Multi-Modal Study

Prepared for

Hidalgo County Metropolitan Planning Organization
Lower Rio Grande Valley Development Council

Final Report
August 6, 2007



Safe Routes to School ™

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1. Introduction

Transportation planning entails the efficient and effective movement of people and goods. Multimodalism can consider the movement of goods between modes, as in between ships and trains and trucks. In the context of the Multimodal Plan for Hidalgo County, the modes under consideration are transit riders, bicyclists and pedestrians.

The development of this plan began with an assessment of the existing conditions for mode users and their facilities. Assessment of these conditions allowed a determination of the needs for facilities and programs for expansion and promotion of the uses o f each of the modes of transportation. Assessment of the modes as an inter-related network of facilities and services highlighted the needs for complementary accommodations and facilities to expand the utility of the individual modes.

The following chapters describe the individual modes – pedestrian, bicycling and transit -in terms of user groups, facilities and needs. The Multimodal Plan is a "living" document that will require updates as the network of facilities advances:

- The planning for the transit system of services is conducted by the agencies themselves and the service provisions are incorporated herein as provided by the agencies. Information on these services and associated facilities should be provided by the service agencies to the MPO for assembly by the MPO into the regional GIS database.
- The pedestrian provisions are an assembly of the sidewalk inventory provided by the cities in the region plus some incorporation of some additional existing facilities noted by WSA during its investigations. The updating and expansion of the database of existing and proposed facilities should continue to be provided by the cities and assembled by the MPO.
- The bicycle facilities presented herein represent the current thoughts of area bicyclists and are an expansion of the currently adopted Bicycle Plan for the region. The recommendations set forth in this Multimodal Plan should be subsequently reviewed by the cities, Hidalgo County, and TxDOT for adoption as the Bicycle Plan Update.

2. Pedestrian Mobility and Safety

2.1 Pedestrians

Pedestrians are people of varying abilities and purposes. They range from very young to quite old, may walk fast or even run or be very slow. All travelers are pedestrians at some point in their journey whether they make the entire trip on foot, walk to catch the bus, or walk from their car to their destination building.

2.2 Pedestrian Destinations

Many individuals chose to walk to their destinations for many reasons whether it is health, exercise, enjoyment, or sense of ecologic responsibility. Some people just enjoy walking, with no particular destination in mind. According the 1990 *Report of the President's Commission on Americans Outdoors*, nearly 100 million Americans age 12 and older (45 percent of the population) walk for pleasure. Popular destinations for pedestrians include nearby commercial areas, parks, schools, libraries, recreation centers, and other residential areas.

Walking is a primary mode of transportation for many persons in Hidalgo County, by necessity. Many individuals do not have access to a motor vehicle during their day, either because they do not own a vehicle (tendency of very low income households), cannot drive a vehicle (youth, impaired or elderly) or because their household vehicle is in use by others.

Typical walking distances for pedestrian trips are under one-quarter mile, with one mile being the limit that most people will choose to walk to a destination. The normal walking speed for pedestrians ranges from 3.0 to 4.0 feet per second. However, over 7 million persons in the United States differ from these norms due to mobility impairments.

2.3 Sidewalks Along Roadways

Properly planned sidewalks and walkways are essential in providing pedestrian mobility, safety and accessibility particularly for persons with disabilities, children and

older adults. Sidewalks reduce the incidence of pedestrian collisions, injuries and deaths that occur in residential areas and along two-lane roadways.

The American Association of State Highway and Transportation Officials (AASHTO) in their Guide for the Planning, Design and Operations of Pedestrian Facilities states that "sidewalks used for pedestrian access to schools, parks, shopping areas, and transit stops and along all streets in commercial areas should be provided along both sides of the street." A sidewalk should be a minimum of 5 feet in width. Sidewalks should be provided with ramps at driveways and street intersections to provide for mobility of pedestrians with ambulatory difficulties. The ramps are also useful for persons with baby strollers, children on bicycles and walkers in general. The new construction of sidewalks in Hidalgo County, especially along TxDOT controlled facilities, abides by these standards when sidewalks are provided.

However, the majority of arterial and collector roadways in Hidalgo County do not have sidewalks along the roadway. Even some new roadways are often built without sidewalks. Often not building sidewalks is considered justified due to lack of current development in the area. Developers often question the need for building sidewalks adjacent to their development when so many other existing developments have not done so. The building of sidewalks should be required adjacent to all new development as part of that development if cities are to ever hope to catch up to the need to retrofit sidewalks along existing roadways. The completion of gaps in sidewalk provisions along roadways should be expedited by the local authority developing policies and procedures to allow them to build the sidewalk and charge the landowner over time for their completion.

2.4 Intersections

"Guidelines for Pedestrian Crossing Treatments" provides general recommendations for pedestrian crossing treatments based on site crossing characteristics (e.g., street width, crossing distance, presence of medians, etc.) as well as vehicle and pedestrian characteristics (e.g., vehicle volumes and speeds, pedestrian volumes and walking speeds, etc.). These guidelines were developed under the Transit Cooperative Research Program (TCRP) and are published as Report 112, available for review at www.trb.org. They classify the possible pedestrian crossing treatments into the following categories:

- Marked crosswalk;

- Enhanced or active devices (e.g., various traffic control devices that warn motorists of pedestrians);
- Red devices (e.g., HAWK beacon or other devices that show a red ball STOP indication);
- Traffic signals (based on the revised MUTCD pedestrian warrant).

In addition to these treatments, the guidelines also address other basic design or traffic calming elements that could be used to improved pedestrian crossing safety regardless of the crossing treatment. A rate of 3.0 feet per second (fps) is to be used to estimate street crossing times for pedestrians at signalized intersections.

2.5 Accessibility Review of Select Areas

A review was conducted of the ADA accessibility of the sidewalks within the central core areas of the cities of Mission, Pharr, San Juan, Alamo and Edinburg, as these are some of the larger cities in Hidalgo County. McAllen was not reviewed as it already has an inventory of its sidewalks and an on-going program of annually budgeted improvements to transition to a fully accessible public sidewalk and facility system.

The following is a summary of the observed needs for sidewalk enhancements to provide for accessibility. Detailed information is contained in **Appendix A**.

Mission: The area reviewed was bounded by Bryan Road, Holland Avenue, Griffin Parkway, and Expressway 83. Overall, the provision of sidewalks in this area is good in the commercial areas of the central area, but lacking in residential areas. There are numerous ramps provided at street crossing. There were 22 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

Pharr: The area reviewed was bounded by I Road, Jackson Road, Expressway 83, and Ridge Road. Overall, the provision of sidewalks is good in the commercial areas and minimal in the residential areas. There were 25 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

San Juan: The area reviewed was bounded by Cesar Chavez Road, I Road, Expressway 83, and 12th Street. Overall, the provision of sidewalks in this area is minimal in the residential areas and okay in the commercial areas. There were two locations identified in need of ramps for the existing sidewalks as they reached the intersection.

Alamo: The area reviewed was bounded by Tower Road, Cesar Chavez Road, Expressway 83, and Ridge Road. Overall, the provision of sidewalks in this area is limited to the Main Street commercial area between 7th and 9th streets. The existing sidewalks have ramps.

Edinburg: The area reviewed was bounded by 18th Avenue, Sugar Road, Freddy Gonzalez Drive, and Schunior Street. Overall, the provision of sidewalks in this area is good in both the commercial and residential areas. There were 38 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

All future sidewalks should conform to the current ADA Accessibility Guidelines (ADAAG) of the U.S. Architectural & Transportation Barriers Compliance Board (the Access Board).

2.6 Safe Routes to School (SRTS)

SRTS, contained in the 2005 federal transportation bill SAFETEA-LU, is intended to enable school children to walk or bike to school in a more safe and secure environment and to provide a healthy alternative to riding the bus or being driven to school. The legislation makes available $612 million in federal funds nationwide over five fiscal years. Each state receives a portion of the funds based on its percentage of the national total of school-aged children in grades K-8. Texas anticipates receiving approximately $40 million in SRTS funding between 2005 and 2009. In addition to new federal funds, Texas law dedicates revenue from two specialty license plates, God Bless Texas and God Bless America, to the Safe Routes to School Program. To date, sales of these plates have generated about $482,000 that will also be used for STRS.

House Bill 2204 established the Texas SRTS program in 2001, which is managed through the Traffic Operations Division of TxDOT. The new federal program is similar to the original Texas SRTS program with three notable differences:

1) Unlike the original SRTS program which required a local or TxDOT 20% match, the new SRTS program is a 100 percent federally funded cost reimbursement program, which means that no local match is required.
2) The new SRTS program is limited to schools serving grades K-8.
3) A minimum of 10 percent and a maximum of 30 percent of the states allocation is available for non-infrastructure-related activities such as education, encouragement and enforcement.

Promoting walking and biking among school children generates numerous benefits, including encouraging physical activity and a healthy lifestyle, as well as reducing

dependency on school buses and carpooling. With fewer vehicles on the road, particularly in school zones, roads are made safer. In addition, less traffic means there are fewer greenhouse gas emissions released into the atmosphere, providing an environmental benefit to Safe Routes to School programs, in addition to safety.

The project must be located within a two mile radius of a school. Federal funds requested will be limited to $750,000. Projects can cover multiple school sites if similar work is performed at each site. Infrastructure work eligible for funding includes:

- Sidewalk improvements
- Pedestrian/Bicycle crossing improvements
- On-Street bicycle facilities
- Traffic diversion improvements
- Off-Street bicycle and pedestrian facilities
- Traffic calming measures for off-system roads

SRTS programs enable and encourage children, including those with disabilities, to walk and bicycle to school. The programs make walking and biking to school safe and more appealing. SRTS projects and activities improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of elementary and middle schools (grades K-8). Communities will be able to use the funds to address hazards and slow traffic on roads that serve schools, as well as to build pathways, bike lanes and sidewalks near schools.

Each year of the SAFETEA-LU, TxDOT plans to issue a call for projects for communities to put for their candidate projects for funding. Further information and application forms for Safe Routes to Schools are available at:

http://www.dot.state.tx.us/services/traffic_operations/safe_routes_to_school

2.7 Design of Sidewalks

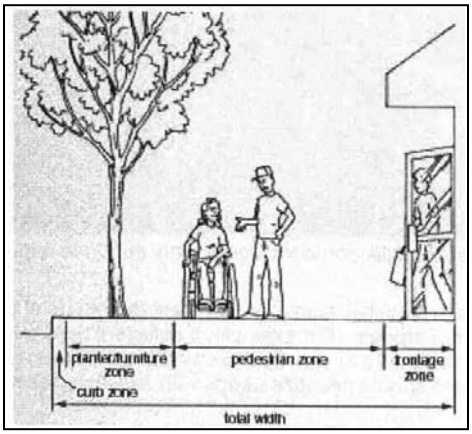
A sidewalk is physically separated from an adjacent roadway by open space, a curb or a barrier. It can be paved or unpaved, though a majority of sidewalks are paved with concrete. Public sidewalks generally are placed parallel to a roadway within the public right-of-way for a street corridor. The space between the edge of the roadway and the edge of the right-of-way is typically shared by sidewalk pavement, sign posts, utility lines

and fixtures, and landscaping, and any street furniture such as benches, mailboxes, and the like. Sufficient space should be allocated beyond the edge of pavement for all planned improvements.

The total width of the sidewalk corridor beyond the face of curb or edge of pavement of the roadway should be thought of in terms of three separate zones:

1. **The Landscape/Furniture Zone** – This area will need to be wide enough to contain all needed street signs, landscaping and any benches, bus stop shelters and street lighting. The width of this zone should be at least 2 feet, not including the width of the curb, to buffer the pedestrian zone from the travel lanes. When parking is provided between the travel lane and the pedestrian zone, the 2-foot minimum width is needed for a buffer against opening car doors. This zone can be completely paved if so desired. When landscaping is planned for this zone, a minimum of 4 feet should be provided.

2. **The Pedestrian Zone** - This zone should be a minimum of 5 feet in width. For very active pedestrian areas, such as in the downtown area and adjacent to school campuses, this zone width should be increased to a minimum of 8 feet. Should an obstacle in the pedestrian zone be unavoidable, there must be a minimum of 36 inches of passable space throughout this zone. Any utility access covers in the zone should be set flush with the pavement and maintained as such, with slip-resistant cover plates and any openings smaller than one-half inch diameter.



3. **The Frontage Zone** – This zone provides needed buffer between the pedestrian zone and obstacles at the property edge. For sidewalks adjacent to parks, property setbacks, and other permanent open space, this zone can be eliminated. For fence lines and building edges placed on the property line, a minimum of 1 foot should be provided for this zone. Vegetation along the property edge should be required to be trimmed back off the public right of

way by the adjacent property owner. For sidewalks along storefronts with doors opening into the sidewalk corridor, two feet of width should be provided.

Utility requirements should be considered in regard to how they will be placed within each of these three zones, and any specific space requirements added to the overall width of the sidewalk corridor.

Slope requirements are as stated for multi-use paths, but become more crucial for the sidewalk environment. Ramps at intersections should direct the pedestrian toward the receiving sidewalk corridor on the opposite side of the street, regardless of whether a sidewalk has been paved.

2.8 Trails

A well-utilized public walking, jogging, and bicycling trail currently exists in McAllen along the drainage canal parallel to Second Street (Colonel Rowe) from US 83 north to Trenton Road and , using a short segment of sidewalk continues south of US 83 to 10th Street. Another trail in McAllen runs along Bicentennial Boulevard from US 83 north to Nolana Loop and south to 10th Street with connection to the 2nd Street trail with sidewalk connections across the bridge over US 83. These two facilities use roadway medians, roadway edge right of way and drainage ditch right of way to create a greenway corridor. More of these types of facilities would be welcome additions to the quality of life in Hidalgo County.

The previously conceived Hidalgo County Bike Plan and some local city parks and open space plans identified many of the drainage canals as locations for open space preservation, conservation, and trail development. The development of these plans will require the cooperation of the local drainage and irrigation districts. Many local communities are currently collaborating with these authorities on trail projects. Construction of the trail will require a significant investment in pavement as public trails tend to be hard surface, either asphalt or concrete, but some more permeable surfaces such as gravel and stabilized soil may be built.

A system of trails has been proposed as part of this current plan to expand upon the previous concept of off-street trails, as well as on-street bikeways, to connect to local bicycle and pedestrian destinations. These are described in **Appendix C** of this report and shown graphically on the **Bikeways** poster that accompanies this report.

2.9 Recommendations

There are various sidewalks that should be considered to be provided in the future for access to transit stops and significant pedestrian destinations such as schools, libraries, shopping and recreational facilities. Some of these proposed sidewalks are represented in the poster figure entitled **Sidewalks** that accompanies this report.

A program of policies, projects and further studies should be implemented to make this vision of a more walkable community come to fruition:

1. Adopt the AASHTO Guide for the Planning, Design and Operations of Pedestrian Facilities as the regionally and locally adopted guidelines for planning and design of public right of way to incorporate pedestrian movements along a corridor.
2. Develop and implement an Accessibility Transition Plan for each of the cities in the region to bring the sidewalks in the public rights of way up to standards.
3. Systematically, conduct studies of pedestrian accident types and the locations of these accidents and compile information on sites with unsafe pedestrian and motorist behavior.
4. Once formal transit stops have been established along the Rio Transit and Rio Metro routes and along the remainder of the McAllen Express routes as a result of assessments of popular loading points, an assessment should be made of the Safe Route to Transit. Needed waiting areas and sidewalks to connect the origins and destinations of transit riders should be considered as a necessary part of the entire transit trip.
5. Every elementary and middle school should assess the student collection area of its school to identify primary access ways for walking to school within a one-half mile walking distance. Needed sidewalks and significant street crossing safety enhancements should be identified and these needs nominated for funding. Local agencies should consider allocating local school district funding, city Capital Improvement Program and other monies to systematically address these needs.

The portions of regional trail system that provides access to schools should be given higher priority toward completion.

6. The Hidalgo County MPO should encourage and coordinate the efforts of the cities in Hidalgo County to apply for funding through the Safe Routes to School program administered by TxDOT.
7. The Hidalgo County MPO should encourage the adoption of sidewalk policies and procedures and/or ordinances and local roadway design standards in each city to require sidewalk or trail provisions for pedestrians along collector and arterial roadways, at least along one side but preferably along both sides of the roadway. Sidewalks along local roadways may not be required but are encouraged to enhance the walkability of neighborhoods. Pedestrian connectivity between adjacent neighborhoods and between neighborhoods and public and private development should be promoted to encourage walking to destinations.
8. The Hidalgo County MPO should encourage Hidalgo County and the Texas Department of Transportation to build sidewalks along all new roadways and all significant roadway improvement projects that have adjacent developable land that is targeted for development.
9. The pedestrian provisions are an assembly of the sidewalk inventory provided by the cities in the region plus some incorporation of some additional existing facilities noted by WSA during its investigations. The updating and expansion of the database of existing and proposed facilities should continue to be provided by the cities and assembled into the regional GIS database by the MPO.

Bicycle Riders

Bicyclists are of a variety of skill levels and tolerance for riding with motor vehicle traffic.

- **Advanced Riders** – Advanced bicyclists include those who ride their bicycles to get to local destinations (utilitarian cyclists) and those that ride bicycles longer distances for endurance training (sport cyclists). Even among these advanced riders, there are varying levels of skill riding in mixed traffic. Sport cyclists prefer riding long uninterrupted routes away from traffic as much as possible though shoulders on busy roadways are acceptable. Utilitarian cyclists prefer to be able to get to their destinations in the most direct route as possible and tend to be more street wise in their riding.
- **Basic Riders** – Basic riders are those that ride a bicycle occasionally and would prefer not to get in mixed traffic. They might consider riding along a roadway shoulder or in a designated bike lane, but would tend to prefer a trail separated from motor vehicles.
- **Child Riders** – Children under the age of 12 generally have difficulty judging the speed of traffic and controlling the precision of their riding. Thus, child cyclists should only ride on local roadways or on trails. Very young children may be most comfortable on local sidewalks, but will be hazardous to pedestrians sharing the sidewalk.

Bicyclist Destinations

Bicycling destinations for child and basic riders can be similar to those of pedestrians and include nearby commercial areas, parks, schools, libraries, recreation centers, and other residential areas. Also similar to pedestrians, bicyclists can also just be out riding for exercise or enjoyment without have a particular destination in mind.

However, rather than a range of up to a mile, bicyclists can travel much further. On a 20 to 30 minute journey at a reasonable pace, a bicyclist can cover 3 to 5 miles or more. Bicyclist on a training ride for exercise and conditioning may cover 20 miles or more in

one outing. Bicyclist on these longer distance journeys are looking for long, continuous routes that they find available on suburban and rural roadways preferably with shoulders. But there are also utilitarian bicyclists who enjoy using their bicycle to get to destinations like their work, shopping, or social events on journeys of 3 to 5 miles or more and may be found riding on roadways in the urbanized areas.

Bicycle Facility Types

Bicycle facility types include trails, shoulder lanes on roadways, bike lanes, wide curb lanes and simply sharing the roadway lanes provided on either designated bike routes or undesignated streets.

Trails – Trails, or multi-use paths as they are called in the AASHTO Guide for the Development of Bicycle Facilities, are prepared linear surfaces that are separated from the roadway. They can be in the roadway right-of-way but separated from the travel lanes of the roadway by a buffer area of at least 5 feet, appearing essentially as a wide sidewalk. Or they can be in another kind of right-of-way such as a drainage corridor, utility (electrical, water, sewer, gas pipeline, or other) corridor or through a park or other greenway. The surface of the trail can be of concrete, asphalt or even gravel or stabilized earth depending on the target users, maintainability and other attributes of the facility. With of the trail is typically 10 feet, though wider trails are provided for higher intensity and mixture of users. The provision of a trail can cost between $200,000 and $500,000 per mile or more depending on right-of-way needs, and the design of the facility.

Shoulder Lanes – An existing roadway with a paved shoulder is an attractive place for bicyclists to choose to ride, though these roadways often have speed limits in excess of 50 miles per hour. Many of the rural arterials, primarily those with shoulders greater than 8 feet in width, could be designated as bike routes after careful consideration of safe bicycle accommodations at intersections. Generally, the shoulders should be constructed with the roadway as a safety treatment as well as to accommodate bicyclists. Retrofitting an 8-foot shoulder to an existing roadway could cost $100,000 per mile or more per direction if space is available.

Bike Lanes – Similar to shoulder lanes, a bike lane is a portion of the roadway pavement adjacent to a travel lane and separated from the travel lane by a white stripe. Several shoulder lanes in Hidalgo County have been designated as bike lanes. Bike lanes

should be a minimum of 5 feet in width, from travel lane edge to the pavement edge, curb face, or pavement joint at separate curb & gutter. If travel speeds in the adjacent travel lane exceed 35 miles per hour, the width of the bike lane provided should increase, by about one foot for every 5 miles per hour up to a minimum of an 8' wide lane for speeds over 50 miles per hour. Re-striping an existing roadway to add bike lanes can cost $20,000 to $80,000 per mile depending on the extent of the change in configuration.

Bike Routes – When travel speeds on the roadway are 35 miles per hour or lower, consideration can be given to having bicyclists and motorists share the provided roadway travel lanes on a designated bike route. For all but local and minor collector roadways, a wider curb lane of 14 to 15 feet in width should be provided to allow motorists to pass bicyclists without changing lanes. A two-lane roadway of 30 feet or more in width, with relatively low traffic volumes and travel speeds would be a good candidate for a bike route. When roadway pavement and right of way are constrained, re-striping an existing roadway to narrow the inside lanes to provide a wider outside lane would be a potential treatment, as long as posted speeds are not over 35 miles per hour. For more aggressive roadway traffic conditions, striped bike lane would be preferred. The cost of erecting bike route signs is typically less than $5,000 per mile.

Shared Roadways (undesignated) - A bicycle is legally recognized by the State of Texas (and many other states) as a vehicle, with all the rights and responsibilities for roadway use that are also provided to motor vehicles. As such, cyclists can legally ride on any of the streets in Hidalgo County, except those specifically precluding them such as could be established along controlled access highways. However, certain roadways are more attractive to riders than others.

Basically, local and minor collector streets can be suitable for use by most adult bicycle riders, as long as traffic volumes are not high and speeds are less than 35 miles per hour. Arterial streets typically carry higher traffic volumes with speeds of 35 to 45 miles per hour, and are used by only the more skilled and assertive bicyclists. Rural arterials with shoulders and/or very low traffic volumes attract cyclists that are interested in longer-distance travel with fewer interruptions (stops).

Sidewalks – Only child bicyclists should ride on sidewalks of less than 8 feet in width, and should yield to all pedestrians.

Existing Bicycling and Bikeable Facilities

Two existing trail facilities in McAllen are very visible and popular. The trail along Centennial Boulevard runs north and south from US 83 between Nolana Loop and 10th Street, with sidewalk connections across US 83. The trail along 2nd Street/Colonel Rowe runs north and south of US 83 between Trenton Rd and 10th Street. Recently, a trail was constructed in Mission, from a trailhead at Conway Rd and Trinity Rd to Bentsen Park using a variety of open space and roadside trail alignments. Some local trail facilities are provided within parks without connection to a larger network of trail facilities. These local trails have been noted where information has been provided and serve as a destination for both pedestrians and bicyclists.

There are approximately 240 miles of existing roadway with minimum 8-foot wide shoulders. Many of these are outside of the urbanized areas of Hidalgo County. The local bicyclists and bicycle club riders make extensive use of these facilities.

Many miles of former 2-lane roadways with shoulders have been re-constructed within the last few years as 5-lane roadways without accommodations for bicyclists. This trend must be amended to include accommodations for bicyclists in the roadway design.

Proposed Future Facilities

The proposed system of on-street and off-street facilities is shown on the poster entitled **Bicycle Facilities** that accompanies this report. It includes approximately 470 miles of existing and proposed future facilities. A detailed listing of the existing and proposed on-street and off-street facilities is included in **Appendix C**. Highlights of the proposed improvements include:

- **An extended network of roadways with shoulders.** As the thoroughfares of the region are improved to accommodate future development, the roadways should be constructed with shoulder lanes or bike lanes.
- **Continuity of existing roadway accommodations for bicyclists.** In some cases a shoulder lane appeared to be a feasible connecting treatment. But more often, the connection continued through a right-of-way constrained developed area. In those cases, either bike lanes or a designated bike route using wide curb lanes was proposed through the re-striping of existing roadway pavement, narrowing

existing 12-foot travel lanes to 11 feet in width (sometimes referred to as a Road Diet. Other road diet treatments include converting 4-lane streets to two lanes with a center turn lane and bike lanes). If speed limits on these roadways are in excess of 35 miles per hour, they would be reduced to 35 miles per hour. Some roadways identified for continuity treatments would be better posted at 30 miles per hour.

- **Additional trail network.** An extensive system of trails was proposed in the previous bicycle system plan and in the plans of various cities using the drainage corridors and irrigation ditches. These were incorporated into this plan. Highlights of the trail network include:
    - the Floodway Trail which extends from Mission to Mercedes along the floodway north of Military Highway and south of US 83,
    - Business 83 Trail which would extend from downtown Mission to downtown Mercedes, passing through the central areas of McAllen, Pharr, San Juan, Alamo, Donna, and Weslaco and connecting to the Floodway Trail at a point west of Mercedes. The trail would be constructed between the railroad tracks and the edge of pavement generally along the north side of Business 83, as illustrated in the figure in **Appendix C**. Additional room for the trail along the north edge of the roadway is proposed to be made available by eliminating some or all of the 10-foot wide shoulder/parking lane (typically) along the south side of Business 83 and re-striping the roadway further away from the railroad tracks. A sidewalk would also be provided along the south side of Business 83 in developed areas with an urban roadway section.
    - McAllen to Edinburg Trail would connect the north end of the 2nd Street/Colonel Rowe Trail into Edinburg just south of the Pan American University.
    - Local area trails and connections to the larger trail network, such as the Weslaco Trail that would connect a central city park to the city's regional park and new Birding Center and the Floodway Trail.

- **Wayfinding.** Signage and information kiosks help to inform facility users of available facilities and nearby destinations including support and emergency services.

Recommendations

There are many improvements that could be implemented to increase the mobility of bicyclists and to enhance the safety and comfort level of bicycling activities. These include:

1. Adopt the most recent version of the AASHTO Guide for the Planning and Design of Bicycle Facilities as the regionally and locally adopted guidelines for planning and design of public right of way to incorporate bicycle movements along a corridor.
2. Systematically, conduct studies of reported bicycle crashes and the types and locations of these accidents to develop appropriate mitigative measures to reduce bicyclist collisions with motor vehicles. Compile information on specific sites with unsafe bicyclist and/or motorist behavior and take measures to alleviate these behaviors through re-design, warnings or education.
3. The Hidalgo County MPO should encourage the further development of the trail network in Hidalgo County.
4. The Hidalgo County MPO should encourage and coordinate the efforts of the cities in Hidalgo County to apply for funding through the Safe Routes to School program administered by TxDOT.
5. The Hidalgo County MPO should encourage the adoption of sidewalk ordinances and local roadway design standards in each city to require sidewalk or trail provisions for pedestrians along collector and arterial roadways, at least along one side but preferably along both sides
6. The Hidalgo County MPO should encourage Hidalgo County and the Texas Department of Transportation to build shoulders along all new roadways and shoulders or bike lanes along all significant roadway improvement projects in Hidalgo County, where these roadways would serve bicyclist destinations or provide significant connections across barriers. Shoulders and bike lanes should be maintained in good surface condition and regularly cleared of debris.

7. As development progresses in the region, and the thoroughfare plan for the region changes, it may be necessary to intensify the motor vehicle accommodations on any roadway which may change the appropriate bicycle accommodation in that roadway corridor. One example of this occurrence would be the Nolana Loop, which in the future may be widened to a six-lane facility and the appropriateness of the existing shoulder lanes and proposed bike lanes and shoulder lanes re-examined. In that case, an alternative accommodation to allow access to the development along Nolana Loop (such as accommodations along crossing roadways or a trail along the roadway) should be considered and alternative parallel corridors should be examined for provision of bicycle facilities.
8. The bicycle facilities presented herein represent the current inventory of bicycle friendly streets and desires of area bicyclists and are an expansion of the currently adopted Bicycle Plan for the region. The recommendations set forth in this Multimodal Plan should be subsequently reviewed by the cities, Hidalgo County, and TxDOT in concert with representatives of the bicycling community in the region for adoption as the Bicycle Plan Update.

Transit Rider Mobility

Transit Riders

People of all ages and walks of life use public transportation, commonly called transit. Predominantly, transit riders are those that cannot drive a car (youth, elderly or physically prohibited), or either do not own a car or don't have access to a car during the day. But there are those persons who choose to ride transit as their preferred mode of transportation when it is available to serve their needs.

Transit Services Provided

Hidalgo County is served by several transit agencies that provide fixed route service. These services are shown on the poster Transit Services that accompanies this report. (There are also demand responsive services that are not a subject of this plan.)

- In McAllen, the McAllen Express operates nine fixed routes in daily service out of a central transit transfer station. This station also serves as a hub for regional and international bus services. There are currently some 30 bus stop shelters at busier stops, with more shelters budgeted for the upcoming year and more planned thereafter as ridership increases.
- Rio Metro serves the developed areas of the metropolitan areas other than McAllen with daily service. In general, there are several designated bus stops but the routes are flexible routes and the route can deviate at any given time so it might skip a section of the Route due to the deviation. The cities of Edinburg, Mission, Pharr, and Mercedes will soon have bus stops and shelters, but not until the Fall of 2007.
- The Rio Transit is a rural route daily bus service. There are no designated bus stops because people can board anywhere the bus runs.

Service hours and routes are regularly being adapted to customer demands by the Lower Rio Grande Valley Development Council transit staff for Rio Metro and Rio Transit and by the City of McAllen transit staff for McAllen Express.

Pedestrian Access to Transit

Sidewalks to access points to reach transit services and a paved surface to stand, benches to sit on and shelters for shade at a bus stop are greatly appreciated by transit riders. As the transit system in Hidalgo County matures beyond the basic provision of service, these rider amenities should be given greater attention.

Bicycle Access to Transit

None of the buses in either of the three fixed route bus service systems have bike racks, due to the perceived lack of demand for them. All future bus acquistions for Metro Express, Rio Metro and Rio Transit should include a factory installed bike rack. Meanwhile, bike racks should be retrofitted onto all existing Rio Metro and Rio Transit buses due to their more remote collection areas, and considerations should be given to adding bike racks to all existing McAllen Express buses as well.

The Rio Transit system is considering the addition of bike racks to expand the service area of its rural transportation system, and are currently working with an independent association to secure a grant for the bike racks. The McAllen Express has had concerns about the cost of the bike racks and the time it takes to load and unload a bicycle on the rack. The cost of having a bike rack installed on a new bus is between $3,000 and $5,000, less than 1% of the cost of a new bus. Retrofits of bike racks onto existing fleet buses can usually be done by fleet maintenance crews. Instructional videos are availabe from a major bike rack manufacturer, Sportworks, that show how easily bikes can be loaded and unloaded on bike racks, taking about 20 seconds per bike. For more information, go to www.sportworks.com.

Recommendations

There are many improvements that could be implemented to increase the mobility of pedestrians and to enhance the safety and comfort level of pedestrian activities. These include:

1. Once formal transit stops have been established along the Rio Transit and Rio Metro routes, as a result of assessments of popular loading points, an assessment

should be made of the Safe Route to Transit. Needed waiting areas and sidewalks to connect the origins and destinations of transit riders should be considered as a necessary part of the entire transit trip.

2. All buses in the McAllen Express, Rio Metro and Rio Transit fleet should be equipped with bike racks for carrying bikes on the exterior of the buses. Bike racks should also be considered for regional bus services that serve Hidalgo County, such as the Harlingen Express, to increase the collection area of these services at both ends of the transit segment of the trip.

4. Multimodal Coordination and Implementation

Summary of Needs

The review of the pedestrian, bicyclist and transit rider issues in the region, as described in the previous chapters, highlighted the need for the following courses of action:

- **Adopt the Multimodal Plan for the region -** without a plan, public and private investments in pubic rights of way may be built without accommodation of bicyclists and pedestrians
- **Advance Safe Routes to Schools projects each year** – attending to the safe non-motorized access to schools will reduce congestion at the school driveways and access roadways and promote the health and vitality of the community
- **Require ADA Transition plans for cities** – this is needed to meet the federal mandate for accessibility of public right of way
- **Develop a neighborhood oriented sidewalk system** – cities need develop and enforce subdivision regulations that require sidewalk provisions and connections to adjacent development, and civic leaders need to work with developers to encourage their role in the development of the community as a whole providing connections for existing and future mobility of pedestrians and bicyclists
- **Enhance bicycle and pedestrian access to transit** – now that the transit system is maturing, attention should be given to the conditions at the stops, sidewalk access to the stops, and provision of bike racks on the buses to enhance access and usability of the system
- **Retain and expand the system of on-street bikeways** – extend current bike lanes to connect to important destinations or other bicycle facilities, make accommodations for urban bicycle passageways through the developed environment, and accommodate bicyclists and pedestrians in the linear right of way that also accommodates motor vehicle facilities.

- **Advance the development of multi-use paths** – paths are an excellent addition to the quality of life in the region and can connect neighborhoods and adjacent communities as well as access commercial and recreational facilities.
- **Institutionalize bicycle and pedestrian planning in local and regional planning, design, construction and maintenance** – too often no one is responsible for seeing that non-motorized needs are tended to during the design and development process and their conditions are worsened without realizing it.
- **Develop a wayfinding system for the network of trails and on-street bicycling** – provide signage and information kiosks to inform facility users of available facilities and nearby destinations including support and emergency services.

Action Plan for a Multimodal Future

Following this basic framework, a plan for implementation of the Hidalgo County Multimodal Plan is described in the following paragraphs. Draft policy statements are also presented as a model for possible future establishment of written public policy on bicycle and pedestrian accommodations.

Action Area 1. Organize a Bicycle/Pedestrian Program

The Hidalgo County MPO should formally establish a Bicycle and Pedestrian Advisory Committee (BPAC) consisting of representatives from each of the urbanized cities and the two counties, and should meet regularly to discuss regional coordination and common issues. The committee should meet regularly to follow-up on overseeing the implementation and further refinement of the Plan of their cities.

Action Item 1.1 Institutionalize the Role of Bicycle/Pedestrian Program Coordination within Local Government - The MPO, county and city staff members, including Planning and Development, Public Works/Engineering and Parks Department staff, are responsible for planning and implementing projects that impact walking and bicycling in the community. Within these departments, the role of bicycle/pedestrian program coordination should be assigned to one or more persons. Ideally, the role would eventually be "institutionalized," becoming part of the planning, design, construction, and maintenance concerns of all responsible agencies. The following responsibilities, as a

minimum, should be addressed by designated persons with authority to give advice or to take action on these matters:

- Review subdivision plats and street improvement plans for the potential to provide accommodations of bicyclists and pedestrians for internal and external connections to adjacent development. Enforce requirements without variance;
- Administration of bicycle parking equipment permits and requests;
- Oversee installation of bicycle sensitive traffic loop detectors, pedestrian access ramps, traffic signal indications, and median refuge areas;
- Request funding from city, state, county, and regional sources;
- Direct street and trail maintenance requests to proper department;
- Review Hike & Bike trail locations and designs for connections to local destinations and proper termination as trailhead to allow parking and local on-street bicycle and sidewalk connections;
- Record and analyze bicycle traffic counts;
- Record and analyze accidents involving pedestrians and bicyclists;
- Develop public service announcements and distribute safety and promotional literature;
- Work with the local Hidlago County transit service to provide appropriate bicycle and pedestrian connections from bike routes and trails to transit stops and stations, and to promote bicycle-on-bus programs; and,
- Review design and location of extensive utility projects for the potential to incorporate multi-use paths in design.

Action Item 1.2 – Promote Land Use Patterns and Zoning that Encourage Walking and Bicycling to Destinations - Local and use patterns are fundamental to the number of trips that can easily be made by walking or bicycling. Sprawling land use patterns produce lengthy trips, and thus increased dependence on motorized transportation. Conversely, clustered patterns tend to promote shorter trip lengths that more readily enable walking and bicycling. Mixed land uses allow for the creation of self-sufficient neighborhood communities and shorter trip lengths to access needed goods and services.

City planning officials and staff should review the assumptions of land use plans and zoning ordinances and compare them to non-motorized travel needs identified in user surveys. Zoning requirements should be reviewed to ensure that they are bicycle and pedestrian-friendly. For example, a requirement for bicycle parking (in addition to requirements for off-street motor vehicle parking) may be added by ordinance. The City of Dallas has a representative bicycle parking ordinance that could be adapted for use in the Hidalgo County MPO planning area.

Example policy statements that could be adopted by the MPO and member cities are included in **Appendix D**.

Action Item 1.3 – Promote Bicycle- and Pedestrian-Friendly Urban Development and Design that Facilitate Walking and Bicycling - Street layout is important in the encouragement of safe bicycling and walking. Subdivision development guidelines that call for sidewalks, green space, local trail networks, and collectors that connect across arterial streets can greatly improve the environment for safe and efficient bicycling and walking. Street alignments shown in new subdivision plats should be reviewed to ensure they will accommodate cyclists and pedestrians as well as motor vehicles. Concepts for addressing pedestrian districts and potential ordinances for filling gaps in the sidewalk system are included in **Appendix E**.

Action Item 1.4 – Adopt Public Right-of-Way Design Standards that Accommodate Bicycling and Walking - Standards and guidelines for designing streets and sidewalks to accommodate bicycle and pedestrian travel are critical to bicyclists and pedestrians. Pedestrian and bicycle considerations should be incorporated into local planning and design policies, manual, and standards. As a minimum, the planning for public streets and facilities should follow the Guide for the Development of Bicycle Facilities and the Guide for Guide for the Planning, Design and Operations of Pedestrian Facilities prepared by the American Association of State and Highway and Transportation Officials (AASHTO).

Pedestrian-oriented design of all sidewalks, trails, and public places should comply with requirements of the Americans with Disabilities Act of 1990. Non-compliance with these standards and guidelines should be by exception, just as any other established design standard.

Action Item 1.5 - Educate Planners, Local Enforcement Officers, Designers, and other officials - An important element in the institutionalization of non-motorized transportation is a growing infrastructure of supportive professionals within government agencies, including the engineers and planners who conceive and implement much of the city's infrastructure. Coordination between transportation offices and a broad spectrum of public agencies will help to ensure that the needs of bicyclists and pedestrians are addressed, not only during project development, but in project improvements and maintenance as well.

Action Area 2. Plan and Construct Needed Facilities

The Hidlago County metropolitan planning area, in compliance with federal and state regulations under SAFETEA-LU, has a long-range transportation plan that incorporates a bicycle and pedestrian element. This Multimodal Plan is a further refinement of that element. Just as the city planning and engineering staff and local elected officials look to the long-range plan for guidance on the development of the roadway network, so too should the Multimodal Plan be referenced and assessed for needed facilities.

Action Item 2.1 – Adopt a Bicycle and Pedestrian Plan - Bicycling and walking information on local desired facilities and destinations are needed to justify projects, to track trends, and to measure success. Beaten footpaths are indicators of pedestrian desire lines. High accident locations may indicate significant conflicts and/or high use. Studies of access routes to known bicycle and pedestrian destinations can lead to insight on needed improvements. The map of proposed bicycling facilities for the Hidlago County MPO area was developed from discussions with local community staff and intersected area bicyclists. The cities within Hidlago County should adopt and update their portion of the regional bicycle and pedestrian plan. The Hidalgo MPO should form a Task Force consisting of the urbanized cities, Hidalgo County, TxDOT and area bicyclists to review the recommendations for bicycle facilities in this Multimodal Plan with the intent of formally adopting an Updated Bicycle Plan for the region. A Task force should similarly review the recommendations for bicycle facilities in this Multimodal Plan and formally recommend adoption of a Pedestrian Plan for the region.

Action Item 2.2 - Identify/Coordinate Funding Sources - The Hidlago County MPO should work in conjunction with Texas Department of Transportation (TxDOT) to plan and program funding opportunities, especially those available under SAFETEA-LU and its successor programs. Bicycle and pedestrian facility projects and non-construction programs may be funded under a variety or multiple of funding sources, both at a federal/state level and on the local level, as shown in **Tables 2 and 3** at the end of this chapter. Bicycle and pedestrian projects are eligible to compete with other highway/motorized projects under the state's Surface Transportation Program, if that is the current priority of the community. It is imperative that the selection criteria and timelines of each of these funding sources be fully understood in order to make advantageous use of their availability.

The counties, cities and MPO should work in coordination with TxDOT to achieve the implementation of planned and proposed bicycle and pedestrian facilities along State Highways, Farm-to-Market Roads, and other state maintained roadways.

The Bicycle/Pedestrian Program should be established with a dedicated source of local funding, to be supplemented as needed to take advantage of matching fund opportunities. A baseline level of expenditures should be budgeted annually for needed improvement, and the expenditures guided by local authorities and the BPAC.

Volunteer programs may substantially reduce the cost of implementing some of the proposed trails and pathways. Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right-of-way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations ‘adopt’ a bikeway and help construct and maintain the facility.

Action Item 2.3 – Construct, Improve, and Maintain Facilities - Usable facilities must be in place in order for bicycling and walking to be promoted as a viable transportation option. On-road bicyclist facilities, multi-use paths, and sidewalks form the bulk of the circulation system for bicyclists and pedestrians.

Future road widening and construction projects are one means of providing bike lanes and pedestrian infrastructure. To ensure that roadway construction projects provide

bike lanes where needed, appropriate and feasible, it is important that an effective review process is in place so that new roads meet the standards and guidelines recommended in the Hidlago County MPO Multimodal Plan.

As the initial phase of facility development, it would be most prudent to focus local resources on implementing the lower cost measures to accommodate bicyclists and pedestrians. Lower-cost measures for bicyclists include the signing of bike routes, designating shoulder lanes, and striping of bike lanes, with specific attention to intersection treatments. Lower-cost pedestrian measures include sidewalk repairs, completing missing segments of sidewalks, and removal of sidewalk obstructions due to vegetation and street "furniture" (relocating newspaper stands, sign posts, etc). Matching funds should be sought to aid in the development of higher cost improvements. Such as hike and bike trails, extensive sidewalk construction or reconstruction, and street modifications and traffic signals to accommodate bicyclists and pedestrians. To assist in the local determination of priority of needed facilities, a potential scoring methodology for the assessment of sidewalks and bicycle facilities are included in **Appendix F**.

In addition to safety concerns, lack of adequate bicycle parking is often cited as a common reason why people do not bicycle. Any bicycle trip requires some sort of parking at its destination. Secure parking is particularly important for commuters leaving their bicycles for long periods of time and for those destinations, which lie in high-crime areas. An increasing number of cities now require bicycle parking facilities in new developments. Apartment complexes, college dormitories, or other high density settings need to address the issue of where to store bicycles while at home.

The urbanized cities within Hidlago County should take the lead to provide adequate bicycle parking at all public-access facilities. Bicycle parking provisions should be encouraged, but not required initially, at work places and commercial development in the urbanized area.

Action Item 2.4 – Provide Facilities to Accommodate Bicycle/Transit Joint Use - The transit agency should undertake studies and planning to implement service and facility improvements for intermodal trips using bicycles and transit. Bike racks at selected transit stops and transfer terminals will provide secure parking for cyclists who

ride their bikes to and from bus routes. Bike racks on buses will enable cyclists to use bicycles at both ends of their transit trips.

Action Item 2.5 - Develop a wayfinding system for the network of trails and on-street bicycling – The AASHTO Guide for the Development of Bicycle Facilities contains guidelines for placement of Bike Route signs along routes. Some bicycle systems, such as that in Dallas and in some west coast communities, have adopted a numbering of their routes to facilitate wayfinding and understanding of connectivity. Many communities have invested in the creation of a facilities map for the convenience of potential users, which can include information on proposed facilities.

For trail facilities, signage is often developed to inform/celebrate the passage of the trail into the various neighborhoods and cities along its extent. Each trail typically is associated with a certain natural or manmade features (e.g., the White Oak Bayou Trail in Houston) or named for a person (e.g., the Lance Armstrong Bikeway in Austin), with signage and banners provided along the trail incorporating characteristic symbols.

Information kiosks are typically provided at strategic locations along trails to inform facility users of available facilities and nearby destinations including support and emergency services. These kiosks have also been used as a point of dissemination of information about the trails, safety and improvements, and their future development. Kiosks should be developed for the existing trails in Mission and McAllen, near the endpoints as well as along the trail, with, at a minimum, a graphic representation of the existing trail and destinations along the trail. As the trail system expands, more trail information kiosks should be provided, and a trails system map of Hidalgo County be developed for distribution.

Action Area 3. Promote Bicycling and Walking

A coordinated approach of public information and awareness programs to promote bicycling and walking yields the best results. Such an approach may include events like bicycle-or walk-to-work days to encourage bicycling or walking trips to work and lead to more frequent use of these modes.

Magazines and other publications, advertisements and the news media, the involvement of trade organizations and other clubs, employer incentives offered to their employees to bike to and from work (reimbursement, parking, "flextime"), and the publication of maps are other promotional methods. Holding conferences, bicycle rallies, and "bike to work" days are a good way to bring together many elements of the bicycling and pedestrian community, give information, and strengthen group identity and a common mode of operation.

Action Item 3.1 - Prepare and Disseminate Public Information on Bicycle and Pedestrian Routes and Programs - As implementation of the hike and bike route network proceeds, prepare a Hidlago County Bicycle and Pedestrian Guide showing bike routes and facilities. Widely distribute copies of the guide to residents and visitors.

Action Item 3.2 - Participate in National Programs – Nationally, there are bike-to-work days, bike weeks, walk to school days and may other events to raise the awareness of bicycle and pedestrian safety and mobility issues.

Action Item 3.3 - Foster the Development of Local Bicycling and Walking Events and Programs – From fund raising walks and runs to higher-end races and potential mountain biking events, local events promote the advancement of pedestrian and bicycling activities in the region.

Action Item 3.4 – Adopt Public Policies - To formalize the establishment of a bicycle and pedestrian program within each of the two counties and the urbanized cities in the of Hidlago County MPO area, it will be desirable to have public comment and city councils and county commissions adoption of certain policies that will guide the region's development of bicycle and pedestrian facilities and programs. Example public policy statements are included in Appendix C.

Action Area 4. Educate Bicyclists, Pedestrians, and the Public

Closely tied to promoting bicycling and walking, the education of all road users helps ensure safe travel habits. Bicyclist/pedestrian programs typically maintain a variety of pamphlets, videos, brochures, and other resources pertaining to safe practices for individuals or groups.

Action Item 4.1 - Dissemination of Available Safety and Educational Materials - Assemble and distribute targeted safety and educational materials in many forms and venues, drawing upon available resources such as:

- Texas Department of Transportation (TxDOT) maintains the full-time position of Bicycle and Pedestrian Coordinator, with similar part-time positions in each of its Districts. Information, materials, and technical assistance is available through TxDOT, including a motorist/bicyclist information pamphlet, "Don't Be a Bubbasaurus/Beastasaurus" created with cooperation from the Texas Bicycle Coalition;
- Working through the City Parks and Recreation Department's Summer Education Program, bike rodeos may be conducted and educational materials distributed to area youths. Other resources for these events include the City Police Department and the American Automobile Association (AAA);
- Parent-Teacher Associations may serve as avenues for disseminating information on safety for pedestrian and bicycle activities to parents of school-age children; and
- Working with the Hidlago County area Independent School Districts and State Department of Education, the program may identify materials for distribution through the area schools to ensure that children receive age-appropriate instruction in bicyclist and pedestrian safety education. One excellent program is being developed by the Texas Bicycle Coalition. The State Division of Motor Vehicles can institute education programs for motorists on safely interacting with bicyclists and pedestrians.

Action Area 5. Enforce Laws and Regulations

Effective enforcement entails the citing of pedestrian and bicyclist violations, as well as infractions of motor vehicle operators. Enhancing the safety of bicycling and walking will have the most success if enforcement, engineering, education, and encouragement efforts are coordinated.

States can take steps to encourage bicyclist and pedestrian enforcement at the local level, as well as examine vehicle codes which may include regulations or provisions that actually discourage bicycling and walking, such as not providing sidewalks for

pedestrians. However, much of what can be done with regard to enforcement and regulation of bicyclist and pedestrian actions occurs at the local level.

Action Item 5.1 – Target Areas for Enforcement and Encouragement of Proper Behaviors - Areas with a high likelihood of infractions and motor vehicle crashes involving bicyclists and pedestrians - such as central business districts and schools - should be targeted for high enforcement, perhaps by using police patrol on bicycles. In many cases, revisions of local traffic rules or consideration of new laws is needed to promote and encourage safer bicycling and walking. Proper education of law enforcement officers is necessary to assure that safe riding and walking practices are enforced in a consistent manner.

Implementation Strategy

Many of these action items can be advanced and accomplished simultaneously. The advancement of these efforts consists of the following work areas:

- Safe Routes to Schools Program should be advanced by the local School District school safety and transportation officials. The MPO can help to facilitate the efforts and solicit Safe Routes to Schools funding and other sources of funds.
- The urbanized areas should identify distinct potentially walkable areas in their cities, to be termed Pedestrian Districts. Every six months, one Pedestrian District should be targeted to develop concurrence with local residents and potential developers on needed improvements including sidewalks, access to trails and other related neighborhood livability issues.
- Access to Transit should be assessed at all access points to local transit service, and priorities established based upon high patronage routes and the nature of service destinations.
- ADA Transition Plan should be developed as soon as possible for all public facilities, including buildings, parks, and sidewalks.
- Bike Routes should be formalized where placement of signs and proper attention to pavement surface and maintenance is needed, then implementation of needed shoulders and trail connectors should be programmed.
- Multi-purpose paths should be programmed for funding and implementation.

5.4 Typical Facility Development Costs

The following costs are provided for use in preparing an order of magnitude estimate of the construction cost for bicycle and pedestrian facility improvements. This data will help to facilitate initial planning decisions. A cost range is provided on a per mile basis, recognizing that there are many variables which affect final cost (i.e. site conditions, utilities, availability of right-of-way, fluctuations in construction market). For this reason, the costs presented here reflect only those costs related to materials and labor for construction based on minimum facility widths. Costs for facility improvements associated with larger roadway projects will usually attain lower unit construction prices than separate improvement projects.

Each facility project will typically require an engineering study to determine all of the design issues and estimated cost. Factors such as right-of-way acquisition, bridges and other grade separated crossings, utility relocation, clearing and grubbing of existing conditions, landscape plantings, lighting, benches, retaining walls, property fencing and other amenities need to be included in each project's individual cost estimate. Engineering design fees can be expected to be 8 to 15 percent of the total project cost. Each construction project should also include a minimum 10 percent contingency fund. The cost estimates for bicycle and pedestrian facilities shown in **Table 1** were developed using average unit costs for specific improvement types according to AASHTO standards.

Table 1
Typical Unit Costs of Construction for Bicycle and Pedestrian Facilities

Improvements	**Typical Unit Costs**
Roadway re-striping (wide curb lanes or designated bike lanes)	$20,000 to $50,000 per mile
8' wide paving of existing dirt or gravel shoulder along roadway, per direction	$100,000 to $125,000 per mile
10' wide paving of separated trail facility	$200,000 to $500,000 per mile
5' wide sidewalk	$100 to $150 per foot of length
Signing of bicycle facilities (5 signs per mile each way)	$2,000 to $4,000 per mile
Striping bike lanes in both directions without needing to shift other lanes	$2,000 to $5,000 per mile
Traffic Signal installation	$70,000 to $120,000 per location

5.5 Funding for Multimodal Facilities

Funding for bicycle, pedestrian and transit individual and multimodal facilities is available through numerous resources, including those in **Tables 2 and 3**:

- Transportation Enhancements
- Safe Routes to Schools
- Texas Parks & Wildlife Recreational Trails Program
- Surface Transportation Program
- Transportation for Livable Communities
- Transit Enhancements Program
- Endowments, Trusts, Public/Private Partnerships, Local Funding

More information on these sources of funding can be found in **Appendix B**.

Table 2
Federal Funding Sources for Bicycle and Pedestrian Projects

National Highway System (NHS) Funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System (other than the Interstate System).

Surface Transportation Program (STP) Funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as brochures, public service announcements, and route maps) related to safe bicycle use. Ten percent of STP funds are used for "Transportation Enhancements" which include the provision of facilities for bicyclists and pedestrians.

Federal Lands Highway Funds may be used to construct pedestrian walkways and bicycle transportation facilities in conjunction with roads, highways, and parkways at the discretion of the department charged with the administration of such funds.

Scenic Byways Program Funds may be used to construct facilities along scenic highways for the use of pedestrians and bicyclists.

National Recreational Trails Fund monies may be used for a variety of recreational trails programs to benefit bicyclists, pedestrians, and other non-motorized and motorized users. Projects must be consistent with a Statewide Comprehensive Outdoor Recreation Plan required by the Land and Water Conservation Fund Act.

Highway Safety Funding of pedestrian and bicyclist safety remain priority areas for highway safety program funding. SAFETEA-LU addresses state and community highway safety grant program funds. The priority status of safety programs for pedestrians and bicyclists expedites the approval process for these safety efforts.

Federal Transit Funding continues to allow transit monies to be used for bicycle and pedestrian access to transit facilities, to provide shelters and parking facilities for bicycles in or around transit facilities, or to install racks or other equipment for transporting bicycles on transit vehicles.

Source: National Bicycling and Walking Study

Table 3
Example Sources of Local Funds for Bicycle and Pedestrian Projects

1. Transportation Department funds - These are the predominant sources of local funds. The capital improvement program budget in Tucson for bikeways was $240,000 in 1990. The bicycle programs in Madison and Palo Alto are part of the overall DOT budget - there is no itemized budget for bicycle facilities.
2. Sales tax - Voters in San Diego and Los Angeles Counties, California approved local sales tax increases to fund transportation improved bicycle paths.
3. Open space bonds - In 1989, voters in Seattle and surrounding King County approved a five-year bond issue of which $33 million was reserved for trail development.
4. Mitigation measures - Developers may be charged to pay for mitigating negative project impacts. In Los Angeles County, mitigation fees are taken from developers whose projects do not conform to Congestion Management Plan guidelines, and the funds may be used for such projects as bicycle facilities.
5. Developer dedications - These require the developer to construct bicycling and walking facilities as a condition for enabling the project to proceed. For example, a restaurant owner in Eugene, Oregon was required to make improvements to a river front trail before developing a new location.
6. Restorations - Some local agencies require that developers restore rights-of-way for non-motorized users.
7. Public agency land and funds.
8. Motor vehicle taxes.
9. Street utility tax - The City of Seattle has implemented such a tax on area employers and households. The money will be used to repave existing streets. Those streets that are important to bicyclists will receive priority treatment.
10. Parks and recreation department funds - In Hidlago County as in many cities, the Parks and Recreation Department is responsible for trail maintenance.
11. Donations (from the public and corporate sectors) - In 1990, the Broward County, Florida Bicycle Advisory Committee created a special fund to receive public and corporate donations for the county bicycle and pedestrian programs.
12. Fund-raising rides and events - The annual Thunder Road Bikeathon in the Dayton, Ohio area raises funds to pay the salary for the Miami Valley Regional Bicycle Committee's executive director and for small-scale projects.

Source: National Bicycling and Walking Study

Appendix A
ADA Review

Technical Memorandum
ADA Accommodations Review
LRGVDC Multimodal Study

The Multimodal Plan will include a plan of action for the central urban areas of Hidalgo County to comply with Title II of the Americans with Disabilities Act (ADA). Title II is that part of the law which requires state and local government entities to make services, facilities and programs accessible to all individuals.

Background

Legislation:
The Americans with Disabilities Act was passed in 1990. All state and local government entities were required to create a Transition Plan for complying with ADA. The Transition Plan was to be in place by 1992; implementation of plan was to be completed by 1995. The city of McAllen has been implementing its transition plan for several years, but smaller communities in the region are in need of official compliance with the ADA.

Who Must Comply With Title II of the ADA?
Public entities defined as:

1) any state or local government
2) any department, agency, special purpose district or other instrumentality of a state or local government
3) certain commuter authorities and AMTRAK

What Activities are covered?

- The operation of all service and programs offered by the entity
- All aspects of the employment relationship
- Government services carried out by contractors
- Activities of state and local legislative and judicial branches
- Public transportation

Overview of Requirements

The requirements of Title II of the ADA fall into four broad areas:

1) general nondiscrimination requirements
2) equally effective communication
3) program accessibility
4) employment

The scope of this project is concerned only with the transportation aspect of Title II, #3 above, Program Accessibility. However, the steps included in the Transition Plan may be duplicated to achieve compliance in the other areas under Title II.

Under the Texas Elimination of Architectural Barriers Act, architects and engineers registered in the State of Texas are required to submit their design plans that allow for public pedestrian access to the Architectural Barriers Commission for accessibility plan review. Failure to do so subjects the professional to potential punitive action from their respective registration boards.

Steps for Development of a Transition Plan

There are various steps that local governments and agencies should complete before creating their transition plans:

1) Designate a responsible employee. This person is typically referred to as the ADA Coordinator. He/she may work in any department of the state or local entity, and the position may be full or part time. Contractors are not allowed to serve in this position, but may be hired to help create and implement the plan.
2) Provide notice of ADA requirements. All public entities must provide information to applicants, participants, beneficiaries, employees and other interested parties regarding the rights and protections afforded by Title II.
3) Establish a Grievance Procedure. All entities must adopt and publish procedures providing for prompt and equitable resolution of grievances arising under Title II.
4) Conduct a Self-Evaluation. All entities must complete a comprehensive review of its current practices, in this case, all its facilities. The City of San Angelo must identify any facilities that do not comply with ADA . (This self-evaluation was to have been completed by January 26, 1993.)
5) Create and Implement Transition Plan to make all of the City's services, programs and facilities accessible to all individuals.

Action Steps for Transition Plan

1) Identify staff and/or consultants to review each facility for compliance.
2) Establish the process by which the disability community will participate. Most entities create a citizen's advisory group or "task force" of people with various forms of disabilities to make sure all needs are considered.
3) Identify all facilities used by each of the City's programs and services.
4) Map out the usage and specialized features of each facility. This includes walkways and approaches to each facility from parking lots, bus stops and other transportation; doors and entrances, restrooms, vertical access (elevators and stairways, drinking fountains, play and picnic areas is parks, etc.
5) Choose a survey "tool" or list of standards. This must include evaluating for access by wheelchair users and other mobility-impaired people, but also for blind and visually impaired as well as deaf and hard-of-hearing people.
6) Incorporate the City's capital improvement plans. It's important to know when other alterations, closings, new construction, etc is planned to efforts to comply with ADA may be incorporated more easily and less expensively.
7) Identify funding and timelines. Since the City of San Angelo is already over ten years delinquent in creating this plan, it's recommended that these steps be taken as soon as possible.

Proposed Rules for ADA Compliance in the Public Right of Way

The recommendation above applies to the parts of the ADA currently under Department of Justice rules and applies only to access to buildings and facilities. However, rules regarding making the public right-of-way accessible to all people are currently being evaluated. It is expected that within the next two years, all entities will be required to build ADA compliant sidewalks in all new road construction and possibly within roadway reconstruction and some routine maintenance activities.

In light of these proposed rules, it's recommended that the City of San Angelo begin planning for additional capital expenditures and new policies and procedures that consider sidewalks, ADA compliant ramps, pedestrian signals, etc in all of its transportation projects. In addition, development codes for new private construction will likely have to consider these new federal rules concerning access in the right-of-way.

Accessibility Review of Sidewalks in Public Rights-of-Way

A review was conducted of the ADA accessibility of the sidewalks within the central core areas of the cities of Mission, Pharr, San Juan, Alamo and Edinburg, as these are some of the larger cities in Hidalgo County. McAllen was not reviewed as it already has an inventory of its sidewalks and an on-going program of annually budgeted improvements to transition to a fully accessible public sidewalk and facility system.

Assessment of Accessibility Needs – Appendix A presents a summary of the field observations made during the month of October 2006. The following is a summary of the observed needs for sidewalk enhancements to provide for accessibility.

Mission: The area reviewed was bounded by Bryan Road, Holland Avenue, Griffin Parkway, and Expressway 83. Overall, the provision of sidewalks in this area is good in the commercial areas of the central area, but lacking in residential areas. There are numerous ramps provided at street crossing. There were 22 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

Pharr: The area reviewed was bounded by I Road, Jackson Road, Expressway 83, and Ridge Road. Overall, the provision of sidewalks is good in the commercial areas and minimal in the residential areas. There were 25 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

San Juan: The area reviewed was bounded by Cesar Chavez Road, I Road, Expressway 83, and 12th Street. Overall, the provision of sidewalks in this area is minimal in the residential areas and okay in the commercial areas. There were three locations identified in need of ramps for the existing sidewalks as they reached the intersection.

Alamo: The area reviewed was bounded by Tower Road, Cesar Chavez Road, Expressway 83, and Ridge Road. Overall, the provision of sidewalks in this area is limited to the Main Street commercial area between 7th and 9th streets. The existing sidewalks have ramps.

Edinburg: The area reviewed was bounded by 18th Avenue, Sugar Road, Freddy Gonzalez Drive, and Schunior Street. Overall, the provision of sidewalks in this area is good in both the commercial and residential areas. There were 38 locations identified in need of ramps for the existing sidewalks as they reached the intersection.

Pedestrian Mobility Needs - There are also various sidewalks that may be considered to be provided in the future. These will be addressed in a separate technical memorandum. All future sidewalks should conform to the current ADA Accessibility Guidelines (ADAAG) of the U.S. Architectural & Transportation Barriers Compliance Board (the Access Board).

Details of the results of the field assessment are contained in the following tables.

LRGVDC Mutimodal Study
Inventory of missing ramps and gaps on existing sidewalks

City of Alamo

Road	From	To	Sidewalk				Sidewalk Remarks	Ramps (X= Needed ✓= Existing)				
			North	South	East	West		Intersection With	NW	NE	SW	SE
Bus 83	Cesar Chavez Rd	N Tower Rd	No	Yes	-	-	No sidewalk on Tower Rd South of Bus 83. 10 ft shoulder along Bus 83	Alamo Rd	✓	✓	✓	✓
								9th Street	✓	✓	✓	✓
Bowie Ave	9th St	7th St	No	No	-	-	Alley on west side of the church	9th Street	-	-	-	-
Desoto Ave	8th St	7th St	Yes	No	-	-	Small section of Sidewalk on north side in front of the municipal pool		-	-	-	-
8th St and 9th St	Bus 83	Bowie St	-	-	No	No	Good candidates to provide sidewalk to connect school with shops	Main St	-	-	✓	✓
Main St	7th	9th	-	Yes	-	-		7th Street	-	-	✓	-
9th St			-	-	No	No	No sidewalks north of Bus 83		-	-	-	-
Duranta Ave	Tower St	N 13th St	No	No	-	-	Requires sidewalk on both sides		-	-	-	-
N Alamo Rd	Expressway 83	Business 83	-	-	No	Yes	East side of alamo has walking path, but no sidewalk. No sidewalks South of Birch Ave	Duranta Ave	✓	✓	✓	✓
Birch Ave	N Alamo Rd	N Tower Rd	No	No	-	-	no sidewalks		-	-	-	-
7th St			-	-	No	No	curb and gutter,no sidewalks South of Birch		-	-	-	-
Carroll Rd	Cesar Chavez Rd	N 13th St	Yes	No	-	-	only in front of Walmart		-	-	-	-
Ridge Rd	S Alamo Rd	7th St	Yes	No	-	-	Along PSJA high school	Alamo Rd	-	✓	-	-
			No	No	-	-	Ridge Rd from 7th to Tower will require sidewalk for future Sports complex					

LRGVDC Mutimodal Study
Inventory of missing ramps and gaps on existing sidewalks

Ramp Remarks
Accesible Ramp to shops

City of Edinburg

Road	From	To	Sidewalk				Sidewalk Remarks	Ramps (X= Needed ✓= Existing)					Ramp Remarks
			North	South	East	West		Intersection With	NW	NE	SW	SE	
S Closner Blvd (Street width b'n 60 and 72 ft, Curbed)	Park St/ W Hill Dr	Sprague St	-	-	No	Yes	100 ft gap on the side walk on west side		-	-	-	-	
	Sprague St	Samano St	-	-	No	Yes	Mostly paved parking/driveway. Obstruction at SW corner of Samano and Closner		-	-	-	-	
	Samano St	Champion St	-	-	Yes	Yes	40 ft gap on side walk on East side. Mostly paved parking/driveway on West side	Champion St	✓	✓	✓	X	
S 10th Street (Street width +/- 30 ft, Curbed)	Freddy Gonzalez Dr	Baker Dr	-	-	Yes	No		Freddy Gonzalez	X	✓	-	-	
								Baker Dr	-	-	-	✓	
	Baker Dr	W Canal St	-	-	Yes	No		Canal St	-	✓	-	✓	
								Baker Dr	-	✓	-	-	
	W Canal St	W Hill Dr	-	-	Yes	Yes	Mostly paved parking/driveway on east side	Canal St	X	✓	-	-	
	Sprague St	Samano St	-	-	No	No		Sprague St	-	-	✓	✓	
								Samano St	✓	✓	-	-	
	Champion St	Fay St	-	-	No	No		Champion St	-	-	✓	✓	
	Fay St	Stubbs St	-	-	Yes	No	Small portion of sidewalk north of Fay on east side	Fay St	-	X	✓	✓	
								Stubbs St	-	-	-	-	
	Stubbs St	Mahl St	-	-	No	No	only small portion of sidewalk south of Mahl on both side	Mahl St	✓	✓	✓	✓	
S 15th Street (Street width +/- 30 ft, Curbed)	Freddy Gonzalez Dr	Baker Dr	-	-	No	No	12th , 13th and 14th streets are similar	Freddy Gonzalez	-	-	-	-	
	Baker Dr	Ebony Ln	-	-	No	No		Baker Dr	-	-	-	-	
	Ebony Ln	Park St	-	-	No	No		Ebony Ln	-	-	-	-	
	Park St	Sprague St	-	-	No	No		Park St	-	-	-	-	
	Sprague St	Samano St	-	-	No	Yes		Sprague St	✓	-	-	-	
	Samano St	Champion St	-	-	No	Yes		Samano St	X	-	X	-	
	Champion St	Fay St	-	-	No	Yes		Champion St	✓	-	✓	-	
	Fay St	Stubbs St	-	-	No	No		Fay St	X	-	X	-	
	Stubbs St	Mahl St	-	-	No	No		Stubbs St	X	-	X	-	
	Mahl St	Cano St	-	-	No	No		Mahl St	X	-	X	-	
	Cano St	University Dr	-	-	No	No		Cano St	✓	-	X	-	
S 18th Street (Street width +/- 40-42 ft, Curbed, marked/Signed 5ft on-street bike lanes on both sides)	Freddy Gonzalez Dr	Baker Dr	-	-	Yes	Yes		Freddy Gonzalez	X	X	X	X	
	Baker Dr	Ebony Ln	-	-	Yes	No		Baker Dr	-	-	X	-	
	Ebony Ln	Park St	-	-	Yes	No		Ebony Ln	-	✓	-	✓	
	Park St	Sprague St	-	-	Yes	No		Park St	-	-	-	-	
	Champion St	Fay St	-	-	Yes	No		Champion St	-	✓	-	X	
	Fay St	Stubbs St	-	-	Yes	No		Fay St	-	✓	-	✓	
	Stubbs St	Mahl St	-	-	Yes	No		Stubbs St	-	-	-	-	
	Mahl St	Cano St	-	-	Yes	No		Mahl St	-	-	-	-	
	Cano St	University Dr	-	-	Yes	No		Cano St	-	✓	-	✓	
N 18th Street (Street width +/- 36 ft, marked centerline)	University Dr	E Mcintyre St	-	-	Yes	No		University Dr	-	✓	-	✓	
	E Mcintyre St	E Kuhn St	-	-	Yes	No		E Mcintyre St	-	✓	-	✓	
	E Kuhn St	E Loeb St	-	-	Yes	No		E Kuhn St	-	✓	-	✓	
	E Loeb St	E Peter St	-	-	Yes	No		E Loeb St	-	-	-	-	
	E Peter St	E Lovett St	-	-	Yes	No		E Peter St	-	✓	-	✓	
	E Lovett St	E Van Week St	-	-	Yes	No		E Lovett St	-	✓	-	✓	
	E Van Week St	E Schunior St	-	-	Yes	No		E Van Week St	-	-	-	-	
Sugar Rd (North of University: 36 ft wide, 3-lanes, South of University: 62-70 ft wide, 5-lanes)	Jason Ave	W Samano St	-	-	Yes	No		Jason Ave	-	-	-	-	
	W Samano St	W University Dr	-	-	Yes	Yes		Samano St	-	-	-	-	
	W Kuhn St	Schunior St	-	-	Yes	Yes	Obstruction on side walk onwest side south of Kuhn	Kuhn St	-	✓	-	✓	
Sprague Rd	S Sugar Rd	La Posada Apts	Yes	Yes	-	-	no sidewalk from Sugar to midblock on South (signalized intersection)	S Sugar Rd	✓	✓	✓	✓	
	La Posada Apts	Lee Cir West	Yes	Yes	-	-		La Posada Apts	-	-	X	X	
	Lee Cir West	Lee Cir East	Yes	No	-	-		Lee Cir West	X	X	X	-	
	Lee Cir East	S 2nd Ave	Yes	No	-	-		Lee Cir East	-	-	-	-	
	S 2nd Ave	S 3rd Ave	Yes	No	-	-		S 2nd Ave	X	X	-	-	
	S 3rd Ave	S 4th Ave	Yes	No	-	-		S 3rd Ave	-	-	-	-	
	S 4th Ave	S 5th Ave	Yes	No	-	-	signalized intersection	S 4th Ave	X	X	-	-	
	S 5th Ave	S 6th Ave	Yes	No	-	-	Railroad crossing at 5th Ave	S 5th Ave	X	X	-	-	
	S 6th Ave	S 7th Ave	Yes	No	-	-		S 6th Ave	X	X	-	-	
	S 7th Ave	S 8th Ave	Yes	No	-	-		S 7th Ave	-	-	-	-	
	S 8th Ave	S 9th Ave	Yes	No	-	-		S 8th Ave	X	X	-	-	
	S 9th Ave	S 10th Ave	Yes	No	-	-		S 9th Ave	X	X	-	-	
	S 10th Ave	S Closner Blvd	No	No	-	-		S 10th Ave	X	-	-	-	
	S 12th Ave	S 13th Ave	No	Yes	-	-	Sidewalk on south side has gaps	S 12th Ave	-	-	-	✓	
	S 13th Ave	S 14th Ave	No	Yes	-	-		S 13th Ave	-	-	-	-	
	S 14th Ave	S 15th Ave	Yes	No	-	-		S 14th Ave	-	✓	X	-	
	S 15th Ave	S 16th Ave	No	No	-	-		S 15th Ave	✓	-	-	-	
	S 16th Ave	S 17th Ave	No	No	-	-		S 16th Ave	-	-	-	-	
	S 17th Ave	S 18th Ave	No	No	-	-		S 17th Ave	-	-	-	-	
McIntyre St	14th Ave	16th Ave	No	No	-	-		All intersections	-	-	-	-	
University Dr	Sugar Rd	18th St	Yes	Yes	-	-	Clean Sidewalks		-	-	-	-	Clean Ramps

12/26/2007

LRGVDC Mutimodal Study
Inventory of missing ramps and gaps on existing sidewalks

City of Mission

Road	From	To	Sidewalk				Sidewalk Remarks	Ramps (X= Needed ✓= Existing)					Ramp Remarks
			North	South	East	West		Intersection With	NW	NE	SW	SE	
Oak St	Highland Park Ave	Bryan Rd	No	No	-	-	xwalk at Oak and Bryan (No sidewalk on Bryan near school)		-	-	-	-	
W 1st St	N Holland Ave	N Dunlap Ave	Yes	No	-	-		Holland Ave	✓	✓	-	-	
E 1st St	N Conway Ave	Bryan Rd	No	Yes	-	-		Conway Ave	✓	✓	✓	✓	Ramps at Mayberry and at Palma are not up to ADA standards
Doherty Ave	E 9th St	E 14th St	-	-	Yes	Yes		12th St	✓	✓	X	✓	
								E 13th St	X	✓	X	X	
N Francisco Ave	E 9th St	E 14th St	-	-	Yes	Yes		E 13th St	X	✓	X	X	Some receiving ramps missing
N St Marie St	E 9th St	E 11th St	-	-	Yes	Yes	Sidewalk interrupted at west side of St Marie and E 11th St	E 9th St	X	X	✓	✓	Missing curb cut at 11th and St Maris (NE and SW)
N St Marie St	E 12th St	E 13th St	-	-	Yes	No	Starts midblock before 12th St	E 12th St	-	X	-	-	
								E 13th St	-	-	-	-	
								E Tom Landry St	✓	X	✓	✓	
3rd St	Oblate Ave	Francisco Ave	Yes	No	-	-	Not all the way to Francisco		-	-	-	-	
E 11th St	Dunlap Ave	Doherty Ave	Yes	Yes	-	-		Dunlap	-	-	X	X	
E 12th St	Kika de la Garza	Conway Ave	Yes	Yes	-	-	Gap in sidewalk west of Conway (north side)	Doherty Ave	✓	✓	X	✓	
Keralum Ave	E Tom Landry St	E 13th St	-	-	Yes	No		E 12th St	X	X	X	X	
								E 13th St	-	-	-	X	
Keralum Ave	E 9th St	E Tom Landry St	-	-	Yes	Yes	Gap in sidewalk between 10th and 11th (west side)	E Tom Landry St	-	-	✓	✓	

LRGVDC Mutimodal Study

Inventory of missing ramps and gaps on existing sidewalks

City of Pharr

Road	From	To	Sidewalk				Sidewalk Remarks	Ramps (X= Needed ✓= Existing)					Ramp Remarks
			North	South	East	West		Intersection With	NW	NE	SW	SE	
Sam Houston Ave	S Jackson Rd	S I Rd	Yes	Yes	-	-		S Jackson Rd	X	X	X	X	Receiving ramps missing
Kelly Ave	S Petunia St	S Athol St	Yes	No	-	-	Gap in sidewalk west of Petunia	Gardenia	-	-	-	-	No ramp cuts
								Dahlia	X	X	X	X	
W Cherokee St	S Sugar St	S Hibiscus St	Yes	No	-	-	Starts midblock before Sugar		-	-	-	-	
W Cherokee St	S Palm St	S Sugar St	Yes	Yes	-	-	Starts midblock after Palm		-	-	-	-	
Park Ave	S Bluebonnet St	S Fir St	No	Yes	-	-		S Bluebonnet St	-	-	X	✓	
W Hawk Ave	N Bluebonnet St	N Cage Blvd	Yes	Yes	-	-	Starts midblock after Bluebonnet (south side)		-	-	-	-	
Bell Ave	N Dahlia St	N Kumquat St	Yes	No	-	-	Gaps in sidewalk between Bluebonnet and Canna	N Bluebonnet St	✓	✓	-	-	Problems with ramps after Kumquat
Polk Ave	N Flag St	N I Rd	No	Yes	-	-	Gap in sidewalk between Camellia and Aster	N Canna St	-	-	X	X	No ramps at Gumwood St, Huisache St, Ironwood St.
I Rd	Expy 83	Alameda Rd	-	-	Yes	Yes	Ends before Alameda		-	-	-	-	
I Rd	Alameda Rd	W Sam Houston Blvd	-	-	-	Yes		Center Ave, 7th St	✓	✓	✓	✓	
I Rd	W Sam Houston Blvd	W Ridge Rd	-	-	Yes	Yes	Starts midblock before Sam Houston	Sam Houston Blvd	✓	✓	✓	✓	
N Fir St	Ebony St	E Cortez Ave	-	-	Yes	No			-	-	-	-	No ramps at Hawk, Lucas, Bell, Wright, Egly, Chapa
Center Ave	S Jackson Rd	S I Rd	No	No	-	-	Big Shoulder on the south side. A few problems with driveways. Gaps between Doogwood and Cypress. Gaps between Cypress and Birch	Cage Blvd	✓	✓	✓	✓	
								Cypress St	-	-	✓	✓	
								Sugar Rd	-	✓	✓	✓	
								Hibiscus St	-	-	✓	✓	

LRGVDC Mutimodal Study
Inventory of missing ramps and gaps on existing sidewalks

City of San Juan

Road	From	To	Sidewalk				Sidewalk Remarks	Ramps (X= Needed ✓= Existing)					Ramp Remarks
			North	South	East	West		Intersection With	NW	NE	SW	SE	
Business 83	I Rd	Cesar Chavez Rd	No	Yes	-	-		Stewart Rd	✓	✓	✓	✓	Clean Ramps
Carroll Rd	Stewart Rd	Cesar Chavez Rd	No	No	-	-	Elementary School sidewalk is needed		-	-	-	-	
S Nebraska Ave	E 12th St	Bus 83	-	-	Yes	Yes	Gap in sidewak north of E 11th St in front of Bravo's shop	E 6th St	X	✓	X	✓	
								E 7th St	✓	✓	✓	✓	
								E 8th St	✓	✓	✓	✓	
W 6th St	S Nebraska Ave	West of S Nebraska Ave	No	Yes	-	-	Small sidewalk west of the intersection	S Nebraska Ave	-	-	X	-	
W 7th St	S Lincoln St	S Nebraska Ave	No	Yes	-	-	Sidewalk at midblock	S Nebraska Ave	-	-	✓	-	
S Kansas Ave	Bus 83	South of Bus 83	-	-	No	Yes	Small sidewalk south of intersection	Bus 83	-	-	✓	-	
E 6th St	S Nebraska Ave	S Kansas Ave	Yes	No	-	-	No sidewalk approaching S Kansas Ave		-	✓	-	-	

Appendix B
Bicycle and Pedestrian Project Funding Opportunities

Bicycle and Pedestrian Project Funding Opportunities

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Most of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits.

Federal Funds

The primary federal funding source for bicycle and pedestrian projects, SAFETEA-LU is described below. This program will end in 2005, to be replaced by a new program.

Safe, Accountable, Flexible and Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) - The follow-up to ISTEA and TEA-21, SAFETEA-LU offers some important funding opportunities for bicycle and pedestrian projects. Federal funding through the SAFETEA-LU program will provide the bulk of outside funding. As in the past, SATETEA-LU contains three major programs, STP (Surface Transportation Program), TEA (Transportation Enhancement Activities), and CMAQ (Congestion Mitigation and Air Quality Improvement) along with other programs such as the National Recreational Trails Fund, Safety funds, Scenic Byways funds, and Federal Lands Highway funds. (Note: the Hidalgo County area is not eligible for CMAQ funds.)

1. The Surface Transportation Program (STP) continues to be able to fund:
    - Bicycle and pedestrian projects remain eligible, and must compete with other modes.
    - Sidewalk improvements to comply with the Americans with Disabilities Act (ADA) are eligible for Surface Transportation Program funds.
    - Local match (typically 20%) required.
2. The National Highway System (NHS) program continues to be able to fund:
    - Pedestrian projects may be funded with NHS funds.
    - NHS funds may be used on bicycle and pedestrian projects within Interstate corridors.
3. The Transportation Enhancement Activities (TEA) program continues to fund:
    - Bicycle and pedestrian safety and education programs.

- Tourist and welcome centers.
- Environmental mitigation to provide wildlife corridors.
- Requirement that each project be directly related to a surface transportation project.
- Local match (typically 20%) required.

4. The Recreational Trails Program was continued as follows:
   - 60 million dollars was made available nationwide for 2005, with similar apportionments anticipated annually through 2009.
   - Not less than 40 percent shall be used for projects to facilitate diverse trail use, not less than 30 percent shall be used for motorized recreation, and not less than 30 percent shall be used for non-motorized recreation
   - In Texas, this program is administered through the Texas Parks and Wildlife Department.
5. Transportation for Livable Communities (TLC)
   - $9 million/year available region wide.
   - Capital and planning grants to enhance a community's overall quality of life.
   - 11.5% local match required.
6. The Hazard Elimination Program was amended as follows:
   - Now can be used for bicycling and walking hazards.
   - Definition of a "public road" now expended to include bikeways, pathways, and traffic calming measures.
7. A new category, Transit Enhancements Program, was created that calls for transit agencies in urbanized areas over 200,000 population to use one percent of their Urban Formula Funds for Transit Enhancements Activities. Up to 50 million dollars per year may be available for pedestrian access, walkways, bicycle access, bike storage facilities, and bike-on-bus racks. The program calls for 95 percent federal/five percent local match.
8. Scenic Byway, bridge repair, transit, safety (non-construction), and Federal Lands programs all remain essentially the same under TEA-21, with the amounts either the same or increasing from ISTEA.
9. Planning provisions for states and metropolitan planning organizations have been streamlined, with bicycle and pedestrian needs to be given due consideration in the development of comprehensive transportation plans. Specific policies include directives to not approve any project or regulatory action that will have an adverse impact on non-motorized safety, unless a reasonable alternative route is provided or already exists.
10. When state or local regulations permit, allow use of bicycle facilities by electric bicycles and motorized wheelchairs.

11. Railway-highway crossings should consider bicycle safety.

SAFETEA-LU funding is administered through the state (TxDOT) and regional governments (Hidalgo County Metropolitan Planning Organization). Most, but not all, of the funding programs are transportation versus recreational oriented, with an emphasis on (a) reducing auto trips and (b) providing an inter-modal connection. Funding criteria often includes completion and adoption of a bicycle/pedestrian master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, environmental compliance, and commitment of some local resources. In most cases, SAFETEA-LU provides matching grants of 80 to 90 percent--but prefers to leverage other moneys at a lower rate. It will be critical to get the local state legislators briefed on these projects and lobbying TxDOT for these projects.

Community Development Block Grants - The Community Development Block Grant (CDBG) program is essentially the only major Federal government grant program that can be used for the ongoing construction of local infrastructure. However, CDBG funds may only be used in those areas of the region that meet certain lower economic or protected-class criteria. In addition, the amount of funding available for infrastructure construction is limited to about $250,000 per year.

Funding Sources for Bicycle and Pedestrian Projects

Bicycle and pedestrian projects are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety, and other programs. Bicycle projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans required of States and Metropolitan Planning Organizations.

Federal-aid Highway Program

National Highway System funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways. *23 USC Section 217 (b)*

Surface Transportation Program (STP) funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or nonconstruction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking. TEA-21 added "the modification of public sidewalks to comply with the Americans with Disabilities Act" as an activity that is specifically eligible for the use of these funds. *23 USC Section 217 (a)*

Ten percent of each State's annual STP funds are set-aside for **Transportation Enhancement Activities (TEAs)**. The law provides a specific list of activities that are eligible TEAs and this includes

"provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists," and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)." *23 USC Section 109 (a)(35)*

Another 10 percent of each State's STP funds is set-aside for the **Hazard Elimination and Railway-Highway Crossing programs**, which address bicycle and pedestrian safety issues. Each State is required to implement a Hazard Elimination Program to identify and correct locations which may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including a survey of hazardous locations and for projects on any publicly owned bicycle or pedestrian pathway or trail, or any safety-related traffic calming measure. Improvements to railway-highway crossings "shall take into account bicycle safety." *23 USC Section 152*

Congestion Mitigation and Air Quality Improvement Program funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or nonconstruction projects (such as maps, brochures, and public service announcements) related to safe bicycle use. *23 USC Section 217 (a)*

Recreational Trails Program funds may be used for all kinds of trail projects. Of the funds apportioned to a State, 30 percent must be used for motorized trail uses, 30 percent for nonmotorized trail uses, and 40 percent for diverse trail uses (any combination). *23 USC Section 206*

Provisions for pedestrians and bicyclists are eligible under the various categories of the **Federal Lands Highway Program** in conjunction with roads, highways, and parkways. Priority for funding projects is determined by the appropriate Federal Land Agency or Tribal government. *23 USC Section 204*

National Scenic Byways Program funds may be used for "construction along a scenic byway of a facility for pedestrians and bicyclists." *23 USC Section 162 (c)(4)*

Job Access and Reverse Commute Grants are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment. *TEA-21 Section 3037*

High Priority Projects and Designated Transportation Enhancement Activities identified by Section 1602 of TEA-21 include numerous bicycle, pedestrian, trail, and traffic calming projects in communities throughout the country.

Federal Transit Program

Title 49 U.S.C. (as amended by TEA-21) allows the **Urbanized Area Formula Grants, Capital Investment Grants and Loans,** and **Formula Program for Other than Urbanized Area** transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access to a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation. *49 USC Section 5307*

TEA-21 also created a **Transit Enhancement Activity** program with a one percent set-aside of Urbanized Area Formula Grant funds designated for, among other things, pedestrian access and walkways, and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles". *49 USC Section 5307(k)*

Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for **State and Community Highway Safety Grants** funded by the Section 402 formula grant program. A State is eligible for these grants by submitting a Performance plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing activities to achieve those goals). *23 USC Section 402*

Research, development, demonstrations and training to improve highway safety (including bicycle and pedestrian safety) is carried out under the Highway Safety Research and Development (Section 403) program. *23 USC Section 403*

Federal/State Matching Requirements

In general, the Federal share of the costs of transportation projects is 80 percent with a 20 percent State or local match. However, there are a number of exceptions to this rule.

- Federal Lands Highway projects and Section 402 Highway Safety funds are 100 percent Federally funded.
- Bicycle-related Transit Enhancement Activities are 95 percent Federally funded.
- Hazard elimination projects are 90 percent Federally funded. Bicycle-related transit projects (other than Transit Enhancement Activities) may be up to 90 percent Federally funded.
- Individual Transportation Enhancement Activity projects under the STP can have a match higher or lower than 80 percent. However, the overall Federal share of each State's Transportation Enhancement Program must be 80 percent.
- States with higher percentages of Federal Lands have higher Federal shares calculated in proportion to their percentage of Federal lands.
- The State and/or local funds used to match Federal-aid highway projects may include in-kind contributions (such as donations). Funds from other Federal programs may also be used to match Transportation Enhancement, Scenic Byways, and Recreational Trails program funds. A Federal agency project sponsor may provide matching funds to Recreational Trails funds provided the Federal share does not exceed 95 percent.

State Funds

The Texas Department of Health Comprehensive Community Chronic Disease Wellness Program set aside a small pot of money in 1999 that could be used to build trails. The program awarded up to $5000 for projects that affected physical activity or nutritional changes reducing risk of heart disease, cancer or diabetes. Approximately 26 small trails, including exercise or wellness trails and small loops around schoolyards and baseball fields, were built over two years with funding from this program. There is no funding for the program at this time and if money were secured for next year the Health Department would look to target areas with severe risk for heart disease, cancer and diabetes.

Another fund is the Texas Recreation and Parks Account (TRPA). Information on the various elements of this grant program is available below.

Texas Recreation Grants: Recreational Trails

Agency Name: Texas Parks & Wildlife Department (TPW)

Contact: TPW, 4200 Smith School Road, Austin, TX 78744, (512) 912-7124

Web Site: http://www.tpwd.state.tx.us

Eligible Projects: Construction of new recreation trails on public or private lands, trail restoration or rehabilitation, Americans with Disabilities Act upgrades, acquisition of easements, acquisition of property, maintenance of existing trails, environmental mitigation, and the development of trail-side and trail-head facilities (signs, restrooms, parking areas, water fountains, horse-watering, corrals, hitching posts, tool storage, bike racks, benches, picnic tables, and fencing).

Program Requirements: Matching grant funds (50%) are available to acquire and develop parkland or to renovate existing public recreation areas. The maximum grant awarded is $500,000. Projects must be completed within three years of approval.

Grant Uses: Recreation, Trails, Open space, Capital Improvement/Purchase

Eligible Applicants: Local Governments

Application Deadline: June 31

Texas Recreation Grants: Small Community Grants

Agency Name: Texas Parks & Wildlife Department (TPW)

Contact: TPW, 4200 Smith School Road, Austin, TX 78744, (512) 912-7124

Web Site: http://www.tpwd.state.tx.us

Eligible Projects: Funds can used by communities with populations of 20,000 or fewer people for trails including jogging and exercise trails; nature and hiking trails; bicycle, motorcycle and multiple purpose trails; observation stations; overlooks; bridges; low-water crossing; boardwalks; exercise stations; and interpretive and directional signage.

Program Requirements: This program provides a maximum $50,000 grant in 50% matching funds to qualifying communities to acquire and develop parkland.

Grant Uses: Recreation, Open Space, Capital Improvement/Purchase

Eligible Applicants: Cities with 20,000 or fewer people

Application Deadline: January 31

Texas Recreation Grants: Regional Park Grants

Agency Name: Texas Parks & Wildlife Department (TPW)

Contact: TPW, 4200 Smith School Road, Austin, TX 78744, (512) 912-7124

Web Site: http://www.tpwd.state.tx.us

Eligible Projects: Regional Park Grant applications will be given priority if the proposed project: acquires large tracts of land to be set aside as parkland, has local matching funds from multiple political jurisdictions as well as non-profit organizations/private donations, is listed in local park master plans, will be used in a multiple jurisdictional manner, provides water-based recreation, links multiple jurisdictions with trails or greenbelts, and the project has a direct link to the mission of Texas Parks & Wildlife Department.

Program Requirements: Fifty percent (50%) of the actual expenditures, up to the approved grant amount is reimbursed during the project period as billings are submitted. There is no ceiling on match amounts, but grant awards are dependent on the number of applicants and the availability of funds. Past recipients for the Regional Park Grant have ranged from $750,000 to $1,200,000.

Grant Uses: Recreation, Trails, Open space, Capital Improvement/Purchase

Eligible Applicants: Cities, counties, water districts, and other local government

Application Deadline: January 31and July 31

Safe Routes to School - The Safe Routes to School (SRS) Program resulted from the enactment of House Bill 2204, 77th Legislature, 2001. HB 2204 added Transportation Code, §201.614 directing the Texas Department of Transportation (TxDOT) to establish the Safe Routes to School Program. The overall purpose of this program is to improve safety in and around school areas. While Safe Routes to School on the national level is an overall concept that includes education, enforcement, and safety construction improvements, TxDOT's Safe Routes to School Program implemented by HB 2204 will only address safety construction improvements. The rules that established the SRS program were adopted by the TXDOT Commission and became effective July 18, 2002.

Project proposal applications shall only be submitted by a political subdivision. School districts should contact their city or county offices to develop a project proposal. The proposal must be submitted to the District Engineer in the proper TxDOT District Office, using the application form approved by the department and must be submitted within the published deadline. Applications and the rules for submission and selection will be available at each district office, at the division office in Austin and on this web site.

Projects may be located on or off the state highway system, but must be located on public property. The project must be located within a two mile radius of a school. Federal funds requested will be limited to $500,000. Projects can cover multiple school sites if similar work is performed at each site. Local project funding match of 20% is required unless the project is located on the state highway system in which case TxDOT will provide the match. A project on the state highway system will not be eligible if the district finds that the project interferes or disrupts any planned improvements or existing infrastructure. There are six categories of work eligible for funding:

- Sidewalk improvements
- Pedestrian/Bicycle crossing improvements
- On-Street bicycle facilities
- Traffic diversion improvements
- Off-Street bicycle and pedestrian facilities
- Traffic calming measures for off-system roads

Further information and application forms for Safe Routes to Schools are available at:

www.dot.state.tx.us/trafficsafety/srs

Other Funds

Houston Endowment Foundation - Grants are made only to nonprofit organizations which are tax-exempt under Sections 501(c)(3) or 170(c) of the Internal Revenue Code. The Houston Endowment Foundation does not make grants to individuals or loans of any type. Although the cities in the Hidalgo County MPO would not be eligible, a non-profit organization supporting or advocating trails and open space would be. Grants are made only on the basis of written applications. Grant Department staff review and evaluate requests before they are presented to the Board of Directors. The Board of Directors does not entertain oral presentations from applicants.

An application form is not required. Applications should consist of a letter and other supporting documents, as outlined below. Eligible organizations seeking a grant should submit a letter on the letterhead of the organization. This letter of application must be signed by the chief executive officer (e.g., President, Executive Director, etc.) and should include a statement that the CEO: 1) has seen and approved the request, and 2) endorses the request as a strong priority of the organization for Foundation support.

In general, the form of the letter is less important than its content, which must include the following information:

- A brief description of the history and mission of the organization and the scope of current activities. Please indicate if the organization has in the past or is now operated under any name other than the name on the IRS determination letter.
- A statement concerning the need for the program or project. If statistics or opinions are included, the source or reference should be cited.
- A statement of the specific population that will benefit from the proposed program.
- A statement of the objectives of the program-what it is intended to accomplish.
- A brief description of the activities to be included as part of the project and the timetable for their accomplishment.
- A statement concerning the overall cost of the project for which funding is sought and the amount of funding requested from the Foundation. A separate sheet showing the project budget, including projected revenue and expenses, may be attached. The statement should discuss how the project will continue to be funded after the Foundation's funding ceases.
- A list of other sources of support (such as foundations, corporations, agencies, etc.) which have committed funding for the proposed project, including the amount of support committed.
- A list of other sources of support from which the organization has requested funding for the proposed project, including the amount requested, and for which a response is pending as of the date of application.
- The proposed method for evaluating the project's effectiveness.
- The name, title, and telephone number of the person with whom the Foundation should communicate regarding the request, if other than the chief executive officer.

The Board of Directors typically meets nine or ten times a year and considers grant requests at six meetings each year. The Foundation has not established external deadlines for grant requests to be included on specific meeting agendas. The review and decision process typically takes three to six months. Accordingly, if funding is needed by a specific date, the request should be submitted four to six months in advance.

Additional information is available on their web site: http://www.houstonendowment.org/.

Other foundation funding is also available to non-profit organizations. Such foundations include the North American Fund for Environmental Cooperation (NAFEC), the Pew

Charitable Trust. A listing of various potential funds is located at http://www.foundationcenter.org/.

Other potential funds can be found at http://www.trailsandgreenways.org/TAG_active_pages/TechnicalAssistance/

A search found the following likely candidates:

Program Name: Land and Water Conservation Fund-States (L&WCF)
Agency Name: U.S. Department of the Interior National Park Service (NPS)
Contact: Inter-mountain (AZ, CO, MT, NM, OK, TX, UT WY)
12795 Alameda Parkway, Denver, CO 80225
(303) 969-2500

Program Name: Kleberg (Robert J., Jr. and Helen C.) Foundation
Contact: 700 N. Saint Mary's Street, Suite 1200, San Antonio, TX 78205
(210) 271-3691

Program Name: Hoblitzelle Foundation
Contact: 5956 Sherry Lane, Suite 901
Dallas, TX 75225-6522
(214) 373-0462
(214) 750-7412 fax

Program Name: Historic Preservation Fund (HPF) Grants-in-Aid
Agency Name: U.S. Department of the Interior National Park Service (NPS)
Contact: 2/306 Richardson Hall, University of Texas, Austin, TX 78712
(512) 471-1525

Program Name: Watershed Protection and Flood Prevention
Agency Name: U.S. Dept. of Agriculture Natural Resources Conservation Service
Contact: State NRCS Office, 101 S. Main Street, Temple, TX 76501-7602
(254) 742-9800 or (254) 742-9819

It is important to note that the majority of funding for bicycle and sidewalk projects is expected to be derived from Federal sources. These funding sources are extremely competitive, and

require a combination of sound applications, local support, and lobbying on the regional and state level.

Local Funding Alternatives

The following section briefly discusses local alternatives to Federal and State funds.

Improvement or Special Districts - In general, an Improvement or Special District is a method by which a group of property owners can share in the cost of transportation infrastructure and other improvements. The Downtowns of McAllen, Mission, Weslaco, Edinburg and other cities could become such an improvement district. Projects could involve paving the street, building sidewalks, and installing a storm water management system. An Improvement District can also be used to install sidewalks on existing streets that previously have been accepted by the City.

Property owners are not charged for transportation infrastructure improvements until the work is complete. At that time a property owner may either pay the assessment in full, or choose to finance it. All participants are automatically eligible for financing; usually over 5, 10 or 20 years with monthly or semiannual payments. If property ownership changes, payment responsibility remains with the property and does not follow the previous property owner. Assessments are secured by a lien on the property until paid. If the assessment is financed, the property owner will receive an annual statement of interest paid, which can be used to substantiate interest payments should the property owner choose to deduct these costs.

Property owners may form an Improvement District to build transportation infrastructure improvements to benefit their properties. Property owners may join together and work with City staff to create the special district to build sidewalks or other transportation infrastructure that meets City standards. In most cases greater than 50% support of the property owners within the defined area is necessary to form the district. City Council then holds a hearing on the proposed district. Each property owner has an opportunity to share their feelings as to why the improvements are needed or why the district should not be formed. City Council then votes as to whether to allow the formation of the Improvement District. Obtaining majority support does not automatically mean that City Council support the formation of the district, but if a project is built, all property owners who are included in the district and benefit from the project are asked to help pay for it to help make the improvements affordable for everyone.

Types of Improvement Districts in Texas include:

Public Improvement District – An identified area in which an additional tax may be levied on properties. The generated funds would be invested in

infrastructure improvements which could include bike routes, trails and pedestrian facilities.

Municipal Management District – While the general purpose of a management district to promote, develop encourage, and maintain employment, commerce, economic development and public safety, it can also address traffic congestion and control and the safety of pedestrians.

Tax Increment Financing District (TIF) - A TIF is a special district in which funds are assessed based of an "increment" of the market value and taxable value of the properties included in the defined area. It requires a vote of the majority of the property owners in the district to create the district. One oaf the state uses is for public works construction and improvements which bike and pedestrian faculties may be considered. The TIF's original intent was to create a funding mechanism for urban renewal purposes.

Fee Alternative: Call-in of Sidewalk and Street Improvement Deferrals - The City Development Code may require that some new development construct public street improvements as part of their building permits and land use actions. At times, these exactions are deferred by the City until conditions are better suited for construction of public improvements. A common type of deferral is for sidewalk construction. An example would be a single family home building permit on an unimproved local street. The builder may request a deferral for building the sidewalk until such time as the street is to be improved to urban standards with curbs, sidewalks, and proper grade and width of pavement. The City calls in deferrals when it knows of street improvement projects for certain streets. This requires the builder/property owner to eventually be accountable for constructing the improvement.

General Obligation Bond - A General Obligation Bond is a form of debt financing where, upon voter approval, a city pledges the full faith and credit which is an unlimited promise to pay debt service requirements on the bond. General Obligation Bond revenues are only used for capital construction projects. Funding could be used for construction of missing sidewalks, replacement of existing sidewalks, local street improvements, and installation of street lights. However, it could not be used to care for street trees, right-of-way landscaping, or operation and maintenance of street lights.

Given the large amounts of funding required, the best use of General Obligation Bond funding would be to use it toward improving arterial, collector, and local streets that are

currently unimproved. This would construct sidewalks on the most expensive type of streetscape projects, leaving an ongoing funding program to deal with the less expensive streetscape needs. Arterial and collector street projects that provide safe access routes to schools should be top priorities.

Revenue Bonds - The difference between Revenue Bonding and General Obligation Bonding is that Revenue Bonds are based on a dedicated revenue stream of a government jurisdiction. Because they are not based on the larger community's assets, they do not require voter approval. The payment of Revenue Bonded debt takes precedence over any other expenditure of that particular revenue stream.

Right-of-Way Dedication - Under the provision of Section 212 of the *Texas Local Government Code*, cities in Texas may require the dedication by plat of rights-of-way and easements necessary to development a tract of land in accordance with its Thoroughfare Plan, Utilities and other plans.

Public Entity Participation in the Acquisition of Additional Right-of-Way – In cases of new development, cities often participate (share in a percentage of the cost) of over sizing utilities when the new infrastructure will eventually serve more than one development. The same method could be used to acquire the necessary additional right-of-way for bike and pedestrian facilities.

Land, Easement, or Right-of-Way Donation - Property owners may be willing to donate land for use as public facility. Cities and counties should encourage donation subject to established guidelines for the development of specific improvements. Considerations should include the suitability of the land for; conformance with the objectives of the Bike and Pedestrian Plan; and proximity to neighborhoods, natural features, and adjacent land uses. There are potential income tax deduction opportunities for the donor in giving land to a public entity for public purposes. This has been successfully used in Sugar Land.

Conservation Easements – When a property owner wishes to ensure that his land will be maintained in a natural environment in perpetuity, he may place the land under the provisions of a conservation easement. In the documents that create the easement, certain provisions such as allowing crossing of the property by a trail or sidewalk may be provided. This is of particular interest when it can provide connection to existing or proposed facilities for bikes and pedestrians. This type of easements has been used in the Houston area.

501(c)(3) Non-profit Corporation – Many areas of Texas have benefited from the involvement of non profit "Friends" corporations that contribute to projects to enhance quality-of-life. There are specific guidelines for incorporation, tax deductions, and operation of 501(c)(3)s. They can be created without local government approval. Contributions and distributions are then made according to the purposes defined in their creation. Examples include land purchases, lighting, park equipment, and other amenities.

Trust Fund - A trust fund is a means for citizens to will a portion or all of their estate to public use. Legal provisions would need to be established for the conveyance of property. In addition, the public entities should use guidelines for the acceptance of suitable easements and rights-of-way across or adjacent to private property. The Trust Fund could be incorporated as a 501(C) 3 non-profit corporation. This too could allow possible income tax benefits for the donors.

Private Financing - Community organizations or local service clubs could assist in acquiring and developing park and recreational areas by providing the local match for state or federal grants-in-aid. Another option is 100 percent financing by a private entity with dedication to the City.

Appendix C
Off-Street Trails Inventory
On-Street Bikeways Inventory

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
East-West Direction													
Monte Christo Street (FM 1925)	Hidalgo County	Moore Field Rd (FM 681)	Conway Rd	2.0	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Hidalgo County	Conway Rd	Ware Rd	4.0	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	McAlleng/Edinburg	Ware Rd	Jackson Rd	4.3	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Edinburg	Jackson Rd	Closner Blvd	1.8	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Edinburg	Closner Blvd	N. Alamo Rd	3.6	3-lane?	x				10'		x	Under constr
Monte Christo Street (FM 1925)	Hidalgo County	N. Alamo Rd	LaBlanca Rd	4.4	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Hidalgo County	LaBlanca Rd	Mile 5 Rd/FM 88	2.5	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Hidalgo County	Mile5 Rd/FM 88	FM 1015	2.8	2-lane	x				10'	x		
Monte Christo Street (FM 1925)	Hidalgo County	FM 1015	Mile Rd 1 W	1.3	2-lane	x				10'	x		
Mile 7 Road (FM 2221)	Hidalgo County	Iowa Ave	Brush Line Rd	2.1	2-lane	x				8' min		x	
Mile 7 Road (FM 2221)	Hidalgo County	Brush Line Rd	LaHoma Dr	2.0	2-lane	x				10'	x	x	Fix Shldr taken for LT at LaHoma
Mile 7 Road (FM 2221)	Hidalgo County	LaHoma Dr	Moore Field Dr (FM 681)	0.4	2-lane	x				10'	x	x	Continue shoulder at Stop at Moore Field Dr
Mile 7 Road (FM 681)	Hidalgo County	FM 2221	Conway St (FM 107)	1.9	2-lane	x				10'	x		
W. SH 107	Hidalgo County	Conway St	N. Shary Rd	2.8	2-lane	x				10'	x		
W. SH 107	McAllen	N. Shary Rd	Ware Rd	1.5	2-lane	x				10'	x		
W. SH 107	McAllen	Ware Rd	23rd St	1.4	2-lane	x				10'	x		
W. SH 107	McAllen/Edinburg	23rd St	10th St	1.0	2-lane		x			10'	x		
W. University Drive (SH 107)	Edinburg	10th St	Jackson Rd	1.7	3-lane?		x			10'	x		
W. University Drive (SH 107)	Edinburg	N. Jackson Rd	5th Ave	1.0	3-lane?		x			10'	x		
W. Shunior Street	Edinburg	N. Jackson Rd	N. Closner Blvd	1.5	2-lane		x			5' min		x	Restripe wide 2-lane rdwy
W. Richardson Road	Edinburg	N. Closner Rd	US 281	1.0	4-lane			x		14'		x	Restripe for 14' outside lanes
E. Richardson Road	Edinburg	US 281	N. Alamo Rd	2.5	5-lane	x				10'	x		
E. Richardson Road	Hidalgo County	N. Alamo Rd	Valverde Rd	2.8	5-lane	x				10'	x		
E. Richardson Road	Hidalgo County	Valverde Rd	LaBlanca Rd	1.7	5-lane	x				10'	x		
Edinburg Avenue	Hidalgo County	LaBlanca Rd	1/4 mi west of Mile 5 Rd	2.5	5-lane	x				10'	x		
Edinburg Avenue	Small Town	1/4 mi west of Mile 5 Rd	1/2 mi east of Mile 5 Rd	0.8	5-lane			x		14		x	Restripe for 14' outside lanes
Edinburg Avenue	Hidalgo County	1/2 mi east of Mile 5 Rd	Mile 3 Rd W	1.4	2-lane	x				10'	x		
Mile 16-1/2 Rd	Hidalgo County	Mile 3 Rd W	Mile 1 Rd W	2.0	2-lane	x				10'	x		
Mile 5 Road	Hidalgo County/Mission	FM 492	LaHoma Rd	1.7	2-lane	x				10'	x		Fix Shldr taken for LT at LaHoma
Mile 5 Road	Mission	LaHoma Rd	N. Conway Rd	2.7	2-lane	x				10'	x		Fix Shldr taken for LT at Conway
Commerce Street	Mission	N. Conway Rd	N. Shary Rd	2.8	2-lane	x				10'	x		Fix Shldr taken for LT at Glassock
Auburn Avenue	McAllen	N. Shary Rd	N. Taylor Rd	0.5	2-lane	x				10'	x		Fix Shldr taken for LT at Shary
Auburn Avenue	McAllen	N. Taylor Rd	Ware Rd	1.7	2-lane	x				8' min		x	Add shoulders
Auburn Avenue	McAllen	Ware Rd	23rd St	1.4	5-lane		x			5' min		x	Restripe for bike lanes
Auburn Avenue	McAllen	23rd St	10th St	1.1	5-lane		x			5' min		x	Restripe for bike lanes
Trenton Road	McAllen	10th St	2nd St	0.7	5-lane		x			5' min		x	Restripe for bike lanes
Trenton Road	Edinburg	2nd St	N. Jackson Rd	1.3	5-lane	x				10'	x		
Trenton Road	Edinburg	N. Jackson Rd	Sugar Rd	0.6	5-lane	x				10'	x		
Trenton Road	Edinburg	Sugar Rd	US 281	1.5	5-lane	x				10'	x		
Trenton Road	Edinburg	US 281	I Rd	0.5	2-lane	x				8' min		x	Add shoulders
Trenton Road	Hidalgo County	I Rd	N. Alamo Rd	3.1	2-lane	x				8' min		x	Add shoulders
Trenton Road	Hidalgo County	N. Alamo Rd	Valverde Rd	2.5	2-lane	x				8' min		x	Add shoulders
Trenton Road Extension	Hidalgo County	Valverde Rd	N. Salinas Blvd	2.7	2-lane	x				8' min		x	Add shoulders
Trenton Road Extension	Hidalgo County	N. Salinas Blvd	Mile 5 Rd	3.1	2-lane	x				8' min		x	Add shoulders
Trenton Road Extension	Hidalgo County	Mile 5 Rd	FM 1015	2.2	2-lane	x				8' min		x	Add shoulders
Trenton Road Extension	Hidalgo County	FM 1015	Baseline Rd	3.3	2-lane	x				8' min		x	Add shoulders
Buddy Owens Blvd/Mile 3 Road	Hidalgo County/Mission	LaHoma Rd	N. Conway Rd	2.7	2-lane	x				10'	x		Fix Shldr taken for LT at LaHoma, Moore Field, Inspiration, Los Ebanos
Buddy Owens Blvd/Mile 3 Road	Mission	N. Conway Rd	Stewart Rd	1.7	2-lane	x				10'	x		Fix Shldr taken for LT at Conway, Mayberry, Bryan, Stewart
Buddy Owens Blvd/Mile 3 Road	Mission	Stewart Rd	Shary Rd	1.1	2-lane	x				10'	x		Fix Shldr taken for LT at Glasscock, Shary
Buddy Owens Blvd/Mile 3 Road	Mission	Shary Rd	Taylor Rd	0.6	2-lane	x				10'	x		
Buddy Owens Blvd/Mile 3 Road	McAllen	Taylor Rd	Ware Rd	1.1	5-lane	x				10'	x		
Buddy Owens Blvd/Mile 3 Road	McAllen	Ware Rd	23rd St	1.1	5-lane	x				10'	x		
Nolana Loop	McAllen	Bentson Rd	Ware Rd	0.6	2-lane	x				8' min		x	Add shoulder, widen bridge at ditch, connect to future trail along ditch
Nolana Loop	McAllen	Ware Rd	23rd St	1.1	5-lane		x			5' min		x	Restripe for bike lanes
Nolana Loop	McAllen	23rd St	Centennial	0.5	5-lane	x				10'	x		Widen ditch crossing to add shoulder, connect to trail
Nolana Loop	McAllen	Centennial Blvd	Main St	0.3	5-lane	x				10'	x		
Nolana Loop	McAllen	Main St	10th St	0.3	5-lane	x				10'	x		

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
Nolana Loop	McAllen	10th St	2nd St	0.7	5-lane	x				10'	x		
Nolana Loop	McAllen	2nd St	McColl Rd	0.7	5-lane	x				10'	x		
Nolana Loop	McAllen	McColl Rd	N. Jackson Rd	0.7	5-lane	x				10'	x		
29th Street	McAllen	Galveston St	BU 83	0.5	2-lane			x		14'		x	Designate existing street as bike route
29th Street	McAllen	BU 83	Pecan Blvd	0.8	4-lane		x			5' min		x	Restripe for bike lanes, improve RR xing
29th Street	McAllen	Pecan Blvd	Daffodil Ave	1.1	4-lane		x			5' min		x	Restripe for bike lanes
29th Street	McAllen	Daffodil Ave	Nolana Rd	0.5	4-lane		x			5' min		x	Restripe for bike lanes
29th Street	McAllen	Nolana Rd	Buddy Owens Rd	0.5	4-lane		x			5' min		x	Restripe for bike lanes
29th Street	McAllen	Buddy Owens Rd	Dove Ave	0.5	4-lane		x			5' min		x	Restripe for bike lanes
Dove Avenue	McAllen	29th Street	23rd St	0.5	2-lane			x				x	Designate existing street as bike route
Dove Avenue	McAllen	23rd St	10th St	1.2	2-lane			x				x	Designate existing street as bike route
Dove Avenue	McAllen	10th St	2nd St	0.5	2-lane			x				x	Designate route, align intersectionn
Owassa Road	McAllen/Edinburg	2nd St	N. Jackson Rd	1.2	5-lane		x			5' min		x	Restripe for bike lanes
Owassa Road	Edinburg/Pharr	N. Jackson Rd	US 281	1.4	5-lane		x			5' min		x	Restripe for bike lanes
Owassa Road	Edinburg/Pharr	US 281	I Rd	1.1	5-lane		x			5' min		x	Restripe for bike lanes
Owassa Road	Pharr/San Jacinto/Hidalgo C0	I Rd	Alamo Rd	3.0	5-lane		x			5' min		x	Restripe for bike lanes
Veterans Boulevard/Mile 1 Road	Hidalgo County	Abram Rd	LaHoma Rd	2.5	2-lane	x				8' min		x	Add shoulder
Mile1 Road/W. Griffin Parkway	Mission	LaHoma Rd	Conway Rd/SH 107	2.7	5-lane		x			10'	x		Shoulder is designated as bike lane
W. Griffin Parkway	Mission	Conway Rd/SH 107	Bryan Rd	1.0	5-lane			x		14'		x	Restripe for wide curb lane
W. Griffin Parkway	Mission	Bryan Rd	Stewart Rd	0.5	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard	Mission	Stewart Rd	N. Shary Rd	1.0	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard	Mission	N. Shary Rd	Taylor Rd	0.5	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard	McAllen	Taylor Rd	Ware Rd	1.1	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard		Ware Rd	Continental Blvd	1.5	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard		Continental Blvd	Main Street	0.3	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard		Main Street	2nd St	0.9	5-lane			x		14'		x	Restripe for wide curb lane (truck route)
Pecan Boulevard		2nd St	McColl Rd	0.5	5-lane	x				10'	x		(truck route)
Pecan Boulevard		McColl Rd	N. Jackson Rd	0.7	5-lane	x				10'	x		(truck route)
W. Furguson Avenue	Pharr	N. Jackson Rd	US 281/ Cage Rd	1.4	5-lane	x				10'	x		(truck route)
E. Furguson Avenue	Pharr	US 281/ Cage Rd	I Rd	1.1	5-lane	x				10'	x		
E. Furguson Avenue	San Jacinto	I Rd	Alamo Rd	3.0	5-lane	x				10'	x		
E. Furguson Avenue	Mercedes/Hidalgo County	Alamo Rd	Valverde Rd	2.5	5-lane	x				10'	x		
Mile 9 Road/Sugar Cane Drive	Donna/Hidalgo County	Valverde Rd	Salinas Rd	3.1	2-lane	x				8' min		x	Install with roadway extension/upgrade
Mile 9 Road/Sugar Cane Drive	Donna/Weslaco	Salinas Rd	Mile 5 Rd	3.2	2-lane	x				8' min		x	Install with roadway extension/upgrade
Mile 9 Road/Sugar Cane Drive	Donna/Weslaco	Mile 5 Rd	FM 1015	2.2	2-lane	x				8' min		x	Install with roadway extension/upgrade
Mile 9 Road/Sugar Cane Drive	Weslaco/Mercedes	FM 1015	N. Baseline Rd	3.3	2-lane	x				8' min		x	Install with roadway extension/upgrade
Convention Center Trail	McAllen	Ware Rd	33rd St	0.2	-				x	10'		x	Widen and extend existing sidewalk, ped xing at Ware Rd
Galveston Street/Conv Ctr Rd	McAllen	33rd Street	29th St	0.3	2-lane			x	x			x	Designate roadway as bike route and extend path to 29th, ped xing
Galveston Street	McAllen	29th St	25th St	0.3	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
Galveston Street	McAllen	25th St	23rd St	0.2	2-lane			x		14'		x	Designate as bike route
25th Street	McAllen	Galveston St	Dallas St	0.2	2-lane			x		14'		x	Designate as bike route
Dallas Street	McAllen	25th St	23rd St	0.2	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
Dallas Street	McAllen	23rd St	22nd St	0.3	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
22nd Street	McAllen	Dallas St	Houston St	0.2	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
Houston Street	McAllen	23rd St	22nd St	0.2	2-lane			x		14'		x	Designate as bike route (advanced bicyclists)
Houston Street	McAllen	22nd St	Centennial Blvd	0.3	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
Houston Street	McAllen	Centennial Blvd	8th St	0.6	2-lane		x			5' min		x	Stripe existing wide 2-lane roadway for bike lanes
Houston Street	McAllen	8th St	2nd St	0.4	2-lane		x			5'	x		
Houston Street	McAllen	2nd S	McColl Rd	0.5	2-lane		x			5' min		x	Stripe wide two-lane road for bike lanes
Trinity Road	Mission	S. Convay Ave/SH 107	S. Bryan Rd	1.0	2-lane			x		14'		x	Designate as bike route, solicit sweeping from businesses
Trinity Road	Mission	S. Bryan Rd	Glassock Rd	1.0	2-lane			x		14'		x	Designate as bike route, solicit sweeping from businesses
Glassock Road	Mission	Trinity Rd	Rio Grande Dr	0.3	2-lane			x		14'		x	Designate as bike route
Rio Grande Drive	Mission	Glasscock Rd	Glassock Rd	0.1	2-lane			x		14'		x	Designate as bike route
Glassock Road	Mission	Rio Grande Rd	Los Indios Rd	1.0	2-lane			x		14'		x	Designate as bike route
Los Indios Road	Mission	Glasscock Rd	S. Shary Rd	0.5	4-lane		x			5' min		x	Restripe as one lane each direction plus bike lanes
Los Indios Road	Mission	S. Shary Rd	S. Taylor ditch Trail	0.6	4-lane		x			5' min		x	
Ridge Road	McAllen	10th Street	2nd Street	0.7	4-lane			x		14'		x	Restripe for wide curb lane
Ridge Road	McAllen	2nd St	McColl Rd	0.7	4-lane			x		14'		x	Restripe for wide curb lane

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
Ridge Road	McAllen	McColl Rd	S. Jackson Rd	0.7	5-lane			x		14'		x	Restripe for wide curb lane
Ridge Road	Pharr	S. Jackson Rd	S. Cage Rd	2.0	5-lane			x		14'		x	Restripe for wide curb lane
Ridge Road	Pharr/San Jacinto/Alamo	S. Cage Rd	S. Alamo Rd	4.2	4-lane			x		14'		x	Restripe for wide curb lane
Hall Acres Road	Hidalgo County	2nd St	McColl Rd	0.7	2-lane	x				8' min		x	install shoulders on roadway improvements
Hall Acres Road	Hidalgo County	McColl Rd	S. Jackson Rd	0.7	2-lane	x				8' min		x	install shoulders on roadway improvements
Hall Acres Road	Hidalgo County	S. Jackson Rd	S. Cage Rd	2.0	2-lane	x				8' min		x	install shoulders on roadway improvements
Hall Acres Road	Hidalgo County	S. Cage Rd	S. Alamo Rd	4.2	2-lane	x				8' min		x	install shoulders on roadway improvements
W. Military Highway	Hidalgo County	S. Conway Rd	S. Shary Rd	2.3	2-lane	x				10'	x		
W. Military Highway	Hidalgo County	S. Shary Rd	S. Ware Rd	1.7	2-lane	x				10'	x		
W. Military Highway	Hidalgo County	S. Ware Rd	S. 23rd St/Spur 115	1.1	2-lane	x				10'	x		
W. Military Highway	Hidalgo County	S. 23rd St/Spur 115	S. 10th St/SH 336	1.2	2-lane	x				10'	x		
Military Road	Hidalgo County	W. Military Hwy	S. Shary Rd	2.8	2-lane	x				10'	x		Improve the 0.3 miles without shoulder at west end of roadway
Dicker Road/FM 3072	Hidalgo County	S. 23rd St/Spur 115	S. 10th St/SH 336	1.0	2-lane	x				10'	x		
Dicker Road/FM 3072	Hidalgo County	S. 10th St/SH 336	S. Jackson Rd	1.8	2-lane	x				10'	x		
Dicker Road/FM 3072	Hidalgo County	S. Jackson Rd	S. Cage Rd	1.4	2-lane	x				8' min		x	install shoulders on roadway improvements
Dicker Road/FM 3072	Hidalgo County	S. Cage Rd	S. I Rd	1.2	2-lane	x				8' min		x	install shoulders on roadway improvements
Dicker Road/FM 3072	Hidalgo County	S. I Rd	S. Alamo Rd	3.0	2-lane	x				10'	x		
Coma St/US 281	Hidalgo	Spur 115	SH 336	1.2	5-lane		x			10'	x		shoulders designated as bile lanes
E. Military Hwy/US 281	Hidalgo County	SH 336	S. Jackson Rd	1.9	5-lane		x			10'	x		shoulders designated as bile lanes
E. Military Hwy/US 281	Hidalgo County	S. Jackson Rd	S. Cage Rd	1.4	5-lane	x				10'	x		
E. Military Hwy/US 281	Hidalgo County	S. Cage Rd	S. Alamo Rd	4.3	5-lane	x				10'	x		
E. Military Hwy/US 281	Hidalgo County	S. Alamo Rd	S. Salinas Bvd/Donna Rd	6.0	5-lane	x				10'	x		
E. Military Hwy/US 281	Hidalgo County	S. Salinas Bvd/Donna Rd	Texas Ave	4.7	5-lane	x				10'	x		
E. Military Hwy/US 281	Hidalgo County	Texas Ave	International Blvd	3.0	5-lane	x				10'	x		
E. Military Hwy/US 281	Hidalgo County	International Blvd	Rio Rico Rd	3.4	5-lane	x				10'	x		
North-South Direction													
LaHoma Road	Hidalgo County/Mission	Mile 1 Rd	Mile 3 Rd/Buddy Owens	2.0	2-lane	x				8' min		x	add shoulder when upgrade roadway
LaHoma Road	Mission	Mile 3 Rd	Mile 5 Rd	2.0	2-lane	x				10'	x		
LaHoma Road	Mission	Mile 5 Rd	Mile 7 Rd	2.0	2-lane	x				10'	x		
Moore Field Road (FM 681)	Hidalgo County	Mile 7 Rd	Monte Christo Rd	3.0	2-lane	x				10'	x		
Moore Field Road (FM 681)	Hidalgo County	Monte Christo Rd	northward		2-lane	x				10'	x		
S. Conway Avenue (FM 1016)	Hidalgo County/Mission	W. Military Highway	US 83	2.2	5-lane	x				8' min	x	x	existing in SB direction only, restripe for shoulders in both directions
N. Conway Avenue (SH 107)	Mission	US 83	1st St	1.0	4-lane			x		14'		x	sign as bike route, restripe from US 83 to 1st St for wide outside lane
N. Conway Avenue (SH 107)	Mission	1st St	14th St		4-lane			x		as is		x	sign as bike route
N. Conway Avenue (SH 107)	Mission	14th St	Mile Rd 1/Griffin/Pecan	1.0	5-lane	x				10'	x		
N. Conway Avenue (SH 107)	Mission	Mile Rd 1/Griffin/Pecan	Mile 3 Rd/Buddy Owens	2.0	5-lane	x				10'	x		
N. Conway Avenue (SH 107)	Mission	Mile 3 Rd	Mile 5 Rd	2.0	5-lane	x				10'	x		
N. Conway Avenue (SH 107)	Mission	Mile 5 Rd	Mile 7 Rd	2.0	5-lane	x				10'	x		
Conway Road	Hidalgo County	Mile 7 Rd	Monte Christo Rd	3.0	2-lane	x				10'	x		
S. Bryan Road	Mission	W. Military Hwy	Trinity Rd	2.3	5-lane	x				8' min		x	re-stripe to provide bike lanes
S. Bryan Road	Mission	Trinity Rd	US 83	0.5	5-lane	x				8' min		x	re-stripe to provide bike lanes
S. Bryan Road	Mission	US 83	BU 83	1.0	5-lane	x				8' min		x	re-stripe to provide bike lanes
N. Bryan Road	Mission	BU 83	Mile 1 Rd	1.0	2-lane			x		14' min		x	sign wide 2-lane road as bike route
Elm Street	Mission	N. Bryan Rd	N. Stewart Rd	0.5	2-lane			x		14' min		x	sign wide 2-lane road as bike route
N. Stewart Road	Mission	BU 83	Mile 1 Rd	1.0	5-lane		x			5' min	x	x	when re-stripe in future, narrow travel lanes ot widen bike lanes
Military Road/FM 494	Granjeno/Mission												
Shary Road	Granjeno/McAllen	Military Rd	W. Military Rd	1.5	5-lane	x				10'	x		
Shary Road	Mission	W. Military Hwy	US 83	2.8	5-lane	x				10'	x		
Shary Road	Mission	US 83	BU 83	1.0	5-lane	x				10'	x		
Shary Road	Mission	BU 83	Mile 1 Rd/Pecan Blvd	1.0	5-lane	x				10'	x		
Shary Road	Mission	Mile 1 Rd/Pecan Blvd	Mile 3 Rd/Buddy Owens	2.0	5-lane	x				10'	x		
Shary Road	Mission	Mile 3 Rd/Buddy Owens	Mile 5 Rd	2.0	5-lane	x				10'	x		
Shary Road	Mission	Mile 5 Rd	Mile 6 Rd	1.0	5-lane		x			6' min		x	re-stripe to provide bike lanes
Shary Road	Hidalgo County	Mile 6 Rd	SH 107	1.0	5-lane	x				10'	x		

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
Taylor Road	Mission/McAllen	Uvalde Rd	US 83	0.7	2-lane	x				8' min		x	add shoulder when upgrade roadway
Taylor Road	Mission/McAllen	US 83	BU 83	1.0	2-lane	x				8' min		x	add shoulder when upgrade roadway
Taylor Road	Mission/McAllen	BU 83	Mile 1 Rd/Pecan Blvd	1.0	2-lane	x				8' min		x	add shoulder when upgrade roadway
Taylor Road	Mission/McAllen	Mile 1 Rd/Pecan Blvd	Mile 3 Rd/Buddy Owens	2.0	2-lane	x				8' min		x	add shoulder when upgrade roadway
Taylor Road	Mission/McAllen	Mile 3 Rd/Buddy Owens	Mile 5 Rd	2.0	2-lane	x				8' min		x	add shoulder when upgrade roadway
Ware Road	McAllen	W. Military Hwy	US 83	2.8	5-lane	x				10'	x		
Ware Road	McAllen	US 83	BU 83	1.0	5-lane	x				10'	x	x	restripe to provide bike lanes from US 83 north @ conv ctr
Ware Road	McAllen	BU 83	Mile 1 Rd/Pecan Blvd	1.0	5-lane	x				10'	x		
Ware Road	McAllen	Mile 1 Rd/Pecan Blvd	Mile 3 Rd/Buddy Owens	2.0	5-lane	x				10'	x		
Ware Road	McAllen	Mile 3 Rd/Buddy Owens	Mile 5 Rd	2.0	5-lane	x				10'	x		
Ware Road	McAllen	Mile 5 Rd	Mile 6 Rd	1.0	5-lane	x				10'	x		
Ware Road	McAllen	Mile 6 Rd	SH 107	1.0	5-lane	x				10'	x		
Ware Road	McAllen	SH 107	Monte Christo Rd	2.5	5-lane	x				10'	x		
29th Street	McAllen	Galveston st	BU 83	1.3	2-lane		x			5' min		x	widen roadway to add shoulder lane or bike lane
29th Street	McAllen	BU 83	Pecan Rd	0.8	4-lane			x		14'		x	restripe to provide 14' wide outside lane
29th Street	McAllen	Pecan Rd	Nolana Loop	1.5	4-lane			x		14'		x	restripe to provide 14' wide outside lane
29th Street	McAllen	Nolana Loop	Mile 3 Rd	0.5	4-lane			x		14'		x	restripe to provide 14' wide outside lane
29th Street	McAllen	Mile 3 Rd	Dove Ave	0.5	4-lane			x		14'		x	restripe to provide 14' wide outside lane
29th Street	McAllen	Dove Ave	Mile 5 Rd/Auburn Ave	1.3	4-lane			x		14'		x	restripe to provide 14' wide outside lane
State Spur 115/ International Blvd	Hidalgo	US/Mexico Border	Coma Rd	0.5	6-lane div		x			10'	x		
State Spur 115	Hidalgo County	Military Hwy/US 281	Dicker Rd	1.7	5-lane	x				10'	x		
State Spur 115	McAllen	Dicker Rd	W. Military Hwy	1.3	5-lane	x				10'	x		
Spur 115/S. 23rd Street	McAllen	W. Military Hwy	US 83	3.0	5-lane	x				10'	x		
Jordan Road	McAllen	Ware Rd	S. 23rd St	1.0	2-lane		x			5' min		x	widen roadway to add shoulder lane or bike lane
Uvalde Avenue	McAllen	S. 23rd St	S. Bicentennial Blvd	0.5	2-lane			x		14'		x	widen roadway to add shoulder lane or bike lane
Uvalde Avenue	McAllen	S. Bicentennial Blvd	S. Main St	0.3	4-lane			x		14'		x	restripe to provide 14' wide outside lane
S. Main Street	McAllen	Uvalde Ave	US 83 overpass	0.2	4-lane			x		14'		x	restripe to provide 14' wide outside lane
S. Main Street	McAllen	US 83 overpass	US 83 overpass	0.2	2-lane			x		14'		x	restripe to provide 14' wide outside lane
S. Main Street	McAllen	US 83 overpass	Jackson Ave	0.2	2-lane			x		14'		x	restripe to provide 14' wide outside lane
N. Main/15th	McAllen	Jackson Ave	Houston Ave	0.1	2-lane			x		as is		x	one-way couplet
N. Main/15th	McAllen	Houston Ave	BU 83	0.2	2-lane			x		as is		x	one-way couplet
N. Main/15th	McAllen	BU 83	Pecan Blvd	1.0	2-lane			x		as is		x	one-way couplet
N. Main	McAllen	Pecan Blvd	Harvey Ave	0.7	2-lane			x		14'		x	designate wide 2-lane street as bike route
N. Main	McAllen	Harvey Ave	Nolana Loop	0.7	2-lane			x		14'		x	designate wide 2-lane street as bike route
N. Main	McAllen	Nolana Loop	Zinnia Ave	0.8	2-lane	x				6'	x		
SH 336/S. 10th Street	Hidalgo/Hidlago County	Military Hwy	Dicker Rd	1.7	5-lane		x			10'	x		
SH 336/S. 10th Street	McAllen	Dicker Rd	W. Military Hwy	1.6	5-lane	x				10'	x		
SH 336/S. 10th Street	McAllen	W. Military Hwy	Sunset Dr	2.5	5-lane	x				10'	x		
SH 336/S. 10th Street	McAllen	Sunset Dr	Wichita Ave	0.3	5-lane		x			5' min		x	restripe roadway to provide bike lane, diminishing center turn lane
Sunset Drive	McAllen	S. 10th S	Park Entry	0.4	2-lane		x			as is	x		lane along south side of roadway
Wichita Avenue	McAllen	S. 10th S	2nd St	0.6	2-lane			x		14'		x	deisgnate wide two lane roadway as bike route
S. 10th Street	McAllen	Wichita Ave	US 83	0.5	5-lane					-			no facility
N. 10th Street	McAllen	US 83	Harvey Ave	2.7	5-lane					-			no facility
N. 10th Street	McAllen	Harvey Ave	Nolana Loop	0.7	5-lane	x				10'	x		
N. 10th Street	McAllen	Nolana Loop	Dove Ave	1.0	5-lane	x				10'	x		
N. 10th Street	McAllen	Dove Ave	Trenton Rd	1.0	5-lane	x				10'	x		
N. 10th Street	McAllen	Trenton Rd	W. Freddy Gonzalez Dr	1.7	5-lane	x				10'	x		
N. 10th Street	McAllen/Edinburg	W. Freddy Gonzalez Dr	Sh 107/W. University	1.0	5-lane	x				10'	x		
S. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	Military Hwy/US 281	Dicker Rd	2.0	5-lane	x				10'	x		
S. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	Dicker Rd	Orangewood Dr	2.5	5-lane	x				10'	x		
S. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	Orangewood Dr	US 83	2.5	5-lane					-			no facility
N. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	US 83	Pecan Blvd	1.0	5-lane					-			no facility
N. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	Pecan Blvd	Nolana Loop	1.5	5-lane	x				10'	x		
N. Jackson Road/FM 2061	McAllen/Pharr/Hidalgo County	Noalana Loop	Owassa Rd	1.0	5-lane	x				10'	x		
N. Jackson Road/FM 2061	Edinburg	Owassa Rd	Trenton Rd	1.0	5-lane		x			10'	x		
N. Jackson Road/FM 2061	Edinburg	Trenton Rd	Freddy Gonzalez Dr	1.7	5-lane		x			10'	x		

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
N. Jackson Road/FM 2061	Edinburg	Freddy Gonzalez Dr	W. University Dr	1.0	5-lane		x			10'	x		
N. Jackson Road/FM 2061	Edinburg	W. University Dr	Monte Christo Rd	2.5	5-lane	x				8' min		x	Add shoulders when expanding roadway
Orangewood Drive	McAllen	S. Jackson Rd	McColl Rd	0.7	2-lane			x		15'		x	deisgnate wide two lane roadway as bike route
McColl Road	McAllen	Orangewood Dr	Hall Acres Rd	0.5	2-lane			x		15'		x	deisgnate wide two lane roadway as bike route
McColl Road	McAllen	Hall Acres	US 83	1.3	5-lane			x		14' min		x	restripe roadway to provide wide curb lane
McColl Road	McAllen	US 83	BU 83	0.8	5-lane			x		14' min		x	restripe roadway to provide wide curb lane
McColl Road	McAllen	BU 83	Pecan Blvd	1.0	5-lane			x		14' min		x	restripe roadway to provide wide curb lane
McColl Road	McAllen	Pecan Blvd	Nolana Loop	1.5	5-lane			x		14' min		x	restripe roadway to provide wide curb lane
US 281/S. Cage Rd	Pharr	E./W. Military Highway	Dicker Rd	2.0	5-lane	x				10'	x		
US 281/S. Cage Rd	Pharr	Dicker Rd	Hall Acres Rd	3.0	5-lane	x				10'	x		
US 281/S. Cage Rd	Pharr	Hall Acres Rd	Kelly Ave	1.8	5-lane	x				10'	x		
US 281/S. Cage Rd	Pharr	Kelly Ave	BU 83	0.2	5-lane					-			no facility
US 281/N. Cage Rd	Pharr	BU 83	US 83	0.8	5-lane					-			no facility
BU 281/N. Cage Rd	Pharr	US 83	Furguson Rd	0.3	5-lane					-			no facility
BU 281/N. Cage Rd	Pharr	Furguson Rd	Nolana Loop	1.5	5-lane					-			no facility
BU 281/N. Cage Rd	Pharr	Nolana Loop	Owassa Rd	1.0	5-lane					-			no facility
BU 281/N. Cage Rd	Pharr	Owassa Rd	Trenton Rd	1.0	5-lane		x			6' min		x	restripe to add bike lanes
BU 281/N. Cage Rd	Edinburg	Trenton Rd	Lynn Dr	0.5	5-lane		x			10'	x		shoulders signed as bike lanes
BU 281/N. Cage Rd	Edinburg	Lynn Dr	Freddy Gonzalez Dr	1.5	5-lane		x			10'	x		shoulders signed as bike lanes
N. Closner Rd	Edinburg	Schunior St	Monte Christo Rd	2.0	5-lane	x				10'	x		
N. I Road	Pharr	BU 83	US 83	1.0	5-lane	x				10'	x		
N. I Road	Pharr	US 83	E. Furguson Ave	0.3	5-lane	x				10'	x		
N. I Road	Pharr	E. Furguson Ave	Nolana Loop	1.5	5-lane		x			6' min		x	restripe to add bike lanes
N. I Road	Pharr	Nolana Loop	Owassa Rd	1.0	5-lane		x			6' min		x	restripe to add bike lanes
N. I Road	Edinburg	Owassa Rd	Trenton Rd	1.0	5-lane		x			6' min		x	restripe to add bike lanes
N. I Road	Edinburg	Trenton Rd	Freddy Gonzalez Dr	1.9	5-lane		x			6' min		x	restripe to add bike lanes
S. Alamo Rd	Hidalgo County	Military Hwy/US 281	E. Dicker Rd/FM 3072	2.0	5-lane		x			10'	x		shoulder lane designated as bike lane
S. Alamo Rd	Hidalgo County	E. Dicker Rd/FM 3072	E. Hall Acres	3.0	5-lane		x			10'	x		shoulder lane designated as bike lane
S. Alamo Rd	Alamo	E. Hall Acres	Ridge Rd	1.0	5-lane		x			10'	x		shoulder lane designated as bike lane
S. Alamo Rd	Alamo	Ridge Rd	BU 83	0.8	2-lane			x		14' min		x	roadway provides wide curb lane - designate as route
N. Alamo Rd	Alamo	BU 83	US 83	0.5	5-lane		x			5' min		x	roadway provides wide curb lane - restripe as bike lane
N. Alamo Rd	Alamo	US 83	E. Furguson Rd/Rodeo Rd	0.8	5-lane	x				10'	x		
N. Alamo Rd	Alamo	E. Furguson Rd/Rodeo Rd	E. Nolana Loop	1.5	5-lane	x				10'	x		
N. Alamo Rd	Hidalgo County	E. Nolana Loop	E. Owasso Rd	1.0	5-lane	x				10'	x		
N. Alamo Rd	Edinburg	E. Owasso Rd	E. Trenton Rd	1.0	5-lane	x				10'	x		
N. Alamo Rd	Edinburg	E. Trenton Rd	E. University Rd	2.7	5-lane	x				10'	x		
N. Alamo Rd	Edinburg	E. University Rd	E. Richardson St	0.5	5-lane	x				10'	x		
N. Alamo Rd	Edinburg	E. Richardson St	Mile 17 Rd	0.5	2-lane	x				10'	x		
N. Alamo Rd	Edinburg	Mile 17 Rd	Mile 17-1/2 Rd	0.5	2-lane	x				10'	x		
N. Alamo Rd	Hidalgo County	Mile 17-1/2 Rd	Monte Christo Rd	1.0	2-lane	x				10'	x		
Valverde Road (FM1428)	Donna	Hall Acres Rd	BU 83	1.5	2-lane	x				8' min		x	Add shoulders (or lane) when expanding roadway
Valverde Road (FM1428)	Donna	BU 83	US 83	0.8	2-lane	x				10'	x		
Valverde Road (FM1428)	Donna	US 83	E. Furguson Rd/Rodeo Rd	0.8	2-lane	x				10'	x		
Valverde Road (FM1428)	Hidalgo County	E. Furguson Rd	Trenton Rd	3.5	2-lane	x				10'	x		
Valverde Road (FM1428)	Hidalgo County	Trenton Rd	E. Richardson Rd	3.5	2-lane	x				10'	x		
S. Salinas Road/FM 493	Hidalgo County/Donna	Military Hwy	BU 83	6.4	2-lane	x				4'	x	x	Widen shoulders to 8' min
N. Salinas Road/FM 493	Donna	BU 83	US 83	0.8	2-lane	x				10'	x		
N. Salinas Road/FM 493	Donna	US 83	Mile 9 Road (future)	0.8	2-lane	x				10'	x		
N. Salinas Road/FM 493	Hidalgo County/Donna	Mile 9 Road (future)	Trenton Road	4.0	2-lane	x				10'	x		
N. Salinas Road/FM 493	Hidalgo County	Trenton Road	E. Richardson Rd	3.0	2-lane	x				10'	x		
N. Salinas Road/FM 493	Hidalgo County	E. Richardson Rd	Monte Christo Rd	2.0	2-lane	x				10'	x		
Midway Road	Weslaco	W. Pike Blvd	34th St	3	2-lane		x			6' min			roadway provides wide curb lane - restripe as bike lane
W. Pike Boulevard	Weslaco	Midway Rd	Bridge Bypass	2.8	2-lane		x			6' min			roadway provides wide curb lane - restripe as bike lane
Bridge Bypass	Weslaco	E. Sugar Cane Dr	E. 8th	2.3	2-lane		x			6' min			roadway provides wide curb lane - restripe as bike lane
18th Street	Weslaco	Midway Rd	International Blvd	4.3	2-lane		x			6' min			roadway provides wide curb lane - restripe as bike lane
34th Street	Weslaco	Midway Rd	International Blvd	4.3	2-lane		x			6' min			roadway provides wide curb lane - restripe as bike lane

On-Street Bicycle Facilities Inventory

Facility	City/County	From	To	Length, mi	Roadway	Facility				Width	Status		Notes
						SH	BL	BR	H&B		Exist	Prop'd	
Texas Avenue	Weslaco	Military Highway	34th St	3.0	2-lane	x				10'	x		widen shoulder on bridge
Texas Avenue	Weslaco	34th St	18th St	1.0	2-lane	x				10'	x		
Texas Avenue	Weslaco	18th St	8th St	0.8	2-lane			x		14'		x	striped parking lane
Texas Avenue	Weslaco	8th St	BU 83	0.5	2-lane			x		14'		x	striped parking lane
Lakeway Dr	Progresso	Military Highway	Internatilonal Blvd	1.5	5-lane	x				10'	x		Add shoulders when expanding roadway
Internatilonal Blvd/FM 1015	Progresso/Weslaco	Military Highway	34th St	2.5	5-lane	x				10	x	x	widen road or re-stripe to extend shldr lanes 1000 ft to 34th St
Park Lane	Weslaco	International Blvd	Mile 2 Rd W	1.5	2-lane		x			6' min		x	widen road or re-stripe to add shoulders
International Blvd/FM 1015	Weslaco	34th St	Mile 9 Rd N	4.0	5-lane	x					x		no facilities
FM 1015	Weslaco/Hidalgo County	Mile 9 Rd N	Mile 13-1/2 Rd/Trenton Rd	4.5	5-lane	x				10'	x		
FM 1015	Weslaco/Hidalgo County	Mile 13-1/2 Rd/Trenton Rd	Mile 16-1/2 Rd/Richardson	3.0	5-lane	x				10'	x		
FM 1015	Hidalgo County/Edcouch	Mile 16-1/2 Rd/Richardson	Monte Christo Rd	1.5	5-lane	x				10'	x		
Rio Rico Road	Hidalgo County/Mercedes	Military Hwy	17th St	4.0	2-lane	x				10'	x		
Rio Rico Road	Mercedes	17th St	Milie 6 Rd/10th St	1.0	5-lane	x				10'	x		
10th Street	Mercedes	Rio Rico Rd	Ohio St	1.0	2-lane			x		14'		x	deisgnate wide two lane roadway as bike route
Ohio Street	Mercedes	10th St	Starr St	1.0	2-lane			x		14'		x	deisgnate wide two lane roadway as bike route
Starr Street	Mercedes	Ohio St	Texas Ave	0.2	2-lane			x		14'		x	deisgnate wide two lane roadway as bike route
Texas Avenue Conn Trail	Mercedes	Starr St	Baseline Rd/FM 491	0.1	2-lane				x	14'		x	deisgnate wide two lane roadway as bike route
FM 491/Baseline Road	Mercedes	Texas Ave	Mile 9 Rd	2.0	2-lane	x				10'	x		
FM 491/Baseline Road	Mercedes	Mile 9 Rd	Mile 13-1/2 Rd	2.0	2-lane	x				10'	x		
FM 491/Baseline Road	Hidalgo County	Mile 13-1/2 Rd	Mile 16-1/2 Rd	1.0	2-lane	x				10'	x		
FM 491/Baseline Road	Hidalgo County	Mile 16-1/2 Rd	Monte Christo Rd/FM 1925	2.0	2-lane	x				10'	x		

Off-Street Bicycle/Pedestrian Facilities Inventory

Facility	City/County	From	To	Length, mi	Width	Status		Notes
						Exist	Prop'd	
Business 83 Trail	**(See Figure C-1 for Design Concept)**							
Business 83 Trail	Mission	Bryan St	Stewart Rd	0.5	10'		x	Hard surface trail, BU83/Bryan crossing, trailhead at city complex
Business 83 Trail	Mission	Stewart Rd	Shary Rd	1.0	10'		x	Hard surface trail, BU83/Stewart Rd crossing
Business 83 Trail	Mission	Shary Rd	Taylor Rd	0.5	10'		x	Hard surface trail
Business 83 Trail	McAllen	Taylor Rd	Bentson Rd Ditch Trail	0.7	10'		x	Hard surface trail
Business 83 Trail	McAllen	Bentson Rd Ditch Trail	Ware Rd	0.3	10'		x	Hard surface trail
Business 83 Trail	McAllen	Ware Rd	Centennial Blvd	1.5	10'		x	Hard surface trail
Business 83 Trail	McAllen	Centennial Blvd	Main St	0.3	10'		x	Hard surface trail
Business 83 Trail	McAllen	Main St	2nd St	0.9	10'		x	Hard surface trail
Business 83 Trail	McAllen	2nd St	McColl Rd	0.5	10'		x	Hard surface trail
Business 83 Trail	McAllen	McColl Rd	Jackson Rd	0.6	10'		x	Hard surface trail
Business 83 Trail	McAllen	Jackson Rd	Sugar Rd Trail	0.5	10'		x	Hard surface trail
Business 83 Trail	Pharr	Sugar Rd Trail	Cage Blvd	1.0	10'		x	Hard surface trail
Business 83 Trail	Pharr	Cage Blvd	I Rd	1.2	10'		x	Hard surface trail
Business 83 Trail	San Jacinto	I Rd	Stewart Rd	1.4	10'		x	Hard surface trail
Business 83 Trail	San Jacinto	Stewart Rd	Caesar Chavez Rd	0.8	10'		x	Hard surface trail
Business 83 Trail	Alamo	Caesar Chavez Rd	Alamo Rd	0.8	10'		x	Hard surface trail
Business 83 Trail	Alamo	Alamo Rd	Valverde Rd	2.8	10'		x	Hard surface trail
Business 83 Trail	Mercedes	Valverde Rd	Salinas Blvd	2.8	10'		x	Hard surface trail
Business 83 Trail	Mercedes	Salinas Blvd	Midway Rd	1.5	10'		x	Hard surface trail
Business 83 Trail	Weslaco	Midway Rd	Texas Ave	2.2	10'		x	Hard surface trail
Business 83 Trail	Weslaco	Texas Ave	FM 1015	2.2	10'		x	Hard surface trail
Business 83 Trail	Hidalgo County	FM 1015	Floodway Trail	2.3	10'		x	Hard surface trail
Floodway Trail								
N. Main Floodway Trail	Mission	Shary Rd	S. Ware Rd	1.6	10'		x	Hard surface trail
N. Main Floodway Trail	McAllen	S. Ware Rd	S 23rd St	1.1	10'		x	Hard surface trail
N. Main Floodway Trail	McAllen	S 23rd St	S. 10th St/SH 336	1.5	10'		x	Hard surface trail
N. Main Floodway Trail	McAllen	S. 10th St/SH 336	S. Jackson Rd	1.5	10'		x	Hard surface trail
N. Main Floodway Trail	Pharr	S. Jackson Rd	S. Cage Rd	1.5	10'		x	Hard surface trail
Main Floodway Trail	Pharr	S. Cage Rd	S. I Rd	3.0	10'		x	Hard surface trail
Main Floodway Trail	San Jacinto	S. I Rd	S. Stewart Rd					
Main Floodway Trail	San Jacinto/Alamo	S. Stewart Rd	S. Alamo Rd	1.7	10'		x	Hard surface trail
Main Floodway Trail	Alamo/Hidalgo County	S. Alamo Rd	S. Salinas Rd	6.5	10'		x	Hard surface trail
Main Floodway Trail	Hidalgo County/Weslaco	S. Salinas Rd	Texas Ave	5.3	10'		x	Hard surface trail
Main Floodway Trail	Weslaco	Texas Ave	International Blvd	2.3	10'		x	Hard surface trail
Main Floodway Trail	Weslaco/Mercedes	International Blvd	US 63	3.7	10'		x	Hard surface trail
Main Floodway Trail	Hidalgo County	US 63	Baseline Rd	4.2	10'		x	Hard surface trail
S. Main Floodway Trail	McAllen	S. Shary Rd	S. Ware Rd	1.6	10'		x	Hard surface trail
S. Main Floodway Trail	McAllen	S. Ware Rd	S 23rd St	1.1	10'		x	Hard surface trail
S. Main Floodway Trail	McAllen	S 23rd St	S. 10th St/SH 336	1.5	10'		x	Hard surface trail
S. Main Floodway Trail	McAllen	S. 10th St/SH 336	S. Jackson Rd	1.5	10'		x	Hard surface trail
S. Main Floodway Trail	Pharr	S. Jackson Rd	S. Cage Rd	1.5	10'		x	Hard surface trail
Mission Trail								
Mission Trail	Hidalgo County	Bentson Park	Old Military Hwy @ Palm	0.7	10'	x		Asphalt multi-use path
Mission Trail	Hidalgo County	Old Military Hwy @ Palm	Inspiration Rd/Lakeview	1.5	10'	x		Asphalt multi-use path
Mission Trail	Mission	Inspriation Rd/Lakeview	S. Conway Ave @ Trinity	2.8	10'	x		Asphalt multi-use path
Bentson Trail								
Bentsen Ditch Trail	McAllen	US 83	BU 83	1.0	10'		x	Hard surface trail
Bentsen Ditch Trail	McAllen	BU 83	Mile 1 Rd/Pecan Blvd	1.0	10'		x	Hard surface trail

Off-Street Bicycle/Pedestrian Facilities Inventory

Facility	City/County	From	To	Length, mi	Width	Status		Notes
						Exist	Prop'd	
Bentsen Ditch Trail	McAllen	Mile 1 Rd/Pecan Blvd	Mile 3 Rd/Buddy Owens	2.0	10'		x	Hard surface trail
Bentsen Ditch Trail	McAllen	Mile 3 Rd/Buddy Owens	Mile 5 Rd	2.0	10'		x	Hard surface trail
Bentsen Ditch Trail	McAllen	Mile 5 Rd	Mile 6 Rd	1.0	10'		x	Hard surface trail
Bentsen Ditch Trail	McAllen	Mile 6 Rd	SH 107	1.0	10'		x	Hard surface trail
Bentsen Ditch Trail	McAllen	SH 107	Mile 17-1/2 Rd	2.0	10'		x	Hard surface trail
Centennial Trail								
Centennial Trail along S. 10th	McAllen	S. 2nd St	Wichita Ave	1.5	10'	x		
Centennial Trail along Wichita	McAllen	S. 10th St	Centennial Blvd	0.5	10'	x		
Centennial Trail	McAllen	Wichita Ave	US 83	0.5	10'	x	x	Enhance crossing of US 83
Centennial Trail	McAllen	US 83	BU 83	1.0	10'	x	x	Enhance crossing of US 83
Centennial Trail	McAllen	BU 83	Pecan Rd	1.0	10'	x		
Centennial Trail	McAllen	Pecan Rd	Nolana Loop	1.5	10'	x		
Centennial Trail	McAllen	Nolana Loop	Dove Ave	1.0	10'	x		
Centennial Trail	McAllen	Dove Ave	McAllen-Edinburg Trail	0.8	10'	x		
Centennial Trail	McAllen	McAllen-Edinburg Trail	Auburn Ave	0.2	10'	x		
Connector Trail along US 83	McAllen	Centennial Trail	Colonel Rowe Trail	1.3	10'		x	widen existing sidewalk along EB service road, conn to trails
Colonel Rowe Trail								
Colonel Rowe Trail	McAllen	S. 10th St	US 83	1.5	10'	x	x	widen existing sidewalk betweed Ridge Rd and US 83
Colonel Rowe Trail	McAllen	US 83	BU 83	1.0	10'	x		
Colonel Rowe Trail	McAllen	BU 83	Pecan Rd	1.0	10'	x		
Colonel Rowe Trail	McAllen	Pecan Rd	Nolana Loop	1.5	10'	x		
Colonel Rowe Trail	McAllen	Nolana Loop	Owassa Rd	1.0	10'	x		
Colonel Rowe Trail	McAllen	Owassa Rd	Auburn Ave	1.0	10'	x		
Colonel Rowe Trail	McAllen	Auburn Ave	Northgate Ln	0.8	10'	x		
McAllen-Edinburg Trail								
McAllen-Edinburg Trail	McAllen	Auburn Ave	5th Avenue	5	10'		x	Hard Surface Trail, numerous routing adjustments to cross streets
Sugar Road Trail								
Sugar Road Trail	Edinburg	Freddy Gozalez Dr	Trenton Rd	1.7	10'		x	Hard surface trail
Sugar Road Trail	Edinburg	Trenton Rd	Owassa Rd	1.0	10'		x	Hard surface trail
Sugar Road Trail	Pharr	Owassa Rd	Nolana Loop	1.0	10'		x	Hard surface trail
Sugar Road Trail	Pharr	Nolana Loop	Furguson Rd	1.5	10'		x	Hard surface trail
Sugar Road Trail	Pharr	Furguson Rd	US 281	0.5	10'		x	Hard surface trail
Sugar Road Trail	Pharr	US 281	BU 281	0.6	10'		x	Hard surface trail
Weslaco Trail								
Weslaco Ditch Trail	Weslaco	8th St @ Bidge St	18th St @ Airport St	1	10'		x	Hard surface trail along ditch
Weslaco Ditch Trail	Weslaco	18th St @ Airport St	34th St @ International	1.5	10'		x	Hard surface trail along ditch
Intermational Blvd Trail	Weslaco	BU 83 @ International	34th St @ International	1.8	8' min		x	Essentially a wide sidewalk

Appendix D
Example Policy Statements

Appendix D

Example Policy Statements

Policy Statement #1: Sidewalks

Sidewalks represent the most basic transportation facilities and should, in effect, be present along all urban streets, with the exception of very low volume residential streets where people can be expected to walk in the street.

Needed Action Items:

1. ***Inventory existing sidewalks along all arterial and collector streets,*** *noting widths and condition. Identify high accident locations.*

2. ***Develop an annual budgeted program of sidewalk construction and repair.*** Establish criteria to prioritize improvements such as level of existing and potential usage, connectivity, and safety concerns.

3. ***Sidewalk locations should be checked on all site plans for new development and redevelopment.*** Generally, sidewalks should be installed if the following criteria are satisfied: a) the proposed development is located in the Central Business District, b) the proposed development is located on an arterial street, or high volume collector street, or c) sidewalks are already present on adjacent properties or within the same block.

4. ***Update city sidewalk design standards.*** The recommended urban sidewalk should be 5 feet in continuous width with a minimum of 3 feet of buffer between the edge of the roadway and the sidewalk. ADA requirements state that pedestrian ways should experience grades of less than 1:12 and cross slopes of less than 1:50. Sight distances should be given due consideration. Surfaces should be firm, stable and slip resistant. Parallel surface irregularities should be no greater than 1/2 inch wide. At least 3 feet of the walkway should be clear of obstructions. Street furniture and pole locations should be placed so that pedestrian movement is not impeded or complicated. At intersections, the maximum distance for crossing a street should be no more than 48 feet. For longer crossing distances, separated turn lanes, refuge islands, and medians should be used to reduce street crossing distance, especially at complex intersections. Sight distances for oncoming and turning traffic should provide an adequate view for motorists, bicyclists and pedestrians alike. Auxiliary left turn lanes should be minimized in heavily congested areas where a high volume of pedestrian traffic exists. Use of free right turns should be minimized where significant pedestrian activity is anticipated.

5. ***Pedestrian facilities should be maintained to ensure the safety and functionality of pedestrian flow.*** Periodic refurbishing and debris removal will help keep original design concepts intact. The degree of maintenance provided has a direct impact facility service life, effectiveness, level of use, liability and community image. Poor facility maintenance conveys a feeling of lack of security and fear for personal safety, often resulting in decreased facility usage with a possible increases in pedestrian accidents elsewhere due to the use of alternative, less safe routes.

Appendix D

Example Policy Statements

Policy Statement #2: Bicycle Facilities

The bicycle, as a low-cost and non-polluting form of personal transportation, shall be encouraged as an acceptable mode for utilization and recreational trip purposes.

Needed Action Items:

1. ***Bicycles are recognized as vehicles and should be accommodated on all roadways:***
   a. All roadway improvement projects shall be reviewed for the ability to accommodate average bicyclists; non accommodation should be by exception.
   b. Develop an annual budgeted program of spot improvements for bicyclist safety on existing roadways.
   c. Develop an annual budgeted program of designated bikeway network expansion.
   d. Review the City's street cleaning and maintenance program, and modify as necessary to better accommodate bicyclists.
2. ***Hike and bike trails may serve both functional and recreational purposes:***
   a. Be opportunistic in securing rights-of-way for corridors to develop trails that access desirable destinations or which make needed connections to other bikeways or across barriers.
   b. Develop a planned sequence of development of the trail system as opportunities arise. As much as possible, leverage the budgeted bikeway funding with outside funding sources for trail development.
3. ***Bicycle storage is essential to encourage and give order to the increased use of the bicycle to make trips:***
   a. Bicycle parking racks should be conveniently provided at all public buildings.
   b. Investigate ways to integrate bicycling and transit (e.g. allow bikes in bus, bike racks on front of bus, bike racks at bus stations, etc.).
   c. Private developments should be encouraged to provide bicycle parking (e.g. reduced auto parking space requirements).
4. ***A bicycle safety education program should be initiated and should be closely coordinated with a follow-up enforcement program.***
5. ***Bicycling encouragement programs should be initiated.***
   a. These may consist of bike-to-work days, local recognition of National Bicycle Week in May each year, and special bicycling events (tours, races, rodeos).
   b. Employers should be encouraged to accommodate the bicyclist-employee trips to and from work. Accommodations may include: modified work schedules, bike storage at work, lockers and even showers at work.
   c. A map of bicycle routes in the city should be developed and distributed to inform bicyclists of desirable or improved facilities that form a network to accommodate trips throughout the city.

Appendix E
Pedestrian District Concept
Draft Sidewalk Continuity Ordinance

Appendix E
Example Ordinance Concepts

Pedestrian District Concept

A Pedestrian District identifies areas with predisposition for walking, based upon geographic, socioeconomic and development conditions. Specific criteria for identifying the Pedestrian District include:

- Presence of a public school within a residential area;
- Presence of Transit Station, such as rail station, bus transfer station or park & ride
- Demographics – lower income persons tend to walk more than higher income
- Type of Lane Use – easy places to walk are within short walking distance, street grid facilitates walking, commercial and retail development near residential

The Pedestrian District would typically include an area within ½ mile of such facilities or areas possessing the desired attributes. A Pedestrian District will be a target area for funding of pedestrian facilities. Projects include sidewalks and trails that focus on connectivity, convenience and function.

Possible Code Modification to Foster Continuous Sidewalks

In the interest of providing safe and alternative modes of transportation for bicyclists and pedestrians, and to encourage the construction of continuous sidewalk throughout the City, the following subsection could be added to the Waco City Code of Ordinances (underlined items to be modified as needed for local adoption):

Section # Sidewalks required to be continuous.

(1) Where an undeveloped lot of not more than 500 feet of street frontage is located between two developed lots, and where the sidewalk on either side of the undeveloped lot has a length longer than 200 feet, and where the continuity of the sidewalk is desired by the City for connecting pedestrians to activity centers, then City may notify the property owner identified on the current tax roll that the owner shall be responsible for construction of the sidewalk within the ensuing two (2) years, or in lieu of the construction of the sidewalk, the property owner shall place into an interest bearing escrow account within a period of two years the amount equal to the cost of constructing said sidewalk at a rate of $100.00 per linear foot. The City shall then use such funds to construct the sidewalk within a period of 5 years. If the sidewalk is not constructed within 5 years, the funds shall be returned to the property owner of record with interest at a simple rate of 5% per year.

Appendix F
Sidewalk Project Prioritization Criteria
Bikeway Project Prioritization Criteria

Table 1. Sidewalk Facilities Criteria and Scoring

	Factors	Possible Scores	Conditions
1	**Multi-Modal Connections**	5	Connects to major multi-modal hub/center (train station, bus station, etc.)
		3	Connects to bus route / stop
		0	Does not connect to any multi-modal routes, stops or stations
2	**Ease of Implementation**	20	Properties readily available, strong public support
		10	Some property acquistion or minor design constraints, good support
		3	Some property acquistion and design constraints, minor opposition
		1	Much property acquistion and design constraints, some opposition
3	**Connectivity**	10	Connects to existing sidewalk system
		5	Connects to proposed sidewalk system
4	**Destinations**	10	For every school within 1/2 mile
		5	For connection to commercial retail or personal service
		10	For each park, youth or senior activity center, church
5	**Gap Closure / Barrier Removal**	20	Removes a significant barrier in the sidewalk system
		10	Removes a moderate barrier in the sidewalk system (e.g., there are other ways around, but not as convenient or safe)
		5	Removes a minor barrier to make walking safer and more attractive (provides more separation, improves railroad crossing, is more convenient)
		0	No notable barriers to overcome.
6	**Cost**	5	Standard
		3	Moderately expensive
		1	Very expensive
8	**Range of Users**	20	Upgrades sidewalks to ADA compliant
		10	High concentration of senior citizens
		5	High concentration of children
		1	No particular target groups

Bonus

Opportunity/Synergy 20

Table 2. Bicycle Facilities Criteria and Scoring

	Factors	Possible Scores	Conditions
1	**Multi-Modal Connections**	5	Connects to major multi-modal hub/center (train station, bus station, etc.)
		3	Connects to bus route / stop
		0	Does not connect to any multi-modal routes, stops or stations
2	**Ease of Implementation**	20	Properties readily available, strong public support
		10	Some property acquistion or minor design constraints, good support
		3	Some property acquistion and design constraints, minor opposition
		1	Much property acquistion and design constraints, some opposition
3	**Connectivity**	10	Connects to existing bikeway system
		5	Connects to proposed bikeway system
4	**Destinations**	1	For every school
		2	For connection to downtowns
		1	For each park, commerical core or business center, church
5	**Gap Closure / Barrier Removal**	20	Removes a significant barrier in the bikeway system
		10	Removes a moderate barrier in the bikeway system (e.g., there are other ways around, but not as convenient or safe)
		5	Removes a minor barrier to make bicycling safer and more attractive (provides more separation, improves railroad crossing, is more convenient)
		0	No notable barriers to overcome.
6	**Cost**	5	Standard
		3	Moderately expensive
		1	Very expensive
8	**Range of Users**	20	Intended for commuting and/or utilitarian bicyclists only, parallel route is available for less skilled bicyclists
		10	Intended for both commuting/utilitarian and recreational bicyclists
		5	Intended for commuter and/or utilitarian bicyclists only
		5	Intended for recreational bicyclists only

Bonus

Opportunity/Synergy 20