
2010 – 2035 BROWNSVILLE METROPOLITAN TRANSPORTATION PLAN

Developed for:

**The Brownsville Metropolitan
Planning Organization**

Developed by:

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Brownsville Economic Development Council
Brownsville Navigation District
Brownsville I.S.D.
City of Los Fresnos
Town of Rancho Viejo
Brownsville-South Padre Island International
Airport/Advisory Board
Cameron County
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Prepared in cooperation with:

the Brownsville Metropolitan Planning Organization,
the Texas Department of Transportation,
the U.S. Department of Transportation, Federal Highway Administration, and
the Federal Transit Administration

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Adopted on December 9, 2009

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Section 1

INTRODUCTION

The City of Brownsville, Texas was incorporated in 1853. The City adopted a Council/Manager form of government on January 1, 1916. Brownsville, Texas and its sister City of H. Matamoros, Tamaulipas, Mexico are located on the Rio Grande River, which constitutes the international border.

The Town of Rancho Viejo, located west of the U.S. 77/83 Expressway, is within the MPO study area. In addition, the City of Los Fresnos is the third municipality located within the Brownsville MPO area. Los Fresnos is bisected by two major arterials: State Highway 100, which serves to connect this community to Port Isabel and to the U.S. 77/83 Expressway; and F.M. 1847, which runs north:south.

Transportation planning in the Brownsville urbanized area is performed by Brownsville Metropolitan Planning Organization, the designated MPO for the area. The Brownsville MPO is organized into two committees: the MPO Technical Committee, an advisory group that examines technical issues and makes recommendations, and the MPO Policy Committee that makes final decisions for the MPO.

Three staffers at the Brownsville Planning & Community Development Department provide administrative support and services to carry out these tasks and related transportation planning activities. The Brownsville Urban System (BUS) Transit Planner, another MPO staffer, conducts transit planning for this study area.

The MPO staff work closely with TxDOT staff and MPO Technical Committee members to implement MPO work tasks.

The Brownsville MPO study area occupies a large portion of southern Cameron County. The Brownsville MPO area is shown on a map labeled "Brownsville MPO Metropolitan Area Boundary (MAB)," which is maintained in the files of the Brownsville Planning & Community Development Department, 3rd floor, El Tapiz, 1150 E. Adams Street.

The purpose of the Metropolitan Transportation Plan is to identify policies, programs and improvement projects to address area transportation needs. The plan represents a "blueprint" to guide development of the transportation system via implementation of a list of prioritized transportation improvement projects. The MPO's Metropolitan Transportation (MTP) is sometimes called the Long Range Transportation Plan.

The prioritized list of MTP projects is included herein. It consists of an MTP spreadsheet labeled as "MTP Candidate Projects". Data about the existing roadway conditions, as well as project information about the proposed roadway improvements and condition is detailed on this spreadsheet.

EXECUTIVE SUMMARY: PREVIOUSLY ADOPTED MTP

The 2005-2030 Brownsville Metropolitan Transportation Plan was adopted by the MPO Policy Committee in December 2004.

Due to on-going job creation, as well as population increases in this MPO study area, the introduction of new motorists has placed serious demands upon the area roadway system. Also, local motorists have encountered delays due to the disruption associated with the rebuilding and expansion of F.M. 511 in 2009.

Since 2004, the roadway network has continued to be improved and enlarged. For example, the reconstruction and widening of F.M. 802, (six lanes from U.S. 77/83 to F.M. 1847), was accomplished by TxDOT last year.

The widening of the U.S. 77/83 Expressway from four (4) to six (6) lanes was completed in 2008. This project involved the reconstruction and widening of this facility to six lanes. Four expressway overpasses were replaced with new structures. Also, existing ramps were reversed. Construction of braided entrance/exit ramps between 6th/7th Streets and Boca Chica Boulevard served to improve safety at these locations. The previous conditions at these Expressway ramp locations were quite unsafe. The grade separations achieved by building of these “braided” ramps have eliminated those problems.

The F.M. 511 improvements, which are slated to be completed sometime in 2010, involve widening of this facility from the U.S. 77/83 northbound frontage road to State Highway 48—a distance of 9.7 miles. This on-system project consists of widening the existing two lane facility to a four (4) lane divided roadway. This F.M. 511 improvement project includes drainage improvements, as well as the building of several overpasses to clear F.M. 1847 and the Union Pacific Railroad tracks. The TxDOT contract for these F.M. 511 construction activities is worth approximately 44.2 million dollars. This F.M. 511 widening project, by itself, may not seem very remarkable. However, if one considers the extensive amount of right-of-way that has been acquired by TxDOT to allow for future expansion, it becomes apparent how far-reaching the MPO/TxDOT efforts to improve this corridor have been.

F.M. 511 has been renamed as State Highway 550. This S.H. 550 corridor has available right-of-way to allow for future frontage road development, new overpasses to be built at key intersections when needed, as well as dedicated space for establishment of separate truck lanes. All of these items can be implemented when future funding becomes available. This corridor will be developed as a controlled access facility, to promote and preserve mobility for motorists of today and of Year 2035 and decades beyond 2035.

F.M. 511 has received a federal government designation as a future leg of I-69. The acquisition of extensive right-of-way in this corridor was achieved based on extensive TxDOT planning efforts conducted in recent years. The S.H. 550 corridor serves a gateway to Brownsville and the Port of Brownsville, a deep-water port. This important trade route has regional, state-wide and national significance.

The Brownsville MPO and TxDOT's Pharr District have invested a lot of time and effort on development of this highway corridor, to facilitate the efficient movement of goods and people for the coming decades

Another significant improvement project involved State Highway 48, (from the Shrimp Basin to S.H. 100/Port Isabel). The S.H. 48 widening project involved the addition of two more lanes for a total of four lanes. It was completed in 2008. This roadway project included the introduction of a median wall or barrier to establish a divided highway. This feature offers added safety for S.H. 48 motorists by the elimination of the possibility of head-on collisions.

In addition, TxDOT completed work to widen F.M. 3248 to a four lane roadway, from F.M. 1847 eastward to F.M. 511.

Another success concerns the City of Brownsville's sponsorship of the Historic Battlefield Trail. The City of Brownsville secured statewide Transportation Enhancement Program (S.T.E.P.) funds from TxDOT. This funding allowed establishment of a hike and bike trail to connect E. Harrison Street (near Downtown Brownsville), with entrance to the Palo Alto National Historic site at F.M. 1847. This trail, some nine miles in length, now serves both recreational and (functional) transportation trips. The establishment of an urban park, (the Southern Pacific Linear Park), which is located adjacent to the Gladys Porter Zoo and other cultural organizations, was an important part of this S.T.E.P. project.

Other significant progress within the Brownsville urban area involves planning initiatives undertaken for the West Rail Project. Please see Section 2 for more information about this project.

MPO GOALS & OBJECTIVES

The purpose of the Metropolitan Transportation Plan, (MTP), is to guide development of the Brownsville Transportation system through implementation of a prioritized list of potential transportation projects. Specifically, the MTP identifies projects needed to accommodate projected growth expected to occur in the Brownsville MPO area to the year 2035. The prioritized list was developed by the two MPO Committees, with input from the public.

The federal transportation bill, (SAFETEA-LU/Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), adopted in 2005, requires the Metropolitan Planning Organizations, (MPOs), to take into account various planning factors as part of the process of putting together a long-range plan or MTP.

To guide the formation of a balanced long-range plan, the MPO Policy Committee has adopted the goals and objectives listed below:

MTP UPDATE GOALS & OBJECTIVES

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

Objectives: Move people and goods in an energy-efficient manner.

Identify capital investments needed to preserve the existing transportation system, as well as transportation improvements needed to support continued economic development.

Promote coordination of transit services with services of other providers, e.g. social services, major employers, schools and universities.

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

Objectives: Provide for increased travel safety. Provide for the separation of modes, where feasible.

Identify and remedy roadway intersections, and other locations, which may have unsafe features in need of correction.

Identify capital investments needed to improve safety and reduce the rate of accidents.

Identify capital investments needed to address the needs of pedestrians and bicyclists to allow safe movement within the Brownsville metropolitan area.

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

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

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

Objectives: Improve access to the Port of Brownsville, the Brownsville/South Padre Island International Airport, and to international border crossings.

Improve mobility options available via public transportation to elderly and disadvantaged persons.

Promote utilization of private/public partnerships in transit infrastructure development to fund new projects.

Promote improved access to the major traffic generators located within the Brownsville metropolitan area.

Identify strategies and policies which serve to foster improved intermodal connections.

Identify capital expenditures needed to improve intermodal connections, including investments in Intelligent Transportation Systems.

Goal #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.

Objectives: Promote transportation improvements that are compatible with the protection of natural, cultural, and historic resources.

Develop policies that direct or guide development of future transportation infrastructure projects, so as to augment and protect the aesthetic features of Brownsville's landscape and historic areas.

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

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

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

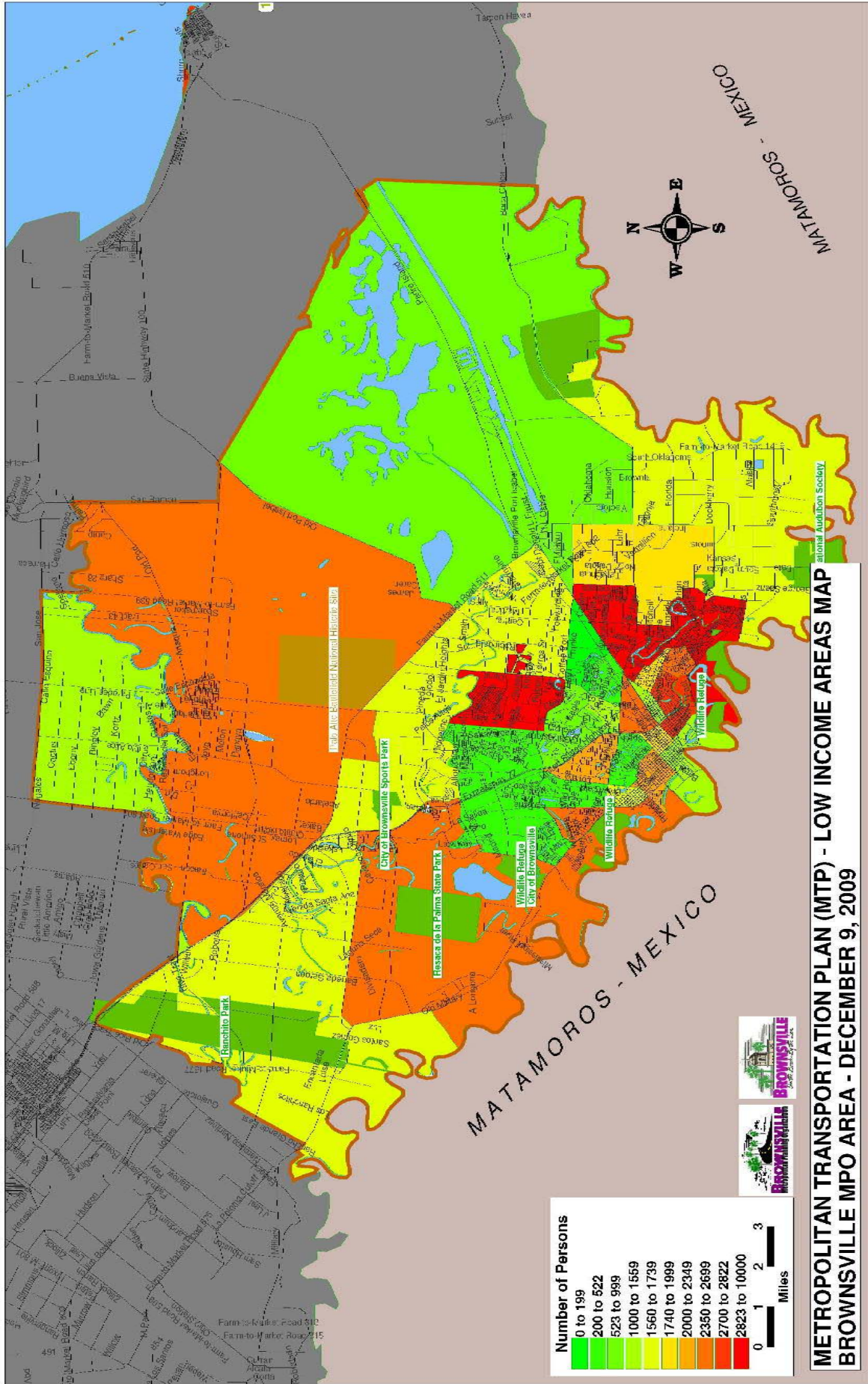
Goal #8: Emphasize the preservation of the existing transportation system.

Objectives: Develop and utilize applicable monitoring systems to monitor and evaluate the functioning of the Brownsville area transportation system.

Identify strategies that serve to manage access, so as to preserve existing transportation corridors, yet allow for appropriate land use at adjacent properties.

Recommend to local governing entities the consideration and adoption of applicable strategies, (e.g. subdivision ordinance revisions), that support Access Management and preservation of transportation facilities.

Undertake development of transportation plans and policies that coordinate with the land use policies identified in the Brownsville Comprehensive Land Use Plan, the Comprehensive Plan of the City of Los Fresnos and policies of the Town of Rancho Viejo.



METROPOLITAN TRANSPORTATION PLAN (MTP) - LOW INCOME AREAS MAP
BROWNSVILLE MPO AREA - DECEMBER 9, 2009

SAFETEA-LU COMPLIANCE

Environmental Justice

Inequitable distribution of transportation benefits and burdens is to be avoided. Thus, MPO staff and MPO Committee members periodically assess how the MPO's programs and activities affect minority and low-income populations within the Brownsville urbanized area. The MPO's need to consider Environmental Justice issues is embodied in many laws, regulations and policies, including:

- Title VI of the Civil Rights Act of 1964;
- President's Executive Order 12898 on Environmental Justice (EO12898);
- National Environmental Policy Act of 1969 (NEPA);
- Section 109(h) of Title 23;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA), as amended;
- The Transportation Equity Act for the 21st Century (TEA-21);
- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); and
- Other U.S. Department of Transportation statutes and regulations.

MTP Safety & Security Elements

Many of the MPO's recently completed improvement projects have had safety aspects or features incorporated within their design. For example, the F.M. 802 widening project, located near the Sunrise Mall, incorporated the use of a center median to control access and to reduce collisions on this roadway.

Another example pertains to State Highway 550 improvements. As cited on pages 1-2 and 1.3 within this text, this highway corridor is being developed as a controlled access facility to promote mobility and augment safe travel in the coming decades. One of the MPO's significant proposed projects, the West Rail Project, offers substantial safety benefits. By relocating rail operations outside of the urbanized portion of the City of Brownsville, the threats posed by rail car spills will be sharply curtailed. Please see page 2-3 for more information about this project.

SAFETEA-LU provides a framework for the MPO's MTP to establish and build safety and security programs, which address specific MPO needs. The Brownsville MPO's role in developing the Safety and Security Elements of the MTP includes four policy statements or objectives, as follows:

- The Brownsville MPO supports, along with transportation partners, the development of a safe transportation system for all users (pedestrian, bicycle, private auto and trucking and public transportation).
- The Brownsville MPO will examine and consider increased transportation system security when evaluating or sponsoring funding requests for transportation improvement projects.

- The Brownsville MPO will champion or support agency coordination, training and information-sharing efforts to promote security preparedness within the MPO's study area.
- The Brownsville MPO will seek available funding to strengthen the security of the MPO's transportation system.

State and local attention has been focused on risks associated with hurricane threats, such as flooding and/or wind damage. MPO staff have participated in Brownsville Emergency Operations Center training exercises, which stimulate the arrival of hurricanes. These City of Brownsville exercises have served to improve evacuation planning. It should be noted that local responders (eg. Police and Fire Department staff) fulfill most of these responsibilities.

In recent years, the Brownsville MPO staff have attended a number of meetings held at the Brownsville Port of Entry. By establishing and maintaining lines of communication with officials of U.S. Customs, Border Patrol staff and staff at other local agencies (eg. Brownsville Police Department, City of Brownsville Traffic Division, Cameron County Sheriff's Department and the Cameron County Transportation Department) concerning security-related issues, staff at the Brownsville MPO work cooperatively to advance planning efforts in this area. Such contacts can lead to practices and strategies that increase the security of the transportation system for motorized and non-motorized users.

An important factor in the MPO's selection of three (3) U.S. 281 improvement projects for inclusion in the MTP concerns safety considerations. The U.S. 281 roadway is presently a two lane, undivided highway. It serves as Hurricane Evacuation Route. Widening of this roadway fulfills several safety-related objectives: lowering the rate of accidents and establishing a better Hurricane Evacuation Route with more capacity.

Cameron County Hazardous Cargo Route Study

The Brownsville and Harlingen-San Benito MPOs, in collaboration with area stakeholders, are conducting a hazardous cargo route study in order to develop a set of non-radioactive hazardous materials (NRHM) routes for Cameron County. The objective of the Cameron County Hazardous Cargo Route Study is to select NRHM routes that minimize the potential for hazardous materials incidents and minimize the consequences to the residents of Cameron County should an incident occur. The study will involve opportunities for active stakeholder participation in the nine month planning process.

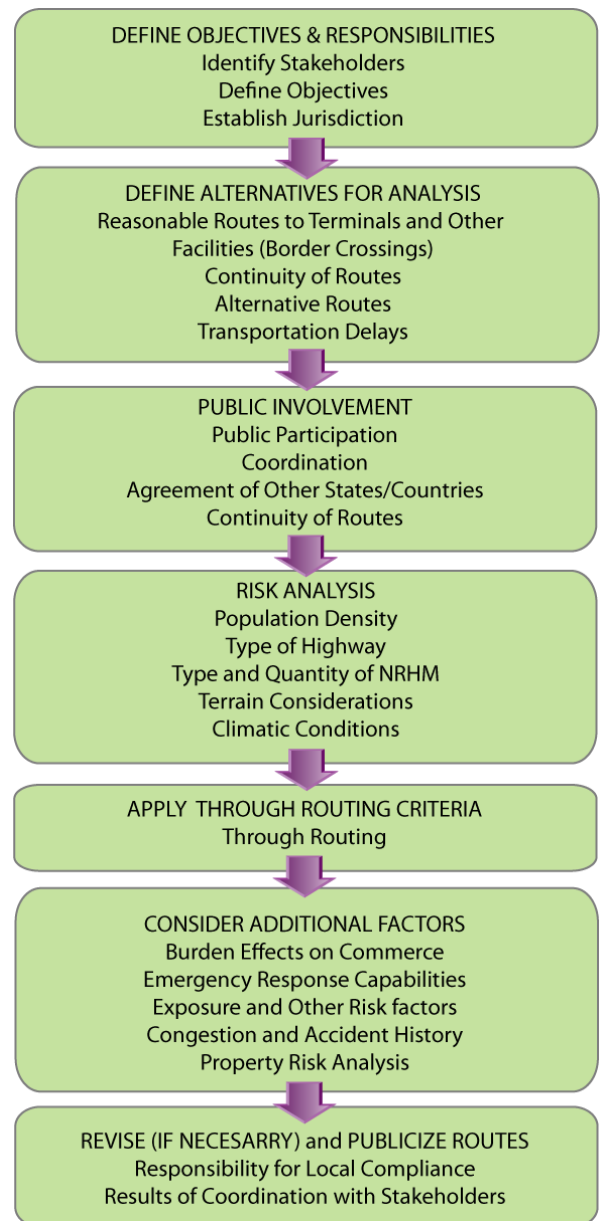
The methodology that will be used mirrors the process approved by the Federal Highway Administration. The standards and evaluation factors included in this methodology are listed below. In addition, the steps that the MPOs, assisted by Alliance Transportation Group, Inc., will take in achieving the study objectives are listed in the diagram to the right.

Standards

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

Factors

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



In addition to the factors mandated in the Federal Highway Administration's methodology, consideration of various other factors may be useful for tie breaking decisions where no one alternative is clearly superior to the others based solely on population risk.

Consideration of factors should reflect community priorities and values, and will be arrived at through community discussion and consensus. Factors of interest to the community may include:

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

Decisions about routing requirements for hazardous materials will affect a broad spectrum of community members, including: motor carriers; shippers; public safety officials (e.g., fire, police, civil defense); state and local government; the general public; and industries served by motor carriers. Due to the wide variety of stakeholders that may be affected by any routing decision, the first step in the process will be for the team to identify the possible routing alternatives and then compile a list of potentially affected parties. Input will be solicited from these potentially affected parties through the process of stakeholder and public meetings.

Participation by these representatives early in the process has the dual benefit of introducing multiple perspectives on the issues and building consensus on the approach. The motor carrier industry, in particular, will be encouraged to identify its special needs. Involving the industry in the process of developing routing requirements helps identify reasonable and workable solutions. In addition, representatives (e.g., highway officials) and other jurisdictions potentially affected by routing designations will be contacted. The participation of these stakeholders is required by the regulation and including them early in the process helps facilitate the finalization of routing designations.

Participation by jurisdictional stakeholders is particularly important because the final step in the process is enactment and enforcement of a Hazardous Cargo Route Ordinance by the various municipalities in the County study area. The Brownsville and Harlingen-San Benito MPOs are the coordinating agency for developing the Cameron County Non-Radioactive Hazardous Materials Route. However, implementation of any proposed routes may require action in the form of ordinances or approvals from multiple jurisdictions (municipalities, the county, etc.) or stakeholder agencies.

Selection of the preferred route (or routes) will attempt to reflect the community's consensus on which criteria are most important and should include input from other affected jurisdictions. The route selection decision will be documented in a report submitted to the Brownsville and Harlingen-San Benito MPOs. The report will include any assumptions or other factors that were assessed and will be thoroughly documented. Prior to adoption of the route recommendations contained in the report the regulation requires that the route be made available for public comment and, when determined appropriate, that a public hearing be held to receive comments.

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NEPA & POTENTIAL MITIGATION ACTIVITIES

Section 6001 of the 2005 federal transportation bill, SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), provides support for early collaboration and integrated planning. Also, it requires Metropolitan Planning Organizations (MPOs) to discuss potential mitigation activities, as well as potential sites, for foreseeable environmental effects resulting from improvement projects listed in the MPO's MTP.

The federal statute that provides guidance as to the assessment of environmental effects is the National Environmental Policy Act (NEPA) of 1970, as amended. NEPA requires that all actions sponsored, funded, permitted or approved by federal agencies undergo studies to ensure that environmental considerations are given due weight in project decision-making. NEPA requires the assessment and disclosure of reasonably foreseeable effects of transportation projects as part of the environmental impact assessment process.

In the Brownsville MPO study area, both Off-System and On-System Improvement Projects, which involve federal funding, procedures established by TxDOT to identify and estimate many of the effects of proposed transportation projects are used. As a result, NEPA requirements serve to guard the environment through discussion and disclosure of environmental effects associated with MPO-sponsored improvements.

There are three types or categories of effect that must be considered during NEPA: direct, indirect and cumulative (40 C.F.R. §1508.25). Under NEPA, "effects" are synonymous with "impacts" and include ecological impacts (such as the effects on natural resources and on the components, structures and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social or health impacts, whether direct, indirect or cumulative.

Direct, indirect and cumulative impacts can often be avoided or minimized through consultation and a careful analysis of transportation alternatives. SAFETEA-LU requires MPOs to consult and coordinate their MTP development activities with State and local agencies regarding land use management, natural resources, environmental protection, conservation, historic preservation and other issues. This coordination includes, as appropriate, the comparison of available plans, maps and inventories of natural or historic resources. The Brownsville MPO goes further and also consults with interested parties and community groups. This consultation, and the MPO's efforts to integrate land use and transportation planning, can facilitate the avoidance and minimization of potential impacts during the transportation planning process.

Below is an illustrative list of government agencies and other groups that the MPO coordinates and/or consults on MTP development. These MPO-sponsored efforts are made to identify environmental or cultural resources.

- Amigos del Valle
- Brownsville Chamber of Commerce
- Brownsville Economic Development Corp.
- Brownsville Historical Association
- Brownsville Independent School District
- Brownsville Navigation District
- Brownsville Public Utilities Board
- Brownsville River Rockets Adventure (Bicycle) Club
- Brownsville/South Padre Island International Airport
- Brownsville Visitors & Convention Bureau
- City of Brownsville-Downtown District Manager & Heritage Officer
- City of Brownsville-Parks & Recreation
- City of Brownsville-Planning & Community Development
- City of Los Fresnos
- Greater Brownsville Incentives Corp.
- Los Fresnos Consolidated Independent School District
- National Park Service-Palo Alto Battlefield National Historic Site
- Texas Historical Commission
- Town of Rancho Viejo
- University of Texas at Brownsville
- U.S. Fish & Wildlife Service
- Valley Association for Independent Living

In consultation with these governmental entities and citizen's groups, the MPO has mapped (on various maps that cover the MPO's study area) locations of environmental resources of concern. The MPO will continue these mapping activities, as new information is shared and/or generated by these entities and citizen's groups.

SAFETEA-LU also requires the MPO's MTP to include a generalized discussion of potential mitigation activities and potential mitigation areas. "Mitigation" includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (e) Compensating for the impact by replacing or providing substitute resources or environments. Where on-site mitigation areas are not reasonable or sufficient, off-site compensatory natural resource mitigation areas may suffice.

The Brownsville MPO, and other MPO sponsor agencies such as TxDOT and local municipalities, seek to coordinate MTP development and project development with both governmental entities and citizen's groups.

Potential mitigation activities and areas are discussed below:

- Type of Resource
Communities and neighborhoods; as well as homes and businesses.
Potential mitigation activities for project implementation
Impact avoidance or minimization; use of context sensitive solutions for community improvements, (appropriate functional and/or aesthetic design features).

Potential mitigation areas for project implementation

Mitigation on-site or in the general community. (Mitigation for homes and businesses is in accord with 49 CFR 24).

Key applicable requirements

Uniform Relocation Assistance and Real Property Acquisition Policy Act at 42 USC 4601 et seq.

- Type of Resource

Historic and cultural resources.

Potential mitigation activities for project implementation

Avoidance, minimization, landscaping for historic properties, preservation in place or excavation for archeological sites, Memorandum of Agreement with the Texas Historical Commission, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

On-site landscaping of historic properties, on-site mitigation of archeological sites, preservation in-place.

Key applicable requirements

National Historic Preservation Act at 16 USC 470.

- Type of Resource

Parks and recreation areas.

Potential mitigation activities for project implementation

Avoidance, minimization, mitigation, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

On-site screening or on-site replacement of facilities, in some cases, replacement of affected property adjacent to the existing one.

Key applicable requirements

Section 4(f) of the U.S. Department of Transportation Act at 49 USC 303.

- Type of Resource

Wetland and water resources.

Potential mitigation activities for project implementation

Mitigation sequencing requirements involving avoidance, minimization, compensation (could include preservation, creation, restoration, riparian buffers), design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

Based on on-site/off-site and in-kind/out-of-kind sequencing requirements, private or publicly operated mitigation banks used in accordance with permit conditions.

Key applicable requirements

Clean Water Act at 33 USC 1251-1376; Rivers and Harbors Act at 33 USC 403.

- Type of Resource

Agricultural areas.

Potential mitigation activities for project implementation

Avoidance, minimization, replacement property for open space easements to be of equal fair market value and of equivalent usefulness, design exceptions and variances, environmental compliance monitoring.

Potential mitigation areas for project implementation

Replacement of agricultural operation via public:private agreements.

Key applicable requirements

Farmland Protection Policy Act of 1981 at 7 USC 4201-4209.

- Type of Resource

Endangered and threatened resources.

Potential mitigation activities for project implementation

Avoidance, minimization, time of year restrictions, construction sequencing, design exceptions and variances, species research, species fact sheets, Memorandum of Agreements for species management, environmental compliance monitoring.

Potential mitigation areas for project implementation

Relocation of species to suitable habitat adjacent to project limits.

Key applicable requirements

Endangered Species Act at 16 USC 1531-1544.

Please see Appendix IV for more information about agency responses sent to the MPO in regards to the contents of the proposed 2010-2035 MTP document.

MPO CONSULTATION

On a periodic basis, Brownsville MPO staff consult with federal and other environmental and regulatory agencies to seek feedback about proposed MPO plans and policies. For example, MPO meeting packets are sent to U.S. Fish & Wildlife Service staff for each MPO Policy Committee meeting.

For another example, in 2008-2009, the MPO staff enlisted the participation of staff at the U.S. Fish & Wildlife Service and a representative of the Valley Land Fund, a non-profit group, as a part of the MPO's Study of Land Use:Transportation Alternatives.

Prior to the development of alternative land use scenarios, MPO staff, with assistance from the U.S. Fish & Wildlife Service, identified natural areas that are off-limits or unsuitable for future development. Also, other natural areas where development is most constrained and least desirable were added to the MPO map given to "chip game" participants. U.S. Fish & Wildlife Service staff participated in the MPO's Scenario Planning exercise, known as the chip game, to solicit input as to where growth should occur and how it should take place.

These MPO activities have been conducted to address the environmental mitigation goals and objectives of the long-range transportation plan. MPO staff forwarded the MPO's Draft Metropolitan Transportation Plan (MTP) documents (and maps) for review and comments. The draft MTP was sent to staff housed at various environmental and regulatory agencies for their review and comment. For more information about the agency responses and comments, please see the materials found within Appendix III.

Similarly, an equivalent MPO consultation process has been used in contacting local and regional agencies that work on land use, development, housing and employment plans.

Please see "Consideration of Alternative Land Use Policies" on 4-7, for more discussion of these issues.

The Brownsville MPO's Use of Planning Funds to Support Integration of Transportation, Land Use and Climate Change

Coordination of transportation and land use planning is an important issue, which can affect emissions of transportation-related Green House Gases (GHGs) that impact climate change. Not all GHGs derive from transportation activities. Use of autos and light-duty trucks contribute approximately 17% of the GHGs produced each year in the United States. Various states, regional councils, as well as MPOs have implemented strategies to reduce GHGs by reducing Vehicle Miles Traveled (VMT). Some MPOs in other states have adopted specific VMT reduction goals. The Brownsville MPO has not adopted specific policies to achieve reductions in annual per capita vehicle miles traveled (VMT). However, the Brownsville MPO has adopted an MPO Resolution endorsing a preferred growth scenario for this area.

Furthermore, the associated MPO recommendations (within the MPO's Study of Land Use: Transportation Alternatives) directly encourage local governments to seek compact development in urban centers and/or other targeted growth areas within the MPO's study area.

In addition, the adoption of new land use policies would offer other quality-of-life benefits to these communities. Most state-level GHG inventories for transportation have some major limitations for transportation policy analysis because they are not presented in sufficient detail to assess emission reduction strategies. Also, there is no regional inventory of emissions (for South Texas or the Lower Rio Grande Valley) suitable for this MPO's use for planning purposes and/or emission reduction strategy analysis.

This MPO-sponsored study (above) outlined future outcomes, in terms of annual per capita vehicle miles traveled (VMT). Calculations were made for three alternative (future) growth scenarios examined by the MPO. But these VMT differences are so tiny as to be considered minimal or insignificant.

Under Scenario "A", as calculated by CommunityViz software and the MPO's 2030 Travel Demand Model, the urbanized area would experience 4,430,000 VMT in year 2030.

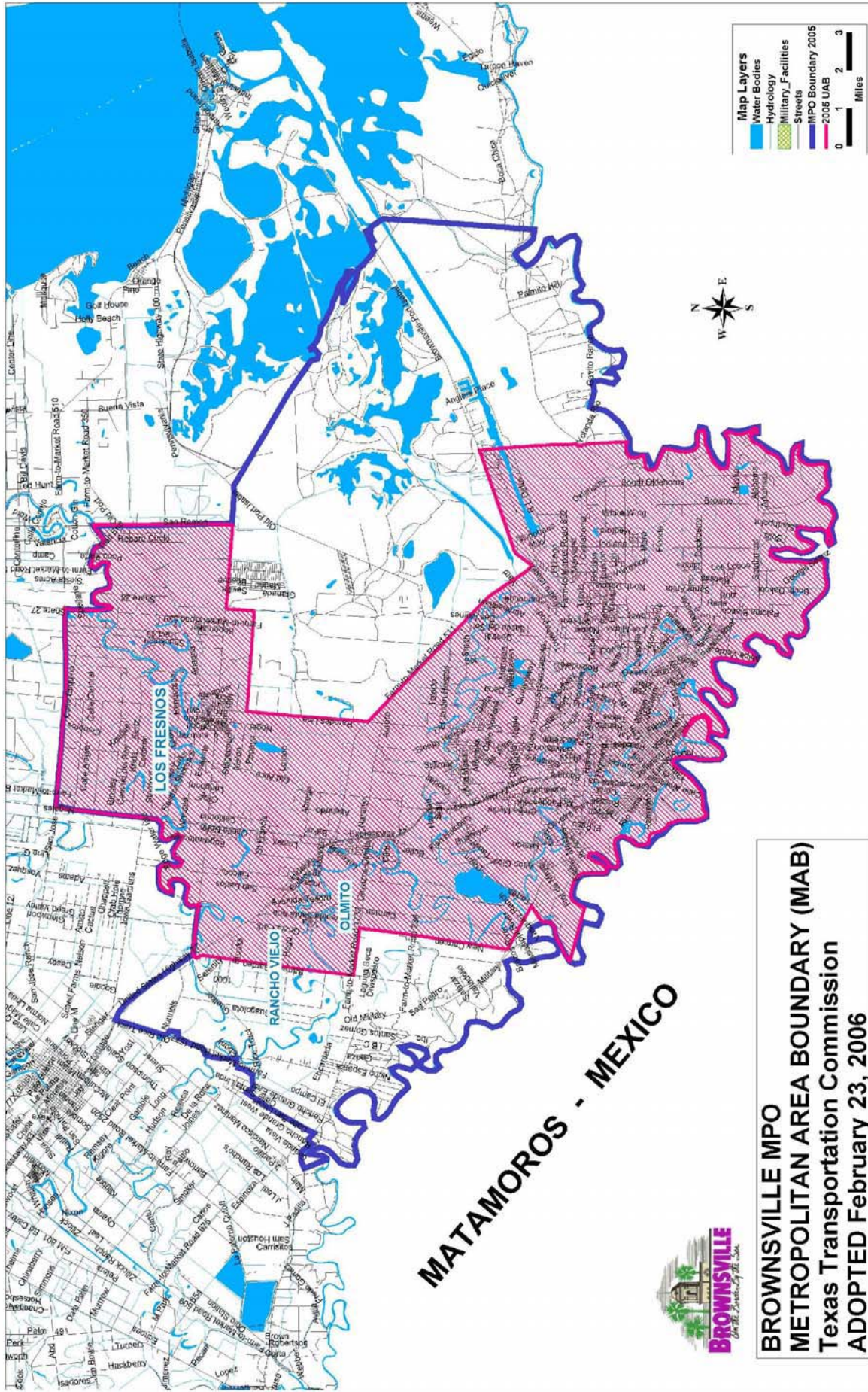
Under Scenario “B”, the VMT for the area would total 4,400,000 in the equivalent year. This represents a 0.7% reduction in VMT under Scenario “B”. Few would consider the equivalent 0.7% reduction in GHG emissions to constitute a dramatic result. However, the future development costs associated with Scenario “B” versus Scenario “A”, (The Trend Scenario), do pose dramatic differences.

Development costs amount to a difference of 900 million dollars or almost one billion dollars in savings for Scenario “B”. The region stands to benefit at both the regional and local levels, if local leaders follow-up on the MPO recommendations by securing the adoption of new land use policies.

The Brownsville MPO can indirectly influence or encourage the local entities within the MPO’s study area to adopt new land use policies. These local initiatives could help further develop the three municipalities as “walkable” communities. However, the responsibility for undertaking such policy changes or new zoning initiatives belongs to those governmental units or agencies.

The Brownsville has no zoning powers. It is possible that the MPO’s study area could experience future reductions of transportation-related GHG emissions by virtue of future local initiatives. Such an outcome could take place by redirection of a portion of the future savings, (associated with Scenario “B” municipal infrastructure expenses). It would require a stronger local commitment to sustainable development practices and a willingness to fund other needed improvements. These municipalities might obtain significant GHG reductions.

For example, the future construction of bikeways, hike and bike trails and other pedestrian amenities would enable local residents to use these alternative modes for some of their work, shopping and recreational trips instead of using a vehicle. A reduction in vehicular trips from increased walking thereby yields fewer GHG emissions on an annual basis. Instead of a 0.7% VMT reduction, we might see a 5% or 7% VMT take place due to undertaking these measures. Again, the Brownsville MPO can encourage the municipalities to adopt new policies and fund improvements that facilitate biking, walking and transit use, but the decision-making powers on these issues reside with the municipal (local) leaders.



**BROWNSVILLE MPO
METROPOLITAN AREA BOUNDARY (MAB)**
Texas Transportation Commission
ADOPTED February 23, 2006



Section 2

MTP PROJECT SELECTION

The MPO Technical and Policy Committees consider various criteria to use with regard to project selection or placement of MTP projects within this fiscally-constrained plan. The Metropolitan Transportation Plan or MTP is a listing of prioritized projects that will be implemented in the short-range phase (2010-2020) or the long-range phase (2021-2035).

Criteria associated with these different factors (below) are considered when selecting MTP improvement projects:

Criterion A:

Closes Roadway Network Gap

Criterion B:

Cost Effectiveness (cost/vehicle mile)

Criterion C:

Congestion Relief (as determined by the MPO's Travel Demand Model-TDM)

Criterion D:

International Border Crossing/Intermodal Terminal

Use of the MTP criteria often focuses on analysis of diversion of traffic from congested roadways, as well as comparative costs for achieving such results. Selection of MTP Candidate Projects has involved comparative analyses of traffic volumes for different projects—eg. widening projects versus new roadways or new segments.

Also, it can be difficult to obtain data for all roadways. So, use of this data is sometimes limited in examining the differences between MTP candidate roadways.

MTP PROJECT SELECTION

MPO staff and MPO Technical and Policy Committee members have spent considerable time examining the relative merits of competing projects. Not all candidate improvement projects will be listed in the updated Metropolitan Transportation Plan.

INTERMODAL FACILITIES—RAILROADS

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

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

The completion of the Brownsville Railroad Relocation Program brought welcome relief from congestion problems that existed due to rail switching operations. Palm Boulevard is still occasionally blocked by rail cars (trains) going to and from Matamoros. Completion of the West Rail Project will end this rail conflict by relocation of this rail line.

The introduction of a barrier at the U.S. 77/83 frontage roads south of Merryman Road has presented problems for bicyclists seeking to go to the Brownsville Sports Park. City of Brownsville staff, in cooperation with TxDOT staff, are investigating if a rail crossing point (for pedestrian/bicyclist use) can be established with proper safeguards.

PORT OF BROWNSVILLE

The Port of Brownsville is a deep water port located at the western terminus of the 17-mile long Brownsville Ship Channel that enters the Gulf of Mexico at the Brazos Santiago Pass. The Port offers multiple modes of transportation to and from Port facilities, such as deep-sea or ocean shipping, barge service via the U.S. Intracoastal and Inland Waterway system, U.S. and Mexican truck transport, rail service, pipeline transport of liquid cargo and air service through the less-than-three-miles-away Brownsville/South Padre Island International Airport. The Channel's current authorized depth is 42 ft. with a 1,200 ft. wide turning basin. The Port is currently participating with the U.S. Army Corps of Engineers (USACE) in a study to deepen the channel to 50 ft., in order to receive larger, modern vessels.

The Port of Brownsville, a major center of industrial and development in the South Texas region, has over 270 companies in operation. The Port has a substantial economic impact in South Texas, providing employment, directly and indirectly, to over 38,000 people, locally and state-wide. Nearly 11,000 of these people are employed in the immediate vicinity of the Port, according to a recent study by the Center for Transportation Research at the University of Texas at Austin. The overall economic value of the Port of Brownsville has been estimated to be nearly \$3 billion. In addition, the impact to state and local taxes is in excess of \$44 million.

Activities conducted at the Port include:

- Construction and repair of offshore drilling rigs
- MARAD certified ship repairing and dismantling
- Steel fabrication and boat construction
- LPG storage/distribution
- Waste oil recovery
- Bulk terminalling for miscellaneous liquids
- Grain handling and storage
- Transportation/Logistics
- The only U.S. Navy-certified Vessel decommissioning & dismantling facility in the U.S

The Port of Brownsville is governed by the Board of elected Commissioners of the Brownsville Navigation District, a political subdivision of the State of Texas. The Board establishes the policies, rules, rates and regulations of the Port and approves all contractual obligations.

The Port has the following main dock facilities:

- A 3,500 foot-long turning basin varying in width from 400 to 1,200 feet, containing cargo docks 1 to 4, 7, 8, 10 to 13 and 15
- Slips for ship breaking and offshore rig repair/construction
- A 5,400 foot-long turning basin extension (width 500 feet) containing Oil Docks 1, 2, 3 and 5, a bulk cargo dock with grain elevator/plant and the liquid cargo dock
- A Fishing Harbor

The Fishing Harbor or Shrimp Basin is located on the north side of the channel, approximately 4 miles east of the Turning Basin. This harbor consists of three 12 foot (3.7 meter) deep basins and over 10,000 linear feet of docks, to serve the shrimp boat fleets.

Adequate space is available for the expansion of existing industries or addition of new industries.

Our infrastructure provides Port lessees with:

- Over 40,000 acres of available land
- 12 cargo docks
- 4 oil docks
- 1 liquid cargo dock
- 720,000 sq. ft. covered storage
- 2.3 million sq. ft. open storage

The Port has 720,000 square feet of covered warehouses directly associated with (just behind) the main public docks. In total, the Port has about 450,000 square feet of open dockside aprons and about 2.3 million square feet of open storage available.

The Port of Brownsville has also submitted an application to the U.S. Department of Transportation for stimulus TIGER Grant funding in the amount of \$73.5 Million to build a new Cargo Dock, a new Oil Dock, improve rail facilities and acquire a new cargo crane. With those improvements, the Port would increase its ability to move various types of cargo in a multi-modal manner.

Proposed Port of Brownsville International Bridge

The MPO's Thoroughfare Plan depicts the projected crossing point to the Republic of Mexico for this proposed new bridge. The proposed crossing point over the Rio Grande River is located due south of the Port's Dock facilities.

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

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

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

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

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

Olmito Switchyard Improvements

The Brownsville Navigation District helped to secure both federal and local monies to complete the Brownsville Railroad Relocation Program. With assistance from TxDOT's Pharr District, this important program was finished some years ago. Part of the slate of improvements included the establishment of a new, large-scale rail switchyard. This rail yard is located to the east of the U.S. 77/83 Expressway facility and south of Merryman Road.

The Union Pacific Railroad Company agreed to utilize this rail yard for its switching (rail freight) operations. Since this neighborhood or section of North Brownsville is commonly called Olmito, this existing rail facility is often called the Olmito Switchyard.

The community of Harlingen, Texas, which is located a little more than twenty miles to the north of Brownsville, continues to be plagued by traffic congestion due to rail operations. The movement of trains (rail freight) within Harlingen causes delays at numerous roadway locations where at-grade rail crossings are present. The City of Harlingen, in association with the Harlingen-San Benito MPO, the Brownsville MPO and Cameron County, is helping to fund new rail improvements at this Olmito location. Please see Appendix IV for more information about these particular rail improvements, which are included within the Brownsville MPO's MTP.

WEST RAIL PROJECT

The West Rail Project will eliminate 14 at-grade highway rail crossings and reduce traffic congestion and provide improved traffic safety. Concurrent to the project on the U.S. side,

there will be a similar rail bypass project in Matamoros, Mexico. Completed work includes the acquisition of the new 100' right-of-way for the new rail line, development and engineering plans for the rail line and international bridge. Pending work includes the construction of an overpass for U.S. 281 at the proposed rail crossing, construct new rail line, construct U.S. portion of new international bridge, and purchase vacated right-of-way from the UPRR for the future construction of the new transportation corridor. The project would begin on or around Expressway 77 and end at the river crossing.

The West Rail Project, by elimination of at-grade crossings, will eliminate conflict points for potential 70,000 vehicles/day and thus prevent auto-train accidents and/or fatalities. In Matamoros, Mexico there have been 17 fatalities in recent years.

This project will also increase train efficiency, reduce stops and delays of vehicles created by the trail crossings being blocked, improve responses of emergency vehicles, redevelop the Amigoland area businesses and undeveloped land, redevelop land along the existing UPRR. It will create a new transportation corridor, the West Loop or West Parkway, that will add capacity for 18,000-20,000 new vehicles in Brownsville.

AIRPORT TRANSPORTATION

The Brownsville-South Padre Island International Airport is located in the eastern section of Brownsville. The airport is served by three highways—State Highway 4, F.M. 2519 or Billy Mitchell Boulevard and F.M. 313.

The airport has six hard surface runways. The primary runway is 150 feet wide by 7,400 feet long, lighted and served by an instrument landing system. The Aviation Department is seeking to implement expansion of the airport's primary runway (13R-31L) to 10,000 linear feet in length. Airport runway expansion, upon completion, will help attract and retain air freight operations at the airport, as well as to allow for a more versatile family of aircraft to utilize the airport.

In addition to six daily flights to and from Houston, Texas by Continental Airlines, new service to Dallas-Fort Worth, Texas by American Airlines began in June 2009 with three direct round trips (daily) to Dallas-Fort Worth, Texas.

It is noteworthy that the airport features two (2) industrial parks, one of which has a Foreign Trade Zone designation. A market analysis and runway justification study currently projects a gradual increase in aircraft operations, both passenger and air cargo, at the airport over the next 20 years.

Future growth of general aviation activities is also expected at the Brownsville-South Padre Island Airport. A key feature which attracts general aviation patrons to the airport is the availability of full scale (international) U.S. Customs facilities.

AIR CARGO

Reduction of tariffs and other trade barriers under NAFTA has served to increase U.S.-Mexico trade in Brownsville. The potential for growth of air cargo at the Brownsville-South Padre Island International Airport is tied to the growth and movement of U.S.-Mexico trade through Brownsville and the Lower Rio Grande Valley.

Most of the air cargo transported via the airport involves goods moving to or from maquiladora plants located in Matamoros or Reynosa, across the Rio Grande. Parts, and other components used to assemble a finished product, are shipped via air cargo to facilitate "just-in-time" arrivals on both sides of the border.

Improvements in area highways, such as Phase II of the East Loop, are needed to facilitate expected increases in air cargo.

Another improvement to the highway network serving the airport which merits implementation is the extension of Vermillion Avenue southward, to allow establishment of a connection to Dockberry Road and F.M. 511 on the airport's eastern boundary.

INTERNATIONAL BORDER CROSSINGS

Many of the congestion problems in Brownsville, associated with international commercial traffic operations, were significantly alleviated with the opening of the Veteran's International Bridge at Los Tomates in 1999.

Relocation of commercial (truck) traffic to the Veteran's International Bridge significantly aided traffic flow in the vicinity of the Gateway International Bridge and the B & M Bridge, as well as in Downtown Brownsville.

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

This route between the Port of Brownsville and the Veteran's International Bridge, S.H. 4 (International Boulevard) and S.H. 48 (Padre Island Highway), constitutes Brownsville's overweight truck corridor. Overweight trucks are confined to this corridor and pay a fee collected at the Port to help fund repairs to remedy damages caused by these loads.

Proposed Flor de Mayo International Bridge

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

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

Proposed Port of Brownsville International Bridge

The MPO's Thoroughfare Plan depicts the proposed crossing point to the Republic of Mexico for this new bridge. The proposed crossing point over the Rio Grande River is located due south of the Port's harbor facilities.

The Brownsville Navigation District (BND) obtained a presidential permit for this international bridge some years ago. The proposed bridge design calls for a four lane bridge for truck traffic. This permit has lapsed and the Port staff are not presently working on a new permit application.

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

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

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

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

U.S. 281 Connector

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

TxDOT hired a consultant some years ago to determine a preferred alignment for the U.S. 281 corridor. Work was stopped due to a shortage of funding. The various issues concerning development of the U.S. 281 Connector need to be addressed. As a major east:west corridor, this proposed roadway should be a part of TxDOT's and the MPO's future infrastructure needs. Staff at Cameron County have started discussions with TxDOT staff about fashioning a cooperative agreement for the Cameron County RMA to undertake design and development work for this proposed roadway.

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

Veterans International Bridge at Los Tomates

This facility, located on U.S. 77/83, opened in May 1999. The bridge structure provides four lanes for vehicular traffic and space for pedestrians to cross as well. The Brownsville Port-of-Entry at this border crossing includes a large-sized import lot, which is adequate to serve large numbers of trucks.

TxDOT has plans to build a Truck Inspection Station next to the existing facilities. A temporary Truck Inspection Station is in operation at the present time. Cameron County has obtained CBI funding to add more northbound lanes at this facility.

Bridge Owner/Operator:

United States: Cameron County and City of Brownsville (50:50 ownership)

The County operates the bridge itself and the toll facilities.

Mexico: Federal Government of Mexico (Concession with FARAL)

Operator: CAPUFE

Average Monthly Bridge Traffic: (1st six months of F.Y. 2009)

Auto:	132,180 monthly
Trucks/Commercial:	12,859 monthly
Pedestrian:	3,741 monthly
Buses:	697 monthly

Bridge Owner/Operator:

United States: Cameron County

Mexico: Federal Government of Mexico (owner)

Bridge Operator: Caminos y Puentes Federales de Ingresos y Servicios Conexos (CAPUFE)

Gateway International Bridge

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

Bridge Owner/Operator:

United States: Cameron County

Mexico: Federal Government of Mexico (owner)

Bridge Operator: Caminos y Puentes Federales de Ingresos y Servicios Conexos (CAPUFE)

Average Monthly Bridge Traffic: (1st six months of F.Y. 2009)

Auto:	127,070 monthly
Trucks/Commercial:	0
Pedestrian:	160,339 monthly
Buses:	0

B & M International Bridge

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

Bridge Owner/Operator: Both the U.S. and Mexican portions of both structures are owned and operated by the Brownsville & Matamoros Bridge Company, a subsidiary of the Union Pacific Railroad Company.

Average Monthly Bridge Traffic: (1st six months of F.Y. 2009)

Auto:	139,741 monthly
Trucks/Commercial:	0
Pedestrian:	50,354 monthly
Buses:	0

Free Trade Bridge at Los Indios

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

Average Monthly Bridge Traffic: (1st six months of F.Y. 2009)

Auto:	60,736 monthly
Trucks/Commercial:	2,377 monthly
Pedestrian:	15 monthly
Buses:	3 monthly

USE OF INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

ITS tools have the potential to offer substantial functional improvements to persons who are affected by the transportation system—from those that manage and operate the system, to those that respond to incidents that occur on it, to those that use it to move goods or simply themselves.

Projects and strategies that employ ITS tools can help reduce congestion. In addition, mobility, safety, and economic productivity can be improved.

In 2003, staff from the Brownsville MPO and other ITS stakeholders worked cooperatively with Mr. Jesse Leal of TxDOT and staff from Kimley-Horn and Associates on ITS issues. As a result, TxDOT completed the Lower Rio Grande Valley Regional ITS Architecture and Deployment Plan.

A diverse range of ITS needs were identified, including highest priority needs focused on improving traveler information (particularly for travel to and from border crossings), incident management, enhancing coordination and communication between local and state agencies within the Lower Rio Grande Valley and improving transit operations.

A Memorandum of Understanding (MOU) regarding this ITS Plan was signed. The MOU has been presented to the Federal Highway Administration to indicate regional stakeholder participation and development of the TxDOT plan. This step was taken to ensure that the Brownsville MPO and other regional stakeholders are eligible for federal funding of ITS projects in the future, including projects listed in this MTP document.

TRANSIT ELEMENT – BROWNSVILLE URBAN SYSTEM (BUS)

The City of Brownsville has provided public transit services, operated as Brownsville Urban System (BUS), since 1978. The City of Brownsville provides the overall management of BUS. BUS provides safe, reliable and efficient public transportation to the residents and visitors of Brownsville, Texas. Brownsville is a border community of 139,750 at the southernmost tip of Texas. Its location as a gateway between the United States and Mexico means that a constant flow of tourists and sight seekers from all over the globe visit the area. And as a source of jobs, shopping, medical care and provider of many other essential needs, Brownsville also attracts thousands of daily visitors from Mexico. BUS users are drawn from this rich diversity.

Transit Existing Services

BUS operates a total of 14 fixed-routes with 18 heavy-duty transit coaches. BUS service is provided between 6:00 am and 8:26 pm, Monday through Saturday. No service is provided on Sundays and on four (4) major holidays. All fixed route service begins and ends at the downtown transit terminal. The terminal is built around the old City Hall that still houses several City of Brownsville departments. The terminal has a capacity for eight (8) buses. In fiscal year 2009, the total revenue hours were 68,538 and the revenue miles operated were 808,000. The fixed route service ridership for fiscal year 2009 was 1,578,910. Paratransit service operates 8 vans with the same service schedule as fixed-route and it has an annual ridership of 51,425. All revenue vehicles are wheelchair lift/ramp equipped and are ADA accessible.

Fare Structure:

Fare Description	Cost
Adults	\$1.00
Children (5 and under)	Free
Elderly/Handicapped (60 + yrs/with ID card)	\$.50
Student (with valid ID card)	\$.75
Elderly/Handicapped Fare Pass (20 rides)	\$ 5.00
Student Fare Ticket (20 rides)	\$ 9.00
Day Pass	\$2.50
Weekly Pass	\$16.00
Transfer (valid only at the downtown terminal)	\$0.25

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

Number of Employees

Total number of authorized employees for fiscal year 2009 was 81. Forty of these employees are fixed-route operators and 11 are paratransit operators. All are City employees except for the BUS Director, Assistant Director and Operations Manager positions. These are contracted to First Transit, Inc.

Inventory of Physical Assets

The Administrative/Maintenance facility was built in 1982. This facility houses all administrative offices and a work area for transit dispatchers. Also, included are the maintenance offices, parts room and eight (8) bus bays. This facility is located on a 10.096 acres tract, which houses employees parking areas, BUS fleet parking area, fueling area, bus washing system and paint/body building. Future plans are to relocate the fleet parking area with a vehicle canopy, fueling area and bus washing system. These improvements will give a bigger working area to the maintenance division.

BUS Transit Fleet Condition: 2009					
Vehicle Type	# of Vehicles	Useful Life (years)	Actual Average Age	% of Useful Life	# Beyond Useful Life
35' Buses	21	12	7	69	8
30' Buses	5	12	5	50	0
Vans	11	7	5	65	3
Total Fleet	38	-----	6	60	11

Arrangement for Maintenance

BUS vehicle maintenance is contracted out to TECOM, Inc. They provide maintenance to revenue, maintenance and administrative vehicles. They operate out of the BUS' Administrative/Maintenance facility. This contract has been in existence since 2002. The City of Brownsville is undergoing a request for proposals to issue this contract in F.Y. 2010.

Results of the 2010 US Census

The 2010 US Census might place the City of Brownsville over the 200,000 population threshold which will have a significant negative impact on BUS since it will no longer be able to utilize FTA Section 5307 formula funds for operating (FY 2009-\$1,424,040.00). The consequences if this were to happen will be devastating to the level of service that is currently provided since more than likely service will be reduced to accommodate the shortfall of operating funds.

Nonetheless, BUS is an active member of the 100 Bus Coalition which in summary is pursuing: Public Transit Systems in urbanized areas of more than 200,000 population which operate less than 100 buses in peak operation should be authorized to use FTA Section 5307 formula funds for operating purposes. As of March 2009, the 100 Bus Coalition turned its efforts to Authorization of a new six year Transportation Bill. The Coalition has been successful in having the language for a permanent fix included in both APTA's and AASHTO's recommendations for Authorization.

For more information, please visit:
www.redrosetransit.com/_files/live/100BusStatus3209.pdf

Sources of Revenue

BUS relies on federal, state and local funds for operating assistance. BUS average annual revenues are over \$1,200,000. These revenues are generated from operating revenue (bus fares, ticket sales, etc.), ID fees, in-kind utilities, interest earned, advertisement sales and miscellaneous revenue. Fiscal challenges to improving overall transit services in Brownsville are our priority. BUS is challenged with providing transit services to the rapidly growing South Texas region without a dedicated funding source.

History of Capital, Operating and Planning Costs

The following table shows the capital, operating, and planning cost:

Fiscal Year	Capital	Operating	Planning	Total
1999	\$1,845,209	\$3,382,592	\$34,341	\$5,262,142
2000	\$373,322	\$4,042,680	\$55,169	\$4,471,171
2001	\$2,963,007	\$4,414,373	\$26,381	\$7,403,761
2002	\$99,863	\$4,235,134	\$33,598	\$4,368,595
2003	\$347,105	\$4,276,149	\$39,679	\$4,662,933
2004	\$1,099,409	\$4,404,273	\$18,750	\$5,522,432
2005	\$1,973,183	\$4,677,160	\$18,750	\$6,669,093
2006	\$665,332	\$5,150,032	\$18,750	\$5,834,114
2007	\$5,625,027	\$5,771,905	\$18,750	\$11,415,682
2008	\$3,365,193	\$6,653,796	\$18,750	\$10,037,739
Year Average	\$1,835,665	\$4,700,809	\$28,292	\$6,564,766

Assess the Impact of the Service on the Community Through:

Service Description:

BUS service area is defined as the Brownsville city limits. The city covers an area of approximately 89 square miles. BUS operates from 6:00 AM to 8:26 PM on weekdays and Saturday. No service is provided on Sundays or major holidays.

Rider Profiles:

An on-board survey of the fixed-route system was conducted to capture a profile of current riders. The survey was conducted on a weekday on each route in the BUS. A survey questionnaire was completed by a sample of passengers. The survey, included questions regarding passenger and trip characteristics, passenger opinions, and trip origins and destinations. The population sampled for the on-board survey provides a 95% confidence level that the resulting statistics are a fair representation of the entire population within 4%. The following summary of the on-board survey includes:

Passenger Characteristics are used to determine what markets transit is serving. Passenger characteristics identified by the on-board survey include:

Sex: Male 28%, Female 70%, and No response 2%

Age: 65 and older 12%, 55-64 9.2%, 45-54 10.3%, 25-44 36.4%, 18-24 20.9%, No Response 1.8%

Occupation: Homemaker 40.7%, Retired 7.7%, Unemployed 7.2%, Employed 24.1%, Other .6%, Student 17.9%, No Response 1.7%

Nationality: Mexican National 51.5%, US Citizen 42.8%, No Response 5.6%

Trip habits of most riders are not centered around standard working hours, only 24% of BUS riders are employed. The large majority of BUS users, homemakers, retirees, students and the unemployed, are people who are not anchored by the 8:00 am to 5:00 pm workday. These patrons trips are not necessarily going to occur every day on the same schedule, unlike those passengers who primarily use transit to go to and from work/school. This makes determining the peak ridership period of the day difficult since it varies with the alternating habits of BUS varied ridership.

Trip characteristics reveal how transit markets are using BUS service. Trip characteristics addressed by the on-board survey included:

Trip purpose: School 15.5%, Work 20%, Other 5.9%, Visit/Rec 11%, Personal 15.5%, Shopping 21.1%, Medical 10.9%.

Frequency of use: BUS users are very dependant on transit for mobility. The survey reports 66% of respondents use the BUS more than three times a week and 61% have no other means of transportation.

Reason for using BUS: No car 47%, BUS is convenient 6%, BUS is Cheaper 5%, Prefer the BUS 9%, Car in use 13%, No driver license 14%, No Response 3%, Other 3%.

Although BUS has a large transit dependant ridership, many users reported they preferred using BUS over other transportation means. Twenty percent of the patrons surveyed either preferred using BUS or said that transit was cheaper or more convenient.

Passenger opinions are important to transit planning because they reveal attitudes about the service and identify the most important improvements from the passenger's point of view. Passenger opinions requested by the survey include:

Passenger rating: Excellent 30%, Very Good 28%, Satisfactory 21%, Fair 16%, Poor 2%, No response 3%.

Request for improvements to BUS service: Better on time service, more frequent buses, Sunday service and more courteous drivers.

Request for additional destinations: Sports Park, Cameron Park colonia, and F.M. 511.

Involvement in Welfare to Work transportation

Brownsville Urban System prepared, coordinated and submitted grant proposals for Access to Jobs and Reverse Commute and Welfare to Work.

Funds from these grants were focused on needed public transportation services. Connection and expansion to main employment areas outside our current fixed-route service.

The main objective of this proposal was to provide a convenient, affordable and flexible transit service to our community. These funds help pay for routes 14, 30 and 31, which help add service to areas that were not served by public transportation.

Plans and Projections

The last individual five year transit plan (Transportation Development Program) prepared for BUS was done by LKC consultants in 1994. Most of the recommendations suggested by the consultant were implemented.

In fiscal year 1999, BUS allocated funds to update the five year transit plan. As a result, BUS contracted Ryder/ATE who conducted a Comprehensive Operational Analysis (COA) with the following objectives:

1. Improve the system's regular route service by realigning existing routes and consider extending routes into developing portions of the service area.
2. Revise routes and recommend frequency needs and service hours to meet the needs of current and potential transit users, including the possible deletion of unwarranted service (How should the system be modified to better serve the transit market?).

3. Develop a multi-year plan detailing routes and services necessary to meet anticipated growth in the study area (What and where is the anticipated demand for transit services?).
4. Identify areas not presently served that warrant service and areas that are presently served but do not warrant service, or do not warrant the level of service currently provided (How can the system be made more operationally efficient?).
5. Increase system ridership (How best can transit serve the major growth anticipated?).
6. Increase system-wide productivity, efficiency, and cost effectiveness based on utilization of existing and future resources.
7. Develop a short-term and long-term service plan for improved service effectiveness and productivity (What type of short and long term funding commitments are required and what are the potential funding sources?).

Not only did the COA findings help BUS increase system-wide productivity, efficiency and cost effectiveness, but also, identify potential transit user areas with the city and develop a multi-year plan detailing equipment, route and services necessary to meet anticipated growth in the study area.

BUS plans include the development of a new Transportation Development Program (TDP) to identify potential improvements in productivity, efficiency and effectiveness in order to provide a better service to the community.

BUS City-Wide Transit Improvement Project (BCWTIP)

BUS aim is that the BCWTIP will be considered in the upcoming Transportation reauthorization and that it will be kept in mind when funding opportunities arise.

Transit is responsible for serving a wide segment of the nation's population as it gets to work , finds recreational locations, reaches schools, seeks medical care and so much else.

Transit fills a niche in transportation that is especially critical for low-income and disabled users. Often, public transportation is the only way they can get around. It's no different in Brownsville, Texas. As Brownsville's public transit provider, BUS must constantly improve our services to meet the needs of our many patrons. The BCWTIP described in this profile is designed to ensure that those needs continue to be met.

In the past, BUS has relied almost exclusively on formula funds to support its operations and capital projects. Recently, we have also begun to seek funds through competitive grants and earmark funds. This change in focus has happened because BUS believes in the integrity of its system-wide improvements over the past several years. Funding sources like FTA section 5309 funds, the Transportation and Community and System Preservation program, FHWA Surface Transportation Program funds and Texas DOT 5311(f) funds are all sources that BUS has targeted as ideal.

The following is a brief description of the total project.

BUS City-Wide Transit Improvement Project: The City of Brownsville's continuing growth has called attention to the need for an efficient, dependent public transit system. Brownsville Urban System (BUS), as a department of the City of Brownsville operates within the city limits. BUS provides an average of 1.6 million passenger trips per year for the City's visitors and its approximately 140,000 residents. It is the largest public transportation system in the Lower Rio Grande Valley (LRGV), an area that includes three counties on the southernmost tip of Texas, adjacent to the United States - Mexico border. Brownsville's population which is heavily transit dependent demands a more economical, convenient and reliable service. The design of the project is to improve Brownsville's transit infrastructure by completing the following major tasks:

- Designing and constructing an intermodal/multimodal facility
- Constructing a transfer station on the north side of town and several transfer hubs
- Renovating the current BUS facility, yard and parking area,
- Constructing a park and ride lot near downtown Brownsville
- Bus stop improvements
- Revenue fleet replacement

The completion of the project will establish interconnectivity in modes of transportation that would expand to the other systems outside of the Brownsville service area. The project will benefit residents from the entire Lower Rio Grande Valley (LRGV) and surrounding communities, visitors from all over Texas, the United States and owing to our proximity to Mexico, international visitors.

Intermodal/Multimodal Terminal

Project Description

The City of Brownsville-BUS, in cooperation with the Federal Transit Administration and Texas Department of Transportation, completed a Feasibility Study regarding a new terminal facility. The proposed intermodal/multimodal terminal will be located between S.H. 4 and E. 13th Street in Brownsville's Central Business District. It will serve to consolidate many or all of the transportation services in a centrally located, attractive, and functionally efficient vicinity that would accommodate paratransit, fixed route and rural transit services, intercity bus, taxi, airport shuttles, charter buses, pedestrians, bicyclists, automobiles and other modes.

A facility like this also has the possibility of providing visitor reception services benefiting not only residence of Brownsville, but regional, national and international travelers. Because of Brownsville's proximity to Mexico, a large portion of the users of transportation services are international travelers. Approximately 40 percent of BUS ridership and 30 percent of the ridership on the intercity bus services are pedestrians crossing from Matamoros, Mexico into Brownsville. Rio Transit, the rural public transportation provider for this area connects with BUS as well. The intermodal/multimodal facility will therefore serve to connect local, national and international modes of travel.

The proposed intermodal/multimodal terminal in Brownsville will facilitate coordinated intercity bus service, intercity bus companies, shuttle buses, taxis and other local public transportation services. The intermodal/multimodal terminal in Brownsville shall be designed to meet the needs of local passengers and long distance travelers.

Long-distance bus travelers would arrive at the terminal by intercity bus and van services, shuttles or taxis from the airport and potential future commuter rail service. Local passengers would include BUS transit riders, tourists, shoppers, workers and others using all modes of transportation.

At this time, demolition activities are underway to clear these various parcels to allow subsequent construction to occur. Final design is pending. Construction will follow and the terminal's estimated completion date is July 2011. There are plans to implement the construction of a multilevel parking garage adjacent to the Multimodal Terminal site as recommended in the Feasibility Plan.

Multi-Hub Transfer System – Northside and Hubs

Project Description

BUS has determined that a transfer station along with a set of transfer hubs are needed in Brownsville for various reasons.

A. Decentralization of our service. Currently, all bus routes begin and end at the downtown terminal. This adds significantly to trip times for routes that extend to the north side of Brownsville. If a base of operations from which routes could start and end were established in the north side of town, this would obviate the need for all buses to return to the downtown terminal and trip times could be significantly cut.

B. Meeting a transit need and demand. There is strong evidence to suggest that there is significant transit need/attraction in the north side of Brownsville, since heavy commercial and residential growth is in the north side and outside Downtown Brownsville.

A multi-hub transfer system would link all of the major generators with each other and with the rest of Brownsville. BUS expects that the trip times between these generators on any given route based in a north side transfer center would be shortened considerably.

The Northside Transfer Station was constructed and started operating in February 2006. In order for the multi-hub transfer system to function efficiently, future plans call for the construction of transfer hubs at on-street locations to enable passengers to transfer between routes.

BUS Yard Facility Renovation

Project Description

BUS' current administrative office location serves as the home for all BUS vehicles. But even though fleet size and operations have expanded, the facility has never been refurbished or improved. The result is a lack of space for operations and an inefficient use of the space available. To remedy this situation, BUS has secured the services of an architectural firm that has recommended the construction of a new BUS Yard Facility with the following components:

A. Renovation of the Outside BUS Yard: BUS also needs to renovate its outdoor facilities to better service its buses and prevent wear and tear. BUS will construct covered parking for its fleet and relocate its fuel island and bus washer to areas that would be more strategically useful (currently, buses are crowded at the facility and both traffic flow and pullouts and pull-ins can be cumbersome). BUS will also create more parking space for staff and drivers and install better lighting to allow for vehicle inspection in the early morning and evenings.

B. Construction of an East-side Transfer Center: Currently, no BUS routes begin their service on the east side of the city. All routes must make their way several miles to the downtown Market Square terminal before they begin service and they must return the several miles when service hours have ended. Under the new plan, BUS will create a transfer center at its Yard to allow several routes on the east side of town to begin their service there.

The benefits of this move will be tremendous: operational efficiency and effectiveness are expected to increase because the cost per total hour and the cost per passenger will decrease on the east side, deadhead hours and miles will decrease, more areas on the east side of town where BUS has identified a high level of demand (this includes residential complexes, homes and attractors such as employment locations) will be serviced more easily and frequently; the proximity of the Yard to several high-ridership routes will allow personnel to respond more quickly to patron needs and maintenance issues and the center will provide an area where patrons can more comfortably and easily wait for buses.

Park & Ride Facility

Project Description

BUS is interested in constructing a Park & Ride facility in Brownsville, located under and along expressway 77/83 between 13th and 14th Streets. The facility will serve the downtown district: motorists will be able to park their vehicles at the facility and then board a BUS express shuttle directly to the downtown area. The facility will be near to various key employment and recreational locations in downtown Brownsville: the International Bridges, the downtown shopping district, Gladys Porter Zoo, the new Linear Park and Historic Battlefield Trail, and the University of Texas-Brownsville campus.

The Park & Ride facility will help to alleviate the current congestion in the downtown area, since it is expected that approximately 200 cars will be able to park there and there is adjacent land available for future expansion. BUS' new service to and from the facility will allow the opportunity for the creation of new partnerships with downtown businesses.

The facility will also allow BUS to promote its transit services to people who already own automobiles, thus expanding its ridership pool.

Bus Stop Improvements

Project Description

This project provides for the installation and improvement of amenities at bus stops in the bus service area to make them safer, accessible, and attractive to users and to improve pedestrian safety for transit passengers, pedestrians and bike riders. These enhancements can include items such as bus shelters and benches, sidewalk connections, improved pedestrian access, pedestrian refuge islands and other crossing safety measures, area lighting, paved passenger standing areas, ADA improvements and other safety upgrades.

Many of the City's bus stops have safety, security, or right-of-way deficiencies since they are located on roads which were not originally built to accommodate pedestrians. Problems include: lack of drainage around the site, sidewalk connections, passenger standing areas or pads, lighting or pedestrian access, ADA features and unsafe street crossings to get to and from the bus stop. This project addresses significant bus stop safety issues to ease access to transit service. Correction of these deficiencies will result in fewer pedestrian accidents related to bus riders, improved accessibility of the system, increased attractiveness of transit as a means of transportation, and increase ridership.

Making transit a more viable option than the automobile requires enhanced facilities as well as increased reliability and frequency. Getting riders to the bus and providing an adequate and safe bus stop will help to achieve the goal. The City has approximately 711 active bus stops. The recently completed inventory and assessment of each bus stop has determined what is needed at each location to render the stop safe and accessible to all transit riders.

Revenue Fleet Replacement

Project Description

Fleet replacement for revenue vehicles that have reached the end of their useful life as determined by the Federal Transit Administration and/or the Texas Department of Transportation. In order to maintain the most efficient and economical operational readiness of the BUS' revenue fleet, aging revenue vehicles with high mileage and increasing maintenance and repair costs, need to be replaced when they reach the end of their serviceable life. The BUS' revenue fleet program supported by an automated, objective, fleet management computer system, monitors several variables including the four basic replacement criteria: age, mileage, cost of maintenance and cost of repairs in order to determine the most prudent time to decommission an revenue vehicle from service.

Transit Safety & Security

Safety and Security are of paramount concern for BUS. That is why BUS has established its own System Safety Program Plan that describes how accountability on safety issues is integrated throughout the system. It establishes methods to ensure that the safety implications of proposed BUS system modifications are examined and adequately addressed, prior to making changes.

Additionally, the Safety Plan provides a mechanism for identifying hazards and then eliminating or controlling them. BUS System Safety Program Elements ensure that transit safety is a priority. For example, driver selection is critical to safe transit operations. The driver of a transit vehicle is directly responsible for the safety of passengers and for other drivers on the road with the transit vehicle. Driver training at BUS commences after qualified candidates are identified and hired. The initial training, as well as on-going training of drivers, is critical to proper operations at BUS. BUS maintains complete and accurate records of all driver training, certifications and the materials and grading of such training.

System Security at BUS is achieved with the assistance of the Brownsville Police Department. Police Department staff conduct random checks. They are directly connected to BUS Transit Revenue Vehicles via two-way radios. These radios have a panic key that can be activated by the driver to send an emergency signal to the Police Department, when it is necessary to inform them about an emergency on-board a specific transit vehicle.

Further, BUS has invested in Intelligent Transportation Systems (ITS). BUS will continue to invest in ITS equipment to improve security on both buses and at bus stops. BUS Revenue Vehicles are all equipped with destination signs. In the event of an emergency, these signs will read "Emergency Call Police" to advise the public and enlist their assistance. On-board video recording systems are another measure that BUS staff plans to use. More investments in video systems are expected to help enhance BUS System Security. Most of the fixed route vehicles are now equipped with on-board video recording. BUS has plans to equip all revenue vehicles as paratransit vehicles and main passenger loading stations.

Regional Transportation

Project Description

The three-county Lower Rio Grande Valley (LRGV) area (Hidalgo, Willacy and Cameron Counties) is a geographically and culturally unique and diverse area of Texas. There are a variety of transit needs based on this diversity: specifically from the colonias scattered throughout the service area, needs in the towns, from across the border, winter residents and tourists. Coupled with this, there are a wide range of human service needs that are currently only partially coordinated. The myriad of public transit and intercity operators throughout the three-county area complicates service coordination. Specifically, public transit in the three-county service area is provided by three small urban transit systems—Brownsville (BUS), McAllen (McAllen Express), both operated by the respective cities and

Hidalgo County (Rio Metro) operated by the Lower Rio Grande Valley Development Council (LRGVDC). There are two rural systems in the region—South Padre Island (The Wave) and Rio Transit (operated by LRGVDC). In addition, there is a private for profit operator—Valley Transit that operates intercity service as well as a transit type service between Harlingen and McAllen and McAllen and Reynosa, Mexico. Physically, the area has a long urbanized corridor along US Highway 83 which links the three largest cities—McAllen, Brownsville, and Harlingen with the urbanized portion of Hidalgo County. The vast majority of the population resides in this corridor.

A Legislative Mandate in 2003, enactment of House Bill 3588 in the 78th Texas Legislature substantially, altered the way human service transportation is administered. The intent of HB 3588 is: (1) To eliminate waste in the provision of public transportation; (2) To generate efficiencies that will permit increased levels of service; and (3) To further the state's efforts to reduce air pollution" (*HB3588, Article 13, Chapter 461, Section 461.001*). In 2005, the TxDOT Draft Strategic Plan called for the development of regional public transportation coordination plans. Texas Transportation Commissioner Andrade then led the efforts to implement a strategy to develop regional public transportation plans. Broadly, the project examined ways to more effectively "manage mobility" for the region. A major area of emphasis for this study was the coordination of services at the local level. The project included an evaluation of coordinated transit and human service transportation on a regional scale throughout the LRGV. Through this planning process, there will be consideration of the use of New Freedom federal funds, as well as Job Access and Reverse Commute (JARC), as well as Federal Transit Administration (FTA) Section 5310 funding.

BUS will continue to work on regional coordination to:

- Enhance the quality of the customer's travel experience
- Expand the availability of services to those who are un-served
- Increase the cost-effectiveness and efficiency of service delivery
- Establish and sustain communications and decision-making mechanisms among sponsors and stakeholders to guide Plan implementation effectively
- Improve the image of transit across the region
- Develop a transit traveler information system

Section 3

MTP FINANCIAL PLAN

Federal requirements specify that MPOs adopt a long-range transportation plan every five years. Further, the long-range plan must be a fiscally-constrained plan. In other words, funding of the projects listed in the MTP must be based on a reasonable forecast of available financial resources.

Brownsville MPO staff, in cooperation with Technical Committee members, and TxDOT staff have prepared a forecast of available revenues to fund MTP improvement projects. A TxDOT:TEMPO work group developed TRENDS software to aid in making future revenue projections. Based in part on this information, a forecast has been made as to the likely amount of available funding (in various funding categories) that could be utilized over the coming decades. The MPO staff forwarded these forecasts to the Pharr District staff for their review.

Also, the MPO Technical Committee members examined the financial assumptions used to build these funding forecasts. The MPO Policy Committee members, by consideration of the Update of the MPO, also undertake an examination of the working assumptions behind the MTP Financial Plan.

Due to the Brownsville MPO's probable attainment of Transportation Management Area (TMA) status in 2013, the MPO is very likely to receive additional federal funds.

Based on a variety of reasons, fiscal constraints placed upon the Texas Transportation Commission have posed severe restrictions upon short range or near term MPO funding. TxDOT will allocate approximately 4.1 million dollars for the years 2010 thru 2019 to the Brownsville MPO under Category 3. However, the key point to remember is that starting in 2021, the MPO's funding outlook will improve. Prior borrowing, needed to fund and complete U.S. 77/83 improvements, will have been paid off by 2020. Our estimate is that 45 million dollars in Category 2 funds will be made available from 2021 through 2035. Category 2 funding is provided to those MPOs with a population greater than 200,000 persons. Also, some \$39,450,000 in new Coordinated Border Infrastructure (CBI) funds are likely to be allocated to the Brownsville MPO, which will allow completion of border improvement projects.

Some weeks after the MPO Policy Committee's adoption of this Metropolitan Transportation Plan, TxDOT staff issued their funding projections for future decades. As a result, the Brownsville MPO revised downward the MTP's anticipated funding allocation for Coordinated Border Infrastructure (CBI) monies. Instead of utilizing an annual average of some 3.44 million dollars, the MPO's financial assumption is that about 1.5 million dollars will be available under this federal (CBI) program. Of course, if the new federal transportation bill yields more CBI revenues, then the MPO's MTP can be revised. Similarly, revisions in the MTP will be required if CBI revenues diminish, or if this federal program is eliminated.

The TxDOT revenue forecast altered future allocations for other funding categories. TxDOT staff, in Austin, envision that Categories 2 and 3 will yield zero dollars in the years 2021 thru 2035. This assessment is based on a viewpoint that all such mobility funding will have to be diverted towards preventative maintenance work and/or rehabilitation projects.

Two factors can be cited as influencing, if not determining, this TxDOT financial forecast. First, TxDOT's revenue stream has gotten smaller. This trend of lower revenues (gas tax receipts) is likely to continue in future decades. An increased number of fuel-efficient automobiles on Texas roadways is responsible for some of the decreased fuel tax receipts. Another factor involves a policy decision made in recent years by the Texas Transportation Commissioners. The Commissioners adopted a goal that pavement conditions on TxDOT's on-system roadways should score "good or better" on 90% of the overall system. While this funding scenario (above) is remotely plausible, it is deemed unlikely for a number of reasons.

First, the MPO's MTP already includes sizeable (future) allocations for undertaking needed rehab and/or preventative maintenance activities. The annual average of approximately \$6,400,000 in Rehab/Preventative Maintenance would provide over 70 million dollars for such work in the first 11 years. And, another 97.9 million dollars will be available for these activities in the second 15 year period.

Second, the Pharr District's on-system pavement scores exceed the explicit (TxDOT) goal of 90% of the system attaining a score of good or better. The Pharr District's on-system network is a relatively new system, compared with other districts, which have much lower pavement scores below the "good condition" threshold. It seems inequitable to divert mobility monies from the three Valley MPOs towards rehab needs, if the goal is to make the state-wide average look better due to problems in other districts. At the very least, this type of policy decision will be very difficult to sustain for a 15 year period.

Preventative maintenance of roadways is a very important objective. However, other goals, such as safety, are apt to be seen as a higher priority at both the MPO and state levels. For example, the MTP-listed widening projects for the U.S. 281 corridor, involve important safety aspects. U.S. 281 is a designated Hurricane Evacuation Route. Achieving the speedy evacuation of local citizens involves issues of life and death when Category 4 or 5 storms approach the Texas coastline in Cameron County. Thus, such issues figure much larger in the MPO's decision-making process than issues related to pavement management considerations.

Also, an "illustrative list" of improvement projects has been included in the MTP Financial Plan, since it is reasonable to assume that additional discretionary transportation funding can be acquired by governmental units within the Brownsville MPO. For example, in the past, both the City of Brownsville and Brownsville Navigation District have obtained earmark monies via the Federal Demonstration Funding Category. Another similar source of additional funding involves the Strategic Priority (Category 12), which is reserved for allocation at the discretion of the Texas Transportation Commission.

These monies are either federal or state funds. Anticipation of some available funding to the MPO in this category over a twenty-five year period is indeed appropriate. Please see Table “F-1” for more information on this topic.

How can the MPO assume that additional discretionary transportation funding might be acquired by governmental units within the Brownsville MPO?

In the past, both the City of Brownsville and the Brownsville Navigation District have obtained earmark monies via the Federal Demonstration Funding Category. While it is likely that such federal funds may diminish or even cease in the future, other federal (discretionary) programs were started earlier this year.

For example, the American Recovery and Reinvestment Act of 2009 (ARRA) established the TIGER Discretionary Grant Program. Both Cameron County and the Brownsville Navigation District have applied for TIGER grant monies and the selection of one or both entities for a funding award is possible. Also, the Brownsville MPO secured two different ARRA funding awards earlier in 2009.

NOTE: Category 3 includes Federal Demonstration monies, which are difficult to forecast. Some entities within the Brownsville MPO may obtain some federal earmarks or such funding over the upcoming twenty-five year period. This MTP Financial Plan uses the assumption that about \$1.0 million in such funds will be obtained each year for a total of \$25.0 million over the forecast period.

Tens of millions of dollars in federal earmark monies were obtained in previous decades. These federal funds helped to complete the Brownsville Railroad Relocation Program, which has made this community’s transportation system much safer by removal of previously-existing at-grade rail crossings.

Also, the City of Brownsville has obtained federal earmark funding to complete work on a segment of the East Loop (University Boulevard) and the pending work on a segment of Morrison Road.

The Brownsville Urban System has successfully obtained federal earmark funding for new transit investments for the City of Brownsville. Approximately 10 million dollars in earmark funding has been secured to help construct the BUS Multi-modal Terminal in Downtown Brownsville

EXPLANATION OF TOTAL PROJECT COST/DESIGN & DEVELOPMENT

Prior to construction activities beginning, many preliminary work tasks must be undertaken to develop On-System and Off-System roadway projects. These design and development tasks focus on engineering work, as well as environmental studies. These preliminary design and development functions reflect inflationary cost increases, as follows:

- Design Phase (5% per year)
- Right-of-Way Phase (5% per year)

- Adjustment of Utilities (5% per year)
- Construction Engineering (5% per year)
- Contingencies (7% per year)
- Indirect Costs (5% per year)

FINANCIAL ARRANGEMENTS TO CONDUCT DESIGN & DEVELOPMENT ACTIVITIES

These design and development activities (above) will be funded in different manners by the various transportation agencies. TxDOT's Pharr District has full-time engineering staff, and other staff, employed to work on such tasks. As additional state funds for the district become available in future decades, Pharr District staff may utilize the professional services of consultant firms to help perform such development activities. Municipalities, such as the City of Brownsville, use general fund monies to fund such activities. A significant portion of these work tasks is performed by consultant firms. These firms report to and are directed by staff at the Brownsville Engineering Department.

It should be noted that some of the roadway right-of-way parcels which are obtained by the City of Brownsville, and other cities in the Brownsville MPO area, result from subdivision plat dedications. The Cameron County Regional Mobility Authority (CCRMA) obtains revenues to fund such activities by the imposition of an extra fee on vehicle registration fees. About 2.4 million dollars a year is generated for CCRMA use by this source. Also, as toll revenues are generated in the future, excess revenues can be directed towards funding of design and development activities for new projects, as determined by the RMA board members. The bulk of the on-going design and development work for this entity is conducted by consultant firms on behalf of the RMA. In addition, the CCRMA can develop projects through the use of Comprehensive Development Agreements (CDAs). Please see pages 3-13 and 3-14 for more information.

YEAR OF EXPENDITURE (YOE)

SAFETEA-LU requires MPOs to utilize inflationary cost factor to assess future cost estimates for transportation improvements. The Brownsville MPO utilized Year of Expenditure (YOE) factors for cost estimation, as outlined below:

Project costs for fiscal year 2010 were calculated. Then, an inflationary factor or an increase of 4% per year was used to determine the YOE cost for the particular year of the project's start date.

With the price of fuel subject to fluctuations due to global demand factors, MPO adjustment of MTP cost estimates might be needed sometime in the future. Construction costs rise or escalate when the price of asphalt and diesel fuel increase.

MTP improvement projects listed in Phase 1, Years 2010 thru 2020, are shown on Tables MTP-2, MTP-3 in Appendix IV.

Other than previously obligated funds needed for completion of an existing project, F.M. 511 widening, the MPO staff have allocated only 4.1 million dollars as the total (available) for this initial ten-year period. MTP improvements that will occur in Phase 2 of the MTP Years 2020-2035 are shown within three sub-phases.

The MPO will use three cost bands to apply for cost estimates for the second phase, the Long Range Phase of the MTP.

We show allocations on Table F-3 for three time-periods or separate sub-phases within the long range time period.

LOCAL FUNDING OF OFF-SYSTEM ROADWAYS/MAINTENANCE

Local funding of transportation improvements is another key element needed to address the future mobility needs of the Brownsville urbanized area.

The City of Brownsville has incurred expenditures of roughly five million dollars per year over the last several years towards rehabilitation of existing City streets, including drainage improvements. Unfortunately, due to a lack of street maintenance performed in preceding decades, it has been necessary to completely rebuild some streets, including the installation of new base materials. This constitutes a very expensive solution to the problems caused by a lack of street maintenance.

For these reasons, both MPO Committees strongly recommend that the City of Brownsville investigate the efficacy and merits of the design and commencement of a Pavement Maintenance System, (PMS). Typically, these systems are successful in extending the useful life of existing street pavements.

Thus, the establishment of an on-going Pavement Maintenance System will result in significant savings for the City of Brownsville in the upcoming decades.

Los Fresnos officials have been compiling a list of needs in this area and analyzing how much to spend on maintenance. The Town of Rancho Viejo has been doing excellent work in the maintenance of their off-system streets.

Project Cost Estimates

Project cost estimates have been developed for each individual MTP project. For those improvement projects listed in the MPO's Transportation Improvement Program, (TIP), the existing cost information from the TIP has been utilized on the MTP Spreadsheet.

Cost estimates for most projects are based on the length of the roadway and the type of proposed cross-section or roadway width. Per mile estimates for construction costs for typical cross-sections were calculated as follows:

- 44 foot urban section/10 foot shoulders (4 lanes-undivided) \$1,945,500/mile
- 64 foot urban section/curb and gutter/no shoulders (4 lanes-CLTT/Continuous left-turn lane) \$2,235,000/mile
- 84 foot urban section/curb and gutter/with shoulders (4 lanes-divided) \$2,445,000/mile
- 44 foot rural section/10 foot shoulders (4 lanes-divided) \$1,004,000/mile
- 64 foot rural section/10 foot shoulders (4 lanes-undivided) \$1,197,000/mile

These estimated costs (above) include drainage, subgrade, flexbase, the pavement itself, as well as sidewalk construction and concrete curb and gutter.

Future Interstate Highway 69 (I-69). Some years ago, the federal legislation authorizing the National Highway System, also contained a provision for the inclusion of U.S. 77 and U.S. 77/83 to Brownsville and U.S. 281 to the border to be designated as future interstate highways. Also, F.M. 511 (from U.S. 77/83 to S.H. 48) has been designated a future leg of I-69. To date, no interstate funding has specifically been allocated by the U.S. Congress for the upgrading of these highways to interstate standards.

However, the Texas Transportation Commission has funded improvements for U.S. 77 through other sources. Either by the U.S. Congress with interstate funding or otherwise, funding of the remaining projects to complete the interstate is possible to occur during the twenty-five year planning period.

Economically Disadvantaged Counties Program (EDCP). Senate Bill 370 of the 7th Texas Legislature established the EDCP. The Texas Transportation Commission amended the Texas Administrative code on November 20, 1997 allowing the program to become effective on January 1, 1998.

The bill requires the commission to evaluate proposals for highway improvement projects located within economically disadvantaged counties.

An economically disadvantaged county has below average per capita taxable property value, below average per capita income, and above average unemployment in comparison to other counties within the state. Generally, federal funds are provided at a participation ratio of 80% federal to 20% local of the total cost of the projects. A notable exception is federal safety funds requiring only a 10% local match.

TxDOT provides the matching funds for roadways on the state highway system (Farm-to-Market, State Highways, U.S. Highways and Interstate Highways) and the local jurisdictions provide the local match for off-system roadways. The EDC program provides an opportunity for political subdivisions to adjust their local match requirements. The Brownsville Metropolitan Area is included within an economically disadvantaged county. Since political subdivisions within the EDCs can also participate in the program, the local match burden to these local entities can be substantially reduced, allowing for more projects requiring scarce local funding. Some of the projects identified in this Brownsville Metropolitan Transportation Plan are likely to be funded as candidate projects for the EDC program.

Life Cycle Costs

Life cycle costs are another important factor in the development of the Brownsville Metropolitan Transportation Plan. The most significant funding category in this regard is Category 1 Preventative Maintenance & Rehabilitation. About 161 million dollars will be available in Category 1 over the twenty-five year period of this plan to address the maintenance of on-system roadways.

In recent years, the City of Brownsville has borrowed funds to rehabilitate and repair local (off-system) streets and arterials.

Significant progress has been achieved in this area by work tasks undertaken at the direction of staff at the City Engineering Department. The City of Brownsville has spent an average of 5 million dollars a year of bond funds to rebuild and repair off-system streets. Restoration of travel lanes on E. Price Road, which were sorely in need of repair, is one of notable arterial roadways fixed in this manner.

The City of Los Fresnos has a 20 year plan for addressing rehabilitation of the City's roadways. Due to its small-sized roadway network, the Town of Rancho Viejo has not adopted a capital (bond) program to rehab local streets. An excellent maintenance system in that community has helped avert forestall for undertaking large-scale rehab projects. Please see Appendix II for more information about future MPO roadway maintenance needs.

State Infrastructure Bank

Another financial tool that is available to help local communities address area transportation needs is the State Infrastructure Bank or SIB. The SIB, in effect, is a revolving loan fund. TxDOT expects to be able to fund only about one third of the needed transportation projects in Texas. In some cases, a project is considered a high priority in the local community, but its project ranking is not high enough on a statewide basis to be eligible to receive funding for several years. If the local community wants the project to be completed sooner, then it could borrow from the SIB and thereby advance the project's completion by several years.

With those proposed transportation projects that can generate additional income from associated economic development projects (which are dependent upon the new transportation investment), the locality may be able to recoup enough new revenue from the increases in the tax base (or sales tax receipts) to pay for the assistance of the SIB.

Table F-1

Brownsville MPO Available Funds (2010 thru 2020)				Committed Funds	Balance/ Available Funds
	Category	Annual Avg.	11 Year Subtotal		
1.	Rehab/PM	\$6,398,899.00	\$70,387,900.00	"Lump-sum" available	
2.	Metro Corridors	\$2,941,500.00	Paid to debt service	Would apply to Brownsville beginning in 2014	
3.	Urban Corridors	\$2,941,500.00	Paid to debt service	\$4,100,000.00	\$0.00
4.	State Corridors	N/A	N/A	Does not apply to BMPO in most cases	
6.	Bridge	\$340,000.00	\$3,740,000.00	"Lump-sum" available	
8.	Safety	\$255,000.00	\$2,805,000.00	"Lump-sum" available	
9.	Enhancement	To be determined	To be Determined	Competitive grant program	
10.	Miscellaneous	\$150,000.00	\$1,650,000.00	"Lump-sum" available	
10.	CBI	\$1,500,000.00	\$16,500,000.00	\$6,250,000.00	\$10,250,000.00
11.	District Discretionary	\$0.00	\$0.00	\$0.00	\$0.00
12.	Strategic	\$5,000,000.00	\$55,000,000.00	\$55,000,000.00	\$0.00
*	ARRA	N/A	\$38,300,000.00	\$38,300,000.00	\$0.00
TOTAL:		\$21,506,899.00	\$212,932,900.00	\$138,446,213.00	\$10,250,000.00

NOTE: The Category 2 Annual Average will go up by 2%, (a one-time increase), in 2021.

NOTE: Only 4.1 million dollars is available for Category 3 construction in years 2010 thru 2019.

NOTE: The CBI 11 year subtotal includes \$6.25 million from SAFETEA-LU.

Table F-2

Brownsville MPO Available Funds (2021 thru 2035)				Committed Funds	Balance/ Available Funds
	Category	Annual Avg.	15 Year Subtotal		
1	Rehab/PM	\$6,526,980.00	\$97,902,000.00	"Lump-sum" available	
2	Metro Corridors	\$3,000,000.00	\$45,000,000.00	Would apply to Brownsville beginning in 2014	
3	Urban Corridors	N/A	N/A	N/A	N/A
4	State Corridors	N/A	N/A	Does not apply to BMPO in most cases	
6	Bridge	\$346,800.00	\$5,202,000.00	"Lump-sum" available	
8	Safety	\$260,100.00	\$3,901,500.00	"Lump-sum" available	
9	Enhancement	To be determined	To be determined	Competitive grant program	
10	Miscellaneous	\$153,000.00	\$2,295,000.00	"Lump-sum" available	
10	CBI	\$1,530,000.00	\$22,950,000.00	\$22,472,250.00	\$647,759.00
11	District Discretionary	N/A	N/A	\$0.00	\$0.00
12	Strategic	\$5,100,000.00	\$76,500,000.00	\$0.00	\$0.00
*	ARRA	\$0.00	\$0.00	N/A	\$0.00
TOTAL		\$16,916,880.0	\$253,750,500.00	\$22,472,250.00	\$647,759.00

NOTE: The funding totals for 2035 are based on a one-time 2% increase in the Annual Average, starting in Year 2021.

Table F-3

Brownsville MPO Available Funds [Three Five (5) Year Sub-Phases]			2021-2025 Available Funds Subtotal	2026-2030 Available Funds Subtotal	2031-2035 Available Funds Subtotal
	Category	Annual Avg.			
1	Rehab/PM	\$6,526,980.00	\$32,634,900.00	\$32,634,900.00	\$32,634,900.00
2	Metro Corridors	\$3,000,000.00	\$15,000,000.00	\$15,000,000.00	\$15,000,000.00
3	Urban Corridors	N/A	N/A	N/A	N/A
4	State Corridors	N/A	N/A	N/A	N/A
6	Bridge	\$346,800.00	\$1,734,000.00	\$1,734,000.00	\$1,734,000.00
8	Safety	\$260,100.00	\$1,300,500.00	\$1,300,500.00	\$1,300,500.00
9	Enhancement	to be determined	to be determined	to be determined	to be determined
10	Miscellaneous	\$153,000.00	\$765,000.00	\$765,000.00	\$765,000.00
10	CBI	\$1,530,000.00	\$7,650,000.00	\$7,650,000.00	\$7,650,000.00
11	District Discretionary	\$0.00	\$0.00	\$0.00	\$0.00
12	Strategic	\$5,100,000.00	\$25,500,000.00	\$25,500,000.00	\$25,500,000.00
*	ARRA	N/A	N/A	N/A	N/A
TOTAL		\$16,916,880.0	\$84,584,400.00	\$84,584,400.00	\$84,584,400.00

NOTE: A one-time 2% increase in the Annual Average is reflected in the figures above.

TRANSPORTATION PROJECT FUNDING CRITERIA BY CATEGORY

- **Category 1/Preventive Maintenance and Rehabilitation**

Purpose: Preventive maintenance and rehabilitation of the existing state highway system.

Restrictions: Rehabilitation funds may be used for rehabilitation of the Interstate Highway system main lanes, frontage roads, structures, signs, pavement markings, striping, etc. TxDOT's Transportation Planning and Programming Division may approve the use of rehab funds for the construction of interchanges and high occupancy vehicle (HOV) lanes on the Interstate Highway system. These funds may not be used for the construction of new single occupancy vehicle (SOV) lanes.

- **Category 2/Metropolitan Area (TMA) Corridor Projects**

The working assumption is that this category is likely to apply to the Brownsville MPO by Year 2014. Mobility and added capacity projects on state highway system corridors are funded via this category.

- **Category 3/Urban Area (non-TMA) Corridor Projects**

Purpose: Mobility and added capacity projects on major state highway system corridors which serve the mobility needs of the Urban Areas or (non-TMA) MPOs.

- **Category 4/Statewide Connectivity Corridor Projects**

Purpose: Mobility and added capacity projects on major state highway system corridors which serve the mobility needs of statewide connectivity between urban areas, as well as corridors which serve mobility needs throughout the state. The highway network includes the following:

- Texas Trunk System;
- National Highway System (NHS); and
- Connections from the Texas Trunk System or NHS to major ports on international borders or Texas water ports.

- **Category 5/Congestion Mitigation and Air Quality Improvement**

(Does not apply to the Brownsville MPO)

- **Category 6/Structures-Replacement and Rehabilitation**

Purpose: Replacement or rehabilitation of eligible bridges on and off the state highway system (functionally obsolete or structurally deficient). Replacement of existing highway-railroad grade crossings, and the rehabilitation or replacement of deficient railroad underpasses on the state highway system. Specific locations evaluated by cost:benefit derived index. Benefits would include improved traffic flow and reduction of accidents and/or fatalities. These funds may be used for preventive maintenance activities on bridges.

Restrictions: Funding requires approval of the Texas Transportation Commission.

- **Category 8/Safety-Federal Hazard Elimination Program**

Purpose: Safety related projects—on and off the state highway system. Proposed projects are evaluated using accident data and ranked by the Safety Improvement Index.

- **Category 9/Transportation Enhancements**

Purpose: To carry out improvements above and beyond traditional transportation projects. Projects are recommended by local government entities, reviewed and recommended by Committee, and final selection is by the Texas Transportation Commission.

- **Category 10/Coordinated Border Infrastructure (CBI)**

Projects funded by this federal program are intended to improve the safe movement of motor vehicles at or across the land border between the U.S. and the Republic of Mexico. These funds are allocated to MPOs within Border TxDOT districts, according to the following criteria:

- 1) 20% of the score used to determine the level of funding—determined by the number of incoming commercial trucks;
- 2) 30% of the score used to determine the level of funding—determined by the number of incoming personal motor vehicles and buses;
- 3) 25% of the score used to determine the level of funding—determined by the weight of incoming cargo transported by commercial trucks;
- 4) 25% of the score used to determine the level of funding—determined by the number of (land) border ports of entry.

- **Category 10/Supplemental Transportation Projects—State Park Roads**

Purpose: Construction and rehabilitation of roadways within or adjacent to state parks.

Restrictions: Locations are selected and prioritized by TPWD.

- **Category 10/Supplemental Transportation Projects—Railroad Grade Crossing Replanking Program**

Purpose: Replacement of rough crossing surfaces on the state highway system. Project selection based on conditions of the crossing surface.

- **Category 10/Supplemental Transportation—Construction Landscape Programs**

Purpose: Allows new landscape development, including right-of-way landscapes, aesthetic improvements (primarily in urban areas), rest area/picnic landscape development, and erosion control and environmental mitigation activities on the state highway system.

- **Category 10/Supplemental Transportation Projects—Landscape Cost Sharing Program**

Purpose: Program allows TxDOT to negotiate and execute joint landscape development projects through partnerships with local governments and support from civic associations, private businesses and developers for the aesthetic improvement of the state transportation system.

- **Category 11/District Discretionary**

Purpose: Transportation projects selected at the district's discretion to meet Pharr District project shortfalls and/or unexpected change orders. The Pharr District receives about 2.5 million dollars per year to respond to needs over eight counties. It is likely that this MPO will receive only a small portion of these funds, since Category 11 funds must be used to address many needs over a very large area.

- **Category 12/Strategic Priority**

Purpose: Transportation projects which promote economic development, provide system continuity with adjoining states and Mexico, increase efficiency on military deployment routes, or address other strategic needs as determined by the Texas Transportation Commission.

- **Municipal (Local) Funds Available for Transportation Purposes**

All three cities in the Brownsville MPO study area, City of Brownsville, City of Los Fresnos and the Town of Rancho Viejo, expend funds on off-system roadways. Los Fresnos and Rancho devote most of their roadway funding towards maintenance efforts to preserve off-system streets. The City of Brownsville also expends monies on maintenance of off-system roadways.

In addition, the City of Brownsville spends tens of thousands of dollars each year to develop large-scale off-system roadway projects. Some monies are spent on "in-house" activities conducted by City staff. Other funds help to pay for professional services, or consultant firm efforts, to secure right-of-way and prepare designs (construction documents) to build new roadways. To secure MPO funds as a part of this process, the City of Brownsville utilizes TxDOT design standards for off-system roadways.

For more information about these on-going activities of the City of Brownsville, the reader is advised to refer to pages 4-4 thru 4-8 for more information. Please see "Local Funding" on page 3-3 and "Life Cycle Costs" on page 3-5. These sections provide an explanation about how local funds have been used by the City of Brownsville. In recent years, the City of Brownsville has been given a superior rating by New York-based financial firms, so access to the municipal bond market has been on favorable terms for this municipality.

- **American Recovery & Reinvestment Act of 2009**

The American Recovery and Reinvestment Act of 2009 (ARRA) appropriated \$27,500,000,000 from the General Fund of the Treasury. These funds are in addition to contract authority provided in F.Y. 2009 and F.Y. 2010. The provisions include a sub-allocation made to the states for urbanized areas (MPOs) with populations less than 200,000.

Accordingly, the Brownsville MPO is slated to receive \$7,809,328 in ARRA funds. In the first part of calendar year 2009, the MPO Policy Committee members selected the West Rail Project for use of these ARRA funds.

Subsequently, at an MPO Policy Committee meeting held on November 18, 2009, the MPO Policy Committee members selected or approved of several other improvement projects, as “back-up” projects, for use of ARRA funding in the event that the West Rail Project is not ready to move forward to letting in early 2010.

In addition to the ARRA monies sub-allocated to the Brownsville MPO, other ARRA funds will be made available by the State of Texas for MPO-sponsored improvements. Specifically, S.H. 550 Toll Road improvements will be funded with ARRA monies. One roadway segment, from 0.70 mile north of F.M. 3248 to Old Port Isabel Road, is estimated to cost \$7,250,000.

A second State Highway 550 segment, from Old Port Isabel Road to S.H. 48 at the Port of Brownsville, is estimated to cost \$29,241,200. The MPO Policy Committee approved of these toll road improvements, which will be implemented by the Cameron County Regional Mobility Authority.

- **Overweight Truck Corridor Fees**

An overweight truck corridor was established in Brownsville about a decade ago by passage of a bill signed into law. It was renewed sometime thereafter. Typically, trucks are limited to loads of 80,000 pounds on state highways. Under this law, Mexican trucks, with loads up to 120,000 pounds, are allowed to pass to and from the Port of Brownsville. However, a \$30.00 fee is collected for each trip or passage within the overweight truck corridor. Such truckers are restricted to this corridor, which utilizes portions of State Highway 4 and State Highway 48. Those truckers who stray from this overweight corridor are subject to fines.

The aforementioned fees, which are collected by the Port of Brownsville, yield slightly more than a million dollars a year. These funds have been used to make repairs and/or improvements to these roadways, which constitute this corridor. For example, concrete aprons at key intersections have been installed to remedy the asphalt rutting or damage caused by truck traffic. It is expected that future repairs and corridor improvements can be funded by these overweight truck fees. Use of these funds in the MTP is indicated by the abbreviation “BND”, which stands for Brownsville Navigation District.

- **Proposition 12**

In 2007, Texas voted approval of Proposition 12. Subsequently, the Texas Legislature acted to authorize issuance of Proposition 12 bonds to fund transportation improvements. These are general obligation bonds, which will be paid back using general revenue, rather than state fuel tax proceeds.

Senate Bill 1 provides that two billion dollars in bond monies be spent by TxDOT on non-toll highway projects. Included on the Proposition 12 list is the MPO’s F.M. 3248 widening project, for improvements to be implemented west of the U.S. 77/83 Expressway, as approved by the Texas Transportation Commission on November 19, 2009.

- **Funds available via Comprehensive Development Agreements (CDA)**

A Comprehensive Development Agreement (CDA) is a relatively new, legal contracting tool that TxDOT and/or a Regional Mobility Authority can use to design, construct, operate, maintain and finance a transportation facility. Private firms or other public entities, such as an independent Toll Authority, thereby can assist TxDOT in advancing roadway development. The use of a CDA can help secure construction of certain transportation projects some years ahead of schedule.

Using ARRA funds, the Cameron County Regional Mobility Authority (CCRMA), in association with TxDOT, will be developing two segments of S.R. 550 as toll roads. The S.R. 550 mainlanes, now under construction, will be open to motorists as a free (non-tolled) route.

Some additional tolled segments of S.R. 550 are proposed for development, via a CCRMA:TxDOT venture using a Comprehensive Development Agreement with a private firm.

TxDOT's CDA Proposal Evaluation Process includes the following steps:

- 1) TxDOT issues requests for firm(s) qualifications
- 2) Proposers submit proposal and qualifications
- 3) TxDOT shortlists proposers/firms
- 4) TxDOT releases a draft request for detailed proposals
- 5) Industry review, which includes one-on-one meetings
- 6) TxDOT issues final Request for Proposals (RFP)
- 7) Proposers submit final detailed proposals
- 8) TxDOT evaluates final proposals
- 9) TxDOT recommends selection
- 10) Texas Transportation Commission selects the best proposal
- 11) Negotiations take place between TxDOT and the selected proposer
- 12) Award and execution of the Comprehensive Development Agreement (CDA)

It appears to be a reasonable expectation for the upcoming 25 year period that toll revenues which will be generated from the initial S.R. 550 toll road segments are sufficient to fund the design and some or all of construction of two other S.R. 550 tolled segments. Specifically, two additional MTP roadway projects are proposed as follows:

- S.R. 550—from U.S. 77/83 to 0.7 miles north of F.M. 3248. Construct 6 tolled main lanes and non-tolled frontage access; Estimated construction cost: \$57,587,203.
- S.R. 550—from 0.7 miles north of F.M. 3248 to S.H. 48. Construct 4 tolled main lanes and non-tolled frontage access; Estimated construction cost: \$101,188,942.

It should be noted that design and development costs will add more expenses to these construction cost estimates. Before the negotiations on these matters between TxDOT and a private firm can take place, TxDOT and the Cameron County RMA will need to develop and finalize agreements about the use of S.R. 550 toll revenues as a first step.

FUNDING PROJECTS VIA A REGIONAL MOBILITY AUTHORITY

Cameron County recently submitted a petition to the Texas Transportation Commission to form a Regional Mobility Authority in Cameron County. On September 30, 2004 this request was approved.

A Regional Mobility Authority (RMA) is a political subdivision of the State of Texas. The purpose of forming an RMA in Cameron County is to finance, acquire, design, construct, operate, maintain, expand or extend transportation projects. The transportation project may be tolled or non-tolled.

The benefits of creating a Regional Mobility Authority include the following:

- Generates revenue for additional transportation projects;
- Provides local governments more control in transportation planning scheduling of projects;
- Helps build transportation projects sooner, bringing congestion relief faster;
- Improves mobility and provides increased safety for motorists.

Under legislation adopted by the Texas Legislature...a new Regional Mobility Authority in Cameron County would have the following powers:

- To establish tolls;
- To acquire or condemn property for transportation projects;
- To use surplus revenue to finance other local transportation projects;
- To enter into comprehensive development agreements;
- To apply for loans from the State Infrastructure Bank;
- To maintain a feasibility fund;
- To set speed and weight limits on RMA-sponsored roadways that are consistent with state guidelines.

One of the requirements of formation of a new RMA involves the identification of likely improvement (transportation) projects that would be considered for implementation accordingly by the RMA.

Cameron County identified the proposed West Rail/West Loop as one of the proposed RMA projects in the petition submitted to the Texas Transportation Commission.

Proposed improvements for a S.H. 550 Tollway represent another improvement project being implemented by the Cameron County RMA.

Section 4

PUBLIC PARTICIPATION & INVOLVEMENT POLICIES

In developing the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP), the Brownsville Metropolitan Planning Organization (MPO), in cooperation with the Texas Department of Transportation (TxDOT) and the Brownsville Urban System (BUS), shall provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transit and other interested parties with reasonable opportunities to comment on the proposed program.

Methods to provide reasonable opportunities to comment include holding public meetings at convenient and accessible locations and times, employing visualization techniques to describe plans and making public information available in electronically accessible format and means, such as placement on the World Wide Web.

Similarly, whenever significant amendments of the MTP or TIP are under consideration, the Brownsville MPO, (in cooperation with the TxDOT and BUS), shall provide reasonable opportunities to comment, as outlined above.

Public participation is a critical element for successful planning. MPO staff and the MPO Committees have employed a number of strategies to obtain input from local citizens, civic groups and other interested persons. Some of the MPO participation activities for MTP development included the following:

- **Public Listening Session**

A public MPO listening session was held on May 18, 2009 at the Brownsville Public Library during the late afternoon and early evening hours. MPO staff were available to answer citizen concerns and to receive both written comments and verbal questions.

- **Evening MPO Policy Committee meeting Re: MTP Input**

An MPO Policy Committee meeting was held during the evening of October 7, 2009 at the Historic Brownsville Museum. The MPO Director presented information about the purpose of the MPO's long range transportation plan and the BUS Transit Planner devoted time to explaining the MTP's transit element. The bulk of the meeting was devoted to hearing public comments and questions about MTP issues from local residents, business owners and other persons. Most comments were in the form of verbal statements; although, some written comments were also gathered by MPO staff.

- **MPO Newsletter**

Three volumes of the MPO newsletter were produced and distributed during fiscal year 2009. The September/October volume of the MPO newsletter was largely devoted to explaining how the MPO's MTP is developed and soliciting comments from the public. The MPO newsletter is distributed in two methods. Some volumes are sent to interested persons via the U.S. mail. Other persons read these newsletters by accessing the MPO's website. All of the volumes of newsletters for the last two to three years are posted for public inspection, alongside the newly-issued volume of the MPO newsletter.

- **Public Speaking Engagements**

Another means of soliciting public input occurs throughout the year when the MPO staff engage in public speaking opportunities at local civic organizations. These forums, such as the monthly (luncheon) meetings of Rotary, Kiwanis and Lion's clubs have allowed open, two-way communication to occur between citizens and business owners and MPO staff about MTP formation and other transportation planning issues.

MPO THOROUGHFARE PLAN

In November 2009, the Brownsville MPO Policy Committee adopted an Amended MPO Thoroughfare Plan. One change involved the deletion of a segment of Florida Road, a collector roadway.

The City of Brownsville recognizes the MPO's Thoroughfare Plan as a basis of the City's Transportation Plan. The MPO Thoroughfare Plan serves as a critical element in support of orderly development for the greater Brownsville community, which is a goal of the MTP. The MPO Thoroughfare represents a network system of functional roadway classifications; such as: Expressways, Principal or Primary Arterials, Secondary Arterials, Collectors and local streets.

Each roadway classification has a distinct cross-section associated with it. Cross-section elements include the necessary right-of-way (roadway width) to accommodate the required number of lanes, shoulders, space for utilities, sidewalks, as well as bike facilities in some instances.

Certain roadway segments will be developed as divided highways, as determined by the members of the MPO Policy Committee. Although the typical roadway cross-sections have been illustrated on the MPO Thoroughfare Plan map, the Policy Committee members reserve the right to modify the typical cross-section elements when necessary to best serve the needs of local neighborhoods and/or circumstances.

One of the significant benefits of the MPO having an adopted Thoroughfare Plan is that it protects needed right-of-way to allow future roadway improvements to occur. This legal aspect of the Thoroughfare Plan derives from the subdivision ordinances adopted by the City of Brownsville, the City of Los Fresnos and the Town of Rancho Viejo.

All of the major arterial roadways leading into and out of the Brownsville MPO area are classified as primary arterials or a higher classification, (U.S. 77/83, S.H. 100, S.H. 48 and U.S. 281).

The MPO's Thoroughfare Plan correlates with Cameron County's Thoroughfare Plan on this measure, and on many other roadway designations. The Amended MPO Thoroughfare Plan, which was adopted by the Policy Committee members on November 18, 2009 altered the alignment of several roadways and can be viewed by members of the public on the MPO's website at www.cob.us/mpo/.

ACCESS MANAGEMENT

In October 2001, the Brownsville MPO adopted the Brownsville Access Management Guidelines, developed with assistance from Kimley-Horn and Associates, Inc. Proper use of access management tools can assist in protecting the substantial public investment in transportation by preserving the roadway level of service, thus reducing the need for expensive improvements. Furthermore, successful access management policies can serve to reduce traffic accidents, personal injury, as well as property damage and help promote the orderly layout and sustainability of the Brownsville-Los Fresnos-Rancho Viejo communities.

A large scale development in Brownsville known as "Paseo de la Resaca" has incorporated access management techniques in how the private subdivisions tie into on-system roadways, such as F.M. 1847 and F.M. 802. Instead of multiple "curb cuts" (as seen on S.H. 48/Boca Chica Boulevard) the private (commercial) businesses share one access and egress point to the roadway, (F.M. 802). As a result, the east:west traffic flow on F.M. 802 is preserved, and the number of traffic accidents is lessened as well. The introduction of a landscaped median took place as a result of access management policies adopted by the developer. This feature offers an important safety measure, as "head-on" collisions will not occur due to the median's presence.

The City of Brownsville could reap similar benefits with the development of other roadways, (eg. Morrison Road and Piñeda Boulevard), if the City of Brownsville decides to adopt the MPO's Access Management Guidelines by ordinance as part of the Subdivision Ordinance. Staff at the City of Los Fresnos have been consulting with TxDOT staff regarding the use of access management tools to preserve mobility on S.H. 100 and F.M. 1847. These mobility needs should be considered in terms of what the LOS will be for future decades as on-going development occurs adjacent to these roadways.

In January 2004, TxDOT-sponsored access management criteria (adopted by the Texas Transportation Commission) went into effect and became applicable to all classes of state highways. Also, TxDOT published an Access Management Manual, which outlines these criteria and the reasoning behind their adoption and use.

All previously permitted access was grandfathered as TxDOT-accepted access prior to January 1, 2004. In areas where local access management guidelines are not in place (by ordinance, such as in the City of Brownsville), both developers and municipal staff should contact TxDOT, prior to the approval of new developments, with respect to the state highway access that will be provided. Such contacts enable TxDOT staff to identify any problems with the proposed access and to suggest alternatives.

Early state and local coordination will also help reduce unnecessary delays in the access permitting process. It should be noted that a lesser connection spacing (than set forth in the TxDOT Access Management Manual) may be allowable in the following situations:

- To keep from land-locking a property where such land-locking is solely the result of action by TxDOT (for example, design and construction modifications which physically prevent a driveway installation due to grade changes, retaining walls, or barrier installations) where TxDOT does not control the access, or
- Replacement or re-establishment of reasonable access to the state highway system under reconstruction/rehabilitation projects.

For more information about minimum connection spacing criteria for various highways, please refer to the TxDOT Manual. Corner clearance criteria constitute another important element covered by the Access Management Manual.

The TxDOT Manual does not pre-empt or preclude the required concurrence of development plans with local regulations. If the proposed development is within a jurisdictional boundary and he has engineering study and/or traffic analysis guidelines in place, then the applicant is required to adhere to the municipal rules.

For more information on this topic, please see items placed within Appendix II.

OPERATIONS & MANAGEMENT OF THE MPO'S TRANSPORTATION SYSTEM

Introduction

Local citizens are quite familiar with the Brownsville MPO's sponsorship of added capacity projects. An excellent example concerns the improvements for the U.S. 77/83 Expressway which will be completed later this year. The widening of this facility, from four travel lanes to six travel lanes, will enable higher traffic volumes to be accommodated on the U.S. 77/83 Expressway as on-going population growth and economic development induces more daily travel in our community by automobile and truck. However, such a solution is quite expensive. Also, after the available roadway right-of-way is filled with the maximum capacity...what other strategies exist to cope with the travel demand as new growth occurs?

These other tools to deal with congestion problems are termed operational and maintenance strategies. Typically, no single strategy by itself can yield dramatic results.

By employing multiple strategies at once, the MPO, (in cooperation with TxDOT and local municipalities), can effectively utilize operational and maintenance (“O & M”) strategies to forestall or diminish congestion problems. Oftentimes, congestion problems are indeed lessened, but other important benefits are produced such as pedestrian and safety improvements. Sometimes, aesthetic upgrades and/or other features can be introduced as a result.

For these reasons, the examination and deployment of “O & M” strategies is a critical issue for consideration.

Use of Intelligent Transportation System (ITS) Technologies

In 2003, the Brownsville MPO joined with other agencies and TxDOT staff at the Pharr District in formulating a regional Intelligent Transportation Systems (ITS) Plan. In July 2003, the State of Texas ITS Architecture and Deployment Plan for the Lower Rio Grande Valley Region was adopted. This is significant because it makes the Brownsville MPO study area and other locales within the Pharr District eligible for federal grants and other assistance concerning ITS improvements. ITS solutions can help to improve traffic flows without resorting to expensive widening (added capacity) improvements in selected roadway corridors.

A good example of the use of ITS technology can be seen within the U.S. 77/83 Expressway corridor in Brownsville. TxDOT installed Dynamic Message Signs.

These signs can be utilized to handle incident management issues, (eg. lane closures due to accidents), and thus direct motorists away from areas of congestion. Similarly, these signs can be used to notify motorists about alternate routing when lanes will be closed due to maintenance work. Also, these ITS signs can help direct and inform motorists during Hurricane Evacuation operations. Other MPO roadway corridors, such as State Highway 100 and State Highways 4 and 48 (Padre Island Highway) might be suitable candidates for use of such ITS signs to help move traffic when incidents or accidents occur.

Assessing the MPO’s Future Mobility Needs

Every five years, the Brownsville MPO Policy Committee, with assistance from the MPO Technical Committee, adopts a new Metropolitan Transportation Plan, (MTP). The purpose of the MTP is to guide development of the Brownsville transportation system through implementation of a prioritized list of improvements projects.

The 1999 MTP identified a large number of transportation improvements. These MTP improvements were incorporated within the MPO’s Travel Demand Model by the building and coding of a proposed (forecast year) model. The Texas Transportation Institute (TTI) staff have made use of the model to help make predictions about future MPO congestion levels.

The MPO's roadway network (for modeling purposes) was defined as having 554 lane-miles in 1999. The 2000-2025 MTP outlined new improvements which were designed to add 346 more lane-miles to the network. TTI staff determined that these improvements (346 additional lane-miles) would result in an overall Texas Congestion Index value of 1.24 for the Brownsville urbanized area.

A TCI value of 1.24 would mean that a motorist would need additional time (24% more time) in 2030 to complete a peak hour trip. Thus, a 20 minute trip at the peak morning rush hour in 1999 would in 2030 require an additional five minutes (25 minutes total) to complete. A half hour trip (in 1999) would grow lengthier by seven and one half additional minutes. To reduce the overall congestion levels in 2030, TTI staff added more lane-miles at the previously identified "trouble spots" on the 2030 roadway system.

TTI staff determined that another 102 lane-miles (or 1,002 lane-miles in total) would help to lower the Texas Congestion Index within the Brownsville urbanized area to 1.07. Given the expected increases in both population figures and traffic volumes on Brownsville roadways in 2030, it is not practical to reduce the TCI value back to 1.00 or to 1.01. However, a 1.07 value is appreciably better than a TCI value of 1.24.

Finally, MPO staff determined from TTI estimates that the cost of the additional arterial lane-miles (102 lane-miles) is an additional cost of 102 million dollars. In other words, the Brownsville MPO would need an extra 102 million dollars to build these improvements, which is over and above the cost of the 2000-2025 MTP improvements.

One broad method of addressing these mobility needs is by the identification of additional revenue sources (to build added roadway capacity), which would serve to reduce future traffic congestion. The MPO's Texas Urbanized Area Mobility Plan, (TUMP), did indeed outline several potential ("non-traditional") revenue sources, which could be used to fund new highway improvements.

Another means to address such future needs is by tackling these problems by another method—through adoption of new land use policies which direct and shape future growth within the MPO's communities. By utilization of "Smart Growth" policies, the future impacts upon the area transportation system can be sufficiently lessened or diminished to forestall some of the expected congestion problems.

Other communities have chosen to employ these smart growth policies with good results. The higher population densities achieved in such communities encourage high usage rates of both transit and pedestrian improvements as alternative transportation modes.

MPO Roadway & Bridge Rehab (Maintenance) Needs

Roadways

Assessing the MPO's financial needs to allow the appropriate agencies to undertake maintenance work in future years is very important. In 2007, the Brownsville MPO Policy Committee members adopted the Texas Urbanized Area Mobility Plan (TUMP) for this study area. This MPO maintenance assessment process for the MPO has followed a number of specific steps, as outlined below.

Bridges

In addition to roadway rehab costs, calculations were made to help determine the MPO's financial requirements for maintenance and replacement of bridge structures. Please see Appendix 3 for more information.

Consideration of Alternative Land Use Policies

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

A mix of transportation efficiency and compact land use can put new development where infrastructure already exists and thereby make the most efficient use of transportation systems.

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

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

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

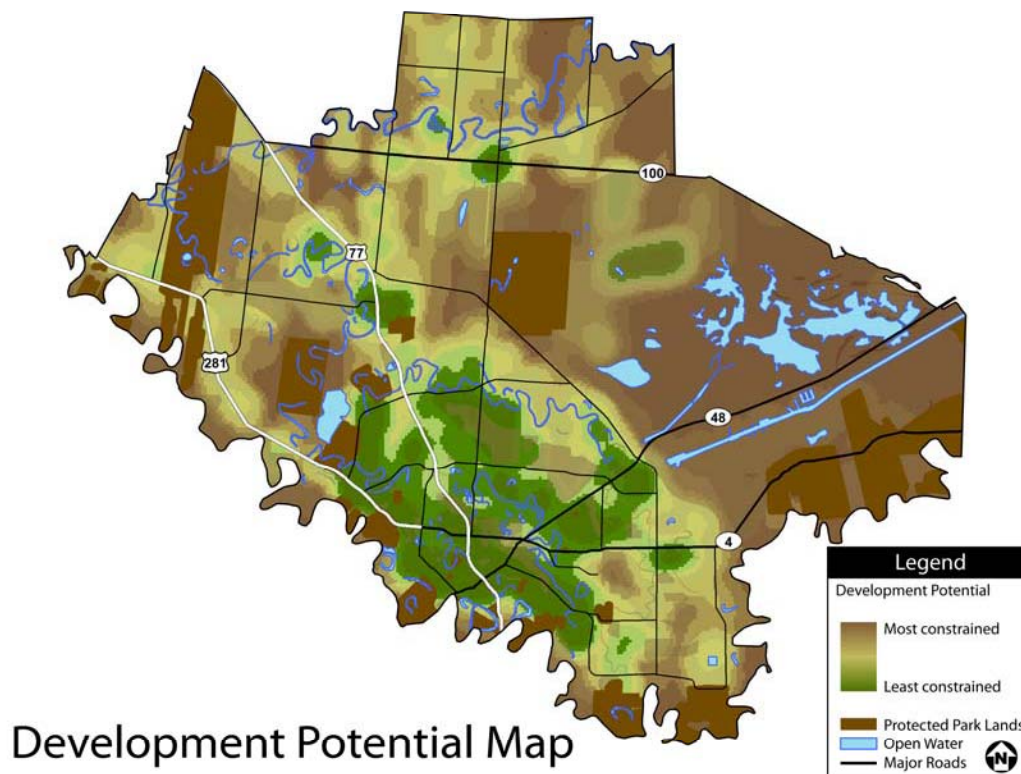
To help conduct this MPO-sponsored study, the MPO Policy Committee members approved of a contract with Kimley Horn & Associates, Inc. to implement the MPO's Study of Land Use:Transportation Alternatives.

Local leaders from Cameron County, the City of Brownsville, the City of Los Fresnos and the Town of Rancho Viejo participated in “chip game” exercises designed to determine how the Brownsville metropolitan area could best accommodate future growth, in terms of locating new housing units, jobs and where and how to meet these needs. Other participants in the Scenario Planning work sessions included staff from environmental agencies, interested citizens, Chamber of Commerce representatives and developers. Each group determined how they would distribute chips across the MPO study area, thus creating maps to indicate preferred land use and transportation outcomes.

Building a vision for the community that best represents individual desires and needs is a difficult task. Using a scenario planning exercise called the “Chip Game,” stakeholders were challenged to plan their future in small group workshops.

The Chip Game allowed participants to directly manipulate key policy components, deal with trade-offs as they would in the real world, and achieve results that are the beginnings of a complete land use and transportation plan. The tools provided to the participants (as part of the game) consisted of the following materials:

1) A workshop map that contains a representation of the current situation, typically including transportation, landscape, environmental and other information. A key component is a representation of opportunities and constraints, where land that is currently developed was shown along with environmental constraints (floodplains, riparian buffers, wetlands and resacas) as well as vacant, unconstrained land and (in some cases) redevelopment potential.



2) The “Chip Set”—a group of paper icons or stickers that symbolized types of development and transportation infrastructure (roadways/transit) that may occur in the future. These icons were scaled to the map, represented a fixed area of proposed development, and included a set amount of population and employment.

Workshop participants placed chips and drew on the map. As chips were placed, a development scenario began to take shape. The participants’ task was to devise a plan that is their version of the most livable city, and one that accommodates the expected population and employment change. They also developed brief policy ideas about implementation and addressing specific issues, such as social equity and affordable housing. At the end of the process, participants described their solution to each other. After the workshop, the maps were digitized and evaluated for similarity. From these constancies, three development scenarios were tested.

Three Land Use Scenarios were developed and subsequently analyzed for the MPO study area. These three scenarios for the Brownsville urbanized area can be described, as follows:

Scenario A: Continuation of current trends and existing land use policies.

Scenario B: A mid-range scenario that features more mixed uses and density than the trend scenario.

Scenario C: Creates an urbanized area with diverse, mixed-use development centers.

AREA DEVELOPMENT

Employment projects and estimates of new housing starts, and population growth through the forecast year 2035 have provided the basis for updating the MPO area transportation needs.

Additional information about the working assumptions and methodology used in making forecasts for employment, population and housing units is available in the Brownsville MPO document entitled “Brownsville MPO/Data Collection & Forecast Study (2004-2035)”. This document can be obtained by contacting MPO staff housed at the City of Brownsville’s Department of Planning and Community Development.

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

MPO staff and MPO Committee members use this data via employment of the MPO’s Travel Demand Model. This travel forecasting tool is used to conduct analyses to assess future traffic impacts.

Also, the MPO staff and MPO Committee members assess what differences might be achieved towards the lessening of congestion on existing roadways by adding new (hypothetical) roadways to the network.

This is an important consideration whenever MTP projects are examined. Local realtors and developers often request copies of the MPO’s forecasts, in order to help their decision-making, in terms of accommodating developing trends and committing private investment capital.

For over a decade, the Brownsville MPO area has experienced both dramatic population growth and continued land development. This increase in population is projected to continue in the coming decades. The MPO Socioeconomic Data Collection & Forecast Study has projected the MPO’s population to almost double in the period from 2004 thru 2035. Please call the MPO staff for more information on this topic.

Brownsville MPO Area Population Estimate & Forecasts

	2007	2017	2035
Population	217,390	271,957	364,022
Dwellings	57,858	73,108	110,830
Employment	87,422	106,431	135,560

The above projections were made in 2007 for the Brownsville MPO study area. It is important to remember that the MPO study area encompasses the cities of the Los Fresnos and Brownsville, as well as the Town of Rancho Viejo.

For more data about future population projections, please see pages 5-11 and 5-12 for more information.

MPO BICYCLE & PEDESTRIAN PLANS

Two other municipalities were added to the Brownsville MPO study area in 2001 by the enlargement of the Metropolitan Area Boundary (MAB): (1) City of Los Fresnos, and (2) Town of Rancho Viejo. Rancho Viejo has implemented or built some significant pedestrian improvements.

The following elements have been made available for use by bicyclists, pedestrians and drivers of golf-carts: Installation of conspicuous safety signage, striping of shoulders and an extensive path system found at the Rancho Viejo golf course. These elements make for a safe, pleasant environment for these patrons. Posted speed limits (featuring low speeds) constitute significant safety features in both Los Fresnos and Rancho Viejo.

The Los Fresnos C.I.S.D. has complemented the initial planning studies required by TxDOT’s Safe Routes To Schools (SRTS) program.

These established features in these two small communities provide for future opportunities, such as:

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

The MPO's development of bike and pedestrian plans and policies has been shaped in large measure by input of the local bicycling community. Citizen comments were quite helpful in the formation of the 1996 Plan, and again with the MPO's update of this plan in 2003.

The 1996 Bicycle and Pedestrian Plan adopted by the MPO was an important achievement for the Brownsville urbanized area. First, it had been almost three decades in Brownsville since the previous 1975 Bicycle Plan had been adopted. Issues were addressed after many years of inattention. Many of the successes achieved since 1996, such as the establishment of the Historic Battlefield Trail, are attributable to the MPO Plan adopted at that time.

Some recommendations of the 1996 MPO plan remain unfulfilled or various obstacles exist which have prevented implementation of the MPO policies or objectives.

Listed below is one objective and policy adopted by the Brownsville MPO 1996:

Integrate and coordinate the multiple modes of transportation.

These activities were implemented to fulfill this MPO Policy goal:

- (1) Significant progress has been made, including the following achievements:
 - BUS has installed bicycle racks on new Brownsville Urban System buses.
 - Two pedestrian underpasses have been established on F.M. 1847 and F.M. 802, respectively.
 - A pedestrian underpass at the Fort Brown Resaca has been established.
 - The Historic Battlefield Trail included provision for bus turnarounds on Ringgold Street to allow drop-off/pick-up of passengers at the Southern Pacific Linear Park.
 - Sidewalk construction was built as a part of the Boca Chica Boulevard (S.H. 48) drainage improvement.
 - Other bicycle and pedestrian improvements have been constructed as part of the East Loop (University Boulevard) improvements.

(2) Weaknesses to be addressed:

- Provision (or construction) of sidewalks in new subdivisions by private owners, (when permits are obtained), leaves many gaps (for safe movements of pedestrians) within the Brownsville City limits.
- There is a backlog of sidewalk gaps in Brownsville from past decades. Other than sidewalk construction activities within low-income, (CDBG eligible) areas, there is no funding allocated to address these miles of backlog gaps.

The MPO's 2003 Bicycle & Pedestrian Plan outlines which roadways (both on-system and off-system) will receive bike paths and bike lanes, said facilities to be developed, either by TxDOT, local entities, or via a cooperative effort.

APPENDIX I

Level of Service

Level of Service for Roadways:

LOS calculated by V/C

V = volume
C = capacity

0.0 - .32	LOS A (free flow)
.33 - .54	LOS B (stable flow)
.55 - .74	LOS C (stable flow, but increasing congestion)
.75 - .90	LOS D (lower speeds, restricted maneuvering)
.90 - 1.0	LOS E (at capacity, high frustration, difficult to maneuver)
Over 1.0	LOS F (breakdown flow)

APPENDIX II

Operations & Management Issues

Access Management

The Brownsville MPO has undertaken numerous steps to promote the use of Access Management tools within the urbanized area. It is expected that MPO's policies, which support utilization of access management techniques, will yield good results in the coming years.

In June of 2001, the Brownsville Metropolitan Organization initiated an access management study focused on how to improve safety, traffic flow and upgrade community aesthetics.

The MPO secured the services of a consultant firm, Kimley-Horn and Associates Inc., to develop Access Management Guidelines. Access classifications were developed for the MPO, (and for consideration by the local municipality—The City of Brownsville), by combining roadway classifications, such as an arterial or collector, with future or current land development intensity. The MPO's Access Management Guidelines were officially adopted by the Policy Committee members in the second half of 2001.

Access Management Classifications

Class 1 – No direct property connections.

Class 2 – A highly controlled, limited number of connections and median openings and infrequent traffic signals.

Class 3 – Controlled direct access to abutting land to maximize the operation of the traffic movement. This class is used where existing land use and roadway sections are not completely built out.

Class 4 – Used when existing land use and roadway sections have been built-out to a larger extent than Class 3 roadways.

Class 5 – Used in urban areas, where the existing land use and roadway sections have been built-out to maximum intensity feasible. Significant widening of the roadway or changes to the land use are limited.

Although the City of Brownsville did not subsequently develop or adopt a new ordinance with access management requirements, Brownsville governmental officials and a significant number of local businesses have supported some of the access management tools for use in the Brownsville community. Accordingly, when a widening project for F.M. 802 was developed by TxDOT, the MPO and Brownsville Chamber of Commerce supported the extensive use of a restrictive median as a key feature of the roadway design.

Several miles of F.M. 802, east of F.M. 1847 to Robindale Road, now feature a wide, landscaped center median. Openings within the median allow motorists to turn around or access businesses or residences located on the opposite side. The large width of this median will allow future expansion to occur some two or three decades from now, when traffic volumes become larger than what the current layout (four travel lanes) can safely accommodate.

One reason that use of a restrictive median was deemed feasible for a substantial portion of this roadway, east of F.M. 1847, was due to the support of a large land owner. William Hudson, the principal developer of Paseo de la Resaca. He voiced strong support for use of this access management tool at F.M. 802. The Paseo de la Resaca Master Plan featured the provision of access to individual lots via the use of different collector streets, instead of curb cuts on F.M. 802. Thus, the desired goals of all affected parties, (the private developer, the City of Brownsville, TxDOT and the members of the MPO Committees), were closely aligned—in terms of the promotion of traffic flow, safety and to upgrade aesthetics.

To address F.M. 802 congestion problems, the Pharr District enlisted the assistance of staff from the Texas Transportation Institute, (TTI). TTI staff were asked to study the problems found on the segment of F.M. 802 near the Sunrise Mall. TTI staff, in cooperation with TxDOT staff, completed their investigation and reached a number of conclusions about the conditions on F.M. 802, between the U.S. 77/83 Expressway and F.M. 1847, Paredes Line Road.

First, the existing amount of daily traffic cannot be safely accommodated with the existing four travel lanes. So, two travel lanes, one in each direction, were constructed to handle the increasing traffic.

Second, the former traffic signal at the Sunrise Mall was too close to the adjacent traffic signal located at the U.S. 77/83 northbound frontage road. The inadequate spacing of these two signals caused on-going congestion problems and many accidents. Therefore, the signal at this western entrance to the Mall problem was eliminated. By moving the location of the traffic signal to the Mall's eastern opening to F.M. 802, adequate space has been provided to allow motorists to safely queue ("stack").

Third, the addition of a restrictive median is required to prevent accidents from taking place. It would promote a better traffic flow on this arterial roadway.

TxDOT staff stated at the public meeting held in 2007...that they sought a balance among the competing factors under consideration: provision of access, ensuring safe conditions and promotion of good traffic flow. In some individual situations, the design will dictate restrictions in terms of access, and a particular property owner may find the proposed improvements to be a burden. However, these decisions were taken to reward one property owner over another. Instead, the placement of full median openings and directional openings were designed to make the future conditions on F.M. 802 as conducive to safe operations as is possible.

The reduction of conflict points, achieved by the introduction of a new median, eliminated many of the serious circulation problems that used to occur in this corridor. Also, a median makes it much safer for pedestrians to cross this roadway from one side to the other.

It should be noted that center medians are being installed on portions of State Highway 100, east of Downtown Los Fresnos. TxDOT staff, in cooperation with staff at the City of Los Fresnos, determined the locations of median openings in such a manner as to allow future development to occur at selected locales.

Downtown Multimodal Terminal

The City of Brownsville–Brownsville Urban System (BUS) is constructing a multimodal terminal to provide a hub for ground transportation services including local, rural, intercity and international transit services, taxi and charter bus. This new facility will provide an improved environment for travelers.

By consolidating all transit services into one location, transit providers will save costs. Amenities can be shared among tenants, thereby reducing operating costs for all. Although the multimodal terminal facility development will be located in Brownsville, its scope is regional and international. Upon completion, the project will enhance interconnectivity with other transit systems in the region.

By substantially removing transit buses and over-the-road coaches from narrow downtown streets, the city will benefit from the reduced wear and tear on its right-of-way infrastructure. It will improve the safety and aesthetics of a 2-1/2 block area, between E. 13th Street and International Boulevard. It will serve as a catalyst for revitalization and redevelopment of an area currently in a state of declining retail use. The constant flow of pedestrian traffic will regenerate economic development in the surrounding area.

This transit project exhibits how undertaking plans to achieve operational efficiencies can make better use of existing resources. It will improve national safety and security by consolidating multiple destination points of bus services that operate internationally to one location. It will allow federal United States Customs and Border Protection and Immigration and Customs Enforcement agencies to place personnel and resources in one location instead of multiple locations. On an international level, it will provide an attractive, safe and secure first stop within the United States to facilitate international travel and trade.

Section 5309 funding has provided the bulk of the financing for this project. More than \$6 million in Section 5309 funding was authorized for this project in SAFETEA-LU. Additional funding includes grants from the Section 5311(f) program administered by the State of Texas, ARRA funding, funds from a local economic development corporation and cash (in-kind) contributions by the City of Brownsville.

Intercity bus service providers are integral partners with BUS in the development of this project.

BUS North Side Transfer Station

Public transportation increases accessibility by making new modes of transportation available to residents, workers, shoppers, visitors and students. The North Side Transfer Station is now an essential element of Brownsville's transit system.

The Brownsville Urban System (BUS) several years ago constructed the BUS North Side Transfer Station. BUS located the new transfer station on the north-east corner of the intersection of F.M. 802 and Habana Street. This area is located in a growing district, adjacent to Paseo Plaza and in close proximity to HEB, Sunrise Mall and other businesses. The transfer station is located on the Historic Battlefield Trail. The station's siting on the trail allows trail users to transfer to various routes on city buses or take rest breaks. Most importantly, the transfer station is serving to improve public transportation services within the City of Brownsville.

Long-term goals of this project are:

1. To make public transportation completely reliable and efficient for people who do not have other means of transportation in the City of Brownsville.
2. To make public transportation a convincing alternative to personal vehicle use in the City of Brownsville.
3. To help reduce traffic congestion in the northern quadrant of Brownsville.

Operational efficiencies of this project include:

1. Decentralization of service. Previously, all routes began and ended at the downtown terminal. A transfer station located on the north side of town allows BUS to have a second base of operations from which routes initiate and terminate. This eliminates the need for passengers, whose point of departure and destination is located at different areas on the north side of town, to travel to the downtown terminal in order to transfer buses. This helps reduce travel times significantly.
2. Meeting a transit need and demand. There is a significant transit need/attraction in the north quadrant of Brownsville, since heavy commercial and residential growth is occurring there. BUS anticipates that this trend will continue.

The Northside transfer station allows BUS to link current transit service in Brownsville with potential ridership in Los Fresnos and the rest of the Valley. This will create a large web of interconnecting transit systems in the Valley similar to those found in larger cities throughout the United States. The transfer station will make it more convenient for the Valley's other major public transit provider, Rio Transit, to link to BUS service. It will effectively enable public transportation ridership from other Valley cities and rural areas to make easy access to businesses and services located in the City of Brownsville.

BUS Utilities Paratransit Service

BUS provides transit services to persons with disabilities to allow these riders to make shopping trips, appointments with doctors and recreational trips. Software is used to automate the scheduling and routing functions for the Paratransit Dispatchers at BUS. Dispatchers can now input information for each customer trip request (pickup location, requested pickup time, destination and requested arrival time) into the software. This data input, in turn, allows the software to create optimal, efficient schedules and routes for use by BUS drivers. These routes are based on real street information such as speed limits and the presence of one-way streets.

Traffic Signalization: Operational Improvements

Adding lanes to an existing roadway is one means of addressing congestion problems. TxDOT and local governments need to consider other alternative strategies which can provide good results in some cases. Other methods of dealing with congestion might suffice, such as: (1) to remedy existing roadway geometrics; or, (2) to improve the traffic signal timing. Both strategies can help to improve traffic flow. Oftentimes, these types of improvements, known as operational improvements, provide less expensive solutions to congestion issues, as compared to adding capacity.

Limited room for right-of-way acquisition precludes the option of adding capacity (additional lanes) to deal with highway congestion on particular roadways within the Brownsville urbanized area. Several notable examples come to mind. Price Road has little or no space to install more travel lanes. When right-of-way cannot be made available, then other solutions must be pursued.

Operational improvements can be undertaken to significantly improve traffic flow on local highways, such as State Highway 48. For example, relocation of the Palm Boulevard:S.H. 48 intersection further to the west is a feasible improvement. Insufficient space from the frontage road to the existing intersection is present to allow vehicles to stack properly when the signal turns red. Moving this intersection would prevent this problem...a problem which causes congestion at other signals extending eastward from this location.

There are many other opportunities for achieving signal efficiencies, some of which have larger implications in terms of elimination of delays and improving safety for motorists. To tackle such problems, more staff (technicians) need to be hired and/or trained to address these types of issues. The current staffing levels at the Brownsville Traffic Division are barely adequate to keep the existing signals functioning and to repair equipment which breaks down. However, to re-wire signals to address the types of issues outlined above requires additional resources.

Increased funding for new equipment and personnel will pay huge dividends to the community by lessening of congestion problems on many of Brownsville's roadways. Engineering Department staff at the City of Brownsville have compiled an inventory of future infrastructure needs as concerns traffic signal equipment and related technology.

These cost estimates (below) include traffic signals, flashers for installation near schools, closed loop radio equipment, (to provide signal synchronization) and trucks (with lift buckets). Costs for additional (needed) personnel are not included. Equipment needs for the immediate time period total \$8.7 million. The needs for the mid-range time period (2016-2026) total \$10.4 million. The equipment needs for the Brownsville Traffic Division for the portion of the last decade total approximately \$4.8 million. The operational needs through year 2030 total \$23.9 million.

MPO Roadway & Bridge Rehab (Maintenance) Needs

Roadways

Assessing the MPO's financial needs to allow the appropriate agencies to undertake maintenance work in future years is very important. This assessment process for the MPO has followed a number of specific steps, as outlined below.

First, we excluded from consideration those roadway segments which have all ready undergone major rehab work since 1990. Also, those roadway segments which are scheduled for capacity projects to occur before 2030, (eg. adding more lanes upon our existing facility), are excluded from the rehab list. The remaining roadways (both On-System roadways and Off-System minor arterials) make up the rehab list. These roadway segments will require major attention in the upcoming decades.

TxDOT (On-System) Roadways have a total of 161.2 lane-miles in need of rehab. Local (Off-System) Roadways will total 47.0 lane-miles to be rehabilitated. Thus, a four lane roadway which is two miles in length would constitute eight lane-miles. Rehab costs for TxDOT roadways derive from two possible sources: The MPO's 1999 Metropolitan Transportation Plan (MTP) or from cost figures provided by the Texas Transportation Institute, (TTI). Rehab costs for Brownsville Off-System roads have averaged about \$500,000 per lane-mile (according to Carlos Lastra, Director of the Engineering Department/City of Brownsville).

The smaller municipalities in the Brownsville MPO (City of Los Fresnos and the Town of Rancho Viejo) have not undertaken many construction (rehab) projects. But, we can make rough cost estimates for these communities by examining work that is necessary. In Brownsville, most local streets which have been rehabilitated have a 32 foot width. A comparable street (eg. Carmen Avenue) in Rancho Viejo is likely to be more narrow in width. Thus, rehab work to be done for a 24 foot wide street in Rancho Viejo is likely to cost 25% less per lane-mile than a Brownsville example. We would expect that it would cost about \$375,000 per lane-mile for such work to be done in Rancho Viejo, (as compared to Brownsville), for this reason. As these communities undertake such work in future years, we will have some basis for making such estimates. Please see Appendices C & D for more information on this topic.

It should be noted that all TxDOT (On-System) roadways within the MPO area were examined to determine maintenance needs. A total of 161.2 lane-miles will need attention by year 2030.

Utilizing a rehabilitation cost figure of approximately \$600,000 per lane-mile, the total financial need for roadway rehab work for On-System facilities is estimated at \$96,720,000. The \$600,000 lane-mile figure is derived from the (2004) (2005-2030) Metropolitan Transportation Plan. As pointed out earlier in this text, the actual cost figures could be considerably higher...as construction costs have increased.

It is important to understand that only a portion of the Off-System roadways have been examined to assess rehab needs up to 2030. Only minor arterials have received such consideration as part of the TUMP assessment. Elimination of collector roadways from TUMP consideration means that some 60%-80% of the overall rehab needs for local roadways have not been examined.

To illustrate:

Laredo Road (from F.M. 802 to Old Spanish Trail) is considered a minor arterial. In some cases, collector roadways would accommodate less traffic, such as Lakeside Boulevard or Barnard. These other local roadways (collectors) may or may not require rehabilitation work. The local (minor arterial) rehab needs for Off-System roadways totaled some 47.2 lane-miles. This would require an expenditure of \$23,600,000 towards rehabilitation of Off-System (minor arterial) roadways in the Brownsville urbanized area.

Bridges

In addition to roadway rehab costs, calculations were made to help determine the MPO's financial requirements for maintenance and replacement of bridge structures. The following assumptions were used to determine 2030 costs for bridges:

1. Bridges that have been replaced or rehabilitated since 1990, will not require replacement or rehabilitation before 2030.
2. Bridges that were considered as a part of a mobility project identified in the MPO's MTP should have monies set aside for the bridge replacement costs. If for some reason, the cost for bridge rehabilitation was left out of the 1999 MTP costs, those costs will be assigned as a part of this plan.
3. Bridges with a current TxDOT sufficiency rating of 90.0 will not require replacement or rehab work before 2030.
4. Bridges with a current TxDOT sufficiency rating between 80.0 and 89.9 will require rehabilitation before 2030.
5. Bridges with a current TxDOT sufficient rating of 79.9 or below will require total replacement by 2030.

Replacement costs are calculated at approximately \$200 per square foot of bridge deck. Rehabilitation costs are calculated at \$100 per square foot of bridge deck.

On-System Bridges

The following On-System bridges will need to be replaced by 2030:

- F.M. 2480 (Estimated cost: \$253,000)
- S.H. 48 (Estimated cost: \$726,180)
- F.M. 511 (Estimated cost: \$403,200)
- F.M. 803 (Estimated cost: \$730,000)

Subtotal: \$2,112,380

The following On-System bridges will need to be rehabilitated by 2030:

- F.M. 1419 (Estimated cost: \$303,420)
- F.M. 1419 (Estimated cost: \$432,000)
- S.H. 4 (Estimated cost: \$336,000)
- F.M. 1419 (Estimated cost: \$420,000)

Subtotal: \$1,491,200

The total amount of funding needed to repair or replace On-System bridges within the Brownsville urbanized area is estimated at \$3,613,580.

Off-System Bridges

The following Off-System bridges, located within the Brownsville city limits, will require rehabilitation work by year 2030:

- Robindale Road (Estimated cost: \$282,400)
- E. 14th Street (Estimated cost: \$228,000)

Subtotal: \$510,400

The following Off-System bridges, located within the Brownsville city limits, will require complete replacement by year 2030:

- Oklahoma Avenue (Estimated cost: \$516,100)
- Browne Avenue (Estimated cost: \$516,200)
- Minnesota Avenue (Estimated cost: \$447,720)
- Utah Road (Estimated cost: \$516,120)
- Owens Road (Estimated cost: \$232,200)
- E. 30th Street (Estimated cost: \$325,520)

Subtotal: \$2,490,700

The following Off-System bridges, located within the Rancho Viejo city limits, will require complete replacement by year 2030:

- Avenue Escandon (Estimated cost: \$123,760)
- Rancho Viejo Drive (Estimated cost: \$124,800)
- Balboa Road (Estimated cost: \$124,800)
- Carmen Drive (Estimated cost: \$124,800)
- Enchilada Street (Estimated cost: \$124,800)
- Taco Street (Estimated cost: \$124,800)
- Subtotal: \$747,760
- Bolivar Road (Estimated cost: \$62,400)
- Inca Drive (Estimated cost: \$62,400)

The total amount of funding needed to repair or replace Off-System bridges within the MPO study area is estimated to be \$3,220,720.

This amount (above) represents an estimate based on 2007 dollars. Using the cost band method to account for inflation, which would represent a 52.5% increase in costs, we arrive at a different cost figure. The revised amount totals \$4,915,000 needed to repair or replace Off-System Bridges. Equivalent calculations will yield the estimated costs for needed roadway improvements.

APPENDIX III

Public Participation Activities for Development of the 2010-2035 MTP:

Years prior to the MPO's commencement of work on the MTP Update, the MPO staff started the process of soliciting public comments about the MTP through a variety of means.

First, the quarterly MPO Newsletter featured articles about the purpose of the MTP Update, and included comment sheets to allow for responses/suggestions to be mailed or faxed by local citizens.

Second, the MPO staff delivered a series of talks at local service organizations and civic organizations about the need for public input as part of the on-going transportation planning process. Explanation of the MPO's duties included formation of the MPO's long-range transportation plan document.

The following public comments regarding transportation needs and issues were discussed at these public meetings or at the regularly-scheduled (morning) MPO Policy Committee meetings. Also, some citizens emailed their remarks to the Brownsville MPO staff. Other residents sent in comments via the U.S. mail using comment sheets from the periodic MPO newsletters.

- Benches are needed at the bus stop locations on Alton Gloor Boulevard (F.M. 3248) for elderly transit patrons.
- Traffic signals should be installed at F.M. 802 at Hudson Boulevard and F.M. 1847 at Main St.
- Improvements for the East Loop (from: U.S. 77/83 to: F.M. 1419) should be implemented within the short-range time-frame.
- Widening of Coffee Port Road should be a short-range improvement due to increasing traffic volumes on this roadway.
- Transit system improvements for the Brownsville Urban System and other providers should be considered in the development of the Metropolitan Transportation Plan.

The Rail-To-Roadway Project known as "Port Lead Boulevard" should be implemented within the long-range time-frame to help accommodate future traffic volumes projected for S.H. 4, 14th Street and S.H. 48.

- The City of Brownsville needs to synchronize traffic signals on major arterials.

**TOTAL POPULATION FORECAST
1995 - 2050**

DRAFT										
Travel Demand Model Demographics - MPO Brownsville										
August-05	1995	1999	2000	2001	2002	2003	2004	2005	2006	2007
CITY	LAND AREA	POP 95	POP 99	POP 00	POP 01	POP 02	POP 03	POP 04	POP 05	POP 06
WORLD	57,506,000	6,008,183,019	6,081,527,868	6,155,942,526	6,228,620,188	6,303,112,453	6,378,863,118	6,454,375,226	6,529,887,391	6,605,401,556
Growth Rate Annually		1.38	1.25	1.22	1.19	1.17	1.16	1.16	1.16	1.16
I.-	(2000 SQUARE MILES)									
USA	3,537,438.00	266,557,091	279,294,713	282,338,631	285,023,886	287,675,526	290,342,554	293,027,571	295,714,599	298,411,627
Growth Rate Annually		1.18	1.15	1.11	1.04	1.01	0.99	0.99	0.99	0.99
I.-	(2000 SQUARE MILES)									
TEXAS	261,797.00	18,958,751	20,558,220	20,937,687	21,271,890	21,661,953	22,024,842	22,378,636	22,722,430	23,066,224
Growth Rate Annually		1.02	2.11	1.85	1.60	1.79	1.72	1.72	1.72	1.72
I. & II.	(2000 SQUARE MILES)									
CAMERON COUNTY	906.00	304,928	330,277	337,539	345,217	353,868	362,313	370,268	378,223	386,178
Growth Rate Annually		1.03	1.80	2.20	2.27	2.51	2.39	2.20	2.20	2.20
I., II. & III.	(2000 SQUARE MILES)									
Brownsville MPO	277.14	126,005	168,257	171,957	175,868	180,275	189,986	194,157	198,328	202,500
Growth Rate Annually		2.60	1.08	1.02	1.02	1.03	1.05	1.02	1.02	1.02
I. & IV.	(2005 SQUARE MILES)									
BROWNSVILLE, TX.	147.00	126,005	139,722	140,795	145,485	150,432	155,857	161,225	166,594	171,963
Growth Rate Annually		1.04	1.11	1.01	1.03	1.03	1.04	1.03	1.03	1.03
I., II. & III.	(2005 SQUARE MILES)									
LOS FRESNOS, TX.	2.40	3,460	4,117	4,512	4,633	4,791	4,996	5,108	5,220	5,332
Growth Rate Annually		1.06	1.19	1.10	1.03	1.03	1.04	1.02	1.02	1.02
I., II. & III.	(2000 SQUARE MILES)									
RANCHO VIEJO, TX.	2.10	1,050	1,060	1,754	1,778	1,813	1,849	1,884	1,920	1,955
Growth Rate Annually		1.10	1.01	1.85	1.01	1.02	1.02	1.02	1.02	1.02
I., II. & III.	(2000 SQUARE MILES)									

- I. Source: U.S. Census Bureau, 2003 Population Estimates, Census 2000, 1990 Census
 - II. Source: Carole Keeton Rylander, Texas Comptroller (Winter 2001-02 County Population Forecast)
 - III. Source: Texas Water Development Board
 - IV. Source: Brownsville MPO
- Note: 1 Square Mile = 640 Acres or 1 Acre = 0.0015625 Square Mile

TOTAL POPULATION FORECAST
1995 - 2050

CITY	August-05		2005		2010		2015		2020		2025		2030		2035		2040		2045		2050		
	POP 05	Growth Rate	POP 10	Growth Rate	POP 15	Growth Rate	POP 20	Growth Rate	POP 25	Growth Rate	POP 30	Growth Rate	POP 35	Growth Rate	POP 40	Growth Rate	POP 45	Growth Rate	POP 50	Growth Rate	POP 55	Growth Rate	
WORLD	6,451,058,790	1.15	6,825,750,456	1.10	7,202,516,136	1.02	7,563,004,182	0.91	7,897,980,420	0.80	8,206,457,382	0.72	8,483,028,127	0.64	8,756,140,657	0.58	9,003,663,330	0.51					
USA	295,734,134	0.90	309,162,581	0.90	322,592,787	0.80	336,031,546	0.80	349,666,199	0.80	363,811,435	0.80	378,113,238	0.80	392,172,658	0.70	406,089,392	0.70					
TEXAS	22,725,059	1.55	24,305,179	1.45	26,185,643	1.40	27,917,492	1.24	29,584,585	1.12	31,187,014	1.01	32,981,568	0.98	34,866,122	0.93	36,193,165	0.89					
CAMERON COUNTY	378,042	2.10	414,407	1.83	451,954	1.66	486,737	1.39	519,144	1.24	550,005	1.09	579,705	0.98	609,406	0.87	628,510	0.78					
Brownsville MPO	198,284	1.02	211,332	0.98	230,480	0.98	260,552	0.97	277,900	0.99	312,103	0.98	341,441	0.98	358,934	0.98	370,186	0.99					
BROWNSVILLE, TX.	161,965	1.02	193,619	0.97	209,736	0.98	225,857	0.98	246,907	0.98	287,957	0.98	276,049	0.99	284,141	0.99	292,722	0.99					
LOS FRESNOS, TX.	6,154	1.21	6,679	0.92	8,044	1.00	9,010	1.00	10,020	0.98	11,046	0.98	12,229	0.98	13,413	0.98	14,596	0.98					
RANCHO VIEJO, TX.	2,271	1.21	2,502	0.98	2,607	0.98	2,711	0.99	2,797	0.99	2,882	0.99	2,943	1.00	3,005	1.00	3,039	1.00					

**TOTAL POPULATION FORECAST
1995 - 2050**

DRAFT	August-05	2050
	CITY	POP 50
WORLD		9,224,375,956
Growth Rate Annually		0.46
I.-		
USA		420,060,587
Growth Rate Annually		0.70
I.-		
TEXAS		37,720,207
Growth Rate Annually		0.86
I. & II.		
CAMERON COUNTY		647,615
Growth Rate Annually		0.69
I., II. & III.		
Brownsville MPO		381,439
Growth Rate Annually		0.99
I. & IV.		
BROWNSVILLE, TX.		301,304
Growth Rate Annually		0.99
I., II. & III.		
LOS FRESNOS, TX.		15,780
Growth Rate Annually		0.98
I., II. & III.		
RANCHO VIEJO, TX.		3,074
Growth Rate Annually		1.00
I., II. & III.		

APPENDIX IV

Table MTP-1

Category 2 & Category 3 - Metro & Urban Corridors

Note: Figures represent thousands of dollars

Project Name & ID #	Local Funds	Federal Funds	Time Frame
E. Morrison Road	\$400.0	\$5,300.0	S
F.M. 1732 (BMPO-E1) YOE: 2024	\$0.0	\$10,822.9	L
F.M. 803 (BMPO-Y1) YOE: 2014	\$0.0	\$3,217.1	L
F.M. 3248 (BMPO-R5) PROP. 12	\$0.0	\$5,000.0	S *
Subtotal:	\$400.0	\$24,340.0	

Short-Range Subtotal: \$4,100,000.0

Long-Range Subtotal: \$45,000,000.0

Total: \$49,100,000.0

(Cat. 2 funds become available in Year 2014)

Time-frame information is based on (S) indicating Short-Term, (2010-2020); and (L) indicating Long-Term, (2021-2035).

FURTHER EXPLANATION: Category 2/3 Funds will be used to pay off debt service of previous MPO projects up to year 2020. After that date, the MPO staff forecast a 2% increase in Category 2 annual funding due to population growth. Thus, it is expected that an annual allocation of \$3,000,000 in Category 2 funding will become available during the Long-Term (2021-2035) time-frame.

* NOTE: Proposition 12 funds will be used to finance these F.M. 3248 improvements.

ADDITIONAL NOTE: F.M. 803 improvements could be funded (in part) with Category 11 monies to address any shortfall of Category 3 funds. Also, Morrison Road (shown above) may utilize some Category 3 (Federal earmark) funds, along with local funds.

Table MTP-2

Category 10 - Coordinated Border Infrastructure Funds

Note: Figures represent thousands of dollars

Project Name & ID #	Cat. 2/3	CBI	Time Frame
U.S. 281 (BMPO-D2) YOY: 2030	\$8,124.69	\$19,264.36	L
U.S. 281 (BMPO-D3) YOY: 2035	\$7,730.90	\$19,993.70	L
U.S. 281 (BMPO-D4) YOY: 2031	\$5,469.00	\$8,203.60	L
Veteran's International Bridge at Los Tomates (BMPO-LS16)	N/A	\$6,250.00	S
F.M. 3068 (BMPO-) YOY: 2022	\$0.00	\$7,604.90	L
Border Safety (Truck) Inspection Facility (CBI Earmark) - \$9,265.2	N/A	Design & Dev. Tasks Only	S & L
Subtotal:	\$21,324.59	\$61,316.56	
CBI Total Allocation: \$87,973.9			

* NOTE: The Cameron County Regional Mobility Authority is working on making arrangements with TxDOT's Pharr District to undertake needed design work and right-of-way acquisitions for the U.S. 281 Connector. Design expenses for the U.S. 281 Connector will be borne by the CCRMA and/or TxDOT's Pharr District.

* NOTE: Some projects will use both Cat. 2 and Cat. 10 monies.

Table MTP-3

Federal Demonstration Projects
(Transit & Highway Projects)

Note: Figures represent thousands of dollars

Project Name & ID #	Federal Funds	Local Funds	Total
BUS Multimodal Terminal	\$10,000.0	\$19,713.0	\$29,713.0
BUS Transfer Stations	\$1,000.0	\$250.0	\$1,250.0
BUS Facility & Yard Rehab	\$2,750.0	\$550.0	\$3,300.0
BUS Park & Ride	\$500.0	\$125.0	\$625.0
BUS Stop Improvements	\$800.0	\$200.0	\$1,000.0
BUS Revenue Fleet Replacement	\$10,000.0	\$2,500.0	\$12,500.0
Morrison Road (BMPO-V3)	\$1,600.0	\$400.0	See MTP-1
BND (BMPO-BND1)	\$1,000.0	\$1,625.0	\$2,625.0
BND (BMPO-BND2)	\$2,000.0	\$1,000.0	\$3,000.0
East Loop (BMPO-RM4 & RM 5)	\$5,000.0	\$1,000.0	\$6,000.0
Subtotal	\$29,650.0	\$26,363.0	
TOTAL	\$56,013.0		

* NOTE: Federal earmark funds for the Multimodal Terminal were obtained by the Brownsville Urban System in prior years. So, this transit project does not count against the 20 million dollar amount forecast by this MTP. The same rule (above) applies to the Morrison Road improvements.

Table MTP-4

American Recovery & Reinvestment Act
(ARRA) Projects

Note: Figures represent thousands of dollars

Project Name & ID #	Federal Funds	Local Funds	Scope of Work	Total
S.H. 550 Toll Road (BMPO-B7)	\$7,250.0	\$5,303.0	Construct 4 tolled lanes and access	\$12,553.0
S.H. 550 Toll Road (BMPO-B8)	\$23,241.0	\$1,442.0	Construct 4 tolled lanes and access	\$24,683.0
Olmito Switchyard (BMPO-VP1)	\$12,093.8	\$5,455.5	Construct rail improvements	\$17,549.3
West Rail (New rail) (BMPO-T4)	\$6,200.0	Local & Cat. 6 funds \$15,300.0	Construct rail at new location	\$21,500.0
West Rail/Bridge (BMPO-T6)	\$7,502.0	\$1,500.0	Build a rail (int'l) bridge	\$9,002.0

Table MTP-5

(CCRMA) Projects

Note: Figures represent thousands of dollars

Project Name & ID #	TxDOT Funds	CCRMA Funds	Total
East Loop Sec. 2 (BMPO-RM4) YOE: 2015	\$45,502.8	\$15,698.5	\$61,201.3
East Loop Sec. 3 (BMPO-RM5) YOE: 2015	\$30,245.9	\$10,435.0	\$40,680.9

NOTE: Design and development costs, as well as construction costs are shown above. TxDOT funding would be provided via Category 12 Strategic Priority monies, as determined by the Texas Transportation Commission. Overweight truck fees might be used to help pay off bonds used to finance or build the East Loop.

Table MTP-6

Other CCRMA Projects

Note: Figures represent thousands of dollars

Project Name & ID #	Design	Construction	Total
West Parkway (West Loop) BMPO-RM1	\$9,000.0	\$131,000.0	\$140,000.0
SR550 Tollway * BMPO-RM6	\$11,400.0	\$57,000.0	\$68,400.0
SR550 Tollway * BMPO-RM7	\$20,000.0	\$100,000.0	\$120,000.0

NOTE: All of the CCRMA's tolled projects must conform to TxDOT/FHWA Toll Policies, so the Brownsville MPO's inclusion of these tolled projects within the MTP is contingent upon such projects attaining compliance with such policies.

* NOTE: The MPO's MTP lists these two RMA-sponsored projects under the assumption that a CDA will help fund the design and construction of roadway improvements.

Table MTP-7

Miscellaneous MTP Projects

Note: Funds for these projects come from a variety of MTP sources.

Note: Figures represent thousands of dollars

Project Name & ID #	Federal Funds	State/Local Funds	Total
F.M. 3248 (BMPO-R5)		Prop. 12	See MTP-1
Port Connector (to East Loop)	\$0.0	\$1,121.0	\$1,121.0
Olmito Switchyard Improvements (BMPO-VP1) *	\$17,080.4	\$763.3	\$17,843.7
S.H. 48 (BMPO-F3)	\$0.0	(BND) \$8,000.0	\$8,000.0
S.H. 4 (BMPO-I3)	\$0.0	(BND) \$5,000.0	\$5,000.0

* NOTE: The Harlingen-San Benito MPO is providing ARRA funds and other federal and local monies for this project, which is located within the Brownsville MPO's Boundary Area.

Table MTP-10

*Note: Figures represent thousands of dollars

Project Name & ID #	Local Funds	Scope of Work	Time Frame
6th/7th Street (BMPO-P1) **	\$380.0	From Fronton To Mexico Blvd.	S
Railroad Street (BMPO-Q1)	\$400.0	Part of West Rail access	S
Coffee Port Road (BMPO-W2)	\$500.0	Add middle lane near/at intersections	S
Coffee Port Road (BMPO-W4)	\$800.0	Add middle lane near/at intersections	S
West Merryman Road (BMPO-VT3)	\$4,010.0	Establish new roadway	L
Palm Boulevard Realignment (BMPO-VT8)	\$450.0	Move to west/create one-way pair	S
Port Access to S.H. 550	\$5,540.0	BND project to connect internal Port roads to new S.H. 550 tollway	S
Los Fresnos Loop	N/A	Purchase/acquire right- of-way	S-L
TOTAL	\$6,340.0		

** NOTE: This local project will become feasible after the Union Pacific Railroad main line is removed due to completion of the West Rail Project.

NOTE: Please see the MTP spreadsheets for more information about other local projects.

Illustrative Table MTP-11

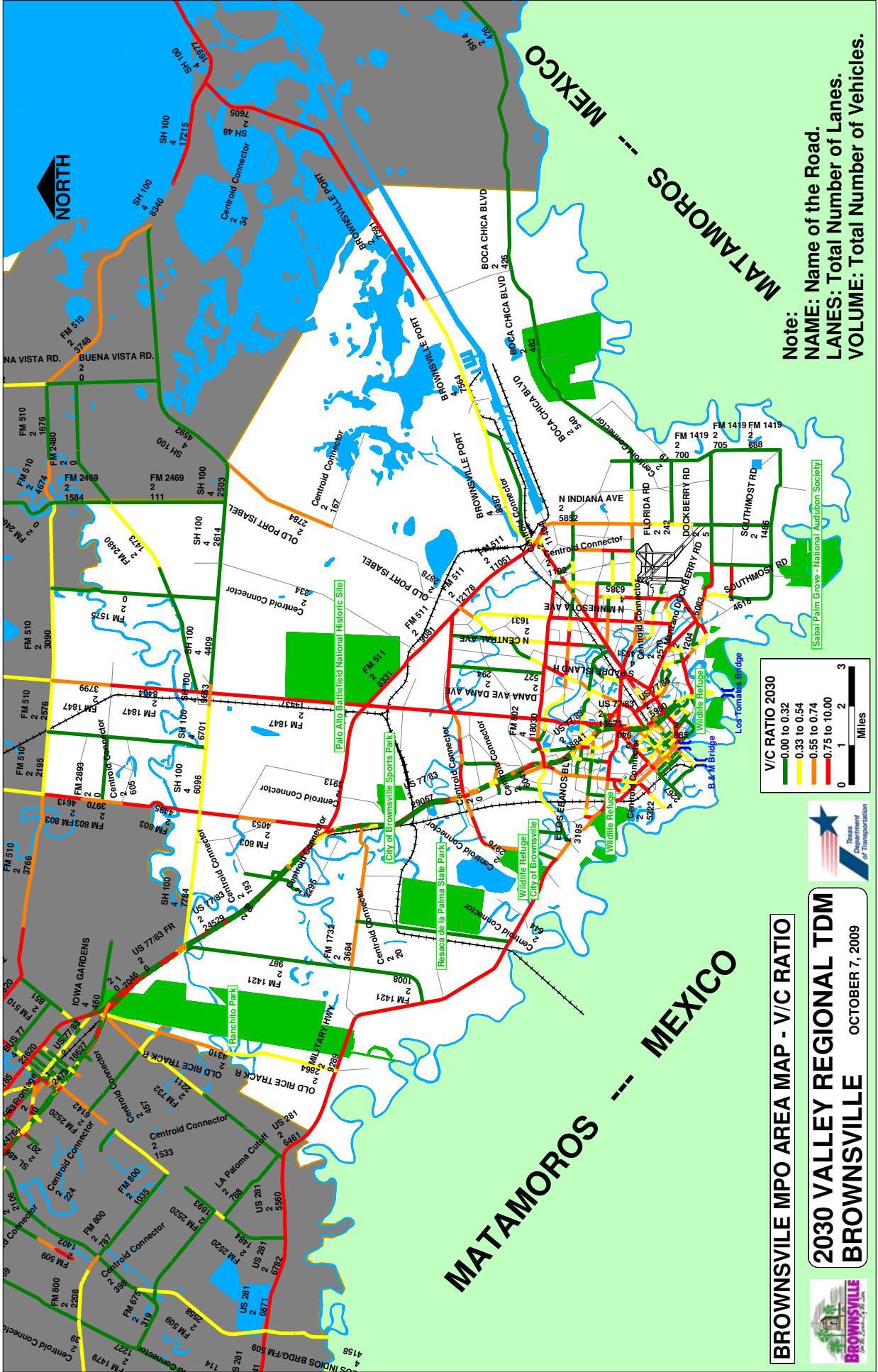
Intelligent Transportation System (ITS) Projects Illustrative MTP listing/Not yet funded

Note: Figures represent thousands of dollars

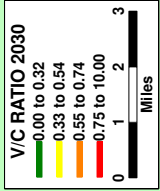
Project Name & ID #	Federal Funds	Total
US 77/83 (BMPO-A1)	\$500.0	\$500.0
US 77/83 (BMPO-A2)	\$500.0	\$500.0
SH 48 (BMPO-F1)	\$500.0	\$500.0
SH 48 (BMPO-F2)	\$500.0	\$500.0
SH 48 (BMPO-F5)	\$500.0	\$500.0

NOTE: These ITS projects might be funded with possible new Federal programs, or other federal sources, such as Category 10. These ITS proposed improvements involve the expense of installation of changeable message signs. This type of ITS equipment presently costs about one-half million dollars per sign. Normally, the MPO staff would add a cost inflation factor for proposed work, which is to occur in the long range time period. However, this type of equipment is very likely to cost less in future years. So, we are showing the same price.

APPENDIX V



Note:
NAME: Name of the Road.
LANES: Total Number of Lanes.
VOLUME: Total Number of Vehicles.



BROWNSVILLE MPO AREA MAP - V/C RATIO

2030 VALLEY REGIONAL TDM
BROWNSVILLE OCTOBER 7, 2009

