.

TxDOT is creating a climate when safety is inherent in everything it does. It is not an individual thought; it is part and parcel of every process, every design and every project it takes



on. Safety is part of the conferences attended by TxDOT personnel in an effort to improve technical abilities and bring training to apply to projects being developed. It is a process of continual learning; as vehicles change and as driver behavior changes; TxDOT must incorporate those things into the safety factors involved in projects. While there are programs in place that address project-specific safety issues in terms of funding, the safety culture is more than any one project or any one task. Safety is at the heart of everything TxDOT does.

In terms of MPO policy, improving safety and functionality of the main corridors within the Permian Basin MPO MAB is a key goal. Some big-picture ideals include reconfiguring IH 20 to an urban design complete with one-way service roads; adding interchanges, ramps and overpasses along SH 191; developing FM 1788 as a key north-south thoroughfare; and continuing the development of Loop 338 in Odessa and Loop 250 in Midland as growth continues and funding becomes available.

City of Midland

In order to continue safety improvements within the Midland city limits, officials are currently in the planning/design stages of the following proposed projects:

- A Street/Wadley Ave. - Using a \$1.5 million TxDOT grant from HSIP to increase capacity, add dual left turn lanes, and improve pedestrian accessibility
- Mockingbird/SH 349 - Installing a signal and changing the geometry of the intersection
- A Street/Texas; A Street/Illinois; Fairground Road - Improving pedestrian accessibility



- Continuing collaboration with Midland Independent School District to improve pedestrian and compliance with “Safe Routes to School”
- Continuing Hike/Bike Trail and adding multiuse lanes to bike routes
- Complete a Hike and Bike Plan in the Winter of 2014

City of Odessa

The City of Odessa submitted four projects to TxDOT under the HSIP program. They all involve pedestrian improvements at signalized intersections. The projects include adding crosswalks, push buttons and pedestrian signal heads and appropriate Americans with Disabilities Act (ADA) improvements at the intersections of Andrews Hwy/31st; Andrews Hwy/38th; Andrews Hwy/University; and Dixie/University.

Midland County

An array of projects is needed in Midland County. Currently the County has applied to TxDOT for funding to complete several projects including expanding CR 60, constructing several reliever routes, and adding signal lights along Loop 250 frontage road intersections. These plans are intended to meet the needs of Midland County travelers, which include improving safety.

Ector County

Improving highway safety is a constant process for Ector County. However, specific projects submitted to TxDOT by Ector County become prioritized when funding is available. This list, known as *County Transportation Infrastructure Fund Grant Program List of Transportation Infrastructure Projects* is updated annually. The 2014 prioritized projects are as follows:

- Widening sections of Moss Ave., W. 16th St., W. 42nd St., and Knox
- Traffic signals to be installed at Moss Ave./16th St. and 16th St./Redondo
- Edge treatment and seal coat on Apple St., Cottonwood Rd., Goldenrod Dr., and Papaw St.

Midland College and Odessa College



Many times, residents perceive that drivers of CMVs must complete official training in order to obtain a CDL license. However, those interested in the truck driving profession and are able to pass the required exams through the TxDPs, can get a CDL without the certification from a transportation training program.



The consensus of the representatives from both colleges is the need for stricter regulations on areas the CDL seekers must be knowledgeable. It is recommended there be more extensive training to all participants and

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accountability when training is not pursued. The missed information can be fatal so both education centers strive to inform potential commercial vehicle drivers of the importance of completing a training program before obtaining their CDL.

Citizens of Midland and Ector Counties

During the public workshops held in the spring of 2013 as part of the MTP development process, citizens expressed safety concerns. The information indicated key areas the residents observed as needing safety improvements. The chart below depicts the frequency of the top safety-related matters as communicated by the attendees.

Table 5.6 Citizen Comments

Problem	Road	Location	Frequency	
Running Red Lights	City of Midland			
	Garfield	At Loop 250	2	
	Wadley Ave.	At Midkiff Rd.	2	
	City of Odessa			
	42nd St.	At Grandview	8	
	42nd St.	At JBS Parkway	6	
	University	At Dixie	4	
	42nd St.	At Andrews Hwy.	4	
Speeding	City of Midland			
	W. Loop 250	Entire W. Loop	3	
	City of Odessa			
	US 385	IH 20/Loop 338	5	
	42nd St.	At Andrews Hwy.	4	
	42nd St.	At JBS Parkway	3	
Ramps	City of Midland			
	<i>Ramp too short</i>	Loop 250	At SH 191	2
	<i>Congestion</i>	Loop 250	At SH 191	2
	<i>Congestion</i>	IH 20	At Loop 250	2
	<i>Congestion</i>	IH 20	At SH 349	
	City of Odessa			
	<i>Steep ramps</i>	IH 20	At US 385	3
	<i>Steep ramps</i>	IH 20	At Loop 338	2
High Volume of Traffic	City of Midland			
	Loop 250	Entire Loop	4	
	N. A St.	At Loop 250	4	
	Garfield	At Andrews Hwy.	2	
	Midland Dr.	At Andrews Hwy.	2	
	City of Odessa			
	42nd St.	At JBS Parkway	4	
	FM 1788	SH191 to BI 20	3	
	University	Dixie to Grandview	3	
	42nd St.	Entire 42nd St.	3	
	IH 20	At Co. Road W.	3	
Intersections	City of Midland			
	Nothing Reported			
	City of Odessa			
	<i>Stop Sign Only</i>	N. Loop 338	At 52nd St.	3
	<i>Stop Sign Only</i>	US 385	At Co. Road W.	2
<i>Stop Sign Only</i>	N. Loop 338	At Yukon Rd.	2	



Other Transportation Modes

The transportation network does not solely refer to people driving, cycling, or walking; the network includes an array of different modes and each must satisfy certain safety standards. Whether transporting travelers or goods and supplies, around the world or across town, these alternative modes are imperative to the completeness of the transportation system.

Airlines

As technology surges, the Transportation Security Administration (TSA) has implemented advanced screening procedures to identify terroristic threats and any other items or persons that might compromise the safety of airline travelers. Devices used may vary slightly from airport to airport but are consistent with all other commercial airports in the country.

Midland International Air and Space Port

The Midland International Air and Space Port currently uses equipment owned and operated by the TSA. The specific equipment used is security sensitive and information regarding it cannot be distributed beyond essential personnel.

The Airport Emergency Plan is currently in the process of being updated and approved by the Federal Aviation Administration (FAA). Once approved, the Airport will refer to that document in the event of an emergency in order to follow appropriate protocol. As a department within the City of Midland, Midland International Air and Space Port has resources from the City, as well as



mutual aid agreements with Odessa and surrounding communities. Resources can also be requested on an “as needed” basis through the Midland County Emergency Management office. Since 2010, the Midland International Air and Space Port has seen no major emergencies (i.e. plane crashes, runway crashes, security breaches, etc.)

Each year, the FAA mandates a Mock Emergency Simulation exercise as preparation for an actual emergency. Every third year, a full scale simulation of a plane crash is completed. Volunteer “passengers” are given an ailment in which emergency responders must assess, prioritize, and then transport the “patient” to the nearest medical facility. Fire departments, police departments, and hospitals from Midland, Odessa, and surrounding communities and TxDPS, Midland County Health Department, and citizens are all involved in the complete production. All other years, table top exercises with emergency responders and major players are completed.



Currently the Airport has approximately 50 TSA employees, 14 Midland Police Department employees, and 9 security office staff personnel who all have Bachelor's degrees in Aviation Management. Training is ongoing through various organizations and exercises.

Odessa-Schlemeyer Field

Located in north Odessa just off Andrews Highway and Yukon Road, Schlemeyer Field caters to private jet and airplane owners who prefer the convenience of a small airfield. Unlike Midland International Air & Space Port, Schlemeyer Field provides private and company plane owners and operators the ability to take off, land, and store the planes at a lower cost. The safety procedures are also slightly different than Midland International Air & Space Port since TSA does not oversee the security operations. Ector County regulates activities of all persons using Schlemeyer Field in accordance with FAA guidelines. Some safety improvements include:

- A fencing project that was completed in order to secure the airfield
- Digital security cameras and access key pads were installed at entry gates and around the airfield and terminal
- The runways are resurfaced periodically
- Landing lights are currently being replaced

Midland Airpark

Midland Airpark is under the operational control of the City of Midland's Department of Airports. The Fixed Based Operator, Basin Aviation, has been servicing the aviation public since 1979. It offers services including charters, cargo transportation, flight school, and airplane and hangar rentals. Because safety is its primary concern, Basin Aviation ensures all pilots receive yearly training and meet the highest FAA standards for each aircraft they are qualified to fly and for every operation they conduct. It also performs semi-annual flight checks. www.basinaaviation.com

Public Transportation – EZ Rider

Since launching services in 2003, EZ Rider has maintained a high standard of safety with the well-being of its passengers as top priority. EZ Rider believes in reducing congestion and increasing safety as part of its strategy to provide convenient transportation options to its customers.

Mission Statement:

To provide safe, reliable, affordable, and efficient public transportation with quality customer service solutions for the communities of Midland and Odessa.



At the beginning of 2014, an average of 657 passengers used public transportation per day in Midland and Odessa. Assuming each passenger would use a single occupancy vehicle, their decision to use EZ Rider removed approximately 657 vehicles from the congested urbanized network infrastructure.

Removing single occupancy vehicles from congested road networks help support a comprehensive plan to address safety issues.

Because more people are using the bus system during peak times (7-9am/11-1pm/4-6pm), less vehicles are on the road networks that experience the same pattern of usage.

Its fleet of 19 transit buses, 8 cutaway buses, and 13 support vehicles all contain security cameras



and is maintained regularly by trained mechanics. These automotive technicians must have the ability to perform the necessary repairs and tasks required on large diesel type engines and transit equipment as well as smaller vehicles and gasoline type engines. Knowledge is required in the areas of diesel engine troubleshooting and repair, air brake systems, transmission service, suspension and steering systems, and basic electrical systems troubleshooting and repair. Previous experience in the areas of bus air conditioning, multiplex electronics, security and video systems, electronic revenue collection system service and repair, and electronic sign and voice equipment service and repair is preferred.



Bus operators must possess a CDL with Passenger and Air Brake endorsements. EZ Rider provides all training for customer service, passenger care, safety and security, care for passengers with disabilities, system routes, and all other areas that are incidental of the position of bus operator. A 30-day training period must be completed prior to operating an EZ

Rider commercial vehicle. This training includes everything from air brake systems to winter driving to drug and alcohol use. For days 16-20, trainees must drive with an experienced operator who evaluates them on both the morning and afternoon runs. Trainees may also receive additional training days as needed. Both mechanics and bus operators must pass a DOT physical, drug screen, and police background investigation and are subject to random drug and alcohol testing.

Railroad - Union Pacific



The Federal Railroad Administration (FRA) establishes minimum standards for all areas of railroad safety that Union Pacific (UP) must meet. The FRA has twenty-four compliance manuals that address a broad array of safety issues including rail safety, emergency management, railroad workplace safety, etc. These manuals can be found on the FRA website, www.fra.dot.gov



UP has provided rail service in Midland and Odessa for over 100 years and like most communities, the cities grew around the railroad. As regulated by the FRA, UP abides by the following procedures:

- Under the Train Horn Rule (49 CFR Part 222), the proceeding principles are applied:
 - Locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings.
 - If a train is traveling faster than 60 mph, engineers will not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds.
 - There is a "good faith" exception for locations where engineers can't precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing.
 - Train horns must be sounded in a standardized pattern of two long, one short and one long blast. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts.
 - The maximum volume level for the train horn is 110 decibels which is a new requirement. The minimum sound level remains 96 decibels.
- The signal lights along the tracks are block signals similar to highway traffic signals. They indicate to crews if preceding track "blocks" are clear of train traffic.
- Maximum authorized track speed through Midland and Odessa is 70 mph.

"The faster we can move trains through a city the less impact we have on vehicle traffic." - Union Pacific, Manager of Public Safety.

"We are always trying to improve our safety by inspecting our tracks, locomotives and cars carrying hazardous products, including crude oil. In addition, Union Pacific has extensive safety training and preparedness programs that involve our employees and first responders," the UP spokeswoman said in a statement. www.oaoa.com. Any community can request grade crossing safety training, hazardous material response training and emergency response training free of charge.



Table 5.7 Railroad Crashes in Midland and Ector Counties 2010-2013

County	Year	Accidents	Fatalities	Fatal Accident Cause/Type	Date of Fatality	Accident Location
Midland	2010	0	0	N/A	N/A	N/A
	2011	4	2	Other (Misc.)/Trespassing Incident (not at crossing)	10/29/2011	FM 662
	2012	9	4	Highway-Rail Incident	11/15/2012	Garfield/Industrial
	2013	6	1	Highway-Rail Incident	6/3/2013	Fairgrounds Rd.
Ector	2010	4	0	N/A	N/A	N/A
	2011	6	1	Other Incidents	11/6/2011	W. 5th St.
	2012	6	2	Other Incidents-Trespassers	4/23/2012	Cargo Road
	2013	5	1	Other Incidents	Unknown	Unknown

UP has historically found ways to improve safety when risks arise. On July 11, 2011, a railroad crossing was closed due to significant amount of accidents happening. According to the Odessa American newspaper:

“Union Pacific Railroad was given unanimous permission by the Ector County, TX County Commissioners Monday to close the Cargo Road crossing of UPRR tracks, an intersection UP called “the most dangerous railroad crossing in the state.””



Between January and July 2011, 23 accidents had occurred at the Cargo Road crossing prompting UP to request the County Commissioner’s Court to allow them to close the crossing immediately. Once the decision was made, UP added concrete barricades at the passageway to prevent any further accidents and, in less than two years, put up a chain-link fence to “keep people off the rails and prevent bad and costly crashes”. Union Pacific also promotes public

safety through UP CARES and offer UP CARES grants to provide financial support for community-owned railroad safety initiatives. Table 5.8 displays a few of the many safety campaigns UP has released.

In addition to the billboard campaigns, UP CARES initiative promotes pedestrian and driver safety through a variety of outreach channels:

- **Grade crossing education and enforcement**, during which motorists violating rail crossing signage and laws are educated about the dangers of such actions. Related "positive enforcement" initiatives reward drivers who operate safely at grade crossings.

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- **Safety trains**, hosting local law enforcement, media and public officials and providing them the opportunity to ride in the locomotive cab and see traffic violations from a locomotive engineer's point of view. This also allows Union Pacific to connect with community leaders and help them better understand the railroad's safety focus.
- **Communication blitzes**, which educate the public via community events, media outreach and paid advertising. Media outreach coincides with safety trains in UP communities.

Table 5.8 UP Safety Campaigns

	<p>Union Pacific Railroad is launching a multi-media, bilingual public safety campaign aimed at encouraging Midland and Odessa, Texas, drivers to safely use railroad crossings. The advertising campaign utilizes radio spots and billboards to remind residents of key railroad safety tips.</p> <p>Union Pacific's 2013 public safety advertising campaign utilized billboards and public safety outreach to promote rail safety in 12 Union Pacific communities. These billboards reached more than 2 million people and the associated proactive media efforts reached more than 3 million people. Each billboard included the reminder "Always Expect a Train," along with an eye-catching visual and attention-grabbing headline.</p>



SECURITY

Safety is shielding against *unintentional* damages; security is protecting oneself from *intentional* damages.

The terrorist attacks of September 11, 2001 raised many concerns about the security of our nation against these *intentional* assaults. With proper security measures in place, the safety of citizens is strengthened. Most security efforts are regulated by the federal government and those policies and procedures are distributed and implemented at the state and local levels.

U.S. Department of Homeland Security

The U.S. Department of Homeland Security (DHS) was established in 2002 to provide “*a safer, more secure America, which is resilient against terrorism and other potential threats*”. It was created through the integration of all or part of 22 different federal departments and agencies into a unified, integrated department. Today, DHS strives to fulfill its mission of integrating multiple agencies and leveraging resources from federal, state, and local layers of government in order to protect the homeland of the United States. The national strategy is to develop a comprehensive and complementary system that does not duplicate efforts, and to coordinate the homeland security responsibilities of more than 87,000 different governmental jurisdictions at the federal, state, and local levels. www.dhs.gov/mission

When assessing risks associated with the security of the country’s infrastructure, the DHS uses the formula:

$$\text{Risk} = (\text{Threat} \times \text{Vulnerability} \times \text{Consequence})$$

This formula aids in the prioritization of protecting from specific physical, cyber, or human attacks.

The DHS is primarily concerned with issues such as border security, critical infrastructure protection, emergency preparedness and response, domestic intelligence activities, biodefense, researching and implementing security technologies, the detection of nuclear and radiological materials, and the provision of transportation security. Although there are numerous entities within DHS, the agencies discussed below have a direct role in overseeing the secure movement of people, goods, aviation activities, as well as the overall safety and security of the region.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is focused on supporting citizens and first responders to ensure that the nation is coordinated at all levels to prepare for, protect against, respond to, recover from, and mitigate all hazards, including natural and manmade disasters. FEMA leads and supports the country in a risk-based, comprehensive emergency



management system, and strives to reduce the loss of life and property associated with all types of catastrophes. As a sub-part of FEMA, the National Preparedness Directorate (NPD) manages the National Response Framework and the National Incident Management System (NIMS), which provide the national-level policy and template for the management of incidents. In order to receive federal preparedness assistance through grants, contracts, and other activities, states, tribes,

and local organizations must adopt the principles of NIMS for emergency or incident management. www.fema.gov

Transportation Security Administration

After the tragedies of September 11, the Transportation Security Administration (TSA) was established to “strengthen the security of the nation’s transportation systems and ensure the freedom of movement for people and commerce”.

Coordinating with state, regional, and local organizations, TSA oversees security efforts of highways, railroads, transit systems, ports, and airports. The largest groups of employees, and the one most visible to the public, are the Transportation Security Officers at airport checkpoints. In addition to screening passengers and their belongings, TSA officers must also screen all commercial luggage and packages for explosive and other threats before they can be placed aboard airplanes. Other layers of security screening include intelligence gathering and analysis, checking passenger manifests against watch lists, random canine team searches at airports, federal air marshals, federal flight deck officers, and additional security measures that are both visible and invisible to the public.



www.tsa.gov/about-tsa

U.S. Customs and Border Protection

The U.S Customs and Border Protection (CBP) is responsible for securing the country’s border at and between the official ports of entry. They facilitate the legal flow of trade and travel across the country’s borders by preventing the illegal entry of people and goods,



including terrorists and terrorist weapons, and simultaneously enforcing numerous US laws. The CBP also institutes a number of programs and initiatives to protect international traveling, trade, and our nation’s borders. In the Midland-Odessa region, the CBP personnel play important roles in security at the Midland International Air & Space Port and the foreign trade zones to ensure the secure flow of people and goods. www.cbp.gov



Local Security Initiatives

Union Pacific

Efforts to ensure railroad security are a way of life at Union Pacific. The company's robust security program operates 24/7 on what amounts to a 32,000-mile outdoor factory. In conjunction with highly-trained, commissioned police force, Union Pacific coordinates security efforts with a number of agencies, including U.S. Customs and Border Protection, U. S. Coast Guard, Federal Bureau of Investigation, Central Intelligence Agency, Department of Homeland Security and Transportation Security Administration.



Union Pacific was the first US railroad to be named a partner in the Customs-Trade Partnership Against Terrorism, a CBP program designed to develop, enhance and maintain effective security processes throughout the global supply chain. As part of the efforts to keep trains secure and communities safe, Union Pacific employs state-of-the-art security technology that focuses on detecting unauthorized access.

Union Pacific's security efforts include:

- A police force consisting of more than 200 UP police officers nationwide.
- Officers and K-9 units dedicated to border protection.
- Response Management Communication Center and Department of Defense-certified operation center.
- A surveillance network that can report the location and movement of hazardous cargo within seconds.
- Employee and contractor background checks and training.
- Smart cameras, impact recorders and other sensors that are being piloted near bridges, rail yards, tank farms, tunnels and sidings.
- \$72.5 million invested over the last decade on support for drug interdiction programs at the US-Mexico border.



- A virtual-fencing pilot program around our facilities that triggers an alarm to our Response Management Communication Center.

More than any other railroad, Union Pacific is employing security-focused technology to help keep watch over key installations and railroad infrastructure.

www.uprr.com/newsinfo/media_kit/safety/overview.shtml

Permian Basin Regional Planning Commission



As the local agency with homeland security responsibilities, the Permian Basin Regional Planning Commission (PBRPC) *“was founded for purposes of solving area-wide problems through promoting intergovernmental cooperation and coordination, conducting comprehensive regional planning, and providing a forum for the study and resolution of area-wide problems. Through PBRPC, individual governments may combine their resources and talents to meet challenges beyond their individual capabilities. By fostering intergovernmental cooperation and coordination and by carrying on regional planning, PBRPC both compliments and supplements government without infringing on local home rule.”* www.pbrpc.org

The PBRPC releases their implementation plan in support of the Texas Homeland Security Strategic Plan every five years. The plan, *Permian Basin Regional Homeland Security Strategic Implementation Plan for 2014*, is a roadmap for homeland security preparedness and identifies the resources required to implement the plan. While there are many different aspects of this plan, the capability targets regarding transportation when dealing with threats/hazards are as follows:

- Within the first six hours of a request for resources by communities, establish physical access through appropriate transportation corridors and deliver required live saving and life sustaining resources.
- Within 30 minutes of an incident, implement a traffic plan.
- During the first 24 hours of an incident, develop and implement a plan for meeting critical transportation needs.
- Develop contingency plans and secure access to transportation resources for long term deliveries of water to communities impacted by the threat/hazard.



- Secure critical transportation nodes and utility infrastructure to protect against potential natural disasters and to develop resiliency in the area's transportation networks and critical infrastructure.

Disaster Preparedness

American Red Cross

The American Red Cross exists to provide compassionate care to those in need. The network of generous donors, volunteers and employees share a mission of preventing and relieving suffering, here at home and around the world, through five key service areas:

- Disaster Relief
- Supporting America's Military Families
- Lifesaving Blood
- Health and Safety Services
- International Services



www.redcross.org

The American Red Cross is deployed by local or state emergency management personnel within any of the counties it serves. Red Cross assistance may be required in emergencies ranging from a house fire to a natural disaster. Red Cross staff is trained on standard policies and procedures to follow in a crisis situation. When deployed, the Red Cross uses the emergency response plan for the affected city or county.

The Permian Basin Area Chapter of the American Red Cross services 20 counties in west and southwest Texas. Some transportation issues that may or have required support of the Red Cross include:

- Providing water/snacks to emergency crews at the scene of a large accident
- Recruiting transit providers to assist in transporting evacuees
- Preparing an emergency shelter for travelers when highways are closed for various reasons (inclement weather, grass fires, major accidents, etc.)

The Permian Basin Area Chapter has six staff positions, 26 local volunteers, and provides their services at no cost to the public.



Midland County Emergency Management



The Midland County Emergency Management office coordinates a collaborative effort by City Police Department, County Sheriff's Office, and Fire Department to *Prevent, Prepare, Respond, and Recover* when disaster strikes, whether natural or man-made. Depending on the emergency, federal agencies, like Forest Service personnel, may be of assistance as well.

Recently, the most common types of emergencies have been grass fires due to the area's drought conditions. However, the office of Emergency Management is prepared to act on an array of possible catastrophic incidents utilizing the *Local Emergency Management Plan*. In Annex S of the county's Plan, arrangements for transportation of people, supplies, and materials during emergency situations is explained. Facilitation of transportation is the responsibility of the Transportation Officer with assistance from the County Judge, Mayor, Emergency Management Coordinator, and/or the Deputy Emergency Management Coordinator.

Ector County Emergency Management

Ector County Emergency Management operates using its *Multi-Jurisdictional Hazard Mitigation Plan 2011-2016* as guidance when a hazardous situation occurs. This Plan addresses hazards caused by nature including extreme heat, high winds, hail storms, etc. and man-made threats including hazardous material release and pipeline failure. Figure 5.9 displays the planning process. The transportation system can be negatively affected by these hazards and Table 5.9 identifies the county's plan.

Figure 5.9 Hazard Mitigation Planning Process – Ector County





Table 5.9 Ector County Multi-Jurisdictional Hazard Mitigation Plan

Hazard	Priority	Est. Cost	Funding	Agency Responsible	Action
Terrorism	Moderate	\$200,000	Local, State, & Federal	EC Bldg. Maintenance & Public Works	Increase security for Ector County government computer system to prevent cyber-terrorism resulting in loss of critical data and operational capabilities.
Tornado/High Winds	Moderate	\$50,000	Local, State, & Federal	EC Public Works/Sign Shop	Secure traffic lights and traffic controls from high wind damage. Preventative to ensure public safety in transportation areas.
Winter Storms/Wildfires	Low/High	TBD	Local	EC Public Works	Evaluate access and road conditions for response vehicles and formulate options to improve access
Winter Storm	Low/High	Minimal	Local	EC Public Works	Develop plan to coordinate with TxDOT to install warning signs on roadways in the event of a severe winter storm.
Hazardous Materials Release	Moderate	\$100,000	Local, State, & Federal	Odessa Fire Dept.	Implement a leak detection system for the rail switch yard to detect a hazardous material release.
Hazardous Materials Release	Moderate	\$25,000	Local & Federal	TxDOT	Establish a hazardous cargo route.

National Weather Service

The National Weather Service in Midland serves the Permian Basin in providing “weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy.” weather.gov When severe weather is imminent, the National Weather Service in Midland puts out a warning through local media. This is beneficial so travelers are able to avoid areas of inclement weather. This information also assists local emergency management personnel in planning for weather-related emergencies.

Conclusion

Safety and security are at the top of the priority list for all entities from the federal and state levels to counties, cities, and citizens. It is imperative to distinguish the most important areas of safety and security so decisions can be made regarding enhancements to the transportation network. This chapter should be used as a tool in determining factors affecting safety and security standards and what can be done to protect each individual living, working, or playing in the region.

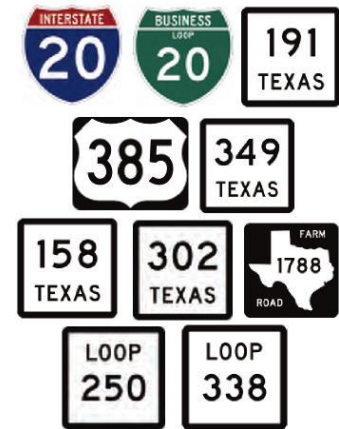


Introduction

The transportation system within the Permian Basin MAB consists of a multimodal network including an interstate highway, one US highway, several state highways, arterial streets, collectors, local roads, a unified public transit system with paratransit and intercity bus service, interstate bus service, vanpools, a Class I railroad line, pipeline transmission systems, international and reliever airports, bike lanes, sidewalks and multi-use pedestrian paths. This chapter focuses on the road system while other chapters focus on the other transportation system modes. As stated in chapter one, the automobile is the predominant mode of transportation in the United States and in the region and its connection to all other modes makes it the most critical element of the transportation network.

Description of the Regional Roadway System

All roadways within the Permian Basin MPO region are classified by their function within the overall transportation system. Eligibility for federal funding assistance for projects that are placed into the MTP is based on an approved federal functional classification map, as required by the Federal-Aid Highway Act of 1973. Because the expenditure of federal program funds is directly tied to the roadway classification system a process is in place to evaluate and update roadway classifications. Permian Basin MPO, TxDOT Odessa District and the Federal Highway Administration meet formally to evaluate the classification of roads is on a periodic basis. The review process involves analyzing how the existing and planned roads function within the system and determining which classification should apply to each roadway. Most recently the system of roads was analyzed and the Functional Classification of roadways in the Permian Basin MPO region was established and approved by FHWA in of May 2014. The roads considered in the 2015-2040 MTP project list in Chapter 10 include roadways with a classification of major collector and higher. A brief description of each type of roadway classification follows below with a local example for illustration purposes. Only road facilities classified as Major Collector or higher are not eligible for federal funding assistance.



Federal Functional Classifications

Interstates

Interstates move inter and intraregional traffic in high traffic volume corridors. They are high speed, divided highways with full control of access and grade separated interchanges. The local example is IH 20 which traverses the region in an east-west orientation.

CHAPTER 6 - THE ROAD SYSTEM



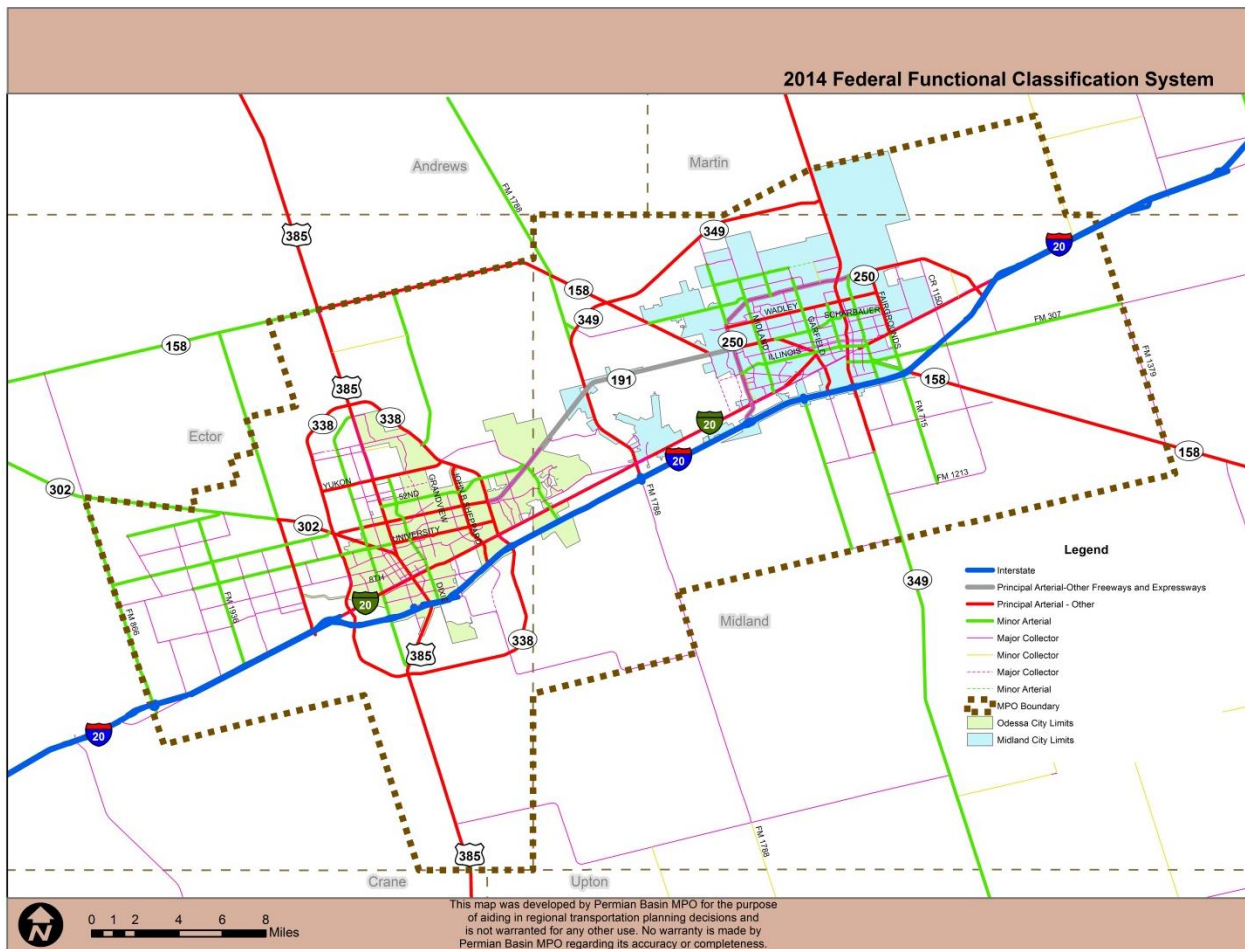
Other Freeway and Highways

Other freeways and highways carry a large amount of traffic at high speeds. They have limited access with freeway interchanges occurring one mile or more apart. Local examples include SH 191, portions of Loop 250 and Loop 338.

Principal Arterials

Principal arterials carry large volumes of traffic to major destinations throughout the metropolitan area. Principal arterials often connect to freeways, state highways and county roads leading toward outlying areas. Typically, a principal arterial will have at least two travel lanes in each direction with curbs and sidewalks. Most major intersecting streets are controlled with traffic signals and also have provision for public transportation services. Land uses are varied along arterial streets with the most intense uses typically occurring at the intersection of the major streets. Local examples include Wadley Avenue and Midkiff Road in Midland, 42nd Street and John Ben Sheppard Boulevard in Odessa.

Map 6.1 2014 Federal Functional Classification System





Minor Arterials

Minor arterials connect residential districts or industrial access roads into the larger transportation system by accumulating traffic from lower classifications of roadways. These roads can have a variety of design characteristics based on what part of the region they are located in and the amount of activity surrounding them. Typically, minor arterials have a mix of residential and commercial activity along them. The classification is based more on how they contribute to connecting the transportation system than on the volume of traffic on them. Local examples include Golf Course Road, portions of Garfield Street, Clements Street and Golder Avenue.

Collector Streets

Collector streets bring together traffic generated from a variety of local land uses onto one roadway that connects either to a minor or major arterial street. Typically collectors are streets with one lane in each direction, traverse neighborhoods at low volumes and slower speeds, and are not designed to carry trips through a community or carry heavy vehicles, except in commercial or industrial areas. Local examples include Mark Lane, Neely Avenue, Maple Avenue and Dawn Avenue.

Local Streets

Local streets provide direct access to individual properties and are designed to meet the needs of the specific neighborhood. They have slower speeds and lower volumes with traffic control being limited to stop and yield signs. These roads may or may not be paved or have curbs and sidewalks. While all other classifications may have some degree of access, the local street category represents the highest ability to gain access to the transportation system. Local streets include cul-de-sacs and are the most numerous type of street.

Traffic Volumes

In the Permian Basin MPO area users of the regional transportation system experience less congestion and shorter travel time delays when compared to large urban areas such as Dallas, Houston and Austin. The Texas A&M Transportation Institute (TTI) works with the Texas Department of Transportation annually to produce a list of the 100 worst bottlenecks in the state of Texas. This list can be seen at (<http://www.txdot.gov/inside-txdot/projects/100-congested-roadways.html>). There are over 1,000 freeway and arterial street segments that are tracked annually to determine the 100 most congested segments. The analysis matches TxDOT traffic volumes with speed data from a private sector vendor to calculate several mobility performance measures. The tracked segments were identified several years ago based on traffic volumes (the vast majority are in the largest urban regions.) While none of the worst 100 congestion bottlenecks are in the Permian Basin MPO MAB, traffic congestion does exist in the region. As an indicator of travel conditions and the overall increase in traffic Table 6.1 compares traffic volumes collected by TxDOT in the years 2007 and 2012 at key high volume locations. These

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values can also be compared to 2012 traffic counts collected by TxDOT on other roadways by examining Map 6.1. To further illustrate the rapid increase in traffic volumes Table 6.2 shows sample traffic counts collected by the City of Midland in 2012 and 2013. During this time frame the City of Midland was experiencing increases in Traffic Volume as high as 47%.

Table 6.1 High Traffic Volume Growth Locations 2007 & 2012 – TxDOT Counts

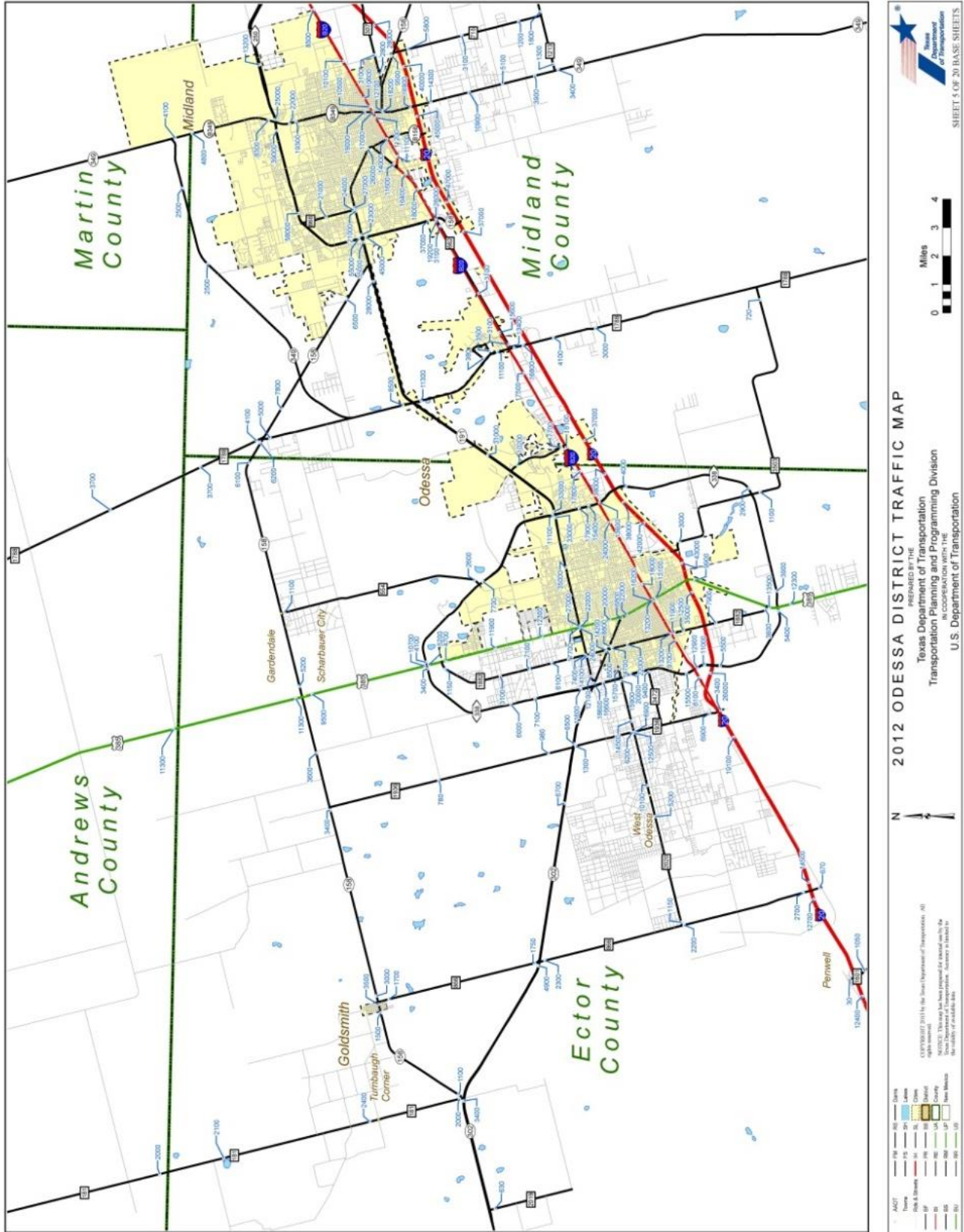
<i>Roadway</i>	<i>Location</i>	<i>2007 AADT</i>	<i>2012 AADT</i>	<i>Absolute Growth</i>	<i>Percent Growth</i>
Loop 250	East of Midland Dr. (FM 868)	52,000	58,000	6,000	11.50%
Loop 250	West of SH 349	35,000	39,000	4,000	11.40%
Loop 250	North of Andrews Hwy	44,000	55,000	11,000	25.00%
IH 20	West of SH 349	40,000	45,000	5,000	12.50%
IH 20	Northeast of FM 307	22,000	22,000	-	-
IH 20	West of Loop 250 West	38,000	37,000	-1,000	-2.60%
Loop 250	North of IH 20 West	27,000	26,000	-1,000	-3.70%
IH 20	West of Loop 338 West	19,200	38,000	18,800	49.40%
Loop 250	South of Andrews Hwy	35,000	45,000	10,000	28.60%
Loop 250	East of SH 349 (Big Spring St)	18,100	25,000	6,900	38.10%
IH 20	West of Loop 338 East	24,000	38,000	14,000	58.30%
FM 1788	North of IH 20	13,400	16,800	3,400	25.40%

Source: TxDOT

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Map 6.2 2012 TxDOT AADT (Average Annual Daily Traffic) Counts



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Table 6.2 High Traffic Volume Growth Locations 2012 & 2013 – Midland Counts

Roadway	Location	2012 AADT	2013 AADT	Absolute Growth	Percent Growth
Loop 250	East of Midland Dr. (FM 868)	34,500	37,200	2,700	7.80%
Lamesa Road	North of I-20	4,488	5,304	816	18.10%
A Street	North of Loop 250	3,924	4,735	811	20.60%
Big Spring St.	North of Loop 250	7,892	10,457	2,565	32.50%
Louisiana Ave.	West of A Street	2,799	3,565	766	27.40%
Midkiff Road	South of Bankhead Hwy	13,184	15,561	2,377	18.00%
Neely Ave.	West of A Street	3,607	5,014	1,407	39.00%
Rankin Hwy	South of I-20	12,185	17,923	5,738	47.10%
Thomason Dr.	East of Loop 250	6,778	8,080	1,302	19.20%
Wadley Ave.	West of Fairgrounds Road	3,531	4,314	783	22.10%
Mockingbird	West of Midkiff Rd.	3,534	4,480	946	26.70%
Loraine St.	South of Michigan Ave.	698	868	170	24.30%

Source: City of Midland

Bridges

The 2012 Report on Texas Bridges prepared by the TxDOT Bridge Division contains the condition of Texas publicly owned vehicular bridges as of September 2012. The condition of the 254 bridges in Midland and Ector County are broken down in Table 6.3. The table goes on further to compare the percent of bridges which are good or better for Midland and Ector County (92.5%) with that of the Odessa District (97.8%) and Statewide (89%). For further information review the entire report at <http://ftp.dot.state.tx.us/pub/txdot-info/library/reports/gov/bridge/fy12.pdf>

Table 6.3 Number of Bridges by Condition 2012

County	Good or Better	Structurally Deficient	Functionally Obsolete	Sub-Standard for Load Only	Total Bridges	Percent Good or Better
Ector	134	1	6	0	141	
Midland	101	0	10	2	113	
Two-County Total	235	1	16	2	254	92.5%
District Total	1041	2	21	0	1064	97.8%
Statewide Total	30477	261	3429	922	34259	89.0%

Source: 2012 Report on Texas Bridges

Recent Studies

Certain sections of the Roadway System have recently undergone more in depth study in an effort to better understand system wide needs and be better prepared should funding opportunities arise.

CHAPTER 6 - THE ROAD SYSTEM

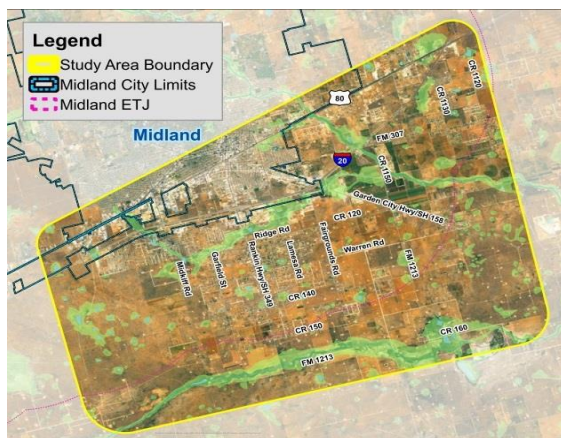


IH 20 Frontage Road Conversions

IH 20 in the Midland Odessa area was constructed in the 1960s as a rural interstate bypass roadway. Since that time, Midland and Odessa have developed south of the corridor and the IH 20 main lanes, frontage roads and many of the cross streets exceed capacity. An update to the November 1999 Frontage Road Conversion Analysis for Existing Frontage Roads was completed in May of 2014. The update examined the existing conditions along the IH 20 frontage roads between Loop 339 (West) and FM 307 and identified existing deficiencies along the corridor and at key cross street interchanges. To provide emphasis to the value of the updated work, projected 2015 traffic volumes indicated in the 1999 study have been exceeded by as much as 180% in some places along the IH 20 corridor. The additional improvements needed at the various cross street interchanges along the project corridor are summarized in and included in Appendix 6.1

South Midland Mobility Planning and Environmental Linkage (PEL) Study

A study was undertaken to screen and assess opportunities for a potential mobility corridor in south Midland. The corridor could potentially intersect the City of Midland, Midland's extraterritorial jurisdiction (ETJ), and Midland and assist in the continued development of

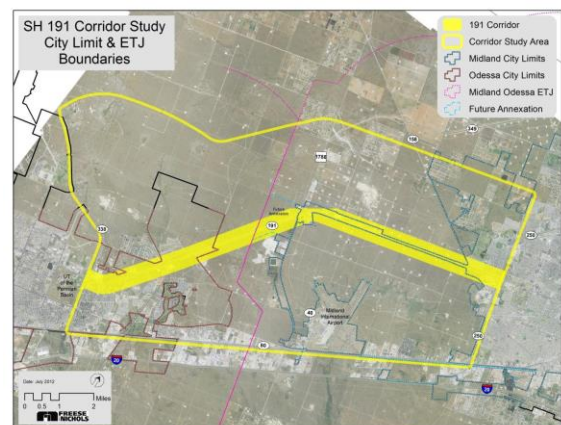


South Midland. A PEL study was undertaken to address environmental issues and impacts within the planning process in accordance with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and Moving Ahead for Progress in the 21st Century Act (MAP-21) federal acts. Five key goals for a South Midland mobility corridor were identified at the onset of the study; Mobility, Land Use Compatibility, Environmental Protection, Economic Benefit, and Community Cohesion, and

each of these goals guided the entire process. The final work identified potential corridors for future consideration ranked by high, medium and low opportunity. A second phase of this work funded by TxDOT is currently underway.

State Highway (SH) 191

In 2011, the SH 191 Corridor Study/Management Plan was initiated to address the rapid growth and development occurring along the SH 191 corridor. The 14-mile corridor is a vital link between Midland and Odessa connecting residents to the two urban centers for employment, commerce and recreation.





The purpose of the study was to examine existing development patterns and development expectations to then derive high-level (general) land use and transportation strategies for the area that would provide a framework for future infrastructure investment. The Study provided recommendations to guide the development of such a framework. However, upon completion of SH 191 Corridor Study/Management Plan rapid growth and indications of future development necessitated an update to the plan. Public and private investment, particularly the announcement in July 2012 of Midland International Airport's potential selection as the new location for commercial spaceflight research raised new land use and transportation planning questions. In June of 2013 the Midessa Land Use Transportation Study was undertaken by consultants to update the plan with consideration of these developments.

Connections to the Larger System

Permian Basin MPOs task in putting together this MTP is not only to facilitate the coordination of transportation planning within the MAB. It is also to assess how the Midland Odessa roadway network is connected to the region, the state and the nation. Building an efficient system through specially designated roadways and corridors will make the area more attractive to new businesses and improve the quality of life for residents.

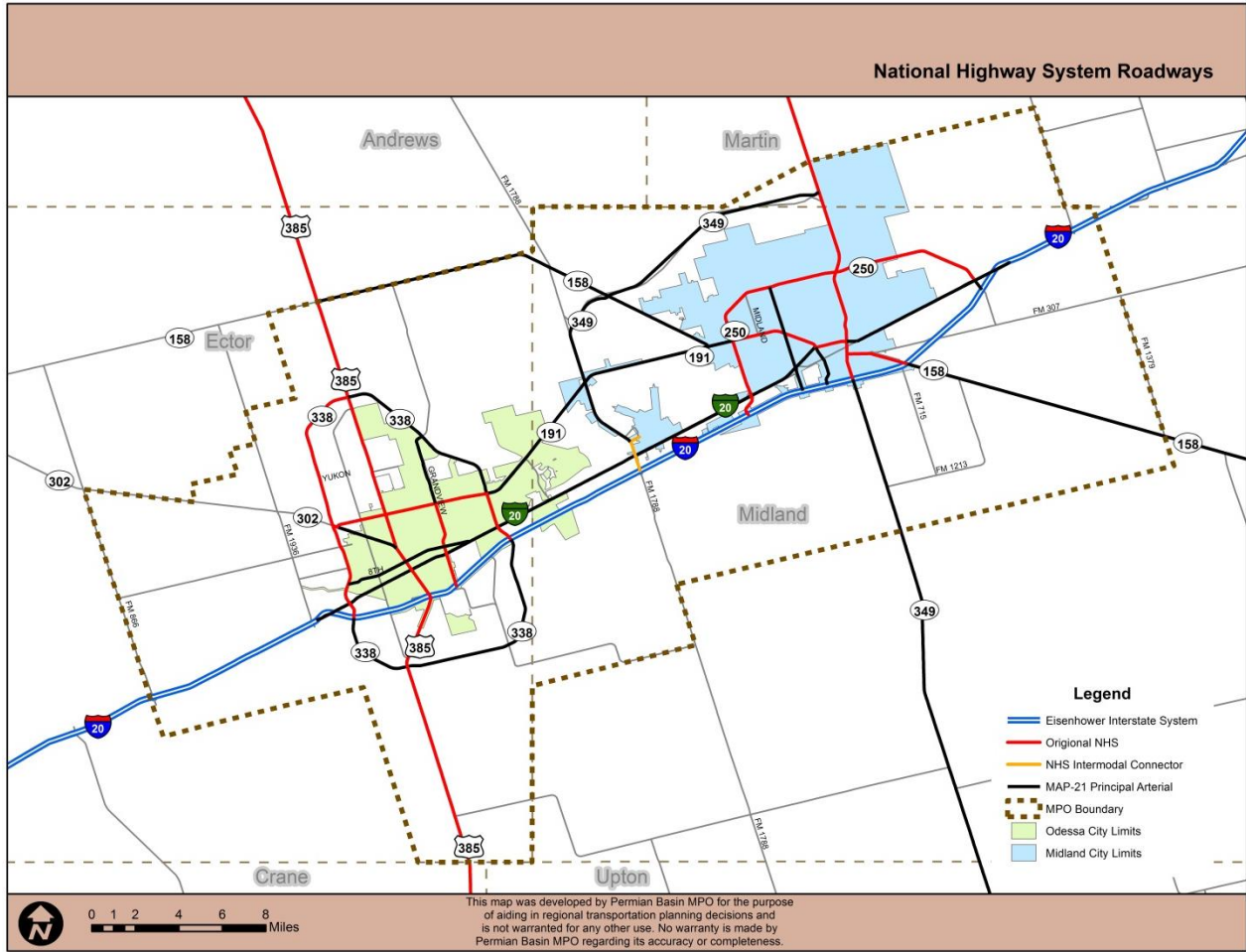
National Highway System

The National Highway System (NHS) is comprised of the Interstate Highway System and other roads that are important to the nation's economy, defense, and mobility. The NHS was developed by the U.S. Department of Transportation (USDOT) in cooperation with the states, local officials, and metropolitan planning organizations. On October 1, 2012, MAP-21 expanded the NHS to include roads functionally classified as principal arterials at the time but not yet a part of the system. Map 6.3 reflects the extent of the NHS in the Midland Odessa area to include principal arterials as reflected on the NHS map with technical corrections in some areas.

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Map 6.3 National Highway System Roadways



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Ports-To-Plains Corridor

The Ports-To-Plains-Corridor is an existing highway corridor between the United States Mexico border at Laredo, Texas and Denver, Colorado. The corridor was designated as a High Priority Corridor in 1998 to extend to Colorado but ultimately lead on into Canada and the Pacific Northwest as the Ports-To-Plains Alliance has extended the corridor up through Wyoming and Montana and into Alberta, Canada. The reason for proposed improvements to this corridor is to expedite the transportation of goods and services from Mexico in the United States and vice versa. Part of the Corridor traverses the MAB from north to south and is designated locally as SH 349, where it turns southeastward along SH 158 to US 87.



The corridor will accomplish the following:

- Reduce congestion at ports of entry along the Texas-Mexico border.
- Provide alternatives to other congested corridors that run through major metropolitan areas.
- Help to increase trade between the U.S., Mexico and Canada.

La Entrada al Pacifico

In 1997 the La Entrada al Pacifico became a state and federally designated trade corridor from Texas via Chihuahua City in Mexico to the Pacific port of Topolobampo. This trade corridor includes both roadways and railways to ensure future trade can occur through the Permian Basin Region with Mexico and ultimately the Far East. This was all due to the efforts of the Midland Odessa Transportation Alliance (MOTRAN). The organization was created in the early 1990s to lobby for state and federal dollars and recognition of trade corridors in the Permian Basin Region. Members include the cities, counties, chambers of commerce, and economic development corporations of each city as well as area businesses. MOTRAN continues to lobby for the advancement of La Entrada through improvements at the Port of Presidio, funding for the rehabilitation of the South Orient Rail Line, development of a north south rail line (more details available in the Chapter 9,) and additional funding for roadway improvements along the route.



Courtesy of MOTRAN

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MOTRAN was able to raise the funds for a two lane facility known as State Highway 349 was opened in December of 2009 on the northwest side of Midland and intends to widen it to four lanes with multiple interchanges.

Local Responsibilities:

The Street Division, part of the City of Odessa's Public Works Department, provides a variety of services. The Division is dedicated to the enhancement and preservation of the quality of life of Odessa's by providing well-maintained streets, alleys, and drainage channels. The Street Division provides the following services: alley fill and maintenance - alleys are maintained on a regular route and caliche is used to fill pot holes or low areas in an alley. Pavement patching and street sweeping services are also provided by the Street Division.

In Midland, the Transportation Division is responsible for the management and maintenance and repair of the city right of way infrastructure including streets, alleys, curbs, gutters, storm sewers, and drainage channels. The division also applies double penetration surfaces to paved streets, performs street sweeping, and removes debris and litter from streets and public right of way. They also respond to severe storms and other weather related emergencies including flooding and wild



fires. They also assist Keep Midland Beautiful in "Clean Midland," an annual city-wide cleanup project. The Transportation Division is also responsible for the management and maintenance of all Traffic Engineering functions within the City of Midland. This responsibility includes conducting studies of vehicular and pedestrian traffic flow and patterns, installation and maintenance of all traffic control devices including pavement markings, traffic signage, traffic signals, and school zone flashing equipment, enforcement of right of way and visibility sight triangle obstructions, traffic accident analysis which includes preparing an annual accident report and submittal of ordinances to the City Council for the installation of all traffic control devices within the city. This division also approves and authorizes the installation of street lights within the city and maintains the operation of street lighting on Loop 250 and high mast lighting on a portion of BI-20.

Ector and Midland Counties provide similar services under their Public Works Department and Road and Bridge Department respectively. In most cases, the counties will not need to repair curb and gutter, however, paving and drainage needs and right-of-way clearing as well as pavement inspection services are provided.

CHAPTER 7 - TRANSIT



Introduction

The recent growth in the Midland Odessa area has led to significant increases in traffic. Public transit provides at least one part of the solution of increased traffic and congestion. A key strategy is to plan for the enhancement of public transportation services within and around the metropolitan area. However, increasing transit ridership has been a difficult challenge. Citizens in both cities and throughout Texas live in a culture that is fostered by the automobile. The sense of freedom and reliability has been engraved in the minds of vehicle owners. Unfortunately, public transportation has taken a backseat in regard to mobility as the automobile continues to be the driving force in everyday life. Public transportation in the millennial era should no longer be bound to the misconceptions of the past but should emphasize connectivity through enhanced forms of mobility. The overall consensus resulting from planning workshops, public input, and stakeholder meetings has been to transform public transportation in a manner that is easily accessible yet personable to the individual. A secondary mode of transportation such as public transportation has the potential of servicing the basic necessities of individuals for purposes such as job access, education, medical care, recreation and other related services. A transit system in a given area serves as a mechanism that connects people to a desired destination or location.

Public Transit System

EZ-Rider is the transit system for the cities of Midland and Odessa and is under the direction and guidance of the Midland-Odessa Urban Transit District (MOUSD). The public transportation system has been in existence since 2003 through an Interlocal Agreement between the two cities and is operated by an independent contractor, McDonald Transit Associates, Inc. The urban transit system encompasses the services of a fixed route, paratransit and most recently an inter-city connectivity route between the cities of Midland and Odessa. Collectively, the transit operations of EZ-Rider form a structure that best serves the urban population and the needs of the elderly and individuals with disabilities. Public transportation is not by any means considered or classified as a “one size fits all” service commodity. However, EZ-Rider is a transit system that provides potential riders with the best transportation option that is suitable to the passenger. The following sections list the types of services provided by EZ-Rider.



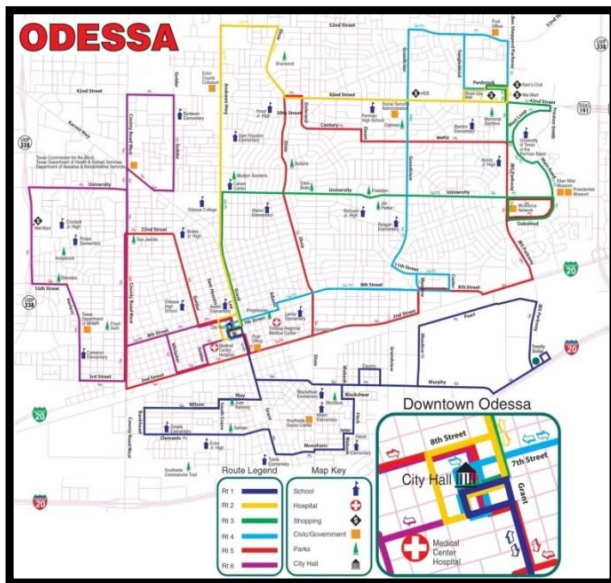
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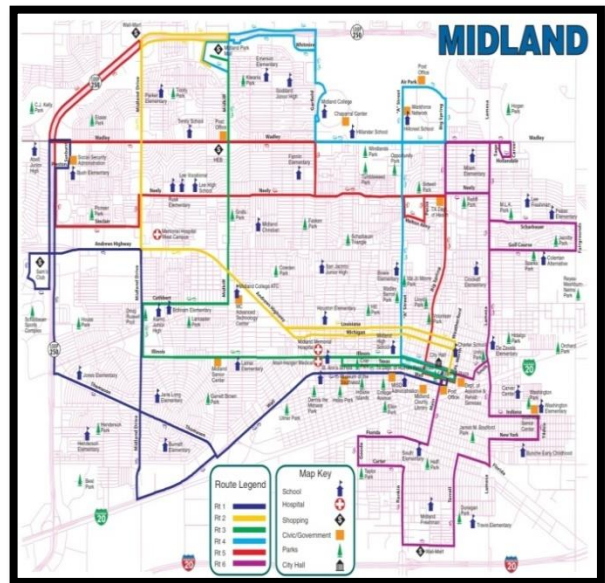
Fixed Route Service

EZ-Rider operates 12 fixed-routes, six each within Midland and Odessa. All the routes begin in each city's Downtown Transfer Plaza and then disperse to the various service locations of each city. See Figure 7-1 below. The fixed route service allows passengers to wait for pick-ups and drop-offs at designated locations. All buses are equipped with wheelchair ramps and each vehicle includes a bicycle rack allowing passengers to bring their bicycles to complete the multimodal experience.

Map 7.1 Odessa Service Route



Map 7.2 Midland Service Route



Source: www.ez-rider.org

The hours of operation for all buses are Monday through Friday 6:15 a.m. to 6:10 p.m. and from 8:15 a.m. to 4:10 p.m. on Saturday. The travel time to complete each route is one hour. Located along each route are bus stop signs and/or shelters with posted schedules indicating arrival and departure times. The fixed-route service is the most commonly used method of public transportation in the area.



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Paratransit Service

The federal government, through the Americans with Disabilities Act (ADA), requires paratransit services be offered to customers with a disability or a health condition that prevents the person from accessing a regular fixed route service. Paratransit is a demand response service that allows eligible applicants to pre-arrange a trip. Individuals seeking paratransit services complete an application, have it reviewed by a medical professional and schedule an



assessment with a licensed occupational therapist. EZ-Rider then determines the person's ability to access the fixed route service for certain trips. The cost for each one-way trip within $\frac{3}{4}$ mile of a fixed route is \$2.50 and is \$5.00 for each one-way trip outside the $\frac{3}{4}$ mile of a fixed route. Paratransit or any other public transportation services outside the city limits are provided by rural transit operators. West Texas Opportunities, Inc. (WTO) is a transit provider that offers public transportation for the rural areas of Ector, Midland, and Martin counties. WTO and EZ-Rider have continued the joint effort in coordinating trips for individuals that need access to paratransit services.

Intercity Bus Service



The idea of an intercity bus route between the cities of Midland and Odessa was previously addressed in Permian Basin MPO's 2010-2035 MTP. The concept of an intercity connection originally arose from a concern raised during the public involvement process conducted in accordance with the development of the MPO's 25 year plan. Subsequently, a feasibility study was initiated by Permian Basin MPO in an effort to determine if there was sufficient potential ridership to support a bus route

connecting both cities. The study was funded through TxDOT's annual coordinated call for projects and focused on potential routes along State Highway 191 and Business Interstate 20. The results indicated that with the amount of future growth and travel patterns between the two cities, an intercity bus route seemed plausible and beneficial to the Midland-Odessa metropolitan area.

The intercity bus service, known as EZ-Express, is managed by the MOUTD, but operated by All Aboard America through a separate contract. EZ-Express is funded through a Federal Transit Administration (FTA) grant called Job Access Reverse Commute (JARC). EZ-Rider intends to continue the EZ-Express service after the JARC grant expires.

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The EZ-Express operates Monday through Friday with buses running from 6:15 a.m. to 9:15 a.m. and again from 3:15 p.m. to 6:15 p.m. The route between Midland and Odessa includes designated pick up/drop off locations at the Downtown Transfer Plazas, Midland College, University of Texas of the Permian Basin and Scharbauer Sports Complex. Also, the EZ-Express connects passengers to all the fixed routes in both cities at each Downtown Transfer Plaza.

Figure 7.1 EZ-Express Schedule

Leave Downtown Odessa	UTPB Founders Bldg P & R	UTPB EZ Rider Bus Stop	Citibank Ballpark	Midland College P & R	Midland Downtown Transfer
6:15AM	6:35AM	6:38AM		7:00AM	7:15AM
7:15AM	7:35AM	7:38AM		8:00AM	8:15AM
8:15AM	8:35AM	8:38AM		9:00AM	9:15AM
3:15PM	3:35PM	3:38PM		4:00PM	4:15PM
4:15PM	4:35PM	4:38PM		5:00PM	5:15PM
5:15PM*	5:35PM	5:38PM	5:55PM	6:10PM	6:20PM

Leave Downtown Midland	Midland College P & R	Citibank Ballpark	UTPB EZ Rider Bus Stop	UTPB Founders Bldg P & R	Odessa Downtown Transfer
6:15AM	6:30AM	6:40AM	6:57AM	7:00AM	7:15AM
7:15AM	7:35AM		7:57AM	8:00AM	8:15AM
8:15AM	8:35AM		8:57AM	9:00AM	9:15AM
3:15PM	3:35PM		3:57PM	4:00PM	4:15PM
4:15PM	4:35PM		4:57PM	5:00PM	5:15PM
5:15PM*	5:35PM		5:57PM	6:00PM	6:15PM

Source www.ez-rider.org

The intercity bus route continues to serve its purpose to provide the connection between the cities of Midland and Odessa. The established connectivity allows for people to travel to work, school or shop in either city. The public transit service provides many benefits to individuals and to the communities in general. Citizens are able to save on costs associated with maintaining a vehicle and alleviate the amount of congestion on certain roadways and corridors within the Permian Basin MPO MAB. Through the EZ-Express, MOU_TD strives to make the transit system user-friendly and affordable. The local urban transit service has existed for the last ten years and has evolved into a vital element of the public transportation system.

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Demand Response

For persons who live outside the EZ-Rider service area, WTO provides demand response transportation service including the unincorporated areas of Ector, Midland, and Martin Counties, and the surrounding 15 counties. Demand response is a non-fixed route system in which passengers call ahead to schedule pick up and are provided curb to curb service. Same-day local trips are accommodated depending upon driver availability, but it is preferred that passengers call the day prior. WTO drivers provide door-to-door service and will assist individuals to the door but may not cross the threshold into the passenger's home. Rides may be shared if more than one passenger has the same destination or is traveling within close proximity during a similar time frame. Demand response does not include school bus service or charter service. Charter service is exclusive, whereas demand response service is shared-ride. If the transit provider mixes passengers from a trip sponsor with other demand response passengers on the same trip, then the trip is a shared-ride service with reasonable fares. The public transportation service is subsidized by TxDOT. Demand response transportation is available from 8:00 a.m. until 5:00 p.m. Monday through Friday except on holidays. Vehicles in use by the service are equipped with a lift or ramp for persons using a mobility device. When calling to schedule a trip, individuals should mention any necessary accommodations. If an individual requires an attendant to travel along for mobility assistance, the attendant may ride at no charge.



The following sections present data that depict the growth of transit services and the funding needed to operate the system for the metropolitan area.

Level of Service – Revenue Miles, Revenue Hours

The level of service for any public transportation system is determined by revenue miles and revenue hours. The total number of miles and hours that are generated by all the vehicles in the urban transit system are represented in the following table. The table illustrates the annual figures for the years 2008 through 2012 for EZ-Rider's fixed route, demand response and intercity service. The data clearly indicates the supply of services for demand response has had significant increases.

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Table 7.1 EZ-Rider Annual Vehicle Revenue Miles and Hours of Service

	2008	2009	2010	2011	2012
Fixed Route - Annual Vehicle					
Revenue Miles	737,349	720,981	724,368	647,758	640,261
Revenue Hours	48,895	47,074	47,066	41,909	41,495
Demand Response - Annual Vehicle					
Revenue Miles	112,690	115,854	130,516	151,768	165,754
Revenue Hours	7,289	7,808	9,774	15,635	14,142
Commuter (Intercity)					
Revenue Miles	n/a	n/a	n/a	n/a	83,868
Revenue Hours	n/a	n/a	n/a	n/a	2,892

Source: National Transit Database

Transit Use - Ridership

Transit utilization is measured by the number of passenger miles and unlinked trips. Passenger miles are the cumulative sum of distances ridden by a passenger in a given mode of public transportation. Unlinked passenger trips have commonly been known as the total number of passengers that board a public transit vehicle, or ridership. For example, a passenger is counted each time he or she boards a revenue vehicle regardless of the number of transfers needed to complete the journey. The following table lists annual passenger miles and unlinked trips for the years 2008 through 2012. The figures provide evidence that service demand has increased over the reported years of 2010, 2011 and 2012.

Table 7.2 EZ-Rider Annual Passenger Miles and Unlinked Trips (Ridership)

	2008	2009	2010	2011	2012
Fixed Route - Annual					
Passenger Miles	667,427	652,610	833,158	1,430,088	1,439,547
Unlinked Trips	444,951	399,482	462,891	476,696	479,849
Demand Response - Annual					
Passenger Miles	113,035	116,092	150,326	137,760	149,260
Unlinked Trips	24,463	23,875	25,479	27,552	29,562
Commuter (Intercity)					
Passenger Miles	n/a	n/a	n/a	n/a	125,160
Unlinked Trips	n/a	n/a	n/a	n/a	4,172

Source: National Transit Database

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The need for public transportation services in the Midland Odessa area continues to grow as people choose transit as an alternate form of transportation. However, people in the area depend on public transportation because many individuals do not have access to or the ability to operate a personal vehicle. The most common purposes for public transportation trips are to access medical services and employment. Also, with a growing service need comes the increase of expenditures to operate the system. A public transportation system is not anticipated to be self-sufficient, but rather relies on outside funding sources for system operation.

Operating Costs and Funding Sources

The operating expenses and operating expenses per passenger mile are depicted on the following chart for reporting years 2008 through 2012. The operating expenses for EZ-Rider's fixed route have been in the \$2 million range since 2009 but have slightly declined in subsequent years. The demand response service has experienced gains in ridership within the five reporting years. In 2012, EZ-Rider incurred over \$1 million in operating expenses for its demand response services. EZ-Rider spends more on operating the large buses for its fixed routes versus the mid-size vans used for paratransit services. However, the operating expense per passenger mile is much greater for demand response than that of the fixed route. In 2012, EZ-Rider reported \$1.66 per passenger mile on the fixed bus routes as compared to \$6.83 per passenger mile on the demand response service.

Table 7.3 EZ-Rider Annual Operating Expenses

	2008	2009	2010	2011	2012
<i>Fixed Route</i>					
Operating Expenses	\$1,886,408	\$2,295,517	\$2,494,288	\$2,408,841	\$2,387,314
Operating Expense per Passenger Mile	\$2.83	\$3.52	\$2.99	\$1.68	\$1.66
<i>Demand Response</i>					
Operating Expenses	\$693,105	\$703,238	\$784,774	\$886,288	\$1,019,306
Operating Expense per Passenger Mile	\$6.13	\$6.06	\$5.22	\$6.43	\$6.83
<i>Commuter (Intercity)</i>					
Operating Expenses	n/a	n/a	n/a	n/a	\$404,266
Operating Expense per Passenger Mile	n/a	n/a	n/a	n/a	\$3.23

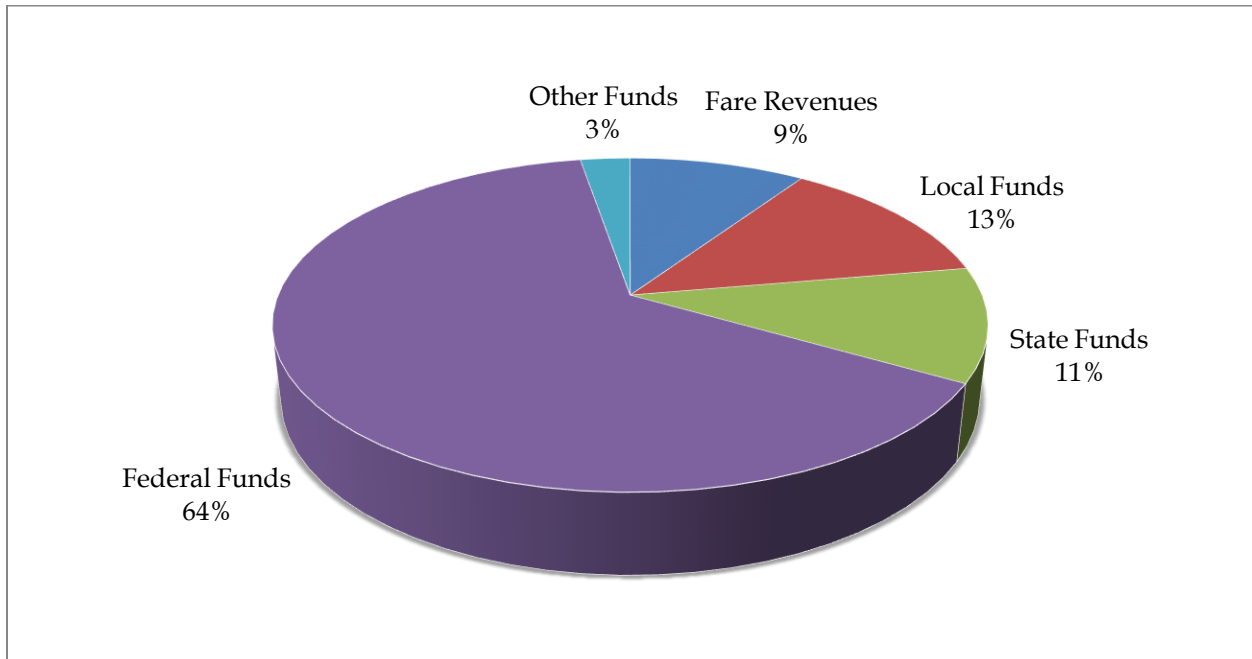
Source: National Transit Database

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EZ-Rider’s services are primarily funded through, federal, state and local funds, and farebox revenue. Unfortunately, the amount of money that is deposited into the farebox cannot cover the entire capital and operating costs of a public transportation system. Like many transit systems across the nation, EZ-Rider depends on government assistance to provide this important public service. The urban transit system for the Midland Odessa area is no exception as the following chart describes the level of funding sources in 2012.

Figure 7.2 EZ-Rider Operating Cost Funding Sources, 2012



Source: National Transit Database

The federal portion has been the largest revenue source in regards to funding the operational services for EZ-Rider. The total amount of federal funds was about \$2.4 million or 64% of operating expenses in 2012. The total fare revenues that contributed to the operating expenses in 2012 were over \$360,000 or about 9%. The table below represents the amount of fare revenues collected each year from 2008 through 2012. The fare revenues have had steady gains over the same five year period, particularly for the fixed route service; however, adequate funding sources are needed to operate a successful transit system.

Table 7.4 EZ-Rider Annual Fare Revenues

	2008	2009	2010	2011	2012
Fixed Route	\$252,455	\$246,958	\$261,957	\$270,972	\$292,008
Demand Response	\$49,500	\$60,201	\$60,121	\$65,055	\$66,399
Commuter (Intercity)	n/a	n/a	n/a	n/a	\$9,251

Source: National Transit Database

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Transit Issues and Challenges

One concern expressed during the 2013 public participation workshops was that few individuals use any type of available transit services. The most common misconception has been that public transportation is a service that only targets seniors, individuals with disabilities and low-income families. While transit systems across the country do identify and meet the special needs of passengers, the services are not meant to exclude anyone. Another reason for low ridership is that citizens in a community view the presence of public transportation but do not fully understand how to use the various elements of the system. Public outreach has been recommended to be incorporated into transit marketing in order to most effectively reach the greatest number of people.

Marketing/Solutions

Marketing is an essential tool for encouraging public transportation use and advertisements help to promote and educate the mass population on transit services. Techniques that are commonly used include public service announcements, commercials, vehicle wraps, literature, word of mouth, and awareness events. EZ-Rider and other transit providers agree that building a positive image with visualizations are key factors in raising awareness for public transportation. Service by association is an on-going scenario that promotes the availability of services. The usage of transit needs to have a clear and concise message in order for individuals to recognize a public transportation provider in the area. Public transportation marketing is able to capitalize on the human senses as people react accordingly to either visual or audio messages. Also, a marketing technique proven most effective and efficient over the years has been through “word of mouth.” The sharing of information comes in many forms of communication such as face to face, text, email and social media (Facebook, Instagram, Twitter etc.). People that are intrigued about a subject tend to either question or research the material in order to become knowledgeable. For example, Permian Basin MPO held 8 public workshops in the spring of 2013 in order to gain and share information related to transportation within the Metropolitan Area Boundary. A section of the public workshops was devoted solely to transit. The public workshop setting was a good opportunity to inform the public about existing services across the cities of Midland and Odessa. The ultimate goal of the transit section of the public workshops was for people to realize there are other options for mobility. EZ-Rider provided brochures with listed information such as area coverage, schedule times, prices and routes. Also, a directory was developed in an effort to categorize every transportation provider in the area. Labels such as urban, rural, public, private and nonprofit were used to specify the type of transit system in the area and the type of trip being offered such as fixed route, paratransit, intercity and medical transportation. Permian Basin MPO staff and transit providers were present at the workshops to answer any questions concerning public transportation. Permian Basin MPO and EZ-Rider were able to take the responses from the workshops and apply the material to future transit planning.

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Regionally Coordinated Transportation Planning

Since 2010, Permian Basin MPO has been the lead agency for carrying out regional coordination and other public transportation planning activities. Section 5304 *State Planning Grant* funds are applied for and administered through TxDOT's Public Transportation Division. The state funds are used to improve transportation options through the facilitation of partnerships within a given region. A Mobility Management Program has been established by Permian Basin MPO to strengthen the relationship among regional stakeholders and to provide community members with sufficient information related to transit. The Mobility Manager has been tasked with completing and submitting timely deliverables that relate to the regional coordination efforts of the greater Permian Basin area. Examples of task deliverables include:

- Plan, conduct and follow-up meetings with the stakeholders in Planning Region 9;
- Develop a comprehensive report that documents the regional coordination accomplishments for Planning Region 9;
- Develop a Pilot Project for a coordinated website to provide real time trip data for public transportation;
- Develop a report and outreach plan to promote awareness for Section 5310 *Transportation for Elderly and Persons with Disabilities*;
- Promote awareness of public transportation services available to persons living in Planning Region 9.

Permian Basin MPO has a well-developed Mobility Management Program that involves many public, private and nonprofit agencies who provide transit services for seventeen West Texas counties. A common goal shared by many area transportation providers is to enhance and expand mobility options. EZ-Rider, WTO, Permian Basin Mental Health and Mental Retardation, Midessa Transportation, All Aboard America and Big Bend Community Action Committee are active transportation organizations that have established partnerships. The sharing of multi-modal facilities and the contracting out for services has added to the success of regional coordination within the Permian Basin. Examples of regional coordination projects include:

- EZ-Express, "Intercity Connectivity Service"
The transportation service was established as an intercity route between the cities of Midland and Odessa as a means to benefit the residents who live in one city and work, shop, attend school or receive medical treatment in the other city.



Multi-Modal Facility

The cities of Midland and Odessa have historically been classified as regional hubs. People who live in the surrounding communities travel to Midland and Odessa for employment, education, shopping, medical appointments and other related trips. People are able to reach a desired destination through urban and rural transit systems that provide trips to and within both cities. The area is convenient as travel connections can be made by passengers needing to transfer between either the urban or rural transit systems. The public transportation network has contributed to the regional productivity and connectivity of the Permian Basin. The need for a Multi-Modal Facility was listed as an unfunded, high priority project in the 2010-2035 MTP and has since had continuous local and regional support. Therefore, it was in the best interest of the region for a transportation hub to be constructed for the purposes of coordination. The previous MTP indicated that EZ-Rider was in the process of searching for a location that would be suitable for the construction of a Multi-Modal Facility. In the spring of 2010, EZ-Rider purchased an eight-acre tract between Midland and Odessa. The exact location of the facility is just north of Business Interstate 20, east of FM 1788 and west of Midland International Air & Space Port. The intent of the Multi-Modal Facility is to connect and strengthen the public transportation network of the Permian Basin. With effective planning, adequate funding sources and through the partnering of many entities, the Multi-Modal Facility will become a reality. The proposed construction of the facility is divided into phases as the following section describes the progression of the project.

Maintenance Facility

The Maintenance Facility was the first phase of the Multi-Modal Facility to be completed. The capital improvement project was completed in July of 2013 with a cost of \$4.5 million Federal and \$900,000 from TxDOT's Transportation Development Credits that were used as local matching funds.

Administrative Building

The next phase of the Multi-Modal Facility is the Administrative Facility and will handle the necessary day-to-day operation activities of a modern day transit system. The 8,000 square foot facility has an estimated cost of \$2 million Federal and \$460,000 in TxDOT Transportation Development Credits for local match. As of March 2014, construction of the Administrative Facility has begun.



Multi-Modal Center

The final phase is the actual Multi-Modal Center which intends to serve as a centrally coordinated hub for passengers needing to transfer between systems. Regional public transportation providers have begun the planning process of identifying potential stakeholders that would have a direct interest in sharing office space, resources or other services within the Multi-Modal Center. The facility is projected to be constructed in 2016 with an estimated cost of \$2 million Federal dollars and \$400,000 in TxDOT Transportation Development Credits.



CHAPTER 8 - BICYCLE AND PEDESTRIAN



Introduction

The objective of bicycle and pedestrian transportation planning within the Permian Basin MPO MAB is to ultimately create and maintain a safe, effective bikeway, sidewalk and trail network that is integrated into the transportation system, that links together resources and destinations, provides an alternative to automobile travel, increases recreational opportunities, advances healthy lifestyles, and enhances the quality of life in the region.



Walking and bicycling are important modes of transportation. Both activities provide relaxation, recreation, exercise, and the opportunity to enjoy nature, and also serve as an alternative, affordable means of transportation for travel to school, work, and other destinations. Pedestrian and bicycle pathways that are safe, convenient, accessible and well-connected are instrumental in supporting a high quality of life in a region. They also contribute to societal and environmental enhancements through reduced vehicle miles traveled, decreased roadway congestion, overall improved public health, and improved mobility for those without access to a personal automobile. Moreover, environmental advantages from non-motorized transportation include reduced air and noise pollution and improved water quality. However, like many other urban areas throughout the nation, Permian Basin

MPO and its member agencies have spent most of their transportation improvement dollars on road and transit improvements, rather than on non-motorized transportation.

Public Participation Efforts

During the MPO's public outreach activities completed in early 2013, participants expressed a strong interest in non-motorized transportation for both recreational and utilitarian purposes. In addition, when asked about funding priorities, numerous comments were made about improving non-motorized transportation modes, including specific locations where improvements should be completed. Comments were also made at community workshops and at Town Hall format meetings when advocates from the pedestrian and



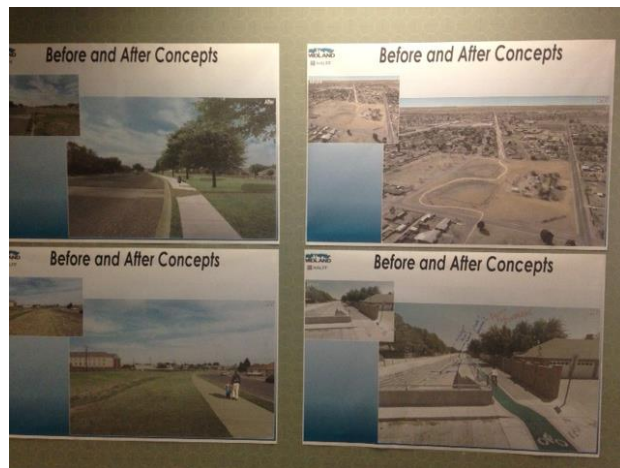


bicycle community stated that more pedestrian and bicycle-friendly infrastructure is needed in the region. A recent survey (2014) conducted for the City of Midland Parks and Recreation Department listed Hike Bike Trails as the number one desired facility. Specific comments also included that sidewalks are necessary along with bike lanes along major streets. A 2012 study contained the following “The City should actively pursue the development of both hard-surface and soft-surface trail networks connecting various portions of Midland. Additionally, the survey asked citizens what type of trail system they would like to see. By a greater than 2 to 1 ratio, Midland residents expressed a desire for any new trail system to be one that links neighborhoods with parks and retail areas, not simply a trail around a park site.” Other non-motorized transportation comments may be found in Appendix 8.1.

As the lead regional transportation planning agency, Permian Basin MPO seeks to provide a foundation to enhance bicycling and walking as feasible transportation alternatives and recreational options. Based upon community input and an evaluation of the existing pedestrian and bicycle infrastructure, the MPO will pursue projects that are focused on providing both local access and regional connectivity, as well as enhancing streetscapes that add quality and interest to the walking and bicycling environment.

Bicycle and Pedestrian Requirements

In order to make bicycling and walking tenable options, the basic needs of pedestrians and bicyclists must be taken into consideration. Pedestrians are composed of all types of people walking for a variety of purposes: to exercise, to get to school, to walk from their car to their final destination, etc. Environments that are more conducive to walking are those that feature mixed and dense land uses and offer pedestrian-oriented activities such as pocket parks, scenic views, historic places, street trees, etc. In addition, pedestrian facilities must be safe and ADA-compliant for individuals with disabilities. Furthermore, a quality pedestrian environment



should provide direct paths, be continuous and have safe crossings at roadways and other junctures. Pathways along an interconnected grid network of streets generally offer more direct travel to destinations than curvilinear and cul-de-sac streets. Street crossings should be well-designed, visible, and contain crosswalks and signal activation devices where appropriate. Additionally, street crossings that incorporate raised medians and innovative design features such as bulb outs, which are an extension of the pedestrian

network into the roadway, make crossing streets safer for pedestrians. A sense of safety and security is achieved through such features as street lighting, pedestrian signs, and other



visibility related design features. Bicycle facilities should also provide a direct route to destinations that cyclists use, whether for work, shopping, or recreation. They should offer some separation from vehicular traffic so the rider feels safe traveling by bicycle.

Maintaining a Database of Bicycle and Pedestrian Facilities

In order to stay abreast of continuing bicycle and pedestrian needs, it is critical for regions and communities to maintain a database of pedestrian and bicycle facilities. This database should



first involve creating an inventory of the existing system and contain information as to the conditions and features of the infrastructure. In addition to facility conditions and other basic features, the database could also include the location of missing links in sidewalks and pathways, and the conditions of existing traffic operations and geometric conditions which impact a pedestrian or bicyclist's decision in using certain roadways. The database should be updated regularly to help in planning for

future improvements to better accommodate bicyclists and pedestrians and include future planned facilities. Both the cities of Midland and Odessa have a good start on a bicycle network inventory. However, both cities could benefit greatly by maintaining a detailed sidewalk inventory.

Preserving Future Bicycle and Pedestrian Corridors

To further assist bicycle and pedestrian efforts, it is important for communities to plan for and preserve future bicycle and pedestrian corridors. This is necessary to ensure that pathways continue to remain well connected and offer the best routing options. Strategies include requiring future development to set aside trail and pathway easements, incorporating bikeway right-of-way designations in transportation and master plans, identifying recreational trail corridors in park and community plans, and establishing pathways along key corridors, utility easements and drainage channels.

Incorporate Bicycle and Pedestrian Elements into Roadway Projects

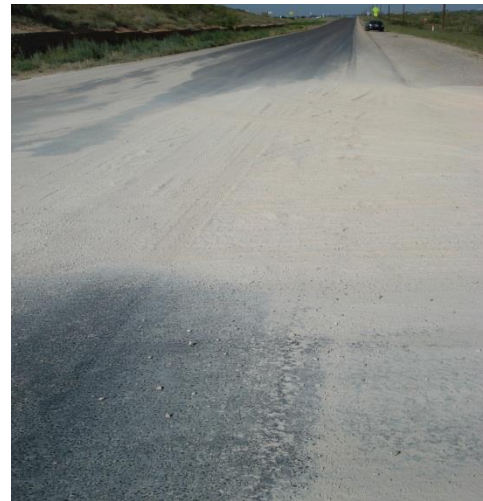
Among other transportation policies, requiring that new roadways include bicycle and pedestrian elements would also improve bicycle and pedestrian mobility. This could be achieved through encouraging local jurisdictions to build wider outer lanes and paved shoulders, preferably with some type of traffic separation structure, bicycle friendly drainage infrastructure, traffic signal actuation devices, sidewalks or other types of pathways running parallel to the roadway, and other such amenities. Additionally, coordination with TxDOT to ensure such accommodations on new or improved major roadways, bridges, underpasses, at-grade rail crossings, and highway interchanges could better support regional non-motorized transportation. The cities of Midland and Odessa require sidewalk installation during the initial



development of property. Sidewalks may also be required when redevelopment occurs. Specific provisions regarding sidewalks are detailed in the cities' development codes with variations in the type of pedestrian facility to be installed as natural features and roadway functional classification demand.

System Preservation and Maintenance of Facilities

Like any asset, bicycle and pedestrian facilities need to be maintained in good condition. Continued maintenance efforts are needed to ensure that the use of bicycle and pedestrian facilities is maximized. Street and pathway surfaces should be kept in smooth condition and free of debris. Bike lanes in particular are subject to debris accumulation and require periodic sweeping. The annual budgets for the cities of Midland and Odessa both allocate funds toward routine preservation and maintenance programs for bicycle and pedestrian facilities. In many cases, pedestrian walkways are rehabilitated along with the city street maintenance projects. In addition, sidewalks are also improved at the request of the general public.



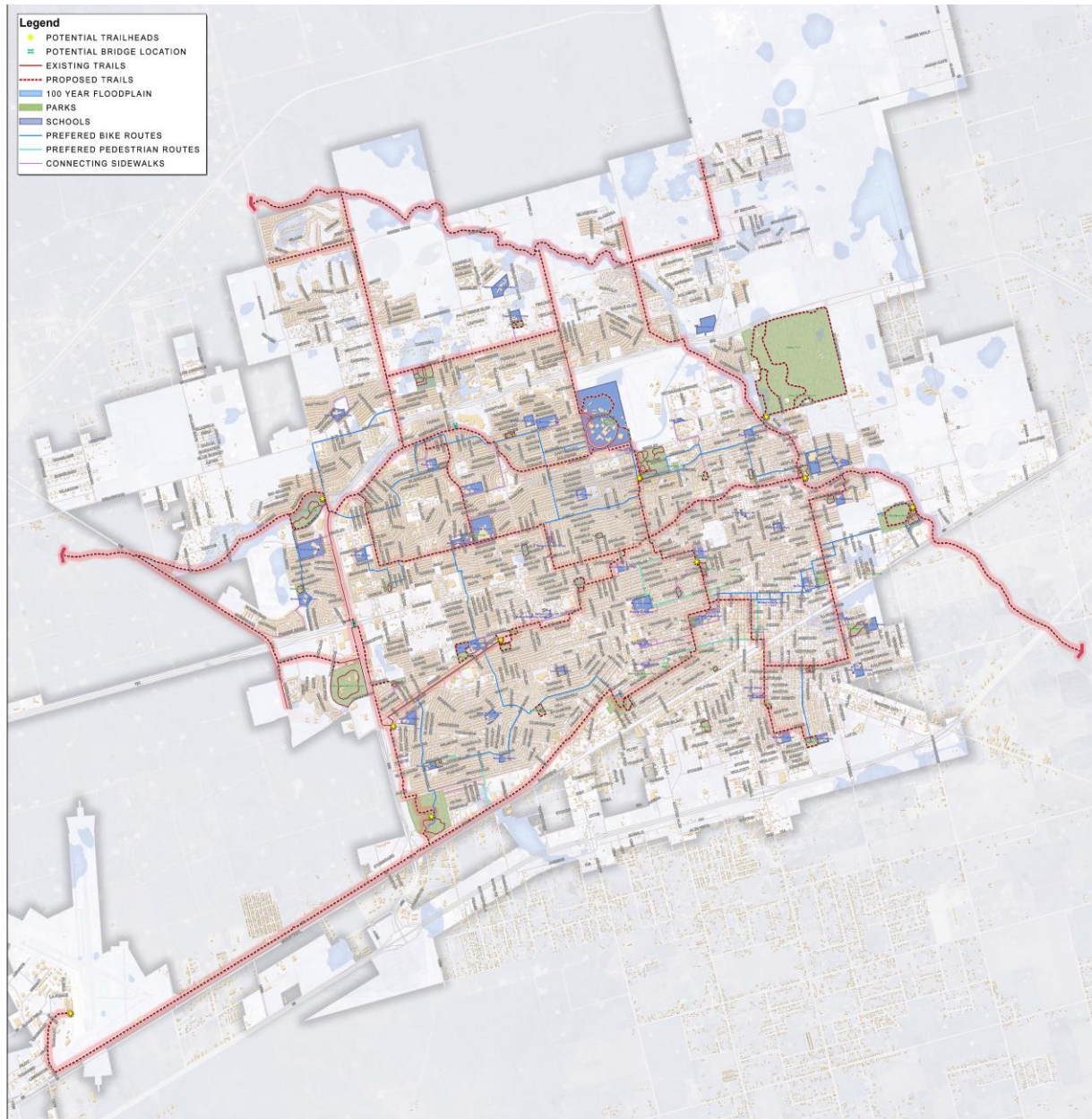
Marketing and Encouraging Bicycling and Walking

Marketing non-motorized transportation facilities as strongly-valued community assets may encourage more people to bicycle and walk. In doing so, efforts should focus on bicycling and walking as practical, popular, and mainstream activities that all types of people can enjoy. Selling points could include that transportation can be more than just a means of traveling to destinations, but also a fun and recreational experience that can be done safely and at little or no cost. Materials, such as route maps and web sites, can be created to promote bicycling and walking and inform people about bike-compatible roads, pedestrian-friendly areas, and other bicycle and pedestrian amenities. Bicycling and walking should be encouraged by government agencies, politicians, employers, retailers, and bicycle and pedestrian advocacy groups. One tool that may be useful is the League of American Bicyclist "Cycling Friendly Community" designation.

CHAPTER 8 - BICYCLE AND PEDESTRIAN



Map 8.1 City of Midland Draft Trail Plan, Summer 2014



Recommendations to Encourage Increased Bicycle/Pedestrian Activity

- Offer incentives to employers to encourage employee bicycle commuting.
- Conduct a well-publicized annual “Bike-to-Work” week with multiple events.
- Improve access to transit for pedestrians and bicyclists.

CHAPTER 8 - BICYCLE AND PEDESTRIAN



- Develop a publicity campaign to raise awareness of cycling issues.
- Conduct an annual Regional Bicycle Festival.
- Publicize the region as “pedestrian and bicycle-friendly”.
- Encourage community-based support for cycling.
- Develop cooperative relationships.
- Promote Safe Routes to Schools.

Educational/Safety Programs

Educational programs that teach pedestrian and bicycle safety issues should be implemented. Youth can especially benefit from bicycling and pedestrian safety education, since they are very likely to walk or bike to school or other destinations. Further, public awareness programs can educate motorists about the importance of sharing the roadway with non-vehicular traffic and other such safety considerations. Since the adoption of the 2010-2035 MTP, TxDOT and member agencies have worked with the Permian Basin Bicycle Association, a local bicycle advocacy group, to install “Share the Road” signs along various major roadways, including SH 191, SH 158 and FM 1788 and to promote cycling activities. From a national perspective, a growing body of evidence has shown that children who lead sedentary lifestyles are at risk for a variety of health problems such as obesity, diabetes, and cardiovascular disease. Safety issues are also a big concern for parents, who consistently cite traffic danger as a reason why their children are unable to bicycle or walk to school. With these health and safety factors



considered, the Safe Routes to School Program was established in August 2005 as part of SAFETEA-LU legislation. Section 1404 provided funding (for the first time) for State Departments of Transportation to create and administer SRTS programs. Funding from this source was utilized in the MAB to construct sidewalks for pedestrian and bicycling activities in Midland in 2009 and 2010 around the Fannin, Emerson and Goddard Elementary Schools. A total of approximately \$650,000 of Federal funds was spent to promote walking and biking to and from these schools and the adjacent neighborhoods. In addition to these important safety and mobility projects, between 2011 and 2013, TxDOT built 510 new and 135 retrofitted handicap ramps at locations along state facilities. In addition, the cities of Midland and Odessa

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have constructed new handicap ramp facilities in 2016 and 2017.

The purpose of the Federal Safe Routes to School (SRTS) Program is to address these issues head on. At its heart, the SRTS Program empowers communities to make walking and bicycling to school a safe and routine activity once again. The Program makes funding available for a wide variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school. The Moving Ahead for Progress in the 21st Century Act (MAP-21) authorized, and subsequent FAST Act continued, the transportation alternatives set aside program.

Education Recommendations

- Institutionalize bicycle and pedestrian safety education within public schools.
- Provide bicycle instruction to adult cyclists.
- Provide educational messages to better inform drivers, cyclists and pedestrians about
- Educate motorists to share the road with cyclists.
- Establish a local fund for bicycle and motorist education.

Enforcement of Traffic Laws



Often, bicyclists are unaware that they are using equipment that is legally considered to be a vehicle, and many do not abide by even basic traffic laws. Likewise, pedestrians often do not consider the consequences of their actions and do not cross at safe crossing points. Motorists are also guilty of traffic law violations which put themselves and non-motorized transportation users at risks.

Enforcing traffic safety laws is essential in holding all transportation users accountable for their actions. Local police departments can work to increase enforcement and deter common

offenses, such as motorists not yielding the right-of-way to pedestrians, bicyclists running red lights and stop signs, riding on the wrong side of a street, and jaywalking. Both cities should

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consider adopting an ordinance requiring a minimum 3 – 6 foot “Safe Passing” buffer when vehicular traffic is passing a vulnerable road user (walker, cyclist, construction worker, etc.). A model ordinance may be found at the end of the chapter.

Enforcement Recommendations

- Update bicycle traffic laws.
- Develop an active enforcement program.
- Develop a bicycle registration program.
- Appoint a “Bicycle Liaison Officer”.
- Develop “Bicycle Patrol Units” within local police departments.
- Adopt “Safe Passing” zone laws at the local level

Funding

Funding for proposed bicycle and pedestrian facilities is often the last hurdle to implementation. While the availability of state and federal mobility enhancement grants has varied over time, there appears to be recent renewed interest in funding such projects at the local level. The City of Midland Parks and Recreation Division is currently working to develop the City’s first Trails Master Plan that will allow more inter-connectivity and mobility between neighborhoods and key destinations within the city such as schools, parks, restaurants, shopping centers, and downtown. The plan will identify key corridors for the development of safe, convenient, off-street hiking and biking facilities. The City of Odessa completed its Parks, Recreation and Open Space Master Plan in June 2014. Odessa’s public participation process included on-line surveys and community workshops which indicated broad community support for bicycle and pedestrian trails to enhance the quality of life for Odessa citizens. Proposed locations for future trails were also included. Additionally, Ector, Midland, and Martin Counties are paving roads to address mobility, safety and congestion. These improvements will have a positive effect on non-motorized transportation needs as well. Establishing priorities is critical to the success of the bicycle and pedestrian element of the transportation plan. In addition to the previously mentioned local efforts, the MPO will continue to pursue alternative funding sources, such as private sponsorship and local economic development corporations. Finally, the bicycling community has a long history of participating in charitable fundraisers.

Bicycle rallies beginning in the downtown area of one city and terminating in the downtown of the other or along a popular and safe route could be organized to help raise funds to assist with

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the construction of proposed projects. This type of event could also be used to raise public awareness of the importance of bicycling in the community.

Presently, both the cities of Midland and Odessa maintain a system of bicycle and pedestrian facilities. Additionally, the region possesses many qualities that contribute to its ability to attract bicyclists and pedestrians, including a favorable climate, a flat landscape, good connectivity through its local street network in the central cities, and favorable demographics, such as the presence of students attending higher-level institutions. However, as in most regions, automobiles are the dominant form of transportation, and bicycling and walking may not be considered viable alternatives for many people in the area. The presence of unsafe crossings, missing segments in bicycle facilities and sidewalks, and a lack of dedicated lanes to give the sense of a visible safe space between automobiles and bicyclists are problematic. A recent federal and state funded enhancement project was completed in Odessa in 2013. This investment of \$1,216,275 resulted in a streetscape and pedestrian corridor for approximately 0.9 miles along 5th Street (US 385) from north of Golder to Adams Street in the downtown core.



Funding Priorities

The projects listed in Chapter 11, Financial Plan were given careful consideration by the MPO, taking into account the project evaluation guidelines and input from the community workshops completed in 2013. Because of the current fiscal realities of transportation funding, only a small number of projects are included in this targeted list. Funding for these projects is predicated upon the assumption that they will be favorably reviewed by the Texas Transportation Commission.

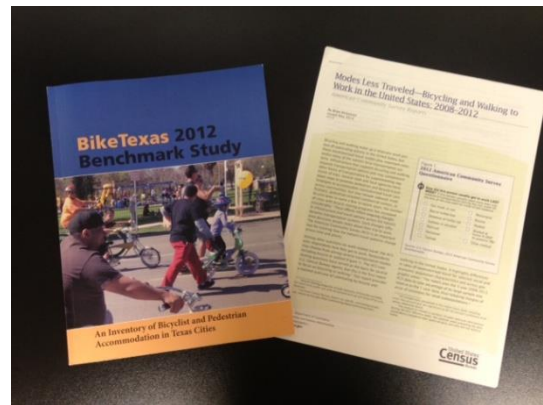
The cities of Midland and Odessa have completed alternative transportation planning efforts as part of their Trails Master Plans which, when implemented, may result in the narrowing of some traffic lanes, allowing for a wider outside lane for cyclists, striping some outside lanes as bicycle lanes, and putting up signage in Parks that show Hike/Bike paths within the Parks and on other city facilities. In addition to city and county general funds, some potential funding sources for non-motorized transportation may include the following:

- Sales Tax Initiatives
- Professional and Amateur Sports Organizations
- Texas Recreation/Parks Grants

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- Philanthropic Organizations
- Urban Forest Challenge Grants
- CDBG Funding
- Public Improvement Districts
- Park Improvement Trust Funds
- Joint Use Agreements
- Tax Increment Finance Districts



Permian Basin MPO's Role in Non-Motorized Transportation Planning

Bicycle and Pedestrian Planning Elements

Coordinating bicycle and pedestrian planning among entities in a region, including counties, cities, school districts, and other education institutions, is imperative in ensuring a well-connected and quality bicycle and pedestrian network. Different entities have different jurisdictional authority throughout the region, and a coordinated approach is necessary for improving bicycle and pedestrian infrastructure. Bicycle and pedestrian coordinators employed in local governments or at the regional level also can play vital roles in coordinating bicycle and pedestrian issues and projects.



Bicycle and pedestrian transportation are becoming integral forms of travel in the state of Texas and the Permian Basin MPO MAB. The land use characteristics of local colleges, downtown business districts, and major activity centers encourage short trips that can be easily served by biking and walking. Urban centers retain attractive, grid street patterns with retail and residential developments that lend well to biking and walking, and the scenery of the region's rural landscape provides opportunities for bicycle and pedestrian tourism and recreational cycling. Additionally, the area's geography and mild year-round climate make these modes viable travel options. Since the adoption of Permian Basin's MTP in 2009, important non-motorized transportation initiatives have been undertaken in Texas, two examples are listed below:

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- BikeTexas 2012 Benchmark Study (www.biketexas.org)
- Safe Passing Zone enabling legislation passed under the Texas Transportation Code TITLE 7. Vehicles and Traffic

Bike and Pedestrian Facilities

Bicycle Facilities

The 2040 MTP recommends extensive integration of bicycle needs into the design and construction specification of new highways and other ongoing or future transportation projects. Highway and transit project designs assume the provision of bicycle racks and other bicycle and pedestrian amenities at key locations such as park-and-ride lots, transit hubs, and major activity centers. Further, the 2040 MTP identifies regional and local bicycle routes in the Permian Basin MPO region. Regional bicycle routes such as SH 191, SH 158 west of Midland and FM 1788 between SH 158 and Midland International Air & Space Port provide links between major destinations and urban centers; facilitate primarily utilitarian bicycle trips, though the routes can also serve recreational cycling; and serve as a backbone to a system of local bicycle routes. In addition to the previously discussed Park and Recreation Master Plan and Trails Plans in Odessa and Midland, the cities completed their comprehensive plans in 2016, with significant emphasis placed on quality of life issues including bicycle and pedestrian infrastructure and public health.



The Permian Basin MPO Policy Board received a presentation from the Permian Basin Bicycle Association about increased ridership in the region. Additionally, a letter was received by the MPO from the Association requesting that bicycle and pedestrian transportation safety be considered with all programmed transportation improvements.



Pedestrian Facilities

Pedestrian facilities in the Permian Basin MPO region vary by type and condition. Urban areas within the MPO boundary are often constructed with suitable sidewalk facilities, however many thoroughfares lack any pedestrian accommodations or relegate pedestrians to one side of the roadway. Incomplete pedestrian networks exist within highly-populated commercial and residential areas. Also, many areas once classified as rural are being developed, and citizens are demanding pedestrian access from their neighborhoods to adjacent commercial or institutional uses. The cities of Midland and Odessa recognize these pedestrian needs, and are working toward filling the missing links in local sidewalk networks. As mentioned previously, both city governments have instituted sidewalk requirements for new development, and sidewalk upgrades are generally included in roadway construction projects. Most roadway projects in the 'Roadway Element' of the 2040 MTP are expected to provide appropriate accommodations for pedestrians, concurrent with roadway improvements. Missing links and gaps in the pedestrian networks will be constructed retroactively. Priority is generally given to areas with heavy pedestrian traffic generators, such as schools, parks and business districts. A potentially useful document is the AASHTO Guide for the Planning, Design, and Operation of Bicycle Facilities. Although Permian Basin MPO does not determine the type of construction or the location of sidewalks, bike lanes and other facilities, the AASHTO Guide is a reputable manual that is used in many communities.



Bike/Pedestrian Facilities by Type

The intent of this portion of the 2040 MTP is to normalize the data from across the region and to provide guidance for what will be used in the regional bike and pedestrian facilities maps. The types of bicycle and pedestrian facilities that may be used for inventory keeping purposes within the MAB include the following:

- **Shared Use Paths** - are physically separated from motorized vehicular traffic by an open space, barrier or curb for the exclusive use of various types of pedestrians, bicyclists and other active transportation users.
- **Bike Lanes** - are a portion of the roadway designated for preferential use of bicyclists between an adjacent striped travel lane and curb, road edge or parking lane. Bike lanes include a pavement marking indicating one-way bike use and have minimum widths in accordance with established bike lane facility design guidance. This category includes buffered bike lanes, contra-flow bike lanes, colored bike lanes and bike passing lanes.

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- ***Paved and Striped Shoulders*** - are paved shoulders defined by a striped line but without bike pavement markings indicating preferential bicycle use.
- ***Cycle Tracks*** - are an exclusive bicycle facility within or adjacent to the roadway but separated from motor vehicle traffic by a physical barrier or buffer.
- ***Marked Shared Lanes*** - are shared roadways that have pavement markings, or “sharrows”, which are used to indicate a shared lane environment for bicycles and automobiles.
- ***Bike Boulevards*** - are low speed, low volume local streets that have been optimized for bicycle travel through treatments such as traffic calming and reduction, signage, pavement markings and intersection crossing treatments. These often parallel a nearby arterial and typically include a combination of treatments and aesthetics. Bike Boulevards are often referred to as neighborhood greenways.



Recommended Implementation Strategies

- Provide a pedestrian and bicycle system that is an alternative means of transportation, allows greater access to public transit and supports recreational opportunities.
- Improve the safety of the system for pedestrian and bicycle use.
- Develop a transportation system that integrates pedestrian and bicycle modes of transportation with motor vehicle transportation and encourages the use of walking and bicycling as alternative modes.
- Develop a continuous, direct, safe and coordinated system of regional bicycle facilities in the Permian Basin MPO region.
- Provide a pedestrian and bicycle system that connects the urban and rural areas within the MAB.

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- Promote, through public education, the environmental, health, and economic benefits of walking and bicycling as practical modes of transportation.
- Develop a regional bicycle and pedestrian system that establishes links between activity centers, public transit, schools, parks, and other major destinations.
- Propose that when new roads are planned or when existing roads are widened; design plans include land on each side of the road of sufficient width to safely accommodate bicycle and pedestrian facilities consistent with adopted plans.
- Encourage the delineation of safe pedestrian ways and bicycle routes, emphasizing separation from vehicular areas.
- Advocate for the installation of signage when bicycle routes or pedestrian ways are integrated with roads, so that bicyclists, pedestrians, and motorists will be made aware of each other.
- Encourage communities within the MPO to adopt pedestrian and bicycle plans.





Introduction

The MTP’s characterization of the Midland Odessa transportation system would be incomplete without a description of the movement of people, goods and resources across the air and rail segments of the network. People in the Midland Odessa region wishing to travel long distances quickly and efficiently may do so by air and are served by one primary commercial service airport, and two basic utility airports. All area airports have seen steady growth in passenger activity over the last five years due to the strength of the economy and the fact that air travel is timely and convenient, especially over long distances. Rail passenger service, however, is no longer an option in the region. The existing east-west rail line connects Midland and Odessa to the state and national rail network. Rail service has increased due to the demand for raw and finished materials used in the oil and gas well fracking process. While considerable investment is being made there are some in the region who believe there is room for growth. Regional transportation stakeholders have identified a need for a north-south rail connection to help alleviate some of the heavy and oversized truck traffic which is unduly impacting the road network.

Air Service

Midland International Air and Space Port

The Midland International Air and Space Port is located midway between the communities of Midland and Odessa and serves the region by accommodating both commercial and private air travel. The commercial airlines, American Eagle, Southwest and United Express offer on average 25 daily departures with non-stop service to DFW, Dallas Love Field, Houston Intercontinental,



Houston Hobby, Las Vegas and Denver. In June of 2014, airport operations added its first CRJ700 aircraft allowing American Airlines to offer first class service to DFW. Various general aviation services are also provided at the airport such as charter service, flight training, aircraft sales, maintenance, airplane maintenance training, fuel sales and avionics. There was an 18.6% increase in enplanements between 2009 and 2013. And most recently, Midland International Air and Space Port reported 51,110 enplanements in July. A 13.4 percent increase compared to July of 2013. This is the first time since 1996 that a single month’s enplanements passed 50,000.

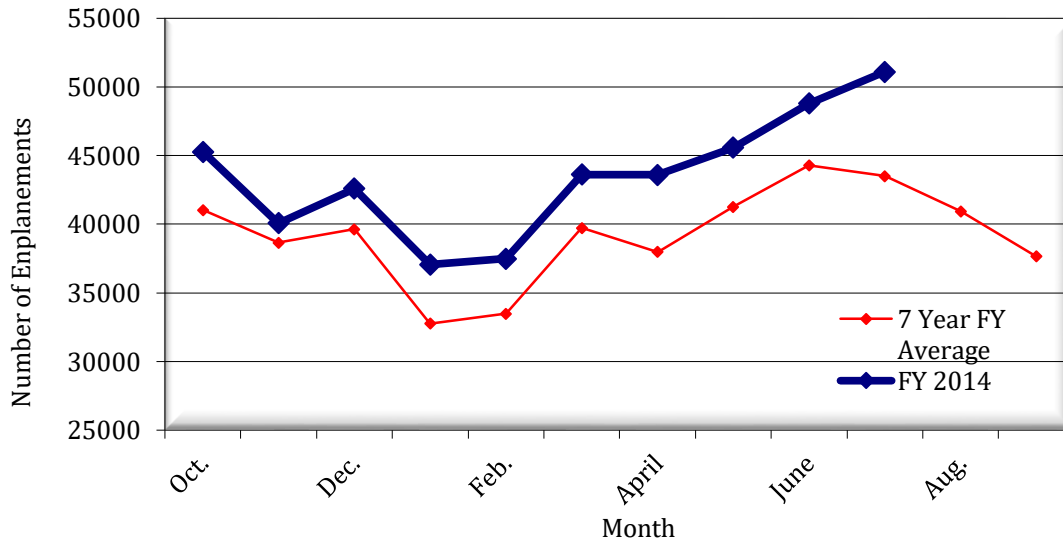
Table 9.1 Midland International Air and Space Port Number of Enplanements, 2009 – 2013

Year	2009	2010	2011	2012	2013
Enplanements	423,801	445,043	474,423	497,193	502,420

Source: City of Midland, Department of Airports



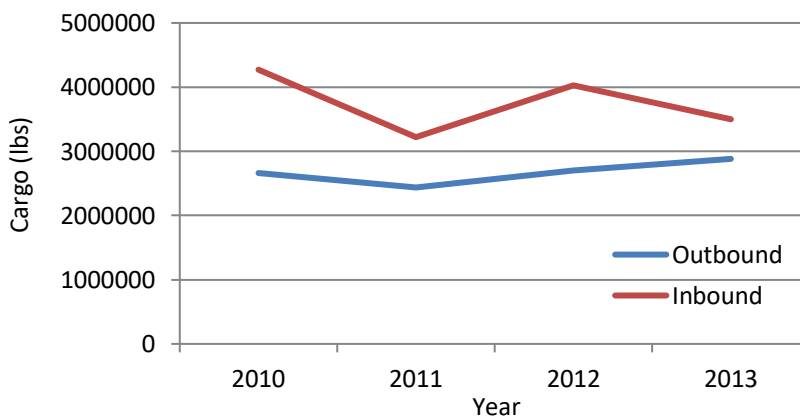
Figure 9.1 Midland International Air and Space Port Enplanements 2007 – 2014



Source: City of Midland, Department of Airports

Cargo and package shipments at Midland International Air and Space Port are served by Southwest Airlines Cargo, Total Logistics Corporation, Federal Express, and UPS. Midland International has one cargo terminal and outbound air cargo remains relatively close to 2010 levels while inbound air cargo has dropped. Together, increases in air passenger and cargo activity have prompted several improvements at Midland International Air and Space Port.

Figure 9.2 Midland International Air and Space Port Inbound and Outbound Cargo, 2010 – 2013








Source: City of Midland, Department of Airports

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Outlined in Table 9-2 are the capital improvements which have occurred within the last five years at Midland International Air and Space Port. Projects include upgrades such as the installation of the precision approach path indicator (PAPI) system in the summer of 2012.

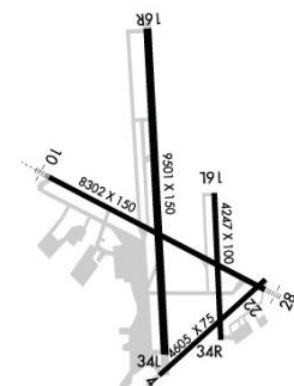
Table 9.2 Midland International Air and Space Port Improvements, 2012 – 2014

Project Name	Description	Completion Date	Cost	
Northwest Taxiway Extension Phase 2	Taxiway, pavement, and utilities for future hangar development	June 2015	\$ 3,350,949	
Parking Lot Addition	Long Term Economy Covered Parking Lot provide 296 additional spaces	Sept 2014	\$ 2,311,544	
Executive Hangar Reconstruction	Pavement			
Taxiway Echo		May 2012		
Taxiway Tango		October 2012		
Executive Apron B Reconstruction		July 2014	\$ 2,800,000	
Rehabilitate Taxiway Systems	TWYs A, B, M, P, W	July 2013	\$ 4,034,222	
PAPIs Installation	FAA replacing the VASIs with PAPIs at both ends of runway 10/28	September 2012	FAA costs unknown, no cost to MAF.	
Runway Reconstruction	RWY 10/28 reconstruction	May 2012		
	Taxiway S	May 2012	\$ 3,911,728	

Source: City of Midland, Department of Airports

The PAPI visual aid provides guidance information to the pilot upon approach with lights that may be visible from up to 5 miles during the day and up to 20 miles at night. The PAPI system replaced the visual approach slope indicator (VASI) and, while similar, provides higher precision. The PAPI and concrete pads were installed on all runways. Other projects were enhancements, such as the covered parking lot with 200 spaces at a cost of \$2 million. New construction on eight private hangars is currently underway on leased property northwest of the airport. This will address the high demand for hangar space where 25 people are on the waiting list.

In July of 2012 Midland Development Corporation (MDC) and XCOR Aerospace announced that XCOR's new Commercial Space Research and Development Center Headquarters would be established at Midland International Air and Space Port. In September of 2012 Midland International officials began the application to obtain a license to become a commercial launch site operator from the Federal Aviation





Administration (FAA). In February of 2014, the Midland Spaceport Development Corporation received a \$2 million grant from the Spaceport Trust Fund through the Office of the Governor. The fund was created to assist with infrastructure cost for spaceports. The environmental assessment portion of the spaceport license application was approved in March of 2014. In September of 2014 the FAA approved Midland International’s request making it the first Part 139 certificated airport with active air carrier flights also operating as a spaceport.

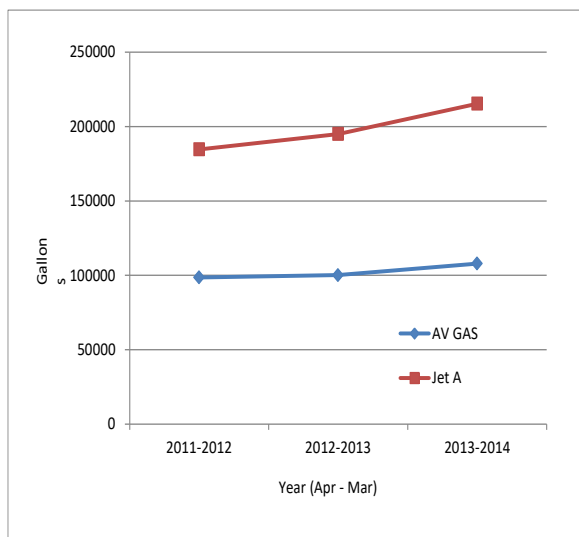


Odessa-Schlemeyer Field

Odessa-Schlemeyer Field, located three miles north of the City of Odessa, serves as a basic utility airport. It is owned by Ector County and had been operated by FarMor Aviation until September of 2014 when Wildcatter Aviation took over operations. Schlemeyer Field has three runways but does not operate commercial passenger service. Flight training, aircraft rental, aircraft sales, maintenance, fuel sales, and avionics are the general aviation services available at Schlemeyer Field. One indication of the level of activity at Schlemeyer Field is the increase in fuel sales.



Figure 9.3 Odessa-Schlemeyer Field Second Quarter through First Quarter Fuel Sales



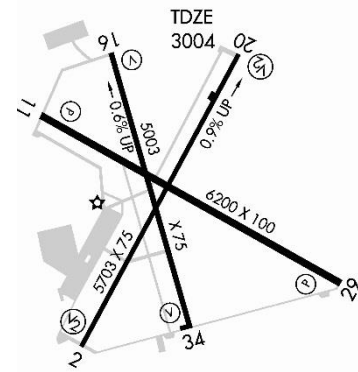
Source: Ector County

increase in fuel sales over the last three years.

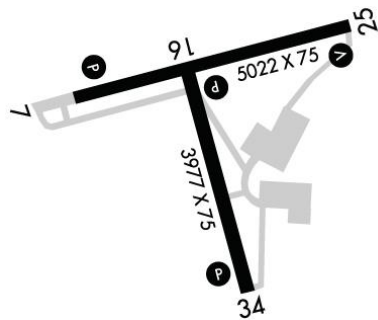
Another indicator is hangar occupancy and new construction. From May 2013 to April 2014 all hangars had occupancy rates between 75% and 100%. By the end of July 2014 every hangar fit for occupation was leased, three hangars were under construction, and additional lease agreements were up for consideration by the County. According to the Ector County Public Works Department, Schlemeyer Field has seen a tremendous amount of growth with new activity and construction. Within the last five years Schlemeyer Field has seen an increase in land leases for the construction of private hangars.



In August of 2013 the Texas Transportation Commission approved \$166,667 in state grant funds for improvements to the lighting at Schlemeyer Field and Ector County contributed \$16,000 of matching funds to complete the project. In July of 2013 a new terminal, runway and several private hangars were completed due in large part to a \$5 million grant from the Texas Department of Transportation's (TxDOT) Aviation Division. Future improvements for Schlemeyer Field include a covered parking lot and the construction of more hangars.



Midland Airpark



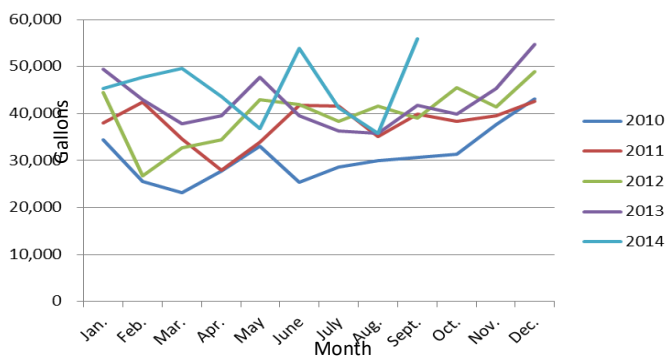
Midland Airpark is on the northern side of the City of Midland south of Loop 250. It is a basic utility airport with two runways and provides many general aviation services including charter, flight training, aircraft rental, maintenance, fuel sales and avionics. The Airpark is under the operational control of the City of Midland Department of Airports with Basin Aviation as the Fixed Based Operator.

Over the last five years TxDOT Aviation Division has provided grants to invest in Airpark infrastructure including runway rehabilitation, new runway lighting system and electrical conduit replacement, the correction of a water ponding issue, airplane run up areas for all runways and runway surface rehabilitation. There is currently a 50 person waiting list for hangar rental at the Airpark. This is due in large part to the fact that no new hangars have been constructed in over ten years. The construction of 12 T-hangars is set to begin in January of 2015 with an estimated



cost of \$1.2 million. It is the only new project planned for Midland Airpark in the near future.

Figure 9.4 Midland Airpark Fuel Sales 2010 - 2014



Source: City of Midland, Department of Airports

Rail

Rail Passenger

Rail passenger service ended in the Midland Odessa area when the last Texas & Pacific (T&P) passenger train left Midland station on March 22, 1969. While rail passenger service is no



longer available it is worth noting the historical impact passenger rail service and the railroad had on the early growth and development of the region. T&P brought many settlers into the region in the late-1800s, and on freight cars they carried the construction material used to build the cities of Midland and Odessa. The future need for rail passenger service may one day be reconsidered if the economic activity and transportation needs of the region continue to increase.

Union Pacific

The Union Pacific (UP) Railroad is a Class I carrier as defined by the Surface Transportation Board, which means they are a national carrier with annual operating revenue of \$433.2 million or more. The UP rail network connects the local area to many of the larger cities in the Central and Western United States as shown in Figure 9.4. The rail line that runs east-west in the Midland Odessa area is the Union Pacific's Texas Pacific (TP) line running parallel to and on the south side of Business Interstate 20 (BI 20). The line connects UP's Sunset Route to Fort Worth. Approximately 105 miles of rail are located in the Permian Basin MAB as main track, yard track or spurs, although some spurs are privately owned.

UP have precautions in place to address safety issues and to prevent damage, or potentially catastrophic failure, to track or a bridge structure. The system reviews all cars along with their routes, to determine if the gross weight limitations for that route are exceeded. If a car exceeds the gross weight limit for the requested route, it will automatically be placed in hold at origin and will not be scheduled for movement.

Allowable Gross Weight (GW)

- 286,000 Lb. (143 ton) GW Cars and Unit Trains Permitted

Figure 9.5 Union Pacific System Network



Source: <http://www.up.com>

(Source: http://www.up.com/aboutup/reference/maps/allowable_gross_weight/index.htm)

UP also has a commitment to serving the growing needs of its customers. UP has been experiencing the economic resurgence alongside the Permian Basin oil and gas industry. Table 9.4 shows the investment UP has made in Midland and Odessa since 2010.

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Table 9.3 Union Pacific Investments in the Midland Odessa Area, 2010 - 2014

UP Capital	2010	2011	2012	2013
Renewal Capital	\$6,039,145	\$22,447,533	\$10,938,747	\$1,927,379
Growth Capital	\$265,786	\$7,491,488	\$49,246,988	\$12,302,439
Total	\$6,304,931	\$29,939,022	\$60,185,735	\$14,229,818

Source: Union Pacific

The growth capital projects include small projects such as the rubber lead crossover constructed between two tracks to allow rail cars the flexibility to crossover from one line to another. Other investments are larger such as the addition of six additional side storage rail lines to the Odessa Rail Yard in 2013 bringing the total number to 11. The rail yard is located west of Loop 338 adjacent to BI 20. Just south of the Odessa Rail Yard is the Union Pacific Distribution Services (UPDS) Railport which will be constructed in multiple phases. Phase one included the construction of two rails and cost Union Pacific \$14 million. The Railport is a dedicated pipe and bulk transloading facility. Non-rail customers can use the Railport to benefit from the economies of shipping by rail and access the Permian Basin oil and natural gas exploration area. Details have not been released on the construction schedule but the Railport will eventually expand to five

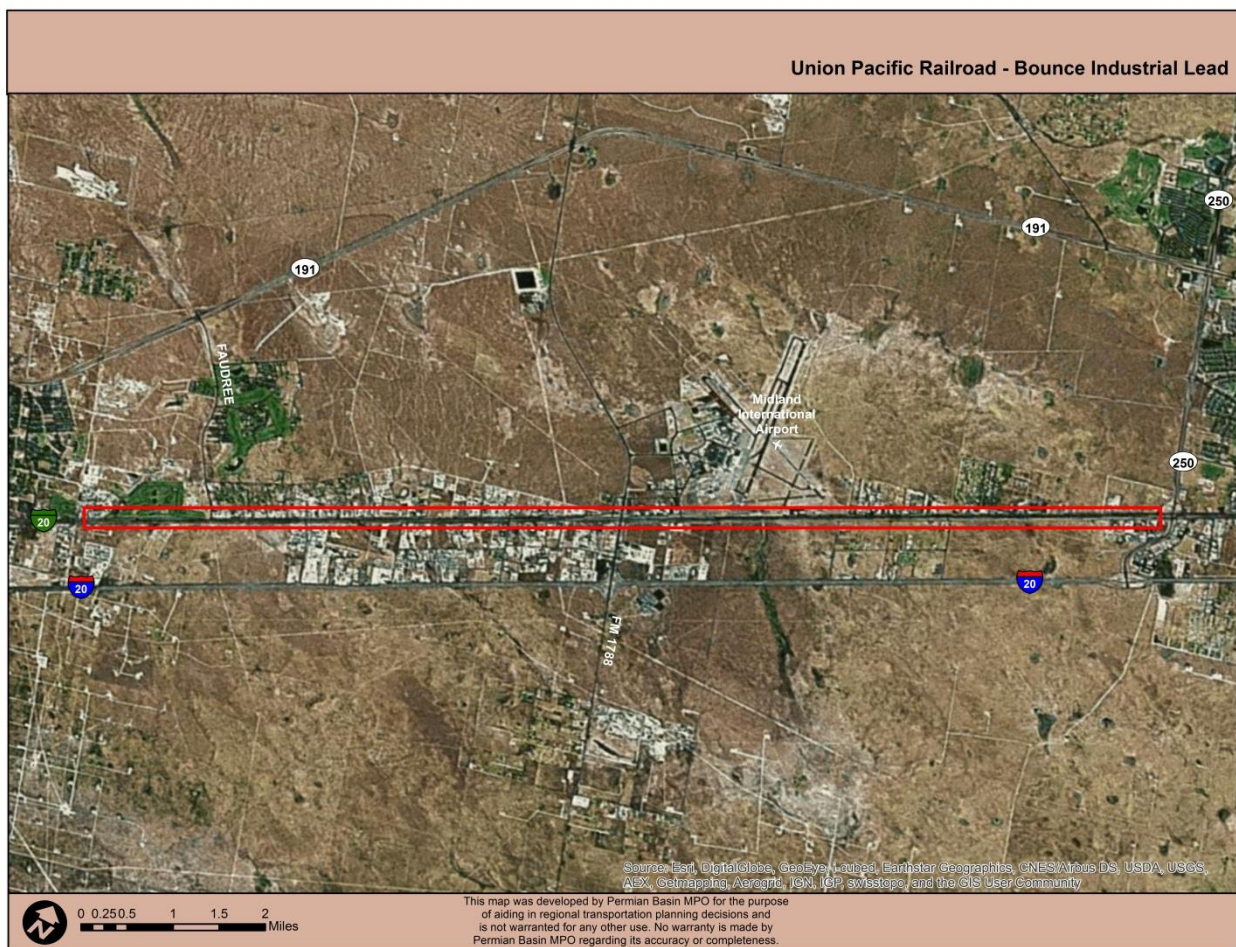
Figure 9.6 Union Pacific Odessa Rail Yard & UPDS Railport





tracks. Figure 9.5 shows side by side view of the Odessa Rail Yard and Railport area in 2009 and 2014. A project completed in the fall of 2012 was the Bounce Industrial Lead, which is a \$17 million parallel rail line connecting east Odessa and west Midland. This connection allows businesses along the line the ability to move freight more efficiently off the main line and between each other. Figure 9.6 shows the location of the Bounce Industrial Lead.

Figure 9.7 Union Pacific Railroad Bounce Industrial Lead



Private Rail Investment

Union Pacific's investment in its infrastructure has made it possible for private investors to add value to their holdings by constructing additional private rail spurs.

Rail Spurs

Rail spurs, a track connecting a secondary track to the main line are typically private investments and are used by different industries for the loading and unloading of freight, thus freeing up operations on the main line. One of the first rail spurs to take advantage of the new



Bounce Industrial Lead in Odessa was the Leeco Industrial Park rail spur. Operational in April of 2013, the Leeco Industrial Business Park rail spur, is located at Faudree Rd between IH 20 and BI 20. The Industrial Park now has an 8,000 foot rail, a \$2.5 million investment to assist the service companies located within the business park and eventually additional rail will lead directly to some of those properties.



Transloading and Storage Facilities

Other types of private rail investment include transloading facilities and the adjacent tracks, several of which have been built in the Midland Odessa Area in the last 5 years. In Midland, the Agri-Empresa Transloading Facility (Fig 9.7) between S County Road 1250 and Loop 250 can manage a maximum of 210 cars. The newly constructed transloading and storage facility is an expansion of existing Agri-Empresa operations. The U.S. Silica Co. recently began building a transloading and storage facility off East Loop 338 in south Odessa, capable of storing 20,000 tons of fracking sand. The \$12 million facility is anticipated to be completed by the end of 2014. The facility involves a rail loop and storage silos as part of the Odessa Railport, at 100 S. E. Loop 338. Wild Cat Minerals opened a proppant transloading and storage facility in Odessa with storage capacity of 34,000 tons of proppant and has a unit train track capacity of 55.

Figure 9.8 Agri-Empresa Transloading Facility





La Entrada al Pacifico Rural Rail Transportation District

The La Entrada al Pacifico Rural Rail Transportation District (LEAP) was formed in Midland and Ector counties in 2002 with the goal of connecting new rail service to the existing rail lines and tying them to the La Entrada al Pacifico Corridor. Recent studies by Cambridge Systematics for the La Entrada al Pacifico Rail District and TxDOT have explored the need for a north-south connection to improve the network and provide more options for freight operators. The LEAP is developing plans that will include a new rail line from the South Orient Railroad (SORR) in Upton County to connect with the Union Pacific Railroad line in the Midland Odessa area and ultimately join the West Texas and Lubbock Railway (which runs southwesterly from the BNSF Railroad track in Lubbock to Gaines County). As envisioned, a new north-south rail line would be the only one of its kind in the region serving the agricultural and industrial shippers along this corridor. Inroads have been made in moving the north-south rail line forward, starting with the rehabilitation of the SORR, the south connection for LEAP's desired north-south line. In 2001 TxDOT retained ownership of the SORR and finalized an agreement granting Texas Pacifico Transportation (TXPF) a 40-year lease with renewal options to operate the tracks. The line extends from 5 miles southwest of the city of Coleman to Presidio at the Texas/Mexico border where it connects to a Mexican railroad. TxDOT was able to rehabilitate the line from



Courtesy of MOTRAN

San Angelo east toward Coleman through several rehabilitation projects, which included the replacement of a truss bridge in the town of Ballinger; the installation of 79,000 ties with associated ballast and surfacing work; the replacement of over 33,000 feet of worn rail; the reconstruction of 103 at-grade crossings; and additional repairs to some of the 68 other bridges. Improvements to this line are bringing in increasing amounts of cargo from the ports of Western Mexico and will help make LEAP's north-south rail line feasible. Other issues that are important are included in the June 2013 Permian Basin

Rail Connection Economic and Financial Feasibility Study Update. That study concluded with six major findings:



- 1) Updated demand estimates indicate that constructing and operating a new freight rail connection in the Permian Basin is feasible based on existing demand and projected growth in certain industries in the region.
 - LEAP may choose to issue bonds for construction with the expectation that they will be paid off within the 30 year time horizon; or
 - LEAP may choose to partner directly with either a short line rail operator, outside investor, or major shipper to jointly finance all or part of the projects.
- 2) Participants in the oil services industry expect 10 years of solid growth.
- 3) Several of the Cambridge Study interviewees stressed the need to construct additional north-south rail facilities as soon as possible.
- 4) LEAP should identify a list of partners to explore and discuss financing and implementation strategies for constructing at least one of the rail sections.
- 5) The development of the Summit Power plant at Penwell, TX could contribute significant revenue and feasibility to any new rail extension or construction.
- 6) As the LEAP Board and potential partners discuss possible investment scenarios, an investment grade study would be required to secure future financing.

Several local public and private entities have shown interest in supporting the construction of the rail line due to the potential economic effects in the region. If these plans are realized, the Midland Odessa region would be further positioned to function as a major, central hub for freight transportation.



Introduction

The swift and efficient movement of goods and commodities through the freight network helps drive the Midland Odessa economy. Whether it is products hauled to the region destined for store shelves; sand shipped into the area to assist in the hydraulic fracturing process; or oil being shipped out by pipeline and rail, these activities occur across our highway, rail, and air network. Permian Basin MPO refers to these independent but important facilities as the local freight network. The network also includes oil and gas pipelines. The movement of freight into and out of the region has a tremendous impact on the local economy and the growth of the oil and gas industry has caused a significant increase in the number of energy sector related vehicles on the freight network. If not properly planned for freight and energy sector demands may prematurely wear down the freight network and negatively affect Midland and Odessa's mobility, air quality, safety, and livability standards. As part of an ongoing effort to enhance statewide freight mobility TxDOT is preparing a statewide Freight Mobility Plan. Listening sessions and a meeting of the Freight Advisory Committee held in the Midland Odessa area allowed Permian Basin MPO and its partners an opportunity to impress upon the committee the freight needs of the area. The needs are outlined in this chapter and in Chapter 4.



Texas Freight Advisory Committee

As stated above the statewide Freight Mobility Plan is currently being undertaken by the Texas Freight Advisory Committee. Their mission over the last two years has been to advise TxDOT on freight issues, priorities, projects and funding needs for freight improvements, and elevate freight transportation as a critical component of the state's economic vitality and competitiveness. Their goals were to:

- Ensure the participation of private sector freight stakeholders in TxDOT's transportation planning process
- Ensure that freight transportation needs are addressed in TxDOT's transportation planning, programming, investments, and implementation processes
- Provide input into the development of the Statewide Freight Plan
- Help TxDOT identify and target freight investments



- Assist TxDOT in prioritizing freight investments by identifying high priority and strategic freight transportation projects that facilitate safe and efficient movement of freight throughout the state
- Develop TxDOT's freight transportation action items on key freight issues

Freight Network

The freight network links important highway, rail and air corridors to major economic centers and freight generators throughout the country and the world. These corridors allow for the economic activity vital to the state and nation's trade and commerce. The state anticipates that by monitoring and improving the condition of this network it can provide a safe and efficient system for users and thereby give Texas an edge over other states.

Existing

The Midland Odessa regional freight network of roads includes IH 20, and all or segment of the following roadways; BI 20, Loop 250, Loop 338, SH 191, SH 385, SH 349, SH 302, SH 158, US 385, and FM 1788. Through telephone interviews with area freight stakeholders it was found that the primary roadways used by freight and energy sector businesses are IH 20, BI 20, FM 1788 and SH 191. Rail is a separate but highly important transportation means but because railroads are not publicly owned and financed, they have not been typically considered as part of the freight network; however, as part of the multimodal considerations associated with the Texas Freight Mobility Plan, railroads are now seen as an integral piece.

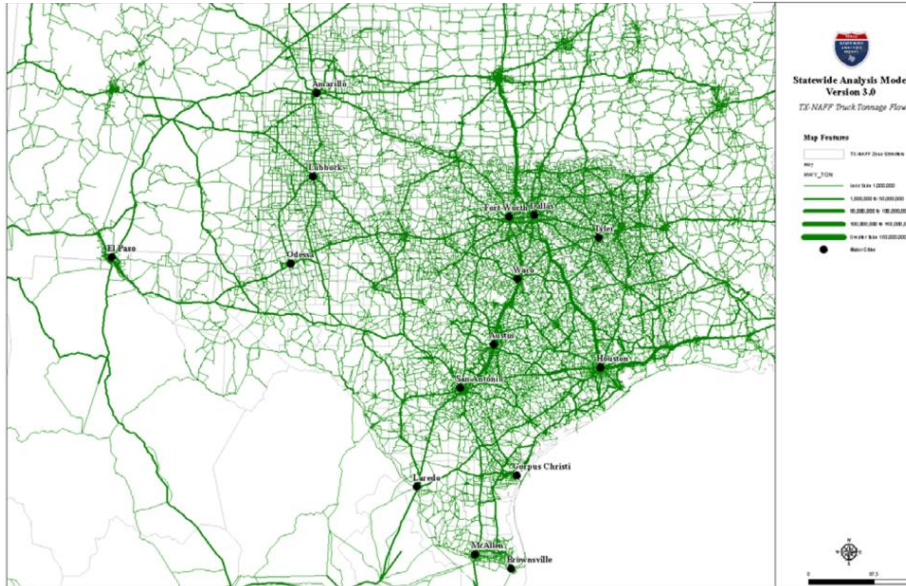
Proposed

In early 2013 the Texas Freight Advisory Committee started meeting to advise TxDOT on freight issues, priorities, projects and funding needed for freight improvement in order to elevate freight transportation as a critical component of the state's economic vitality and competitiveness. With that mission in mind they were tasked to develop the Statewide Freight Mobility Plan, a key component of which is the Texas High Priority Freight Network (called "the Network"). While the plan would ensure that freight transportation needs are addressed in TxDOT's transportation planning, programming, investments, and implementation processes, the THPFN would identify key freight movement corridors and gateways. Two pieces of information used in the development of the network were truck tonnage flows and rail tonnage flow as indicated on Maps 10.2 & 10.3 respectively. It appears that between 10,000 to 100,000 truck tonnage flows through the Midland Odessa area highways, while 15,000,000 to 30,000,000 rail tonnage flows through the Class I Union Pacific rail line. Figure 10.3 & 10.4 show the result of TxDOT's analysis, the Preliminary Texas Priority Highway Freight Network and the Texas Priority Rail Freight Network. These are currently being refined as TxDOT and the Texas Freight Advisory Committee prepare the final draft of the Statewide Freight Mobility Plan and the associated network in November 2014.

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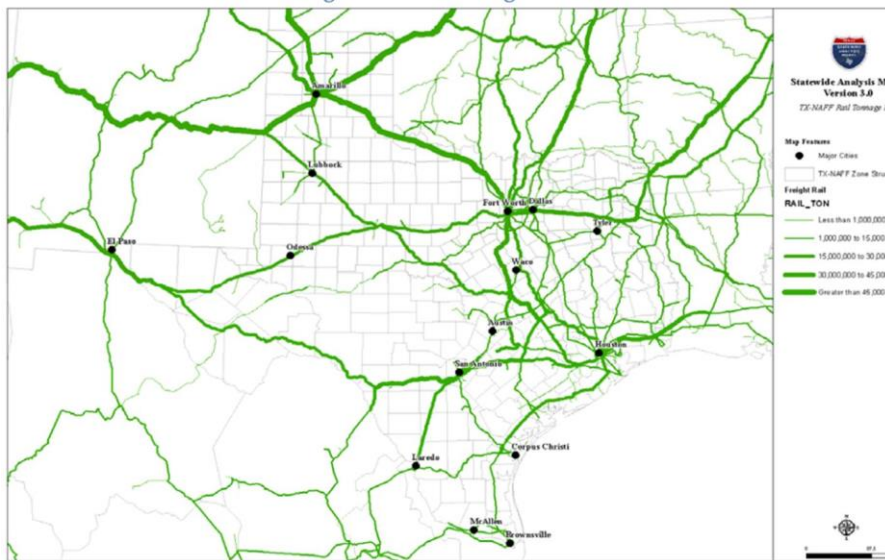


Map 10.2 Texas Truck Tonnage Flows



Source: Texas Priority Corridors of Commerce: Shaping the Future of Freight Movement

Map 10.3 Texas Rail Tonnage Flows

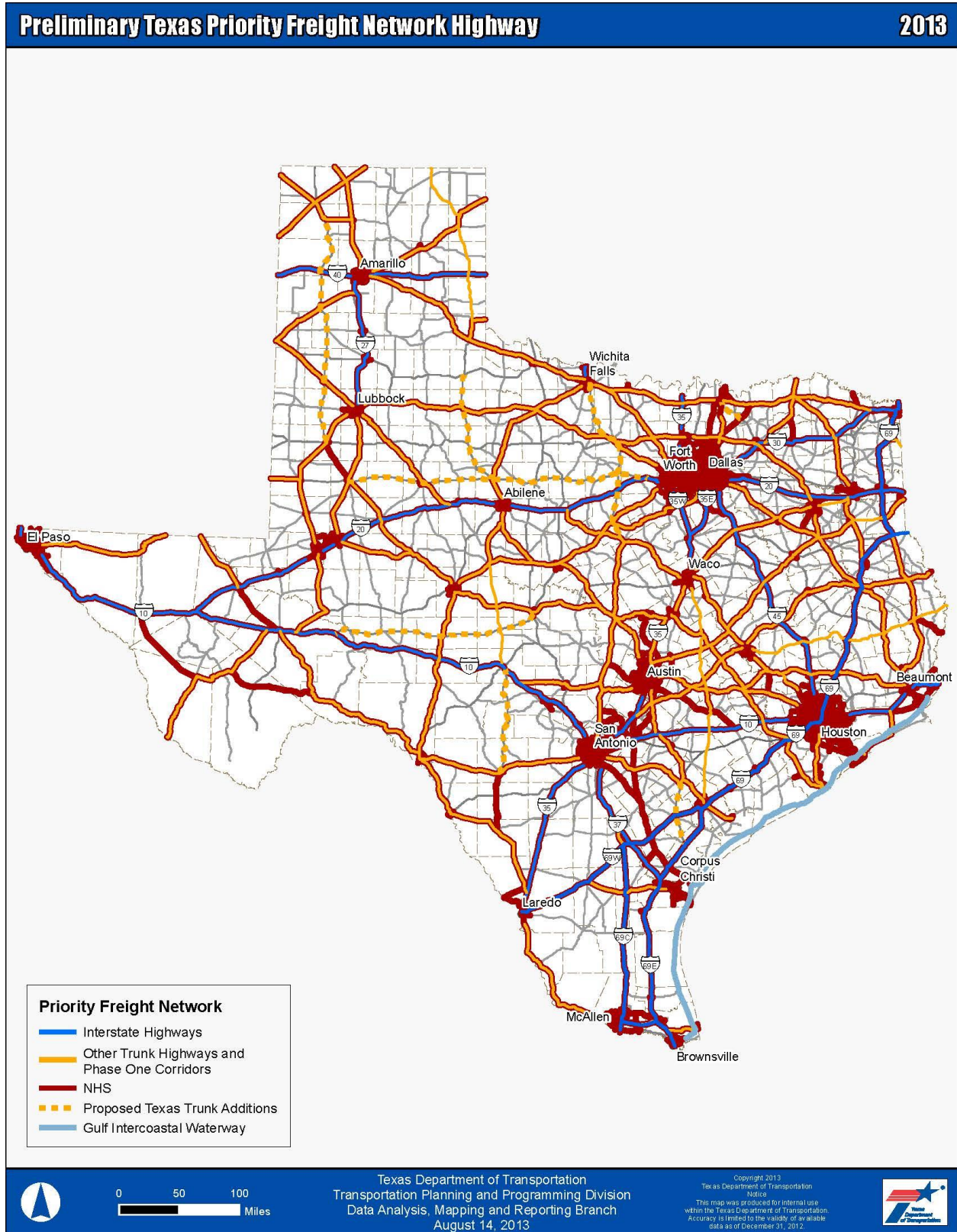


Source: Texas Priority Corridors of Commerce: Shaping the Future of Freight Movement

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Map 10.4 Preliminary Texas Priority Freight Network Highway

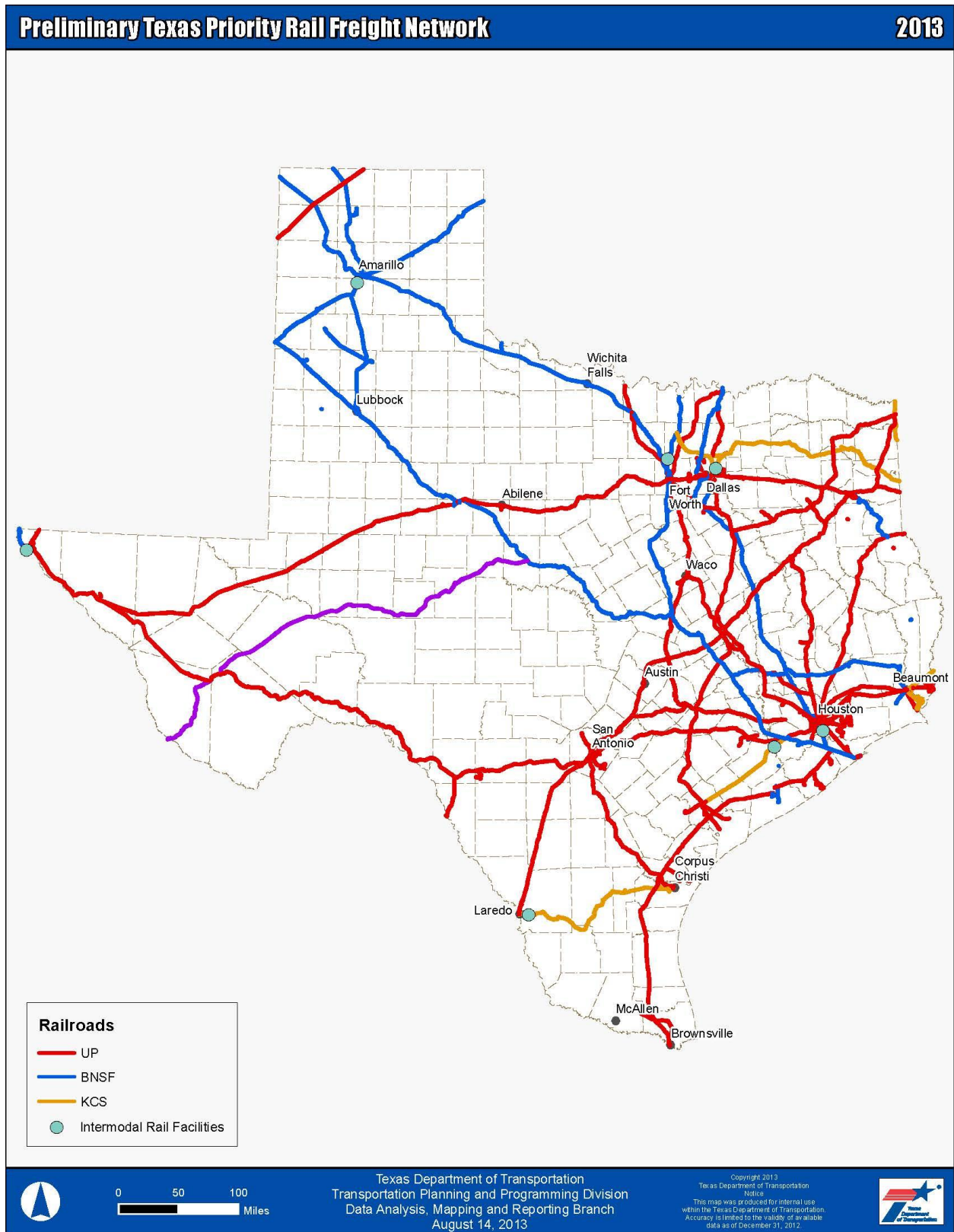


Source: Texas Priority Corridors of Commerce: Shaping the Future of Freight Movement

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Map 10.5 Preliminary Texas Priority Rail Freight Network



Source: Texas Priority Corridors of Commerce: Shaping the Future of Freight Movement



Truck and Hazardous Material Routes

The mission of the Federal Motor Carrier Safety Administration (FMSCA) is to reduce crashes, injuries and fatalities involving large truck and buses. This includes incidents that involve hazardous materials. Hazardous material routes are designated by the FMSCA to mitigate the negative impacts that the transportation of hazardous materials might have on other motorists or area residents while still providing safe and efficient routes for the trucking industry. Table 10.X shows the designated Hazardous Material Routes while Map 10.X shows the hazardous material routes along with designated truck routes. Table 10.1 is a list of the FMCSA-designated hazardous Materials Routes for the Midland Odessa area.

Table 10.1 FMSCA Designated Hazardous Materials Routes

Conector	Description	CITY	COUNTY
Interstate 20	Southwest City Limits to Southeast City Limits	Odessa	Ector
Loop 338	South City Limits to North City Limits	Odessa	Ector
Cotton Flat Rd.	Interstate 20 to Bus. I 20/ YS 80 [Local Traffic Only]	Midland	Midland
Fairgrounds Rd.	South City Limits to Loop 250	Midland	Midland
Farm to Market Rd. 868	Bus. SR 158 to Loop 250 [Local Traffic Only]	Midland	Midland
Garfield St.	Bus. SH 158 to Florida Ave. [Local Traffic Only]	Midland	Midland
Golf Course Rd.	Scharbauer Dr. to State 158 [Local Traffic Only]	Midland	Midland
Interstate 20	East City Limits to West City Limits	Midland	Midland
Loop 250	Interstate 20 to Fairgrounds Rd.	Midland	Midland
Midkiff Rd.	Interstate 20 to Loop 250 [Local Traffic Only]	Midland	Midland
Scharbauer Rd.	State 349 to Golf Course Rd. [Local Traffic Only]	Midland	Midland
State 349	Interstate 20 to Loop 250 [Local Traffic Only]	Midland	Midland
State 349	Interstate 20 to South City Limits [Local Traffic Only]	Midland	Midland
State 349	Loop 250 to North City Limits [Local Traffic Only]	Midland	Midland

Source: FMSCA

Freight Generators

A variety of freight generators exist in the Midland-Odessa area. Distribution centers freight companies, the energy sector services, and transloading facilities use the freight network to transport goods, resources, and machinery to destinations within the region and beyond. A safe and efficient system is a benefit to freight generators and the public at large.

Distribution Centers

The goods and services available to the populations of Midland and Odessa are not much different than those provided any other metropolitan area. Weekly deliveries of fruits and vegetables make their way onto grocery store tables, televisions and washing machines are displayed along big box store shelves. In addition, being the epicenter of the Permian Basin, the Midland Odessa area





is well suited for large distribution centers. The location and close proximity to surrounding markets, available workforce, and access to interstate and rail make the Midland Odessa area appealing to companies working to keep transportation costs low. Two such distribution centers are the Family Dollar Distribution Center on IH 20 just east of JBS Parkway and Coca Cola Distributing on S. Pagewood south west of BI 20 and JBS Parkway. In Odessa increased population growth has also spurred the expansion of existing distribution centers. Another large regional distribution center is Standard Sales in Odessa which construction on a 150,000 square-foot distribution center to meet the increased demand for their products.



Another large regional distribution center is Standard Sales in Odessa which construction on a 150,000 square-foot distribution center to meet the increased demand for their products.

Freight Companies

Telephone interviews with some local trucking companies with fleets ranging from 10 to 40 found that the majority of trucks and shipments stay within the Permian Basin. They identified IH 20, BI 20, 191 Loop 338 and Loop 250 as routes most taken. All anticipated business growth over the next five years.

Energy Sector

Within the region the energy industry as a whole is a massive mover of freight. And this region is now a top producer of oil and gas and energy related products. Of the seven oil production areas monitored by the U.S. Energy Information Administration (EIA), the Permian Basin accounts for 35% of US oil production. The Permian Basin covers an area approximately 250 miles wide and 300 miles long. In the most recent EIA Drilling Productivity Report released on September 8th, the Permian Basin is the leader in gas production area in the United States (Table 10.2). The equipment necessary to bring an oil and gas well into production includes hydraulic fracturing equipment, drilling platforms, geotechnical equipment, and chemical storage containers to name a few. Truckloads of resources are also used in the process and TXDOT realizes the impact this industry is having on the freight network and has considered it heavily in producing the Statewide Freight Plan. The majority of trucking operations servicing the oil and gas industry require overweight and oversized permits through TxDOT.

In December 2012 the Texas Department of Transportation *Task Force on Texas' Energy Sector Roadway Needs* presented its findings to the Texas Transportation Commission. In it they described the impact the Texas energy resources industry was having on the state. While on the one side the increased activity is having a positive economic impact as reflected in job growth and population increases, the increased overweight and oversized truck activity is negatively impacting the roads. These impacts were of great concern in rural areas where roads were not designed to carry such loads. The entire report can be found at http://ftp.dot.state.tx.us/pub/txdot-info/energy/final_report.pdf



Table 10.2 Drilling Productivity Report; Production by Region

Region	Oil production thousand barrels per day			Gas production million cubic feet/day		
	September	October	Change	September	October	Change
	2014	2014		2014	2014	
Bakken	1152	1179	27	1390	1418	28
Eagle Ford	1551	1582	31	6823	6920	97
Haynesville	56	56		6728	6757	29
Marcellus	51	52	1	15842	16064	222
Niobrara	356	362	6	4573	4624	51
Permian	1718	1757	39	5709	5776	67
Utica	40	43	3	1385	1462	77
Total	4924	5031	107	42450	43021	571

Source: U.S. Energy Information Administration

Well Production

That same report contained the results of a Texas A&M Transportation Institute (TTI) and University of Texas Center for Transportation Research project that estimated that the activities involved in bringing just one oil and gas well into production required 1184 loaded trucks. (Table 10.3)

Table 10.3 Loaded Trucks per Oil and Gas Well

Activity	Number of Loaded Trucks
Bring well into production	1184
Maintain production (each year)	up to 353
Refracturing (every 5 years)	997

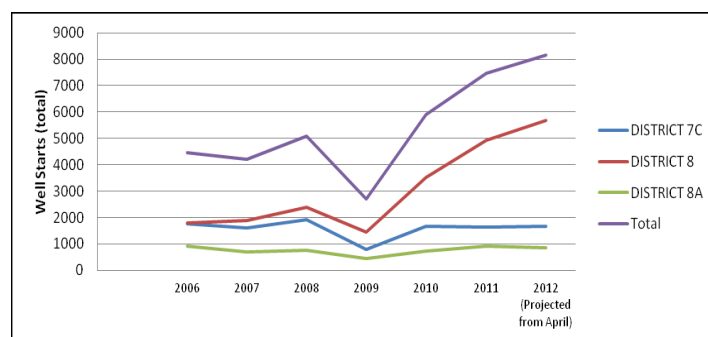
Source: Task Force on Texas' Energy Sector Roadway

Prior to the release of the Task Force report the La Entrada al Pacifico (LEAP) Rural Rail Transportation District commissioned an update of the Permian Basin Rail Connection Economic Financial Feasibility Study in August of 2012. It reported that the increase in oil and gas industry operations in the area had increased dramatically since 2009. The Permian Basin is composed of more than 7,000 Railroad Commission (RRC) fields, and is best represented in RRC production figures as RRC districts 7C, 08, and 8A Figure 10.4 shows the growth in well starts from 2006 to 2012 for districts 8 (Ector, Midland, Martin, and Andrews), 7C (Upton), and 8A (Dawson and Gaines County. It is a very resource intensive process to start and complete a well. Some of the materials that are used in the hydraulic fracturing process are water, pipe, chemicals cement, drilling mud and proppant (the technical term for hydraulic fracturing sand). The first step in the hydraulic fracturing process (horizontal well) is the construction of a drill site and delivery of a drilling rig, next is the vertical drilling, followed by the horizontal drilling approximately 6000 feet below the earth's surface. Once the target depth is reached production casing consisting of various sized steel pipe segments is lowered and cemented in place. Next, a



pathway is created between the well and shale formation by penetrating the steel pile cement and adjacent rock with a perforating gun. At this point the drilling equipment can be removed and completion equipment can be put in place. A temporary well head is constructed, connecting the wellbore to the fracturing equipment. A water-based fluid then transmits the pressure created by the fracturing pumps in order to fracture the shale formation. The fluid also transports the proppant used to hold the fractures open and release the natural gas into the wellbore and to the surface. Next is the installation of a well head and collection equipment. The final step is site clean-up and reclamation. Source: http://www.halliburton.com/public/projects/pubsdata/Hydraulic_Fracturing

Table 10.4 Growth in Well Starts 2006 – 2012



Source: Permian Basin Rail Connection Economic Financial Feasibility Study

Research undertaken for the Permian Basin Rail Feasibility Study Update indicates that for each new well site, there is demand for at least 23 railcars of inbound product per month of drilling mud, acid, cement, pipe, and proppant. Deeper inspection into one of these resources, proppant gives some indication of the multi modal activity at work in the energy sector and the source of another freight generator.

Transloading and Storage Facilities

A large amount of proppant is used in this process and the switch to horizontal drilling has increased demand dramatically. A single horizontal well typically uses between 3,000 and 10,000 tons of sand. Typically shipped to the region by rail car, a single rail car contains around 100 tons of fracturing sand. Proppant shipped into the region is unloaded and stored in storage facilities for trailers to then collect and transport to the well site. The location of these transloading and storage facilities impacts the cost of well production and the closer the storage facility is the well site the better for the bottom line.



Truck Stops

Another freight generator in the region is truck stops. The Midland Odessa area is a convenient stopping point for long-haul truck drivers as it is midway between the east-west freight corridor of El Paso and Dallas and midway between the north-south freight corridor of IH 20 corridor and shown in Map 10.6. Table 10.5 indicates the number of overnight parking spaces and high flow diesel pumps at these locations. Like every other area of the freight sector truck stops have seen an increased demand for goods and services over the past five



years. Truck stops provide professional drivers with fuel, meals, showers, CAT scales to weigh their trucks and overnight parking for rest. The impacts of the growth can be seen in the expansion at some of these facilities. Figure 10.1 shows the expansion at the Love’s Truck Stop at IH 20 and FM 2227 while Figure 10.2 shows the expansion at the Kent Kwik convenience store at SH 158 & FM 1788. The expansion at the Kent Kwik included the installation of high flow pumps which are not common for Kent Kwik convenience stores. And plats are currently under review in the Midland Planning Department for a new truck stop at the intersection of West Loop 250 and IH 20.

Table 10.5 Midland Odessa Truck Stop Details

ID	NAME	ADDRESS	DIESEL BAYS	PARKING SPOTS
1	Red X Truck Stop	5934 W Interstate 20	6	24
2	Stripes Convenience Store	1350 S. County Rd	4	20
3	Love's Travel Stop	1901 W Interstate 20	8	80
4	Flying J Travel Plaza	5900 E Interstate 20	11	21
5	Warfield Truck Stop	10400 IH 20	8	170
6	Pilot Travel Center	4015 S FM 1788	6	90
7	Stripes	2109 S Midkiff Rd	4	4
8	Exxon	2503 Rankin Hwy	6	30
9	Stripes Convenience Store	3200 E State Highway 158	7	27
10	Stripes Convenience Store	3201 E State Highway 158	4	0
11	Kent Kwik Convenience Stores	11400 W State Highway 158	5	27

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Map 10.6 Midland Odessa Truck Stops

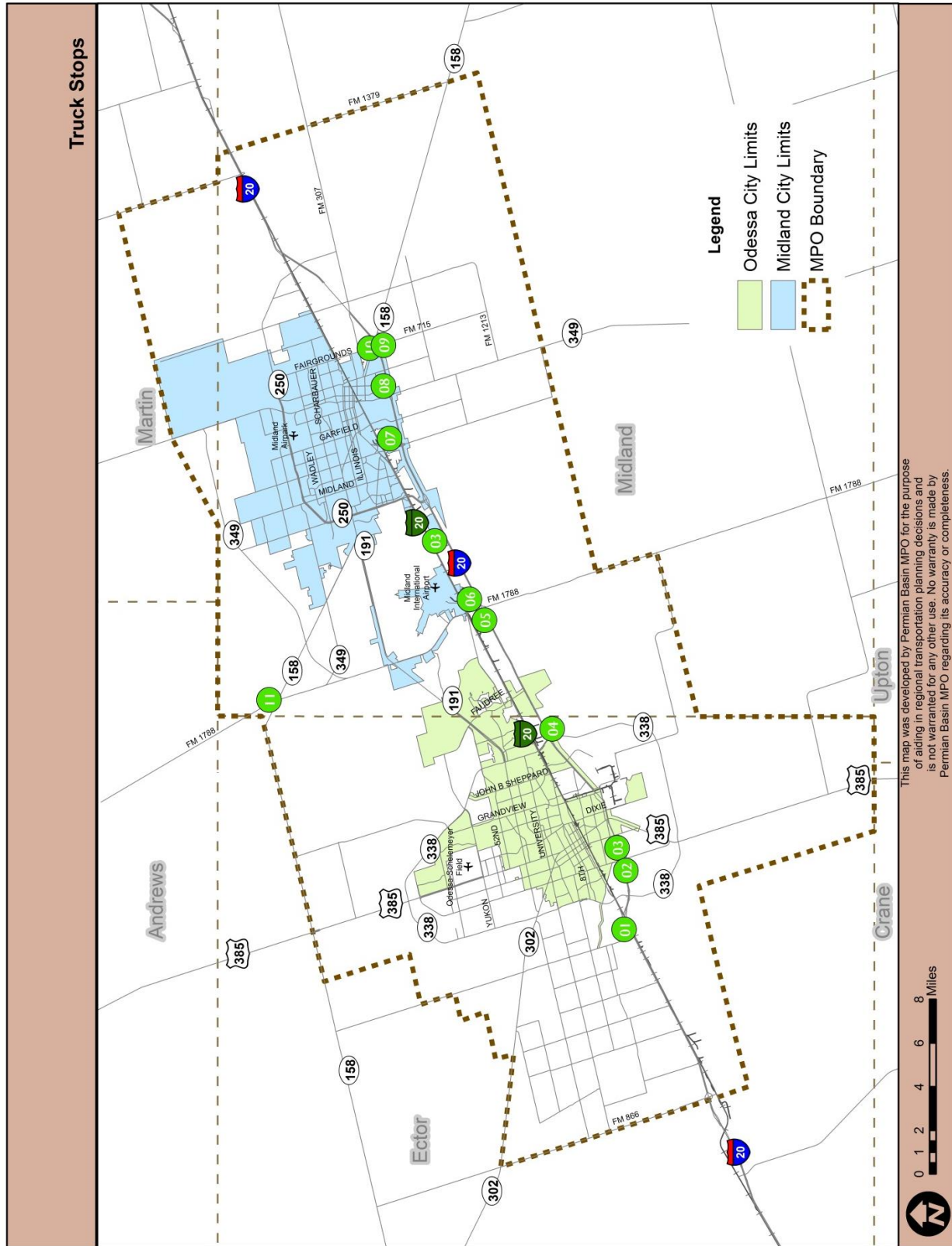




Figure 10.1 Love’s Truck Stop 2009 & 2014



Figure 10.2 Kent Kwik 2009 & 2014



Source: Google Maps and City of Odessa GIS Department

Source: Google Maps and City of Odessa GIS Department

Pipelines

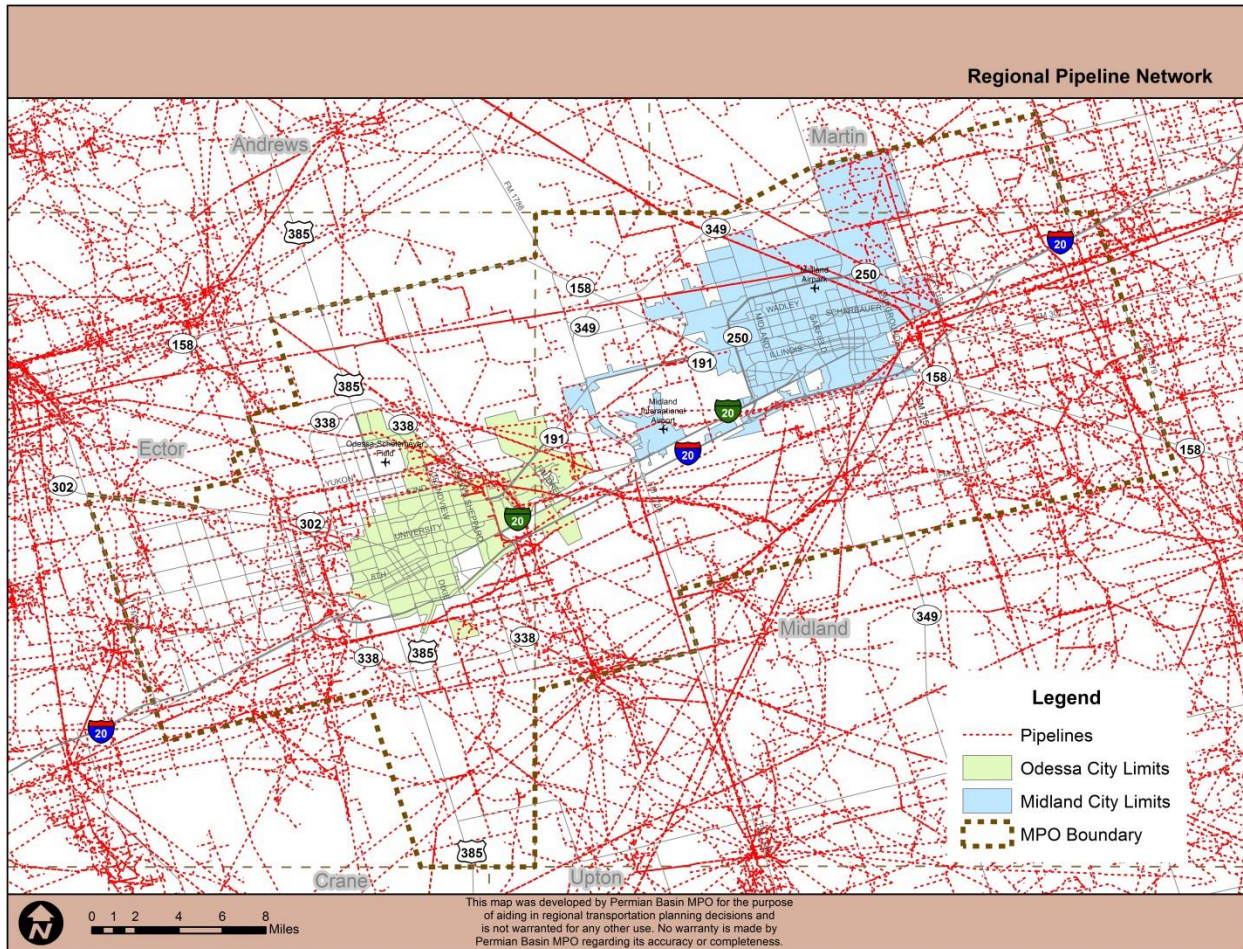
The extensive network of underground transmission lines for oil and natural gas resources has been utilized to its fullest during the past few years of increased oil production in the Permian Basin. The U.S. Energy Information Administration projects that the Permian Basin will reach 1.7 million barrels of daily crude production in September of 2014. The dense web of pipelines depicted in Map 10.7 does not meet the takeaway capacity required for the amount of oil that is currently being produced. With producers unable to get their products to buyers they’ve been forced to sell at a discount. The Odessa American reported a \$21 discount in mid-August. Added pipeline capacity is expected to come online in 2015 according to the Permian Basin Petroleum Association.

Crude by Rail

As noted earlier, the pipeline network is operating at capacity as output is exceeding available infrastructure to export it. The Association of American Railroads, the standard setting organization for North American Railroads, reports that rail has stepped in to move that increased output by rail. In their report *Moving Crude Oil by Rail*, released in July of 2014 they show that in 2008, U.S. Class I railroads originated 9,500 carloads of crude oil and in 2013, they originated 407,761 carloads. We do currently have the number of carloads of crude oil being transported from the Midland Odessa area.



Map 10.7 Regional Pipeline Network



Source: Texas Railroad Commission

In response to the increase in activity railroads have taken numerous steps to improve the safety of crude oil transportation and train first responders for the event of an accident involving rail transporting crude oil. The entire report can be viewed at <https://www.aar.org/keyissues/Documents/Background-Papers/Crude%20oil%20by%20rail.pdf>



CDL License Increase

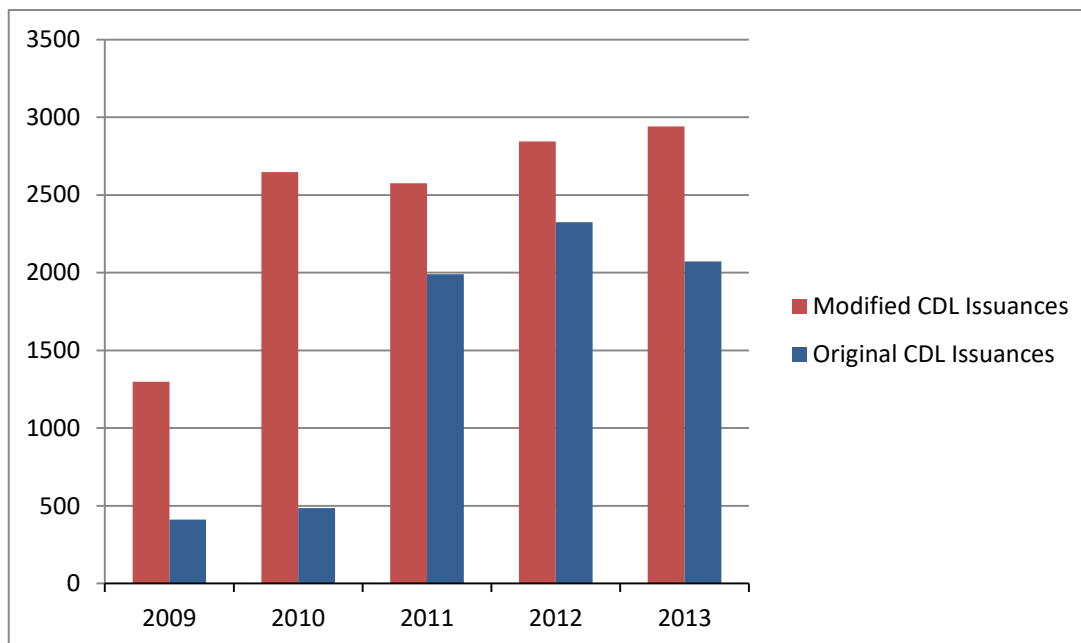
In order to view the economic impact of the freight industry from a different perspective, a review of commercial drivers' licenses (CDLs) issued in Midland and Ector Counties from 2009-2013 is very revealing. Dramatic increases in the number of new permits occurred in 2010-2013. Modified permits typically involve a license holder who adds a hazardous materials endorsement permit to an existing license or someone who changed addresses and modified the CDL by indicating a Midland or Ector County address. In either case, these new permits reflect the rapid growth of issued driving permits which is further reflected by the oil and gas freight and materials moving vehicles that are on the local roadway network.

Table 10.6 Commercial Driver's Licenses Obtained in Midland and Ector County 2009-2013

Year	Modified CDL Issuances	Original CDL Issuances
2009	1299	411
2010	2648	486
2011	2576	1990
2012	2845	2325
2013	2940	2072

Source: Texas Department of Public Safety

Figure 10.3 Commercial Driver's Licenses Obtained in Midland and Ector County 2009-2013



Source: Texas Department of Public Safety



Freight Transportation Challenges

It is difficult to determine how long the current level of activity and growth can be expected. Estimates of the expected growth and longevity of oil production in the area vary. Energy researchers at ITG Investment Research in Canada, forecast that the Permian Basin's oil production will grow to 2.5 million barrels per day by 2025. (Source: <http://www.star-telegram.com>). While BENTEK Energy, a leading energy markets information and analytics company, projects crude oil production in the Permian Basin will reach at least 1.8 million barrels per day by 2016, an increase of almost 60% from 2012 levels. (Source: <http://www.bentekenergy.com>).

A more thorough study of the goods movement system and inventory of freight resources in the Midland Odessa is necessary in order to provide a comprehensive Long-range plan. The information within this chapter is a good starting point should Permian Basin MPO partners and freight stakeholders decide a full scale regional freight plan is necessary.



Introduction

The project selection process fulfills several needs in the metropolitan planning process. In order to spend federal dollars on local transportation projects and programs, a metropolitan area must have an adopted Metropolitan Transportation Plan (MTP) and a Transportation Improvement Program (TIP). The MTP is a long-range plan, normally 20 to 25 years, which outlines the long-term goals for the region's transportation system. The TIP is a four-year document that lists construction projects and studies over a four-year period. The most recent TIP in the Permian Basin MPO covers FY 2017 - 2020. Fiscal constraint has been a key component of transportation planning and program development since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. For planning purposes, this means that the cost of projects selected for inclusion in the MTP's planning horizon must reasonably match the expected funding levels for that time period; furthermore, the cost of those projects included in the four-year TIP must not exceed projected funding available during the four-year period. Because of the limited resources available, a process was followed to evaluate and rank projects for the MTP.

Regional Project Selection Process

The initial step in the project selection process was the generation of a list of projects for screening and evaluation. Many projects were carried over from the 2010-2035 MTP while others were added as a result of stakeholder, community and Technical Advisory Committee (TAC) input. Currently funded projects in the previous plan as well as the *Vision 2040 Plan* are identified along with their funding source. Regionally significant projects potentially funded through outside sources are included in the project listings as well. A screening tool and a scoring sheet (see Appendix 11.1) created by the Permian Basin MPO staff with assistance from the TAC was used to screen and score the projects. Each of the listed projects, not including the grouped MPO projects by category, scored by a committee consisting of the TAC and the Permian Basin MPO staff. It was further determined by the TAC that it was imperative to complete the six priority corridors and to place related projects into the top tier of funding priorities. The priority corridors were IH 20, Loop 250, Loop 338, FM 1788, Business 20 from FM 1788 to Wall St., and SH 191 from Loop 338 to Loop 250. A few projects not located on these corridors were also placed on the priority list. During the development of *Vision 2040 Plan Amendment No. 4* the Policy Board directed the TAC to develop a comprehensive priority corridor map which developed into Map 11.2, the Regionally Significant Corridors Map. This map effectively identifies the different types of regional corridors ranging from interstate to emerging regional corridors.

Once the top priority projects were identified according to the procedures described above, they were placed into the financially constrained component of the MTP based on the projected funding levels for the MTP planning horizon, project's score, and project's implementation timeline (readiness). Once reasonable fiscal constraint for the MTP planning horizon was reached,

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projects were placed in the unfunded priority section of the MTP. The process of moving a project forward to the TIP is a cooperative process between Permian Basin MPO and the TxDOT Odessa District.

During TIP updates, projects will be moved from the financially constrained component of the MTP to the TIP. As the MTP planning horizon is revised or when new information is available on projected funding levels, a reevaluation of MTP projects will be required.

2040 Plan Amendments No. 2 and 3 were completed to indicate revised funding availability through Proposition 1 and again with Proposition 7 in November 2015. The project list was revised to coincide with the amended financial forecast.

Vision 2040 Plan Amendment No. 4 began in the spring of 2017 with the announcement of new Category 4 (Urban) Statewide Connectivity Corridor funds being made available for use within

MPO boundaries, and in anticipation of the development of the new 10-year state-wide UTP. The Policy Board directed the TAC to revisit the list of fiscally constrained projects. A revised scoring criteria was developed (See Appendix 11.1) along with the Regionally Significant Corridor map.

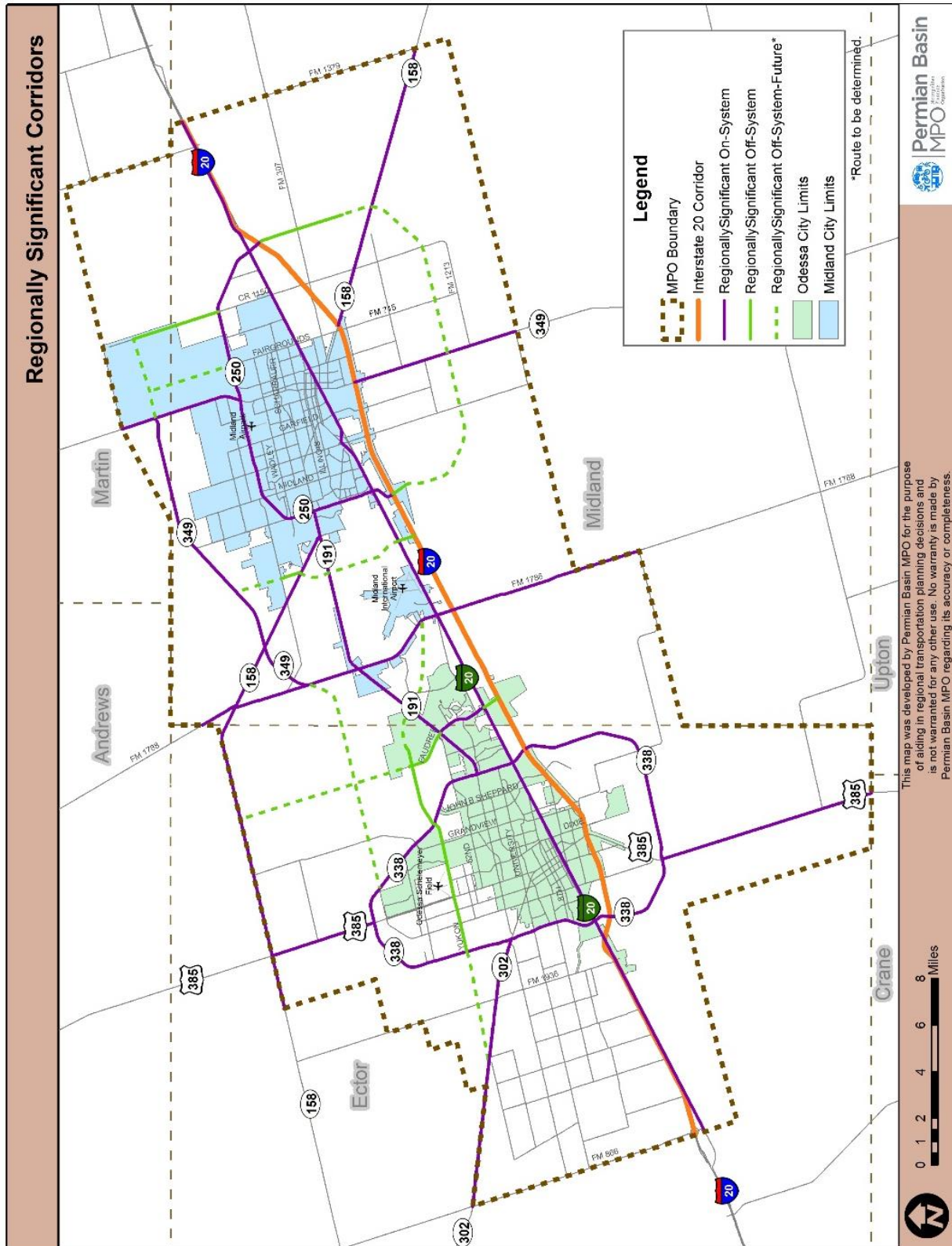
This process reflected a balance of community needs and stakeholder commitments including the financial commitments from both the Midland and Odessa development corporations resulting in an amended project list for Policy Board consideration. Additional projects introduced during Amendment No. 4 include Regional Traffic Synchronization and Railroad Intersection Improvements.

During this plan amendment process, consultants had just concluded the Northeast Midland Feasibility study which was co-funded by the City of Midland and the MPO. The focus was on the need for additional north-south and east-west corridors in the growing area of northeast Midland, Midland and Martin Counties. The final documents identified a potential network to address connectivity in the area. These corridors are shown on Map 11-1 as potential future corridors.

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Map 11.1 Regionally Significant Corridors





Project Cost Estimates

In order to indicate that the listed projects proposed within the plan are fiscally constrained in accordance with federal regulations, it was important to establish reasonable cost estimates for all of the projects. For the purpose of the plan, the TxDOT rate of inflation of 4% per year for project construction is utilized. For multi-year projects, the Year of Expenditure (YOE) is factored into the total cost with the same 4% inflation rate.

Project Type Descriptions

The following explanations were adapted from the Roadway Design Manual which was developed by TxDOT to provide guidance in the design of public roadway facilities. These details are included here to provide a basic description of the various projects included in this chapter. (<http://onlinemanuals.txdot.gov/txdotmanuals/rdw/rdw.pdf>)

Construct new interchange

Construct an interconnecting roadway in conjunction with one or more grade separations that provides for the movement of traffic between two or more roadways or highways on different levels.

Reconfigure interchange

Interchange reconfiguration is considered to be a change in access even though the number of actual points of access may not change; for example, replacing one of the direct ramps of a diamond interchange with a loop, or changing a cloverleaf interchange into a fully directional interchange is considered as revised access.

Upgrade to standards non-freeway

Upgrading of a non-freeway facility to current geometric standards including base or pavement support enhancements.

Widen non-freeway

Added capacity widening of an existing non-freeway facility, and addition of travel lanes.

Construct new location non-freeway

A non-freeway facility at a new location.

Improve mobility and add capacity

Improve mobility conditions that will allow an increase in the number of vehicles that can traverse a point or section of roadway during a set time period under prevailing roadway, traffic, and control conditions.

CHAPTER 11 - INVESTMENT STRATEGY AND PROJECT SELECTION



Reconstruct interchange

Work proposed on the approximate alignment of an existing route that meets the geometric criteria for a new facility. Reconstruction includes widening to include additional through lanes, horizontal or vertical realignment, etc.

Rehabilitation

Reshaping and/or addition of existing base courses, including resurfacing within existing ROW. This includes minor safety upgrading, such as widening culverts and installing guard fences.

Project List

The project lists below contain transportation improvements as identified by Permian Basin MPO Policy Board, the TAC, staff, stakeholders and the public who attended public hearings and workshops during the development of the MTP and amendments. As stated in previous chapters, numerous opportunities for public and stakeholder input were offered during the preparation of the plan. The transportation improvements contained in this Chapter are intended to meet the immediate and anticipated needs within the 25-year time frame of the MTP and are subject to amendment(s) by the MPO Policy Board. The projects are divided into five categories:

- Funded
 - FY 2017 - 2020 Transportation Improvement Plan (TIP)
 - County Energy Transportation Reinvestment Zone (CETRZ)
 - Regionally Significant Funded Projects
- Fiscally Constrained Priority Projects
- Unfunded Projects
- Funded Transit
- Sample Grouped MPO Projects

CHAPTER 11 - INVESTMENT STRATEGY AND PROJECT SELECTION



Some categories are broken down further and in the example of Grouped MPO Projects by Category listings there are sample or typical projects indicated that may be completed under the grouped category authority without the need to amend the MTP.

Funded Projects

FY 2017-2020 TIP

The TIP is a short-range planning document that describes construction projects and other work that will have significant impact on the transportation system over the four-year TIP time frame. These projects conform to the MTP and Table 11.1 contains TIP project details.

Table 11.1 FY 2017 - 2020 TIP Projects

County	Location	Limits	Project Description	MPO-ID	Total Project Cost	Funding Source
Midland	Loop 250	At Fairgrounds Rd	Construct new Interchange	RC-03a* (CI-120)	\$13,646,000	Category 2U Metropolitan Area/CAT 11
Ector	JBS Pkwy	At FM 3503	Realign existing roadway on new location	RC-02a* (CI-110)	\$2,600,000	Category 2U Metropolitan Area

CHAPTER 11 - INVESTMENT STRATEGY AND PROJECT SELECTION



County Energy Transportation Reinvestment Zone (CETRZ)

A CETRZ is a specific contiguous zone around a planned transportation project that is established as a method to facilitate capture of the property tax increment arising from the increased valuation of adjacent properties with collected revenues being applied to the funding of the planned project. Senate Bill 1747 (2013) authorized this type of financing for counties to assist with transportation projects in areas affected by oil and gas exploration and production facilities. A new CETRZ is designated and created by a commissioner's court but must follow procedures laid out in state law. Table 11.2 contains the CETRZ projects in Midland and Ector County.

Table 11.2 FY 2015 - CETRZ Projects in Midland and Ector County

County	Location	Limits	Project Description	MPO-ID	Total Project Cost	Funding Source
Ector	Moss Ave.	University S. to I-20	Widen non-freeway	EC01	\$2,574,155	Transportation Infrastructure Fund Grant
Ector	W. 16th St.	Moss to Knox	Widen non-freeway	EC02	\$538,479	Transportation Infrastructure Fund Grant
Ector	W. 42nd St.	SH 302 to Knox	Widen non-freeway	EC03 RC-22a* (CI-527)	\$2,592,138	Transportation Infrastructure Fund Grant
Ector	Knox	3rd St. to 57th St.	Widen non-freeway	EC04	\$259,138	Transportation Infrastructure Fund Grant
Midland	IH 20	W. Loop 250 to FM 1788	Miscellaneous construction: construct entry/exit ramps	MC02	\$1,344,050	Transportation Infrastructure Fund Grant
Midland	CR 1230	S. Loop 250 to WCR 140 w/ exts. To CR 120 and CR 140	Construct new location non-freeway; Rehabilitation of existing portion of CR 140	MC01	\$6,109,177	Transportation Infrastructure Fund Grant

CHAPTER 11 - INVESTMENT STRATEGY AND PROJECT SELECTION



Regionally Significant Funded Projects

The TxDOT Odessa District is one of 25 districts statewide which oversees the construction and maintenance of state highways. The Odessa District plans, designs, builds, operates and maintains the state transportation system within 12 counties including Ector, Midland and Martin County. As a partner in the transportation planning process they assist in the coordination of projects and work diligently to invest in the maintenance and development of the system within the Permian Basin MAB. The table below illustrates only some of the larger investments being made by the state and others in the network.

Table 11.3 Regionally Significant Funded Projects

County	Location	Limits	Project Description	MPO-ID	Total Project Cost	Funding Source
Midland	South Mobility Corridor	From IH 20 to SH 349	Feasibility study	RC-91	\$900,000	State
Ector	Loop 338	Cargo Rd to Trunk St	Convert Frontage Rds from 2-way to 1-way	RC-119	\$2,500,000	State & Developer
Ector	SH 191	Midland C/L to Loop 338	Perform PE work for freeway improvements	RC-97	\$501,822	State
Midland	SH 191	Ector C/L to SH 349	Perform PE work for freeway improvements	RC-98	\$501,821	State
Ector	IH 20	At Loop 338 eastern jct.	Reconstruct interchange	RC-37*	\$13,640,000	State
Ector	IH 20	At W County Rd	Reconstruct interchange	RC-31*	\$14,080,000	State
Ector/ Midland	IH 20	Within the Metropolitan Area Boundary	Study to modernize corridor	—	\$5,000,000	State
Ector/ Midland	N/A	Within the Metropolitan Area Boundary	Travel Demand Model	—	\$500,000	State
Midland	Briarwood	Avalon to Holiday Hill	Widen non-freeway	RC-121	\$5,500,000	City of Midland
Midland	Beal Parkway	Anetta to Thomason	Construct new location non-freeway	RC-125	\$2,000,000	City of Midland
Ector	University Blvd	Grandview to US 385	Road Improvements	—	\$11,000,000	City of Odessa

CHAPTER 11 - INVESTMENT STRATEGY AND PROJECT SELECTION



Fiscally Constrained Priority Projects

As stated earlier, through public comment, multiple workshops and stakeholder meetings as well as in-depth discussions with the Permian Basin MPO Policy Board and TAC, a list of top priority projects was derived during the 25-year plan; these projects should improve conditions along the priority corridors that the above group believes to be the most important facilities within the region. This chapter indicates the high priority projects and Chapter 12 provides a reasonable estimate and explanation of funding. Note that most of the projects will be associated with the regionally significant corridors (see Map 11.2) with the exception of the approved CETRZ projects.

The fiscally constrained project list contains projects eligible for federal funding that may be further planned and eventually moved into the State Unified Transportation Plan (UTP) which has a ten-year horizon. The UTP lists all projects in the state that have development authority to commence design specifications, address right-of-way needs and environmental issues. Once placed in the ten-year UTP, a project is eligible to be placed in the State's Transportation Improvement Program (STIP) where authority is given for construction. The STIP contains each individual MPO Transportation Improvement Program (TIP) from across the state. The above project development scenario does not preclude a project from being moved into the UTP and placed into the Permian Basin MPO TIP in a faster manner; all project scheduling and construction timing are dependent on funding availability. When considering the list of projects contained in the plan the Permian Basin MPO Technical Advisory Committee and the Policy Board considered the MAP-21 and FAST Act planning factors and national performance goals listed in Chapter 2. In addition, the Permian Basin MPO is in compliance with the State of Texas House Bill 20 which requires that projects are selected using a list of established criteria including safety, mobility, environmental and economic considerations among others. For the purpose of the MTP Amendment No. 4, the planning period of 2018-2027 was utilized, along with the projected funding sources in Chapter 12.

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Table 11.4 Fiscally Constrained 10-year Priority Projects – FY 2018 - 2027

Sponsor	MPO-ID	Location	Limits	Length (miles)	Project Description	Target Year	Total Project Cost	Corridor Type
Ector	RC-21* (CI-119)	Loop 338	At US 385 N	1	Construct new interchange	2018	\$17,700,000	On- System
Midland	RC-59*	IH 20	Lamesa Rd to FM 715	1	Ramp Reversals	2018	\$4,500,000	IH 20
Midland	RC-50b* int3 (CI-539)	IH 20	At CR 1250	1	Construct new interchange	2019	\$19,840,000	IH 21
Midland	RC-19* (CI-908)	Loop 250	At CR 1150/CR 60	1	Construct new interchange	2019	\$21,500,000	On- System
Ector	RC-10* int (CI-118)	Loop 338 N	At Yukon Rd	1	Construct new interchange	2020	\$19,200,000	On- System
Midland	RC-86 a	Loop 250	At SH 191	1	Ramp Reconfiguration	2021	\$10,000,000	On- System
Midland	RC-04*	IH 20	At Midkiff Rd	1	Reconfigure interchange	2021	\$25,520,000	IH 20
Ector	RC-42d	SH 191	At Yukon Rd	1	Construct new interchange	2021	\$18,560,000	On- System
Midland	RC-20* (CI-908)	Loop 250	At CR 1140	1	Construct new interchange	2022	\$19,200,000	On- System
Ector/ Midland	RC-15b* (CI-520)	IH 20	At Faudree	1	Construct new interchange	2022	\$19,200,000	IH 20
Ector	RC-13* int a (CI-118)	Loop 338 N	At 52nd/56th	1	Signal improvements	2022	\$4,800,000	On- System
Midland	RC-114	Wadley Ave. ext	W of Loop 250 to SH 158	1	Construct new location non-freeway & Improve Jal Draw	2023	\$12,420,000	Off-System
Ector	RC-40a* int a (CI-510)	Loop 338 N	At W. Yukon Rd	1	Signal improvements	2023	\$2,480,000	Off-System
Ector	RC-133	Faudree Rd	SH 191 to Yukon Rd	1.8	Construct as 5 Lane Arterial	2024	\$5,120,000	On- System
Midland	RC-124	Mockingbird	Holiday Hill to Midland Dr	1	Construct new location non-freeway	2024	\$5,120,000	Off-System
Ector	RC-09* (CI-114)	Loop 338	At US 385 S	1	Construct new interchange and convert 1.0 mi of US 385 to freeway	2024	\$22,120,000	On- System
Ector	RC-36a* (CI-901)	IH 20	JBS Pkwy to FM 1788	7	Improve mobility and add capacity	2025	\$3,000,000	IH 20
Midland	RC-95	IH 20	FM 1788 to Loop 250 western jct.	5	Improve mobility and add capacity	2025	\$3,000,000	IH 20
Ector/ Midland	RC-15a* (CI-520)	BI 20	At Faudree	1	Construct new interchange	2025	\$21,120,000	On- System
Ector	RC-131	Loop 338 W	At W. 8th St.	1	Construct new interchange	2026	\$21,760,000	On- System
Midland	RC-52*	FM 1788	SH 191 to IH 20	5	Upgrade to standards non-freeway	2027	\$8,400,000	On- System
TxDOT	RE-20	MPO Boundary	-		Regional Synchronization Program	2027	\$3,000,000	-
TxDOT	RR-001	Various locations	-		Six Union Pacific Railroad Intersections	2027	\$3,000,000	-
Total							\$290,560,000	

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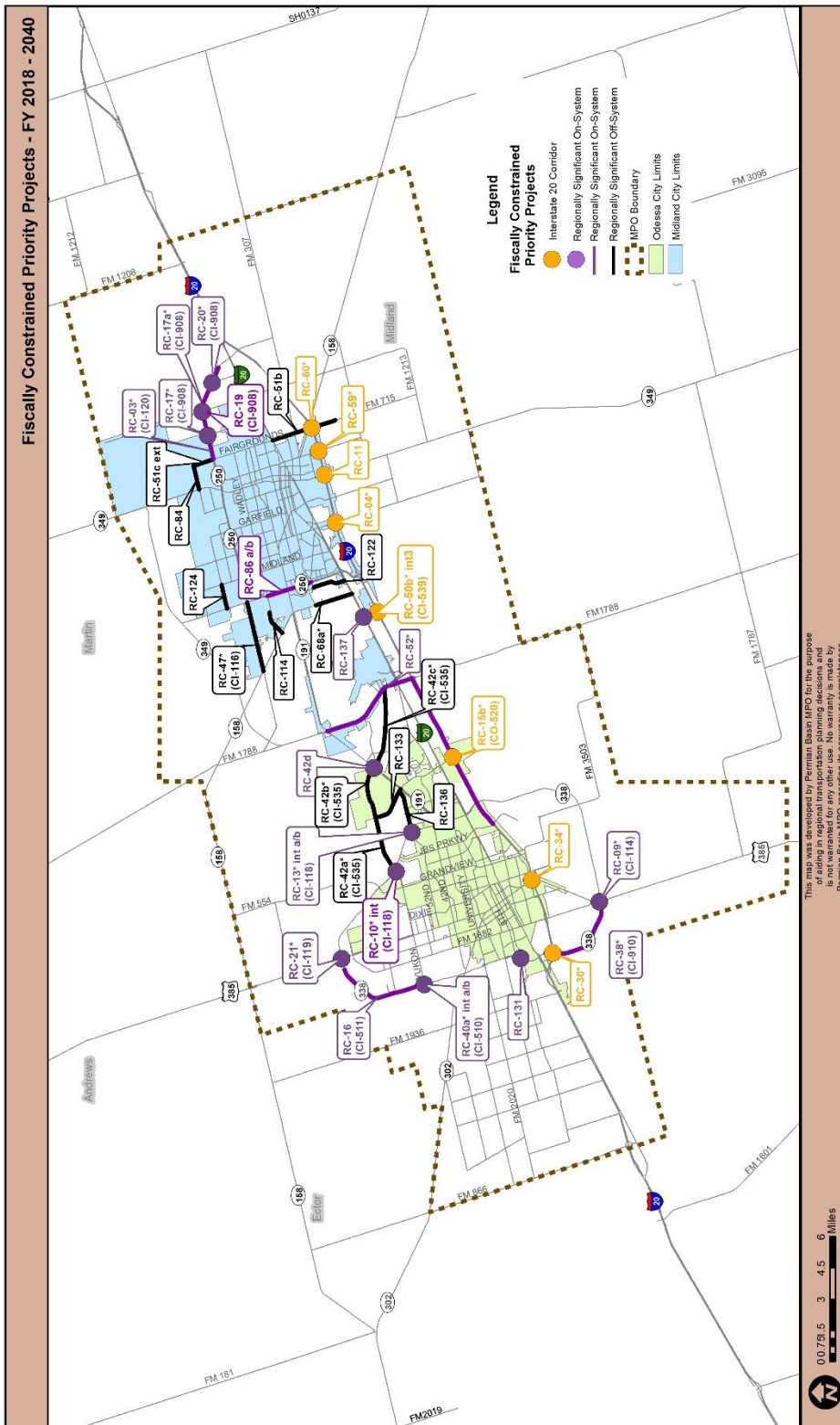
Table 11.5 Fiscally Constrained Priority Projects - FY 2028 – 2040

Sponsor	MPO-ID	Location	Limits	Length (miles)	Project Description	Target Year	Total Project Cost
Midland	RC-03* (CI-120)	Loop 250	Fairgrounds Rd to Todd Rd	1	Convert non-freeway to freeway	2028	\$2,880,000
Midland	RC-17a* (CI-908)	Loop 250	Todd Rd to CR 1135	3	Convert non-freeway to freeway	2028	\$8,640,000
Ector	RC-42a* (CI-535)	Yukon Rd	E. Loop 338 to Faudree	2	Widen non-freeway	2028	\$4,320,000
Ector	RC-42b* (CI-535)	Yukon Rd	Faudree Rd to SH 191	2	Construct new location non-freeway	2029	\$2,960,000
Midland	RC-122	Tradewinds	Thomason to BI 20	2.4	Construct new location non-freeway	2029	\$7,400,000
Midland	RC-60*	IH 20	At Fairgrounds/SH 158	1	Reconstruct interchange	2030	\$16,720,000
Midland	RC-51c ext	Fairgrounds Rd ext	Loop 250 to Mockingbird	1	Construct new location non-freeway	2030	\$6,080,000
Midland	RC-47* (CI-116)	CR 60	SH 158 to Holiday Hill Rd	2.9	Construct new location non-freeway	2031	\$18,720,000
Midland	RC-42c* (CI-535)	Yukon Rd	SH 191 to FM 1788 (@ Loop 40 south jct.)	3.6	Construct new location non-freeway	2031	\$5,610,000
Ector	RC-136	56th St.	Loop 338 E to Faudree	1.8	Reconstruct as 5 Lane Arterial - Backage Rd.	2031	\$3,120,000
Ector	RC-38* (CI-910)	Loop 338	IH 20 western jct. to US 385	3.7	Convert non-freeway to freeway	2032	\$11,840,000
Ector	RC-30*	IH 20	At Loop 338 western jct.	1	Reconstruct interchange	2033	\$32,800,000
Midland	RC-17* (CI-908)	Loop 250	At Todd Rd	1	Construct new interchange	2033	\$26,240,000
Midland	RC-137	BI 20	At CR 1250	1	Reconfigure offset at railroad track	2034	\$2,520,000
Midland	RC-84	Mockingbird ext.	SH 349 to Fairgrounds Rd.	1	Construct new location non-freeway	2034	\$3,360,000
Midland	RC-68a*	Avalon Dr. ext.	Thomason ext. to BI 20	1.5	Construct new location non-freeway	2034	\$5,040,000
Ector	RC-16 (CI-511)	Loop 338 -	Yukon Rd to 0.5 mi. W. of US 385	4.4	Convert non-freeway to freeway	2035	\$15,136,000
Midland	RC-51b	Fairgrounds Rd.	BI 20 to FM 715	3	Widen non-freeway	2036	\$7,920,000
Midland	RC-11	IH 20	At SH 349 (Rankin Hwy.)	1	Reconstruct interchange	2037	\$19,800,000
Ector	RC-13* int b (CI-118)	Loop 338 N	At 52nd/56th	1	Construct new interchange	2037	\$25,200,000
Ector	RC-40a* int b (CI-510)	Loop 338 N	At W. Yukon Rd	1	Construct new interchange	2038	\$25,760,000
Midland	RC-86 b	Loop 250	Thomason to Wadley	2.2	add direct connectors at SH 191	2040	\$12,020,000
Ector	RC-34*	IH 20	At US 385	1	Reconstruct interchange	2040	\$21,120,000
						Total	\$285,206,000

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MAP 11.3 Fiscally Constrained Priority Project



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Unfunded Projects

Projects that are listed as unfunded are not required to be fiscally constrained. Any unfunded project may be added to the fiscally constrained priority project list subject to available funding and Policy Board approval. The unfunded priority list was generated by the TAC, stakeholders and during the public workshops held in 2013.

Table 11.6 Unfunded Priority Projects

County	MPO-ID	Location	Limits	Length (miles)	Project Description	Total Project Cost
Ector	EC-06*	Preston Smith Rd. ext	North of SH 191 to Loop 338	1.5	Construct new location non-freeway	\$1,500,000
Ector	EC-08	50th St. ext	JBS Pkwy to Preston Smith ext.	0.5	Construct new location non-freeway	\$500,000
Ector	EC-09	60th	JBS Pkwy to W. of Loop 338	0.9	Construct new location non-freeway	\$900,000
Midland	MC-01 ext	Antelope Trail	I-20 to CR 140 & CR 140 to SH 349	6	Construct new location non-freeway	\$24,000,000
Midland	RC-08*	SH 349 (reliever rt)	At FM 1788/CR 60	1	Construct new interchange	\$16,000,000
Ector	RC-10* (CI-118)	Loop 338	Yukon to 52nd St.	2	Convert non-freeway to freeway	\$4,000,000
Ector	RC-13* (CI-118)	Loop 338	52nd St. to SH 191	1	Convert non-freeway to freeway	\$2,200,000
Midland	RC-14*	Loop 250	At BI 20	1	Reconstruct interchange	\$11,000,000
Ector	RC-18* (CI-909)	Loop 338	SH 191 eastern jct. to IH 20 eastern jct.	2	Convert non-freeway to freeway	\$4,000,000
Ector	RC-23a*	CR 60 extn.	Faudree Rd extn. to FM 1788	2.2	Construct new location non-freeway	\$2,200,000
Ector	RC-23b*	CR 60 extn.	Loop 338 to CR 60 extn. (E06)	3.5	Construct new location non-freeway	\$3,500,000
Ector	RC-25a* (CI-536)	Faudree Rd ext.	SH 158 to CR 40	2.2	Construct new location non-freeway	\$2,200,000
Ector	RC-25b* (CI-536)	Faudree Rd ext.	CR 40 to CR 60	2.5	Construct new location non-freeway	\$5,500,000
Ector	RC-25c* (CI-536)	Faudree Rd. ext.	CR 60 to Yukon Rd	3	Construct new location non-freeway	\$1,750,000
Ector	RC-26* (CI-505)	FM 1936	SH 302 to 42nd St	1.2	Widen non-freeway	\$1,800,000
Ector	RC-27* (CI-905)	IH 20	FM 1936 to Loop 338 western jct.	1.8	Improve mobility and add capacity	\$8,100,000
Ector	RC-28* (CI-503)	IH 20	At FM 1936	1	Reconstruct interchange	\$11,000,000
Ector	RC-29* (CI-901)	IH 20	Loop 338 western jct. to US 385	3.2	Improve mobility and add capacity	\$14,400,000
Ector	RC-32*	IH 20	At S. Crane	1	Reconstruct interchange	\$11,000,000
Ector	RC-33* (CI-901)	IH 20	US 385 to JBS Pkwy	3	Improve mobility and add capacity	\$13,500,000
Ector	RC-35*	IH 20	At FM 3503	1	Reconstruct interchange	\$11,000,000
Ector	RC-37	IH 20	at Loop 338 E	1	Reconstruct Interchange	\$20,000,000
Ector	RC-39a* (CI-903)	Loop 338	IH 20 to SH 302	4.6	Convert non-freeway to freeway	\$9,200,000
Ector	RC-40a* (CI-510)	Loop 338	Yukon Rd to SH 302	2	Convert non-freeway to freeway	\$4,000,000
Ector	RC-44* (CI-541)	Yukon Rd	SH 302 to W. Loop 338 western jct.	4.1	Construct new location non-freeway	\$4,100,000
Midland	RC-46* (CI-504)	CR 60	FM 1788 to SH 158	3.2	Construct new location non-freeway	\$3,200,000

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Table 11.6 (cont.) Unfunded Priority Projects

County	MPO-ID	Location	Limits	Length (miles)	Project Description	Total Project Cost
Midland	RC-48* (CI-502)	CR 1130	IH 20 to FM 307	1.8	Upgrade to standards non-freeway	\$2,700,000
Midland	RC-49* int (CI-534)	CR 1250	At SH 158	1	Construct new interchange	\$16,000,000
Midland	RC-49a ext.	CR 1250	SH 349 to SH 158	1	Construct new location non-freeway	\$1,000,000
Midland	RC-49a int (CI-534)	CR 1250	At SH 349	1	Construct new interchange	\$16,000,000
Midland	RC-50a* (CI-539)	CR 1250	SH 191 to BI 20	2.5	Construct new location non-freeway	\$2,500,000
Midland	RC-50a* int1 (CI-539)	CR 1250	At SH 191	1	Construct new interchange	\$16,000,000
Midland	RC-50a* int2 (CI-539)	BI 20	At CR 1250	1	Construct new interchange	\$16,000,000
Midland	RC-50b* (CI-539)	CR 1250	BI 20 to IH 20	1	Upgrade to standards non-freeway	\$3,000,000
Midland	RC-51c ext	Fairgrounds Rd ext	Loop 250 to Mockingbird	1	Construct new location non-freeway	\$4,000,000
Midland	RC-51d ext	Fairgrounds Rd ext	Mockingbird to SH 349 ext	2.7	Construct new location non-freeway	\$2,700,000
Midland	RC-54*	Garfield St	Green Tree Blvd. to SH 349 reliever route	1.8	Construct new location non-freeway	\$1,800,000
Ector	RC-71	SH 158	Grandview to US 385	2.5	Widen non-freeway	\$7,500,000
Ector	RC-72	Loop 338 S	US 385 to FM 3503	4.1	Widen non-freeway	\$12,300,000
Ector	RC-73	Loop 338 S	At FM 3503	1	Construct new interchange	\$16,000,000
Midland	RC-74	Annetta Ave ext	Loop 250 to Avalon ext	1	Construct new location non-freeway	\$1,000,000
Midland	RC-75	Annetta Ave ext	Avalon ext to BI 20	2	Construct new location non-freeway	\$2,000,000
Ector	RC-76	Loop 338 N	At 100th St	1	Construct new interchange	\$16,000,000
Ector	RC-77	US 385 (Andrews Hwy)	at 87th St.	1	Construct Lighted Intersection - Close Frontage Roads to 87th and	\$500,000
Midland	RC-79	BS 349	Mockingbird to SH 349	2.5	Widen non-freeway	\$7,500,000
Ector	RC-78	Loop 338 N	At FM 554/Grandview	1	Construct new interchange	\$16,000,000
Midland	RC-81	Fairgrounds Rd	At SH 349	1	Construct new interchange	\$16,000,000
Midland	RC-83	Garfield St	Mockingbird to Green Tree Blvd	1.3	Construct new location non-freeway	\$1,300,000
Midland	RC-87	IH 20	At Park Rd (CR 1300)	1	Construct new interchange	\$19,000,000
Midland	RC-88	IH 20	At E Airport Rd (CR 1260)	1	Construct new overpass	\$16,000,000
Midland	RC-93	SH 158	SH 191 to SH 349	5	Widen non-freeway	\$15,000,000
Midland	RC-94	SH 158	SH 349 to FM 1788	3	Widen non-freeway	\$9,000,000
Midland	RC-96	IH 20	W. Loop 250 western jct. to SH 158	6.5	Improve mobility and add capacity	\$29,250,000
Midland	RC-99	SH 349 (FM 1788)	At S Loop 40/Yukon Rd. Ext.	1	Intersection improvements	\$11,000,000
Midland	RC-102	SH 349	FM 1788/CR 60 to SH 158	2.2	Convert non-freeway to freeway	\$4,400,000
Midland	RC-103	SH 349	SH 158 to Holiday Hill Rd	4.5	Convert non-freeway to freeway	\$9,000,000
Midland	RC-104	SH 349	Holiday Hill Rd to Garfield Rd	2.9	Convert non-freeway to freeway	\$5,800,000

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Table 11.6 (cont.) Unfunded Priority Projects

County	MPO-ID	Location	Limits	Length (miles)	Project Description	Total Project Cost
Midland	RC-105	SH 349	Garfield Rd to BS 349	2.1	Convert non-freeway to freeway	\$4,200,000
Midland	RC-106	SH 349	At SH 158	1	Construct new interchange	\$16,000,000
Midland	RC-107	SH 349	At Holiday Hill	1	Construct new interchange	\$16,000,000
Midland	RC-108	SH 349	At Garfield Rd	1	Construct new interchange	\$16,000,000
Midland	RC-100	SH 349 (FM 1788)	At SH 191	1.5	Reconfigure interchange	\$22,000,000
Midland	RC-110	Thomason ext.	Loop 250 to CR 1250	2	Construct new location non-freeway	\$2,000,000
Midland	RC-111	Todd Rd.	BI 20 to Golf Course Rd.	1.5	Widen non-freeway	\$2,250,000
Midland	RC-112	Todd Rd.	Golf Course Rd. to Loop 250	3.5	Widen non-freeway	\$5,250,000
Midland	RC-113	Todd Rd. ext	Loop 250 to Mockingbird	1	Construct new location non-freeway	\$1,000,000
Midland	RC-115	Wadley Ave. ext	W of SH 158 to CR 1250 ext	1	Construct new location non-freeway	\$1,000,000
Midland	RC-116	IH 20	SH 158 to BI 20	6	Improve mobility and add capacity	\$5,500,000
Ector	RC-117	Loop 338 N	At Wireline Rd (CR 1157)	1	Construct new interchange	\$16,000,000
Midland	RC-118	SH 191	At Unnamed Rd. west of FM 1788	1	Construct new interchange	\$16,000,000
Midland	RC-120	SH 349	BS 349 to Fairgrounds Road ext	1	Construct new location non-freeway	\$2,000,000
Midland	RC-120b	SH 349	Fairground Rd ext. to CR 1150/Elkins Rd	2	Construct new location non-freeway	\$4,000,000
Midland	RC-120c	SH 349	CR 1150/Elkins Rd to CR 1208	10	Construct new location non-freeway	\$20,000,000
Midland	RC-123	Market Street	Extend to IH 20	1.2	Construct new location non-freeway	\$800,000
Midland	RC-126	SH 349	At BS 349	1	Construct New Interchange	\$16,000,000
Midland/Martin	RC-127	CR 1150/Elkins Rd.	Loop 250 to SH 349 ext.	3.8	Improve mobility and add capacity	\$3,800,000
Ector	RC-128	Loop 338 E	at JBS Parkway	1	Construct new interchange	\$16,000,000
Ector	RC-129	US 385 (Grant Ave.)	2nd St. to 10th St.	0.6	Rebuild as Pedestrian Friendly Corridor	\$6,000,000
Ector	RC-130	US 385 (Grant Ave.)	2nd St. to IH 20	0.6	Streetscape and Pedestrian Improvements	\$4,000,000
Ector	RC-132	Loop 338 W	SH 302 / 42nd St.	1	Reconstruct Interchange	\$20,000,000
Ector	RC-134	Loop 338 NE	Yukon Rd. East Interchange to US 385 N	4.8	Convert non-freeway to freeway	\$8,000,000
Ector	RC-135	Loop 338 E	at SH 191	1	Reconstruct Interchange	\$20,000,000
Ector	RC-138	IH 20	At FM 1208	1	Construct Ramps	\$5,000,000
Ector	RC-139	US 385 (Andrews Hwy)	at 100th St.	1	Construct Lighted Intersection - Close Frontage Roads to 87th and	\$500,000
Ector	RC-140	US 385 (Andrews Hwy)	at 91st St.	1	Construct Lighted Intersection - Close Frontage Roads to 87th and	\$500,000
Ector	RC-141	Loop 338 SE	FM 3503 to IH 20 eastern jct.	5	Convert non-freeway to freeway	\$6,000,000
Ector	RC-143	Dawn Ave.	87th St. to Yukon Rd.	1.8	Reconstruct as 5 Lane Arterial with Signalized Intersections at Yukon	\$2,000,000
Ector	RC-144	Dawn Ave.	Yukon Rd. to N 56th St.	0.6	Construct New Extension from Yukon to existing north of 56th St.	\$1,500,000

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Table 11.6 (cont.) Unfunded Priority Projects

County	MPO-ID	Location	Limits	Length (miles)	Project Description	Total Project Cost
Ector	RC-145	61st (Was noted as 60th)	Grandview to JBS Parkway	1	Construct new location non-freeway / 5 lane arterial	\$1,250,000
Ector	RC-146	87th St.	Andrews Hwy to Loop 338 W	2	Widen to 5 Lane Arterial	\$3,500,000
Ector	RC-147	Dixie Blvd.	Loop 338 S to north 1.5 mi. to future Dixie extn.		Construct as Arterial	\$3,000,000
Ector	RC-148	Dixie Blvd.	IH 20 to south to 1.5 mi north of Loop 338 S		Construct as Arterial	\$5,000,000
Ector	RC-149	Yukon Rd	Loop 338 W to Loop 338 E	5	Improve to Major Arterial / Non-Freeway	\$15,000,000
Ector	RC-150	US385 (Andrews Hwy)	at SH 450/302	1	Construct new intersection	\$3,000,000
Ector	RC-151	42nd / SH191	Loop 338 E Interchange to Grandview	2	Install Center Medians allowing only side street center turn	\$1,500,000
Ector	RC-152	42nd / SH191	Grandview to Dixie	1.3	Install Center Medians allowing only side street center turn	\$1,125,000
Ector	RC-153	42nd / SH191	Dixie to County Road West	1.7	Install Center Medians allowing only side street center turn	\$1,125,000
Ector	RC-154	42nd / SH191	County Road West to Loop 338 W	1	Install Center Medians allowing only side street center turn	\$1,000,000
Ector	RC-155	100 th St.	Extend from Agave (or Pepper) Ave. to Loop 338 E jct.	0.3	Construct 5 lane arterial	\$900,000
Midland	RC-156	Loop 250	A St to BS 349	6	Miscellaneous construction: construct entry/exit ramps	\$2,500,000
Midland	RC-157	HWY 158 (Garfield St)	At BI 20	1	Construct new interchange	\$20,000,000
Midland	RC-158	Backage Road	Midkiff Rd to HWY 349 north of I 20	2	Construct new location non-freeway	\$4,000,000
Midland	RC-159	HWY 158 (Andrews HWY)	Indiana St to Kent St	1	Improve mobility and add capacity	\$6,000,000
Midland	RC-160	Emergency Preemption	Citywide	NA	Improve safety	\$1,000,000
Midland	RC-161	Mockingbird Ln	Garfield St to A Street	1	Construct new location non-freeway and Improve Midland	\$10,000,000
Midland	RC-162	HWY 158 (Andrews HWY)	Loop 250 to Midkiff Rd	2	Improve mobility and add capacity	\$5,000,000
Ector	RE-02* (CI-514)	FM 1882	US 385 northern jct. to Yukon Rd	3.5	Widen non-freeway	\$5,250,000
Ector	RE-03a	BI 20	8th St. to FM 1788	7.6	Improve mobility and add capacity	\$34,200,000
Ector	RE-03b* (CI-113)	BI 20	IH 20 to 8th St.	7.2	Improve mobility and add capacity	\$32,400,000
Midland	RE-04a* (CI-115)	BI 20	FM 1788 to Wall/Front St.	6.8	Improve mobility and add capacity	\$30,600,000
Midland	RE-04b	BI 20	Front St. to IH 20	12	Improve mobility and add capacity	\$54,000,000
Ector	RE-05* (CI-107a)	IH 20	Loop 338 (West) to Crane Hwy	2.5	Convert frontage rds from 2-way to 1-way	\$7,410,000
Ector	RE-06* (CI-107b)	IH 20	Crane to FM 3503	1.9	Convert frontage rds from 2-way to 1-way	\$3,010,000
Ector	RE-07* (CI-107b)	IH 20	FM 3503 to Loop 338 eastern jct.	3	Convert frontage rds from 2-way to 1-way	\$6,250,000
Midland	RE-10a*	FM 307	Fairgrounds Rd to CR 1150	3	Widen non-freeway	\$4,500,000
Midland	RE-12a*	IH 20	Loop 338 eastern jct. to Loop 250	10.9	Convert frontage rds from 2-way to 1-way	\$16,880,000
Midland	RE-12b*	IH 20	Loop 250 to FM 307	8.3	Convert frontage rds from 2-way to 1-way	\$22,110,000
Midland	RE-14	IH 20	FM 307 to BI 20	3.8	Convert frontage rds from 2-way to 1-way	\$10,123,000

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Funded Transit

EZ Rider services are funded through Section 5307, Urbanized Area Formula Grant Program. The transit funds are used for operations, planning and maintenance activities. EZ Rider's planning funds will be applied to the monitoring of the overall transit system along with individual route performances, while maintenance funds will be used to keep the fleet in a state of good repair.

Table 11.7 EZ-Rider Base Activities

Category	2015-2024 Projected Amount	2025-2040 Projected Amount	Total 2015-2040 Projected Amount
5307: Operations	\$54,510,000	\$97,730,000	\$152,240,000
5307: Planning	\$1,315,000	\$3,092,500	\$4,407,500
5307: Maintenance	\$9,799,000	\$21,563,000	\$31,362,000
Total	\$65,624,000	\$122,385,500	\$188,009,500

The provision of Elderly and Disabled Transit Services is funded through Section 5310, Elderly and Persons with Disabilities Program. Recent funding allocations for Section 5310 were used as a baseline, along with modest increases every five years.

Table 11.8 Elderly and Disabled Transit Service Bus Activities

Description: Provide transit service for elderly and disabled persons			
YEAR	OPERATIONS	YEAR	OPERATIONS
2015	\$197,800	2028	\$249,000
2016	\$213,500	2029	\$249,000
2017	\$213,500	2030	\$249,000
2018	\$213,500	2031	\$269,000
2019	\$213,500	2032	\$269,000
2020	\$213,500	2033	\$269,000
2021	\$230,500	2034	\$269,000
2022	\$230,500	2035	\$269,000
2023	\$230,500	2036	\$275,000
2024	\$230,500	2037	\$275,000
2025	\$230,500	2038	\$275,000
2026	\$249,000	2039	\$275,000
2027	\$249,000	2040	\$275,000

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Table 11.9 EZ-Rider Vehicle Replacement Program

Description: Purchase 30' low-floor transit buses and ADA-compliant low-floor paratransit vans	
Base Year Cost	\$500,000 per bus \$150,000 per van
Other Costs	n/a
Total Project Cost	\$18,600,000
Year of Expenditure	2016: (5 buses/12) 2020: (25 buses) 2025: (12 vans)
Year of Expenditure Cost	2016: \$5,231,607 2020: \$18,503,054 2025: \$3,241,698
Funding	5339

Table 11.10 Downtown Transit Center in City of Odessa

Description: Construct building at or near current transfer center located at 5th and Lincoln	
Base Year Construction Cost	\$2,500,000
Other Costs (25% of Construction Cost)	\$625,000
Total Project Cost	\$3,125,000
Year of Expenditure	tbd
Year of Expenditure Cost	n/a
Funding	Unfunded

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Table 11.11 Downtown Transit Center in City of Midland

Description: Construct building at or near current transfer center located at Texas Ave and Ft. Worth St.	
Base Year Construction Cost	\$2,500,000
Other Costs (25% of Construction Cost)	\$625,000
Total Project Cost	\$3,125,000
Year of Expenditure	2015
Year of Expenditure Cost	2016
Funding	5307

Table 11.12 Intercity Transit Service

Description: Provide peak hour service between two downtown transfer centers, serve Midland International Airport and purchase two buses to provide service	
Base Year Cost	\$250,000
Other Costs	\$200,000
Total Project Cost (2015-2040)	\$11,250,000
Year of Expenditure	2015
Year of Expenditure Cost	2015
Funding	5307

Table 11.13 Multimodal Facility

Description: Construct new facility to serve as maintenance garage, operations facility and multimodal transportation center	
Base Year Construction Cost	\$4,500,000
Other Costs (25% of Construction Cost)	\$500,000
Total Project Cost	\$5,000,000
Year of Expenditure	2015
Year of Expenditure Cost	2016
Funding	5307

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Table 11.14 Cost to Increase Service Hours by One Hour, Monday – Saturday

Description: Provide an additional hour of fixed route transit service on all routes	
Base Year Cost	\$298,350
Other Costs	\$72,638
Total Project Cost (2015-2040)	\$9,274,700
Year of Expenditure	2016
Year of Expenditure Cost	2017
Funding	5307

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Grouped MPO Projects

Finally, some of the necessary and important transportation work in the region may be completed by state and local MPO partner agencies under State authority, wherein work may be commenced without a specific description of the project in the MTP. Table 11.15 is the approved grouped project category descriptions. At this time projects funded with Transportation Alternatives Set Aside program (TASA), Transportation Enhancement (TE), and Congestion Mitigation and Air Quality Program (CMAQ) funding require an individual Federal eligibility determination prior to authorization of Federal funding, and therefore are not approved to be grouped. Table 11.16 lists dozens of potential projects; examples include bicycle and pedestrian, safety, transit improvement, and landscaping.

Table 11.15 Grouped MPO Projects by Category

PROPOSED MPO ID	PROJECT CATEGORY	DEFINITION
GP-950	PE –Preliminary Engineering	Preliminary Engineering for any project that is not added capacity in a non- attainment area. Includes activities which do not involve or lead directly to construction such as planning and technical studies, grants for training and research programs.
GP-951	Right of Way Acquisition	Right of Way acquisition for any project that is not added capacity in a non- attainment area. Includes relocation assistance, hardship acquisition and protective buying.
GP-952 GP-957 GP-958	Preventive Maintenance and Rehabilitation	Projects to include pavement repair to preserve existing pavement so that it may achieve its designed loading. Includes seal coats, overlays, resurfacing, restoration and rehabilitation done with existing ROW. Also includes modernization of a highway by reconstruction, adding shoulders
GP-953	Bridge Replacement and Rehabilitation	Projects to replace and/or rehabilitate functionally obsolete or structurally deficient bridges.
GP-954	Railroad Grade Separations	Projects to construct or replace existing highway-railroad grade crossings and to rehabilitate and/or replace deficient railroad underpasses, resulting in no added capacity.
GP-959	Safety	Projects to include the construction or replacement/rehabilitation of guard rails, median barriers, crash cushions, pavement markings, skid treatments, medians, lighting improvements, highway signs, curb ramps, railroad/highway crossing warning devices, fencing, intersection improvements (e.g., turn lanes), signalization projects and interchange modifications. Also includes projects funded via the Federal Hazard Elimination Program and the Federal Railroad Signal Safety Program, or Access Management projects except those that result in added capacity.
GP-956	Landscaping	Project consisting of typical right-of-way landscape development, establishment and aesthetic improvements to include any associated erosion control and environmental mitigation activities.
GP-915	Intelligent Transportation Systems Deployment	Highway traffic operation improvement projects including the installation of ramp metering control devices, variable message signs, traffic monitoring equipment and projects in the Federal ITS/IVHS programs.
GP-916	Bicycle and Pedestrian	Construction or rehabilitation of bicycle and pedestrian lanes, paths and facilities.
GP-917	Safety Rest Areas and Truck Weigh Stations	Construction and improvement of rest areas and truck weigh stations.
GP-918	Transit Improvements and programs	Projects include the construction and improvement of small passenger shelters and information kiosks. Also includes the construction and improvement of rail storage/maintenance facilities bus transfer facilities where minor amounts of additional land are required and there is not a substantial increase in the number of users. Also includes transit operating assistance, acquisition of third-party transit services, and transit marketing, and mobility management coordination.

Note 1: Projects funded with Transportation Alternatives Set Aside program (TASA), Transportation Enhancement, and Congestion Mitigation Air Quality funding require a Federal eligibility determination, and are not approved to be grouped.

Note 2: Projects funded as part of the Recreational Trails Program (RTP) consistent with the revised grouped project category definitions may be grouped. RTP projects that are not consistent with the revised grouped project category definitions must be individually notes in the Transportation Improvement Program (TIIP) and State Transportation Improvement Program (STIP)

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Table 11.16 Sample Grouped MPO Projects

PROPOSED MPO ID	PROJECT CATEGORY	County	Project Description	Location
GP-950	PE-Preliminary Engineering	Midland	Northeast Midland County Mobility Corridor	TBD
GP-951		Ector	Southwest Ector County Mobility Corridor	TBD
951	Right of Way Acquisition	Any	Purchase of Right of Way	TBD
GP-952	Preventive Maintenance and Rehabilitation	Any	Roadway Resurface	TBD
GP-957			Roadway Repair	TBD
GP-958			Striping	TBD
GP-953	Bridge Replacement and Rehabilitation	Any	Increase Bridge Height	TBD
GP-959	Safety	Midland	Safety Improvements	SH058 at FM1788
		Ector	Improve Interchange	US385 at 87th
GP-956	Landscaping	Midland	Landscaping	IH 20 at JBS Parkway
		Ector	Landscaping	IH 20 Picnic Area just west of CR 1140
GP-915	Intelligent Transportation System Deployment	Any	Install ITS components	TBD
GP-916	Bicycle and Pedestrian	Midland	Greenway/Bikepath	SH0191 at SH0158 to Midland Dr at Wall St
		Ector	Various Major Roadways	Various (Regional Bike Network)
GP-917	Safety Rest Areas and Truck Weigh Stations	Any	Rest Area	TBD
GP-918	Transit Improvements	Midland/Ector	4 Additional Transit Centers	TBD
		Midland/Ector	Expand Intercity Transit Service	Along SH191, with service to airport

As the Permian Basin MPO plans for and evaluates the transportation infrastructure needs of the region, it is clear that continued growth, development pressures and increasing travel demands over the next 25 years will place a heavy burden on the existing transportation network. Roadway construction and other improvements are needed as well as enhancements for alternative transportation modes to increase usage of bicycling, walking and transit beyond recreation and necessity.



Introduction

Federal MAP-21 and the FAST Act legislation require a financial plan to be completed as part of an MPO's Metropolitan Transportation Plan (MTP). The metropolitan planning statutes state that the long-range transportation plan and TIP must include a "financial plan" that "indicates resources from public and private sources that are reasonably expected to be available to carry out the program" [23 U.S.C. 134(g)(2)(B) and 134(h)(2)(B)(ii)].

The financial plan included herein will show anticipated revenue sources that are reasonable and can be realistically tied to the prioritized project list shown in Chapter 11 of the *Vision 2040 Plan*. Federal regulations require that the fiscal component of the MTP demonstrate that anticipated project costs will not exceed the amount of funding anticipated to be available in the first ten-years of the planning period. Further, state regulations adopted under House Bill 20 in 2015 require that TxDOT and MPOs must complete a fiscally constrained project list covering a ten-year period. With oil prices and sales tax receipts having a significant impact on the amount of funds collected at the state level, it is difficult to forecast revenue with complete confidence. In the ten-year period 2018-2027, the Permian Basin MPO completed funding forecasts using TxDOT and local funding sources. The project list contained in Chapter 11, Table 11-4 is considered to be fiscally constrained given that the funding sources fluctuate over time. Also, since 2016 the MPO has benefitted from additional funding through TxDOT Category 4 (Urban) which was made available to urban areas for the first time, and Category 12 (Strategic Priority) sources which are available only to the Texas Transportation Commission. Both of these new sources resulted in reduced commitment of Category 2 funds on several projects, thereby allowing additional projects to be funded by the MPO. It is important to note that the purpose of the *Vision 2040 Plan* is only to provide a reasonable expectation of future funding.

In order to remain conservative all funding estimates shown in this chapter are current year dollars (i.e. 2017). Furthermore, based on guidance provided by TxDOT, an annual inflation rate of 4% was used to forecast project costs. The project listings shown in Chapter 11 include probable cost estimates based on information received from the TAC and TxDOT as outlined in the project selection process. The proposed projects will address the metropolitan area transportation needs over the next 25 years with particular emphasis on the ten-year period 2018-2027 as required by HB 20 to coincide with TxDOT's UTP and identified funding sources. The revenue forecasts described in this Financial Plan will provide a foundation for the Policy Board to make investment decisions when allocating resources.



Current Funding Sources

Funding Revenue Projection and Methodology

Planning funds: Permian Basin MPO has historically obtained its planning funds through the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) programs, currently known as FHWA PL-112 and FTA Section 5303 funding. These funds are provided to the MPO to ensure that the regional planning process is *continuous, cooperative and comprehensive*. The funding is used to maintain professional staffing for transportation planning work, administrative offices, training, financial, legal, and other administrative matters. The current funding level is approximately \$450K per year. PL-112 and Section 5303 funds are not included in the financial projection for construction projects.

Project Implementation Funds: On the whole funding levels are expected to increase over the life of this plan. For the purpose of this fiscal estimate it is assumed that approximately \$161M of Category 2U and \$71.67M of Category 4 (Urban) funds will be available for the ten-year planning period ending in FY 2027 as shown in Table 12-2. This is the period of time for which the project list and anticipated funding must be constrained as required by federal and state laws. The remaining life of the planning period through 2040 does not need to show fiscal constraint; however, at the current rate of approximately \$16M per year of Category 2 funding plus an additional \$1M per year of Category 3, non-traditional funds made available through development corporations and private sources, the MPO anticipates that approximately \$221M will be available for the remaining thirteen-year horizon. At this time, the MPO does not anticipate the availability of Category 4 funds available after 2027. Additionally, the current growth rate in the region may result in either or both of the cities exceeding the 200,000-population threshold which may result in additional funding distributed to the MPO.

Highway Revenues

Each year, TxDOT develops a ten-year planning document to guide the state's transportation development called the UTP. The UTP provides a connection between the Statewide Transportation Improvement Program (STIP), a four-year project development list, and the twenty-four year Statewide Long-Range Transportation Plan. The UTP authorizes projects for development and planning activities. Table 12.1 is the FY 2018-2027 draft UTP indicating the statewide funding totals by category.

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Table 12.1 FY 2018-2027 TxDOT UTP Funding Availability by Category - Statewide

Funding	2018-2027 UTP Funding
1 - Preventative Maintenance and Rehabilitation	14,091,870,000
2 - Metro and Urban Area Corridor Projects	12,284,680,000
3 - Non-Traditionally Funded Transportation	5,172,990,000
4 - Statewide Connectivity Corridor Projects	11,550,150,000
5 - Congestion Mitigation and Air Quality Improvement (CMAQ)	2,182,990,000
6 - Structures Replacement and Rehabilitation	3,442,730,000
7 - Metropolitan Mobility and Rehabilitation	4,335,730,000
8 - Safety	3,349,310,000
9 - Transportation Alternatives	849,800,000
10 - Supplemental Transportation Projects	641,560,000
11 - District Discretionary	3,216,970,000
12 - Strategic Priority	1,108,520,000
Total	71,227,300,000

Local TxDOT District and Local Funding

As shown in Table 12.2 below, available funding for the MPO from Category 2 and Category 4 funds is \$160,680,000 + \$71,670,000 respectively. In addition, the Permian Basin MPO will receive an additional \$9M from the Midland Development Corporation and \$11M from the Odessa Development Corporation to assist with the funding of projects during the ten-year fiscally constrained period; these projects are listed in Table 11-4. Category 3 funding from the development corporations plus the required local match for off-system projects totals approximately \$22M. All of these funds have been programmed for fiscal years 2018-2027. TxDOT Category 12 funds have also been allocated to help fund a few projects in 2018 and 2019. In addition to these funding sources, the TxDOT Odessa District may allocate its Category 11, District Discretionary funds for any of the projects shown in Table 11-4.

The MAB includes the incorporated cities of Odessa, Midland and the outlying urbanized areas as well as areas anticipated to become urban over the planning period; the MAB is the heaviest concentration of population inside the TxDOT Odessa District and this area has the highest level of transportation needs. Historically, a portion of Category 1 and 11 funds have been spent in the MAB. For the purpose of this chapter the District's funds may continue to be spent in the MAB but they will not be included as revenue for this fiscal plan. In order to remain conservative with this funding exercise, no analysis of the future value of money (revenue) was applied.

Total funds projected to be available over the entire planning period 2018 through 2040 are approximately \$501.38 (Table 12.3). This funding scenario assumes that there will be no other UTP category funds dedicated to the MPO for use inside the MAB.

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Table 12.2 MPO Projected Funding for FY 2018 – 2027 from the TxDOT UTP

Category 2: Metropolitan (TMA) and Urbanized (Non-TMA) Corridor 10-YR Programming and Planning Summary (Total All Cat 2 Funds)			Category 4: Statewide Congestion, Connectivity, and Corridor Funding Summary 10-YR Programming and Planning Summary		
FY 2018	-----		FY 2018	\$13,700,000	
FY 2019	\$5,700,000		FY 2019	\$19,840,000	
FY 2020	\$19,200,000		FY 2020	-----	
FY 2021	-----		FY 2021	-----	
FY 2022	-----		FY 2022	-----	
FY 2023	-----		FY 2023	-----	
FY 2024	-----		FY 2024	-----	
FY 2025	-----		FY 2025	-----	
FY 2026	-----		FY 2026	-----	
FY 2027	-----		FY 2027	-----	
Programmed TTL	\$24,900,000		Programmed TTL	\$35,540,000	
10-Yr Target	\$160,680,000		10-Yr Target	\$71,670,000	

Notes: As passed by the 84th Legislature funding allocations and project listings identified in the UTP that generally involve allocations in Categories 2, 4, 11 and 12 may be subject to further consideration by the Texas Transportation Commission to ensure that the Texas Department of Transportation and HB 20 designated Planning Organizations (TxDOT Districts and Metropolitan Planning Organizations) have complied with the requirements of HB 20. Any proposed revisions to funding allocations or project listings will be addressed in future updates to the UTP. Programmed amounts represent authorized funding on projects through March 2017 UTP update.

Table 12.3 Funding Level Summary – Highway Funds

Anticipated Funding Amounts Per Year (In Millions)

Years	Category 2U	Category 3	Category 4	Category 12	Grand Totals
2018-2027	\$160.68	\$25.04	\$71.67	\$22.30	\$279.69
2028-2040	\$208.78	\$12.91	-	-	\$221.69
Total funding anticipated 2018-2040					\$501.38

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Transit Revenues

Revenue received by EZ-Rider is through FTA’s formula grant, Section 5307 (Urbanized Area). The funds are used for transit capital, operating assistance and for transportation related planning. Also, discretionary grants such as Section 5339 (Bus and Bus Facilities) are awarded to EZ-Rider as a form of funding commonly used for additional buses, vehicle replacement and facilities.

Given that Section 5339 grants are discretionary and in order to remain conservative in estimating future transit revenues, only Section 5307 funding was projected for the Permian Basin MPO region. Transit revenues are shown below.

Table 12.4 Transit Revenues

	Operations	Planning	Maintenance	Vehicle Replacement	Elderly and Disabled Service	Total
2015-2027	\$73,080,000	\$1,777,500	\$12,878,000	\$26,976,359	\$2,915,800	\$117,627,659
2028-2040	\$79,160,000	\$2,630,000	\$18,484,000		\$3,467,000	\$103,741,000
Total Revenue	\$152,240,000	\$4,407,500	\$31,362,000	\$26,976,359	\$6,382,800	\$221,368,659
2015	\$4,820,000	\$112,500	\$937,000		\$197,800	\$6,067,300
2016	\$5,290,000	\$126,500	\$970,000	\$5,231,607	\$213,500	\$11,831,607
2017	\$5,290,000	\$126,500	\$970,000		\$213,500	\$6,600,000
2018	\$5,290,000	\$126,500	\$970,000		\$213,500	\$6,600,000
2019	\$5,290,000	\$126,500	\$970,000		\$213,500	\$6,600,000
2020	\$5,290,000	\$126,500	\$970,000	\$18,503,054	\$213,500	\$25,103,054
2021	\$5,810,000	\$142,500	\$1,003,000		\$230,500	\$7,186,000
2022	\$5,810,000	\$142,500	\$1,003,000		\$230,500	\$7,186,000
2023	\$5,810,000	\$142,500	\$1,003,000		\$230,500	\$7,186,000
2024	\$5,810,000	\$142,500	\$1,003,000		\$230,500	\$7,186,000
2025	\$5,810,000	\$142,500	\$1,003,000	\$3,241,698	\$230,500	\$10,427,698
2026	\$6,380,000	\$160,000	\$1,038,000		\$249,000	\$7,827,000
2027	\$6,380,000	\$160,000	\$1,038,000		\$249,000	\$7,827,000
2028	\$6,380,000	\$160,000	\$1,038,000		\$249,000	\$7,827,000
2029	\$6,380,000	\$160,000	\$1,038,000		\$249,000	\$7,827,000
2030	\$6,380,000	\$160,000	\$1,038,000		\$249,000	\$7,827,000
2031	\$7,004,000	\$180,000	\$1,074,000		\$269,000	\$8,527,000
2032	\$7,004,000	\$180,000	\$1,074,000		\$269,000	\$8,527,000
2033	\$7,004,000	\$180,000	\$1,074,000		\$269,000	\$8,527,000
2034	\$7,004,000	\$180,000	\$1,074,000		\$269,000	\$8,527,000
2035	\$7,004,000	\$180,000	\$1,074,000		\$269,000	\$8,527,000
2036	\$5,000,000	\$250,000	\$2,000,000		\$275,000	\$7,525,000
2037	\$5,000,000	\$250,000	\$2,000,000		\$275,000	\$7,525,000
2038	\$5,000,000	\$250,000	\$2,000,000		\$275,000	\$7,525,000
2039	\$5,000,000	\$250,000	\$2,000,000		\$275,000	\$7,525,000
2040	\$5,000,000	\$250,000	\$2,000,000		\$275,000	\$7,525,000
Total Cost	\$152,240,000	\$4,407,500	\$31,362,000	\$26,976,359	\$6,382,800	\$221,368,659



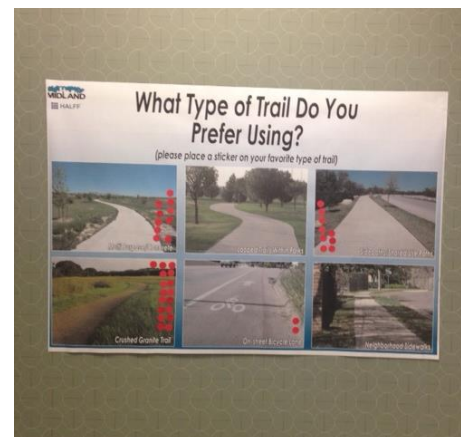
Bicycle and Pedestrian Revenues

Prior to MAP-21, bicycle and pedestrian projects were constructed using funds from Texas' Transportation Enhancements (TE) Program which is Category 9 of TxDOT's twelve funding categories. The Texas Transportation Commission has the authority to approve bicycle and pedestrian projects for TASA funding. The Permian Basin MPO will be expected to compete with the rest of the state for this type of funding. The cities of Midland and Odessa completed bicycle and trail system plans in 2014. Any eligible entity may choose to pursue TASA funding in the future. Both Midland and Odessa submitted applications for TASA funding in FY 2017.

Revenue Summary

Based on the scenarios completed in this funding forecasting analysis the Permian Basin MPO can anticipate a level of funding which will not fund all of the projects listed as priorities in Table 11-5 of Chapter 11; however, the unfunded priority list shown as Table 11-6 will not be constructed unless additional revenue sources are identified and the MTP is amended to reflect the changes.

As stated, the Financial Plan is required to cover anticipated revenues from sources that would contribute to the construction of projects that are part of the functional classification network shown in Chapter 6, The Road System. These sources include Proposition 1 and Proposition 7 funds that are grouped into TxDOT's Category 2U, local funds for highway projects and FTA funds for transit projects. The Permian Basin MPO believes that the assumptions related to future allocation of Category 2 funding and local funds are reasonable and that the associated project list found in Table 11-4 is fiscally constrained.



Operations and Maintenance

Based on discussions with the TxDOT Odessa District it is assumed that 10% of District Category 1 funds will be spent on operations and maintenance in the MAB. The draft 2018-2027 UTP shows a total of \$413,360,000 available to the District for preventive maintenance. At a rate of \$41.3 million per year to be allocated within the District's 12 county area, approximately 10% is typical for maintenance expenditures inside the MAB, resulting in \$4.13M per year. The District also spends a portion of its discretionary money in the MAB. These additional funds have not been included in the MPO project funding projections; however, funds from this source alleviate some of the burden on the MPO's Category 2 funding.

It is also important to note for quality of life and long-term maintenance reasons both the Cities of Midland and Odessa and Ector, Midland, and Martin County spend general revenue dollars to maintain roads. The City of Midland currently budgets about \$1.3-1.4M for roadway maintenance activities (surface treatments, patching, pothole repair, etc.), and in 2014 the city programmed \$5M for a mill and overlay program. The City of Odessa budgets and spends \$1.8M



per year for a similar purpose. The cities also approve the use of bond funds for major street projects which impact local traffic needs and congestion mitigation. Odessa funded three recent bond issues totaling approximately \$41M. The two counties also include road maintenance in their annual budget reports. Ector County completes an annual seal coat program at a cost of \$1.0M and Midland County budgets \$1.5M to maintain its roads and right-of-way. These funds are not available to the Permian Basin MPO but the work completed using these funds does result in a better transportation network and living standard in the region. The City of Midland’s operations and maintenance program is shown below.

Table 12.5 City of Midland Operations and Maintenance

Maintenance FY 2014 -2015	
Citywide Mill and Overlay	\$5,000,000
Residential Pavement Maintenance Program	\$1,000,000
	TOTAL: \$6,000,000



State and Federal Funding

No discussion of highway funding would be complete without a review of the major factors which currently deplete funding statewide and within the MPO region. These factors severely impact the amount of state and federal mobility funds which can be dedicated to highway construction.

➔ *Declining gas tax revenues.* Over the life of the *Vision 2040 Plan* it is anticipated that fuel consumption will decrease as a result of an increase in fuel efficient vehicles, even though there will be an increase in the driving population. Fuel efficient vehicles are generally perceived as being positive because of the decreased negative impact on air quality and motorists save money at the pump; however, increased fuel efficiency does result in decreased tax funds for federal distribution. The federal gas tax is currently 20 cents per gallon; the last increase in the federal gas tax was in 1993.





- *The uncertainty of federal funds.* Funding levels have generally been inconsistent; however, in December of 2015 a five-year highway bill called the FAST Act was authorized by Congress. This legislation should provide long range assurance of funding support.
- *The impact of inflation.* Inflation has rapidly driven construction costs upward, and particularly in the Permian Basin MPO region where demand for employment in the oil and gas industry has resulted in inflated wages. With the rapid growth occurring since 2010, a housing supply shortage has caused an increase in local housing cost. Both of these factors have had a big impact on the cost of labor. As a result, the postponement of projects planned for construction becomes inevitable and the longer a project is postponed, the higher the project will cost.
- *Maintenance.* Texas highways are experiencing increased traffic and are showing the signs of wear and tear. It is important to preserve and maintain the existing transportation system without compromising it. Additional local and regional resources will likely be needed for this purpose.

With these and other state and local funding issues in mind, Permian Basin MPO intends to review and propose alternative sources as a method of securing additional funds for highway projects.

Alternative Funding Sources

As a part of the financial plan for the *Vision 2040 Plan*, several alternative funding mechanisms were investigated as potential additional sources of revenue.

Texas Mobility Fund

The Texas State legislature created the Texas Mobility Fund in order to accelerate completion of TxDOT projects and improvements. The Fund allows the state to issue bonds, which are backed by a dedicated revenue source. HB 3588 authorizes certain transportation related fees such as motor vehicle inspection fees and driver's license fees to be moved from the state's General Revenue Fund to the Texas Mobility Fund.

Local Option Sales Taxes for Transportation

The current state sales tax is set at 6.25%. Counties may impose additional sales and use tax up to 1.5% after a successful voter referendum and approval by county commissioners. However, the sum of all local sales and use taxes may not exceed 2%. Currently, Ector County's tax rate is 6.25% and Midland County's sales tax rate is 6.75%. Both City tax rates are at the maximum 8.25%. In counties that are pursuing sales and use taxes, county commissioners should be encouraged early on to develop a plan to allocate excess tax revenues to address transportation needs, e.g. county road maintenance.



State Infrastructure Bank

State Infrastructure Banks (SIB) were authorized in 1995 as a part of the National Highway Designation Act to help accelerate needed mobility improvements through a variety of financial assistance options made to local entities through state transportation departments. Since Texas was chosen as one of the ten states to test the pilot program, the state legislature authorized the TxDOT to administer the SIB program in 1997.

The overall goal of the SIB program is to provide innovative financing methods to communities to assist them in meeting their infrastructure needs. The SIB program allows borrowers to access capital funds at or lower-than-market interest rates.

The Texas Transportation Commission has approved 98 loans totaling more than \$483 million from the SIB program. The loans have helped leverage more than \$3.6 billion in transportation projects in Texas. The SIB operates as a revolving loan fund, where the account balance grows through the monthly interest earned and repaid principal and interest payments. In Texas, SIB financial assistance can be granted to any public or private entity authorized to construct, maintain or finance an eligible transportation project. Projects must be eligible for funding under the existing federal highway rules (Title 23) to comply with SIB requirements. This usually requires a project to be on a state's highway system and included in the Statewide Transportation Improvement Plan. Work eligible for the program's funding in Texas includes planning and preliminary studies, feasibility, economic and environmental studies, right of way acquisition, surveying, appraisal and testing, utility relocation, engineering and design, construction, inspection and construction engineering.

Traffic Impact Fees or Private Development Infrastructure Funding with New Development

Traffic impact fees and developer share of necessary infrastructure costs ensure that new development pays its fair share of the cost to improve the transportation system so as not to exacerbate existing transportation problems.

State Tax on Motor Fuels

States have the option of extending the retail sales tax to gasoline and dedicating the proceeds for transportation or transit. A number of other states, such as New Jersey, Florida, California, and Maryland, use excise taxes on motor fuels to generate additional transportation funds.

Transportation Improvement Bonds

TxDOT accelerates funding and construction of capital projects by utilizing bonds. Prior to bond authorization, the bill must pass a voter referendum and legislative approval. Following this, TxDOT identifies and prioritizes projects to be funded through the bonds through consultation with MPOs, localities, and corridor associates. The Texas Transportation Commission then has the final vote on bond funded projects. In 2008, \$2.8 billion in Proposition 14 bonds, revenue bonds which are backed the state highway fund, were issued by TxDOT. In 2011, \$3 billion in Proposition 12 bonds, backed by general state revenues, were approved by the Texas Transportation Commission. Proposition 14 bonds were approved for two projects in the MAB.



Local Vehicle Registration Fees

The state's annual vehicle registration fees vary by vehicle type and weight. Additional local vehicle registration fees in Texas range from \$0 to \$21.50. Increasing local vehicle registration fees requires a county commissioner vote and state legislative approval, some counties across the state have pursued this funding tool. Texas lawmakers require that local regional mobility authorities (RMAs) administer the additional revenue, provided only road and bridge projects are funded. Bexar County intends to use its vehicle registration fee revenue to fund stagnating roadway projects. This option may be pursued by Midland and Ector Counties in the future although the current legislation requiring the establishment of a RMA may be overly cumbersome.

Local Motor Fuel Taxes

The State Highway Fund is funded primarily by state motor fuel taxes, which are currently 20 cents per gallon for gasoline and diesel and 15 cents per gallon for liquefied petroleum gas. Seventy-four percent of the motor fuel tax revenues are deposited into the State Highway Fund. Local option motor fuel taxes were proposed as part of the Texas Local Option Transportation Act (TLOTA), proposed in 2009. While the TLOTA passed in the Senate, it did not pass in the House. This may be an issue to be discussed by the legislature in the future.

Vehicle Mileage Fees

Several reports evaluating the performance of vehicle mileage in Texas have been published. The research conducted as a part of these studies identified several challenges and opportunities for vehicle mileage fees. Public acceptance is one of the biggest obstacles to the successful implementation of a vehicle mileage fee system. Public concerns include a perceived invasion of privacy, cost of program administration, and enforcement of fee collection. The public is generally opposed to additional taxation, and without adequate education and outreach efforts, this tool may be seen as another taxing mechanism.

Tolling

TxDOT has successfully implemented tolling as a project specific funding source to address the gap between needs for additional roadway capacity and available funding from the State Highway Fund. TxDOT's system of toll roads, called Texas Tollways, has been utilized in many larger urban areas. Tolling has been discussed on numerous occasions at the TAC and Policy Board level. Though no formal decision has been made, previous discussions can be characterized as being non-supportive about the use of this funding mechanism.

Transportation Reinvestment Zones

The demand for transportation infrastructure has far outpaced the resources of federal, state and local governments. The Texas Legislature has established innovative methods of developing and financing transportation projects. One such tool used by local entities to advance



transportation projects is a Transportation Reinvestment Zone (TRZ). TRZs were created during the 2007 legislative session (Senate Bill 1266) as a value capture method for transportation projects where Volume to Capacity revenues are set aside to finance a project. These are typically used on regionally significant projects. Currently there are four types of TRZ's: County, Municipal, Port Authority and Navigation Districts, and County Energy.

Senate Bill 1747, passed in 2013, established a County Energy TRZ (CETRZ) for counties to assist with transportation projects in areas affected by oil and gas exploration and production facilities. A CETRZ is a specific contiguous zone in a county that is determined to be affected by oil and gas exploration and production activities. The Zone is established around a planned transportation project; it is used as a method to facilitate capture of the property tax increment arising from properties around the planned project. The CETRZ requires a commissioners' court to determine that the zone is necessary as a result of the area being affected by oil and gas exploration/production and that the Zone would benefit from Transportation Infrastructure Fund grants. Both Midland and Ector Counties chose to establish CETRZ's with associated projects listed in Chapter 11. Should the state legislature reauthorize this type of funding, it is likely that all three counties would participate.

Alternative Funding Sources Local Summary

A discussion with the Permian Basin MPO Policy Board indicated that four potential alternative funding sources may need further analysis and consideration. These include county-wide vehicle registration fees, transportation reinvestment zones, future energy sector roadway funding and the any proposed continuation of the CETRZ program.



Introduction

The core objective of Permian Basin MPO's mission is to provide transportation planning services in accordance with federal laws, as well as, accepted planning practices resulting in a safer, efficient, and effective transportation network. Permian Basin MPO's adopted mission statement is:

Provide leadership to the region in the planning, funding, and development of a safe, efficient multimodal transportation system.

This statement will be advanced through the implementation of the short range and long-range initiatives outlined in the Plan. The processes and tools necessary to ensure the initiatives are effective (Performance Based Planning) and any negative impacts to the environment are addressed (Environmental Mitigation) in accordance with MAP-21 and FAST Act requirements.

Performance Based Planning

Congestion Management Process

The federal government has long recognized the benefit and need for transportation planning. Current legislation affecting the operation of Permian Basin MPO includes the Congestion Management Process (CMP). The CMP evolved from what was previously known as the Congestion Management System (CMS). It is a systematic approach, collaboratively developed and implemented throughout a metropolitan region which provides for the safe and effective management and operation of new and existing transportation facilities through the use of demand reduction and operational management strategies. The CMP is required to be developed and implemented as an integral part of the metropolitan planning process in Transportation Management Areas (TMAs) – urbanized areas with a population over 200,000, or any area where designation as a TMA has been requested. The CMP represents the state-of-the-art practice to address current and future congestion challenges. An important part of the CMP documentation is the crafting of regional transportation goals or performance measures. Once the performance measures are established, it is then incumbent on the MPO to begin the performance measurement process. This is accomplished by data collection and analysis. This “performance based planning” is a requirement under the MAP-21 laws, which mandate that there be a demonstrated connection between performance targeting, or goals, and performance measurement. Used together, and over time, these become objective ways to inform decision



makers about the condition of the transportation system which is a central purpose of the CMP. The Permian Basin MPO adopted its first CMP in January 2014.

The United States Department of Transportation is required to establish national performance measures and standards per MAP-21 and FAST Act. Following TxDOT adopting its standards, Permian Basin MPO will reevaluate its performance measures within six months of the state's directive. However, in the absence of final federal and state guidance, and as stated earlier, Permian Basin MPO has established locally appropriate performance measures as part of the CMP development process. In order to meet the intent of the federal mandate, Permian Basin MPO has developed a CMP that contains two specific and measurable performance objectives to be monitored by Permian Basin MPO. The performance measures selected are a reflection of the initial goals established by Permian Basin MPO to reduce congestion on its roadways and transit routes.

- To reduce traffic delays on network freeways and arterial streets identified as having the most serious travel delays
- To reduce transit travel delays on routes having serious schedule delays

The CMP is a document subject to review and amendment over time as planning priorities and objectives change. Performance measures begin with broad goal statements as shown above. The measure, or goal, should be clearly defined even though it may be broad reaching so that the public and stakeholders understand its intent. The measurement of the performance goal is the specific manner in which data is collected to address the goal. One of the most important purposes of performance measures is to ensure that planning goals are tracked over time to inform the public, planners, and decision makers of the operational condition of the transportation system as it directly relates to the desired goals. The broad performance measures when combined with results found through the measurement tools described in the CMP document itself which is found at www.permianbasinmpo.com will lead to more informed decision making at the local level.

As stated previously, data collection and analysis are the tools used to measure performance. However, at this time data is not available to address the two performance measures shown above. Permian Basin MPO will begin the data collection and analysis process in cooperation with its partner agencies and tie the data collection efforts to the stated performance measures. The following three MAP-21 requirements will be continuously monitored by Permian Basin MPO.

Identification of Transportation Facilities which should function as an integrated system, giving emphasis to those facilities that serve important national and regional needs and including major roadways, transit, multi-modal facilities, non-motorized transportation facilities and intermodal connectors. A map showing the congestion monitoring network is shown below.



Performance Measures and Targets As referenced elsewhere in the Vision 2040 Plan Amendment No. 4, the State of Texas adopted House Bill 20 which contains a requirement that TxDOT and its planning partners, including MPOs, must prepare a set of performance measures that comply with federal MAP-21 and FAST Act and state laws. At the time of the adoption of the Vision 2040 MTP Amendment No. 4, the State was beginning to finalize its safety targets. Until these are published by TxDOT, the MPO will continue to work with its partners to prepare for an appropriate MPO response.

System Performance Report is an evaluation of the condition and performance of the transportation system with respect to the performance targets. A sub-element of this report is a map of facilities having poor performance due to congestion, traffic crashes, estimated travel time delay or other measures. Additional performance reporting will include:

- Progress achieved by Permian Basin MPO in meeting the performance targets in comparison with system performance recorded in the base year of data collection; and
- Changes in local policies and investments that may have impacted the costs necessary to achieve the identified performance targets.



Environmental Mitigation

The environment in the region includes such features as the natural playas and draws, as well as, the man-made roads, bridges and buildings. This document does not require specific federal approvals or actions that are likely to cause a significant environmental impact and as such does not require a NEPA Environmental Impact Statement. In order to adhere to MAP-21 and FAST Act requirements, the Plan discusses potential environmental mitigation activities to be developed in consultation with federal, state, tribal, wildlife, land management, and regulatory agencies. Those activities include those aspects of 23 CFR 450.104, which states, in part:

- Serve to avoid, minimize, or compensate for impacts associated with implementation of the transportation plan;
- Consider neighborhoods, homes, businesses, cultural resources, parks, recreation areas, wetlands, water sources, forests, agriculture, etc.;
- Regional scope may not necessarily address individual projects.

Along with local GIS resources Permian Basin MPO uses the assessment Region 6 EPA GIS screening Tool NEPAAssist to understand environmental effects of transportation projects. Local data layers overlaid on the Priority Corridor Projects can be used early on in the process to discuss areas of concern. See Map 13.2. Further investigative techniques include the NEPAAssist reports an example of which are included in Appendix 13.1 and a summary of that information is included below for the top ten priority corridor projects.

Permian Basin MPO will seek opportunities to invite federal, state and local resource agencies to discuss the potential impacts of transportation projects outlined in this document and throughout the planning process. This important consultation process plays a critical role in establishing a dialogue with environmental agencies and creating a foundation for continuous consultation and knowledge sharing regarding the potential impacts of transportation planning on a regional, system-wide basis. The importance of achieving balance between economic development and mobility with the desire for a high quality of life includes clean air and water, environmental preservation, and recreational opportunities.

CHAPTER 13 - PERFORMANCE BASED PLANNING, CONGESTION MANAGEMENT & ENVIRONMENTAL MITIGATION



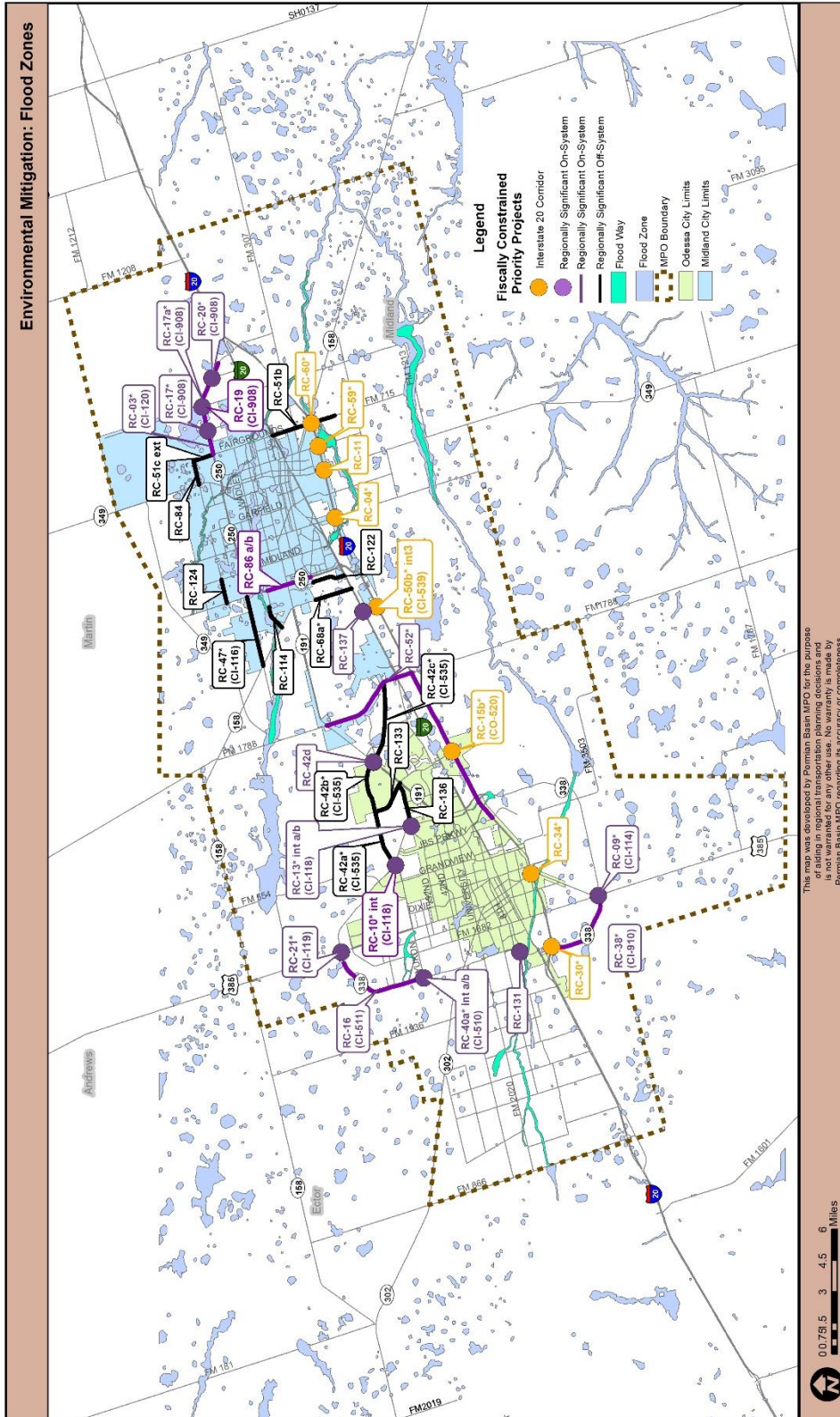
Table 13.1 NEPAssist Summary for Top Priority Corridor Projects

Project ID	RC-21* (CI-115)	RC-59*	RC-50b* int3 (CI-539)	RC-19* (CI-908)	RC-10* int (CI-118)	RC-86 a	RC-04*	RC-42d	RC-20* (CI-908)	RC-15b* (CO-520)	RC-40a* int a (CI-510)	RC-114	RC-19* int a (CI-118)	RC-133	RC-124	RC-09* (CI-114)	RC-36a* (CI-901)	RC-95	RC-15a* (CO-520)	RC-131	RC-52*	RC-03* (CI-120)	RC-17a* (CI-908)	RC-42a* (CI-535)	RC-42b* (CI-535)	RC-122	RC-60*	RC-51c ext	RC-47* (CI-116)	RC-42c* (CI-535)	RC-136	RC-38* (CI-910)	RC-30*	RC-17* (CI-908)	RC-137	RC-84	RC-68a*	RC-16 (CI-511)	RC-51b	RC-11	RC-13* int a (CI-118)	RC-40a* int a (CI-510)	RC-86 a	RC-34*						
Ozone 8 - hr Non-Attainment Area 1997 Standard																																																		
Ozone 8 - hr Non-Attainment Area 2008 Standard																																																		
Leade 8 - hr Non-Attainment Area 2008 Standard																																																		
SO2 1-hr Non-Attainment Area 2010 Standard																																																		
PM2.5 24 hr Non-Attainment Area 2006 Standard																																																		
PM2.5 Annual Non-Attainment Area 2012 Standard																																																		
PM2.5 Annual Non-Attainment Area 1997 Standard																																																		
PM 10 Non-Attainment Area 1987 Standard																																																		
Federal Land Impaired Strea, Impaired Waterbody																																																		
Waterbody																																																		
Stream								✓			✓		✓	✓			✓	✓			✓	✓		✓	✓	✓	✓																		✓					
Brownfields Site																																																		
Superfund Site																	✓	✓																																
Toxic Release Inventory (TRI) Site							✓										✓	✓				✓						✓																						
Water Discharger (NPDES)																	✓	✓																																
Hazardous waste (RCRA) Facility							✓	✓			✓		✓			✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓																					
Air Emission Facility																	✓	✓																																
School	✓											✓																																						
Airport																																																		
Hospital							✓										✓	✓																																
Designated Sole Source Aquifer																																																		
National Register of Historic Places																																																		
Toxic Substances Control Act (TSCA) Site																	✓																																	
RADInfo Site																																																		

CHAPTER 13 - PERFORMANCE BASED PLANNING, CONGESTION MANAGEMENT & ENVIRONMENTAL MITIGATION

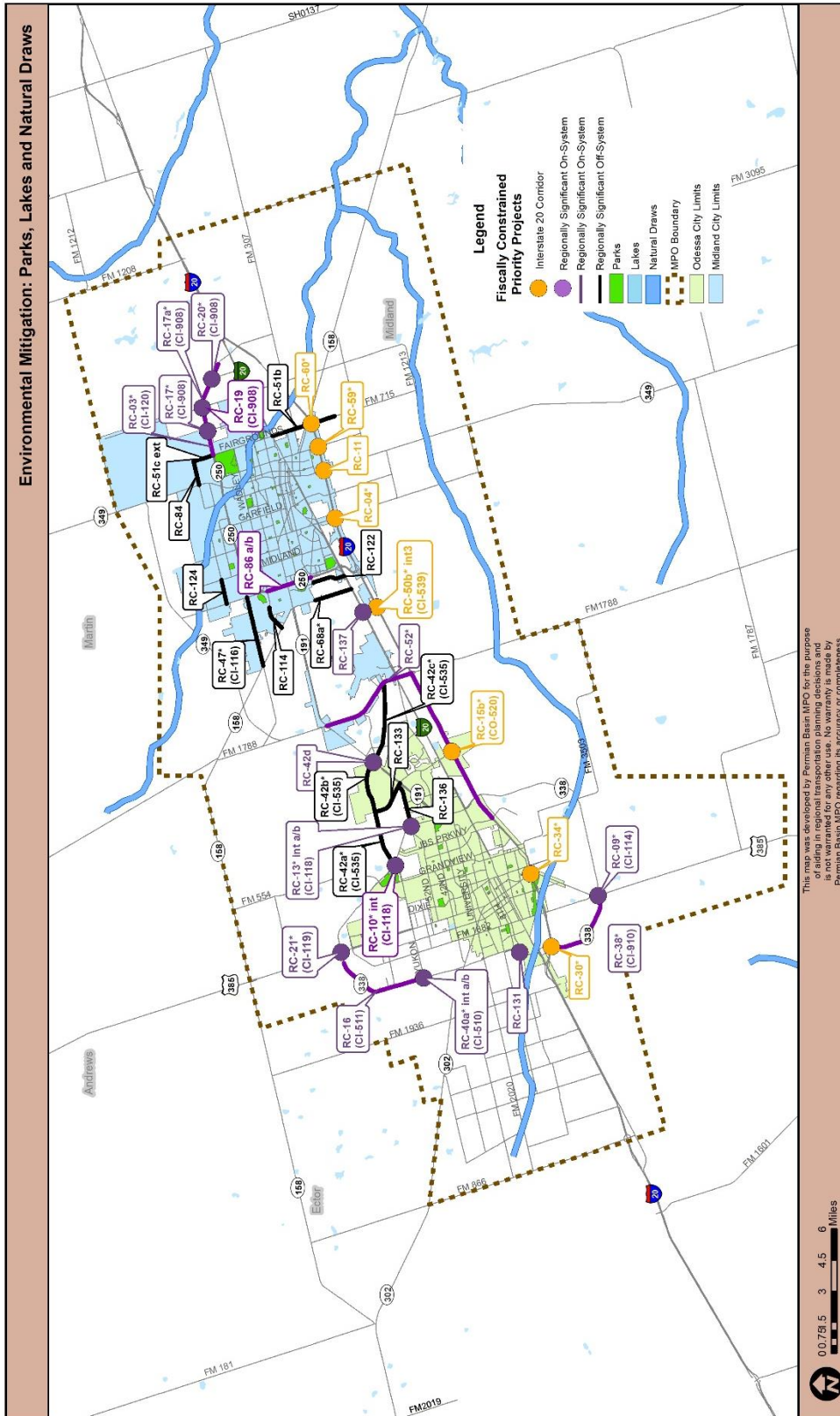


Map 13.2 Environmental Mitigation: Flood Zone





Map 13.2 Environmental Mitigation: Parks and Water Bodies





Planning and Environmental Linkages

As previously stated, recent federal acts related to transportation planning, such as SAFETEA-LU and MAP-21, are intended to enhance the consideration of environmental issues and impacts within the planning process. Long-range transportation planning efforts must now involve multiple agencies, discussion of potential environmental mitigation activities and public and stakeholder input. These requirements of connecting environmental concerns with transportation are embodied in the Planning and Environmental Linkages (PEL) study. The PEL study represents a collaborative and integrated approach to the planning process for considering

regionally important transportation initiatives. Planning and environmental linkages are identified early in the transportation planning process, when decision-makers consider environmental concerns as well as community and economic goals and carry them forward through the project development and



environmental review processes. Such a process minimizes social and environmental issues associated with the project, enhances local agency and public support for the project and expedites the NEPA process, which is often an ensuing critical path element for major transportation investments. In the past, transportation system planning and environmental analysis



activities were often carried out independently, with the result that many of the steps carried out in the planning process had to be repeated during development of NEPA documentation which led to the development of transportation facilities that were not always the best fit for the communities of which they were a part. The utilization of PEL studies enables major



transportation projects to be delivered more efficiently, by improving inter-agency communication, and to be more effective in serving the community's transportation needs. Permian Basin MPO completed the South Midland Mobility PEL Study in February of 2014 in an attempt to analyze and identify potential mobility corridors in South Midland. The mobility demands and methods to address the various mobility issues helped to define the goals and objectives for a potential mobility corridor moving forward. The five key goals for a mobility corridor in South Midland were established through public and stakeholder input and included:

- ***Mobility:*** Trucks and local traffic should be able to navigate through South Midland safely and efficiently.
- ***Land Use Compatibility:*** Local land uses and developments as well as projected growth should be considered when developing the potential mobility corridor.
- ***Environmental Protection:*** Impacts to natural resources should be minimized or negated.
- ***Economic Benefit:*** Growth and development should be encouraged along the corridor and be overseen by the City of Midland and Midland County.
- ***Community Cohesion:*** Communities and neighborhoods should maintain the connections already in place and see little effect from the introduction of a new mobility corridor.



Air Quality

The Clean Air Act, which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS)(40 CFR part 50) for pollutants considered harmful to public health and the environment. 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. These standards are implemented by the EPA to assign limits to the amount of pollution that can be present in the atmosphere. Based on monitoring data, the EPA will determine whether a region is in compliance with the NAAQS. An area may be considered to be in nonattainment if the thresholds are exceeded. EPA has set National Ambient Air Quality Standards for six principal pollutants.

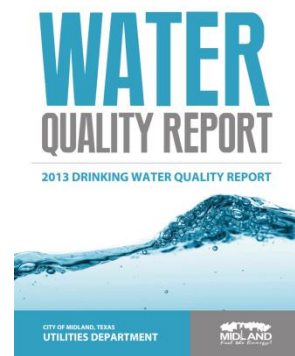
- Carbon Monoxide
- Lead
- Nitrogen Dioxide
- Ozone
- Particulate Pollution
- Sulfur Dioxide

Permian Basin MPO is currently in attainment for all criteria air pollutants.

Water Quality

Water Quality Reports

The Utilities Departments of the City of Midland and the City of Odessa oversee water and wastewater operations for their respective communities. Annual reports are issued to provide information about the quality of the drinking water and the efforts made by the system provider to ensure the distribution of safe drinking water. Both communities also promote water conservation as a measure to address the ongoing drought.

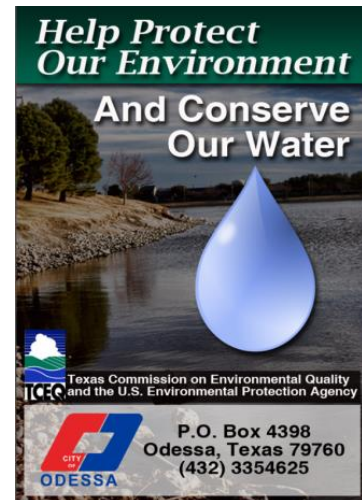




The complete Midland 2013 Water Quality Report can be accessed at <http://www.midlandtexas.gov/ArchiveCenter/ViewFile/Item/152>. The complete Odessa 2013 Water Quality Report can be accessed at <http://www.odessa-tx.gov/modules/showdocument.aspx?documentid=2021>.

Storm Water Management Program (SWMP)

The Storm Water Management Program (SWMP) is a comprehensive program to manage the quality of discharges from the municipal separate storm sewer system (MS4). TxDOT does not utilize a single state-wide SWMP but rather a district-specific SWMP that is based on a standardized plan. A primary part of this effort is to closely monitor and track the discharge of construction storm water into TxDOT's MS4 system. The Texas Commission on Environmental Quality requires that the SWMP must contain a specified number of minimum control measures (MCM). In order to meet each required minimum control measure, TxDOT utilizes best management practices.



Advanced Outfall Tracking System

The Advanced Outfall Tracking System (AOTS) is a GIS application with a central database that holds field-collected spatial data associated with mapped outfalls. It is the system TxDOT uses to track compliance with the Texas Pollutant Discharge Elimination System (TPDES) permit requirements related to the Municipal Separate Storm Sewer System. Currently, the system is only available for use by TxDOT; however the data collection points are shown below.

The system is used to track:

- Outfall locations
- Illicit discharge inspections
- Follow-up inspection of outfalls
- Collection of representative storm water samples
- Physical observation and chemical data screening
- Outfall location classifications

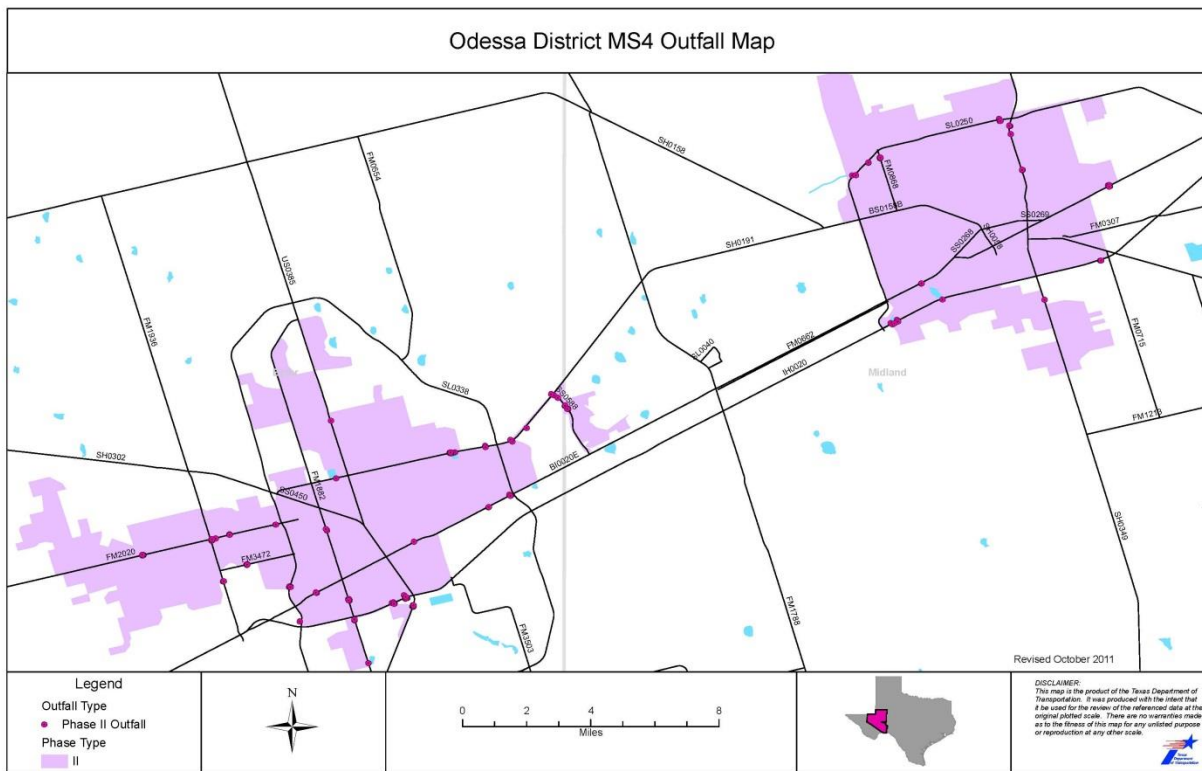
Additional functions include the display of:

- Spatial locations of outfall points
- Images associated with each outfall
- Map tips and reports

Dry weather screening points are chosen based on the tracking system as well as discharge areas and routes.



Map 13.4 TxDOT Odessa District Stormwater Management Program

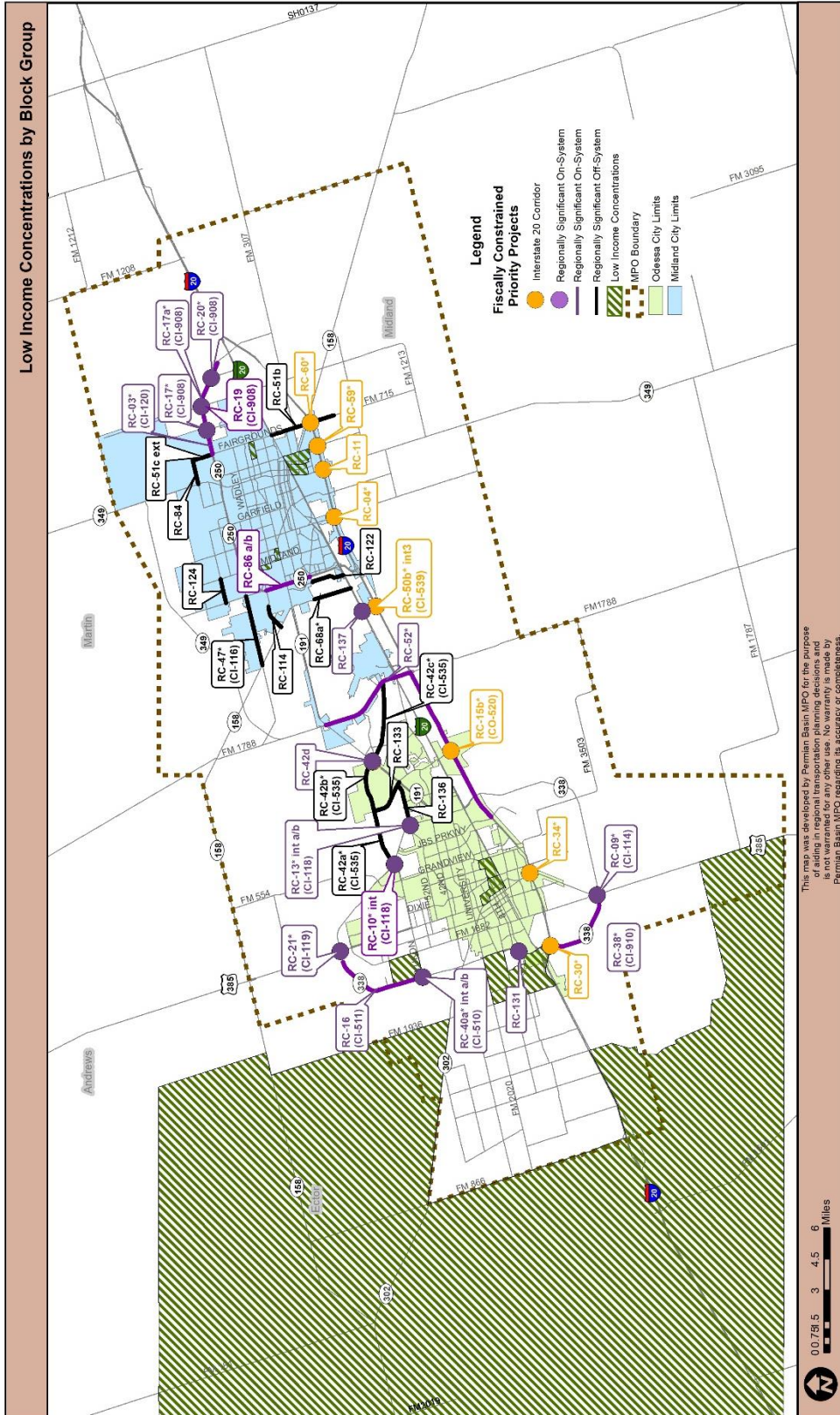


Environmental Justice

The purpose of an environmental justice (EJ) review is to ascertain that federally-funded transportation projects do not adversely impact minority, low-income and limited English proficiency populations. Federal Highway Administration states that “disproportionately high and adverse effects” are the basis for EJ impact. The lowest level of census data available through the 2012 American Community Survey is at the block group level. This limitation is a challenge when attempting to analyze the data available for the portion of Martin County within the MAB. The block group within the Permian Basin MPO boundary covers the vast majority of Martin County and has not been included in the *Vision 2040 Plan Amendment No. 2*. This data will be analyzed further and the Title VI analysis will be updated in the next Title VI/Environmental Justice Program amendment.



Map 13.7 Low Income Concentrations by Block Group



APPENDICES

1.1 - Federal and State Project Scoring Requirements

6.1 - Improvements Required for Two-Way Frontage Road Operation

8.1 - Bicycle and Pedestrian Public Workshop Comments

11.1 - Permian Basin MPO Project Prioritization Process

13.1 - NEPA Assist Priority Project Reports

Table 13. Improvements Required for Two-Way Frontage Road Operation		
Cross Street Interchange	Improvement	Year Needed
FM 1882	Southbound Right Turn Lane at the Northern Intersection	2013
	Westbound Right Turn Lane at the Northern Intersection	2013
	Westbound Left Turn Lane at the Northern Intersection	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection	2013
	Northbound Right Turn Lane at the Southern Intersection	2013
	Eastbound Dual Left Turn Lanes at the Southern Intersection	2013
US 385	Eastbound Left Turn Lane at the Northern Intersection	2013
	Westbound Left Turn Lane at the Northern Intersection	2013
	Westbound Dual Left Turn Lanes at the Northern Intersection	2033
	Southbound Dual Left Turn Lanes at the Southern Intersection	2013
	Eastbound Left Turn Lane at the Southern Intersection	2033
FM 3503	Eastbound Left Turn Lane may be needed.	2033
	Westbound Left Turn Lane may be needed	2033
JBS Parkway	Westbound Left Turn Lane at the Northern Intersection.	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2013
	Eastbound Dual Left Turn Lanes at the Southern Intersection.	2013
Loop 338 (East)	Southbound Right Turn Lane at the Northern Intersection.	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2033
	Eastbound Dual Left Turn Lanes at the Southern Intersection.	2013
FM 1788	Southbound Right Turn Lane at the Northern Intersection.	2013
	Westbound Right Turn Lane at the Northern Intersection.	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection	2013
	Eastbound Dual Left Turn Lanes at the Southern Intersection.	2013
SH 349	Southbound Right Turn Lane at the Northern Intersection.	2013
	Westbound Left Turn Lane at the Northern Intersection.	2013
	Westbound Dual Left Turn Lanes at the Northern Intersection.	2033
	Northbound Dual Left Turn Lanes at the Northern Intersection.	2013
	Eastbound Left Turn Lane at the Northern Intersection.	2033
	Eastbound Dual Left Turn Lanes at the Southern Intersection	2013
FM 715	Southbound Right Turn Lane at the Northern Intersection.	2013
	Westbound Right Turn Lane at the Northern Intersection.	2033
	Northbound Left Turn Lane at the Northern Intersection.	2033
	Southbound Left Turn Lane at the Southern Intersection.	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2033
	Eastbound Dual Left Turn Lanes at the Southern Intersection.	2013
SH 158	Southbound Left Turn Lane at the Western Intersection.	2013
	Southbound Dual Left Turn Lanes at the Western Intersection.	2033
	Westbound Dual Left Turn Lanes at the Western Intersection.	2013
	Eastbound Dual Left Turn Lanes at the Eastern Intersection	2033
	Westbound Right Turn Lane at the Eastern Intersection.	2033
	Northbound Right Turn Lane at the Eastern Intersection.	2013

Cross Street Interchange	Improvement	Year Needed
Loop 338 (West)	Westbound Left Turn Lane at the Northbound Loop 338 Service Road Intersection with the Southern Frontage Road.	2013
	Westbound Left Turn Lane at the Southbound Loop 338 Service Road Intersection with the Southern Frontage Road.	2013
Loop 250 (West)	Installation of a Traffic Signal at this Interchange.	2013
	Southbound Right Turn Lane at the Northern Intersection.	2033
	Westbound free flowing channelized right turn lane at the Northern Intersection.	2013
	Westbound Left Turn Lane at the Northern Intersection.	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2013
	Eastbound left turn lane at the Southern Intersection.	2013
South Midkiff Road	Eastbound Dual Left Turn Lanes at the Southern Intersection.	2033
	Installation of a Traffic Signal at this Interchange.	2013
	Westbound Left Turn Lane at the Northern Intersection.	2013
	Eastbound Left Turn Lane at the Southern Intersection.	2013
FM 307	Southbound Left Turn Lane at the Southern Intersection.	2013
	Westbound left turn lane at the Western Intersection.	2013
	Westbound left turn lane at the Eastern Intersection.	2033

The improvements listed in **Table 13** above will improve the flow of traffic within the study area. However, several segments of the frontage roads would continue to operate at an unacceptable LOS during the peak period of traffic if the two way frontage roads were to remain in place. This reduction in capacity of the frontage road segments will continue to cause congestion along the corridor most especially at the frontage road intersections with the sidestreets.

Should the frontage roads be converted from a two way operation to a one way operation this will significantly decrease the congestion within the corridor. All segments of the corridor are projected to operate at an acceptable LOS during the peak periods of traffic and the congestion within the corridor will be reduced. However, some improvements will be needed within the corridor as shown in **Table 14**. The same criteria which were used to determine the improvements for the two way operation were applied in order to determine locations where improvement would be needed with the one way operation.

Table 14. Improvements Required for One-Way Frontage Road Operation (Additional Improvements)		
Cross Street Interchange	Improvement	Year Needed
US 385	Westbound Dual Left Turn Lanes at the Northern Intersection.	2013
	Eastbound dual left turn lanes at the Southern Intersection.	2033
FM 3503	Westbound Right Turn Lane at the Intersection.	2013
JBS Parkway	Westbound Dual Left Turn Lanes at the Northern Intersection.	2013
Loop 338 (East)	Westbound Left Turn Lane at the Northern Intersection.	2033
	Northbound Dual Left Turn Lanes at the Northern Intersection.	2033
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2033
Faudree Road (Proposed)	Southbound Left Turn Lane at the Southern Intersection.	2033
	Eastbound Left Turn Lane at the Southern Intersection.	2033
Park Road (Proposed)	Westbound Left Turn Lane at the Northern Intersection.	2033
	Southbound Left Turn Lane at the Southern Intersection.	2013
	Westbound Left Turn Lane at the Southern Intersection.	2013
	Westbound Left Turn Lane at the Southern Intersection.	2033
FM 1788	Westbound Left Turn Lane at the Northern Intersection.	2013
	Westbound Dual Left Turn Lanes at the Northern Intersection.	2033
East Airport (Proposed)	Southbound Left Turn Lane at the Southern Intersection.	2013
	Eastbound Left Turn Lane at the Southern Intersection.	2033
Scharbauer Rd (Proposed)	Southbound Left Turn Lane at the Southern Intersection.	2013
	Eastbound Left Turn Lane at the Southern Intersection.	2033
SH 349	Westbound Right Turn Lane at the Northern Intersection.	2033
	Westbound Dual Left Turn Lanes at the Northern Intersection	2013
	Southbound Dual Left Turn Lanes at the Southern Intersection.	2033
	Northbound Right Turn Lane at the Southern Intersection.	2033
	Eastbound Right Turn Lane at the Southern Intersection.	2033
FM 715	Westbound Left Turn Lane at the Northern Intersection.	2013
	Northbound Left Turn Lane at the Northern Intersection.	2013
	Westbound Dual Left Turn Lanes at the Northern Intersection.	2013
SH 158	Northbound Left Turn Lane at the Eastern Intersection.	2033
	Northbound Dual Left Turn Lanes at the Eastern Intersection	2013
FM 307	Westbound Left Turn Lane at the Western Intersection	2013

ODESSA Bicycle and Pedestrian Related Public Comment April/May 2013

Frequency	Road	From	To	At	Comments
2	Loop 338	SH 191	E. University		Bike lanes around UTPB and N/S on Lp 338 Need bicycle/pedestrian lanes on major streets Need more sidewalks
1	S. Loop 338	IH-20	US 385/Grant Ave.		Would like bike lanes
TOTAL					
3					

MIDLAND Bicycle and Pedestrian Related Public Comments April/May 2013

Frequency	Road	From	To	At	Comments
1	Lamesa Rd	E. Cuthbert Ave.	E. Front St.		Bike Lanes Add Lane
1	Loop 250	SH 191	N. Garfield St.		Bike Lanes Add Lane
1	Midland Dr.	Loop 250	BI-20/Wall St.		Bike Lanes Add Lane
1	Midkiff Rd.	Loop 250	BI-20/Wall St.		Bike Lanes Add Lane
1	Garfield St.	Loop 250	Illinois Ave.		Bike Lanes Add Lane
1	A St.	Wadley Ave.	Wall St.		Bike Lanes Add Lane
1	SH 349/ Big Spring St.	Wadley Ave.	Wall St.		Bike Lanes Add Lane
1	Thomason Dr.	Loop 250	Wall St.		Bike Lanes Add Lane
1	Andrews Hwy	SH 191	Wall St.		Bike Lanes Add Lane
1	Golf Course Rd.	Midkiff Rd.	SH 349/Big Spring St.		Bike Lanes Add Lane
1	Illinois Ave.	Midland Dr.	A. St.		Bike Lanes Add Lane
TOTAL					
11					

MIDLAND Bicycle and Pedestrian Related Public Comments April/May 2013

Frequency	Road	From	To	At	Comments
1	Midland Dr.			Loop 250	Pedestrian Construct Sidewalk
1	Loop 250	Midkiff Rd.	Garfield St.		Pedestrian Construct Sidewalk

APPENDIX 8.1

1	Wall St.	A St.	Front St.	Pedestrian	Construct	Sidewalk
1	Front St.	SH 349/Big Spring St.	Lamesa Rd.	Pedestrian	Construct	Sidewalk
1	SH 349/ Big Spring St.	Cuthbert Ave.	Florida Ave.	Pedestrian	Construct	Sidewalk
1	Lamesa Rd	Cuthbert Ave.	SH 158/Garden City Hwy	Pedestrian	Construct	Sidewalk
1	Cuthbert Ave.	SH 349/Big Spring St.	Main St.	Pedestrian	Construct	Sidewalk
1	Florida Ave.	SH 349/Big Spring St.	Main St.	Pedestrian	Construct	Sidewalk
1	Main St.	Cuthbert Ave.	Florida Ave.	Pedestrian	Construct	Sidewalk
1	W.Golf Course	Midkiff Rd.	A. St.	Pedestrian	Construct	Sidewalk
1	E. Golf Course	US 349/Big Spring St.	Fairgrounds Rd.	Pedestrian	Construct	Sidewalk
1	US 349/Big Spring St.	Wadley Ave.	Golf Course Rd.	Pedestrian	Construct	Sidewalk
1	US 349/Big Spring St.	Wadley Ave.	Cuthbert Ave.	Pedestrian	Construct	Sidewalk
1	Front St.	US 349/Big Spring St.	Fairgrounds Rd.	Pedestrian	Construct	Sidewalk
1	Cloverdale Rd.	Lamesa Rd.	Fairgrounds Rd.	Pedestrian	Construct	Sidewalk
1	SH 349/ Big Spring St.	New Jersey Ave.	IH-20	Pedestrian	Construct	Sidewalk
1	Illinois Ave.	Midland Dr.	Andrews Hwy	Pedestrian	Construct	Sidewalk
TOTAL						
17						

Permian Basin MPO Project Evaluation Criteria & Scorecard

The following Project Evaluation Criteria will be used to score the projects during the development of a prioritized list of short-and long-term transportation investments in the 2015-2040 Metropolitan Transportation Plan.

I. Safety /Traffic Operations

1. **Current Congestion:** Is this project on the MPO's Congestion Management Network map?
 - a. Yes.....20 points
 - b. No.....0 points

Does the project emphasize the reduction in congestion?

 - a. Yes.....10 points
 - c. No..... 0 points

2. **Operational Efficiency:** Does this project include elements that specifically improve the operational efficiency of the transportation system?
 - a. Yes..... 20 points
 - b. No..... 0 points

3. **Safety:** Does this project address a safety need?
 - a. Yes..... 20 points
 - b. No..... 0 points

4. **Security:** Does this project improve system security?
 - a. Yes..... 10 points
 - b. No..... 0 points

5. **System Preservation:** Does this improvement emphasize system preservation?
 - a. Yes..... 20 points
 - b. No..... 0 points

II. Integration with Other Modes

6. **Other Modes:** Does this project provide access to one or more alternative modes of transportation (bicycling, walking, transit, air travel) according to city/county plans?
 - a. Yes.....10 points
 - b. No.....0 points

7. **Freight/Goods Movement:** Does this project enhance the movement of freight in and out of the Metropolitan Area Boundary?
 - a. Yes..... 10 points
 - b. No..... 0 points

III. Community Development

8. **Economic Development:** Does the project support an economic development initiative of the region?
 - a. Yes..... 20 points
 - b. No..... 0 points

9. **Community Support:** Does this project have the support of the community including as identified through public meetings and/or letters of support?
 - a. Max 10 points

10. **Travel and Tourism:** Does the project enhance travel and tourism?
 - a. Yes..... 10 points
 - b. No..... 0 points

APPENDIX 11.1

- 11. **Resiliency and Reliability:** Does this project promote system resiliency and reliability?
 - a. Max 20 points
- 12. **Socioeconomic Effect:** Will socioeconomic conditions be improved? (Environmental Justice, Title VI Populations, Limited English Proficiency Populations, etc.)
 - a. Yes..... 10 points
 - b. No..... 0 points

IV. Environmental Factors

- 13. **NEPAssist:** Has the NEPAssist Tool been utilized in the consideration of the project’s environmental effects?
 - a. Yes..... 5 points
 - b. No..... 0 points
- 14. **Stormwater:** Has a drainage analysis been completed?
 - a. Yes..... 10 points
 - b. No..... 0 points

Will there be improvements to alleviate a stormwater issue?

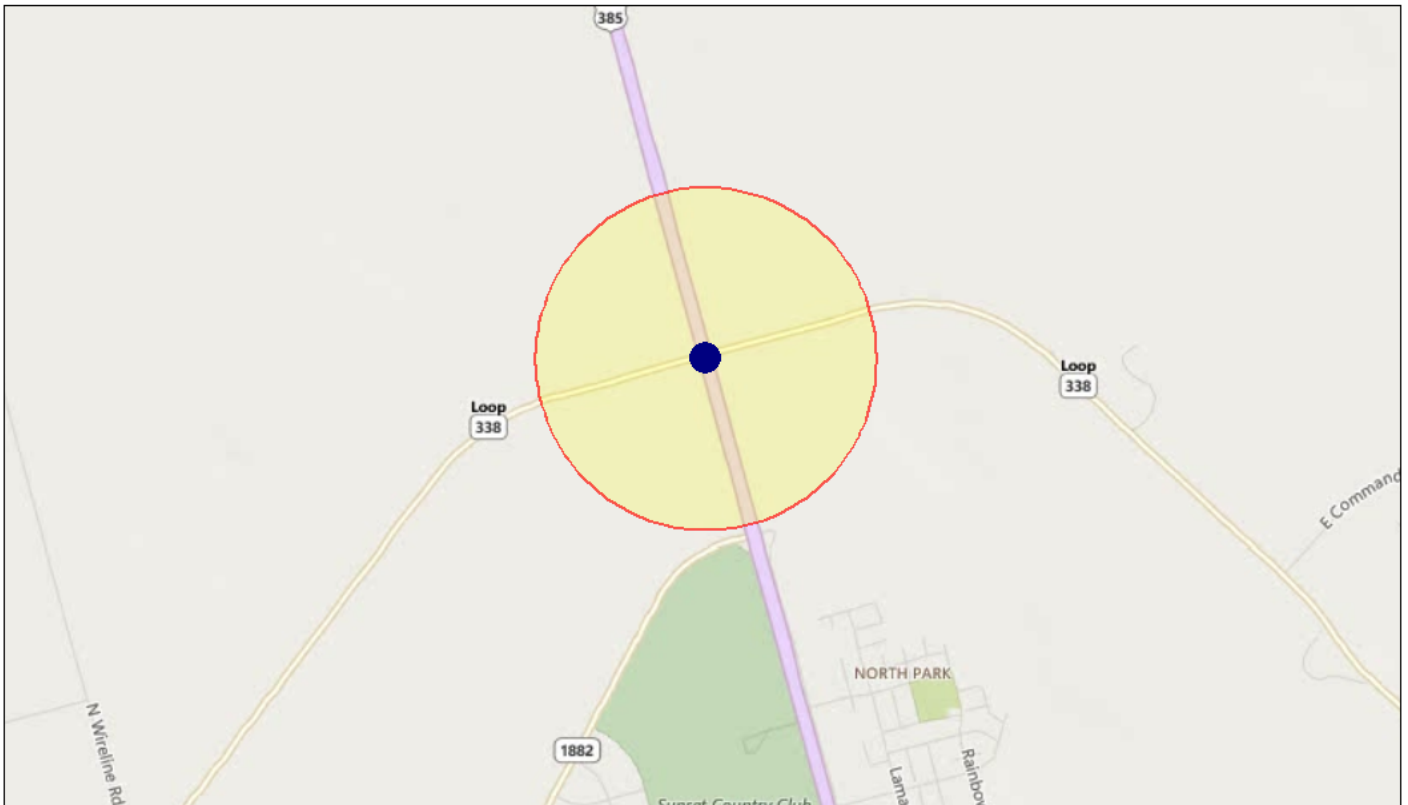
 - a. Max 10 points

V. Project Readiness/System Management

- 15. **Right of Way:** What is the availability of Right of Way?
 - a. Currently available 20 points
 - b. Available within the next five years 10 points
 - c. Available beyond five years 0 points
- 16. **Schematics:** What is the status of project schematics?
 - a. Completed 20 points
 - b. Started..... 10 points
 - c. None available 0 points
- 17. **Environmental Clearance:** What is the status of the NEPA Process?
 - a. Completed 30 points
 - b. Started..... 10 points
 - c. None available 0 points
- 18. **Plan Specification & Estimates:** What is the status of plan specifications & estimates?
 - a. Completed 20 points
 - b. Started..... 10 points
 - c. None available 0 points
- 19. **Alternative Funding:** Does this project include non-traditional funding?
 - a. If yes, 2 points for every percentage of project cost 30 points Max
 - b. No 0 points
- 20. **Relationship to Another Project:** Does this project complete or fill a gap in an existing Corridor(s)?
 - a. Yes..... 30 points
 - b. No..... 0 points

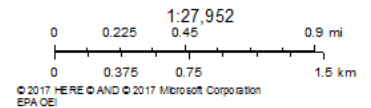
NEPAssist Report

RC-21* (CI-119)



April 25, 2017

- Project 50
- Buffer Area



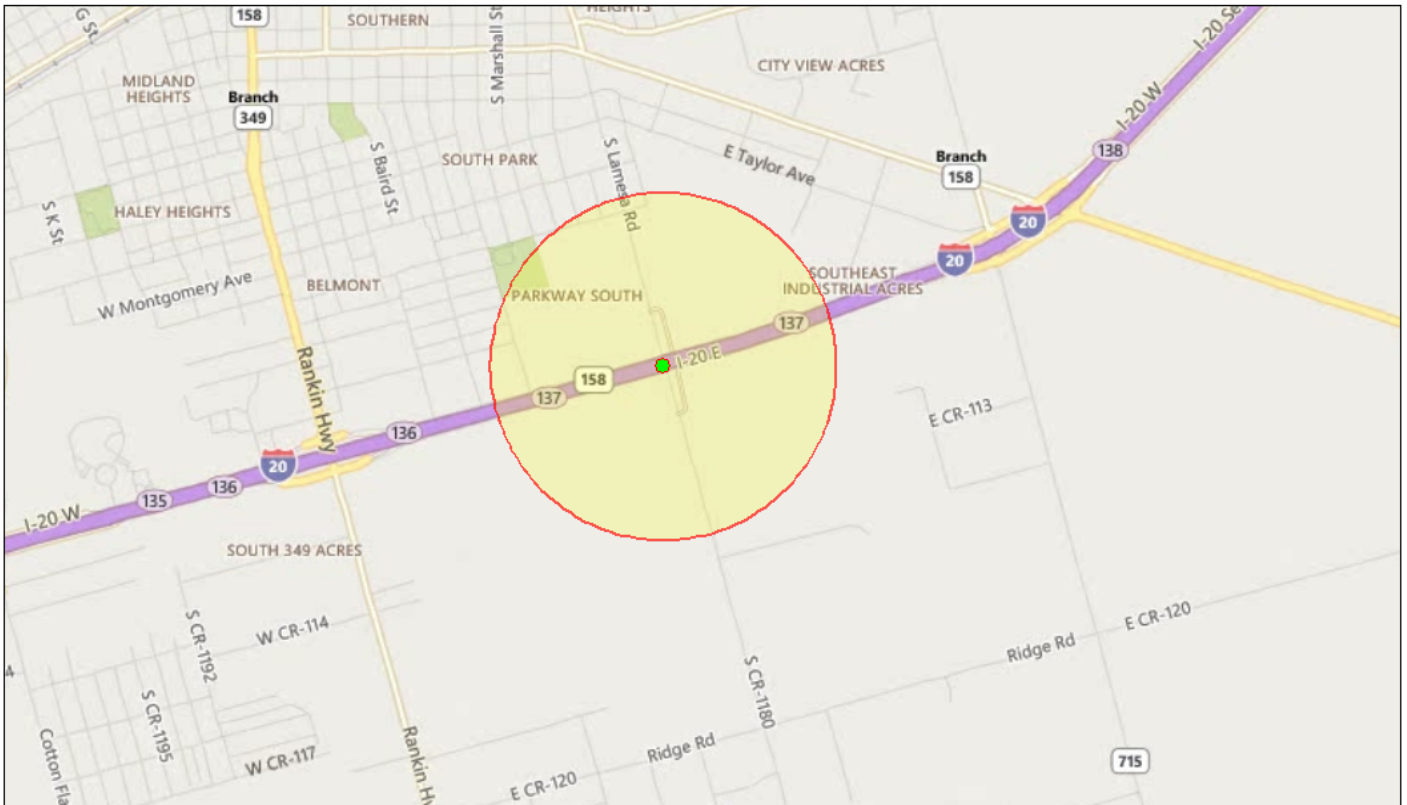
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Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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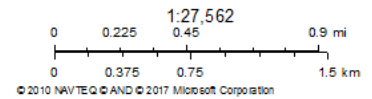
NEPAssist Report

RC-59*



April 24, 2017

- Project 2
- Buffer Area



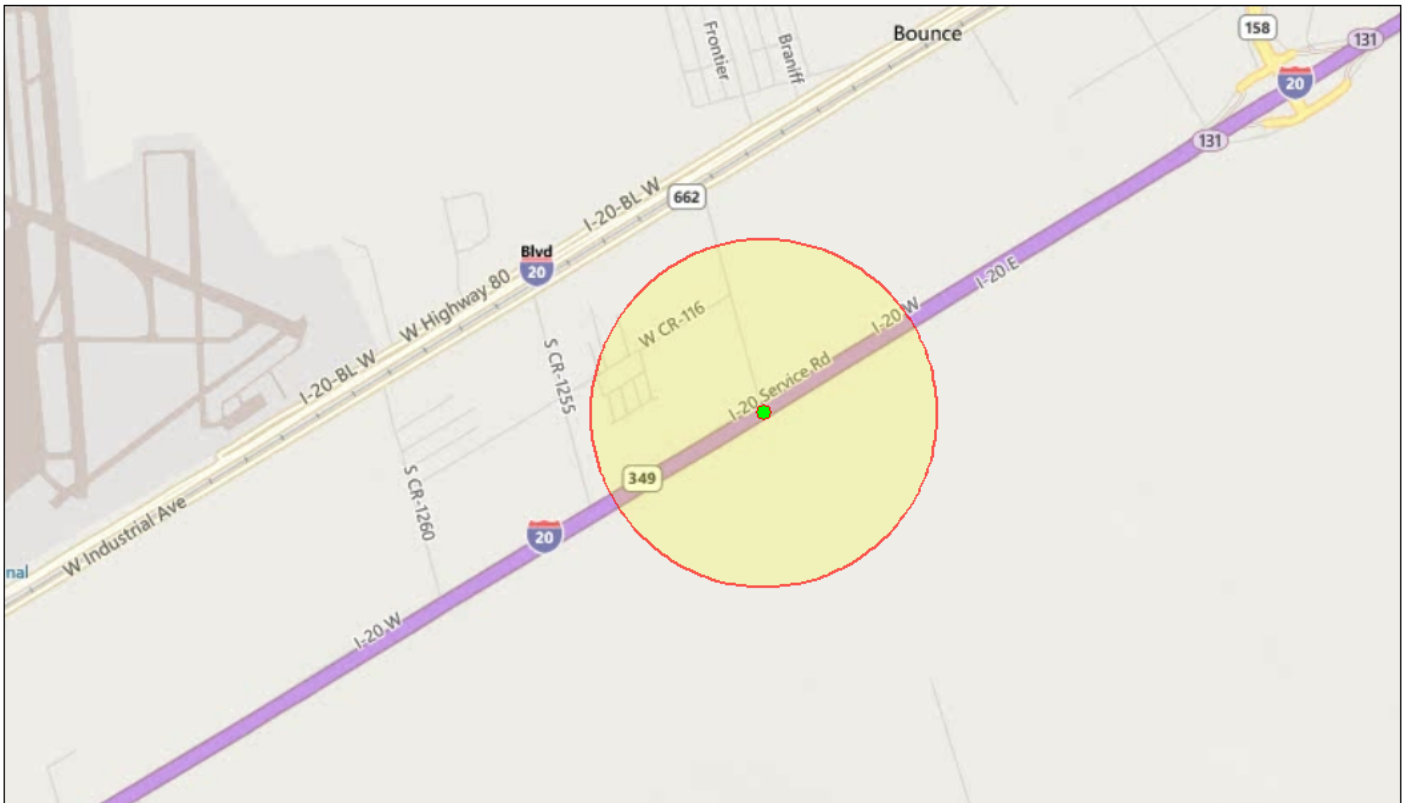
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Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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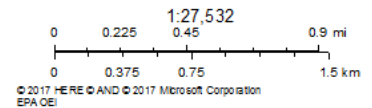
NEPAssist Report

RC-50b* int3 (CI-539)



April 25, 2017

- Project 45
- Buffer Area



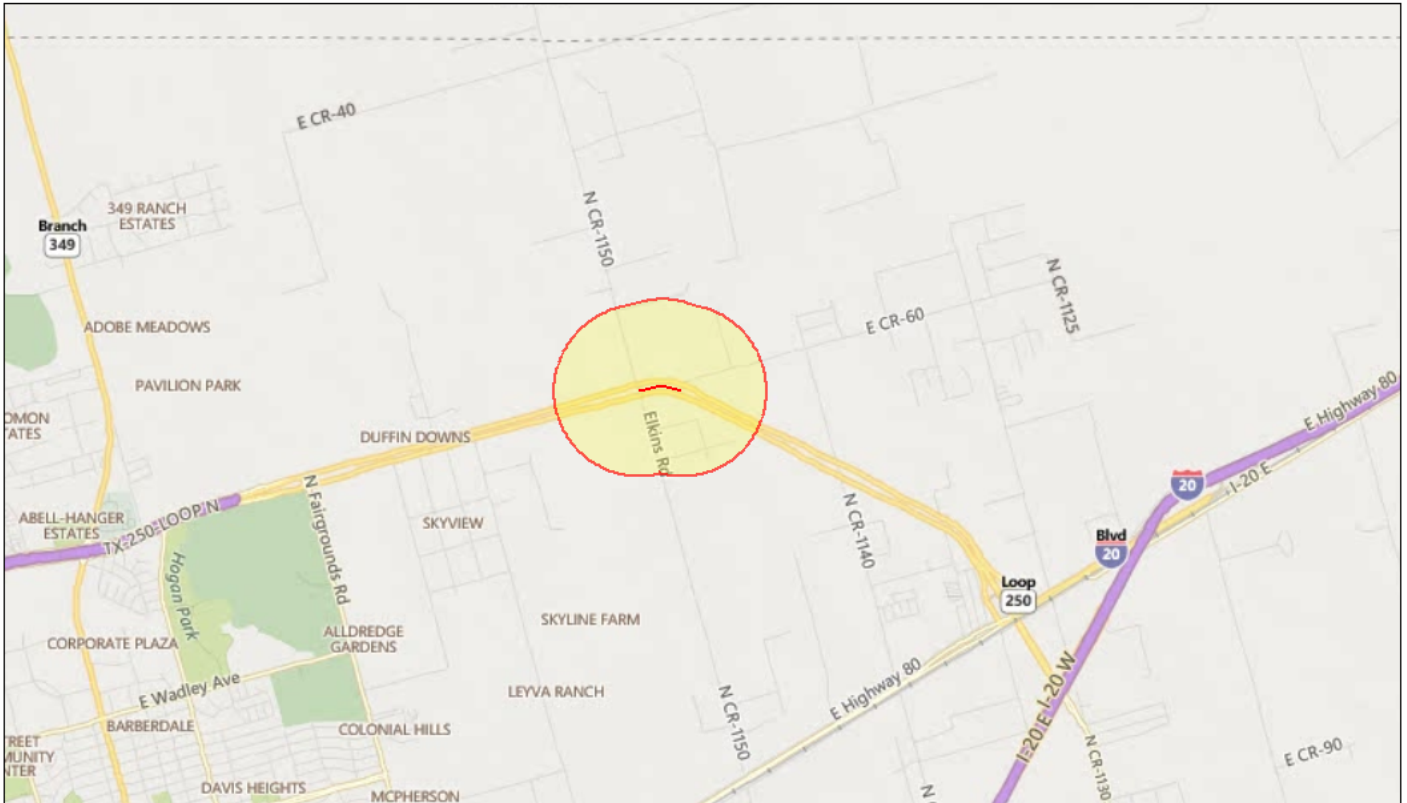
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Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
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Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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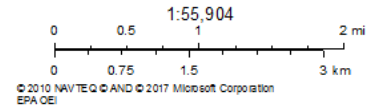
NEPAssist Report

RC-19* (CI-908)



April 25, 2017

- Project 48
- Buffer Area



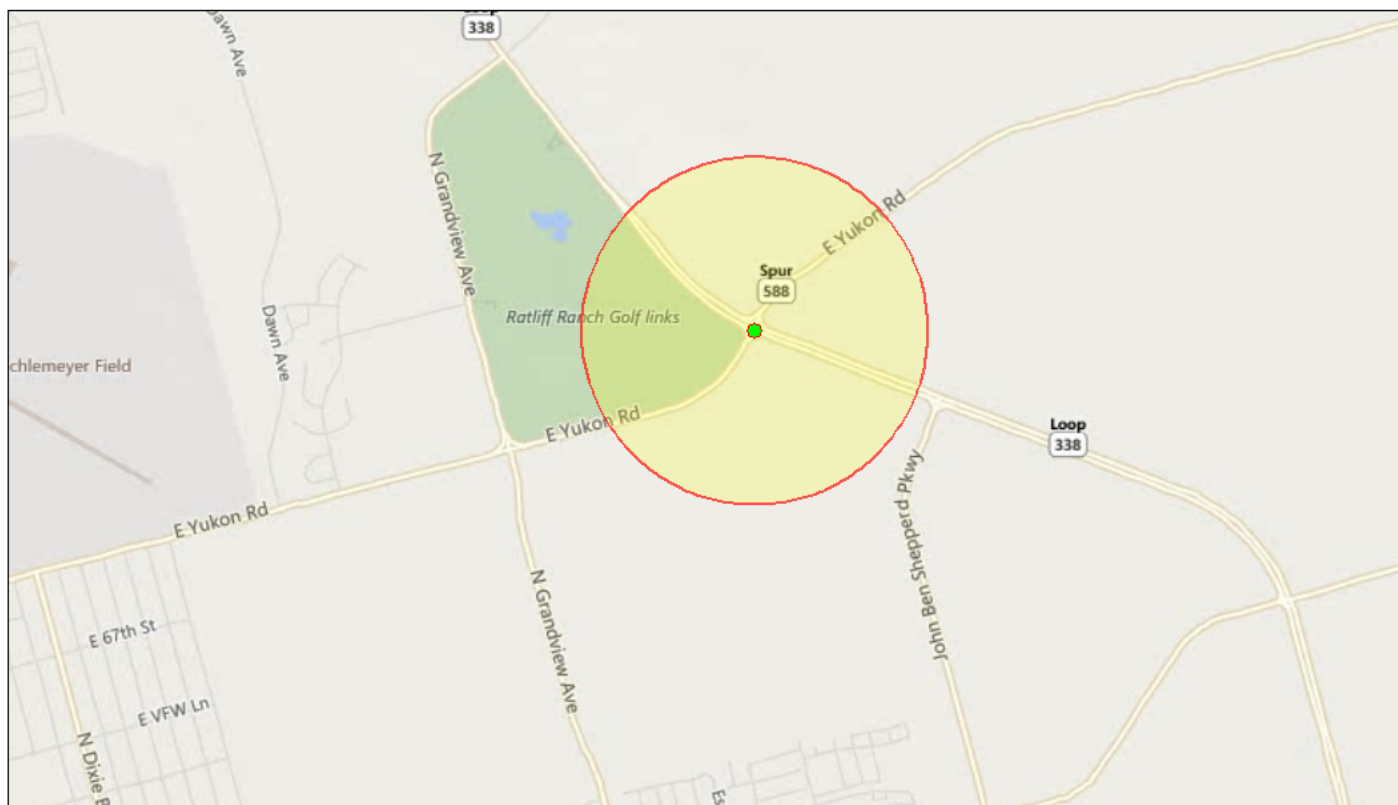
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Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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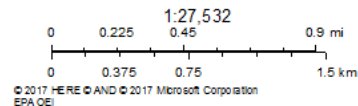
NEPAssist Report

RC-10* int (CI-118)



April 25, 2017

- Project 43
- Buffer Area



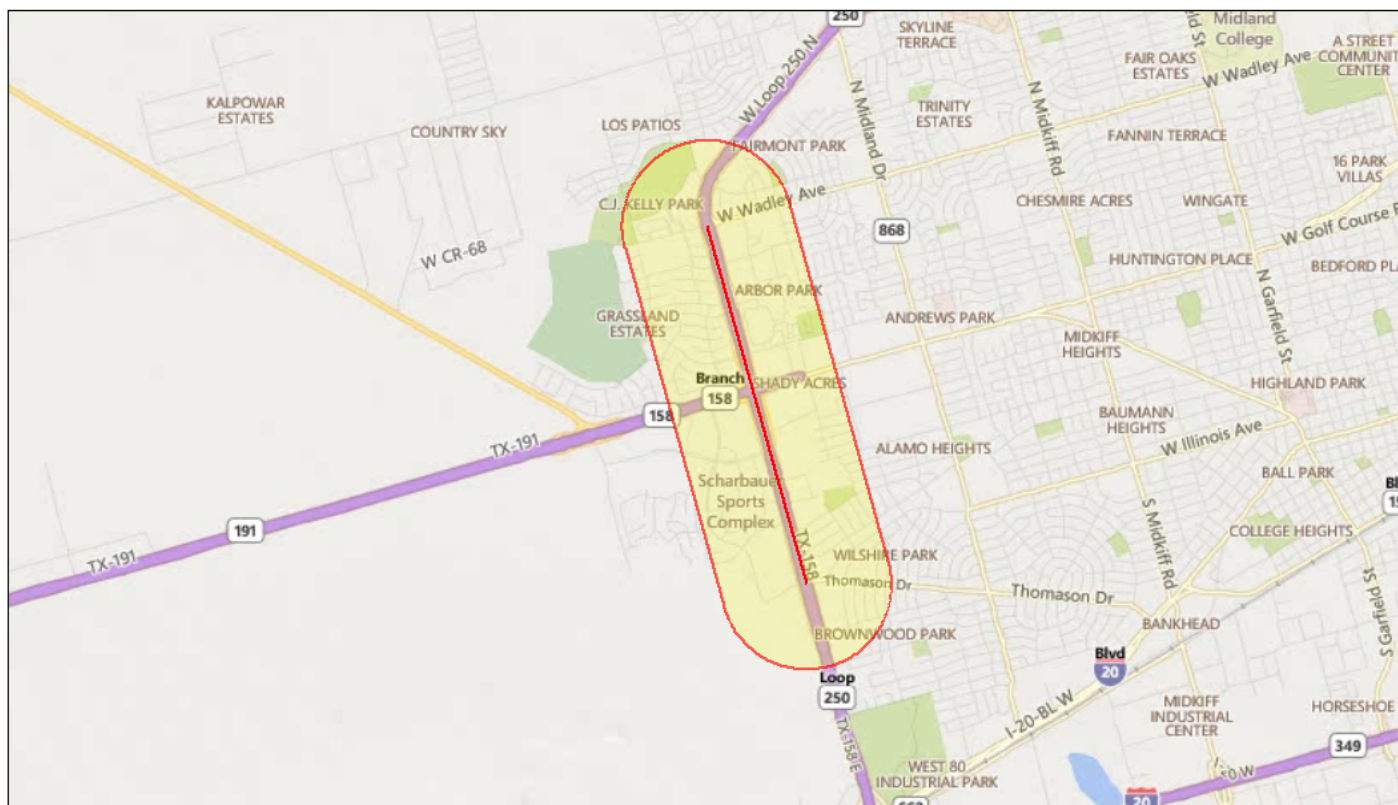
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Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
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Within 0.5 miles of a RADInfo site?	no

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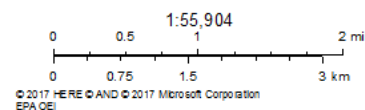
NEPAssist Report

RC-86



April 25, 2017

- Project 49
- Buffer Area



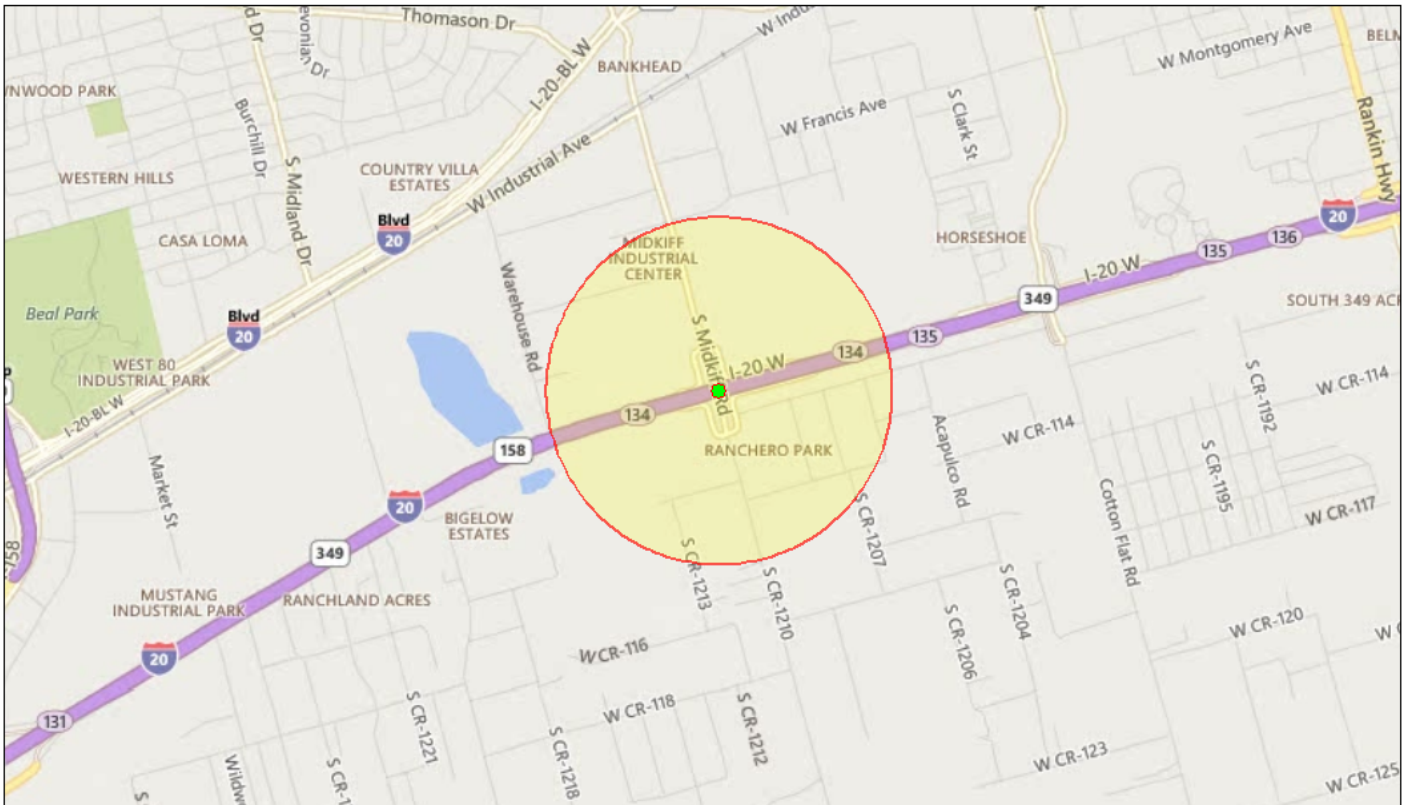
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Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	yes
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
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Within 0.5 miles of a RADInfo site?	no

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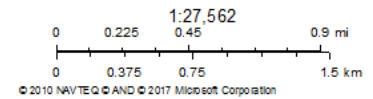
NEPAssist Report

RC-04*



April 24, 2017

- Project 1
- Buffer Area



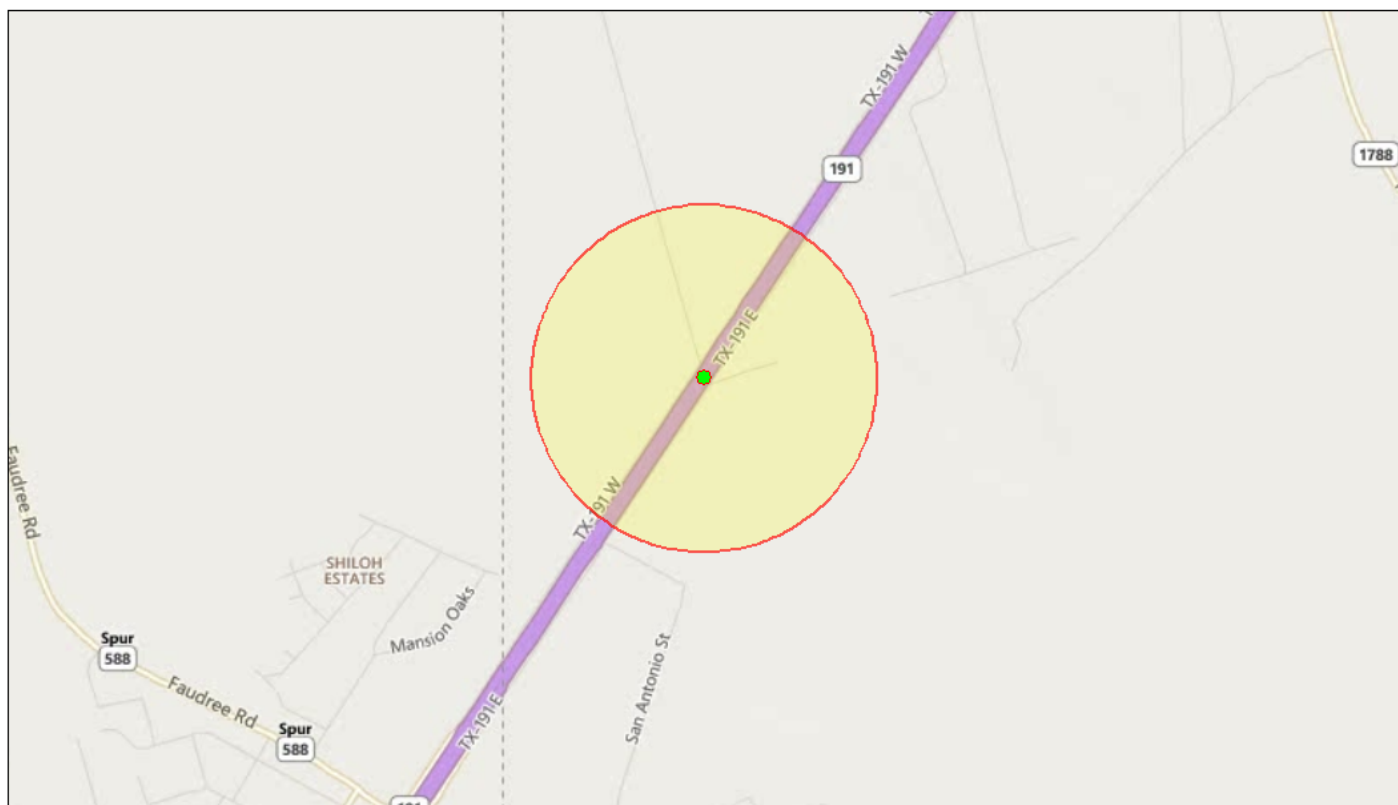
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Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
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Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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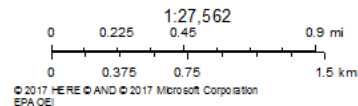
NEPAssist Report

RC-42d



April 24, 2017

- Project 1
- Buffer Area



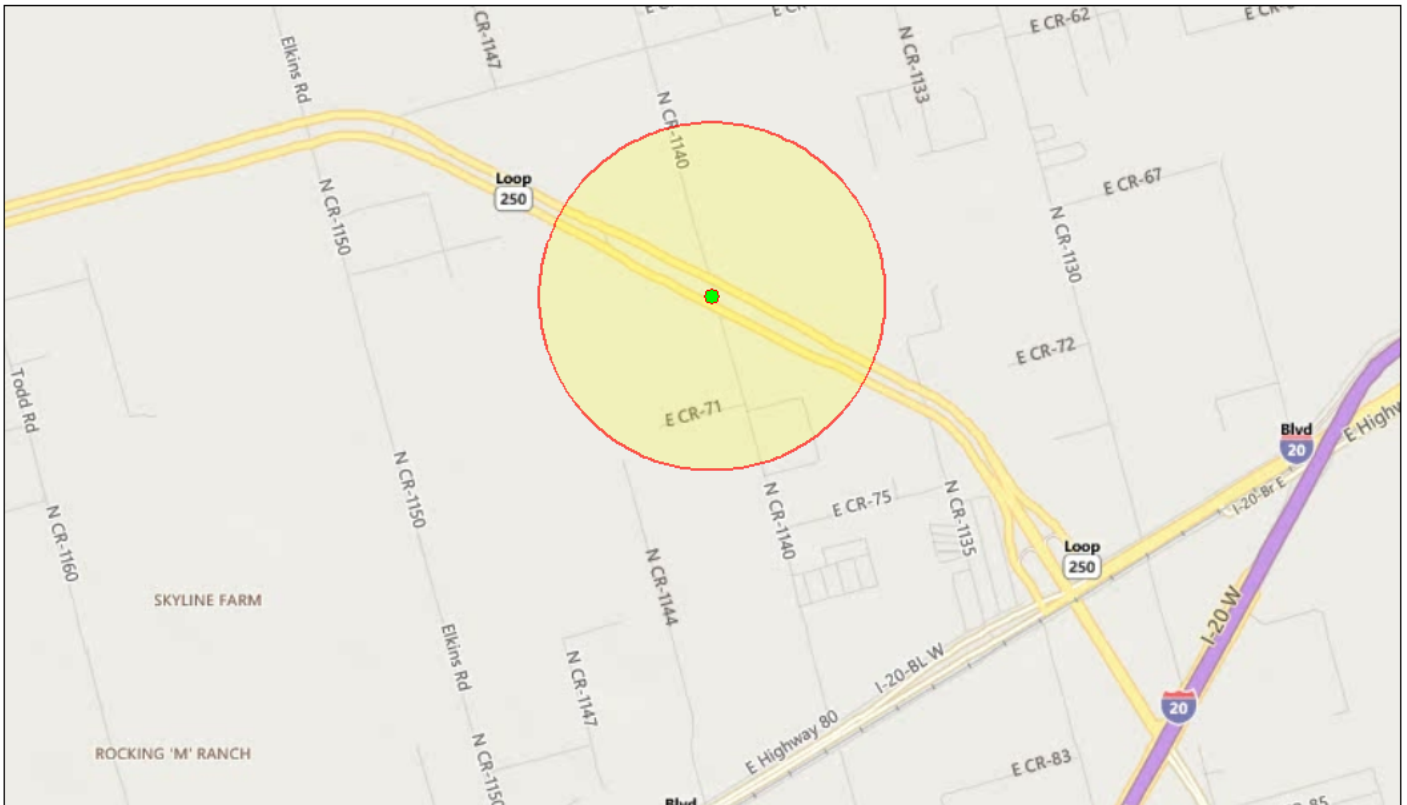
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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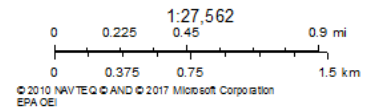
NEPAssist Report

RC-20* (CI-908)



April 24, 2017

- Project 2
- Buffer Area



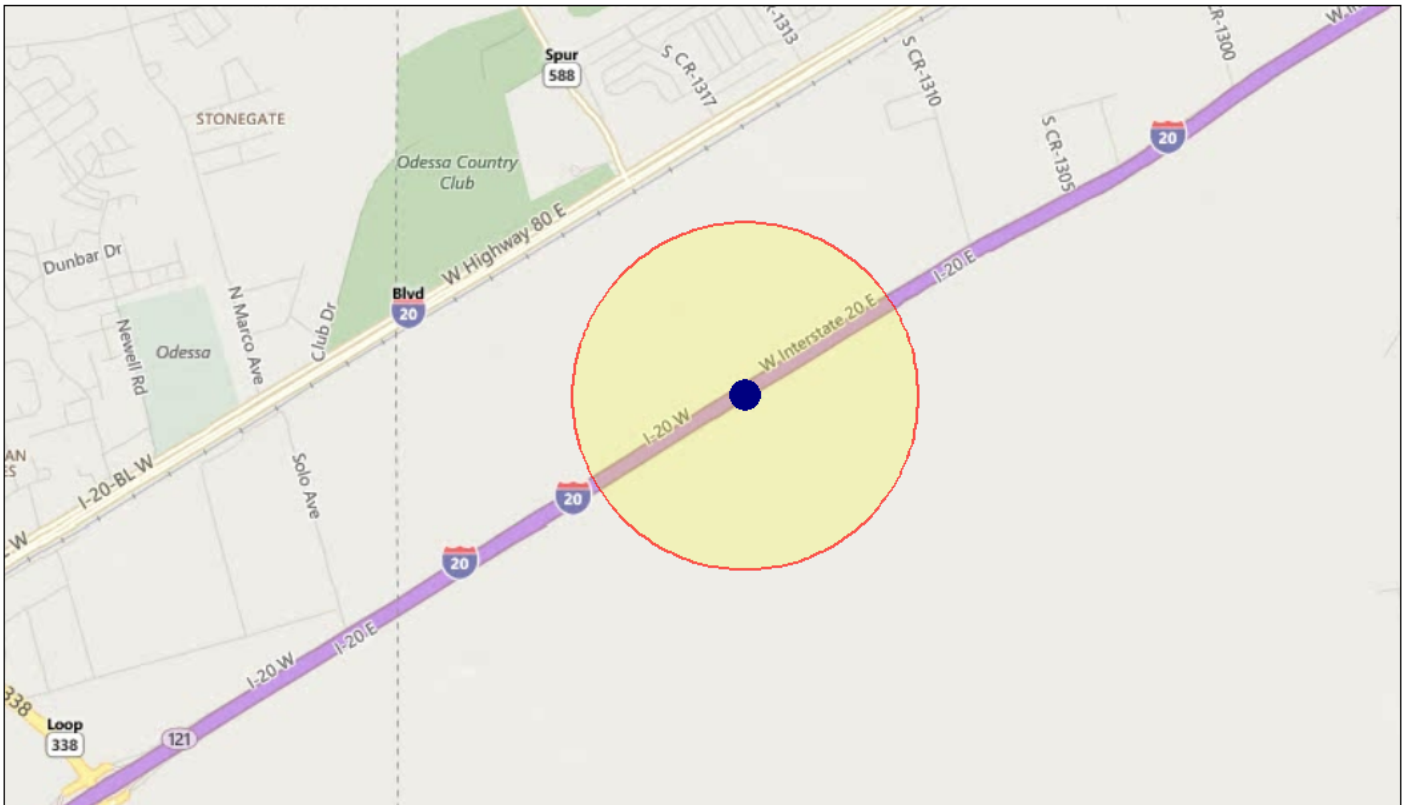
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Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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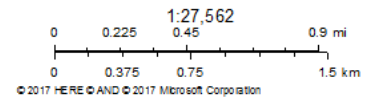
NEPAssist Report

RC-15b* (CO-520)



April 24, 2017

- Project 3
- Buffer Area



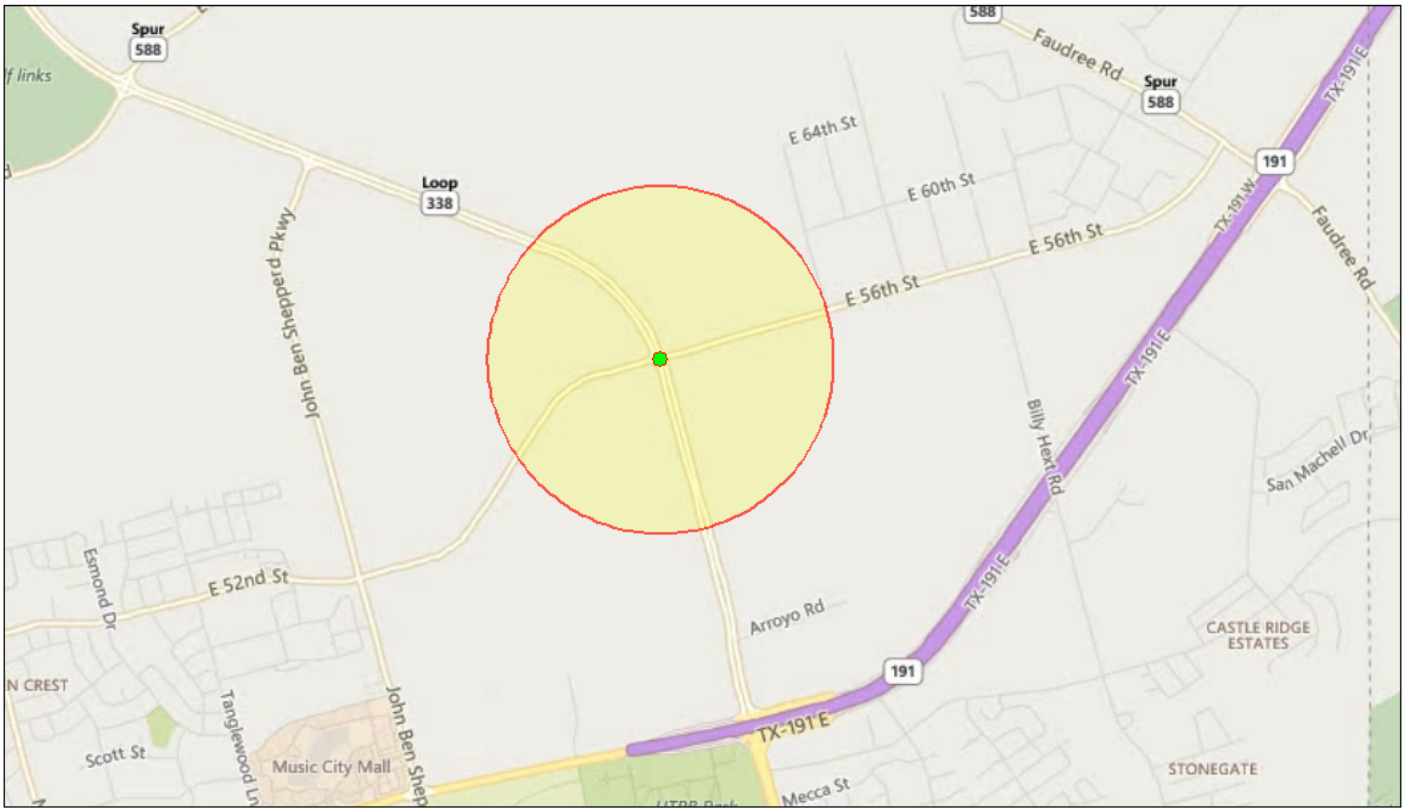
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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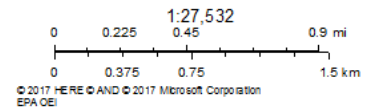
NEPAssist Report

RC-13* int (CI-118)



April 25, 2017

- Project 38
- Buffer Area



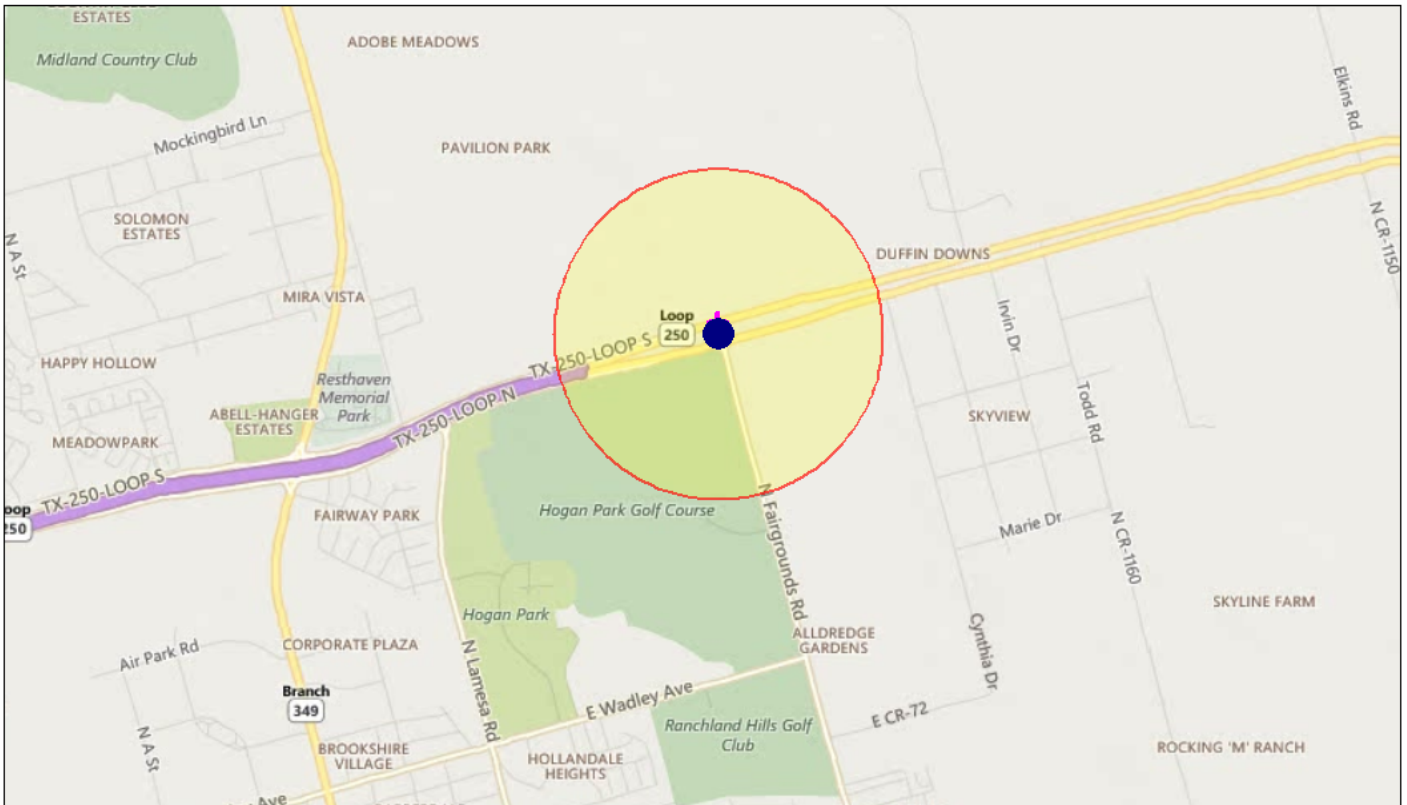
Project Location	31.911647,-102.322117
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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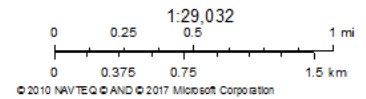
NEPAssist Report

RC-03a* (CI-120)



April 24, 2017

- Project 1
- Buffer Area
- + Search Result (point)



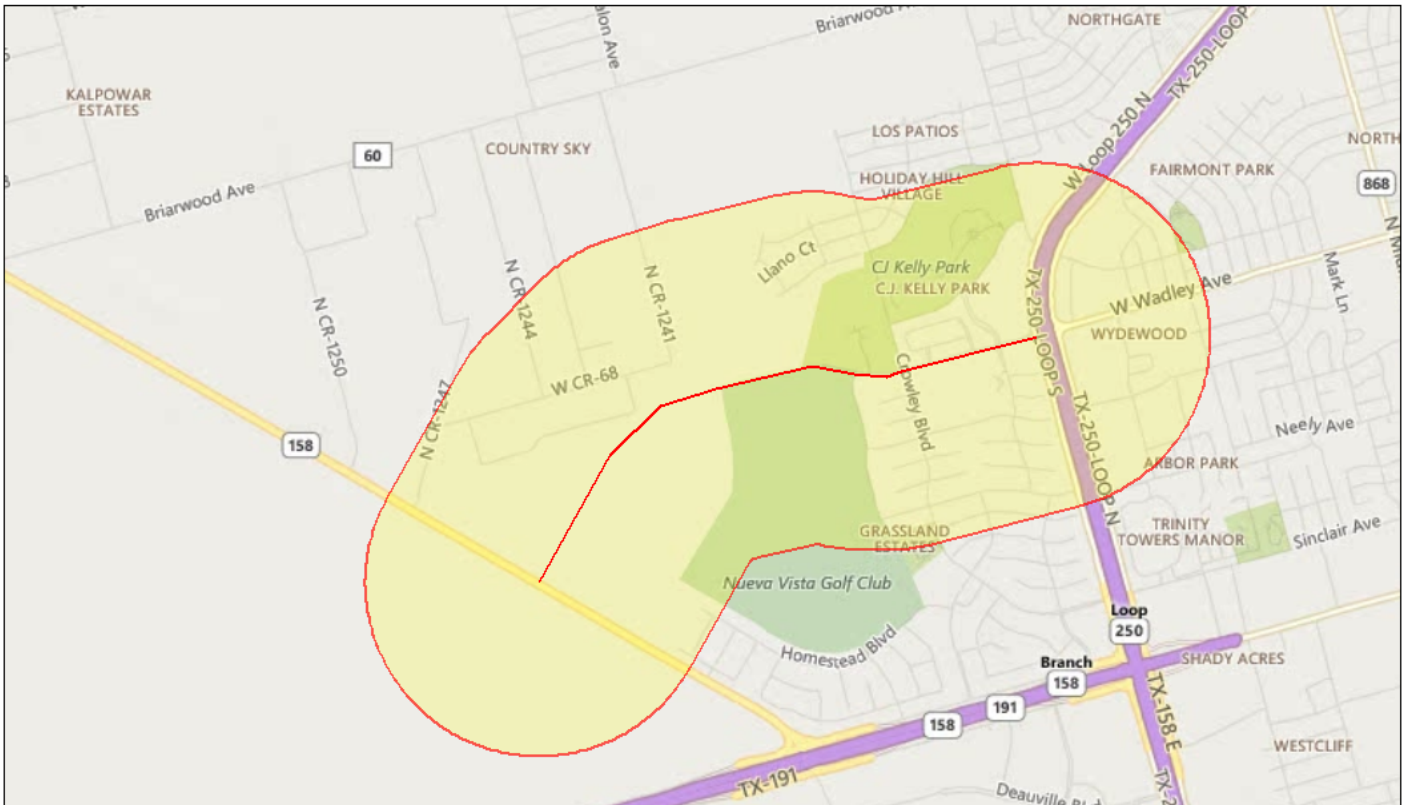
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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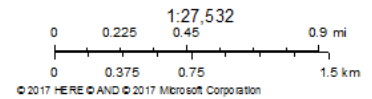
NEPAssist Report

RC-114



April 25, 2017

- Project 4
- Buffer Area



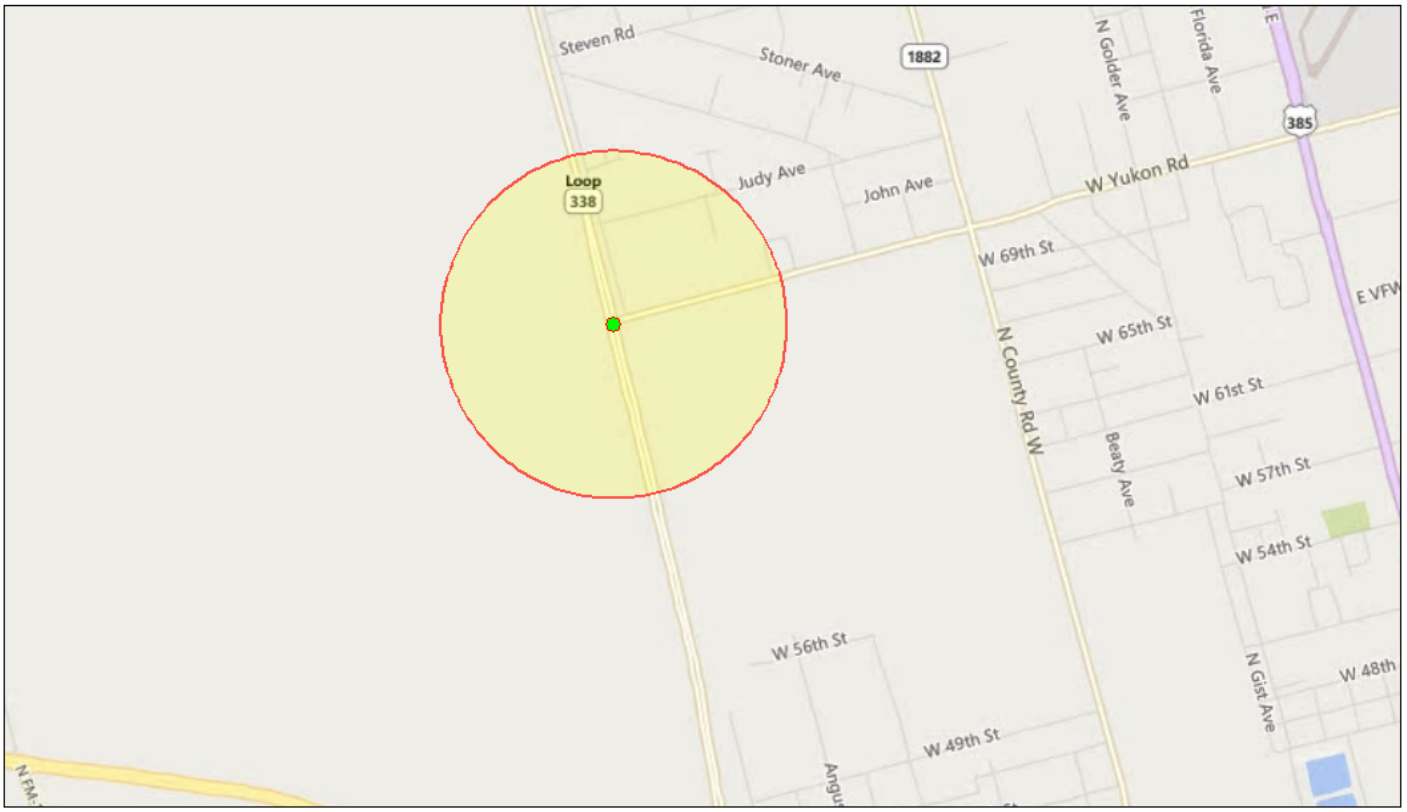
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Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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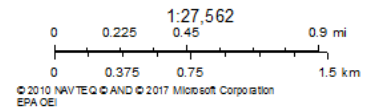
NEPAssist Report

RC-40a* int (CI-510)



April 24, 2017

- Project 4
- Buffer Area



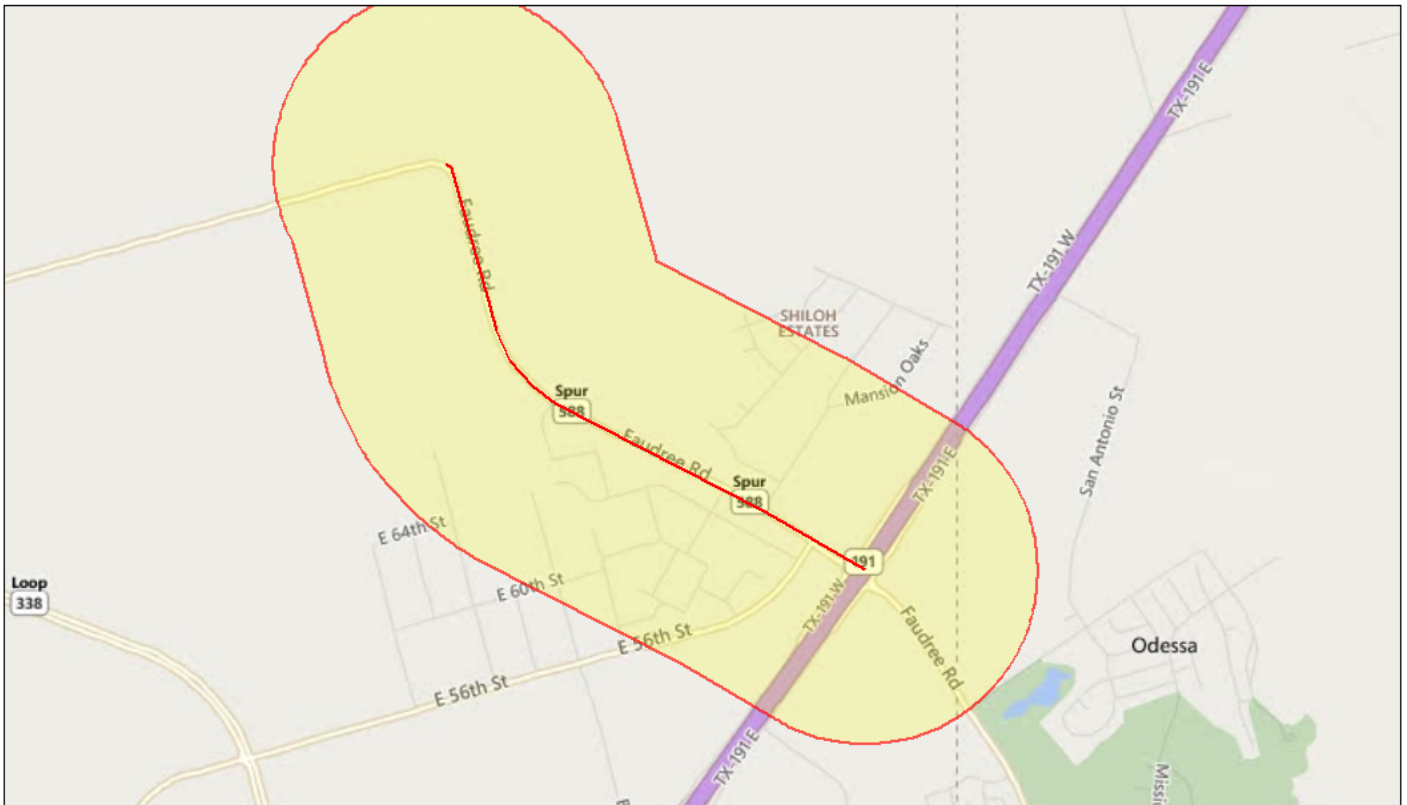
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Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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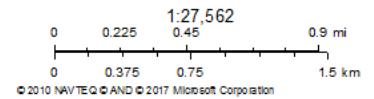
NEPAssist Report

RC-133



April 24, 2017

- Project 6
- Buffer Area



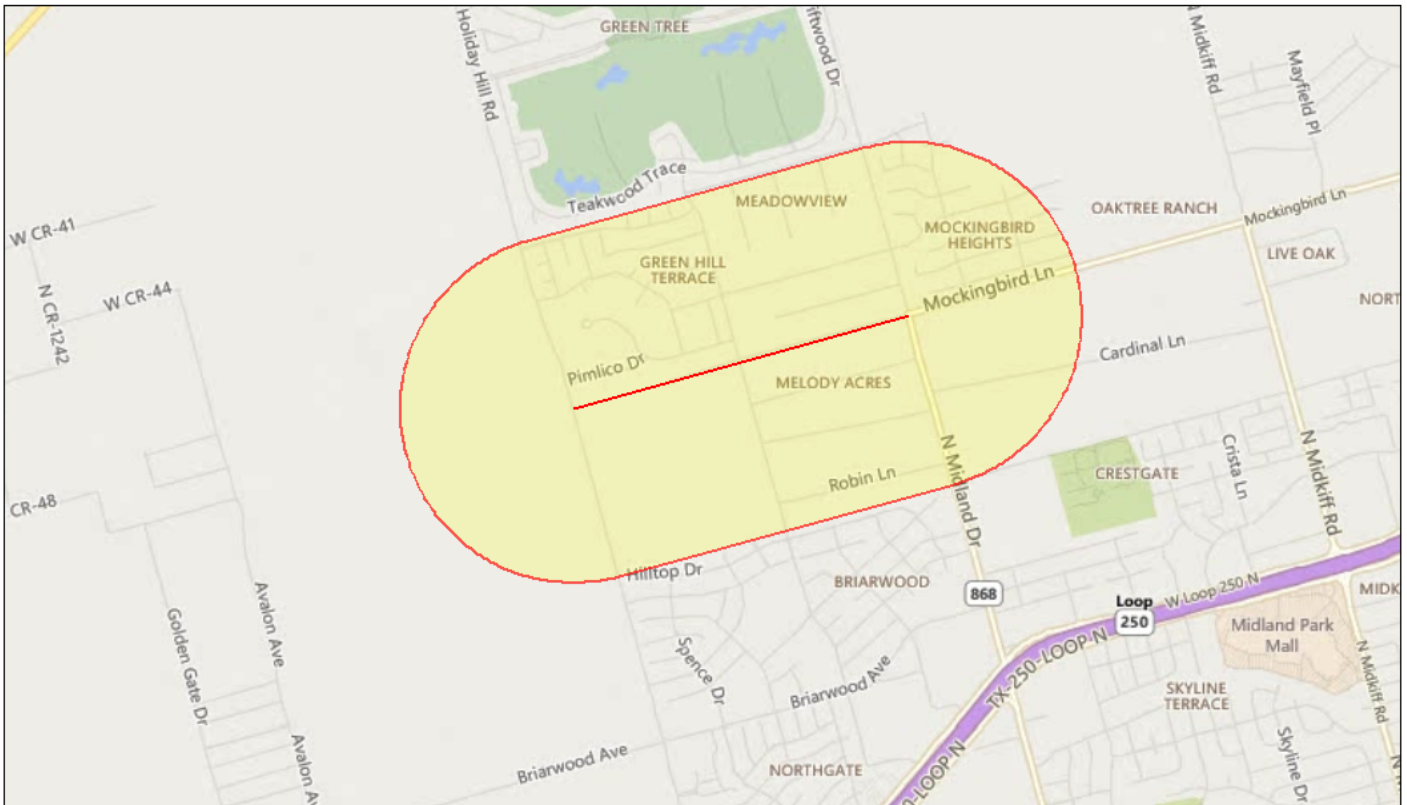
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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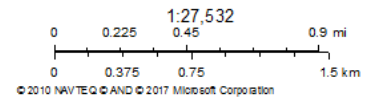
NEPAssist Report

RC-124



April 25, 2017

- Project 7
- Buffer Area



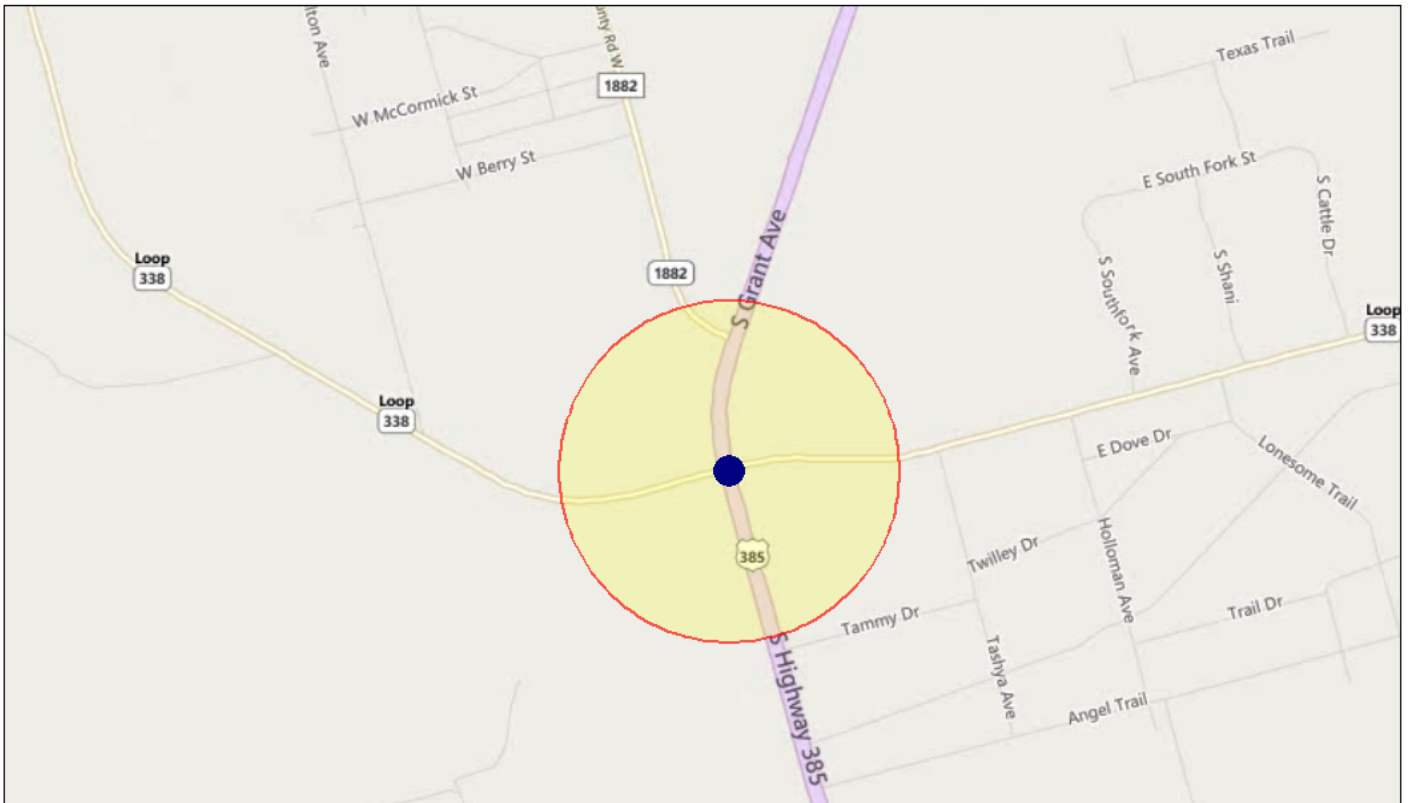
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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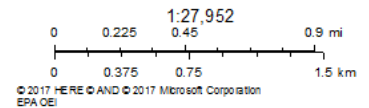
NEPAssist Report

RC-09* (CI-114)



April 25, 2017

- Project 51
- Buffer Area



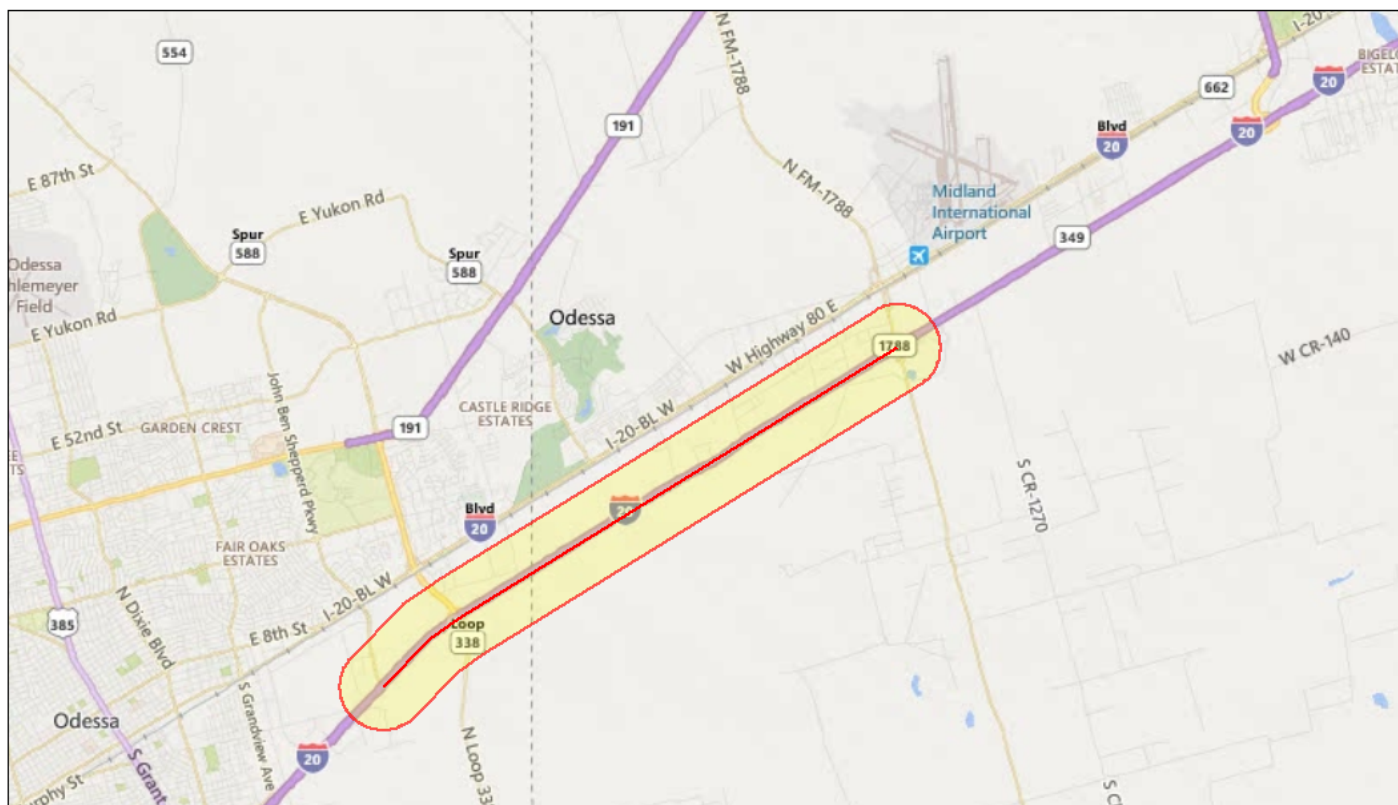
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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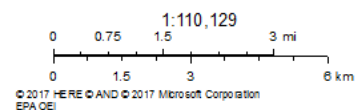
NEPAssist Report

RC-36a* (CI-901)



April 25, 2017

- Project 22
- Buffer Area



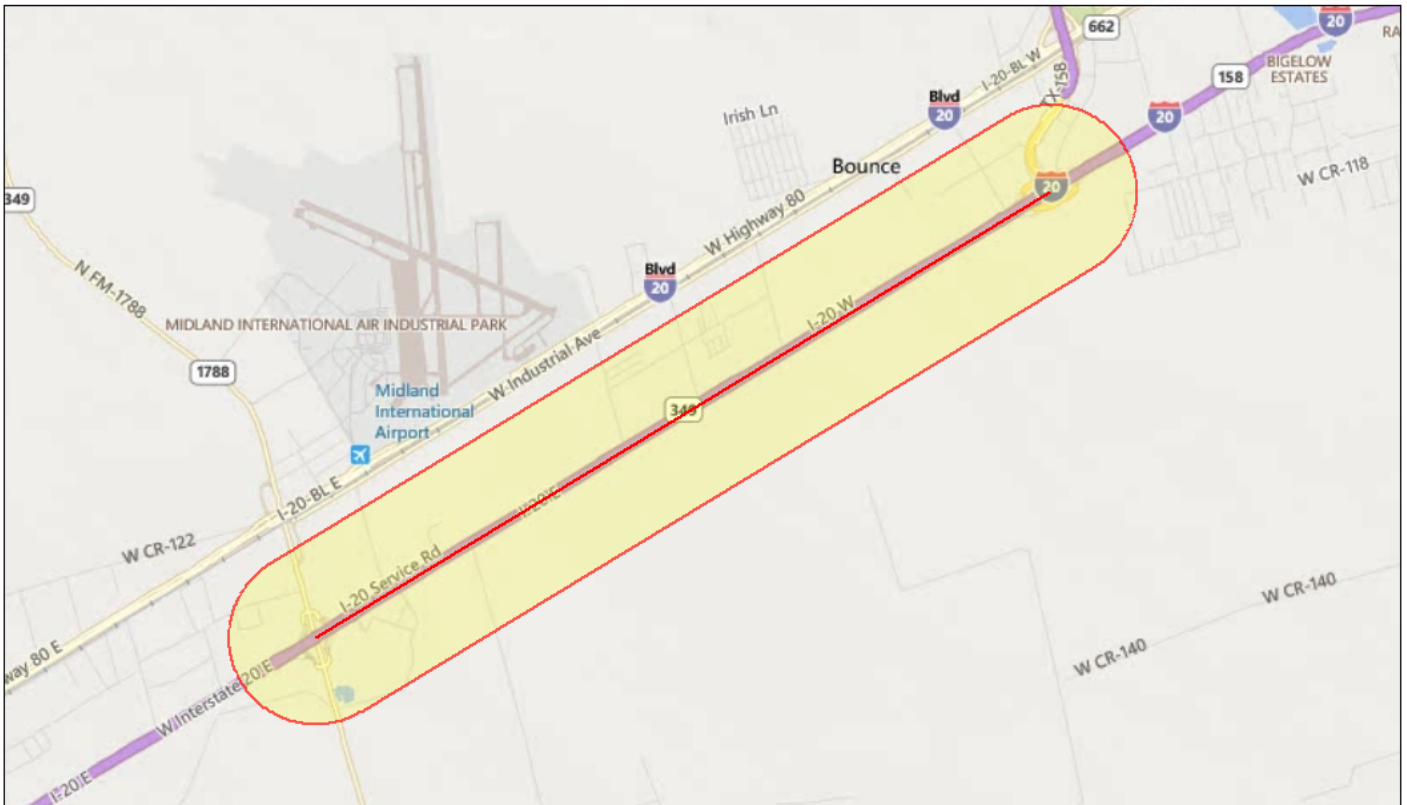
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	yes
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	yes
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	yes
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	yes
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	yes
Within 0.5 miles of a RADInfo site?	no

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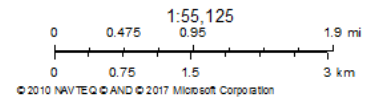
NEPAssist Report

RC-95



April 25, 2017

- Project 16
- Buffer Area



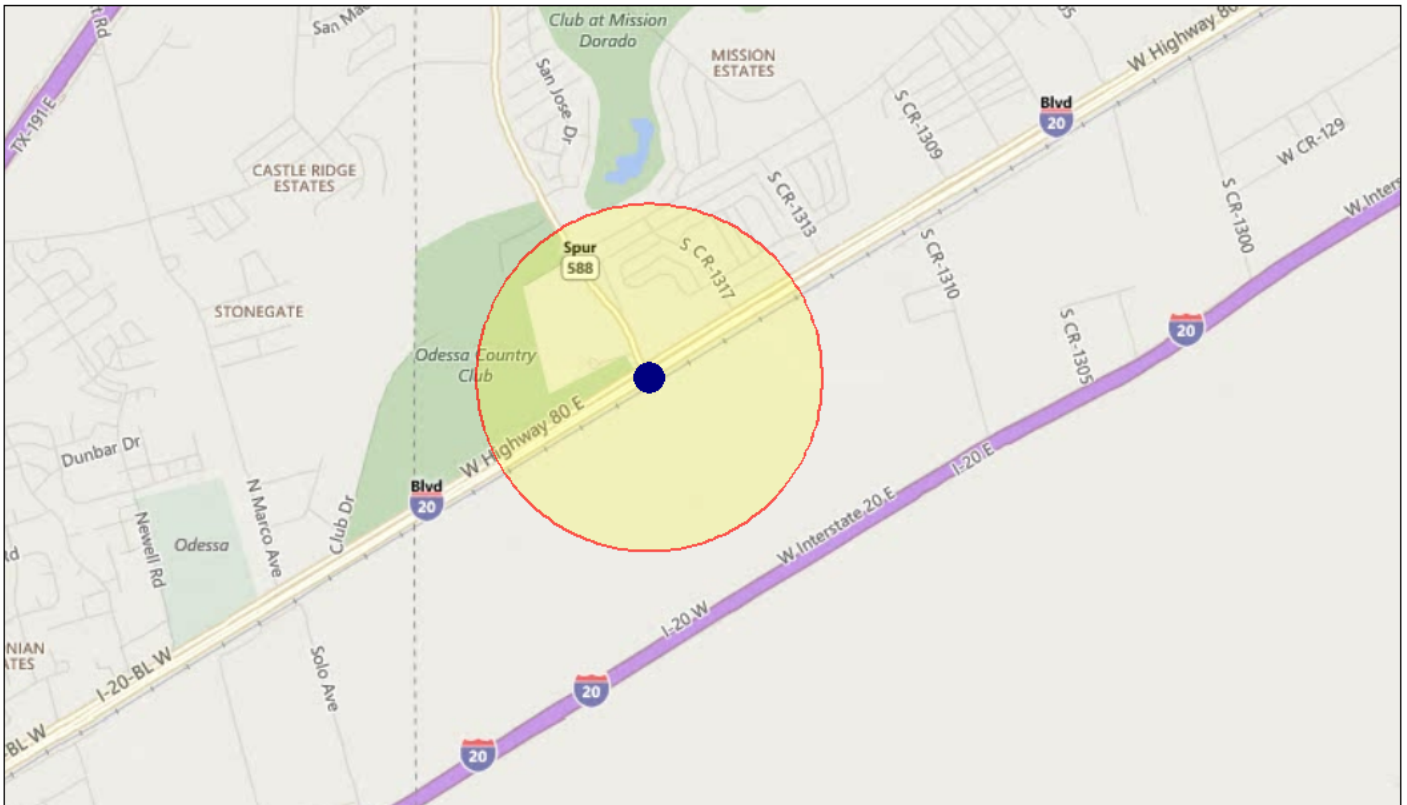
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	yes
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	yes
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	yes
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 10:48:05 AM

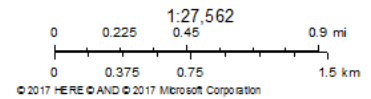
NEPAssist Report

RC-15a* (CO-520)



April 24, 2017

- Project 2
- Buffer Area



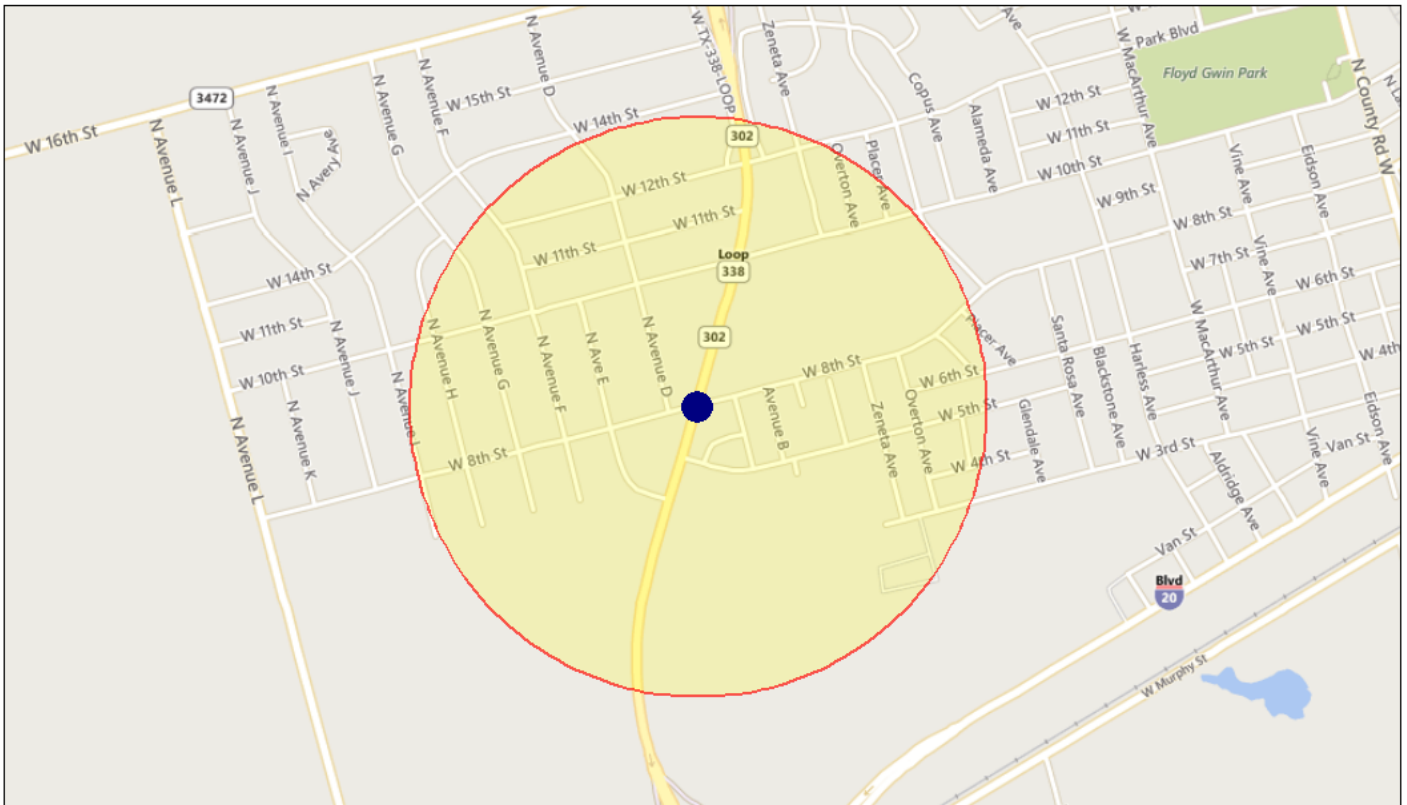
Project Location	31.891809,-102.275755
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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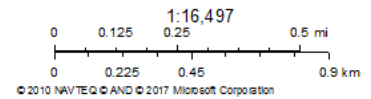
NEPAssist Report

RC-131



April 24, 2017

- Project 13
- Buffer Area



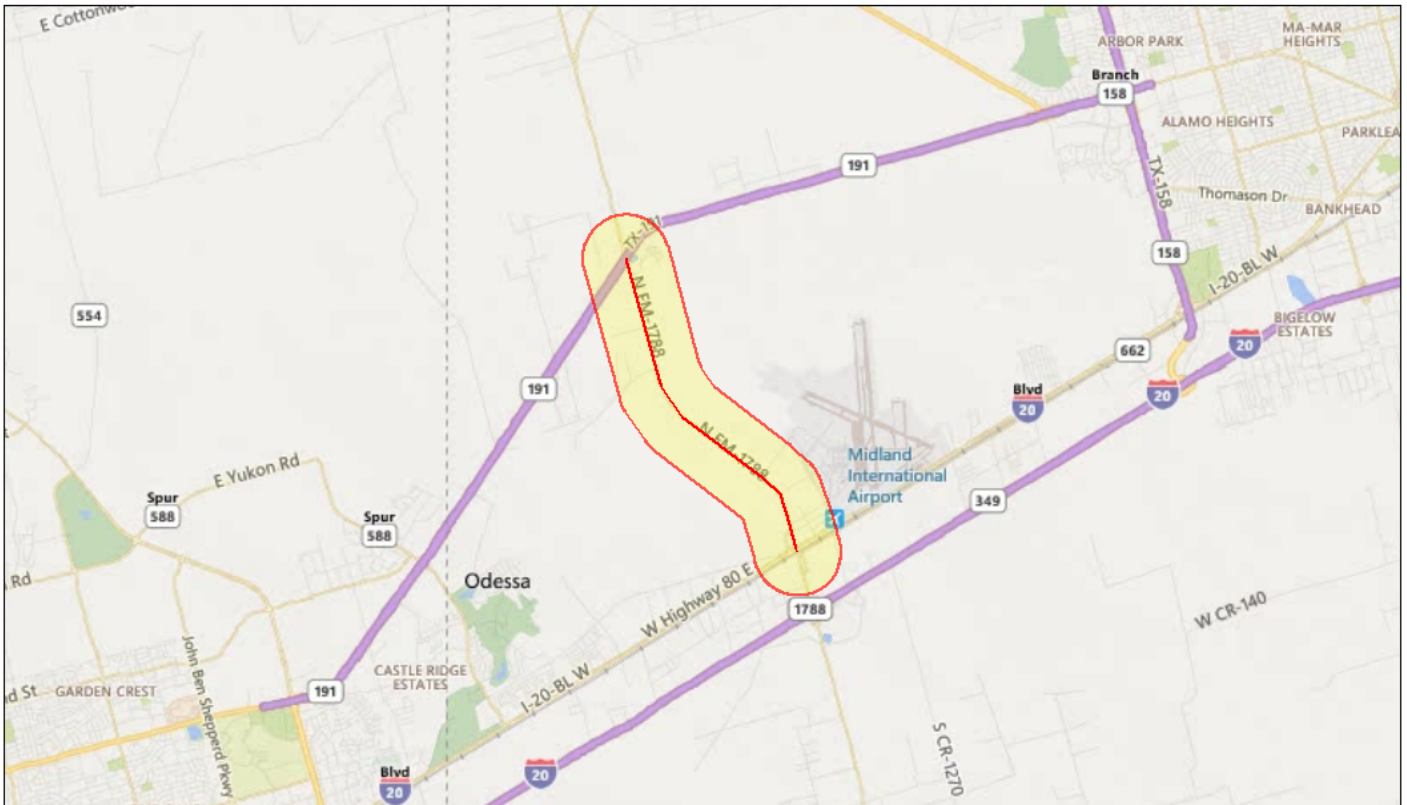
Project Location	31.835914,-102.409813
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/24/2017 5:20:53 PM

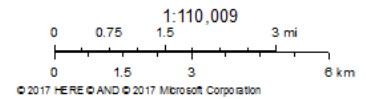
NEPAssist Report

RC-52*



April 25, 2017

- Project 30
- Buffer Area



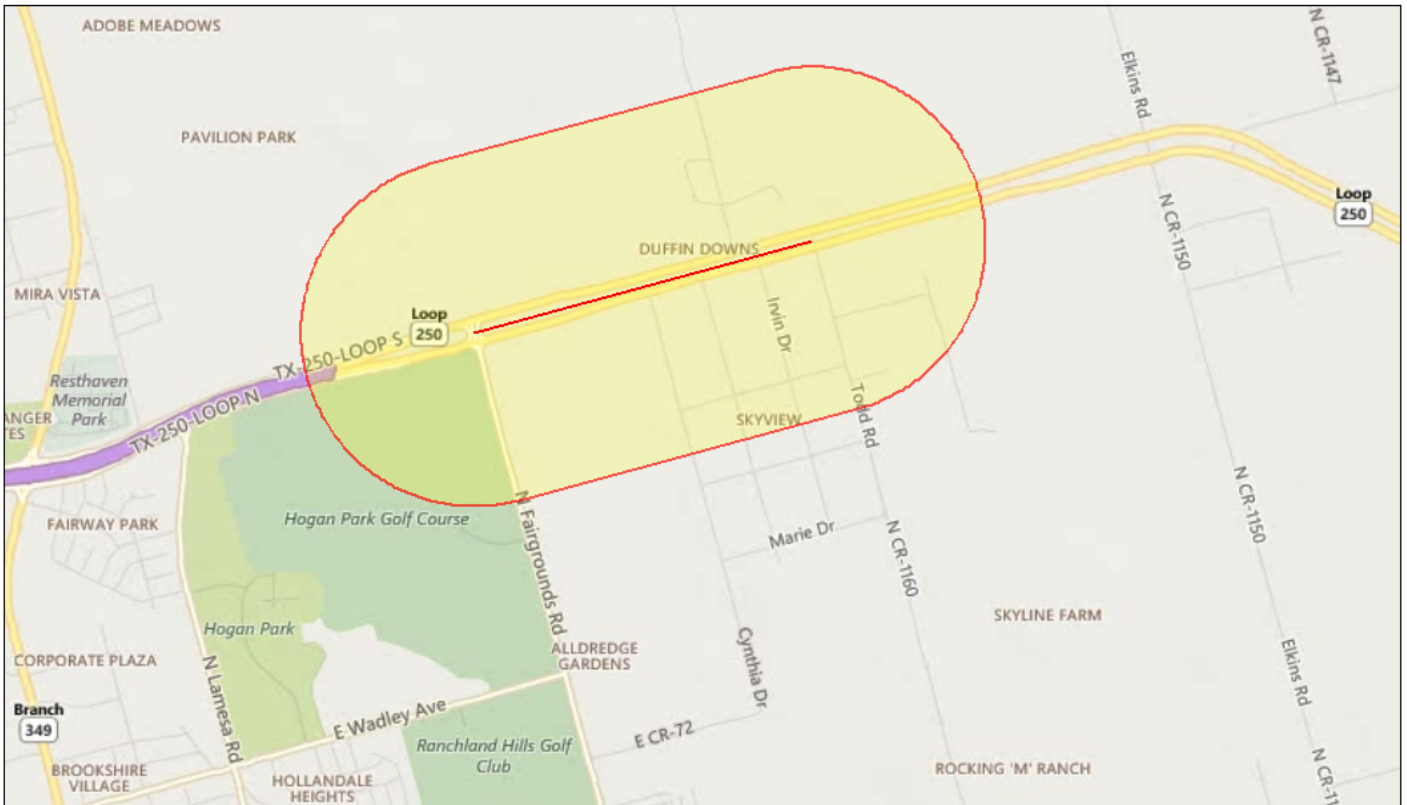
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Length of digitized line	4.09 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	yes
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 11:07:37 AM

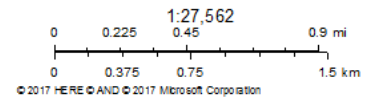
NEPAssist Report

RC-03* (CI-120)



April 24, 2017

- Project 1
- Buffer Area



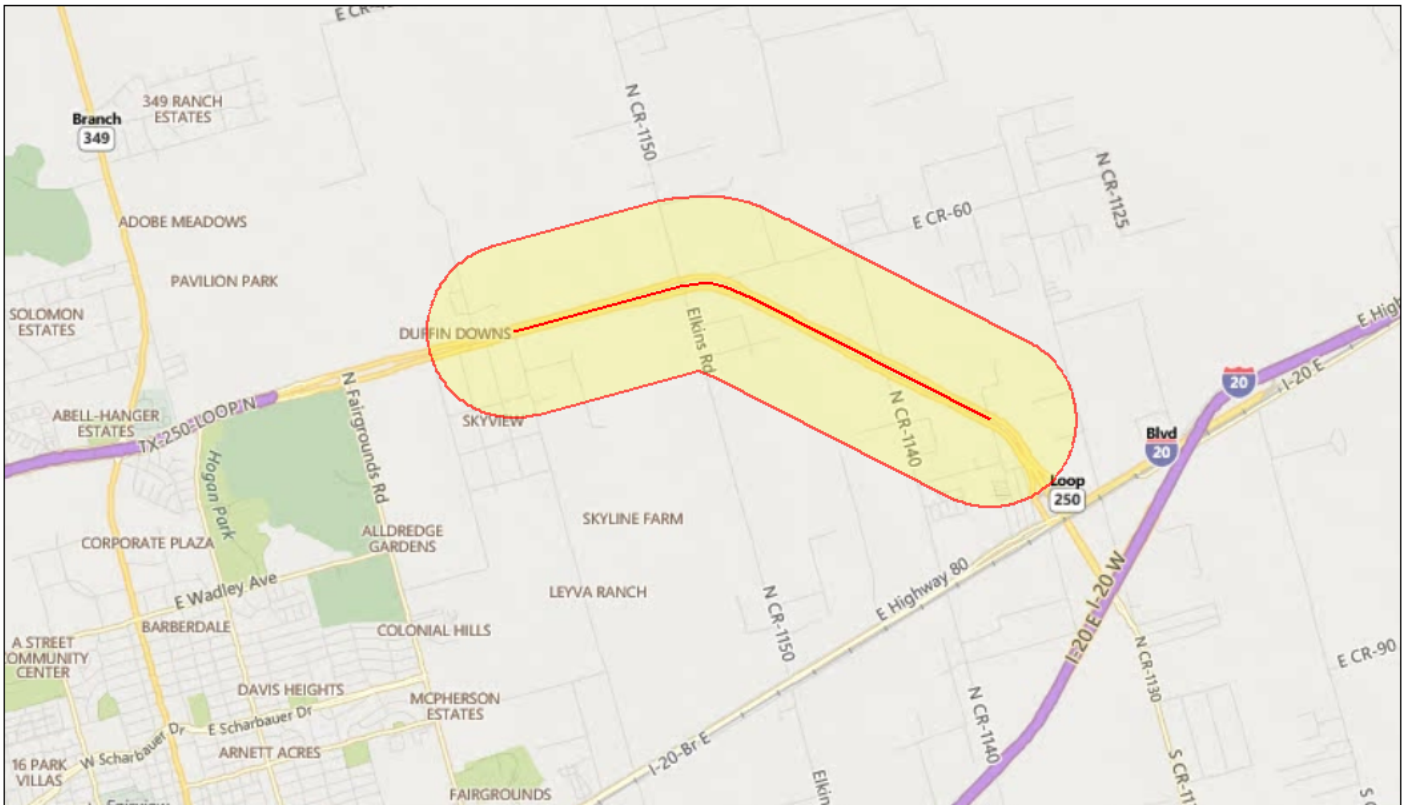
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/24/2017 4:49:41 PM

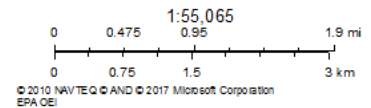
NEPAssist Report

RC-17a* (CI-908)



April 25, 2017

- Project 36
- Buffer Area



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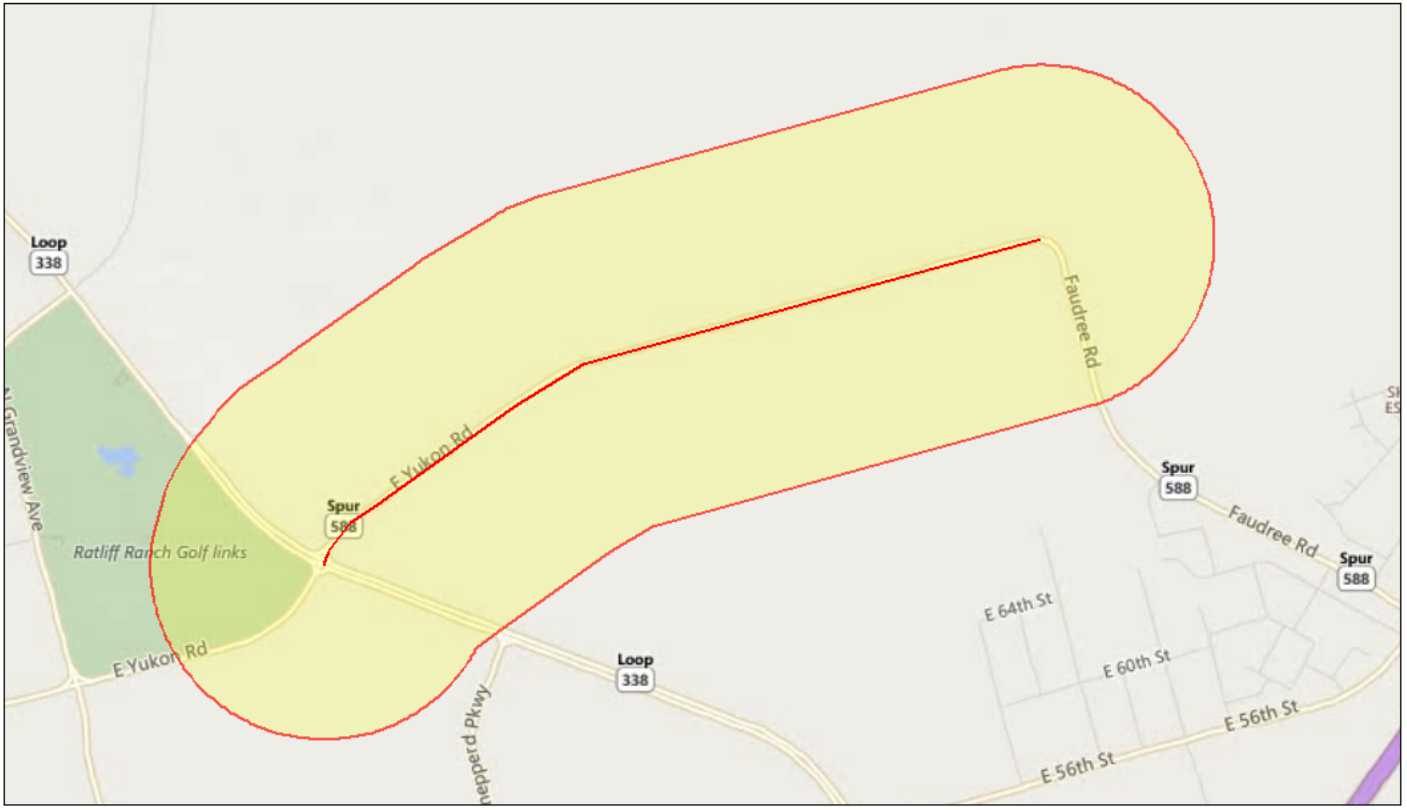
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Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 12:13:01 PM

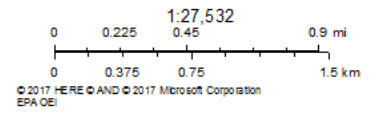
NEPAssist Report

RC-42a* (CI-535)



April 25, 2017

- Project 13
- Buffer Area



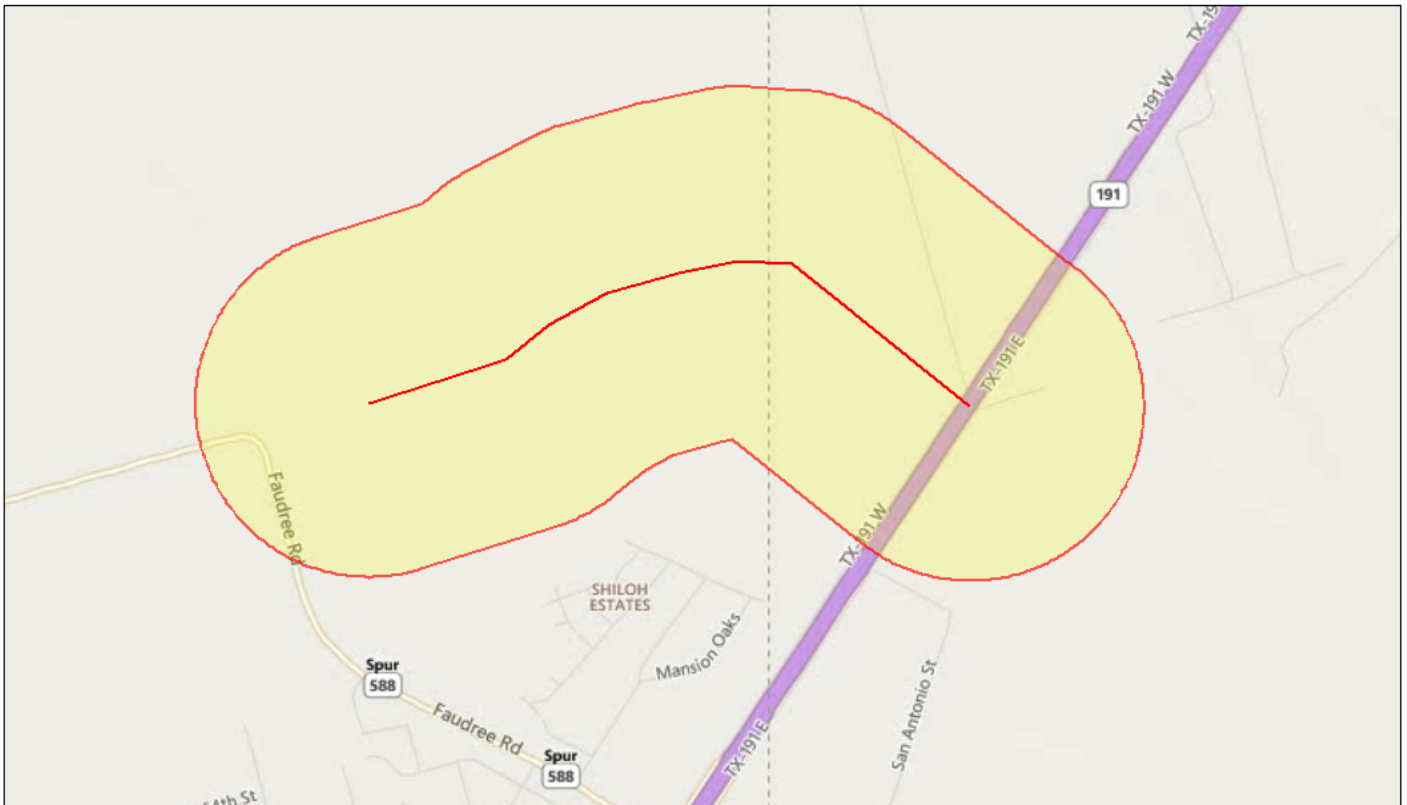
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Length of digitized line	2.33 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 11:39:54 AM

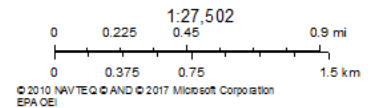
NEPAssist Report

RC-42b* (CI-535)



April 25, 2017

- Project 10
- Buffer Area



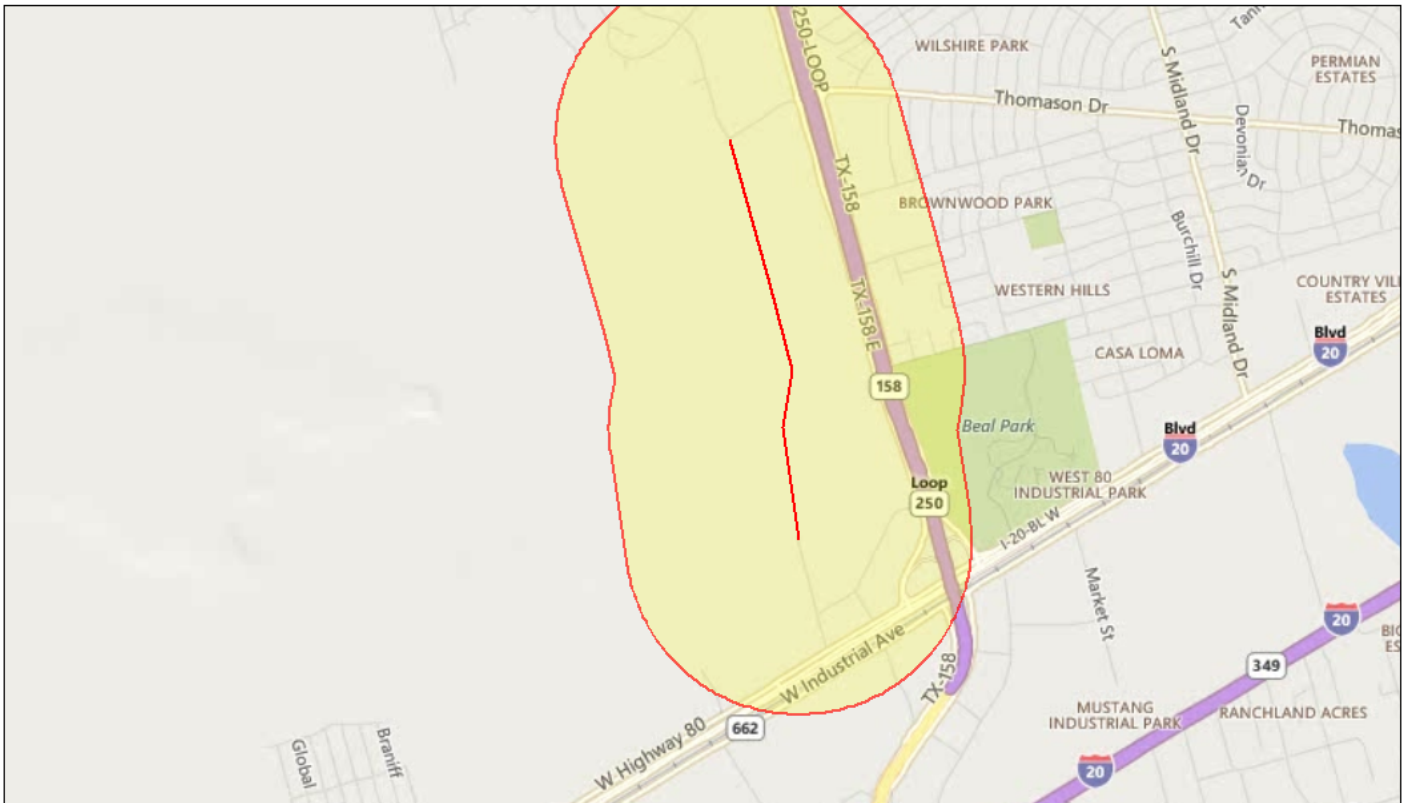
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Length of digitized line	1.97 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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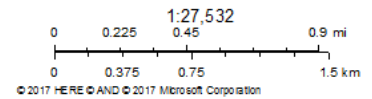
NEPAssist Report

RC-122



April 25, 2017

- Project 5
- Buffer Area



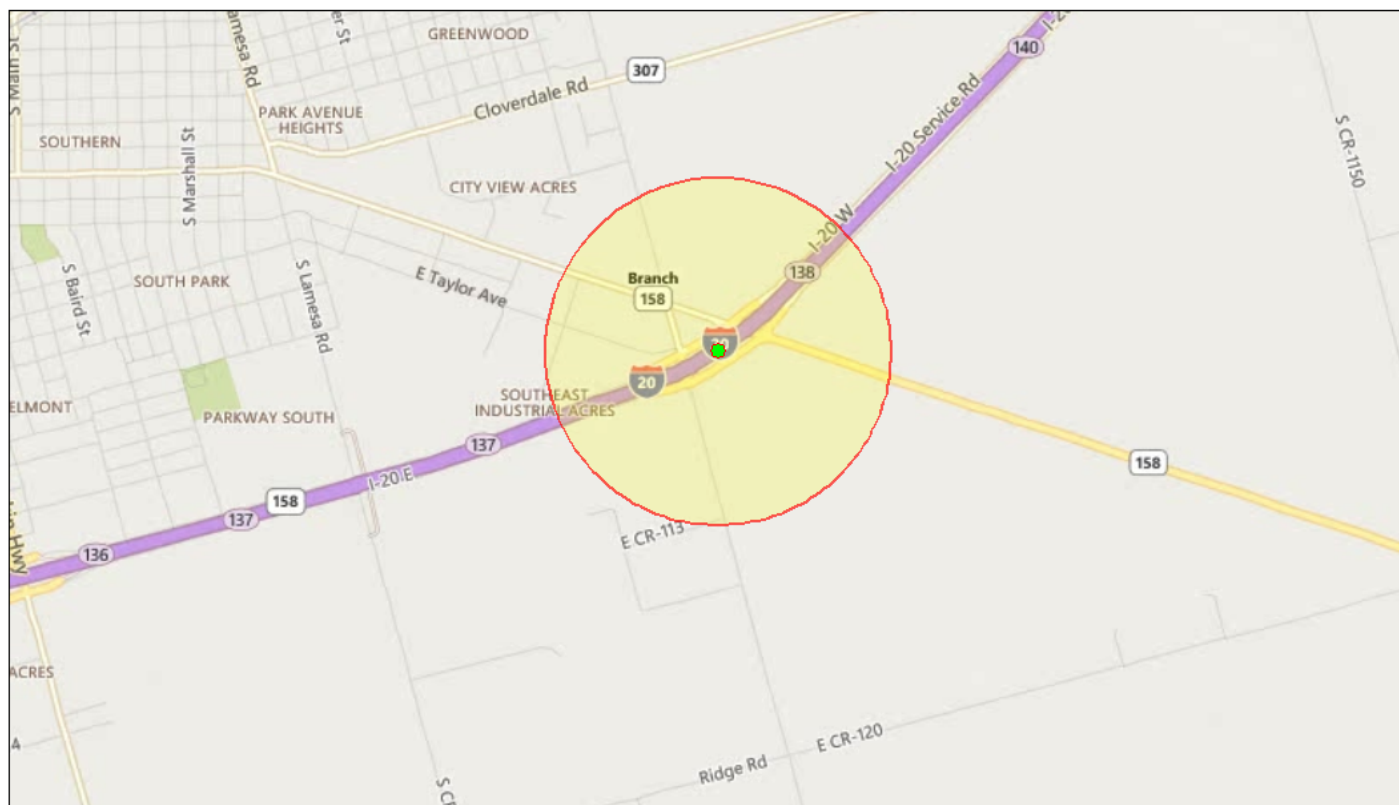
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Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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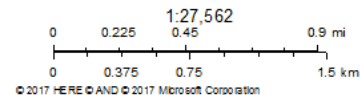
NEPAssist Report

RC-60*



April 25, 2017

- Project 1
- Buffer Area



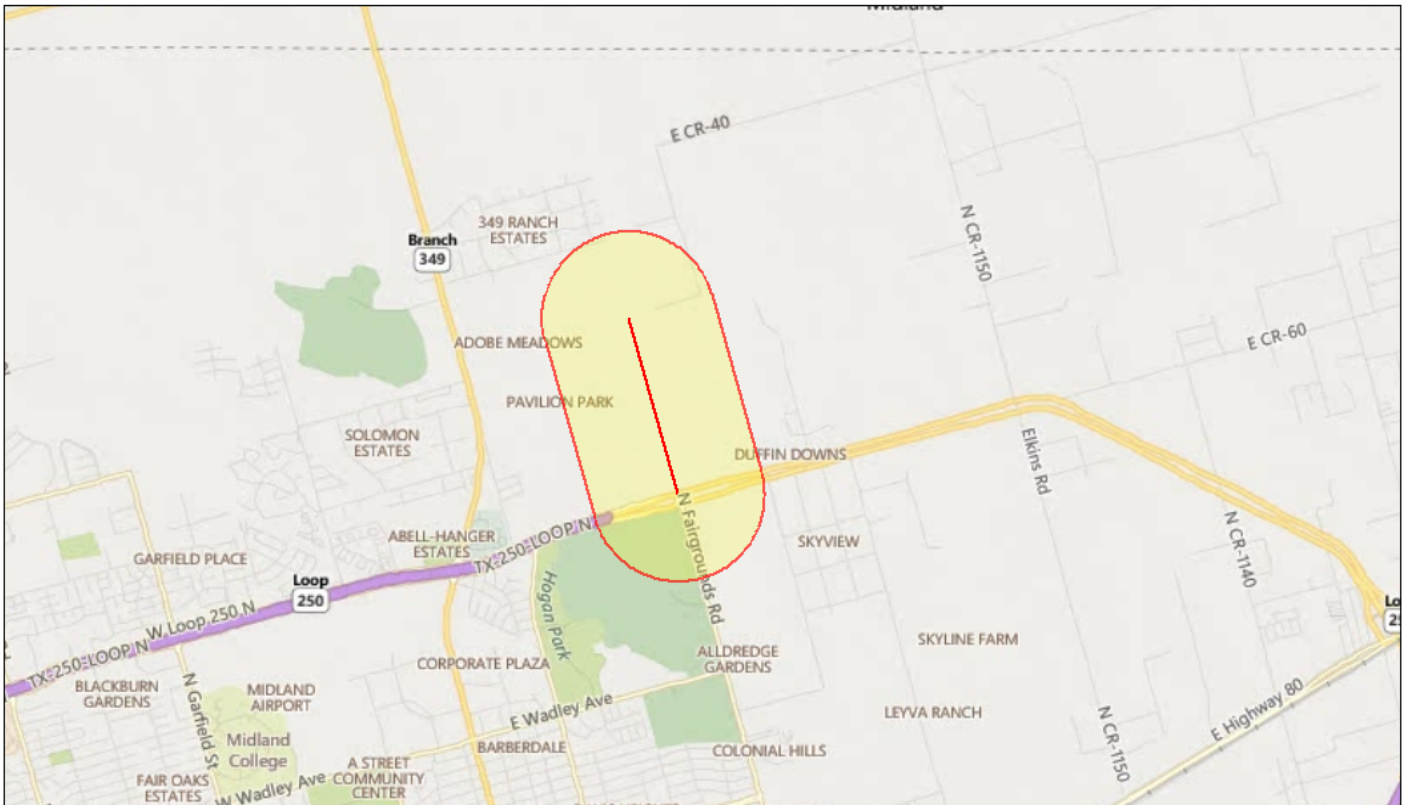
Project Location	31.981827,-102.039754
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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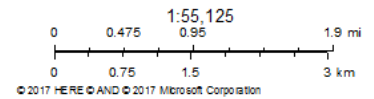
NEPAssist Report

RC-51c ext



April 25, 2017

- Project 5
- Buffer Area



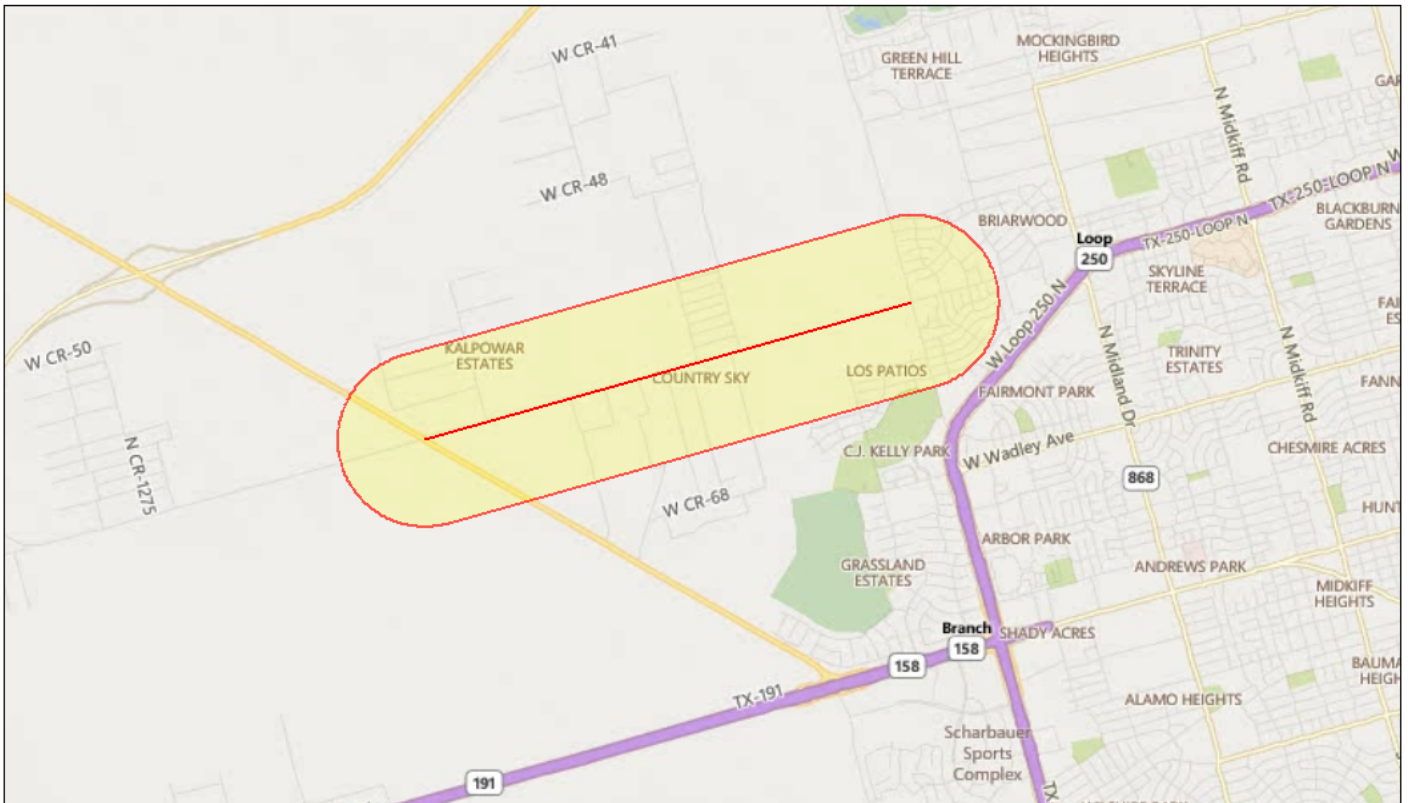
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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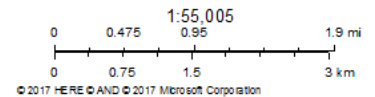
NEPAssist Report

RC-47* (CI-116)



April 25, 2017

- Project 3
- Buffer Area



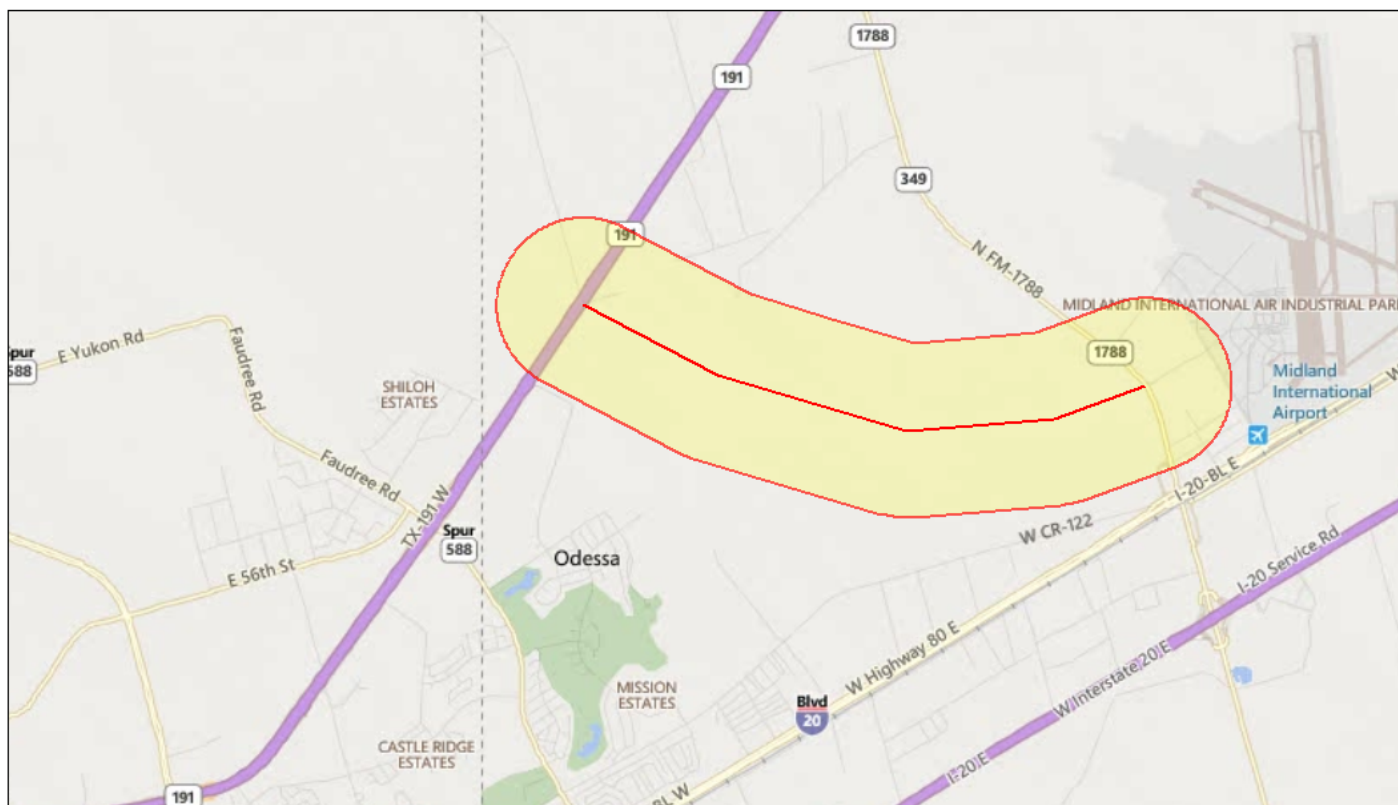
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Length of digitized line	2.92 mi
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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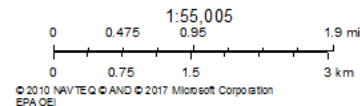
NEPAssist Report

RC-42c* (CI-535)



April 25, 2017

- Project 5
- Buffer Area



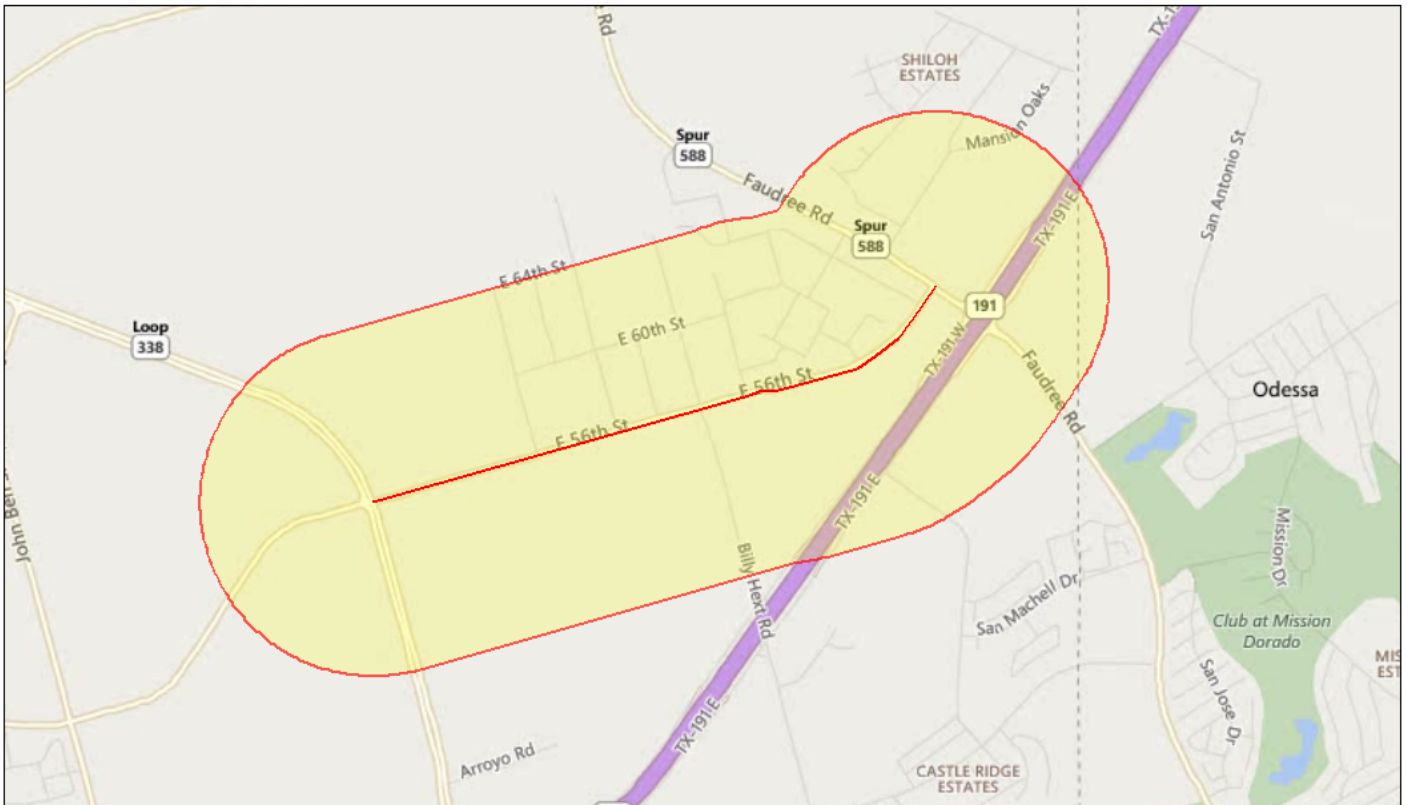
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Length of digitized line	3.42 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	yes
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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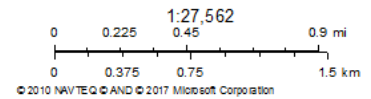
NEPAssist Report

RC-136



April 24, 2017

- Project 3
- Buffer Area



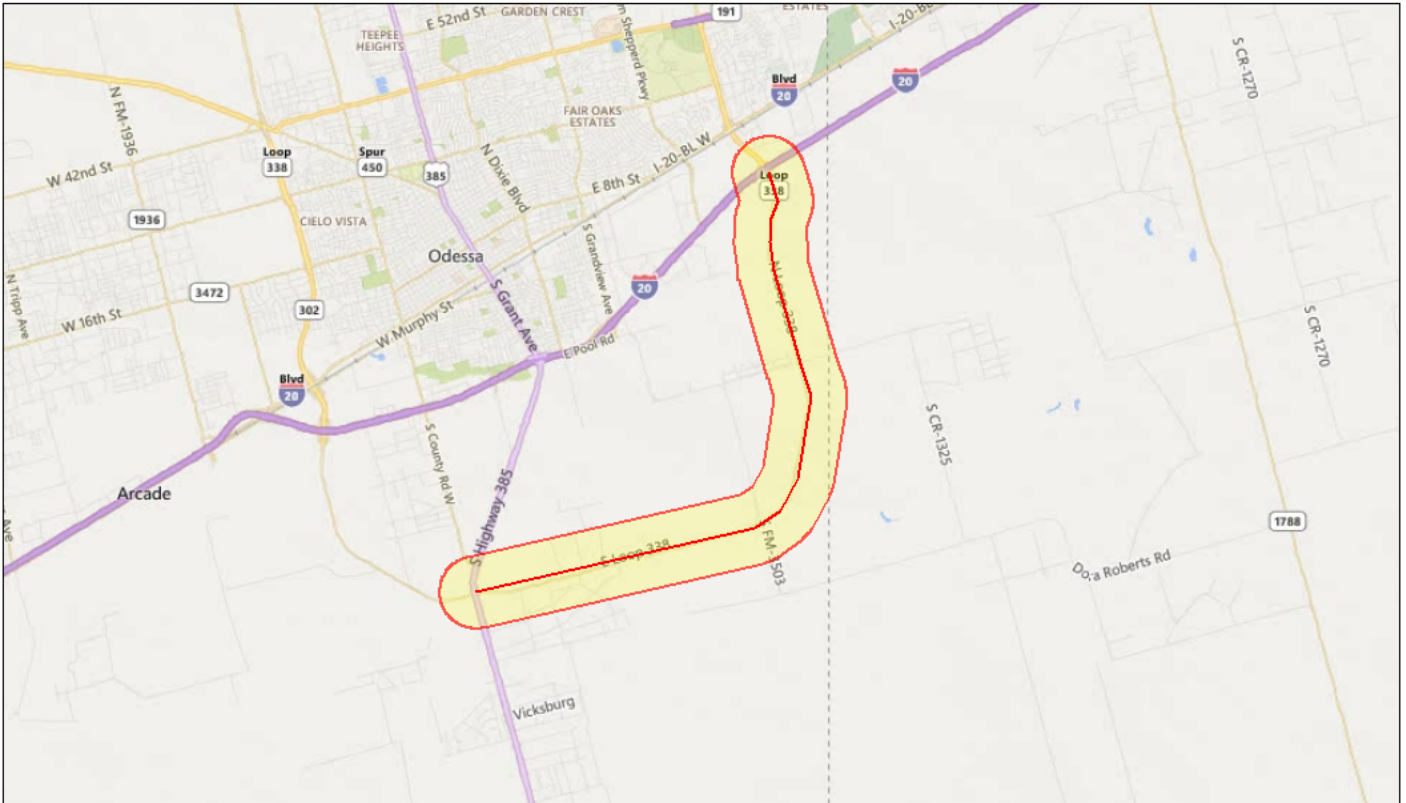
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Length of digitized line	1.79 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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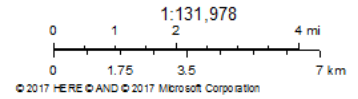
NEPAssist Report

RC-38* (CI-910)



April 25, 2017

- Project 30
- Buffer Area



Input Coordinates: 31.865760,-102.301257,31.859928,-102.299197,31.856720,-102.300570,31.852055,-102.300913,31.846222,-102.300227,31.826680,-102.293360,31.821137,-102.291300,31.804508,-102.294390,31.798089,-102.298510,31.794587,-102.304346,31.781747,-102.370264

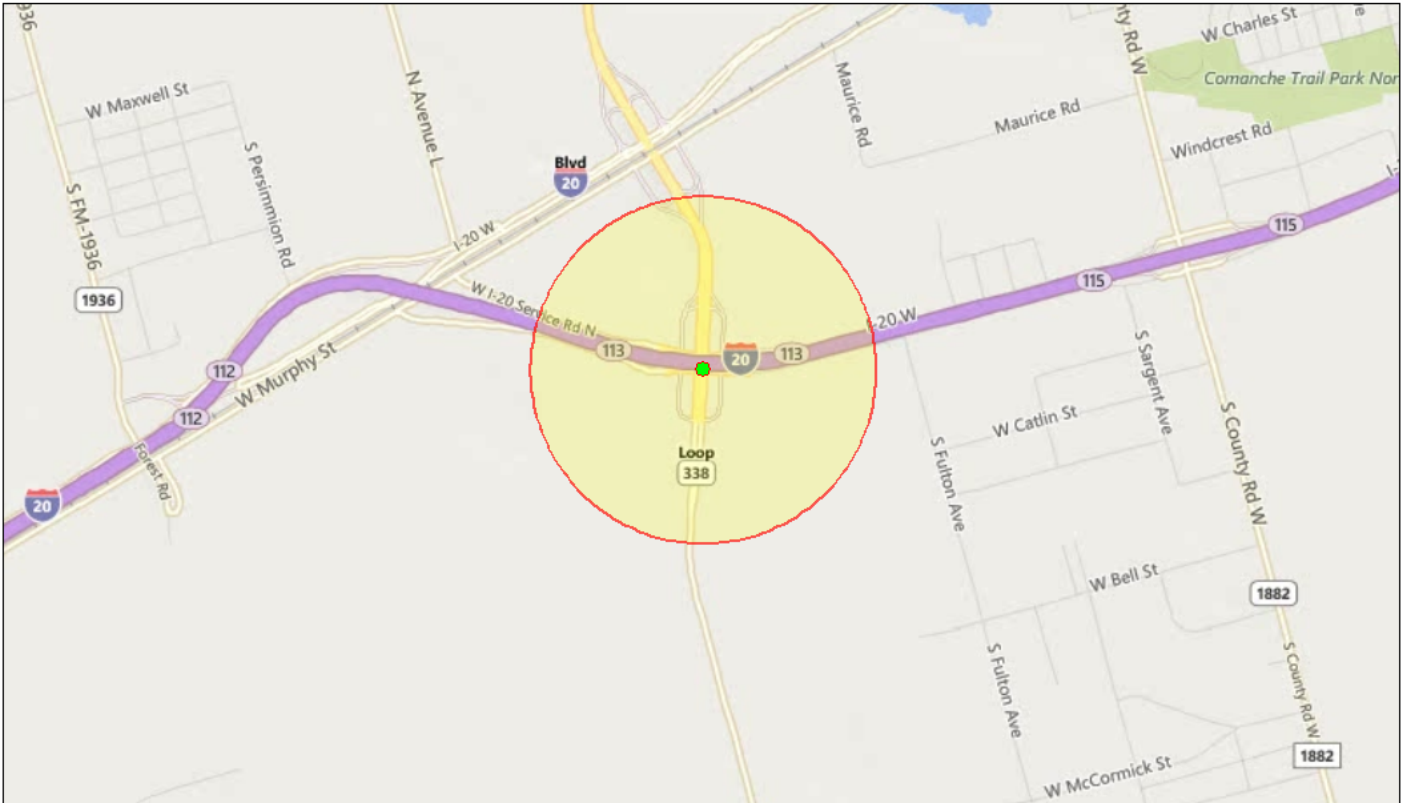
Length of digitized line	9.25 mi
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	yes
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	yes
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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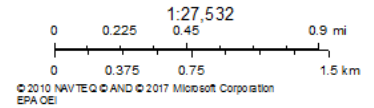
NEPAssist Report

RC-30*



April 25, 2017

- Project 25
- Buffer Area



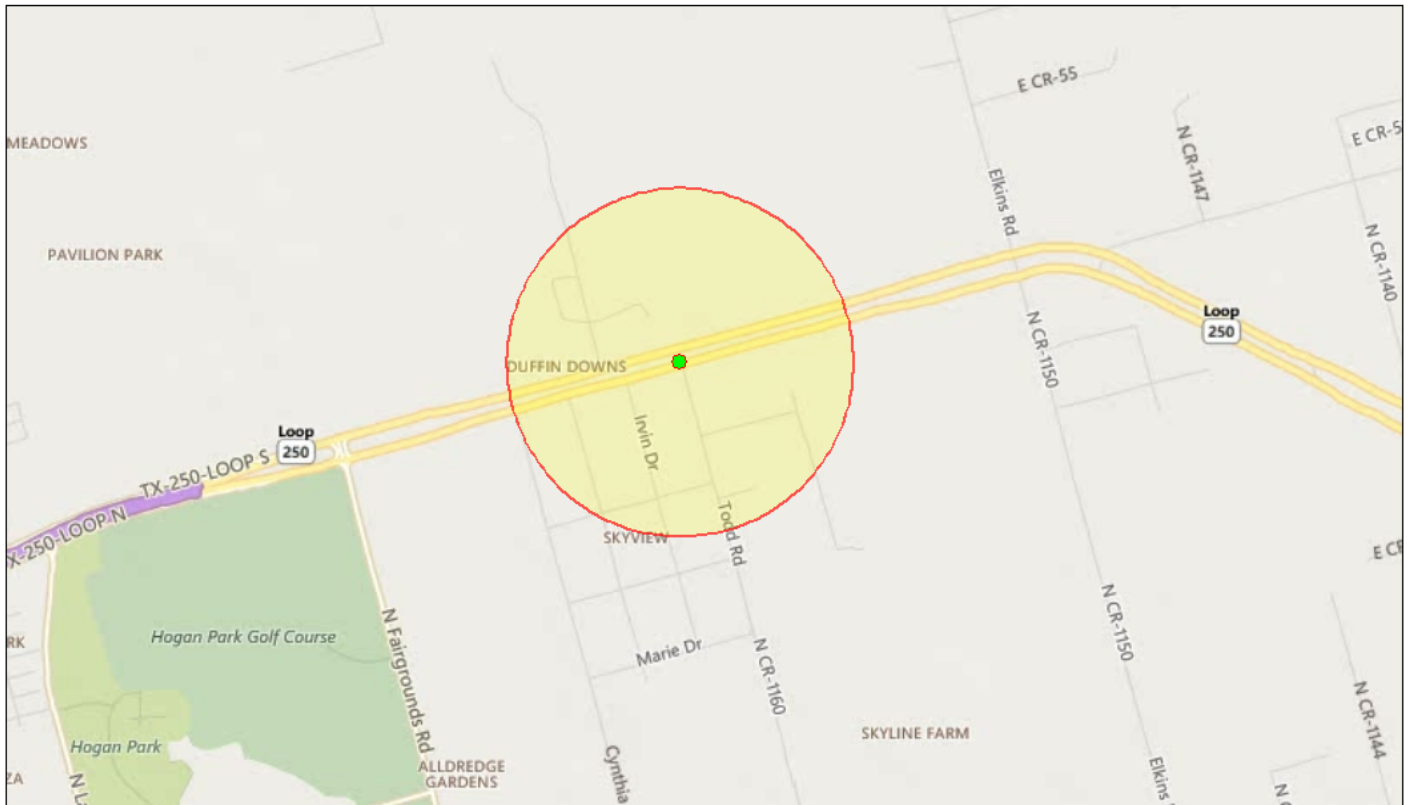
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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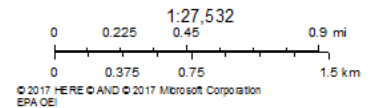
NEPAssist Report

RC-17* (CI-908)



April 25, 2017

- Project 37
- Buffer Area



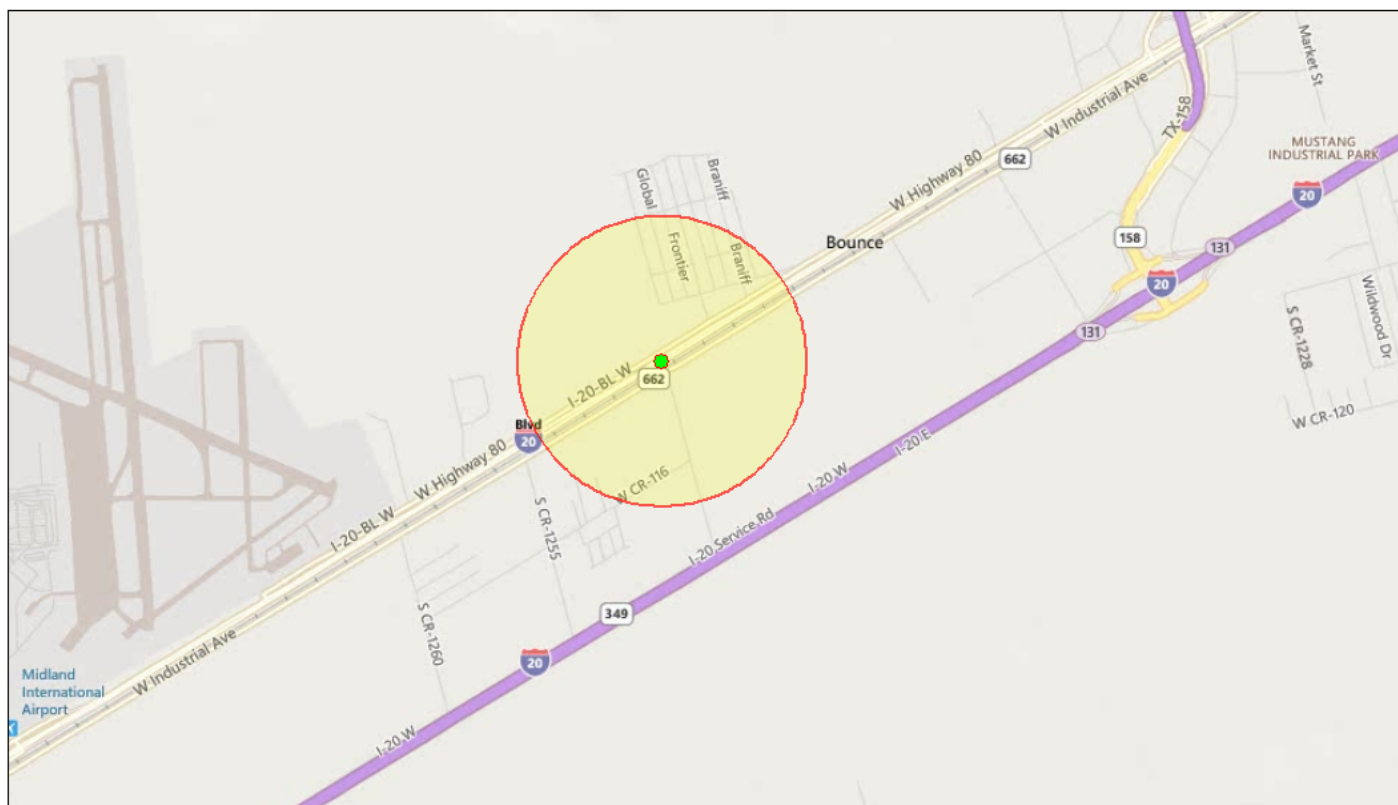
Project Location	32.053175,-102.046644
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 12:14:57 PM

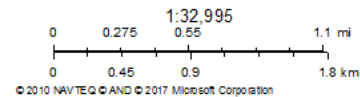
NEPAssist Report

RC-137



April 27, 2017

- Project 1
- Buffer Area



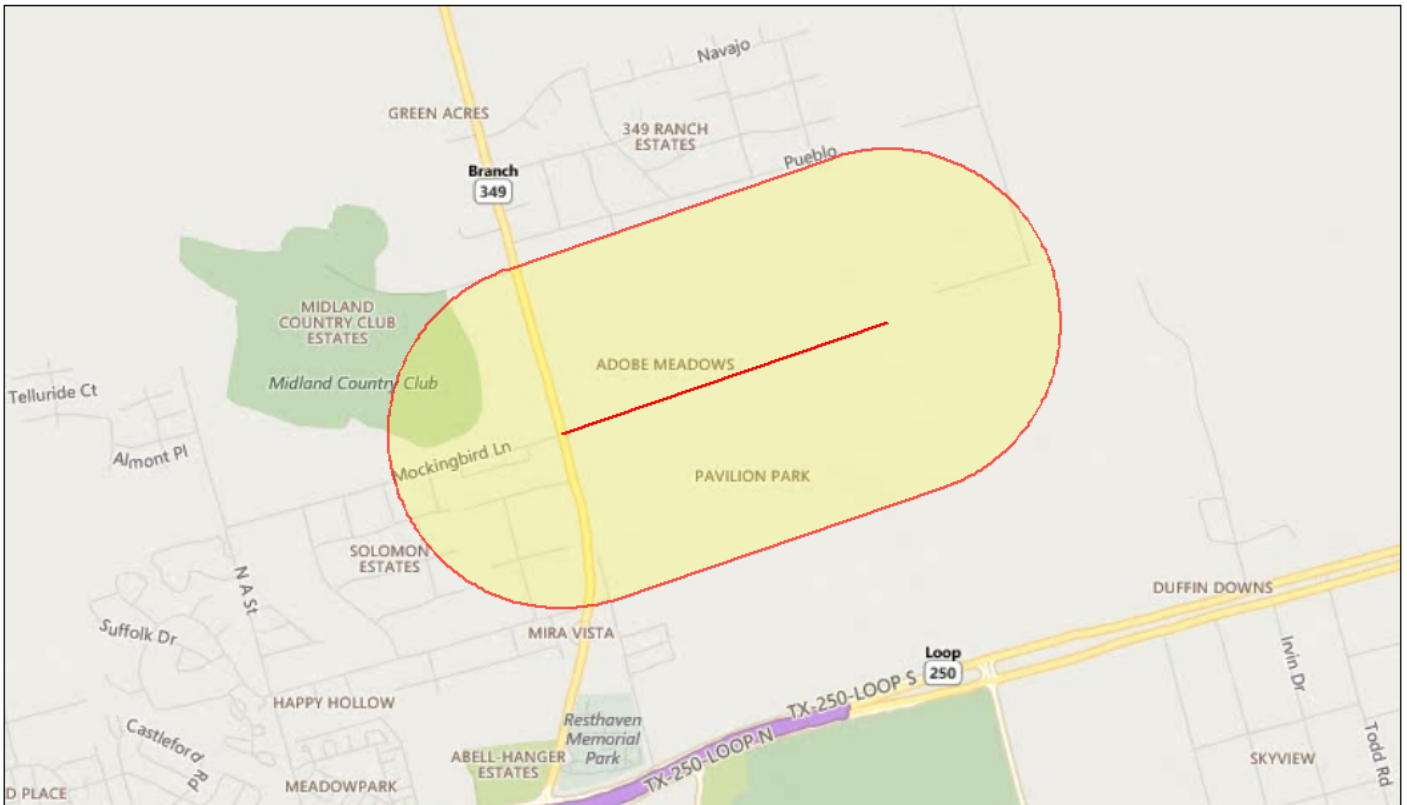
Project Location	31.945157,-102.172591
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	yes

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/27/2017 11:19:02 AM

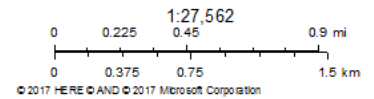
NEPAssist Report

RC-84



April 25, 2017

- Project 15
- Buffer Area



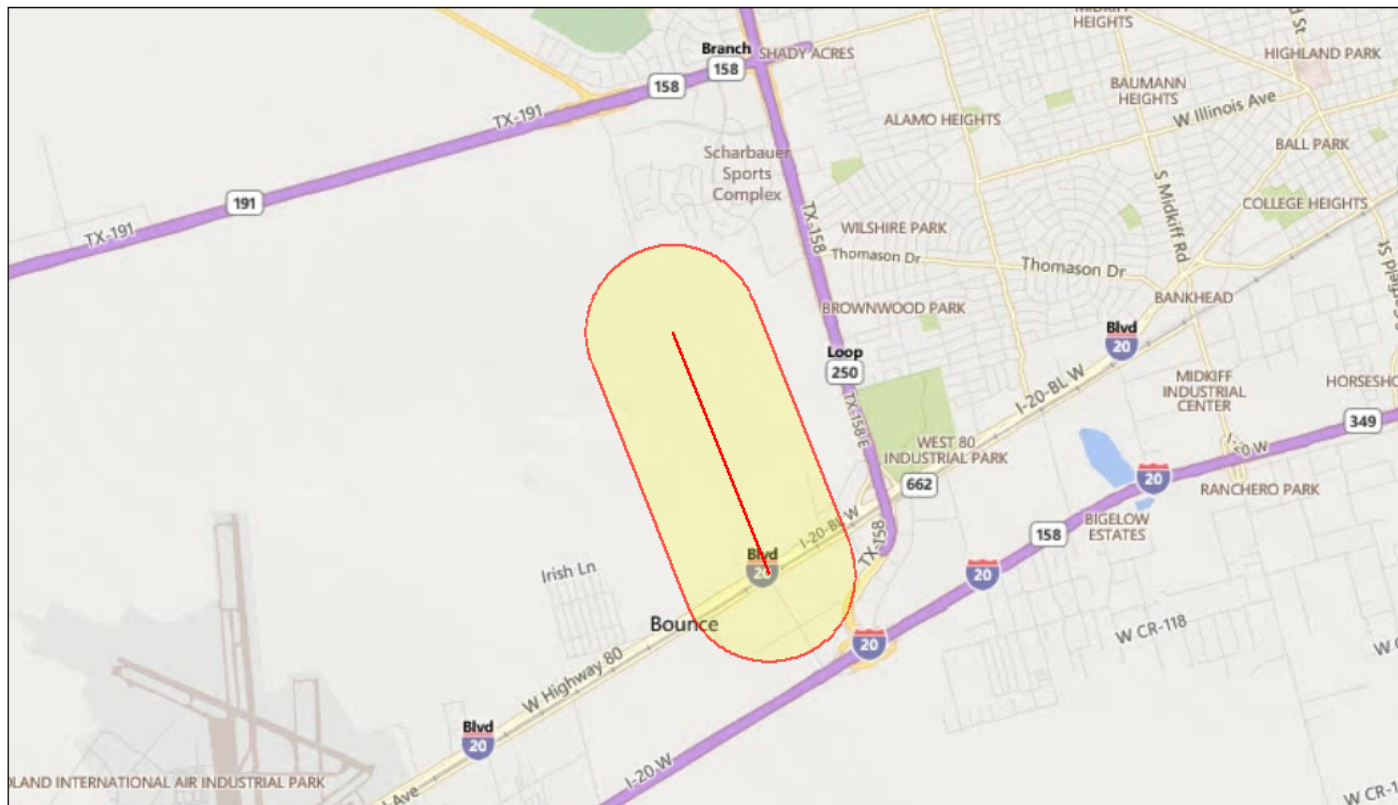
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Length of digitized line	0.99 mi
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	no

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

Created on: 4/25/2017 10:45:52 AM

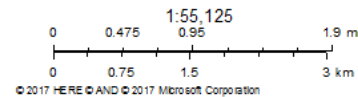
NEPAssist Report

RC-68a*



April 25, 2017

- Project 4
- Buffer Area



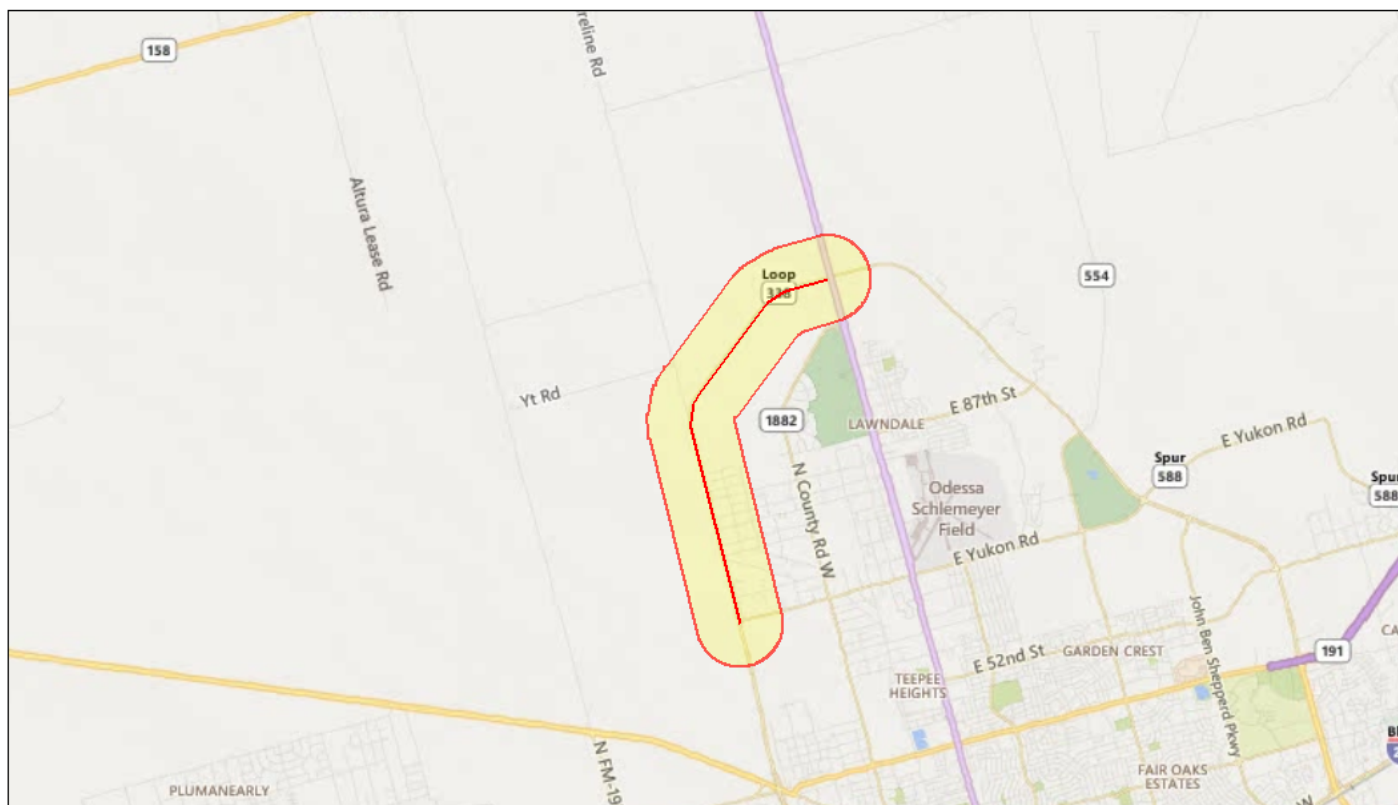
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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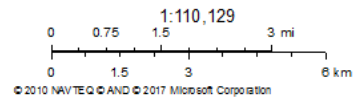
NEPAssist Report

RC-16 (CI-511)



April 25, 2017

- Project 9
- Buffer Area



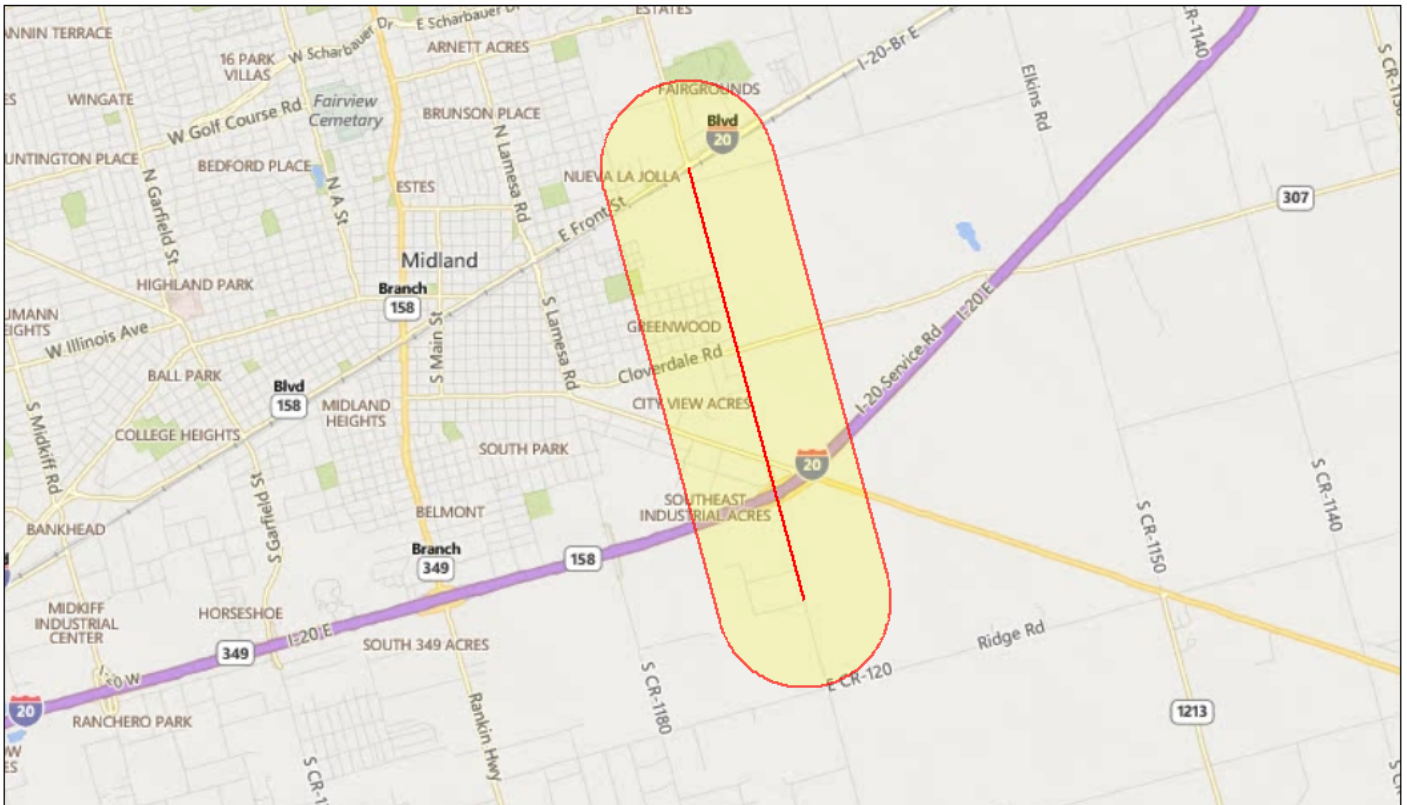
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Length of digitized line	4.80 mi
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	yes
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no

Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	yes
Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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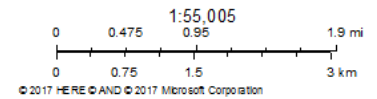
NEPAssist Report

RC-51b



April 25, 2017

- Project 2
- Buffer Area



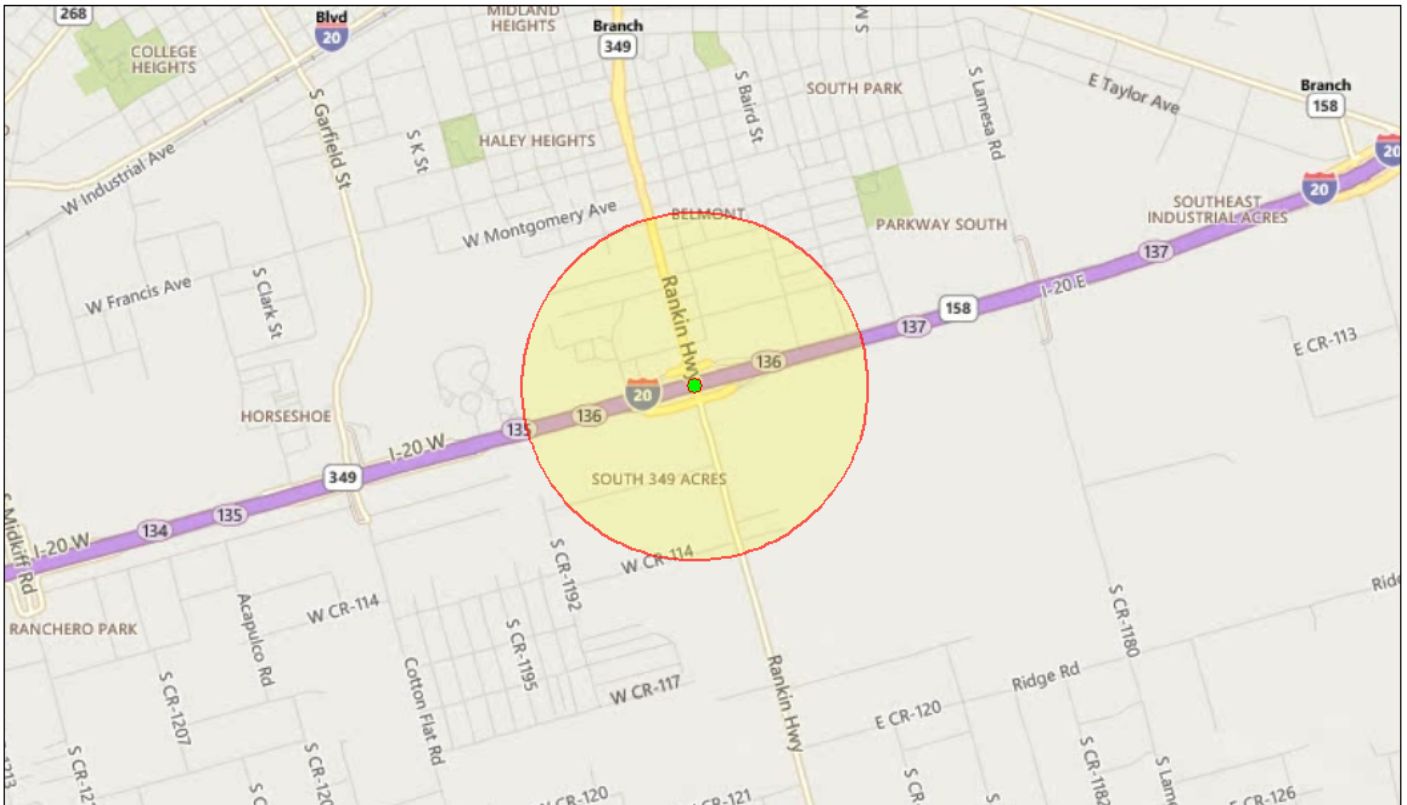
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Length of digitized line	2.57 mi
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Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	yes
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes

Within 0.5 miles of an air emission facility?	no
Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	yes
Within 0.5 miles of a RADInfo site?	no

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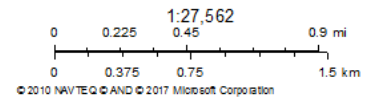
NEPAssist Report

RC-11



April 24, 2017

- Project 1
- Buffer Area



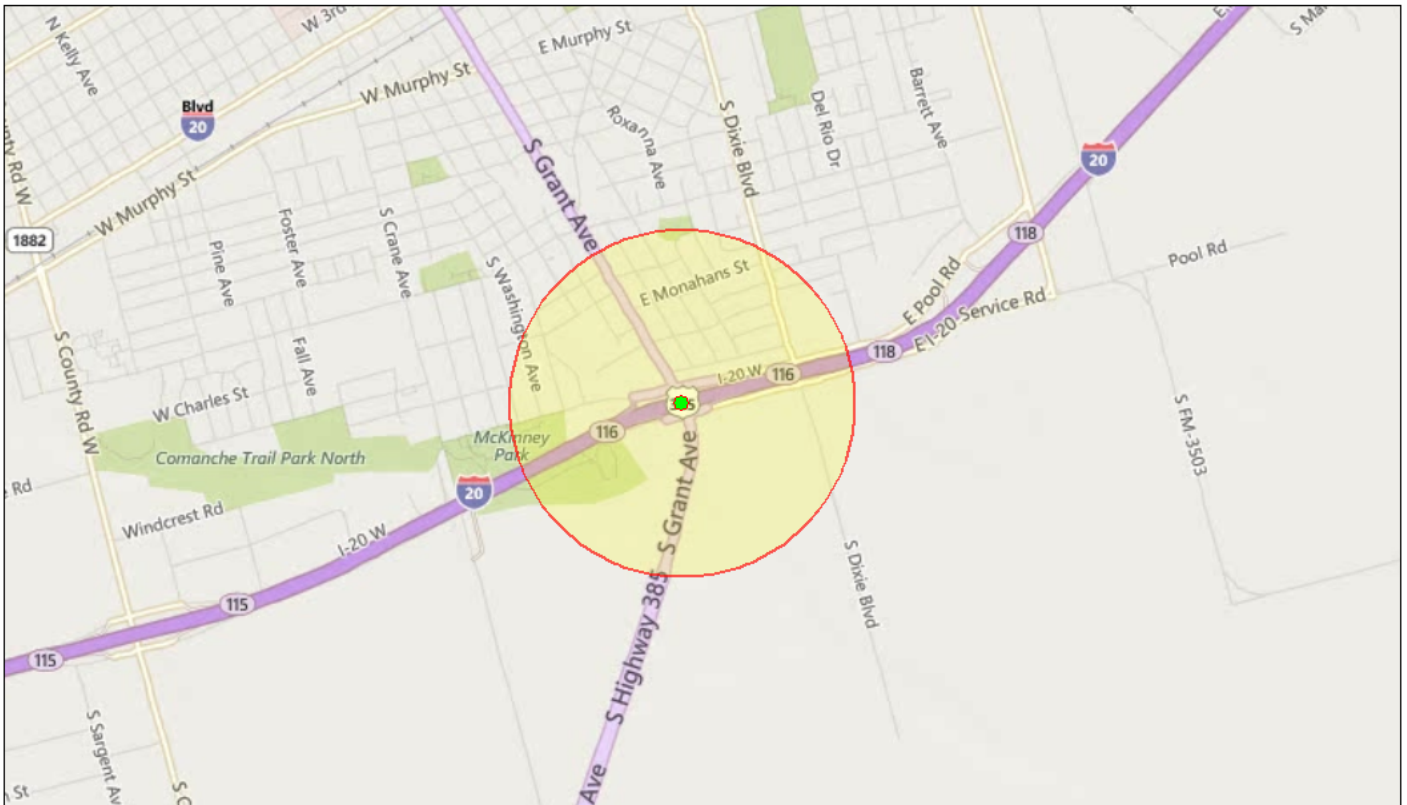
Project Location	31.9723,-102.07401
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	no
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	yes
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	no

Within 0.5 miles of a school?	no
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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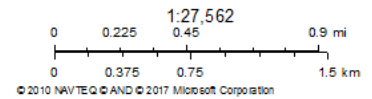
NEPAssist Report

RC-34*



April 24, 2017

- Project 1
- Buffer Area



Project Location	31.828204,-102.355406
Within 0.5 miles of an Ozone 8-hr (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of an Ozone 8-hr (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Lead (2008 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a SO2 1-hr (2010 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 24hr (2006 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (1997 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM2.5 Annual (2012 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a PM10 (1987 standard) nonattainment/maintenance area?	no
Within 0.5 miles of a Federal Land?	no
Within 0.5 miles of an impaired stream?	no
Within 0.5 miles of an impaired waterbody?	no
Within 0.5 miles of a waterbody?	no
Within 0.5 miles of a stream?	yes
Within 0.5 miles of an NWI wetland?	Available Online
Within 0.5 miles of a Brownfields site?	no
Within 0.5 miles of a Superfund site?	no
Within 0.5 miles of a Toxic Release Inventory (TRI) site?	no
Within 0.5 miles of a water discharger (NPDES)?	no
Within 0.5 miles of a hazardous waste (RCRA) facility?	yes
Within 0.5 miles of an air emission facility?	yes

Within 0.5 miles of a school?	yes
Within 0.5 miles of an airport?	no
Within 0.5 miles of a hospital?	no
Within 0.5 miles of a designated sole source aquifer?	no
Within 0.5 miles of a historic property on the National Register of Historic Places?	no
Within 0.5 miles of a Toxic Substances Control Act (TSCA) site?	no
Within 0.5 miles of a RADInfo site?	no

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