



Chapter 4 Mobility Plan

Town of South Padre Island Comprehensive Plan

Due to the uniqueness of this barrier island and its growing popularity as a place to live and visit, the term transportation conveys a different meaning. In light of new development and continuing growth in visitation, the plan for future mobility is of essential importance. In addition to improvements to the street system, there must be a renewed focus on walking, bicycling, and transit. The plan devotes increased attention to all modes of transport. A well-planned and designed transportation system will also contribute to the character of the Island and its quality of life. The Town, through its ordinances and regulations, should promote an environment that facilitates business and commercial activity.

Purpose

The purpose of this chapter is to plan for the short-term demands and long-range mobility needs of the Island. Its transportation system is unique and, thus, requires a different approach. While the street system will remain important, so is each of the other modes. Walking and bicycling deserve increased attention to establish them as a viable alternative to the vehicle. Coupled with a sound pedestrian system is a reliable, convenient, and highly accessible public transportation system. Complementary options include taxicabs, pedicabs, and water taxis. Therefore, the plan for enhanced mobility must balance all transportation modes.

This chapter includes the Town's long-range plan for developing an efficient roadway network. This will be an increasingly important means of planning as development expands northward into the extraterritorial jurisdiction and to tie into the proposed second causeway. The plan will be a guide for securing rights-of-way and upgrading and extending the network of streets throughout the 20-year planning area. Transportation infrastructure must be planned well in advance of development to ensure orderly and timely improvements as the mobility and access needs continue to increase.

A Thoroughfare Plan assures development of the most efficient and appropriate street system necessary to meet existing and future travel needs. Its primary objective is to ensure that adequate rights-of-way are preserved on appropriate alignments and of sufficient width to allow the orderly and efficient improvement of the thoroughfare system.

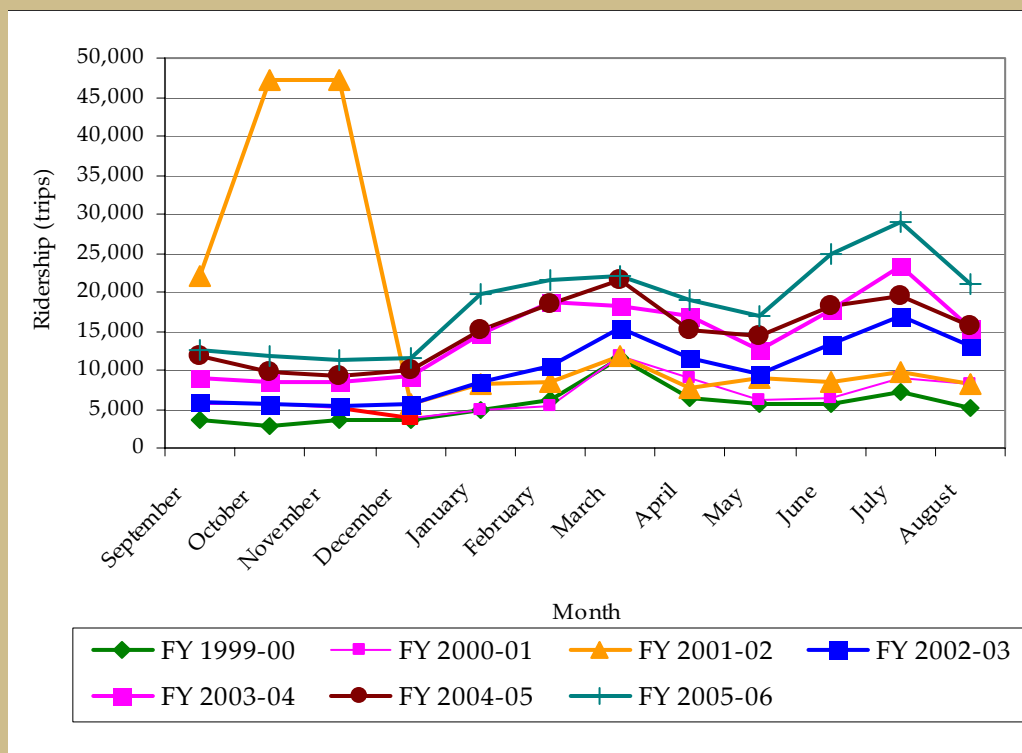
Public Issues

Mobility Issues

The following mobility issues were identified:

- Improved causeway access to the Island:** In 2004, there were 7.8 million causeway crossings, which are projected to reach 9.8 million by the Year 2015 and 11.5 million by the Year 2025.¹ This projection indicates an increase from 21,370 to 31,507 average crossings per day, which reflects a 147 percent increase. With the breach of the Queen Isabella Causeway in September 2001, the need for a second causeway became apparent. While the location of a new causeway is yet to be determined, there remains diligent study for environmental clearance. This project would provide congestion relief for the Queen Isabella Causeway, improve hurricane evacuation, and facilitate economic growth. Continuous planning and networking with other planning authorities is essential to mitigate the probable impacts of this project on the Island's natural and built environments.
- Public Amenities:** The amenities such as public way-finding signage should give general destinations, goods, services, and usage. Such signage should not be a substitute for or restrict the merchant's right to display their private signs. The shaded walkways and rest areas, benches, and public art create an environment conducive to walking.

Figure 4.1, Ridership on The WAVE



Source: Town of South Padre Island

- Improved Local Transit Usage:** Since 1999, the average monthly ridership on The WAVE has increased 223 percent, from 5,514 to 12,314 riders, as displayed in **Figure 4.1, Ridership on The WAVE**. Yet,

¹ Comprehensive Resort Market Analysis, THK Associates, Inc., September 20, 2005

there remains a significant latent demand because of thousands of daily visitors. In addition, there are roughly 6,000 employees on the Island, many of whom commute daily from throughout the Valley. Seizing this demand as a means to reduce vehicle trips, congestion, and parking demands is an opportunity, as well as a challenge. Keeping pace with the vehicle and infrastructure needs and requisite funding will require added resources. The WAVE also may convey the image of the Island through the type of vehicles and design of transit improvements.

4. **Enhanced Pedestrian Environment:** The importance of pedestrian mobility is heightened on the Island due to the volume of daily visitors. The density of development and the proximity between many origins and destinations makes walking a viable option. However, for it to be attractive, there must be pedestrian ways that are safe, convenient, and inviting. Overcoming challenges such as high-traffic streets, driveways, public streets, and a lack of sidewalks on the side streets, must become a priority. The format for such facilities may vary among the different neighborhoods on the island.
5. **Safe and Efficient Traffic Movement:** Efficient traffic movement is essential to the economy and contributes to the experience of visitors and the quality of life of residents. The street system must be designed to effectively convey traffic on an ordinary day, as well as during peak periods. A hierarchical network of roadways is necessary. The traffic carrying capacity of each street must be preserved for the system to operate efficiently. Due to the linear nature of the island and its natural constraints, there are relatively few options for expanding the street system. Therefore, traffic movement on the existing streets must be optimized.

Goals and Recommendations

Access to the Island

- 4.A. Ongoing involvement and coordination in the feasibility assessment and plans for the second causeway
- 4.B. Seamless integration of the causeway into the local transportation system
- 4.C. Sensitive planning and stewardship of the causeway environs
- 4.D. Pedestrian and bicycle access across the new bridge
- 4.E. Expand valley transit including airport access

GOALS

The Cameron County RMA was formally established on September 30, 2004. Their purpose is to provide the area with an opportunity to significantly accelerate needed transportation projects. The RMA is working closely with the Texas Department of Transportation (TxDOT) on the second causeway to South Padre Island, which is one of their top two current priority projects.

Recommended Actions

- 4.1. Appoint a liaison to the Cameron County Regional Mobility Authority (CCRMA) to regularly attend their board meetings. Support regional planning and inter-agency cooperation to improve valley wide transportation to the island, access to the airport, and public education regarding such services.
- 4.2. Provide input to the traffic and revenue study.² The outcome of this study is reliant upon the projected development and increase in tourism, which results in traffic generation and demand for new facilities.
- 4.3. Upon completion of the preliminary alternatives and environmental analyses³ and again at the stage of the draft environmental impact statement (DEIS), contract a planning consultant to conduct an independent assessment of the analyses and findings and outline the probable impacts. The purpose of this evaluation is for continuous review and advanced planning commensurate with the recommendations of the causeway studies.
- 4.4. Periodically review the Thoroughfare Plan and make amendments as the final alignment is determined.
- 4.5. Prepare comments during the mandated public comment period for the draft environmental impact statement (DEIS).

Improved Pedestrian Friendliness

- 4.F. Provide a safe and attractive environment for walking and bicycling
- 4.G. Encourage transportation forms other than the automobile
- 4.H. Develop walking and biking paths that are coordinated with existing businesses, residences, street infrastructure, and transit opportunities and that contribute to the character and identity of the Island and the individual corridors on which the paths are located.

Recommended Actions

- 4.6. Coordinate with TxDOT to request funding for the reconstruction/replacement of the sidewalks with a minimum width of eight feet and planter boxers such as those located on Swordfish and Padre Blvd. The Town should participate in the design of sidewalks, possibly including pavers, textured patterns, or an inlay of marine life or other elements that relate to the Island's identity.

² This project is currently in process and expected to be complete in March 2007.

³ This study, commissioned by the RMA, is expected to commence by January 2007.

- 4.7. Prepare a landscape/hardscape design plan along each of the public rights-of-way. The plan should specify native plant materials, hardscape surface treatments, irrigation, pedestrian and street lighting, and signage.
- 4.8. Enhance existing bike lanes on major thoroughfares; promote bike use and add bicycle racks at beach access points and public facilities and encourage businesses to do the same.
- 4.9. Develop a capital sidewalk improvement plan. The highest priority is Padre Boulevard followed by Gulf Boulevard and the east-west connectors planned for full median access. Laguna Boulevard would closely follow in priority. The remaining east-west streets are a secondary priority.
- 4.10. Consider redesign of Gulf Boulevard to include a serpentine alignment within the public right-of-way. The plan should consider the following: parking on the west side of Gulf Boulevard, parallel parking in low-density areas, and diagonal parking in higher-density areas with sidewalks, landscaping, signage, and trolley stops.
- 4.11. Coordinate with the Cameron County Regional Mobility Authority (CCRMA) and TxDOT to accommodate an eight-foot, barrier-separated walkway/bikeway on the second causeway.
- 4.12. Consider traffic calming measures where needed.
- 4.13. Clearly delineate sidewalks, trails, and bike lanes.



Xeriscape promotes creative approaches to water conserving landscapes by helping people improve their landscapes and reduce the need for water, maintenance, and other resources.

GOALS

Expand Local Transit Services

- 4.I. Increase ridership on The WAVE by both residents and visitors
- 4.J. Expand public transportation options
- 4.K. Improve transit facilities
- 4.L. Identify potential funding sources
- 4.M. Improve regional coordination and communication among transit providers
- 4.N. Increase public awareness of transportation services

Recommended Actions

- 4.14. Seek coordinative opportunities for expanding the reach of The WAVE through increased interface with other transit providers and neighboring communities.
- 4.15. Devote increased attention to the regional transit coordination committee sponsored by TxDOT, including interlocal agreements and joint use arrangements with other providers. Seek shared services such as employee recruitment, training, and licensing programs; and vehicle procurement, transfers, and maintenance.
- 4.16. Investigate the feasibility of commuter routes from Brownsville and Harlingen-San Benito for employment transportation. Conduct an intercept survey to solicit information as to commuter trip purpose, origin and destination, and other factors. Utilize the survey to target the market area and potential users for use of a commuter service. Consider a rideshare program where employees are matched with one another to carpool to work.
- 4.17. Support the initiative of the Lower Rio Grande Valley Development Council (LRGVDC) to improve coordination throughout the three-county TxDOT Pharr District. Organization may reduce the administrative costs of managing The WAVE, while also offering added benefits in terms of access to other sources of funds, improved regional communication and coordination, and expanded services.
- 4.18. Consider installing bus pull-out bays (refer to **Figure 4.2, Bay Design Alternatives**) along Padre Boulevard utilizing the existing shoulder space. Mark transit stops as appropriate. Such improvements are also advisable along Gulf and Laguna Boulevards.



The design of transit shelters contributes to their visibility and can relate to the Island's identity.

4.19. Improve transit stops by incorporating sidewalks, curb cuts, handicap accessible ramps, non-slip surfaces, marked signed and/or signaled crossings, prevention of obstructions for wheelchair access, and installing pedestrian actuated signals, near major transit stops.

4.20. Evaluate the performance of the fixed route and establish service standards, identify route modifications and new routes, research coordinative opportunities with other area providers, analyze commuting patterns and assess the feasibility of commuter routes, analyze fuel alternatives, recommend vehicle types and specifications, identify infrastructure needs, and recommend revenue options and funding strategies.

4.21. Explore the feasibility of a multi-use facility that may serve as a new transit vehicle storage facility for The WAVE and a public parking garage, along with mixed retail, office, and upper floor living uses. The facility may also serve as a center for taxicab, pedicab, and water ferry operators, a commuter service, and tour operators.

4.22. Solicit private enterprise to initiate added public transportation services, with start-up funds, low-interest loans, and other financial incentives.

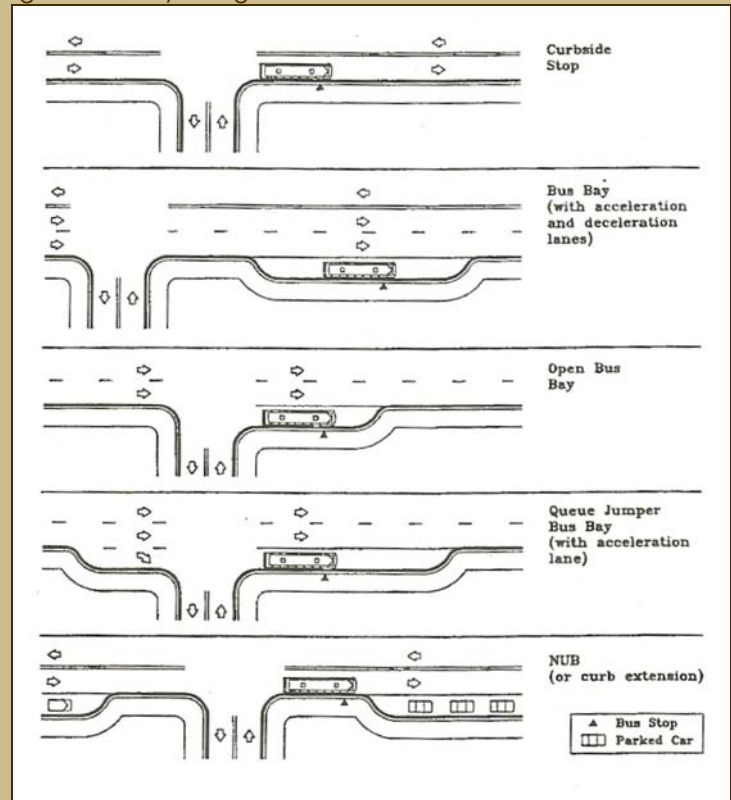
4.23. Solicit the involvement of the arts community in the design of custom transit shelters that relate to the identity of the Island.

4.24. Develop a shelter replacement program beginning on Padre Boulevard followed in priority by the stops with the highest use and public visibility.

4.25. Request businesses to participate in funding expanded transit services. As an incentive, offer parking credits to reduce the required parking commensurate with their employee and patron use.

4.26. Execute a marketing campaign to inform the public as to The WAVE and its schedule, the connection in Port Isabel, and future service expansions. Accommodate Island employees

Figure 4.2, Bay Design Alternatives



Source: Transit Cooperative Research Program (TCRP) Report 19, Federal Transit Administration

GOALS

followed by daily visitors and tourists. The marketing should include a web-based campaign, as well as transit kiosks, way-finding signage for stop locations, and bus-wrap advertising.

- 4.27. Consider amending the ordinance pertaining to the definition of signs and the appropriate use of murals on building walls in the Town Limits.

Efficient and well-managed traffic

- 4.O. Preserve the traffic carrying capacities of roadways
- 4.P. Ensure suitable street infrastructure commensurate with traffic demands and volumes
- 4.Q. Plan in advance for an efficient street network
- 4.R. Implement up-to-date transportation policies and standards
- 4.S. Enhance street right-of-way appearance and contribution to Town character

Recommended Actions

- 4.28. Adopt driveway regulations to restrict their number, location, and spacing, street intersections, and median openings. The regulations should require parallel access roads and/or cross access easements to minimize the number of driveways.
- 4.29. Coordinate with TxDOT to identify opportunities for consolidation of driveways and other means of access other than directly from the Boulevard. As displayed by **Figure 4.4, Access Consolidation**, vacating right-of-way may reduce the number of access points from three to one without affecting property ingress/ egress.
- 4.30. Coordinate with TxDOT to put in signs and crosswalks where warranted as area travel volumes increase along Padre Boulevard.

Street Closures / Cul-de-sacs

'Street Closures/ Cul-de-sacs' are neither good nor bad per se. However, one factor can transform each into real problems for residents – location. The Town's policy regarding street closures should be a function of location. In some locations, they may be 'impractical' or even 'bad;' in others, they may be 'useful' or even 'good.' The policy decision in each area should respond to clearly defined objectives.

Joint access means a shared driveway that may serve more than one parcel. **Cross access** is a drive providing access between two or more contiguous sites so the driver need not enter the public street. A **parallel access road** is an auxiliary road located on one side of an arterial street for providing access to the abutting properties.

Cross access is accomplished by a platted and/or recorded easement giving access between two nonresidential or high-density residential properties, thereby eliminating the need for motorists to use the boulevards to move between abutting and nearby properties.

should determine the policy regarding private developments that incorporate cul-de-sacs. If developers think such features enhance their competitive position, then they should plan accordingly. Buyers would have the choice of deciding to buy property affected by a closed street. The Town's policy should be to leave the specific planning to the private developers.

5. Conclusion

The Town's policy should recognize the different circumstances in the different areas. Closing streets in the current residential areas is not desirable. Closing streets in the Entertainment District should be an option available to affected businesses in the district. The free market should determine the use of closed streets in future developments. The Town should not take or unduly burden the use of private property in the closing of any streets subject to its control.

Traffic and Access Management

Essential to managing the efficiency of each of the boulevards is preserving their traffic capacities. Even though these roadways are designed to carry a certain volume of traffic, there are situations that affect their efficiency including:

1. the number of driveways;
2. head-in parking resulting in vehicles using the public right-of-way to maneuver into and out of parking spaces;
3. lane width;
4. synchronization of signals, which will become important as signals are added;
5. number of cross street intersections;
6. allowance for deceleration/acceleration at major access points of ingress and egress, such as The Shores Development; and
7. the presence or nonexistence of a center turn lane or median.

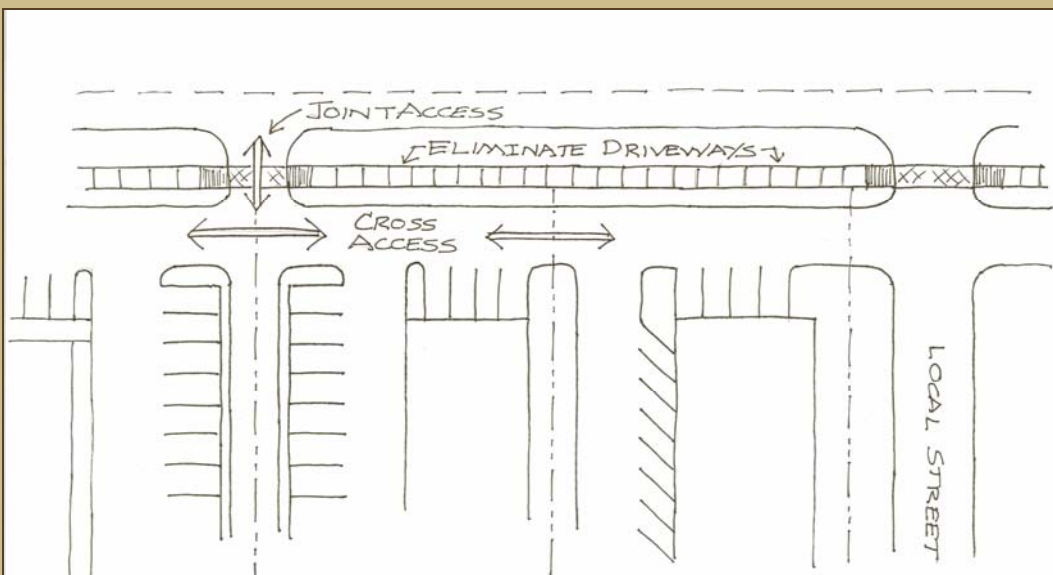
Of relevance to this plan is the management of access along each of the boulevards. There are many examples of head-in parking being accessed by the public right-of-way. While these are required spaces, the Town needs to seek other ways to provide an equivalent number of spaces in a more efficient configuration, such as parallel or diagonal parking.⁴ There appears to be an opportunity to convert 90 degree

⁴ Alternatives to the existing head-in parking configurations along each of the boulevards should be addressed by the parking study, with feasible alternatives identified.

head-in spaces to 60 degree diagonal parking, allowing an access aisle on site rather than using the street.

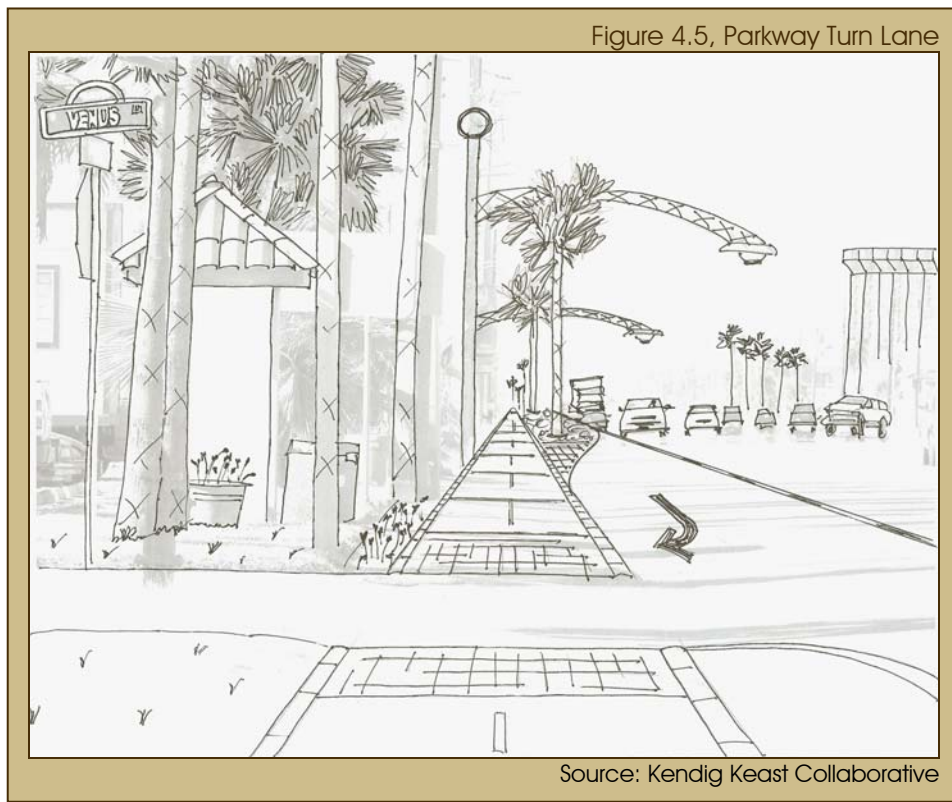
While the one block grid of cross streets maximizes access, it allows disruption of traffic flow on Padre Boulevard. Additionally there are a number of driveways accessing Padre Boulevard and Gulf Boulevard which impedes traffic flow. A solution is termination of some of the cross streets, which would form distinct neighborhoods without cut-through traffic. The intersection with Padre Boulevard could be maintained to provide shared access to the two abutting properties, allowing the existing driveways to be closed. A solution for new

Figure 4.4, Access Consolidation



development is shared driveways. Similarly, cross access between properties is also highly effective.

Access management will become increasingly essential as growth continues to occur. If implemented, it will effectively manage congestion and protect the capacity of future streets by controlling access at the time of development. Properly utilized, it can greatly limit the need for costly right-of-way acquisition and street widening.



The following access management strategies may be used:

1. Coordinate with TxDOT - Access management along Padre Boulevard must involve TxDOT. Through coordinated efforts, such as the design and improvement of medians, access management may greatly improve the efficiency of this principal arterial roadway.
2. Separate conflict points - Driveways must be spaced such that they are a sufficient distance from street intersections.
3. Establish design standards - Design standards should address the spacing of driveways, dimensions and radii, sight distance, and the length of turn lanes.
4. Locate and design traffic signals to enhance traffic movement – As more signals are added along Padre Boulevard, their spacing and synchronization is essential.
5. Remove turning vehicles from through travel lanes - Left and right turn lanes provide for the deceleration of turning vehicles. A portion of the shoulders along Padre Boulevard may be used for turn lanes at street intersections, as displayed in Figure 4.5, Parkway Turn Lane.
6. For Commercial Properties, encourage shared driveways, unified site plans, and cross access easements - Joint use of driveways for

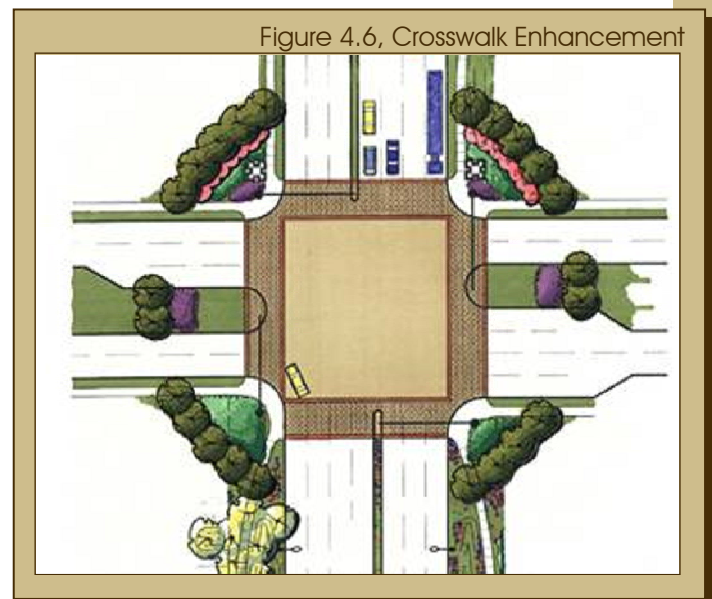
commercial properties will reduce the number of access points along Padre and Gulf Boulevards, which will reduce congestion, improve travel safety, and delay costly improvements. Such driveway arrangements also encourage shared parking.

Pedestrian and Bicycle Routes and Crossings

As a resort and visitor destination, sidewalk and trail use is much higher on the Island than elsewhere. To meet the demands, a complete network of sidewalks and trails is needed. The network must link each of the major origins (neighborhoods, hotels/motels, condominiums, RV resorts, etc.) and destinations, such as shopping areas, the entertainment district, parks, and the convention center. Doing so will enable residents and guests to walk or bicycle rather than driving their vehicles.

A prioritized sidewalk and trail network includes:

1. Reconstruction of the sidewalks on both sides of Padre Boulevard. The minimum width should be eight feet and must comply with the Federal accessibility standards. The sidewalks should contribute to the design of the corridor. The alternatives for siting the sidewalks are as follows:
 - a. Remain at the back of the existing curb provided the shoulder lane becomes a landscaped parkway. This is important to increase the separation between the pedestrian and passing motorists.
 - b. Relocate the sidewalk nearer to the front building line. This option is less preferred due to conflicts with parking lots, patios, gardens, and changes in grade. Also, pedestrians would have to cross parking lots, drive-through lanes, driveways, and cross streets, creating added conflict points.
2. Delineation of a combined eight-foot sidewalk/bikeway along Gulf Boulevard. Due to its proximity to the beach, individual sidewalks and bikeways are not warranted. To minimize costs, this pedestrian/bicycle corridor can be within the existing 40 feet of paved surface. It must be clearly marked by pavement striping and signage and separated from the travel lanes by a parking lane.
3. Where there are beach accesses, a sidewalk needs to be installed on at least one of the



Benefits of Thoroughfare Planning Include:

- ◆ Preserving **adequate rights-of-way** for future long-range transportation improvements.
- ◆ Minimizing the **amount of land** required for street and highway purposes.
- ◆ Identifying the **functional role** that each street should be designed to serve in order to promote and maintain the stability of traffic flow and land use patterns.
- ◆ **Informing citizens** of the streets that are intended to be developed as arterial and collector thoroughfares so that private land use decisions can anticipate which streets will become major traffic facilities in the future.
- ◆ Providing information on **thoroughfare improvement needs** which can be used to determine priorities and schedules in the Town's Capital Improvement Program (CIP) and capital budget.
- ◆ **Minimizing the negative impacts of street widening and construction** on neighborhood areas and the overall community by recognizing where future improvements may be needed and incorporating thoroughfare needs in the Town's comprehensive planning process.

side streets north or south of the beach access in order to connect the beach accesses to Padre Boulevard and eventually to Laguna Boulevard. The Town should base their decision for the sidewalk location on existing conditions/businesses located along Padre Boulevard and the side streets.

4. Construction of sidewalks on one side of each of the local streets between Padre Boulevard and Laguna Boulevard.

Crosswalk Improvements

All crosswalks must be clearly delineated. Given the Island's environment, thermal plastic striping or other durable and visible materials are recommended. Newly constructed streets and intersections should include crosswalks.

Thoroughfare Plan

The Town's Thoroughfare Plan should be designed to ensure orderly development of the transportation system (not only streets, but also pedestrian ways and hike/bike trails) and provide efficient traffic flow within the Town's jurisdictional limits. Additionally, north and south primary arterials must be designed to accommodate traffic levels associated with seasonal high demands and potential evacuations due to hurricanes or other emergency situations.

Main arterials should be designed to reduce or eliminate sources of traffic restrictions encountered during normal scheduled maintenance and seasonal community activities.

Design of major arterials should conform to TxDOT specifications, and all secondary collectors and residential streets should conform to State and local standards and be of proper design to allow use of fire fighting vehicles, trash collection, and other traffic normally expected for the end use of the particular developed area.

Future large private developments should be encouraged to provide multiple access points to main arterial streets and adhere to minimum street standards adopted by the Town of South Padre Island.

Future developments of any Thoroughfare System should be designed to avoid any negative impact to sensitive wetlands or wildlife habitat. The system should include the recommendations of the Town of South Padre Island Comprehensive Plan relating to public areas, wherever possible, and said Plan would be subject to approval of the South Padre Island Planning and Zoning Commission and final approval by the local elected officials.

Private Issues

Mobility Issues

The following mobility issue was identified:

1. **Adequate Parking in Appropriate and Convenient Locations:**
Parking demands are unique due to the type of development and the cyclical nature of the economy. This circumstance presents a challenge on occasions when the demand exceeds the available supply. There are also varying needs among different parkers, depending on their trip purpose, destination, and duration. A comprehensive parking program that meets the needs of both residents and visitors must be assembled to manage the demand and supply while mitigating the cumulative impacts.

Goals & Recommendations

- 4.T. Improved Pedestrian Friendliness
- 4.U. Provide a safe and attractive environment for walking and bicycling
- 4.V. Encourage transportation forms other than the automobile
- 4.W. Develop walking and biking paths that are coordinated with existing businesses, residences, street infrastructure, and transit opportunities and that contribute to the character and identity of the Island and the individual corridors where the paths are located.

GOALS

Recommended Actions (See Chapter 3)

- 4.31. Amend the subdivision regulations as follows:
 - a. Require sidewalks on both sides of arterial and collector streets and one side of local streets.⁵ Consider requiring alternative materials such as recyclables.
 - b. In all new subdivisions, require pedestrian easements between properties that abut an open space or street no less than every 600 feet and at the ends of cul-de-sacs.
 - c. Develop right-of-way and pavement cross sections for all street types, including alternatives for Planned Development Districts (PDDs)⁶ and defined situations, i.e. changes in density, etc.

⁵ Sec. 2.13 Sidewalks of the Standards and Specifications for the Installation of Improvements currently requires sidewalks on both sides of all streets.

⁶ Sec. 20-23. Planned Development Districts (PDD District), Chapter 20, Zoning.

- d. Incorporate specifications for crosswalk improvements including pavement texturing and/or striping, signage and warning lights, pedestrian and bicycle actuated signals, and curb cuts and handicap accessible ramps.
- 4.32. Require sidewalks crossing driveway entrances to comply with accessibility standards. Furthermore, require that the sidewalk is constructed with a unique surface and/or color to alert motorists to the crossing and to serve as a design feature.
- 4.33. Initiate plans to construct a boardwalk along the shoreline of Laguna Madre within the entertainment district. Connect it with a larger pedestrian network across the Island.

Efficient and Well-Managed Traffic in Private Developments

GOALS

- 4.X. Preservation of the traffic carrying capacities of roadways
- 4.Y. Suitable street infrastructure commensurate with traffic demands and volumes
- 4.Z. Advanced planning for an efficient street network
- 4.AA. Up-to-date transportation policies and standards
- 4.BB. Enhanced corridor appearance and contribution to Town character

Recommended Actions (See Chapter 3)

- 4.34. Amend the subdivision regulations as follows:
 - a. Require private streets to conform to public street standards.
 - b. Allow varying local street widths in the Planned Development District (PDD), whereby the number of dwelling units and the average lot frontages determine the street right-of-way, pavement width, parking lanes, and sidewalks.
 - c. Incorporate the traffic impact report (TIR) provisions now located within the Standards and Specifications for the Acceptance of Public Improvements.
 - d. Require a general development plan for multi-phased development, which ensures compliance with the policies of this plan. Authorize the Town to develop small area street plans to allow staff to determine a street layout plan for areas warranting special study.
 - e. Require shared driveways and cross-access easements between abutting nonresidential and high-density residential properties.
 - f. Incorporate provisions for other types of plats as allowed by State law, including minor plats, replats, vacating plats, development plats, and amending plats, to offer streamlined review, which, in many cases, can be handled administratively.