

1. INTRODUCTION

This chapter provides a summary of the 2050 Regional Active Transportation Planning process.

PLAN PURPOSE

The Active Transportation Plan presents a shared vision for the development of a safe and highly functional Active Transportation Network of pedestrian and bicycle facilities and amenities within the Corpus Christi MPA.

The Active Transportation Plan provides a comprehensive assessment of current mobility issues, needs, trends and priorities and serves as a framework for the cities within the Corpus Christi MPA to make informed decisions regarding active transportation infrastructure, policies and investments. The Active Transportation Plan outlines goals and objectives (Exhibit 1-03 on page 1-2) that guide the network development, recommendations and implementation strategy that integrate the concepts of Complete Streets and Micro-Mobility.

PLAN BACKGROUND

The Corpus Christi Metropolitan Planning Organization (MPO) worked with local governments and partner agencies to develop a comprehensive bicycle and pedestrian facility inventory, a data-driven needs assessment, extensive public outreach and stakeholder engagement and a thorough review of relevant case studies. This Active Transportation Plan serves as a guide for regional collaboration and standards for the region’s future network.

WHAT’S IN THE ACTIVE TRANSPORTATION PLAN

The Active Transportation Plan includes an inventory of existing and planned active transportation facilities, an analysis of existing data and policies, summary of public and stakeholder engagement, guidance and recommendations on facility design and policy (the Complete Streets Program Guide in Appendix A), recommended priority network and an implementation plan with project priorities.

ABOUT THE CORPUS CHRISTI MPO

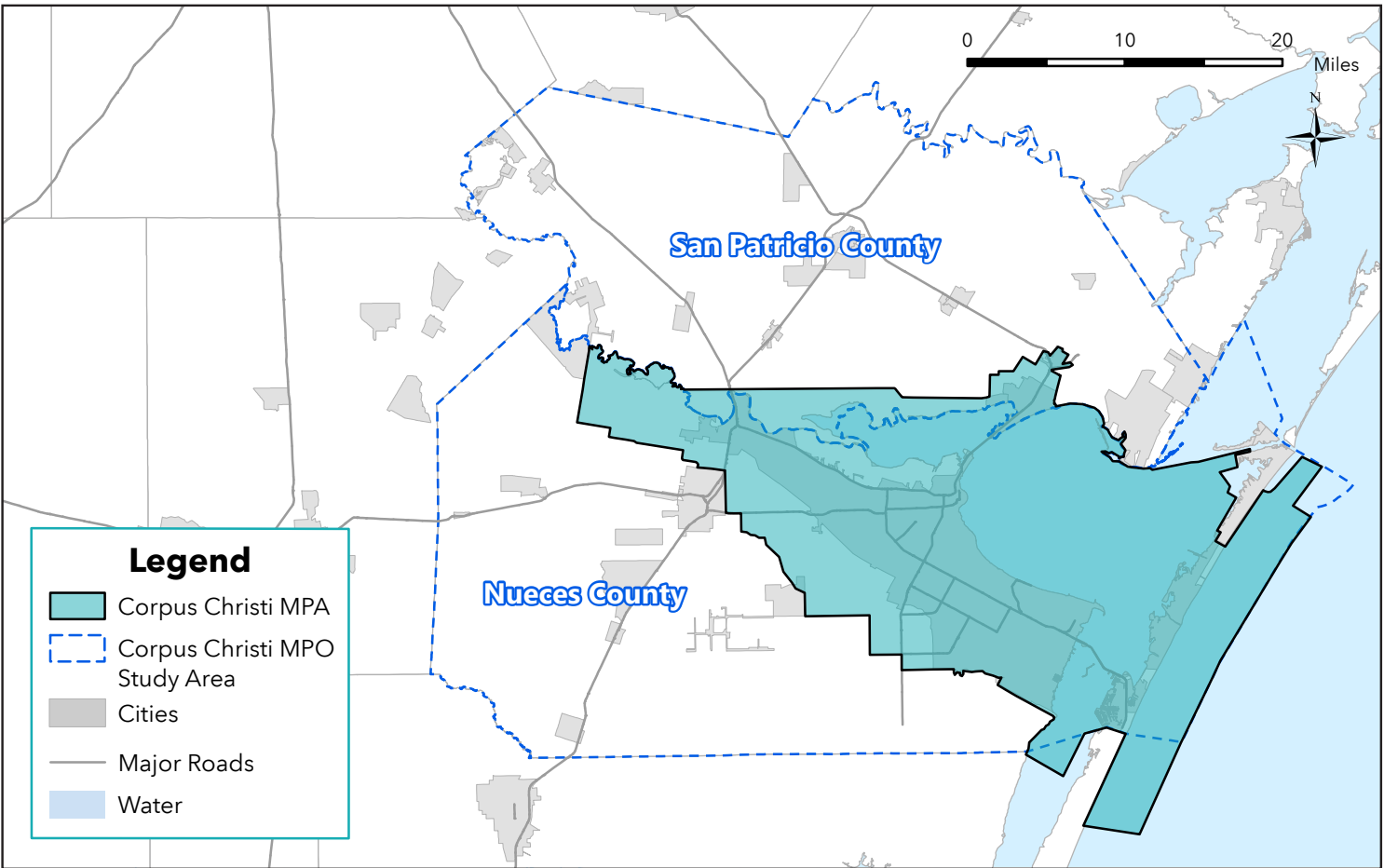
The Corpus Christi MPO serves as the MPO for Nueces and San Patricio Counties. The Corpus Christi MPA (Exhibit 1-01) encompasses the entire existing urbanized area and contiguous area anticipated to become urbanized within a 20-year forecast period. The MPA is the area to which transportation planning funds are allocated and where the Corpus Christi MPO coordinates regional transportation planning initiatives with counties, cities, the Corpus Christi Regional Transportation Authority (CCRTA) and the Texas Department of Transportation (TxDOT).

VISION, GOALS AND OBJECTIVES

The vision statement in Exhibit 1-02 outlines the overarching aspirations and desired future outcomes upon which goals and objectives are built. It provides high-level guidance focusing on the pragmatic balance between the aspirations and current realities. The vision sets the tone and direction for strategic initiatives, fostering alignment and clarity in organizational purpose.

Goals serve as outcome-based, broad statements that encapsulate longer-term aspirations. They are concise, straightforward and relatable, guiding efforts toward tangible achievements. Aligned with local and regional objectives, goals provide a clear direction for strategic planning and action, ensuring coherence and synergy across various initiatives.

Exhibit 1-01: Location of the Study Area



Objectives outline specific, measurable targets that break down larger goals into manageable components, providing a clear roadmap for implementation and progress tracking. They are characterized by their clarity, specificity and relevance to the Active Transportation Plan’s overarching goals. Objectives are often designed using the SMART criteria — specific, measurable, attainable, relevant and timely — to ensure they are realistic and actionable. The goals and objectives of this Active Transportation Plan are outlined in Exhibit 1-03 on page 1-2.

Exhibit 1-02: Vision Statement

Vision Statement

The Corpus Christi MPO region is seen by residents and visitors as a safe place where walking and biking represent a viable and resilient travel option for all, regardless of age, ability, race, ethnicity, or income.

Exhibit 1-03: Goals and Objectives

Goal: Safety

Eliminate fatalities and reduce serious injuries for active transportation users

Objectives

A. By 2050, eliminate all traffic fatalities and reduce severe injuries by 50% compared to the 2023 baseline.

B. By 2028, secure an increasing proportion of safety funding for active transportation.

C. By 2028, ensure utilization of the National Association of City Transportation Officials (NACTO) Urban Street Design Guide and the Complete Streets Design Manual for all local project designs to support bike/ped projects that create a low-stress network for bike/ped users and use context-sensitive design.

D. By 2028, complete an inventory and conditions assessment of the existing Active Transportation Network, prioritize noted deficiencies and establish procedures for monitoring conditions and updating the assessed inventory.

Performance Measures

» Fatal and serious injury crashes within the Corpus Christi MPO region

» Annual funding for safety projects related to active transportation

» Local adoption of Active Transportation Plan and its design guidance elements

» Inventory of Active Transportation Network and conditions, with priorities for improvements

Goal: System Performance

Improve active transportation connectivity and mobility

Objectives

A. Annually create 5 miles of new on-street protected bicycle facilities or off-street bike/ped facilities within the Corpus Christi MPA.

B. Annually construct or repair 5 miles of Americans with Disabilities Act (ADA)-compliant sidewalks within the Corpus Christi MPA.

C. Increase active transportation activity within the MPA by implementing improved or new bike/ped connections to residential areas, community facilities, shopping areas, tourist attractions, employment concentrations, greenways and regional parks. Enhance the user experience by providing amenities (physical and visual) and wayfinding along the route.

Performance Measures

» Miles of on- and off-street bicycle facilities/trails

» Miles of ADA-compliant sidewalks

» Active Transportation mode share data (U.S. Census American Community Survey (ACS) dataset)

Goal: Promote Activity

Promote use of active transportation for healthy lifestyle

Objectives

A. Annually promote and actively participate in nationally recognized active transportation events, such as Bike to Work Week or Walk to School Day.

B. Annually promote and acitvely participate in local events focusing on active transportation such as Bike the Bay.

C. Annually promote the benefits of active transportation.

D. Annually promote driver education and awareness of bicyclists and pedestrians using our roadways.

Performance Measures

» Number of occasions or events promoted by MPO or member cities

» Number of participants in bicycle/pedestrian events

» Number of promotional or instructional items regarding bicycle/ pedestrian benefits or safety

PLANNING PROCESS AND TIMELINE

The development of the Active Transportation Plan was an 18-month process involving extensive public and stakeholder involvement to obtain the vision and goals of the project, data collection, analysis and review. Outlining the sequence of activities and key milestones illustrates the thoughtful and systematic approach undertaken to ensure the project’s success.

The timeline of the project was from May 2023 until October 2024 and served as a roadmap for guiding the project through its various stages and ensuring that all objectives were met within the set timeframe. Exhibit 1-04 outlines each phase in the planning process and its place on the project timeline.

Exhibit 1-04: Plan Development Timeline

May - October 2023	October 2023 - March 2024	March - August 2024	August - December 2024
» Project Kickoff » Data Collection » Active Transportation Best Practices Review	» Active Transportation Network Development » Micro-Mobility Ordinance	» Complete Streets Best Practices Review » Complete Streets Design Manual Development	» Public Meetings » Feedback Incorporation into the Active Transportation Plan Draft
» Online Survey » Analysis of Issues and Needs » Micro-Mobility Best Practices Review	» Active Transportation Network development » Public Meetings » Complete Streets Program Development Initiation	» Initial Draft Report Submittal	» Final Plan Submittal » Presentation to Corpus Christi MPO

1-2

Corpus Christi MPO Active Transportation Plan

CHAPTER 1. INTRODUCTION

ACTIVE TRANSPORTATION IN THE CORPUS CHRISTI MPA

Elements of a High-Quality Transportation Network

The overall investment in streets rights-of-way and full spectrum of user needs must be considered when transportation investments are constructed or reconstructed. A decision-making framework can then be constructed which prioritizes different modes based on land-use context and the hierarchy of functional purposes of the road.

There are well documented differences in the experience of non-motorized users on roads with 20 mph, 25 mph, 35 mph and 45 mph speed limits. Additional guidance is needed for when and how to construct or retrofit these roads. Roads that are designed with only vehicles in mind often yield higher than desired free flow speeds and makes creating a connected Active Transportation Network significantly more expensive and difficult. A high-quality Active Transportation Network is a cornerstone of resilient communities and involves integrating a series of essential elements that promote equity, health and safety, accessible design, connectivity and coordination of citizens and public institutions.

By addressing these critical components, cities can create an environment that encourages walking, cycling and other non-motorized forms of transport, ultimately enhancing the quality of life for all residents. For more information about elements of a high-quality Active Transportation Network with visual examples, please refer to the Street Design for Active Transportation section on page 4-1, or the Appendix A: Complete Streets Program Guide.

Benefits of Active Transportation

- » It provides an opportunity for physical activity
- » Children who walk or ride to schools are more independent and more likely to continue healthier lifestyles
- » Healthier communities reduce the impacts on our healthcare systems
 - Reduces population obesity rates and reduces the chance of heart disease
 - Improves mental wellbeing with links to reduced anxiety and depression
- » It enhances social connections and engagement with the local community

Previous Planning Initiatives

Planning for active mobility requires consideration of citywide and local plans to ensure equity and connectivity when developing a comprehensive walking, biking and rolling network. All the plans reviewed are listed in Exhibit 1-05. This Active Transportation Plan builds upon previous plans and studies conducted by municipalities and other agencies. Plans most essential to the Active Transportation Plan are further explored in the Review of Existing Plans and Codes section beginning on page 2-5.

Exhibit 1-05: List of Reviewed Plans

Name	Agency
2016 Strategic Plan for Active Mobility (SPAM)	Corpus Christi MPO
Metropolitan Transportation Plan (MTP)	
Program for Addressing Discrimination (PAD)	
2023-2026 Regional Safety Action Plan (Draft)	
Comprehensive Plan (Plan CC)	City of Corpus Christi
Parks, Recreation & Open Space Master Plan	
Bayside Area Development Plan	
Downtown Area Development Plan	
Flour Bluff Area Development Plan	
London Area Development Plan	
Southside Area Development Plan	
Westside Area Development Plan	
Northwest Boulevard (FM 624) Corridor Plan	
Padre/Mustang Island Area Development Plan	
Padre/Mustang Island Mobility Plan	
TIRZ #3 Traffic and Planning Analysis	
Mobility CC	
ADA Master Plan	
Bus Stop and Transfer Facility ADA Assessment	CCRTA
Fleet Forward 2022 Report	
Comprehensive Plan (Plan Portland 2040)	City of Portland
Campus Master Plan	Texas A&M University Corpus Christi
2022 ADA Self-Evaluation and Transition Plan	TxDOT
Texas Bicycle Tourism Trails Study 2018	
Public Right-of-Way Accessibility Guidelines	U.S. Department of Justice

COMPLETE STREETS AND MICRO-MOBILITY OVERVIEW

Complete Streets Overview

Federal Highway Administration (FHWA) states that the goal of Complete Streets is to offer an equitable, comfortable, connected and safe transportation network that serves pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists and freight vehicles. Complete Streets are designed with the safety and comfort of all road users, as well as the natural and human environment, in mind. To achieve this, planning, implementation and evaluation efforts prioritize safety, connectivity, equity and sustainability throughout the transportation network.

Building Complete Streets involves planning, designing, constructing, maintaining and operating roadways and public rights-of-way with all users in mind to make the transportation network safer. While Complete Streets use a multimodal approach that factors in a variety of transportation modes (walking, biking, rolling, driving, ridesharing, transit, freight delivery and more), there is no one-size-fits-all approach for Complete Streets. What a Complete Street looks like in practice will vary depending on community context and needs. It is not always possible to accommodate all modes on a single street due to right-of-way and other constraints. A practical approach to Complete Streets also focuses broadly on building Complete Networks to provide connectivity for different modes of travel. Complete Networks may use parallel routes to facilitate access that variously prioritizes different modes throughout an area while ensuring the safety of all roadway users. Creating Complete Streets also requires safety data analysis and safety countermeasure identification and implementation.

Complete Streets is a key component of FHWA’s implementation of the Safe System Approach, which is the framework of the USDOT’s new comprehensive National Roadway Safety Strategy (NRSS). The NRSS establishes an ethical imperative that no one should die or be seriously injured while using the street network. The NRSS also provides concrete steps that the U.S. Department of Transportation (USDOT) will take to address this crisis systemically and prevent roadway deaths and serious injuries.

Micro-Mobility Overview

Micro-mobility refers to the use of small, lightweight vehicles, such as electric scooters, bicycles, electric bikes and small electric vehicles, for short-distance trips. While these vehicles are often available through sharing services, allowing users to rent vehicles for short periods and return them at designated locations, private ownership of electric scooters is much more common than rental usage. Micro-mobility has gained popularity in many cities worldwide as these smaller vehicles help reduce traffic congestion, improve air quality and promote healthy, active lifestyles. However, challenges such as safety, infrastructure constraints, funding, resiliency and regulatory development and oversight remain key considerations for widespread adoption.

SYSTEMIC ISSUES AND NEEDS

The following insights on the current state of active transportation in the Corpus Christi MPA were made based on public input, stakeholder comments, consultant team analysis and general observations.

Sidewalks

Urbanized areas typically have sidewalks on both sides of the street in residentially developed neighborhoods. As stated on page 13-1 of FHWA's Course on Bicycle and Pedestrian Transportation, "Sidewalks require a minimum width of 5.0 feet if set back from the curb or 6.0 feet if at the curb face. Any width less than this does not meet the minimum requirements for people with disabilities." Most older sidewalks in the Corpus Christi metropolitan area are 4-feet wide, have had little maintenance and are in varying degrees of disrepair. Many older sidewalks are not ADA-compliant and cities are gradually progressing to retrofit compliant ramps at street crossings. In some developments, no sidewalks are present and retrofitting sidewalks into these areas can be problematic. Federal regulations require that all newer sidewalks built within the last 10 years must be ADA-compliant.

Sidewalks along arterial roadways in urbanized areas are often situated abutting the curb-face and, therefore, lack sufficient buffer from the adjacent higher volume and higher speed traffic.



Sidewalk at curb-face with insufficient buffer from traffic on Santa Fe Street, Corpus Christi, TX

Crosswalks

Crosswalks are often placed to enhance sidewalk use and provide safety. Factors that can affect placement include:

- » Traffic control, such as stop signs and traffic signals
- » Sidewalk location
- » Student attendance zone
- » Traffic volume
- » Pedestrian age
- » Proximity to school or transit stop locations

A key consideration for placement is making sure the distance between controlled crossings is within the ¼ mile walking distance that most pedestrians consider a reasonable walking distance.



Crosswalk with additional pedestrian signs on signalized intersection of Ocean Drive and Del Mar Boulevard

Crosswalks are almost always provided at signalized intersections. However, the distance between controlled crossings can be over the 1/4-mile walking distance most pedestrians consider a reasonable walk to get there. Bus stop locations, school locations and alignment of opposing streets from neighborhoods influence the desire for controlled crossings.

In addition to signals, cities in the Corpus Christi MPO have installed rectangular rapid flashing beacons (RRFB) and pedestrian hybrid beacons (PHB) to assist pedestrians to cross the street. These crossing safety treatments have proven to be highly effective, increasing pedestrian safety and encouraging bicycling, walking and transit usage and should be implemented as required throughout the region.



Shared-use path on Staples Street, Corpus Christi, TX

Bicycle and Micro-Mobility Facilities

Prior to 2016, the cities in the Corpus Christi MPO region constructed bike lanes without consideration of adjacent traffic speeds and volumes. In 2016, the MPO adopted the Strategic Plan for Active Mobility, which favored the provision of off-street bicycle facilities or facilities on low-volume/low-speed local roads and collectors to support the overall safety of the user.

The development of the Strategic Plan for Active Mobility network of facilities has been opportunistically developed along with other capital improvement projects. As such, the current state of the bicycling network is a mostly discontinuous set of assorted bicycle facilities.



Transit vehicle with accessible elements. (Source: CCRTA)

Transit Service Access

Many transportation-disadvantaged residents rely on public transportation to access public services and to maintain an active and healthy lifestyle. The bike-on-bus capabilities of the bus route network expand the range of the transit service area and offer great potential for expanding the Active Transportation Network. This is a key consideration for people who cannot, or choose not to, drive. There are 10,666 households in Nueces and San Patricio Counties that do not have access to a car.

While the homeless are highly dependent on transit, their behavior at bus shelters and on buses is seen as a barrier to the expansion of transit ridership and a drain on maintenance programs.

Safety

Speed is the main factor in a majority of pedestrian and bicyclist deaths. As vulnerable road users, bicyclists and pedestrians are very sensitive to the relative safety of their journey along and crossing roadways. Providing some degree of separation for the user groups and managing traffic speeds should be considered in the planning and design of the Active Transportation Network. It is still common for agencies to establish design speeds 10 mph higher than the anticipated posted speed as a “safety factor”. It is still common for agencies to establish design speeds 10 mph higher than the anticipated posted speed as a “safety factor” when it actually does the opposite. Roadways designed for higher speeds will tend to operate at these higher speeds.

Public Support and Activism

The 2013 Corpus Christi MPO Bike Plan recommended the establishment of a Bicycle/Pedestrian Advisory Committee to assist in the advancement of active transportation improvements and was created shortly after plan adoption. After several years of active involvement in providing input into the design of the city roadways and trails, this committee was dissolved at the direction of the City Council.

Currently, cycling advocates are highly frustrated that their voices are not heard regarding walking and bicycling safety. They are also frustrated by the current level of investment in maintenance of existing bicycle and pedestrian facilities within Corpus Christi and the MPO region.



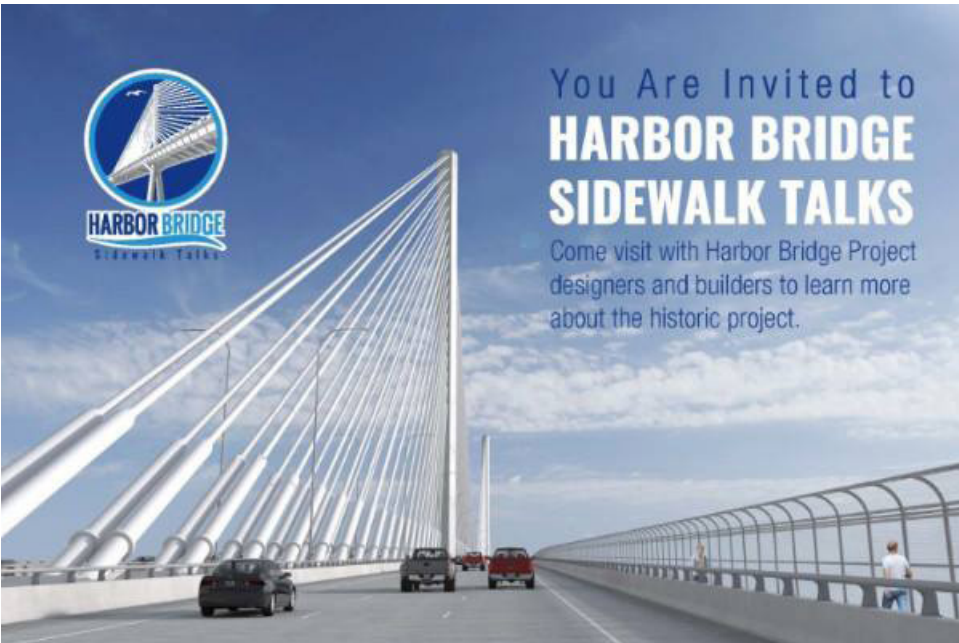
(Source: Valley Transportation Authority)

- Local activists bring energy that can be utilized to revitalize local initiatives such as:
- » Participation in Safe Routes to School programs
 - » Host Bike to Work and other citywide celebrations and modal promotions
 - » Development of local champions within municipal governments
 - » Supplemental support to City staff on grant writing, identification of maintenance issues, and monitoring of bicycle and pedestrian facility conditions
 - » Participation in the formal and informal review of facility development or decommissioning
 - » Increasing awareness of and accommodation for the needs of the mobility challenged

On the Horizon

Upcoming projects and initiatives are bringing a sense of momentum to the Corpus Christi MPO region and presenting opportunities to catalyze bicycle and pedestrian facility investments.

The new Harbor Bridge, scheduled for completion in late 2025/early 2026, will have a barrier-separated bicycle and pedestrian shared-use path (SUP) along the bridge’s east side and landings with SUP connections to the existing local street network. Additional bicycle and pedestrian network connections to and from the Harbor Bridge crossing should be locally programmed to be in place as soon as possible after the new Harbor Bridge is completed. At a minimum, connections should be programmed for access to North Beach attractions and to the Shoreline/Ocean Drive corridor.



Harbor Bridge Sidewalk Talks event poster. (Source: Harbor Bridge Project)

Funding has been obtained for the construction of a pedestrian bridge across an inlet of the Oso Bay using the remnant foundations of a former railroad trestle, providing for the extension of the Holly Road Park bikeway to connect to the existing 12-foot shared-use path along Flour Bluff Road. The completion and enhancement of the bicycle and pedestrian facilities along Ennis Joslin Road would set the stage for establishing a 20-mile-long multimodal passageway from Flour Bluff to North Beach.

TxDOT is also preparing a Statewide Bicycle Tourism Plan and a Statewide Active Transportation Plan. The funded Trestle Bridge across the Oso is a link included in the Statewide Bicycle Tourism Plan network. The preliminary network of the Statewide Bicycle Tourism Plan for the Corpus Christi MPA indicates a bicycle connection to Corpus Christi via the SH 44 corridor roadway shoulders. Strategically, these could connect to a potential rail-to-trail system using an abandoned railroad corridor parallel to Agnes Road which could then connect to tourist destinations in central portions of Corpus Christi. The Statewide Active Transportation Plan is currently under development and a draft plan for public review is scheduled to be available in fall 2024.

Focus of The Active Transportation Plan

The focus of the Active Transportation Plan is to:

- » Use a Complete Streets approach to identify a balance of needs for all modes of transportation to destinations, right-sizing streets as needed to introduce bicycle and pedestrian accommodations
- » Develop recommendations for specific, implementable facilities and treatments
- » Prioritize the implementation of the recommendations to create an increasingly usable and connected network
- » Leverage local resources to increase overall cycling activity in the region
- » Initially focus on low-cost, high benefit improvements

2. EXISTING CONDITIONS AND PLANS

This section provides a general overview of the area’s population, employment and current utilization of its transportation network. As part of the assessment of existing conditions, Corpus Christi MPO collected available data on existing and planned trails, bike lanes, separated bike lanes, shoulders, and sidewalks. Collected data is a resource available to local governments to assist in future planning.

COMMUNITY SNAPSHOT

Data presented in the Community Snapshot section was sourced from the 2021 American Community Survey (ACS) 5-Year Estimates, and represents the full two-county study area, unless indicated otherwise.

Population and Employment in the MPO Planning Area

The 2021 ACS indicates that the Corpus Christi MPO area has a slightly higher median age (Exhibit 2-01) compared to the state of Texas. Woods and Poole also conducted a demographic forecast of the MPO planning area and found that in 2050, the median age will rise to **43.73**, suggesting that the Corpus Christi MPO planning area population is aging.

Exhibit 2-01: Age Profile in 5-Year Increments

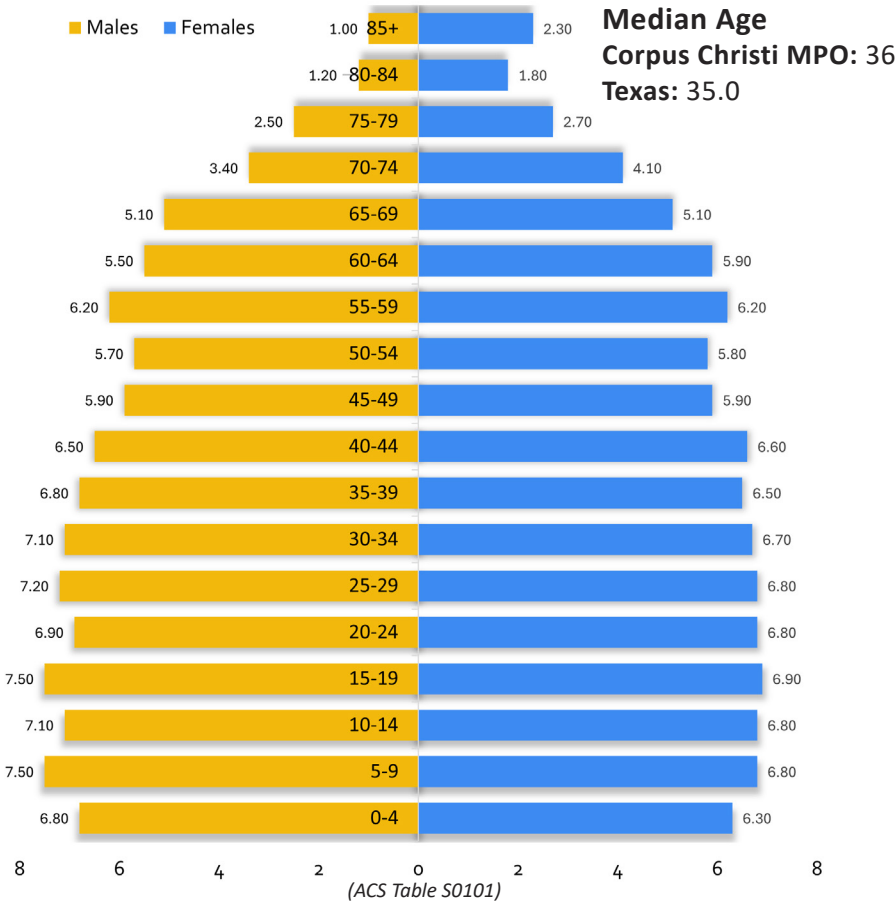


Exhibit 2-02: Historical Population Growth

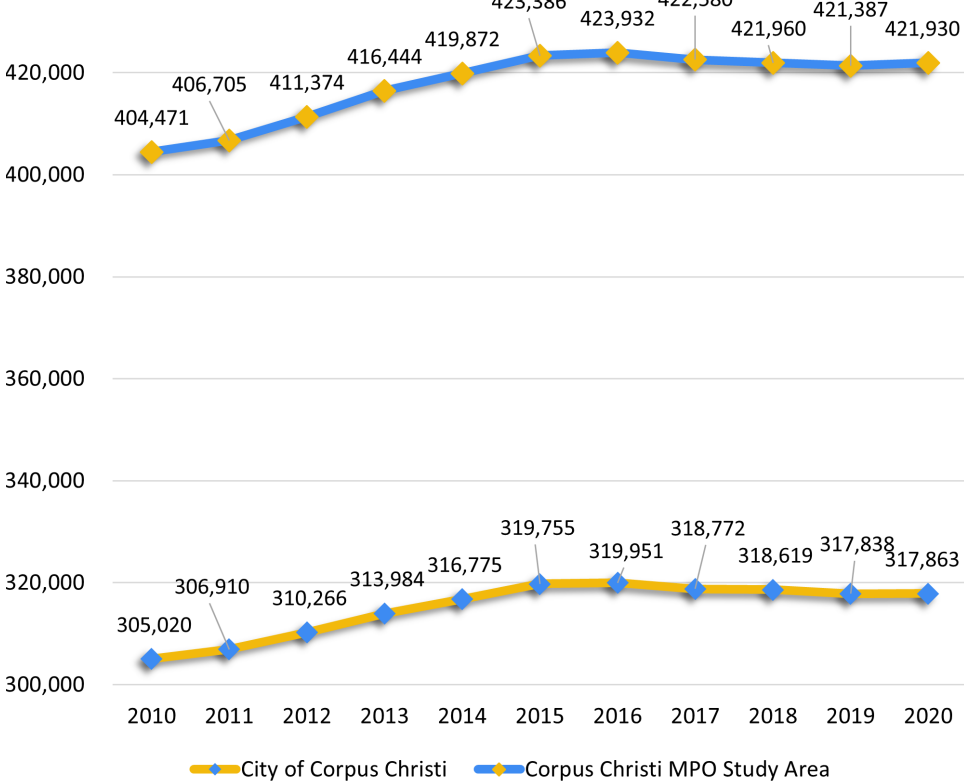
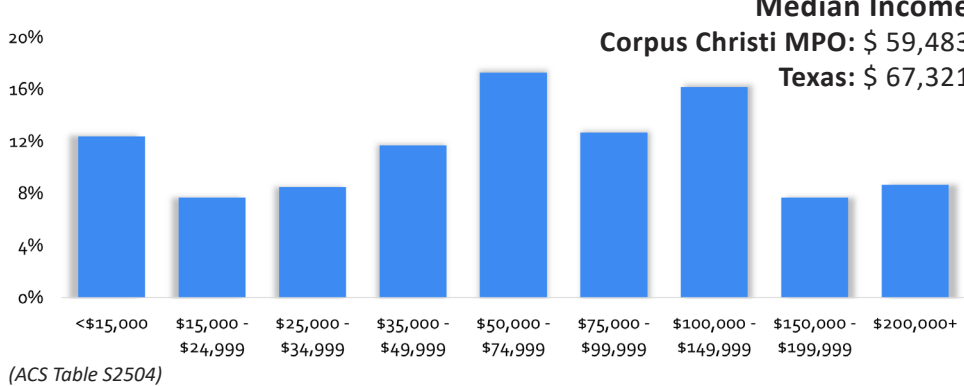


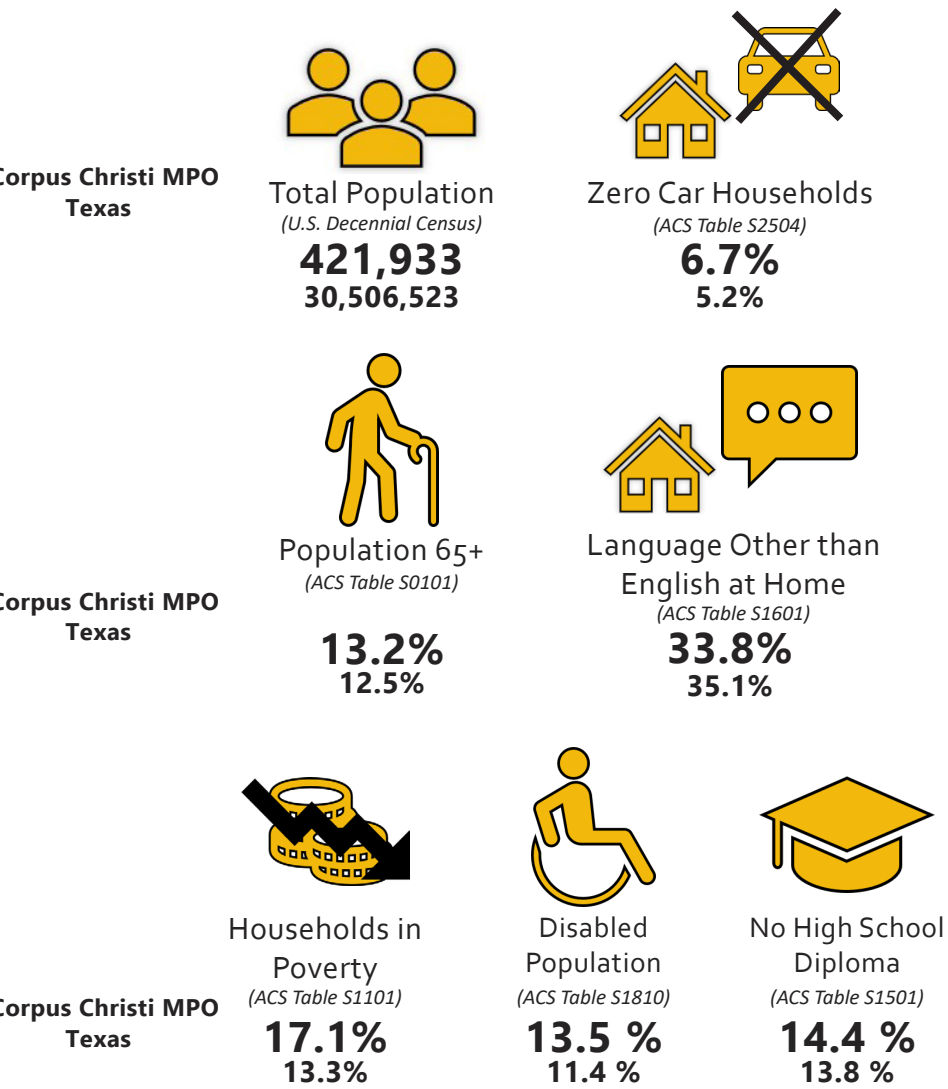
Exhibit 2-03: Household Income



According to the Texas Demographic Center, the population in the City of Corpus Christi has been decreasing since 2016 (Exhibit 2-02). Decreasing population presents both challenges and opportunities that the project team considered when developing the Active Transportation Network.

Compared to the state of Texas, the Corpus Christi MPO has a lower median household income (Exhibit 2-03), a higher concentration of people with disabilities, and a greater number of households without vehicles and households in poverty (Exhibit 2-04). This suggests that there may be a greater need for accessible and more affordable transportation options, such as walking and biking.

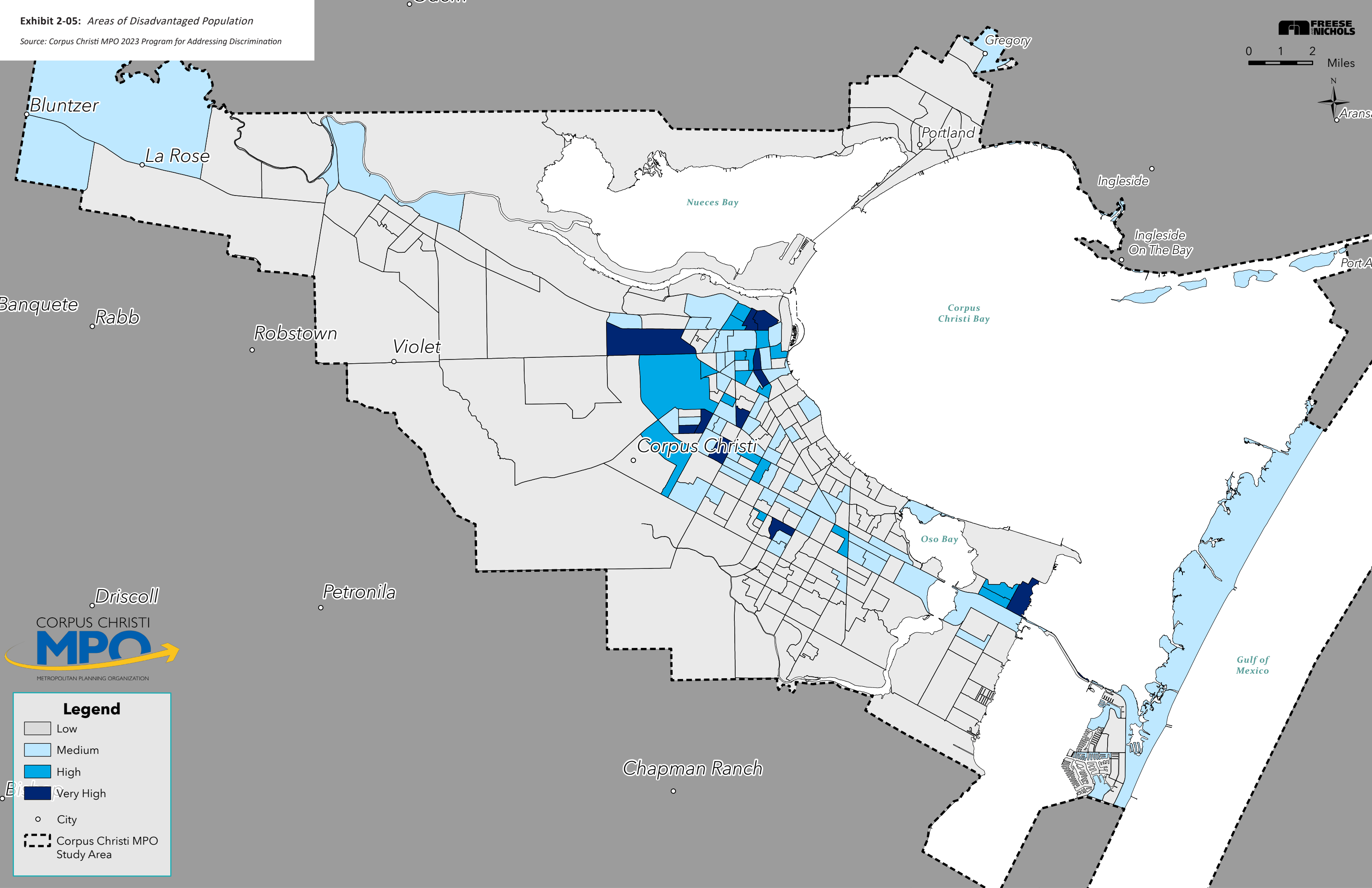
Exhibit 2-04: Community Overview



Disadvantaged Populations

Corpus Christi MPO’s 2023 Program for Addressing Discrimination shows the areas with the most disadvantaged population. Several factors including minority population, low-income population, car ownership, persons with disability and others are synthesized to create an Areas of Disadvantaged Populations Score (ADPC Sore), shown in Exhibit 2-05 on page 2-2. Disadvantaged populations are mainly concentrated near Downtown Corpus Christi, in the Central City area as well as the Flour Bluff area.

Exhibit 2-05: Areas of Disadvantaged Population
Source: Corpus Christi MPO 2023 Program for Addressing Discrimination



Legend

Low

Medium

High

Very High

City

Corpus Christi MPO Study Area

Blum

Inflow and Outflow of Workers

The analysis performed by the 2021 LEHD Origin-Destination Employment Statistics (LODES) dataset in Exhibit 2-06 reveals that most people live and work within the Corpus Christi Metropolitan Planning Area. The MPO Planning Area also sees a relatively equal amount of inflow and outflow of daily workers.

Exhibit 2-07 lists the top destinations of workers outside the City of Corpus Christi. The City of Corpus Christi remains the top destination for all workers.

Exhibit 2-06: LODES Analysis of Corpus Christi Metropolitan Planning Area



Exhibit 2-07: Top Destinations of City of Corpus Christi Workers

Work Destination	Percent of Workers
Corpus Christi	61.8%
San Antonio / Portland	Each 2.3%
Robstown	1.3%
Kingsville	1.1%
Houston	1.0%
Alice / Brownsville / Ingleside	Each 0.8%
All Other Locations	27.3%

Commuting

The MPO planning area’s average commute time to work is just over 20 minutes, which is 6 minutes faster than average commute times in Texas (Exhibit 2-08).

Majority of people leave for work between 7 a.m. and 8 a.m, as shown in Exhibit 2-09. Over 20% of people also leave for work after 9 a.m.

Exhibit 2-10 reveals that over 90% of people drive alone or carpool to work and only a small percentage of workers walk, bike, or use transit, following the statewide trend. Over 4% of people work from home and do not have a commute.

Exhibit 2-08: Commute Time to Work in Minutes

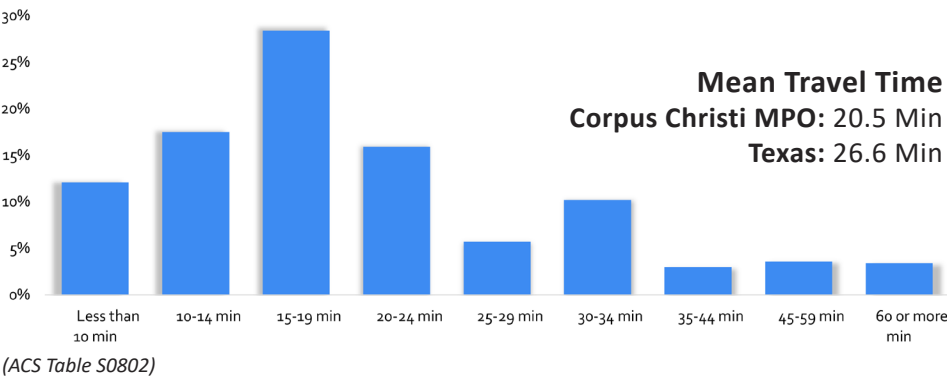


Exhibit 2-09: Time of Departure to Go to Work

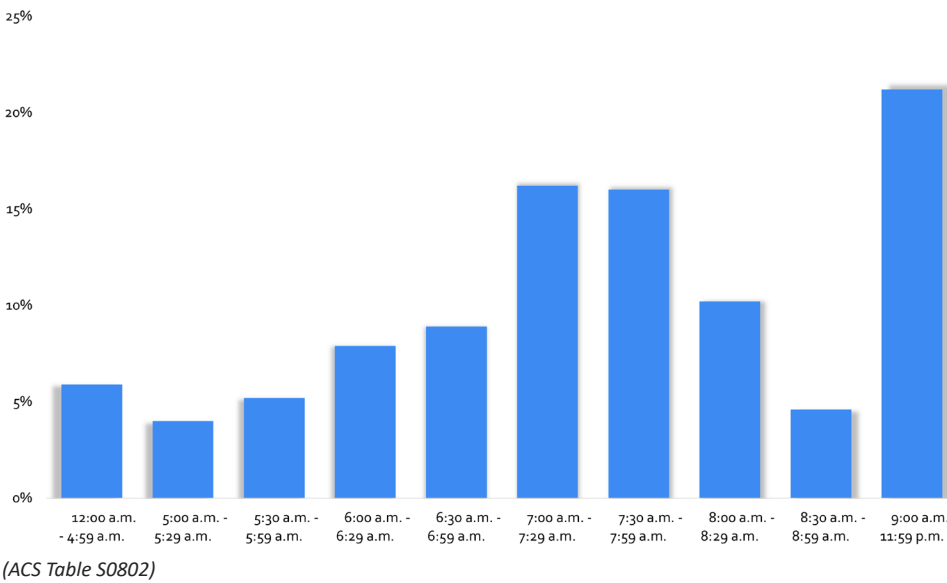
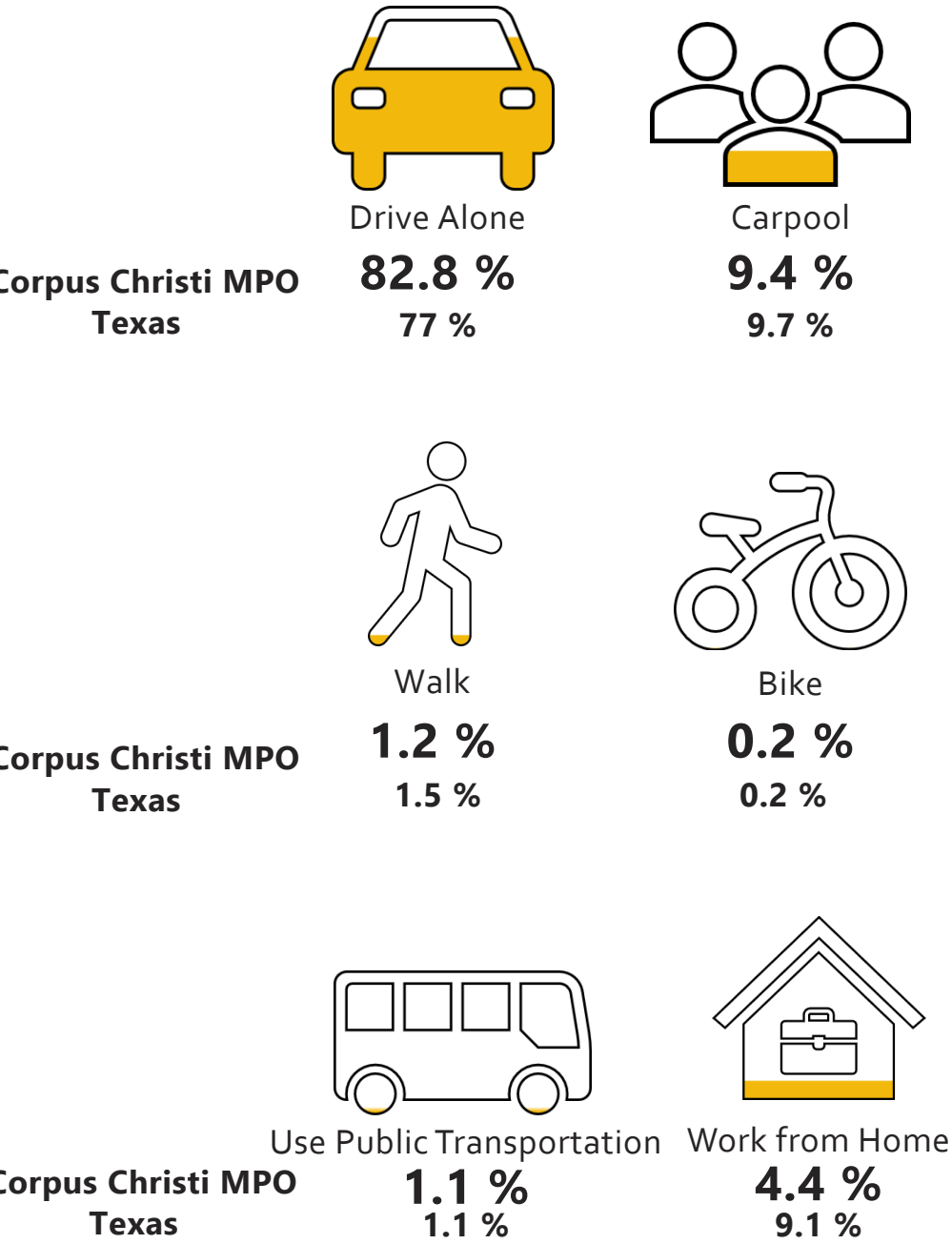


Exhibit 2-10: Means of Transportation to Work (ACS Table S0801)



REVIEW OF EXISTING PLANS AND CODES

Current and previous plans were reviewed to determine existing conditions, document existing efforts, identify opportunities and ensure that proposed recommendations support broader objectives. This integration helps to create a more connected and accessible network.

Review of Plans

Strategic Plan for Active Mobility

The Strategic Plan for Active Mobility was adopted in March 2016 and promoted cycling as a viable transportation option for individuals of varying capabilities. It sought to provide clarity on the allocation and design of bicycle infrastructure, focus on the needs of commuters and casual riders rather than competitive cyclists, and enhance accessibility and safety for all cyclists.

Plan CC

Plan CC is Corpus Christi’s Comprehensive Plan that outlines the community’s long-term vision for land use, transportation, infrastructure, economic development and other key aspects to guide and meet the needs of future growth and development. Elements of Plan CC also included ADPs of each subregion in the Corpus Christi area. These 11 ADPs explored mobility needs and recommendations on the local level and were an essential part of developing the Active Transportation Network. For more information, refer to the Review of Corpus Christi Area Development Plans section on page 2-7.

MobilityCC

MobilityCC is the transportation element of Plan CC. MobilityCC presents a structured approach to address interconnected transportation challenges including planning, design, operation, maintenance and implementation.

The plan includes the City’s Urban Transportation Plan (UTP) establishing functional classifications and right-of-way standards (Exhibit 2-11), the ADA Master Plan (see the Corpus Christi ADA Master Plan section on page 2-6) and the Trails Master Plan.

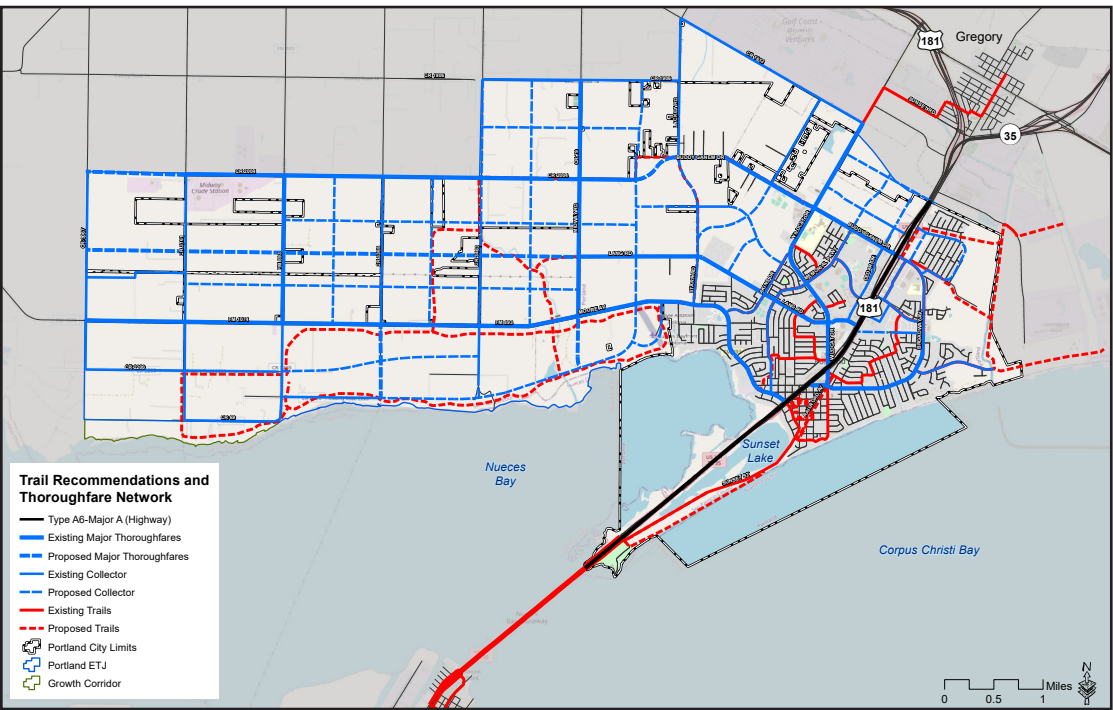
The UTP was implemented by the City’s CIP, the Unified Development Code, and other City codes and ordinances.

The plan lists several recommendations that include roundabouts at certain intersections, bike/ped treatment standards on intersection crossings, mid-block crossings, signalization, road diet potentials and ADA access that the project team considered during the Active Transportation Network development.

Exhibit 2-11: Corpus Christi Urban Transportation Plan



Exhibit 2-12: Portland Trail and Thoroughfare Network Recommendations



Plan Portland 2040

The Plan Portland 2040 Comprehensive Plan established a long-term vision for the community. Its Transportation chapter outlined a complete network of thoroughfares and a trail system. Recommendations include an extensive network of proposed collectors, minor arterials and off-roadway trails on the western side of Portland and some proposed trails and collectors on the eastern side of Portland (see Exhibit 2-12). Future development and population growth have been identified in these areas.

The chapter also provides street design standards with shared-use paths and on- and off-street bike facilities. According to the plan, Portland began installing its first bike facilities in 2021.

Texas Bicycle Tourism Trails Study

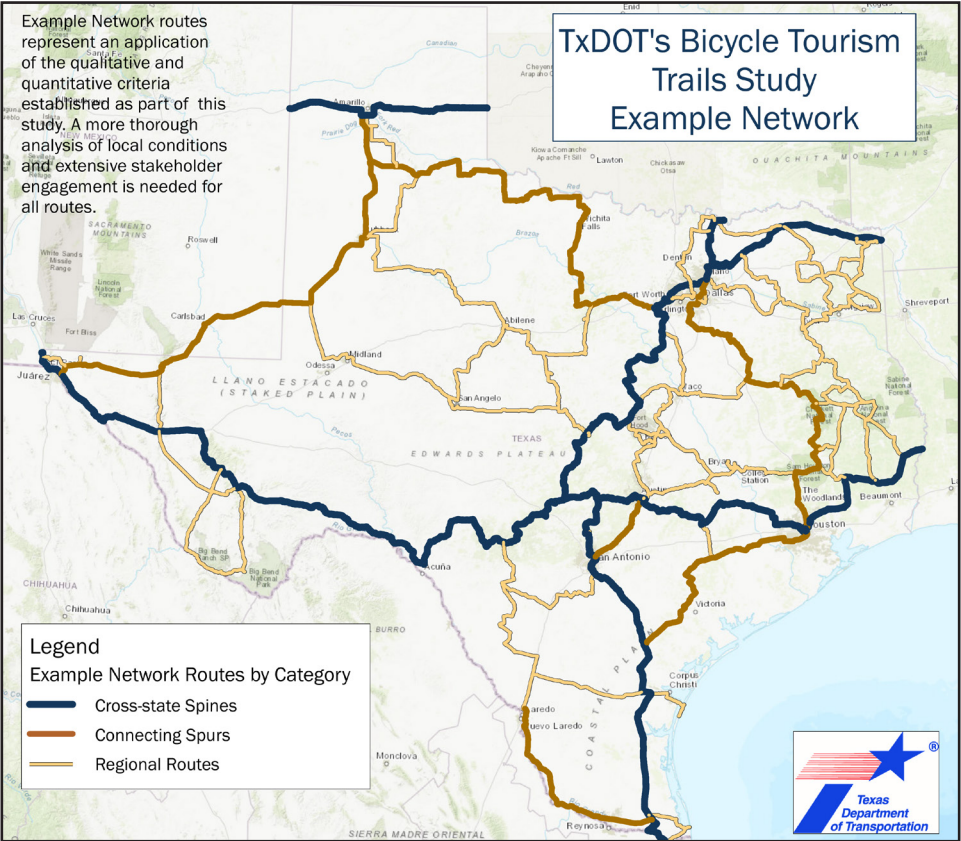
In response to the 2005 Texas Bicycle Tourism Trails Act, TxDOT collaborated with its Bicycle Advisory Committee to investigate the development of a statewide bicycle tourism trail network. The products resulting from this study serve as an initial high-level network analysis for statewide bicycle tourism and considerations for system implementation and long-term development.

These tourism trails have the potential to attract bicyclists from around the world, showcase communities across the state and boost economic development. The development of a bicycle tourism network in Texas is envisioned to be a long-term collaborative process built incrementally over many years in partnership with multiple public, private and nonprofit partners.

Exhibit 2-13 on page 2-5 indicates a regional route that would enter the Corpus Christi MPA along SH 44, using the existing roadway shoulders of the corridor. Approaching Corpus Christi, SH 44 is grade-separated near the Corpus Christi International Airport and the route would run along the shoulder lane of the service roads and then shift over to Agnes Street at South Padre Island Drive (SPID).

The Active Transportation Plan recommendations discuss a potential alternative alignment of the trail through Corpus Christi.

Exhibit 2-13: TxDOT Bicycle Tourism Trails Study Example Network



Padre/Mustang Island Mobility Plan

This Mobility Plan, published in 2023, builds upon the 2021 Padre/Mustang Island ADP discussed on page 4-31. The plan focuses on analysis and recommendations for developing a comprehensive multimodal network in the area. The main issues and needs highlighted in the plan include:

- » Lack of or gaps in sidewalks and designated crosswalks in residential neighborhoods and beach access roads
- » Pedestrians using medians as a refuge when crossing wide roadways
- » Lack of bicycle facilities and signage about road-sharing
- » Need for driver education on rights of bicyclists, golf cart/ Neighborhood Electric Vehicles (NEV) users
- » Need to provide more bicycle network and safety features to promote cycling among average users
- » Lack of bike/ped connections between neighborhoods and beach access points

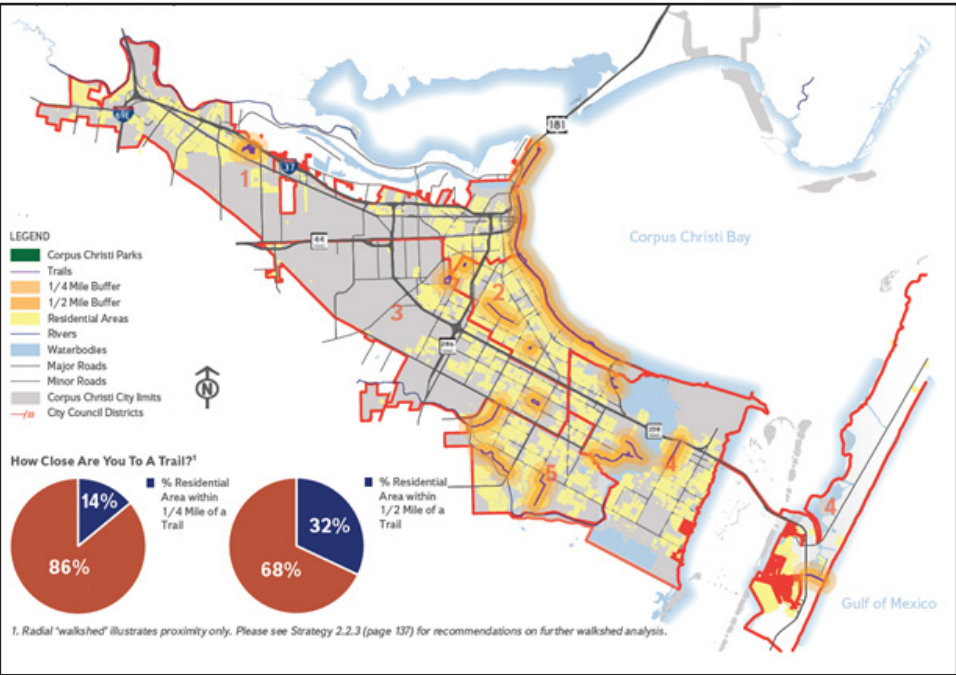
Corpus Christi Parks, Recreation & Open Space Master Plan

This plan was developed as a guide for City officials and stakeholders to determine the most efficient and equitable way to meet the recreational needs of residents over the a 5- and 10-year period with short-, mid- or long-term prioritized projects, programs, policies and practices.

The plan identified 185 parks and 27 miles of multi-use trail segments throughout the City. Over 50% of the trails were found in good condition, while the rest had issues with cracking or upheaval and many of the parks were not accessible to persons with physical disabilities.

The plan identified trails as “one of the most important recreational facilities in the City and the most frequently used,” and recommended increasing the number of trails within half a mile of existing trails. Walking and biking trails also have the highest priority ranking from the plan’s proposed projects. The Master Plan project recommendations placed a priority on ensuring that all facilities were brought up to an ADA-compliant standard.

Exhibit 2-14: Parks, Recreation & Open Space Master Plan Trail Accessibility

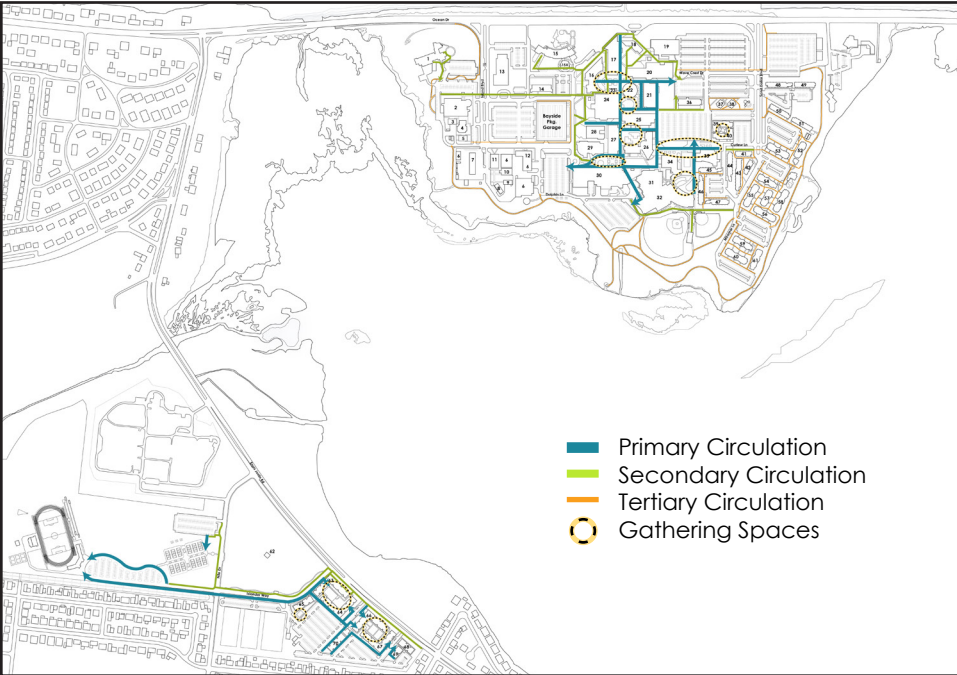


Texas A&M University - Corpus Christi Campus Master Plan

The 2021 Campus Master Plan builds upon the previous 2013 plan and guides the Texas A&M University - Corpus Christi (TAMU-CC) campus facilities’ development for the next 10 years. Campus needs were evaluated based on enrollment, usage, open space and infrastructure.

Included in the Master Plan was a student survey which found that only 11% of respondents liked the walkability of the campus. Specific recommendations included the need to improve lighting and walkways, add a wayfinding system, enhance pedestrian crossings to promote hike and bike trails and beach access, construct additional shaded outdoor spaces, consider operation of future shuttle service between Momentum and Island Campuses, and construct a loop road on the Island Campus to alleviate congestion and provide transit access.

Exhibit 2-15: Texas A&M University Corpus Christi Pedestrian Circulation



ADA Transition Plans

Public Right-of-Way Accessibility Guidelines (PROWAG)

In August 2023, the U.S. Department of Justice collaborated with the U.S. Department of Transportation and FHWA to develop PROWAG to ensure that pedestrian facilities in the public rights-of-way are accessible by people with disabilities at all times - during business as usual, maintenance, or alterations done to the pedestrian facilities as defined by the final rule. The key features discussed in the guideline included pedestrian access routes and alternate routes, accessible pedestrian signals, crosswalks, transit stops and on-street parking.

PROWAG requires the provision of curb ramps on street-level pedestrian walkways whenever streets, roadways, or highways are altered. Resurfacing, rehabilitation, reconstruction, historic restoration, or changes or rearrangement of structural parts or elements of a facility, among other things, constitute an alteration under the ADA. This means that where resurfacing a street “involves work on a street or roadway spanning from one intersection to another, and includes overlays of additional material to the road surface, with or without milling”, the accessibility and usability of the pedestrian walkway for persons with disabilities must be ensured. These standards are enforceable by law, and TxDOT now uses PROWAG as its de facto “standards”.

TxDOT ADA Self-Evaluation and Transition Plan

TxDOT updated its 2004 ADA Transition Plan in February 2022. Since 2004, TxDOT has authorized over \$280 million in funding to remove identified barriers and plans to spend \$500 million between fiscal years 2022-2025. The 2022 update identified barriers on TxDOT’s physical assets, services and means of communication, as shown in Exhibit 2-16. A total of 4,419 miles of sidewalk, 131,920 curb ramps, 4,582 island curb cuts, 6,156 bus stops, and 52,179 pedestrian signal pushbuttons were evaluated, as well as 157 facilities including TxDOT administrative facilities and safety rest areas. This information comprises the Pedestrian Access Inventory (PAI).

The plan proposed to construct pedestrian infrastructure on various streets; the majority of the projects focus on traffic signal improvement. The list of projects scheduled for implementation in TxDOT’s Corpus Christi planning area can be found in Appendix F.

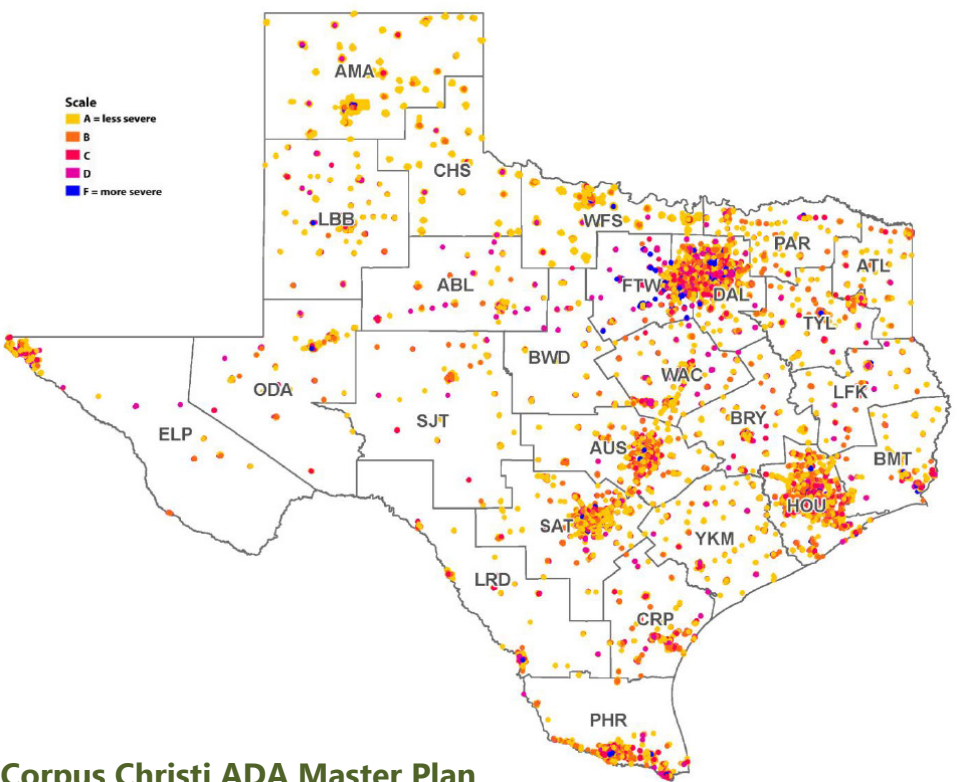
The plan included an implementation schedule to eliminate these barriers systematically over continuous four-year planning cycles.

The process, led by the individual district or division, involves use of an online tool called the TxDOT Comprehensive Accessibility Program (TCAP) WebApp which “references an ArcGIS system housing the PAI data, facility data, notations of locations for grievances, and reporting.”

To ensure comprehensive ADA compliance in transportation projects, all planned projects are first reviewed using the TCAP WebApp to validate and incorporate any necessary remediation. TxDOT staff is trained to understand the DOJ/DOT interpretation of “alteration versus maintenance” for ADA compliance inclusion.

It is essential to document and identify the limits and assets scheduled for remediation in the TCAP WebApp, and report any excluded accessibility elements for continued monitoring. District-specific protocols are used to manage and document accessibility improvements at key project stages, while public requests and grievances are continually monitored and logged for additional considerations. Finally, projects are completed with the required governmental oversight, closed within the TCAP WebApp, and finalized with comprehensive reporting.

Exhibit 2-16: TxDOT ADA Transition Plan Pedestrian Access



Corpus Christi ADA Master Plan

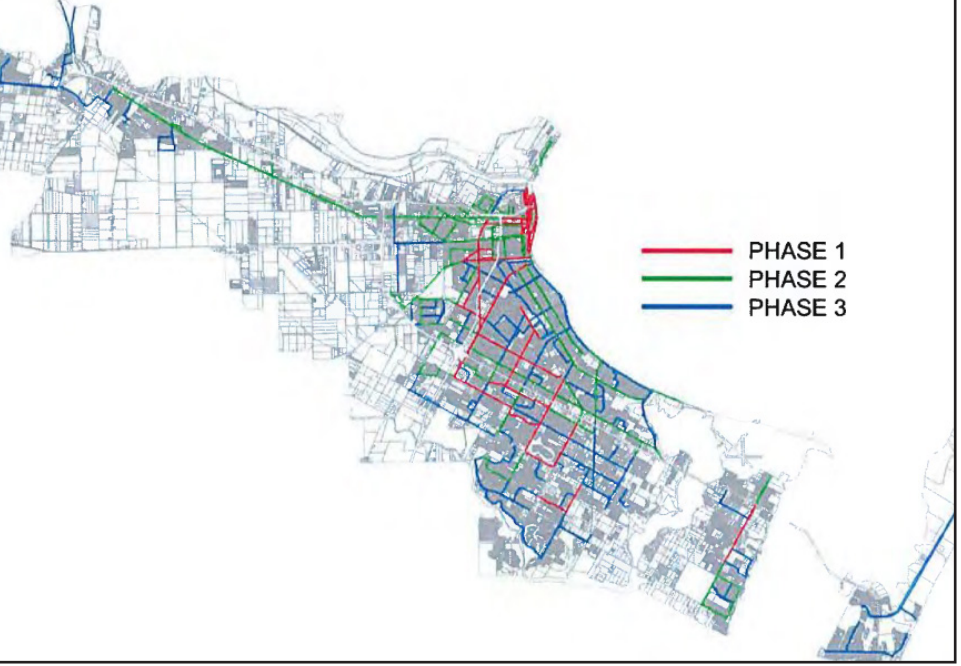
In September 2012, the City of Corpus Christi adopted the ADA Master Plan. The plan developed an interconnected network of accessible routes (Exhibit 2-17) that were divided into three phases:

- » Phase I - routes connecting City/State/Public Buildings
- » Phase II - routes connecting Major Transportation Routes
- » Phase III - routes connecting Places of Public Accommodation

The plan recommended an annual funding goal of 3.5 million dollars per year to finance the implementation of this plan, with a goal of fully implementing the plan in the following 20 years. Partnerships with CCRTA, Nueces County, TxDOT, the Corpus Christi MPO, the U.S. Department of Housing and Urban Development (HUD) and area school districts are recommended for funding.

It is a policy of this plan that all future infrastructure improvement projects, private or public, within the City’s jurisdiction should be constructed in conformity with this plan, and that the City Engineer should not approve plans in conflict with this plan unless there is no practicable alternative or the design exceeds the plan’s design requirements and the Texas Accessibility Standards.

Exhibit 2-17: Corpus Christi ADA Master Plan: ADA Accessible Routes Inventory



CCRTA Bus Stop and Transfer Facility ADA Assessment

The Corpus Christi Regional Transportation Authority (CCRTA) conducted an assessment of its passenger facilities for ADA compliance in 2022. Using online and field research, a total of 567 stops (40.9% of total stops) were determined to be non-ADA compliant, with the most common issue being boarding and alighting area issues (71.3% of non-compliant stops).

Based on the identified issue of many non-ADA compliant bus stops, the report provided recommendations for how to address the need for improvement in compliance. Recommendations in the plan included:

- » Use a corridor segment-based approach to increase efficiency
- » Seek opportunities to “piggyback” on partner jurisdiction projects
- » Seek Infrastructure Investment and Jobs Act (IIJA) grants
- » Measure and report progress and benefits

The report noted that the data collected should be used to develop a plan for upgrading the facilities and provide improved mobility and access. Further information on the CCRTA Bus Stop and Transfer Facility ADA Assessment can be found in the Bus Stop ADA Access Assessment section on page 2-10.

Review of Corpus Christi Area Development Plans

The project team reviewed all existing Area Development Plans (ADPs) in the City of Corpus Christi. The majority of the ADPs offer a listing of short-, mid- and long-term projects that include categories of parks and trails improvements, transit improvements, health and safety improvements, utility/infrastructure improvements and street improvements. All proposed bicycle and pedestrian projects were incorporated into the proposed Active Transportation Network.

For bike/ped-specific recommendations included in the network, please refer to the Corpus Christi Area Development Plans section on page 2-14. For a complete list of proposed street infrastructure projects from the reviewed ADPs, please refer to Appendix F.

Review of Current and Planned CIP, IMP, and Bond Program Projects

The project team also reviewed all current and planned CIP projects, IMP projects, and Bond Program projects in the Corpus Christi MPO area. The City of Corpus Christi has all types of the projects planned, while the City of Portland has only CIP projects planned. All of the reviewed projects that were related to active transportation facilities were incorporated into the proposed Active Transportation Network.

For more information on the projects incorporated in the Active Transportation Network, please refer to the Current and Planned CIP, IMP and Bond Projects section on page 2-11. For a complete list of all the current and planned projects in the MPO planning area, please refer to Appendix F.

Review of Codes in the Corpus Christi MPO Area

The creation of a sustainable region-wide bicycle and pedestrian network requires supportive local policies, practices, and initiatives. This section contains a review of existing ordinances that accommodate active transportation facilities and users.

Municipal codes are the primary legal authority that establish standards that regulate the use of land and its development. Tailoring codes to fit a community’s specific needs could enable development into a pattern that fits a city’s vision. Codes are a strong tool that should be used to encourage active transportation.

Using codes to increase active transportation improves the community’s connectivity, enhances mobility and manages transportation resources. Assessing how a city currently uses its code to promote active transportation helps locate functioning areas and what areas should be enhanced. Comparing the standards of Corpus Christi and Portland to those of peer cities within the state, such as the Cities of Austin, El Paso or Houston, will help examine what is working to promote active transportation. These examinations will help adapt and recommend codes that fit the context of Corpus Christi and Portland.

Corpus Christi Code of Ordinance

Corpus Christi is implementing active transportation standards in their required improvements, sidewalk standards and buffer areas. An example of promoting active transportation in Corpus Christi is incentivizing developers to reduce parking spaces by reducing parking requirements.

Portland Code of Ordinance

Portland has sections on bike paths, outlined in Exhibit 2-19 on page 2-8, allowing the City to enforce standards that promote the usage of bicycles.

Exhibit 2-18: Corpus Christi Code Sections Mentioning Active Transportation

Location in the Code	Language
3.5.4 A 5. PUD Zoning Map Amendment Review Criteria	The development contains a planned and integrated comprehensive transportation system providing for a separation of pedestrian and vehicular traffic, to include facilities such as roadways, bicycle ways and pedestrian walkways.
3.30.2 C 4. Required Improvements	The following improvements are considered required for the purposes of this article: sidewalks, walkways and bicycle facilities.
4.5.1 C Resort Commercial Districts	The Resort Commercial zoning districts provide for a wide variety of commercial activity such as tourist, water-oriented, retail commercial and indoor or outdoor amusement uses which reflect the character of a resort area. Emphasis is placed on establishing scenic and/or pedestrian corridors, walking and bike paths, amenities and public open spaces.
6.8.17 G 3 Parking Reductions	3. Bicycle parking spaces may be installed to alleviate parking spaces if the development is located adjacent to a bicycle lane or off road bike path required in the bicycle mobility plan or adjacent to a street with an existing bike lane or existing off road bike path. The provision of the bicycle parking spaces can be used to reduce required parking up to 10% as follows: a. Six short term bicycle parking spaces (bike racks) for every one vehicle space; and/or b. Six short term bicycle parking spaces (bike racks) for every one vehicle space; and/or
7.2.4 F Bicycle Parking	The Assistant City Manager of Development Services may authorize a reduction in the number of required off-street parking spaces for development or uses that make special provisions to accommodate bicyclists. Examples of accommodations include bicycle lockers, employee shower facilities and dressing areas for employees. The amount of reduction permitted shall be as stated in a Bicycle Parking Manual published by the Department of Development Services.
7.9.10 B Maintenance and Irrigation of Zoning District Buffer Yards	Other permitted uses and structures, including pedestrian, bike or other trails, allowed within a zoning district buffer yard shall be maintained to provide for their safe use.
7.9.15 A Permitted Use of Buffer Area	A buffer may be used for passive recreation and picnic facilities and may contain pedestrian or bike trails, provided: 1. No existing plant material shall be eliminated, other than nuisance exotics 2. The total width of the buffer shall be maintained; and 3. All other requirements of this Section shall be met.
8.1.4 A Type of Improvements Required	A. Streets, including but not limited to pavement, curb and gutter, sidewalks, roadside ditches, hike and bike trails, alleys, bridges and street lighting;
8.2.2 Sidewalks	A. Required Improvements: 3. All paved hike and bike trails shall satisfy the minimum construction specifications for sidewalks of the City. C. Administrative Exceptions for Sidewalk Improvements An administrative exception may be granted to the standard in paragraph 8.2.2.A only when the following conditions are met: 1. Sidewalks shall not be required along each side of a street right-of-way where such street is a permanent dead-end street and where there is pedestrian access from the permanent dead-end street to a paved hike and bike trail. In such instances, a sidewalk only shall be required on one side of the street right-of-way, or 2. Sidewalks shall not be required along street rights-of-way where each lot fronting on such street has direct access from the side or rear to a paved hike and bike trail.

Source: City of Corpus Christi Code of Ordinances, 06/2024

Exhibit 2-19: Portland Code Sections Mentioning Active Transportation

Location in the Code	Language
CH. 6 Sec. 610 A Sidewalks and Bike Paths	When Required. Concrete sidewalks shall be included within the dedicated rights-of-ways of all streets except where replaced by bicycle paths when required by the City under circumstances specified in subsection D. below.
CH. 6 Sec. 610 B Sidewalks and Bike Paths	Sidewalk Design Standards. 1. A typical residential sidewalk shall be four (4) feet in width and a typical nonresidential sidewalk shall be five (5) feet in width; however, the City may require wider sidewalks in certain circumstances. 2. Sidewalks shall be placed on both sides of streets unless expressly waived by the City. 3. All sidewalks shall be constructed of concrete no less than four (4) inches in thickness with expansion joints as needed. 4. The property side edge of the sidewalk shall set back one (1) foot into the right-of-way, unless otherwise approved by the City. 5. All sidewalks shall be constructed in conformance with City, Texas Architectural Barriers Act and Americans with Disabilities Act standards. 6. A grass or City-approved landscaped strip at least three (3) feet wide shall separate all residential sidewalks from adjacent curbs. Sidewalks may be built adjacent to curbs when so approved by the City.
CH. 6 Sec. 610 C Sidewalks and Bike Paths	Pedestrian Ways Requiring Additional Right-of-Way. The City may require additional right-of-way for sidewalks and/or bike paths outside of street rights-of-way in order to facilitate pedestrian access to schools, parks or other nearby streets. These sidewalks or bicycle paths shall be located in rights-of-way at least twelve (12) feet in width. Such rights-of-way shall be indicated on the plat.
CH. 6 Sec. 610 D Sidewalks and Bike Paths	1. School Access. A bicycle path may be required within the rights-of-way of any new street, other than a Minor Street, if said street segment is within a two (2) mile radius of a public school. Such bicycle path may be substituted for one of the required sidewalks. 2. Bicycle Path Standards. Such paths (paved surface) shall be paved with a smooth concrete or asphalt surface and otherwise conform to U.S. Department of Transportation Standards. Where exclusive bikeways are developed, they shall be a minimum of eight (8) feet in width for a two-way bikeway. Where sidewalk bikeways are developed, a twelve (12) foot combined sidewalk and two-way bikeway shall be required. A bike lane developed on the same grade as a roadway shall incorporate a painted stripe in the roadway and be a minimum of four (4) feet in width.
CH. 6 Sec. 620 D Park Site Dedication:	Any land used for bike paths and pedestrian ways shall be credited toward the required five (5) percent for parks.

Source: City of Portland Code of Ordinances, 06/2024

Code of Ordinances in Other Cities

Austin

Austin (Exhibit 2-20) includes detailed regulations on a variety of active transportation topics. Efforts to increase mobility are seen in sections that discuss pedestrian zones, details from their criteria manual and visuals.

Exhibit 2-20: Austin Code Sections Mentioning Active Transportation

Location in the Code	Language
25-6-351 Sidewalk installation in subdivision	A person who subdivides property shall install sidewalks in a subdivision in accordance with the Transportation Criteria Manual. A preliminary subdivision plan and a final plat must indicate the location of a proposed sidewalk.
4.1.1 Sidewalk A	Sidewalk widths shall be consistent with the specifications in Table 2-2 and Table 2-3 in Section 2.7.1 and shall be installed consistent with the requirements of the LDC and any applicable development approvals. Sidewalks must be ADA compliant. If a plan adopted by ordinance conflicts with these requirements, the strictest criteria shall be used. In areas with no other requirements, the minimum clear widths shall be 5 ft. for Level 1 streets and 6 ft. for all Level 2 and higher streets.
4.1.1 Sidewalk J	If a new sidewalk is constructed, street trees shall be provided, unless the street is a Level 1 street with insufficient right-of-way to accommodate the minimum width of 6 ft. required for street trees.
4.1.2 Shared-use paths	Shared-use paths combine bike and pedestrian space into one path. To maintain safe operations for both modes of travel, the path must be wide enough to safely separate both users. Separated bike and pedestrian paths are the preferred design, as they are safer for both street users.
4.1.2 Shared-use paths G	Minimum clear width shall be 8 ft. for a shared-use path that is one way for bicycles and 10 ft. for a shared-use path that is two-way for bicycles. Minimum vertical clearance for a shared-use path shall be 8 ft. Other considerations may go into the required width of a shared-use path, including likelihood of heavy pedestrian and bicycle use or a planning document such as the Austin Bicycle Plan or Austin Urban Trails Plan, at the discretion of the appropriate director.
4.1.3 Flexible design within the pedestrian zone	When constraints exist such as trees, grades, or other natural elements and additional easement or ROW is not possible to accommodate Section 4.1.1(C) or 4.1.2(C), sidewalks and shared-use paths can be built in flexible ways to avoid impacts to the facility clear width and compliance with PROWAG and TAS requirements. Use of design strategies such as suspended sidewalks and meandering paths to avoid impacts is permissible with approval of applicable staff. Meandering paths should avoid sharp turns or transitions and gradually transition no more than 1 ft. off path per 5 ft. of sidewalk length and maintain a straight section no less than the width of the sidewalk between transitions, where able. Refer to the City of Austin Standard Details for design requirements for suspended sidewalks.
4.2.41 Pedestrian Island E	Either design of pedestrian islands shall provide a minimum width of 8 ft. for the pedestrian path crossing through the island and a minimum median width of 4 ft.
5 Bikeway and urban trails	Bikeways are contained within the Bicycle and Street Edge Zone of a street. This zone within a street’s cross section is composed of three separate components: A. Bike Lane - The space in which the bicyclists operate. This space is located between Tree and Furniture Zone (in the Pedestrian Zone, defined in Section 4) and the Buffer Zone. B. Buffer Zone - The street buffer that separates the bike lane from the vehicle traffic or parked cars. C. Parking (where applicable) - On-street Parking (refer to Section 9).
5.1.2.2 Bikeway width A	The minimum width of a one-way protected on-street bike lane is defined in Tables 2-2 and 2-3. A constrained width of 5 ft. with an 18 in. buffer and is only allowed for passage around obstructions as provided for in Section 5.3.2.4.
5.1.2.2 Bikeway width C	Bikeway recommended width varies by Street Level but is recommended to be 7 ft. to 8 ft. wide to facilitate sweeping, passing and social/side by side riding. In constrained conditions this width can be narrowed to 6.5 ft. which is the minimum width that allows sweeping with City of Austin narrow sweepers and side by side.

Source: City of Austin Code of Ordinances, 06/2024

El Paso

El Paso (Exhibit 2-21) discusses the importance of having a purpose statement. Purpose statements guide the direction of standards. The clear vision spells out the goals of active transportation in ordinances.

Exhibit 2-21: El Paso Code Sections Mentioning Active Transportation

Location	Language
13.04.045 Sidewalks in new development A 1	Local Residential Street b. Where required, sidewalks shall be installed on both sides of the local residential street right-of-way and shall be located adjacent to the property line and parallel to the curbline.
13.04.045 Sidewalks in new development A 2	Arterial Street a. Sidewalks shall be required on all arterial street classifications, except on arterial streets which meet the following criteria as determined by the city plan commission. b. Required sidewalks may be located adjacent to and parallel with the curbline when all of the following apply: i. The sidewalk is a minimum of seven feet wide; and ii. The sidewalk is wide enough to provide a minimum clear width of three feet at encroachments, including street lights, traffic signs, traffic control devices, utility installations, or other facilities.
19.15.010 Adequacy of streets and thoroughfares D	Major and minor arterials, collectors and other thoroughfares appearing on the city’s adopted bike plan shall have bicycle facilities installed in accordance with the Street Design Manual. For major and minor arterials, collectors and other thoroughfares not appearing on the city’s adopted bike plan, bicycle facilities may be constructed on one side or both sides of the street.
19.21.010 Purpose and applicability	Purpose. Sidewalks are required as a part of subdivision plat approval as outlined within this chapter and in Title 13, Chapter 04 to help the City of El Paso achieve the following: 1. Promote the mobility, health, safety and welfare of residents, property owners and visitors to the City of El Paso and to implement objectives and strategies of the El Paso Comprehensive Plan; 2. Improve the safety of walking by providing separation from motorized transportation and improving travel surfaces for pedestrians; 3. Improve public welfare by providing an alternate means of access to transportation and social interaction, especially for children, other citizens without personal vehicles, or those with disabilities; 4. Facilitate walking as a means of physical activity recognized as an important provider of health benefits; 5. Establish minimum criteria for the development of sidewalks as a part of the pedestrian element of the transportation system within the city and its extraterritorial jurisdiction (ETJ).
19.21.020 C General Requirements	Location and Width of Sidewalks. Unless noted otherwise: 1. Sidewalks shall have a minimum clear path width of a minimum of five feet on local streets in all zoning districts primarily intended for single-family residential development when located adjacent to the property line. Sidewalks located next to the curb along local streets shall be a minimum five feet in width. Sidewalks along arterials shall have a minimum of five feet in width; 2. Sidewalks shall have a minimum clear path width of a minimum of five feet in all other locations; 3. Sidewalks in areas determined to be high pedestrian traffic areas or pedestrian-oriented developments by the CPC may be required to be wider than the minimum widths listed herein by the CPC.
20.14.090 Bicycle parking required	Bicycle parking facilities shall be provided for new buildings or facilities, additions to or enlargements of existing buildings, or for changes in the use of buildings or facilities that result in the need for additional auto parking facilities in accordance with the parking requirements in Article I of this chapter and where required in table, Section 20.14.050(C).
20.14.100 Number of bicycle spaces	The number of required bicycle parking spaces shall be calculated as shown in table, Section 20.14.050(C) of this chapter. Where the calculation of the required bicycle parking results in fractions of spaces, the number of spaces shall be rounded to the next highest whole number for fractions of 0.5 or greater.
20.14.110 Standards A	Individual bicycle parking spaces shall be a minimum of seventy-five inches long by twenty-four inches wide for each space. Where double-sided multi-racks are utilized resulting in overlapping of bicycle parking spaces, the minimum bicycle parking space for two bicycles shall be one hundred inches long by thirty-six inches wide.
20.14.110 Standards B	Bicycle parking racks shall be located in areas visible from public ROW and, shall be provided with adequate lighting if intended for use after dark.
20.14.110 Standards G	Racks shall be placed a minimum of twenty-four inches away from walls and other elements that may create an obstacle to accessing the bike parking spaces.

Source: City of El Paso Code of Ordinances, 06/2024

Houston

Houston (Exhibit 2-22) stresses the importance of facilities for bicycles. This includes sidewalks and parking stations for bicycles.

Exhibit 2-22: Houston Code Sections Mentioning Active Transportation

Location	Language
Sec. 40-557. - Sidewalk Standards (a)	The minimum unobstructed width of a sidewalk required by this article shall be as prescribed by the design manual.
Sec. 40-557. - Sidewalk Standards (d)	All sidewalks shall be constructed in a manner consistent with technical standards and design requirements of the design manual and applicable state and federal disability rights laws.
Sec. 42-654. - Bicycle parking. (b)	One bicycle space shall be required for every 20 dwelling units in an apartment, as those terms are defined in section 26-472 of this Code.
Sec. 42-654. - Bicycle parking. (c)	This section shall prevail over the minimum number of bicycle spaces otherwise required by this Code.

Source: City of Houston Code of Ordinances, 06/2024

Code Recommendations

The codes and ordinances found in both cities contain a number of regulations that allow for active transportation and enforce compliance with ADA standards. The existing foundation for active transportation and ADA compliance could be enhanced by covering other bike/ped elements. Introducing ordinances that cover ADA-compliant curb ramps to improve accessibility and incentivizing development to include multi-modal transportation are examples that could be made to supplement the current ordinances to increase the quality of life for all users.

For more specific recommendations, refer to Chapter 5. Recommendations and Implementation.

EXISTING BICYCLE NETWORK

The Corpus Christi MPO has compiled data on existing bicycle infrastructure. Currently, the Corpus Christi MPO encompasses over 119 miles of on- and off-street bicycle facilities (see Exhibit 2-24). The City of Corpus Christi accounts for the majority of these dedicated bike facilities, comprising 90% of the total, while the City of Portland constitutes the remaining 10%. No other cities or unincorporated communities within the MPO planning area are known to have dedicated bicycle facilities.

On-street bike lanes without a buffer comprise over half of the MPO planning area’s existing bike facilities (54%). Bike routes, which are also on-street facilities, comprise just over 2% of the existing bike facilities.

Shared-use sidepaths adjacent to the street (16.95%) and shared-use paths away from streets (15.92%) provide paths that are wider than traditional sidewalks and serve both cyclists and pedestrians and comprise a large portion of the network. In a few locations, such as on the path adjacent to Oso Parkway, the path is signed for pedestrians only (no bicycles) due to its width of about 7 to 8 feet..

More important than the quantity of facilities is the appropriateness of each facility and the connections made to destinations and to the rest of the broader network.

Currently, there are bike lanes striped on streets adjacent to travel lanes with posted speed limits of 40 mph or higher, which should be reconsidered for a change of bicycle facility type. These include:

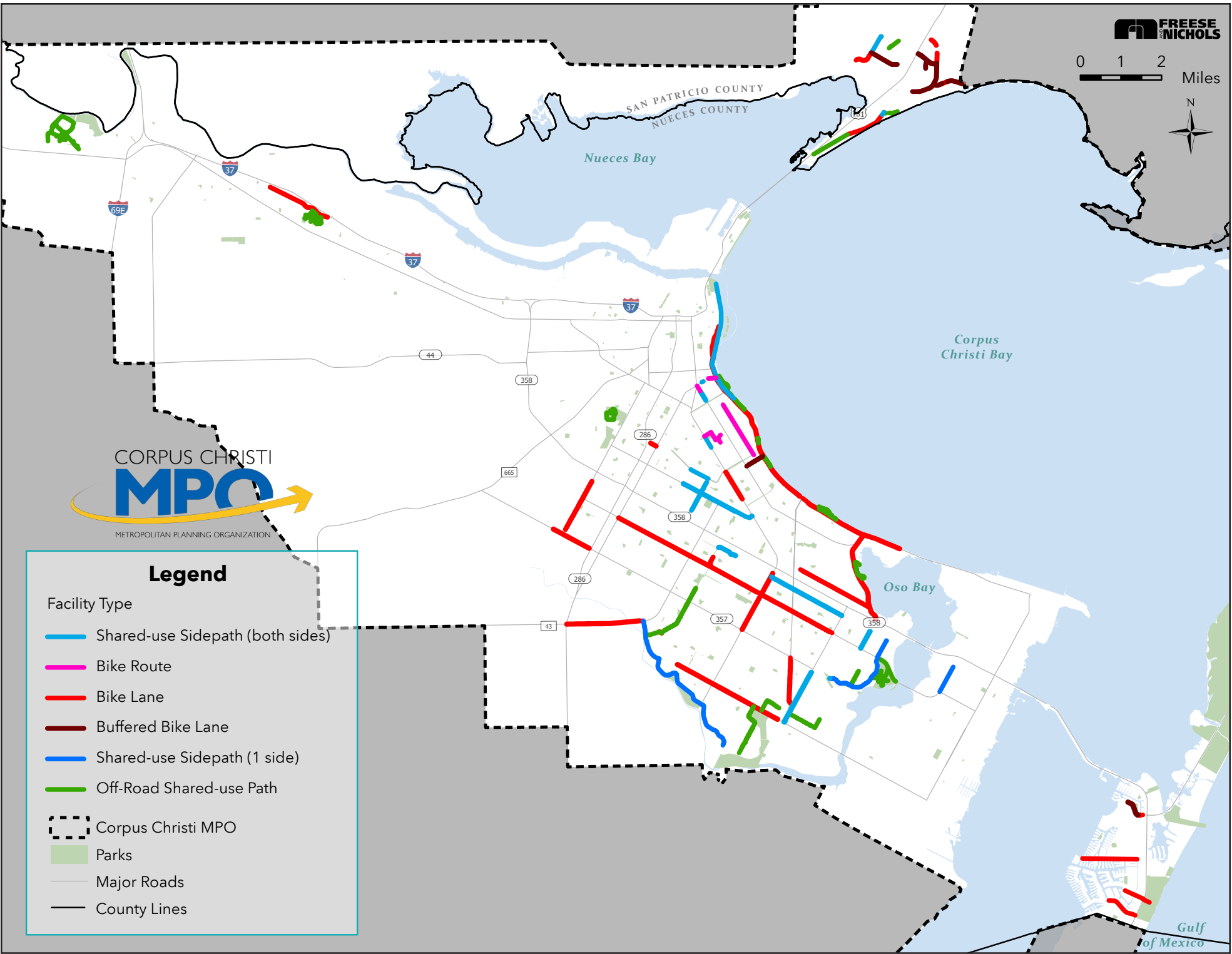
- » Holly Road: Ayers Street to Rodd Field Road
- » Airline Road: Rodd Field Road to Saratoga Boulevard
- » Staples Street: Williams Drive to Saratoga Boulevard
- » Yorktown Boulevard: West of Rodd Field Road to Everhart Road

Exhibit 2-23: Total Length of Each Bicycle Facility Type in Corpus Christi MPO

Facility Type	Corpus Christi	Portland	Total Length (miles)	Percent of Total
Bike Lane	62.24*	3.06	65.30	54.9%
Shared-use Sidepath (both sides)	17.50	0.52	18.02	15.1%
Off-Road Shared-use Path (Hike&Bike Trail)	17.38	1.57	18.95	15.9%
Buffered Bike Lane	1.57	6.22	7.79	6.5%
Shared-use Sidepath (one side)	6.32		6.32	5.3%
Designated Bike Route	2.67		2.67	2.2%
Total Length (Miles)	107.68	11.38	119.06	100%

* 59.18 miles are within Corpus Christi city limits and 3.06 miles are found outside of the Corpus Christi city limits.
Source: 2023 Corpus Christi MPO Bicycle Inventory.

Exhibit 2-24: Existing Designated Bicycle Facilities in the Corpus Christi MPO as of 2023



Source: 2023 Corpus Christi MPO Bicycle Inventory.

Bike Score

Bike score is developed by the Walk Score® company that also develops walk scores and transit scores for cities and communities around the United States.

Bike score, illustrated in Exhibit 2-25, measures how accessible various parts of the MPO planning area are for biking. The score is based on designated bicycling infrastructure from the Open Street Map. It measures bikeability on a scale of 0-100 and analyzes existing bike facilities, topography, bike commuting mode share, destinations and roadway connectivity. In the methodology, bike paths are twice as valuable as bike lanes and three times more valuable than shared infrastructure (sharrows).

The score does not take into account heat, wind, roadway conditions or shade.

Score breakdown:

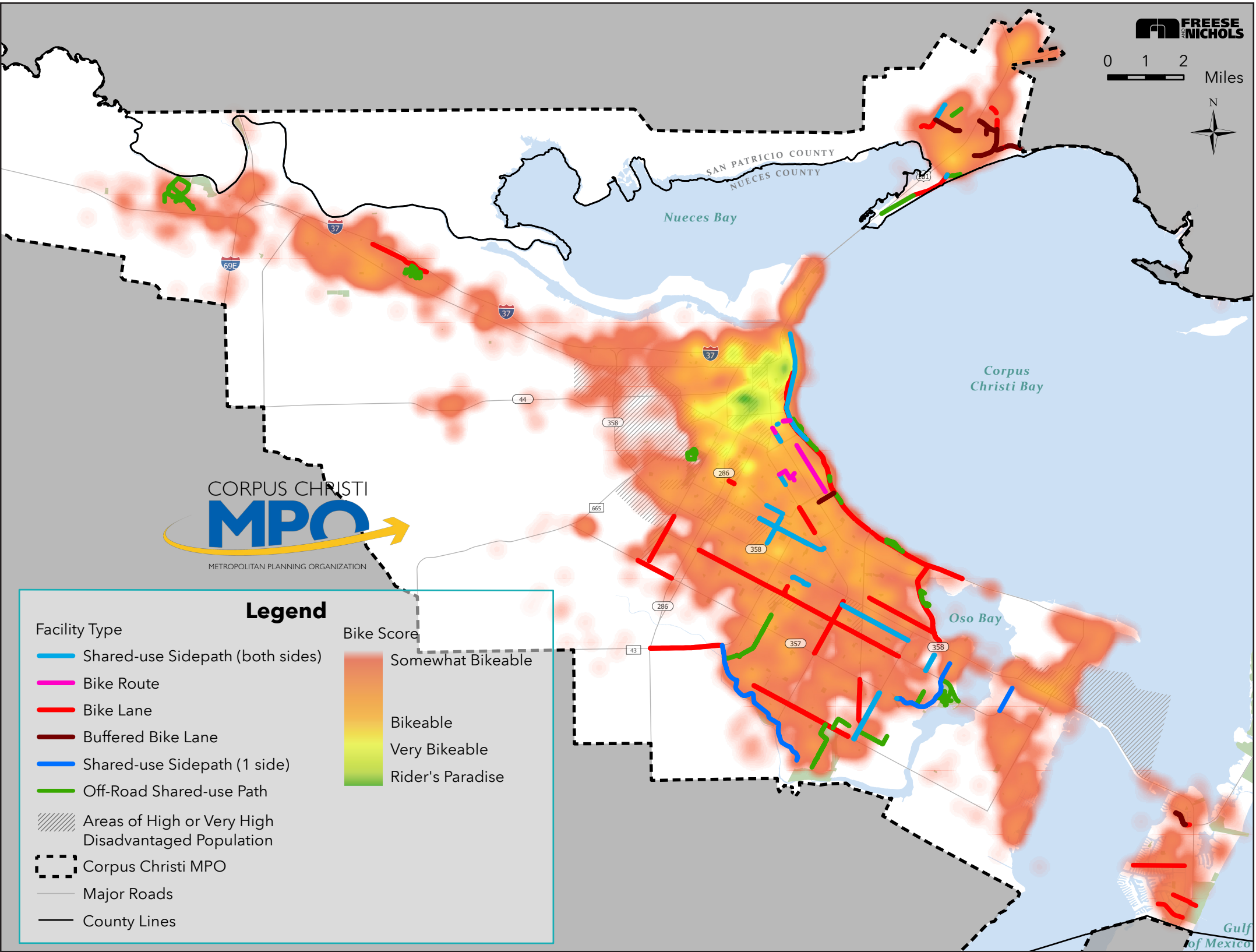
- » **90 - 100: Rider’s Paradise** (daily errands can be accomplished on a bike)
- » **70 - 89: Very Bikeable** (biking is convenient for most trips)
- » **50 - 69: Bikeable** (some bike infrastructure)
- » **0 - 49: Somewhat Bikeable** (minimal bike infrastructure)

The bike score reveals that the most bikeable areas in the Corpus Christi MPO are in Downtown and Central City districts in Corpus Christi. Flour Bluff, Mustang Island, Southside and Northwest Corpus Christi are areas that have the lowest bikeability scores.

The bike score is based on extracting information on existing bike facilities from the Open Street Map. As such, for the purpose of this Active Transportation Plan, the bike score serves as a high-level tool for the project team to evaluate and compare the bikeability of different neighborhoods in the Corpus Christi MPO area.

For comparison purposes, areas of high or very high disadvantaged population are shown on Exhibit 2-25 to highlight areas that could benefit greatly from becoming more bikeable.

Exhibit 2-25: Bike Score in the Corpus Christi MPO Planning Area



Source: Walk Score®, Corpus Christi MPO 2023 Program for Addressing Discrimination

Existing Bike Facilities

Exhibit 2-26 through Exhibit 2-31 show examples of the types of bicycle facilities currently provided in the Corpus Christi MPO area.

Bike Lane



Exhibit 2-26: Bike Lane on Ocean Drive in Corpus Christi

Off-road Shared-Use Path



Exhibit 2-29: Off-road SUP on Brawner Parkway in Corpus Christi

Bike Route



Exhibit 2-28: Bike Route on Swantner Drive in Corpus Christi

Buffered Bike Lane



Exhibit 2-27: Buffered Bike Lane on Lang Road in Portland

Shared-use Sidepath (one side)



Exhibit 2-30: SUP (on one side) on N. Shoreline Boulevard in Corpus Christi

Shared-use Sidepath (both sides)



Exhibit 2-31: SUP on both sides on Williams Drive in Corpus Christi

Typical Active Transportation User Profile

According to FHWA’s 2019 Bikeway Selection Guide, there are three types of general bikeway users, as shown in Exhibit 2-32:

- » **Interested but Concerned Bicyclist**
 - The largest group of the Active Transportation Network users
 - Lowest tolerance for traffic stress
 - Prefers off-street or separated bike facilities, may bike on sidewalks even if bike lanes are provided
 - Most recommended design user profile as it can accommodate users of all ages and skills
- » **Somewhat Confident Bicyclist**
 - Other names include Enthused or Confident Bicyclist
 - Generally comfortable on most types of bike facilities
 - Prefer low-volume roadways, but can tolerate high-volume roadway for short distances to avoid longer/detour travel
- » **Highly Confident Bicyclist**
 - Smallest group of Active Transportation Network users
 - High tolerance for traffic stress and is comfortable on high-volume roads
 - Will ride even on roads without bike lanes
 - Prefer direct routes and avoid streets with dense pedestrian or slow-moving bicycle traffic

The Corpus Christi MPO region is diverse and so are the people who live here. Using demographic data, surveys, and extensive meetings with members of the public, the project team expanded upon the FHWA Guide and developed profiles of different types of current and potential users of the Active Transportation Network (see Exhibit 2-33). This Active Transportation Plan is designed to accommodate the specific needs of these—and other—users.

Exhibit 2-32: Bicyclist Design User Profiles



Source: FHWA 2019 Bikeway Selection Guide

Exhibit 2-33: Active Transportation User Profiles

 Jose is a retiree living in Nueces County. Once a week he needs to run errands and appointments in Corpus Christi. Jose would love it if he could walk to all his destinations on well-maintained and shaded sidewalks.	 Ashley and Jake live in Corpus Christi with their two kids. They like going out to walk and bike but have found limited opportunities to take the kids out in places that are safe for them.	 Mike is a father of two living in Nueces County. His parents live down the street. He doesn’t feel safe allowing the kids to walk or bike to their grandparents’ house, but wants to keep the family active. Mike would love to see hike and bike trails and better connectivity and maintenance for sidewalks in the area.	 Gabriel is an unhoused person in Nueces County. He has limited support and relies on walking to access his daily needs. Occasionally he uses public transit when given a bus pass.	 Karen lives in central Corpus Christi and uses a wheelchair for getting around. She needs to get across town to work and attend medical appointments. She does not drive or bike, and she relies on public transportation. She hopes there are better sidewalks so she can commute easier.
 Bryan is a serious cyclist living in urban Nueces County who loves to bike for exercise and entertainment. He often rides with a group of cyclists on city streets after work and on weekends.	 Elizabeth is a sophomore at Del Mar College. She loves the convenience of biking to class and to run errands, but her bike was stolen last year and she has been nervous parking her bike around town ever since.	 Sarah is a fifth grader whose school is a few streets away from her house. This is the first year Sarah has been allowed to walk to school by herself.	 Chris is a senior citizen living in suburban Nueces County. He does not drive and lives far from public transportation. He’s still very active in his community and regularly walks to visit family and friends who live nearby.	 Luciana and Alejandro are a young couple living in Central Corpus Christi. They enjoy riding their bikes on city streets after work and on weekends.

MICRO-MOBILITY

Micro-mobility includes small, low-speed wheeled vehicles like bikes and scooters. This form of travel complements active transportation by providing easier first- and last-mile trips as well as more flexible and accessible short-distance travel that encourages physical activity and reduces reliance on cars. While safety and other issues must be addressed, micro-mobility can provide an alternative mode of transportation for those who cannot or do not wish to travel by car.

Lime is currently the only commercial provider of micro-mobility services in Corpus Christi, with approximately 800 scooters in service. Existing micro-mobility services have defined zones where use is restricted:



Low-Speed Zones - Lime vehicles can be operated at a limited speed. Your vehicle will gradually slow down. In Corpus Christi, this covers much of North Shoreline Boulevard and limits speed to 10 mph.

No Parking Zones – Your ride cannot end in these zones.



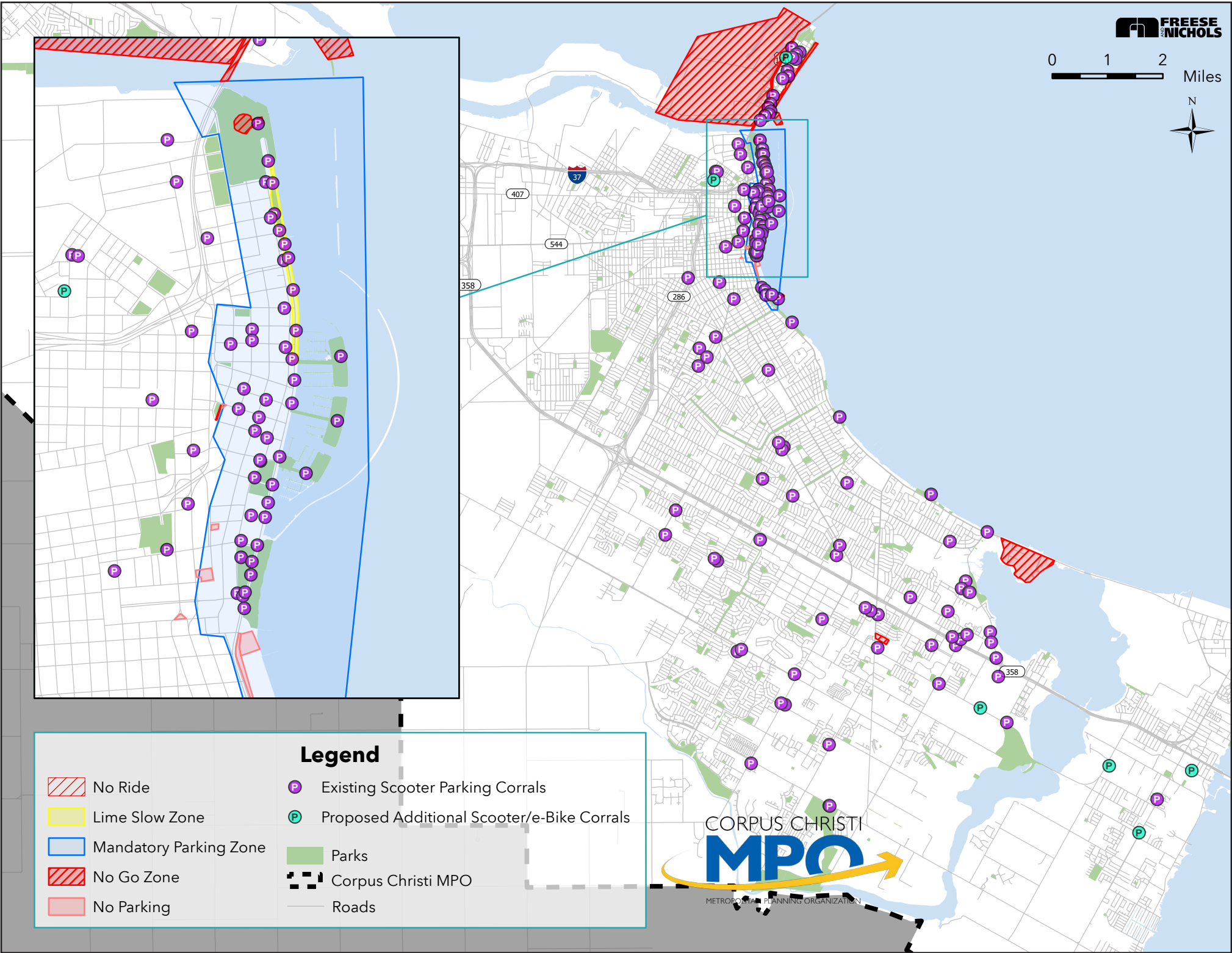
Mandatory Parking Zones – Within these zones, you must end your ride at a designated parking spot. These zones help alleviate the issue of dockless micro-mobility vehicles like scooters taking up a significant portion of the public right-of-way.

No Go Zones – No Lime vehicles can travel. Your vehicle will gradually come to a Stop.



For more information about micro-mobility elements, refer to the Micro-mobility section on page 4-8. To see the full Micro-Mobility Plan and Ordinance for the Corpus Christi MPO area, refer to Appendix C.

Exhibit 2-34: Micro-Mobility Network within the City of Corpus Christi



Source: Lime, extracted from the Lime Mobile App

WALKABILITY

Sidewalk Network

In addition to the shared-use paths, the Corpus Christi MPO area has an extensive sidewalk network with over 2,700 miles of sidewalks. Total length of sidewalks per city is outlined in Exhibit 2-35, and a map of the entire sidewalk network is illustrated in Exhibit 2-36.

Exhibit 2-35: Total Length of Sidewalks per City

City	Total Length (Miles)	Percent of Total
City of Corpus Christi	2,503	92.6%
City of Portland	157	5.8%
City of Gregory	27	1%
Other	15	0.6%
Grand Total	2,702	100%

Source: Corpus Christi MPO Sidewalk Inventory 2023

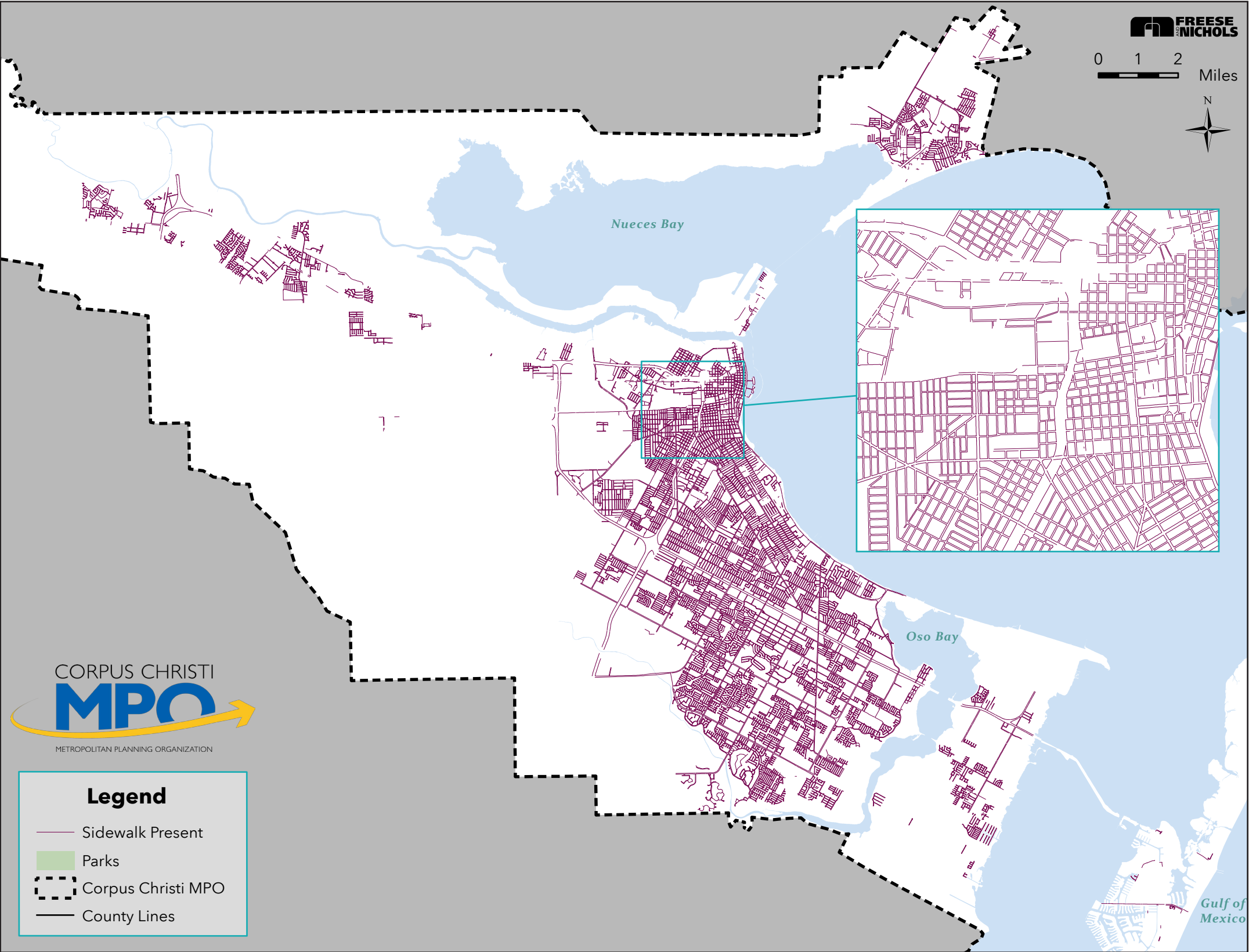
Sidewalk Coverage Around Schools

Exhibit 2-37 on page 2-16 illustrates the existing sidewalk network in relation to school locations. A sidewalk network around schools is crucial for ensuring the safety and well-being of students and it enhances accessibility for all students ensuring equitable access to education.

The exhibit shows the existing coverage of the sidewalk network within a 1/4-mile radius from schools, revealing areas where the network is incomplete and additional connections are needed. These gaps in the network are particularly notable in the Flour Bluff ISD, Portland-Gregory ISD and all ISDs west of Corpus Christi ISD.

Exhibit 4-44 in Chapter 4 presents an example of a Safe Routes to Schools assessment and plan of improvements for the Flour Bluff ISD schools complex. The plan indicates needed sidewalks, ramps, crosswalks and other safety enhancements to encourage walking and bicycling to school be students living within 1/2 mile of the school. Each Elementary and Middle School within the Corpus Christi MPO planning area would benefit from having a Safe Routes to School Plan. Overlaying the Active Transportation Network with the student locations would help to focus the priority of the improvements along the routes to school.

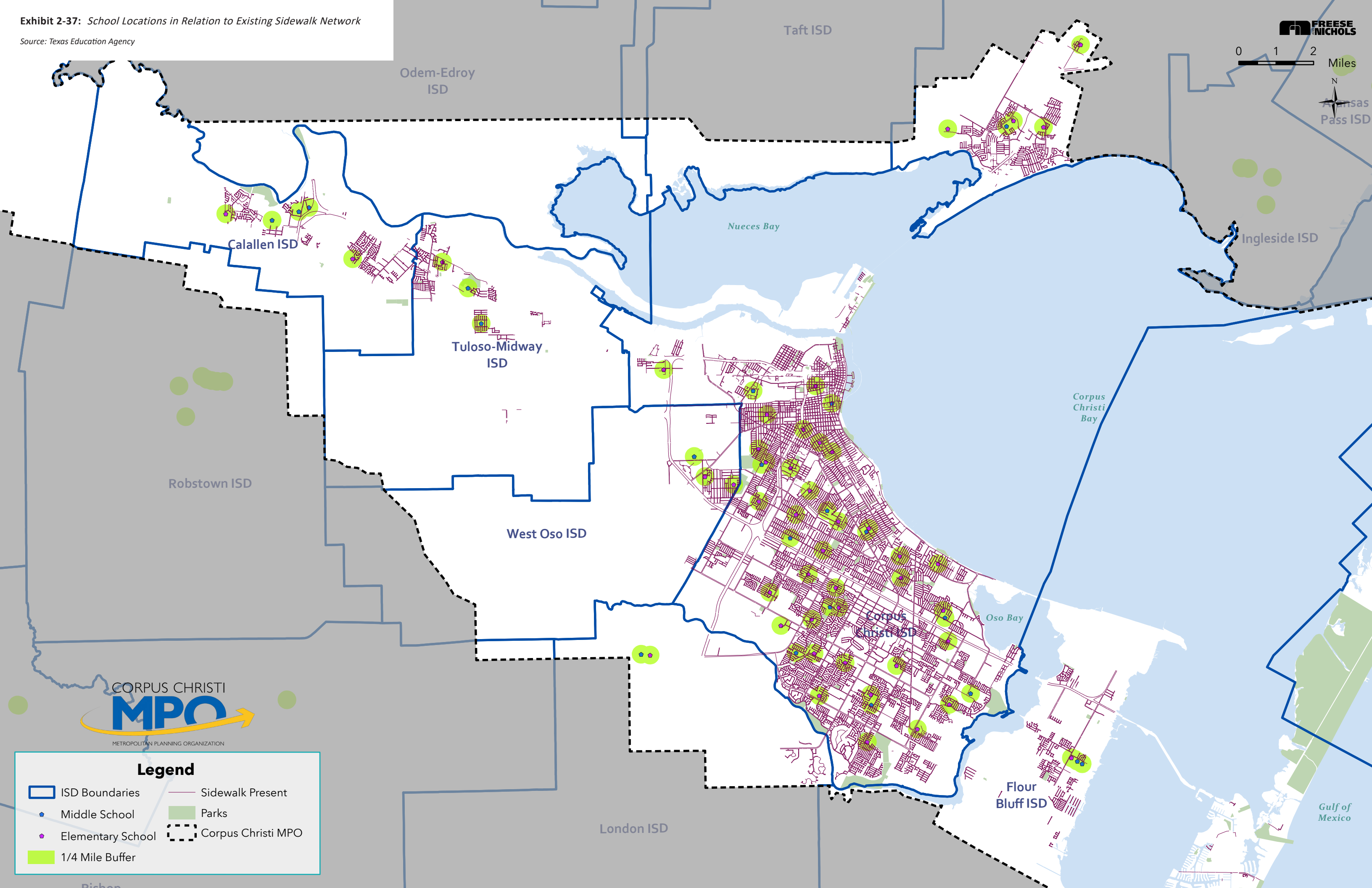
Exhibit 2-36: Existing Sidewalk Network in the Corpus Christi MPO Area



Source: Corpus Christi MPO Sidewalk Inventory 2023

Exhibit 2-37: School Locations in Relation to Existing Sidewalk Network

Source: Texas Education Agency



Legend

- ISD Boundaries
- Middle School
- Elementary School
- 1/4 Mile Buffer
- Sidewalk Present
- Parks
- Corpus Christi MPO

Walk Score

Exhibit 2-38 shows the walkability of each address in the Corpus Christi MPO area. The score is based on data sourced from Open Street Map, Google, Factual, Great Schools, the U.S. Census, Localeze and places added by the Walk Score user community.

Walk score measures walkability on a scale of 0-100 and analyzes walking routes to amenities such as grocery stores, schools, parks, retail and food destinations. The score also analyzes pedestrian “friendliness” by analyzing population density and roadway characteristics such as block length and intersection density/spacing. Destinations within a 5-minute walk are given the most points and destinations with more than a 30-minute walk receive no points.

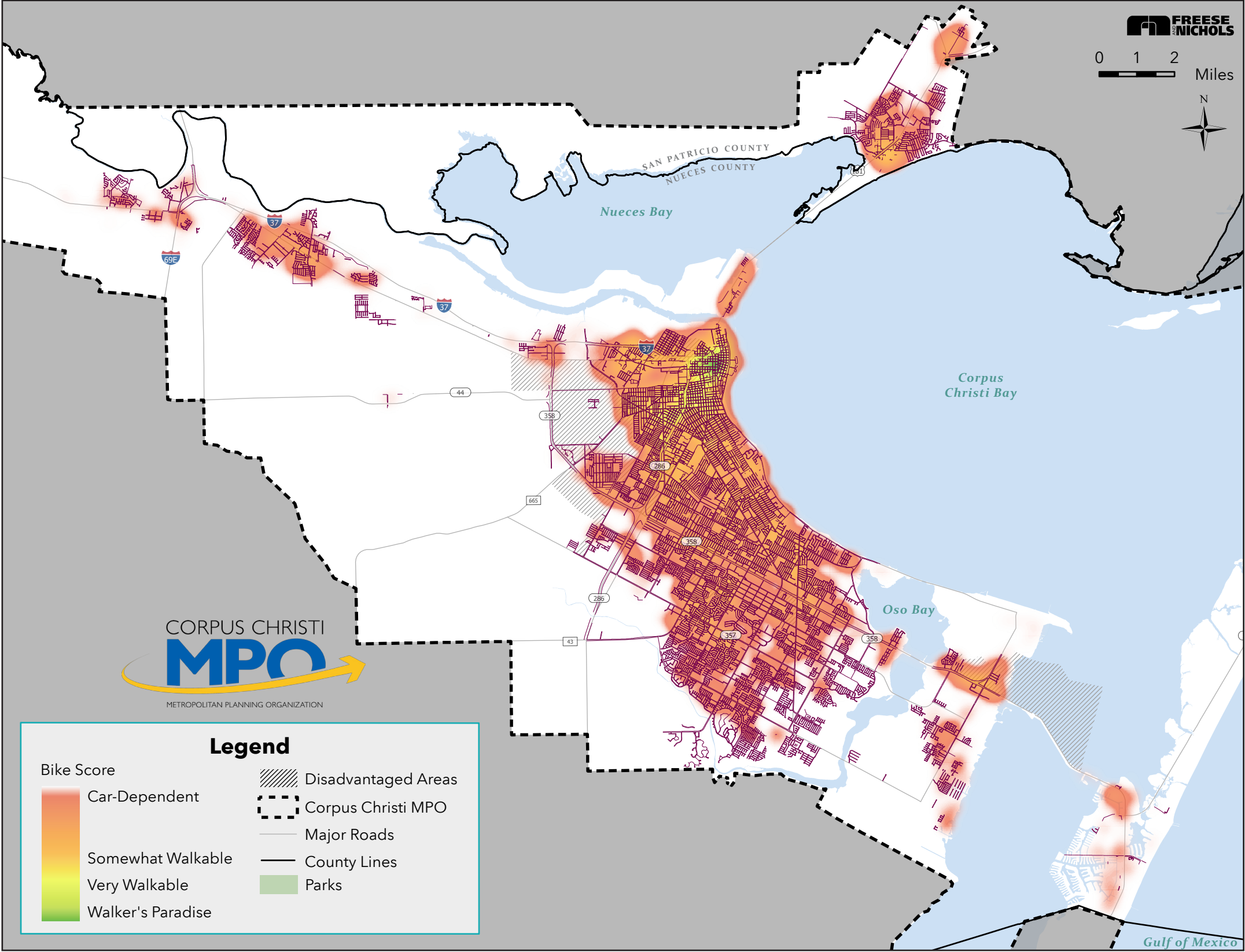
The score does not take into account heat, wind, roadway conditions or shade.

- Score breakdown:
- » **90 - 100: Walker’s Paradise** (daily errands do not require a car)
 - » **70 - 89: Very Walkable** (most errands can be accomplished by foot)
 - » **50 - 69: Somewhat Walkable** (some errands can be accomplished by foot)
 - » **25 - 49: Car-dependent** (most errands require a car)
 - » **0 - 24: Car-dependent** (almost all errands require a car)

The walk score reveals that the most walkable areas in Corpus Christi MPO are in Downtown Corpus Christi and south of Downtown along SH 286 in Corpus Christi. Areas that need most attention to improve their walkability are Flour Bluff, Southside, and Calallen/Annaville in Corpus Christi.

For comparison purposes, areas of high or very high disadvantaged population are shown on Exhibit 2-38 to highlight areas that could benefit greatly from becoming more walkable.

Exhibit 2-38: Walk Score in the Corpus Christi MPO Planning Area



Source: Walk Score®, Corpus Christi MPO 2023 Program for Addressing Discrimination

EXISTING BIKE/PED USER GROUPS

Biking and running groups are vital to active transportation efforts as they raise awareness, advocate for better infrastructure and provide social support and safety, making these activities more accessible and appealing. Exhibit 2-39 lists most of the organizations in the Corpus Christi MPO area that regularly use pedestrian and bicycle facilities or promote walking and biking activities.

Exhibit 2-39: List of Existing Bike/Ped User Groups in the Corpus Christi MPO Area

User Group	Description
Knight Riders	A bicycle riding group for "fearless" bike riders.
Downtown CC Run Club	A group for all age groups and skill levels that meets for runs every Wednesday at 6:30 p.m. with happy hour afterwards.
Hype Byke	A bicycling & cycling gear store located in Downtown Corpus Christi that does weekly rides.
CC LED	A ride group for all ages that does night rides with LED lit bikes (though LEDs not required).
Glow Ride Tours	An organization that offers bike rentals and guided tours through Corpus Christi with LED-equipped bikes.
I-Bike CC	Advocates for implementation of protected bike lanes and dedicated biking trails in Corpus Christi.
Bikes For Kids	A group that hosts community activities to raise money for bikes for kids in need.
Corpus Christi Cycling	A Facebook group of 400+ people where bikers can plan group rides, routes and trade or donate cycling equipment.
CC Roadrunners	A running club that hosts weekly group runs and welcomes walkers, joggers and runners alike. The group hosts several events such as Dash 4 Cash, Thanksgiving Turkey Run, and Four for the Fourth.
Team Life Cyclers	Accommodates riders of all skill levels and attends various cycling events. Team "composed of regular people from different backgrounds in Corpus Christi, TX."
Wings of Texas	A nonprofit committed to helping people with disabilities be a part of the community. Organizes Run for a Reason 5k and 10k race in September where runners can opt to push an endurance wheelchair during the race.



Glow Ride Tours. Source: Glow Ride Tours at glowridetours.com



My Triumph Team: Wings of Texas Race. Source: The Bend, provided by Wings of Texas.

EXISTING BIKE/PED OUTREACH EVENTS

Outreach events also raise public awareness, encourage participation and demonstrate the feasibility and benefits of active transportation. This section lists a number of events in the Corpus Christi MPO area that are using active transportation modes such as biking, walking, running or rolling.

Other events or days that are not being organized in the Corpus Christi MPO area, but would be a great way to promote safe walking, biking and rolling are National Bike to Work/School Day, National Night Out, Earth Day activities, National Bike Month and others.

1. Conquer the Coast

- » Major bike event held in September by the City
- » Includes ride options for 66, 21 and 10 miles; thousands of cyclists attend every year



2. Beach to Bay Relay

- » Annual event since 1976 on the 3rd Saturday in May (Armed Forces Day)
- » Includes a six-leg marathon and/or full marathon (26.2 miles) beginning in North Padre Island and ending at McCaughan Park along the scenic Shoreline Drive



3. 4th of July Big Bang

- » Held on 4th of July
- » Free event for all of CC at downtown CC bayfront featuring fireworks, festivities and more



4. Harbor Half

- » Event in November including half marathon & relay, 5K, 10K
- » 704 participants and around 150 volunteers recorded in 2023

5. Jingle Bell Food Ride

- » Charity event held in mid-December that collects and donates food to Coastal Bend Food Bank
- » Includes 4-mile group-bike route and is in collaboration with Hype Byke store



6. Bike Rodeo

- » Awareness event held by Corpus Christi Municipal Court in June 2024 to promote safe bike-riding specifically for children
- » Four bikes are given away through a drawing and the first 500 kids to attend get a free helmet

PUBLIC TRANSIT

Transit Network

Transit in the Corpus Christi MPO area is provided by CCRTA. The CCRTA provides service to Corpus Christi, Flour Bluff, Padre Island, Portland, Gregory, Robstown and Calallen via 37 bus routes (four of which are express) and over 1,300 stops (see Exhibit 2-41 on page 2-20). CCRTA serves, on average, 2.3 million passengers per year.

Boardings

According to the CCRTA’s Fleet Forward Long Range System Plan 2022 Report, high-volume bus stops in the RTA network have at least 30 passenger boardings on average each day (see Exhibit 2-40). Of those, the busiest ones are the Staples Street Station (1,157 boardings), Port Ayers Station (562), Southside Station (456), TAMU-CC (298) and Islander Way at Izzy (141).

CCRTA also collects data regarding bicycle boardings. In total, there were over 490,000 bicycle boardings recorded in the past five years. Over half of the total bicycle boardings were observed on routes 29 Staples, 27 Leopard and 19 Ayers.

Challenges to Safety

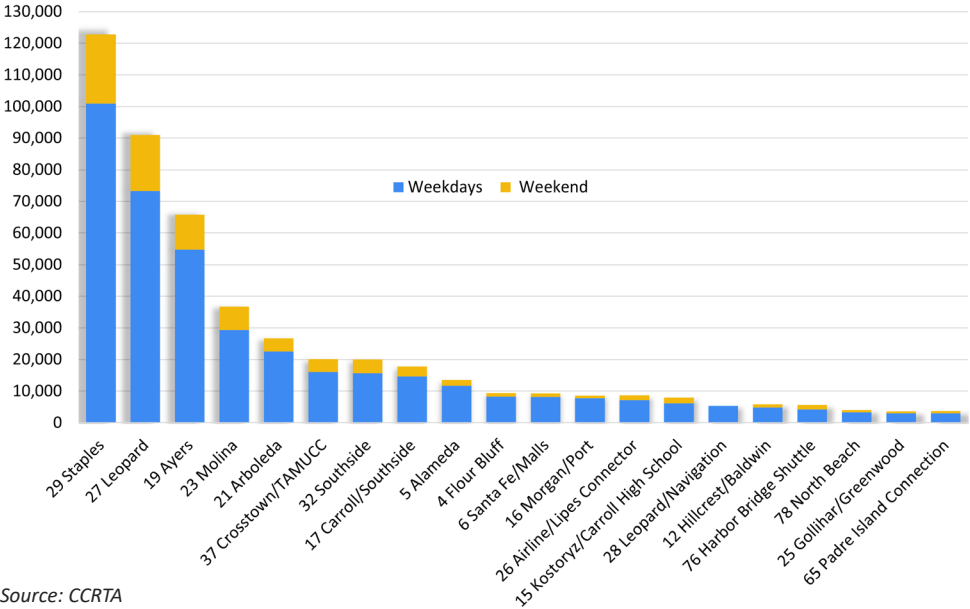
CCRTA’s Safety and Security Department has identified safety at bus stops as an added concern of riders and the CCRTA staff, noting people living at the stops, leaving trash around and “demonstrating illicit behavior,” which can discourage riders from using public transit and its amenities.

The agency addresses this concern in various ways, such as increasing security at certain stops, installing benches with separator bars and even removing some shelters and benches completely at locations where the issues are particularly severe such as the stop at Airline Road and Williams Drive.



Example of a bus stop bench with separator bars in Corpus Christi.
Source: CCRTA

Exhibit 2-40: *Bicycle Boardings*
Bicycle Boardings per Route, 2017 - May 2023



Source: CCRTA

Future Improvements

CCRTA’s Service Standards outline where, when and how public transit services and customer amenities are provided within its service area. To comply with these standards, CCRTA has plans to install or replace several bus shelters throughout its service area and has outlined criteria for identifying priority areas. Routes with a ridership of 30 or more daily boardings will be given priority. Additionally, stops with 10 or more daily passenger boardings and/or stops that meet one of the following criteria qualify:

- » Newly constructed ADA-compliant infrastructure, including shelter pad or bus pad
- » Medical, senior citizen activity centers, social service agencies, public or special needs
- » Facilities within ¼ mile
- » Major employment centers within ¼ mile
- » Major grocery stores and shopping centers within ¼ mile
- » Apartments, student dormitories, or senior housing with 100+ units within ¼ mile
- » High schools, colleges, or universities within ¼ mile
- » New major developments conducive to increasing ridership growth within ¼ mile
- » Frequent wheelchair lift/ramp usage
- » Major transfer point
- » Locations where waiting times for riders may be longer (routes with less frequency)
- » Pilot service criteria for new implementations and performance monitoring
- » Demand response service performance measurements



CCRTA’s B-Line Paratransit service offers rides to people whose disabilities prevent them from using regular accessible fixed-route service.

Source: CCRTA

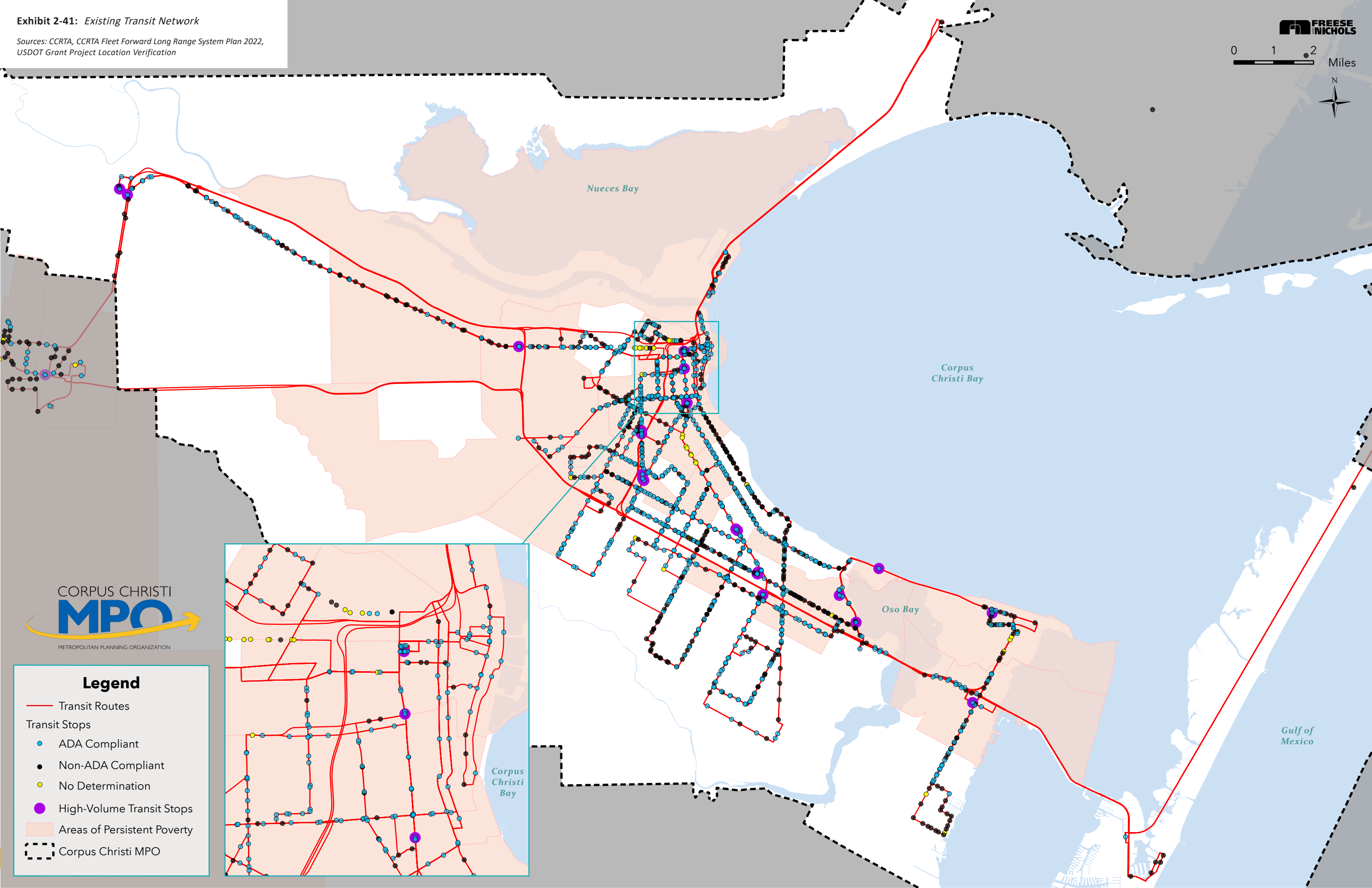
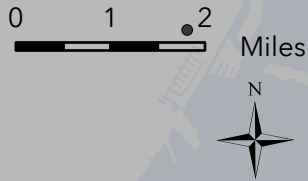


ADA-compliant bus stop in Corpus Christi.

Source: CCRTA

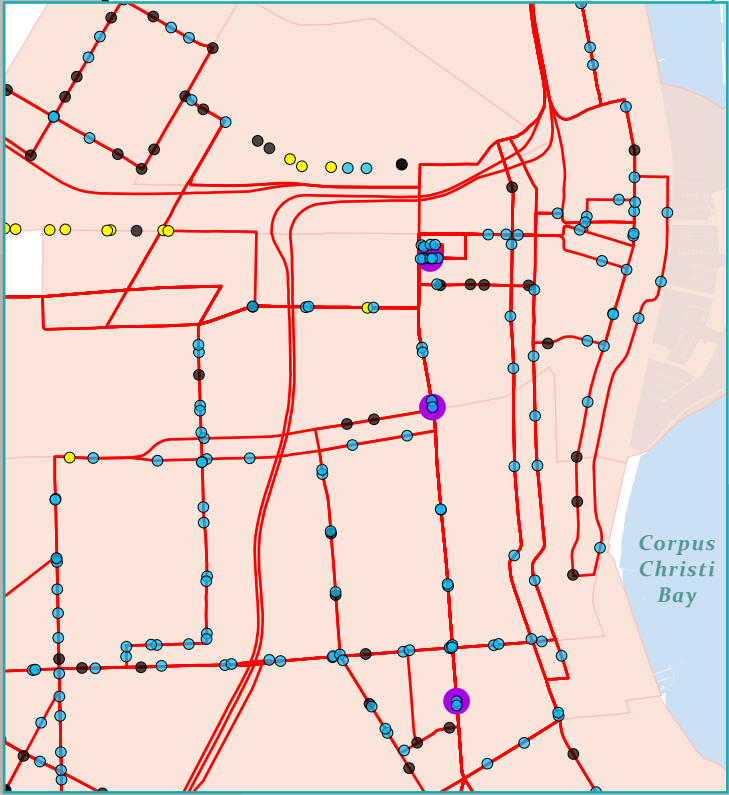
Exhibit 2-41: Existing Transit Network

Sources: CCRTA, CCRTA Fleet Forward Long Range System Plan 2022, USDOT Grant Project Location Verification



Legend

- Transit Routes
- Transit Stops
 - ADA Compliant
 - Non-ADA Compliant
 - No Determination
 - High-Volume Transit Stops
- Areas of Persistent Poverty
- Corpus Christi MPO



Transit Score

Exhibit 2-42 shows the transit accessibility in the Corpus Christi MPO area. The score calculates the relative “usefulness” of nearby routes, with usefulness defined as the distance of the address to the closest stop on each route, route frequency and mode of transit.

The score measures transit accessibility on a scale of 0-100. If an address distance to the nearest bus stop is more than a 30-minute walk, the location is not awarded any points. The score does not consider crosswalks, bus stop amenities and sidewalk conditions.

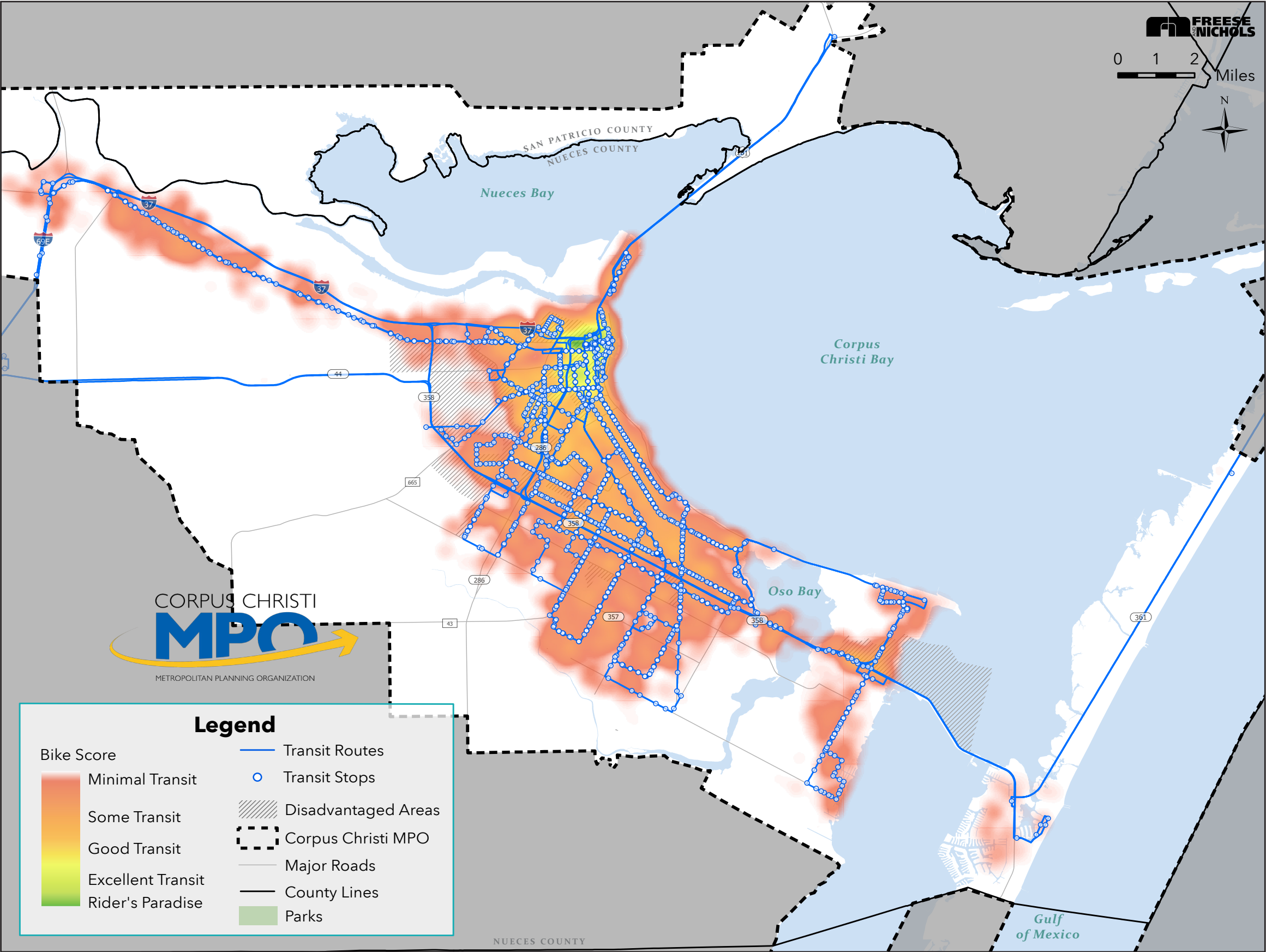
Score breakdown:

- » **90 - 100: Rider’s Paradise** (world-class public transit)
- » **70 - 89: Excellent Transit** (transit is convenient for most trips)
- » **50 - 69: Good Transit** (many nearby public transit options)
- » **25 - 49: Some Transit** (a few nearby public transit options)
- » **0 - 24: Minimal Transit** (it is possible to get on the bus)

The highest transit scores in Corpus Christi MPO are in Downtown and Central City in Corpus Christi. Compared to walk or bike scores, none of the areas ranked in the “Good Transit” category or higher.

For comparison purposes, areas of high or very high disadvantaged population are shown on Exhibit 2-42 to highlight areas that could benefit greatly from increased transit access.

Exhibit 2-42: Transit Score in the Corpus Christi MPO Planning Area



Source: Walk Score®, Corpus Christi MPO 2023 Program for Addressing Discrimination

TRAFFIC - ROADWAYS

FHWA Bikeway Selection Guide highlights traffic volumes and speed limit as factors that significantly influence the safety of bikers. As such, the project team gave them a special consideration when selecting an appropriate bikeway facility type during the network development.

Traffic Volumes

The Annual Average Daily Traffic (AADT) count is a standard measurement of traffic volume and provides the average number of vehicles along a segment of roadway over a 24-hour period.

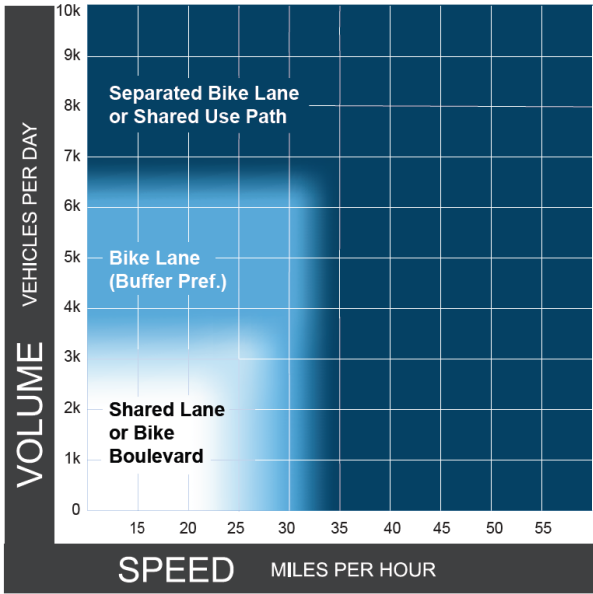
Traffic volumes within the Corpus Christi MPO area currently range from less than 100 vehicles per day to over 120,000 as shown in Exhibit 2-43. Local roads or roadways on the periphery of the MPO planning area have the lowest volumes while the highest are on SH 358 at 120,771 and SH 286 at 111,436.

Vehicle Speed

Exhibit 2-45 on page 2-23 shows the posted speeds on roadways in the MPO planning area. Speed limits of 30 mph and 35 mph are the most common.

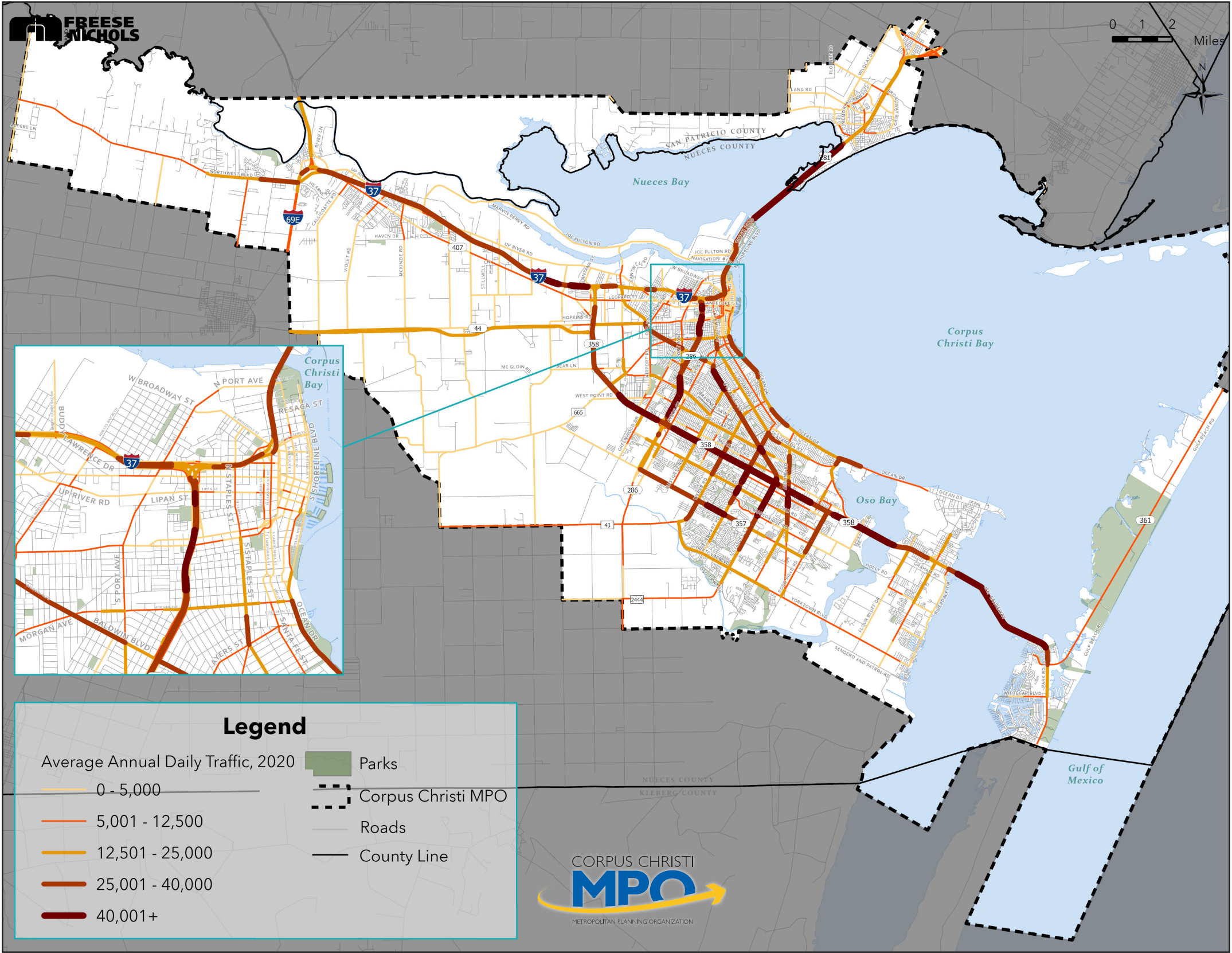
FHWA Bikeway Selection Guide suggests that with increasing speed limits, the buffer between traffic and the bicycle facilities should increase as well, see Exhibit 2-44. FHWA recommends adding a physical barrier or transitioning to off-roadway bicycle facilities when the speed limit reaches 35 mph and/or 7,000 vehicles per day.

Exhibit 2-44: Preferred Bikeway Type for Urban/Rural Contexts



Notes
1 Chart assumes operating speeds are similar to posted speeds. If they differ, use operating speed rather than posted speed.
2 Advisory bike lanes may be an option where traffic volume is <3K ADT.

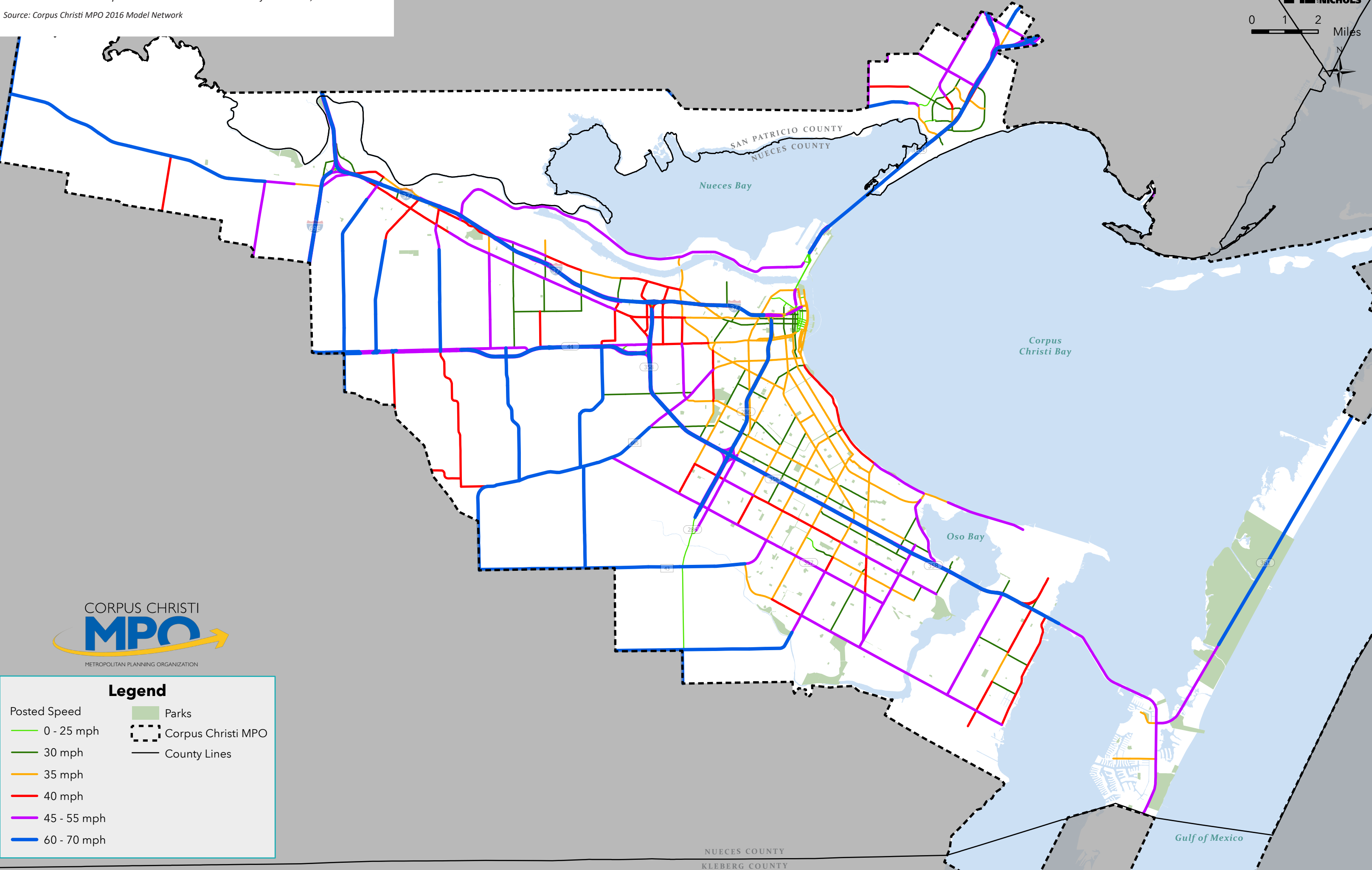
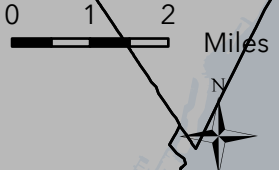
Exhibit 2-43: Traffic Volumes 2016



Source: Corpus Christi MPO 2016 Model Network

Exhibit 2-45: Posted Speed Limits on Arterial and Major Streets, as of 2016

Source: Corpus Christi MPO 2016 Model Network



Legend

- | | |
|--------------|--------------------|
| Posted Speed | Parks |
| 0 - 25 mph | Corpus Christi MPO |
| 30 mph | County Lines |
| 35 mph | |
| 40 mph | |
| 45 - 55 mph | |
| 60 - 70 mph | |

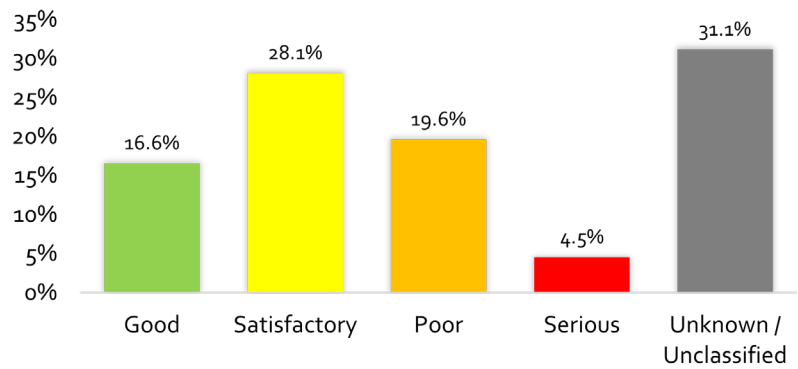
Pavement Condition

The pavement condition of the existing roadway network in the Corpus Christi MPO area was assessed in 2022. With over 1,900 miles of pavement assessed, the analysis in Exhibit 2-46 reveals that at least 44% ranked in the “Satisfactory” or “Good” category compared to 24% of the pavement ranking in the “Poor” or “Serious” category.

Pavement condition analysis matters in prioritization of roadway projects, such as reconstruction or resurfacing. A roadway project creates an opportunity to include bike/ped facilities in the project’s design and thus enhance the Active Transportation Network.

The Capital Improvement Programs for street overlay and/or reconstruction in the MPO member cities and counties have been reviewed for the upcoming opportunities for incorporating bicycle and pedestrian improvements.

Exhibit 2-46: Pavement Condition Assessment



Vehicle and Bike/Ped Crashes

The number of vehicle crashes is important because it provides a real-life illustration of the impacts of operational and congestion issues in a city. There was a total of 42,627 crashes in Corpus Christi MPO between 2017 and September 2021; 191 resulted in fatalities.

Annually, the number of traffic collisions in the MPO planning area showed slight fluctuations from year to year, with 2020 having the lowest number of crashes. That might be explained due to the impact of the COVID-19 pandemic that resulted in lower traffic volumes. Exhibit 2-47 shows the distribution of severity of injury in each year. The graph reveals that the number of injury crashes grew in 2021, following the statewide post-pandemic trend in increased crashes.

Of the total crashes, 804 included a pedestrian or pedalcyclist. Compared to all crashes, pedestrians and pedalcyclists sustained an injury or a fatality at a **six times higher rate**, which is also consistent with the statewide trends. Exhibit 2-48 also reveals that over 54% of the bike/ped crashes were intersection-related and over 43% happened when it was dark. The location of all bike/ped crashes in the Corpus Christi MPO area can be viewed in Exhibit 2-49 on page 2-25.

Exhibit 2-47: Crashes by Year and Severity, 2017 - 2021

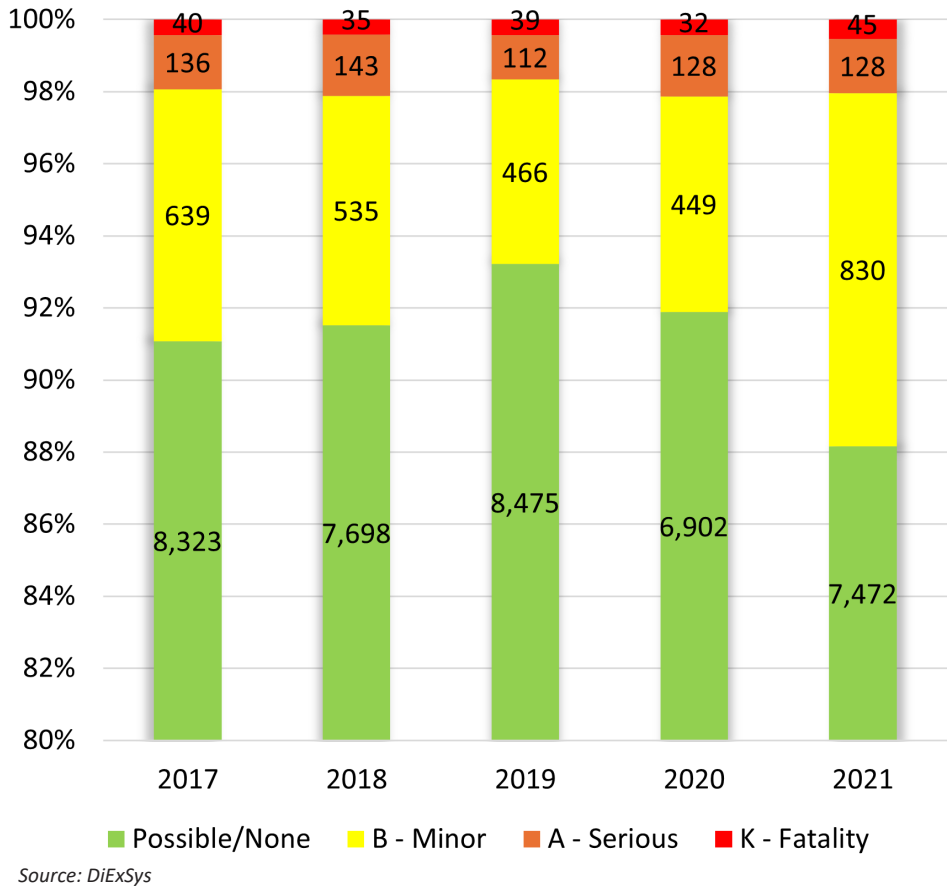
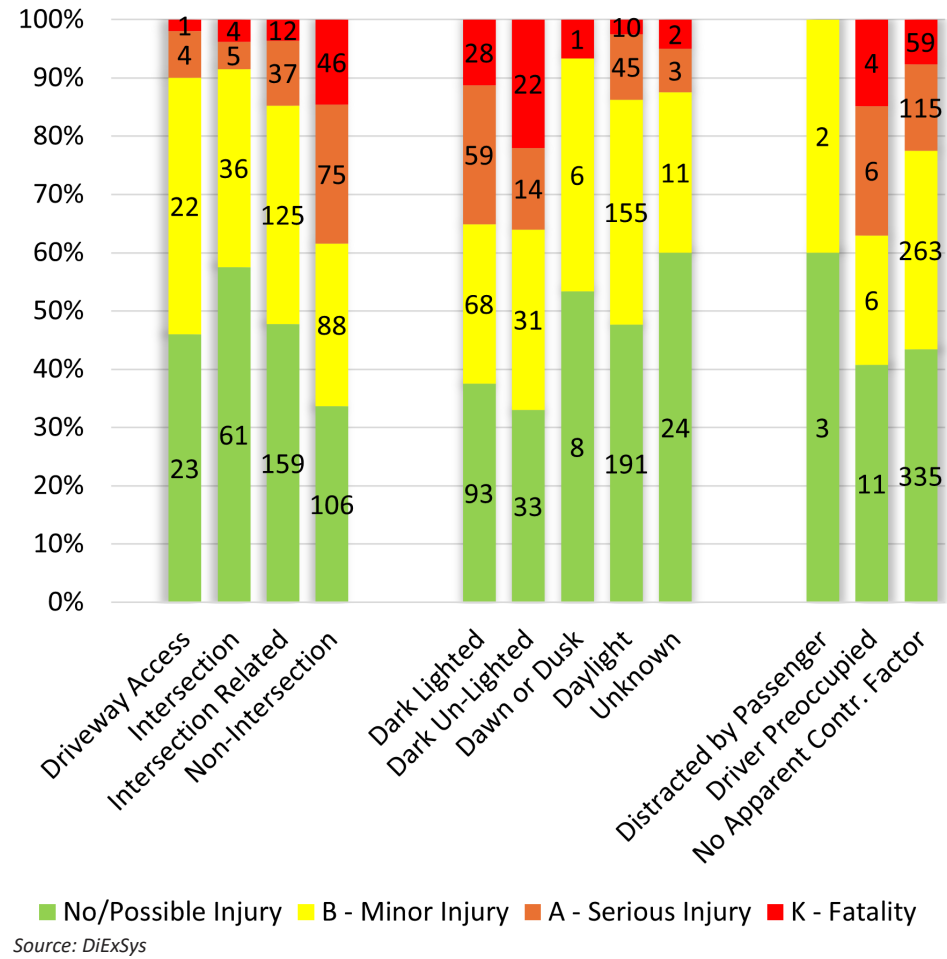


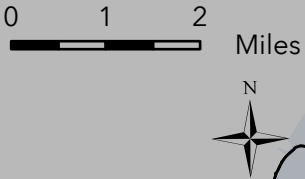
Exhibit 2-48: Contributing Factors in Bike/Ped Crashes by Year and Severity, 2017-2021



Source: DiExSys

Exhibit 2-49: Bike/Ped Crashes in 2017-2021

Source: DiExSys, TxDOT CRIS



Legend

Bike and Pedestrian Crashes by Severity

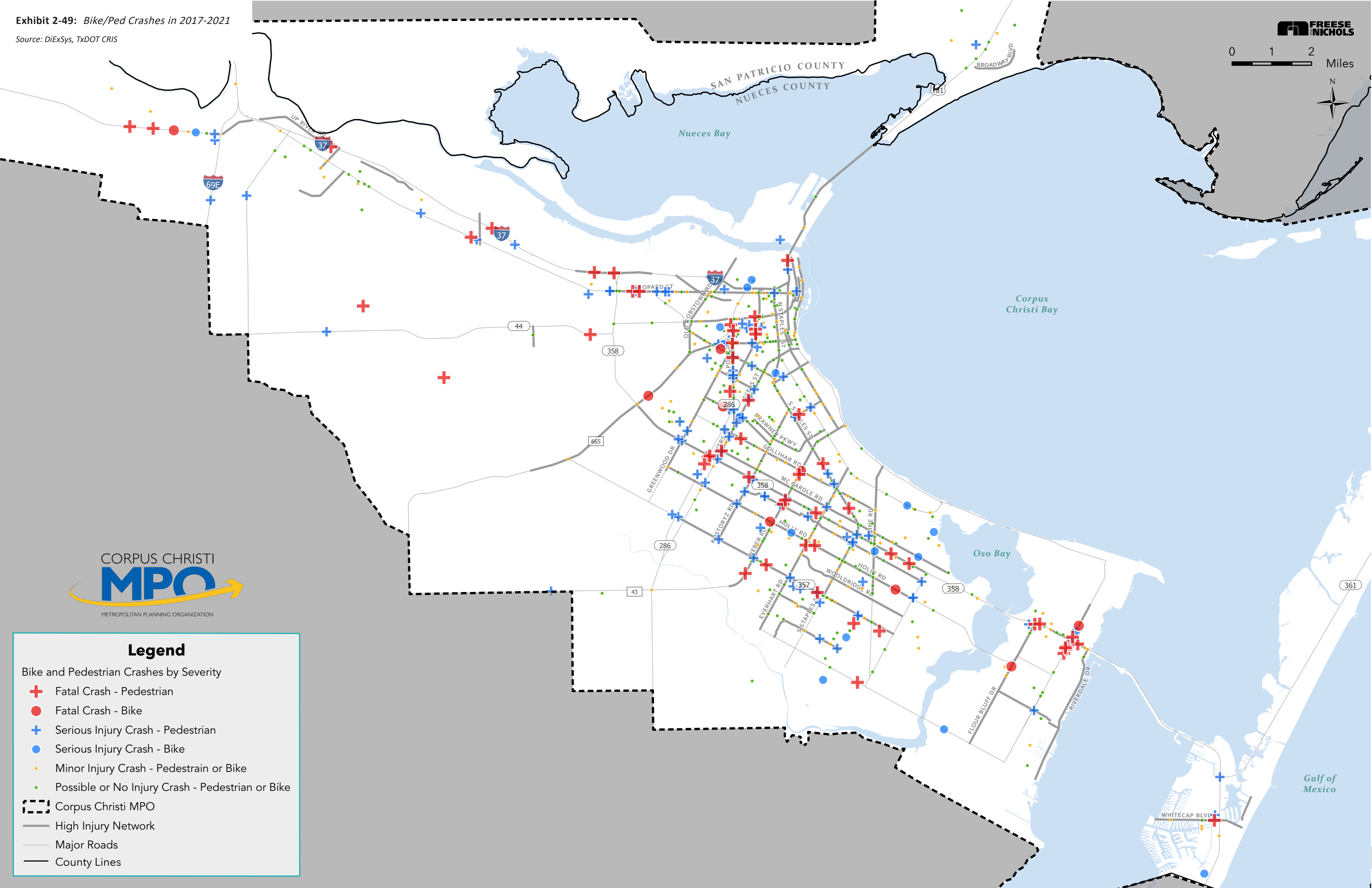
- Fatal Crash - Pedestrian
- Fatal Crash - Bike
- Serious Injury Crash - Pedestrian
- Serious Injury Crash - Bike
- Minor Injury Crash - Pedestrian or Bike
- Possible or No Injury Crash - Pedestrian or Bike

Corpus Christi MPO

High Injury Network

Major Roads

County Lines



3. ISSUES, NEEDS AND OPPORTUNITIES

PUBLIC ENGAGEMENT SUMMARY

The project team coordinated with local government officials, stakeholders, and the public from throughout the region during two engagement phases. The first phase of engagement was held at the beginning of the project. Representatives provided input about existing, planned, and needed facilities in their communities. The second phase gave representatives an opportunity to review their input from previous meetings and included an online survey and public meetings. For more information on the engagement efforts, please refer to Appendix D.

Exhibit 3-01 outlines all meetings that the project team conducted and attended as part of their engagement efforts. General observations included:

- » Homeless services, parks, Downtown and beach/shoreline seen as high-demand destinations for pedestrians
- » A general lack of accessibility, sidewalks and bike lanes
- » The average bicyclists generally prefers protected bike facilities
- » The advanced bicyclists prefer long routes with minimal interruptions on low volume roadways, with outside lanes or shoulders that are in good condition
- » The access for the disabled is generally good at building entrances, but the lack of street access, curb ramps and curb cuts creates significant problems as they have to traverse the street for access
- » The lack of shade on pedestrian paths is an issue for all users, but especially the elderly
- » The homeless are more reliant on walking and transit than cycling for their mobility needs
- » More funding for day transit passes is needed so that the disabled can access health services and shopping
- » Transit is increasingly becoming unaffordable for the disadvantaged
- » Bus stops are often difficult to access due to lack of benches, shade, or sidewalk accessibility
- » Current beach access for the disabled is extremely limited. The Parks and Recreation Department should consider placing “Moby Mats” at beach entrances to allow wheelchair access on the beach

During the in-person meetings, several roadways were routinely identified by the public and stakeholders as candidates for bikeway improvements or additions. Among others, these included:

- » Holly Road
- » JFK Causeway
- » Ocean Drive
- » Ennis Joslin Road

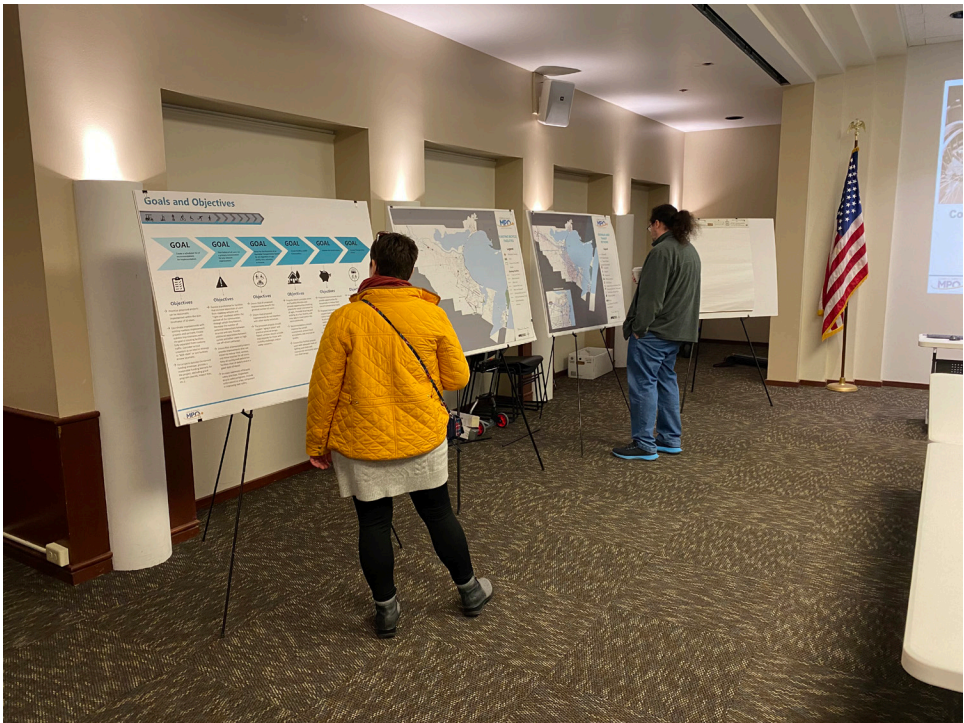
Exhibit 3-01: Summary of In-Person Public and Stakeholder Engagement Efforts

Date	Organization
Stakeholder Meetings	
June 14, 2023	City of Corpus Christi Planning Department
	Coastal Bend Center for Independent Living*
	City of Corpus Christi Parks & Recreation Advisory Group
	I Bike CC
June 15, 2023	Port of Corpus Christi
June 16, 2023	Hype Bike
	Choice Living Community*
July 26, 2023	Private Citizen
	Coastal Bend Council of Governments
	City of Corpus Christi / Bike Riders Forum
	TAMU-CC Department of Education
July 28, 2023	Corpus Christi Parks and Recreation Department
	TAMU-CC Accessibility Study Author*
	City of Corpus Christi Homeless and Housing Services*
November 15, 2023	Timon's Ministries*
	Catholic Charities of Corpus Christi*
January 18, 2024	City of Corpus Christi Planning Department
July 2, 2024	City of Corpus Christi Planning Department
Corpus Christi MPO Meetings	
June 15, 2023	Technical Advisory Committee Meeting
November 16, 2023	2050 MTP Workshop
January 18, 2024	Technical Advisory Committee Meeting
September 19, 2024	Technical Advisory Committee Meeting
September 19, 2024	2050 MTP Workshop
Public Meetings	
January 16, 2024	Held in La Retama Public Library in Corpus Christi
January 17, 2024	Held in Portland Community Center
October 1, 2024	Held at Marvin Baker Middle School as part of MPO meeting about the MTP Update
October 2, 2024	Held at Seashore Middle Academy as part of MPO meeting about the MTP Update

* Environmental Justice Advocate (EJA). See Advocacy for Environmental Justice section on page 3-7 for further discussion of the EJA engagement.



Steering Committee Meeting, June 2023



Open House in Corpus Christi, January 2024

Survey Results

Corpus Christi MPO presented an opportunity for community members to express their opinions through an online survey. The survey was active from January 16 to May 1, 2024 and received 55 responses.

The results shown in Exhibit 3-02 indicate that walking is the most common mode of active transportation on a daily or weekly basis. Over 11% of respondents bike daily and another 24% bike at least weekly or monthly.

Exhibit 3-03 reveals that most people use active transportation to get to a social activity. Only 7% of respondents use active transportation to go to school. This number, however, does not represent children in primary or secondary education as the survey did not receive responses from people younger than 18 years old.

As Exhibit 3-04 illustrates, almost 50% of trips people take using active transportation are over 5 miles, and another almost 30% take trips that are between 2-5 miles long. Short trips are the least common, with only 7% of respondents taking trips that are less than a mile long, reinforcing previous observations that most trips are for social activities.

Exhibit 3-02: Frequency of Usage of Active Transportation Modes

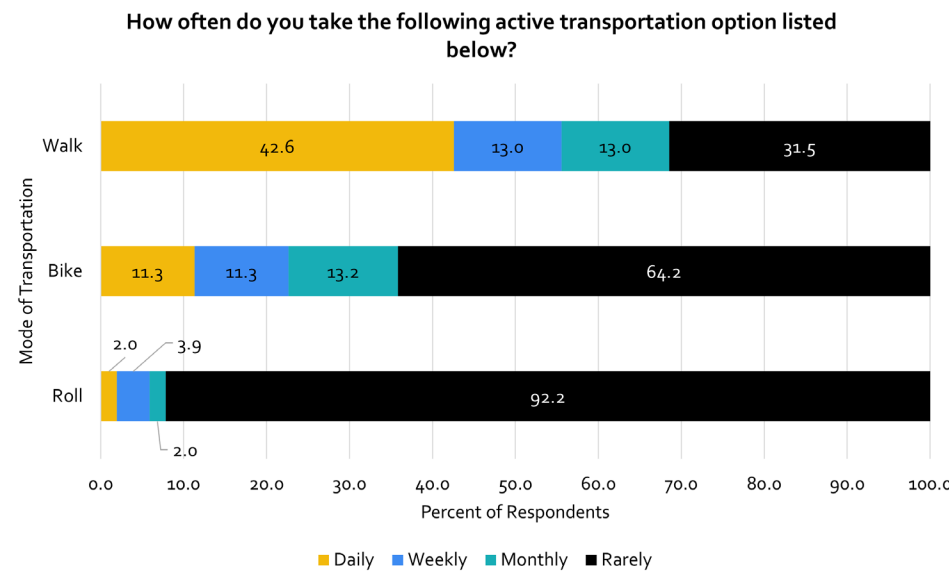


Exhibit 3-03: Destinations of Trips Using Active Transportation

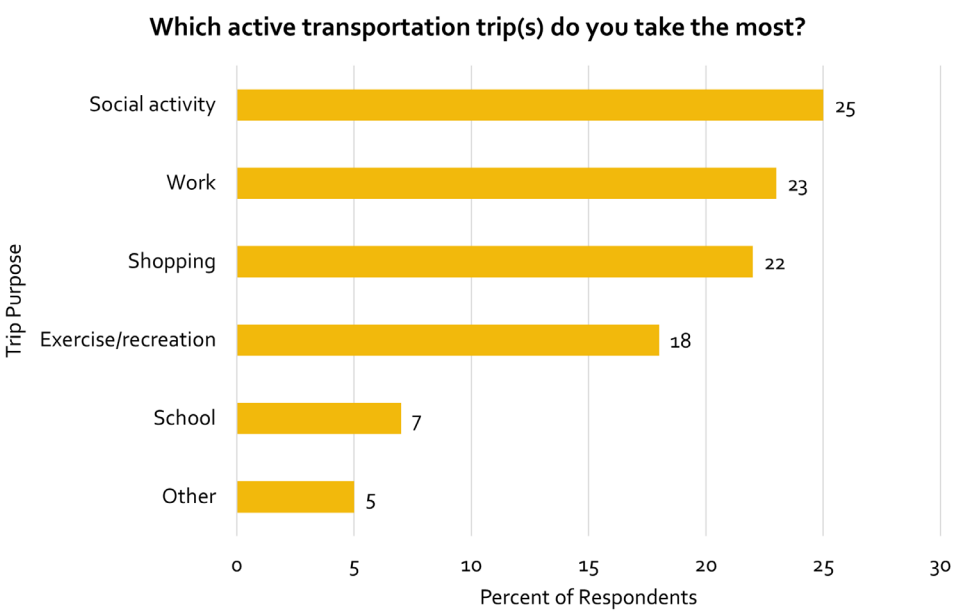
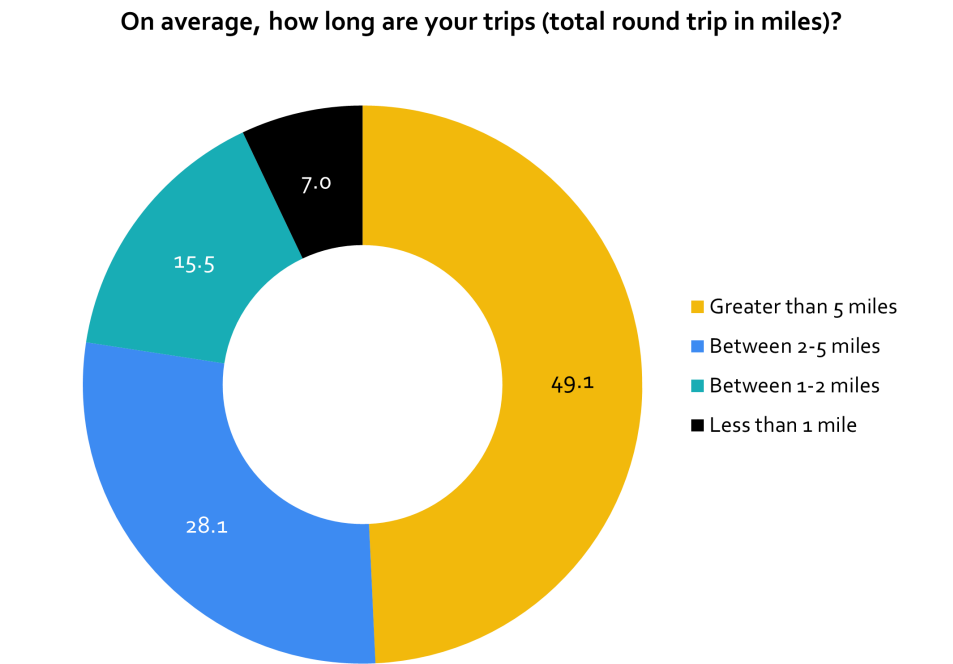


Exhibit 3-04: Length of Trips Using Active Transportation



Most people agree or strongly agree that the regional institutions and partners need to prioritize active transportation even if it means redirecting resources from other transportation needs. At the same time, over 40% felt neutral about the statement, as shown in Exhibit 3-05.

When asked about ranking the improvements to active transportation facilities, over 40% of respondents ranked sidewalk improvements as the top priority and sidepath improvements as the second highest priority, as illustrated in Exhibit 3-06.

Exhibit 3-05: Redirecting Resources toward Active Transportation Agreement Scale

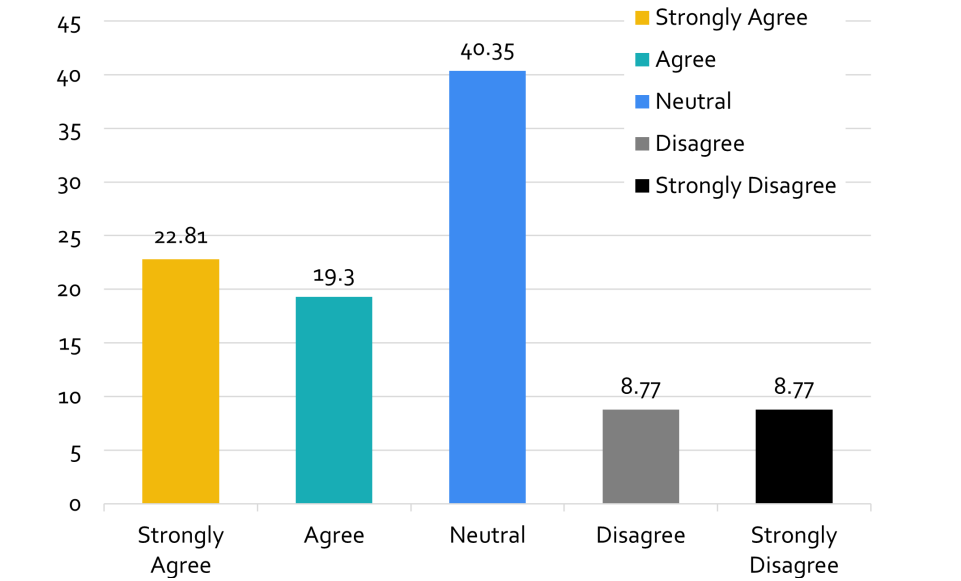


Exhibit 3-06: Ranking the Improvements of Active Transportation Facilities

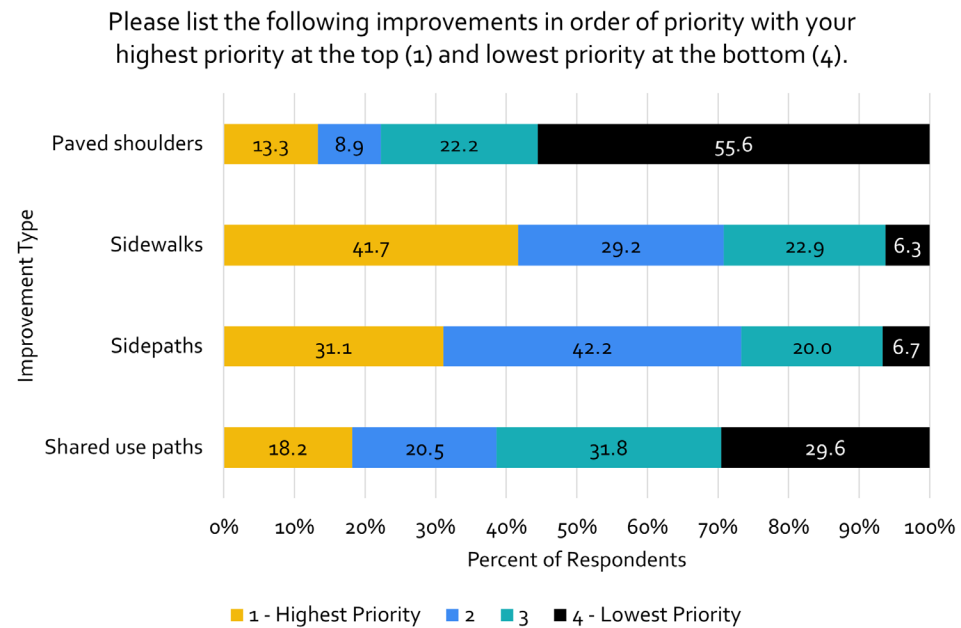


Exhibit 3-07 reveals that the survey respondents mostly feel very or somewhat safe when using active transportation modes in their neighborhood. Only around 18% of people feel very unsafe.

Exhibit 3-08 reveals that the top three safety concerns people see are inadequate sidewalks (over 70%), poor pavement conditions (almost 65%), and third place tied between lack of designated bike lanes and recurring driver behavior issues (44% each).

Those results align with responses in Exhibit 3-09 when asked to rank implementation of safety measures. The top three choices scoring 5 or higher call for more dedicated pedestrian and biking facilities, better pavement maintenance and traffic calming devices to slow down drivers and improve safety for active transportation users.

Most of the respondents of this survey identify as intermediate- or advanced-level bikers, as shown in Exhibit 3-10, which limits the viability of the survey results as it largely excludes the opinions of casual or potential new riders.

For a full summary of the survey results and comments, please refer to Appendix D.

Exhibit 3-07: *Feeling of Safety when Using Active Transportation*

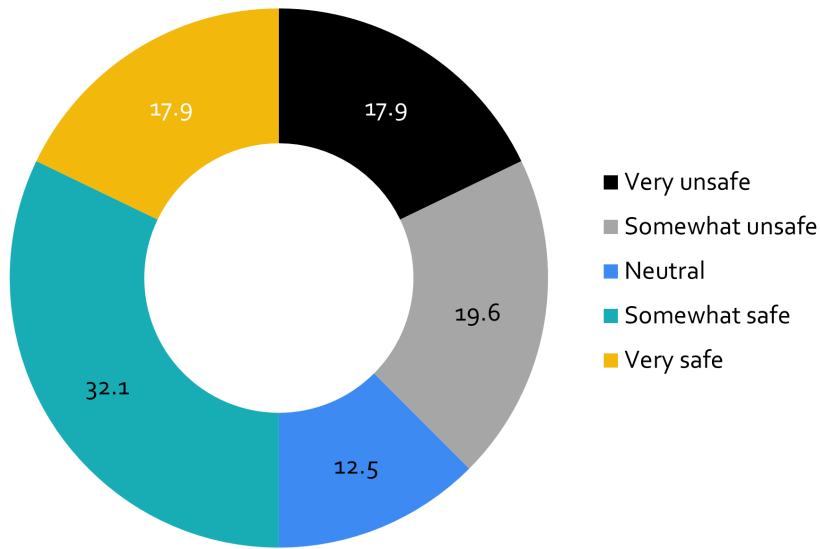


Exhibit 3-08: *Main Safety Concerns when Using Active Transportation*

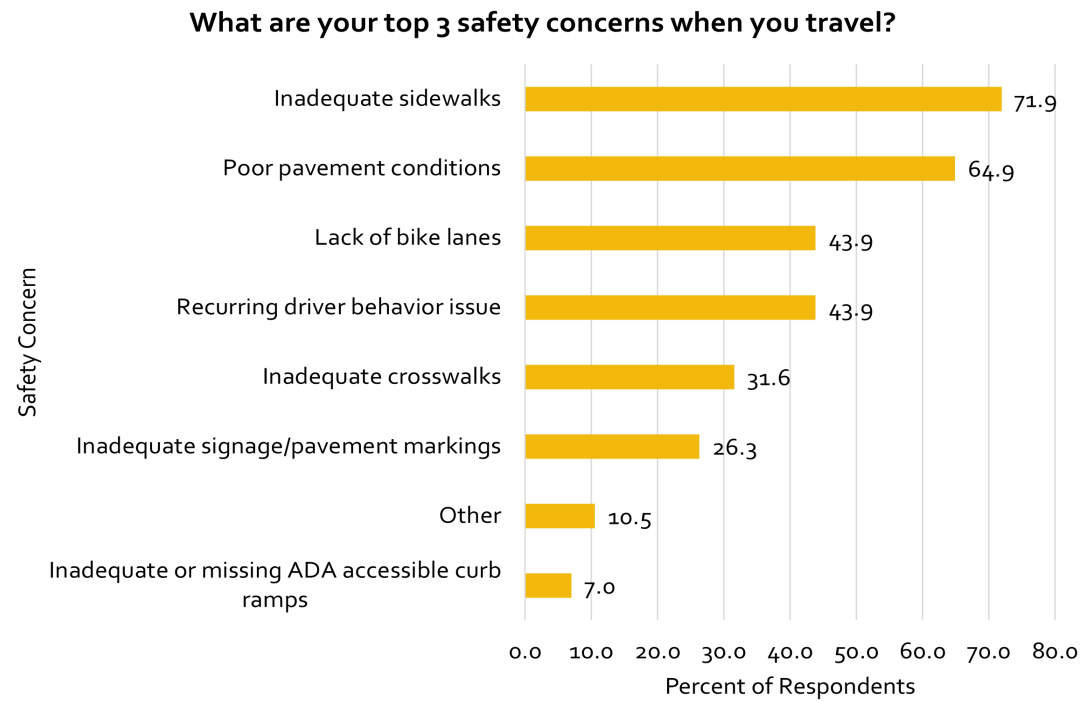


Exhibit 3-10: *Biking Experience Level of Respondents*

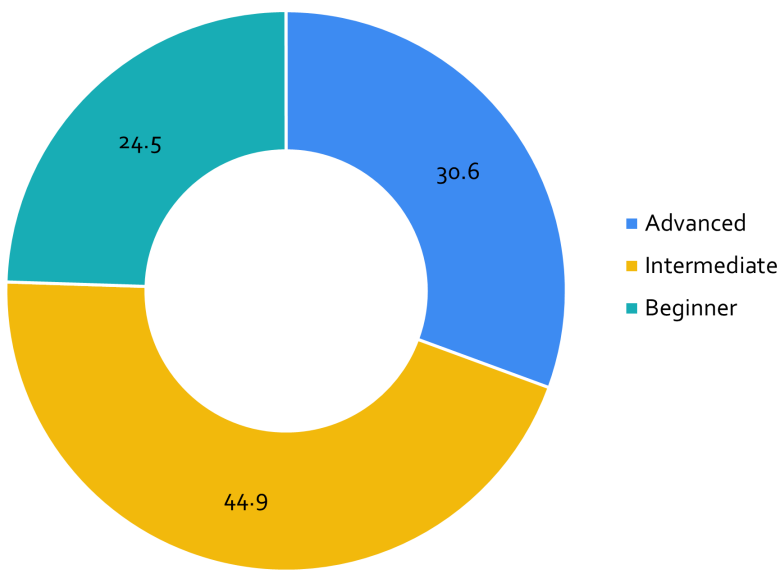
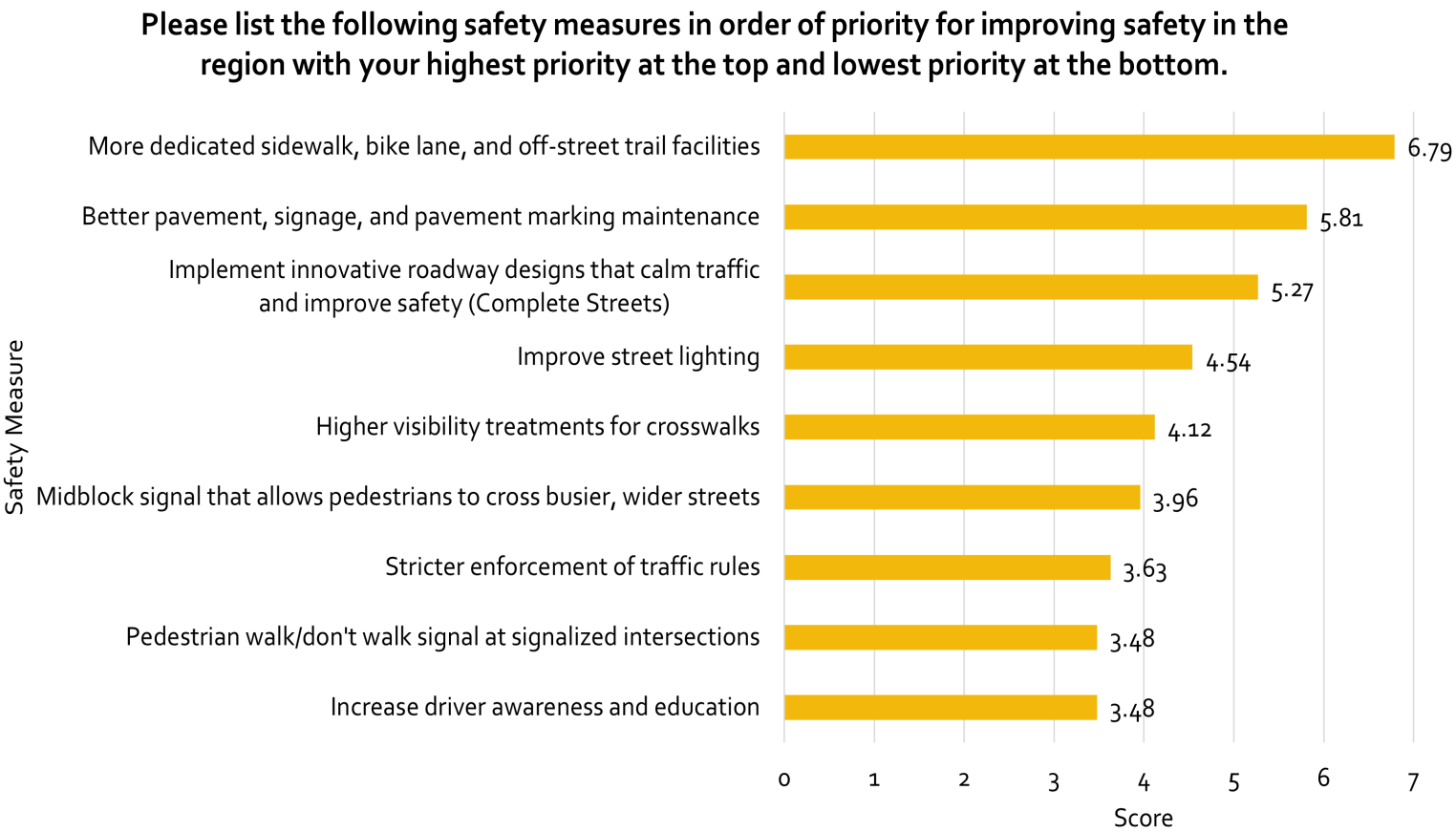


Exhibit 3-09: *Prioritization of Safety Measure Types*



Interactive Map Results

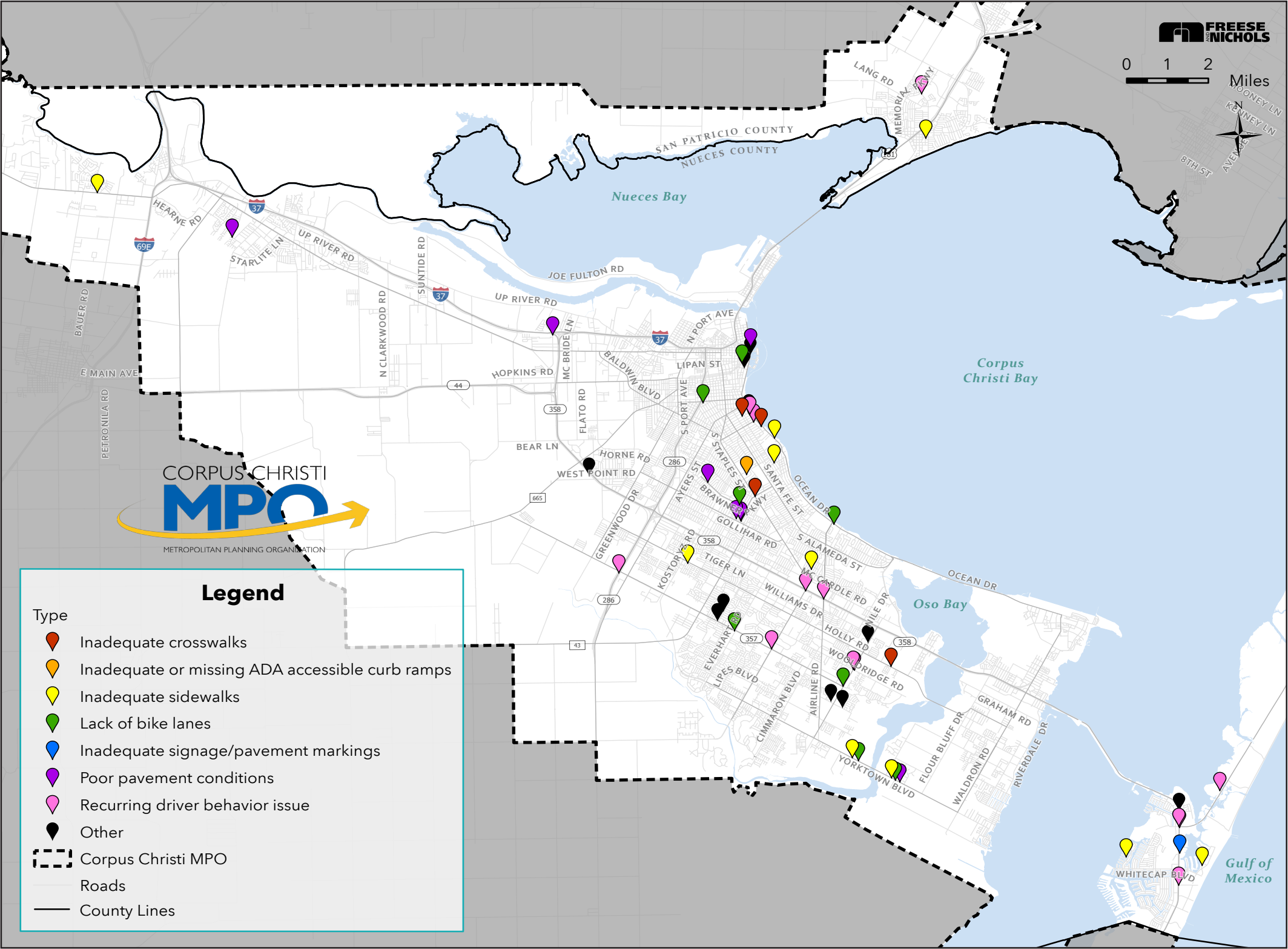
As part of their online engagement efforts, the survey was accompanied by an interactive map. This interactive map was also open to the public from January 16 to May 1, 2024 and received 55 responses. As shown in Exhibit 3-11, respondents had an option to place a marker on the map in locations where they experienced any of the following issues:

- » Lack of bike lanes
- » Poor pavement conditions
- » Inadequate signage/pavement markings
- » Recurring driver behavior issue
- » Inadequate sidewalks
- » Inadequate crosswalks
- » Inadequate or missing ADA accessible curb ramps
- » Other

Most of the comments in the “Other” option expressed concerns with missing sidewalks, bike lanes, or poor pavement conditions.

For a full summary of the interactive map comments, please refer to Appendix D.

Exhibit 3-11: Locations of the Interactive Map Comments



IDENTIFIED ISSUES AND NEEDS

During plan development, input from key stakeholders, community groups and the general public identified several key issues regarding active transportation within the Corpus Christi MPO area. These ideas were further evaluated during the project development process for verification and to determine priority areas. Common themes, as seen in Exhibit 3-12, were expansion and enhancement of protected and/or separated bicycle facilities, expansion of the trail network, improvements to existing bike/ped facilities, connections to destinations, continuation between facility types, and active transportation safety.

Protected and/or Separated Bicycle Facilities

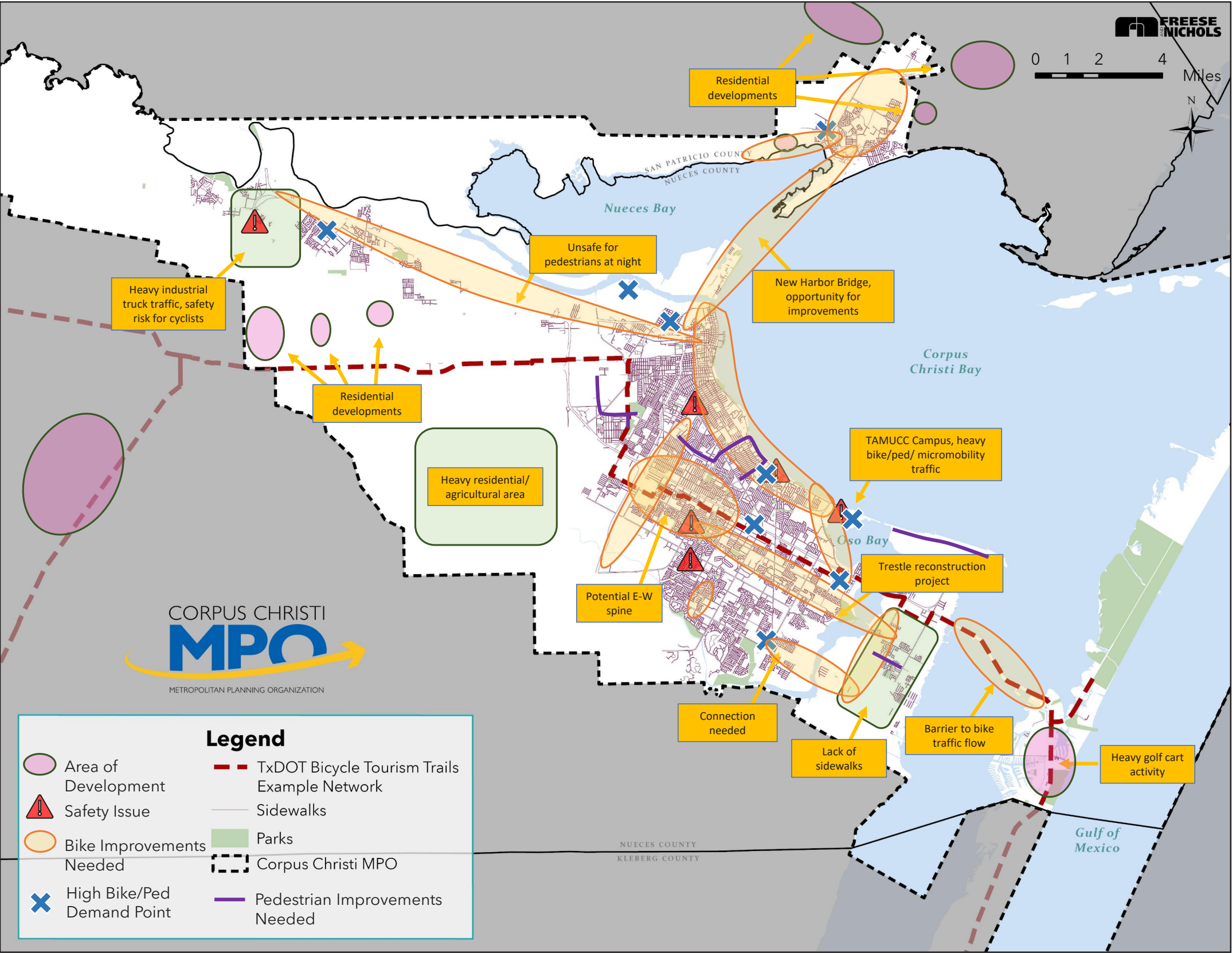
Many attending the public meetings and providing responses to online surveys were active bicyclists of various ability levels. A majority of bicyclists expressed the desire to have some degree of separation between bicyclists and motorists. Most also expressed that bicycling along paths shared with pedestrians is less desirable than having space on the roadway dedicated to bicycling, especially when there is high pedestrian activity. The provision of a striped buffer was seen as not as desirable as some physical element within that buffer space, whether it be bollards, curbs or other treatments.

Designated Bike Routes on Neighborhood Streets

Many of the bicyclists attending the public meetings and providing responses to on-line surveys indicated that they prefer riding along neighborhood streets that are relatively low volume and low speed and that allow them not to have to mix with pedestrians. They expressed a need to have traffic control at strategic crossings of arterial streets to provide the continuity of their bicycling route along lower volume/lower speed streets without having to ride along a busy street or share a path with pedestrians.

Specific usage of existing designated bike routes along such streets as Swantner Drive and others are used to form a network of neighborhood streets suitable for bicycling. Consideration should be given to adding traffic control at strategic low volume side street intersections with arterials to facilitate bicycle crossings for enhancing the neighborhood bike route network functionality.

Exhibit 3-12: Identified Issues and Needs In Corpus Christi MPO Area Based on Public and Stakeholder Input



Expansion of the SUP and Trail Network

When trails extend to where people want to go to eat, shop, play, socialize or work, or to other destinations, trails and SUPs become an important link in the transportation network. Many comments were received on the need to extend the trails and SUP network that has already been created to advance them to their next logical connections. Trails along the system of drainage ditches were pointed out as great opportunities.

Many expressed that a SUP at the back of curb is not a desirable bike/ped facility. Many do not like the green-colored one-way cycle tracks. Some have asked for a smoother riding surface than concrete with its frequent jointing.



Significant Barriers, Safety

Several significant barriers were identified:

SPID – Arterial intersections at SPID pose significantly aggressive settings to bicycle and pedestrian crossings. Some lower intensity locations for potential crossing enhancement near current bike/ped usage corridors were pointed out at Carrol Lane and Ennis Joslin Road.

Oso Bay – The new Trestle Bridge is seen as a great addition to the bicycling network. A Yorktown Boulevard bikeway is needed.

Ship Channel - The new Harbor Bridge is seen as a great addition to the bicycling network.

Major Street Intersections – Staples Street @ Del Mar Boulevard/15th Street, Ocean Boulevard @ Airline Road, and other intersections were identified as posing hazards for pedestrians and bicyclists, mentioning issues such as right turns on red. There are left turn conflicts with crosswalks, etc. The need for additional traffic control should be assessed.

Improve Existing Bicycle and Pedestrian Facilities

One-way Cycle Tracks - Several bicyclists have complained about the design treatment of the existing SUP/one-way cycle track at the street intersections. The cycle track ends and has to merge with the adjacent 5-foot wide sidewalk to enter the curb ramp. They would like to have the cycle track continued all the way to the street crossing, have a wider ramp and wider crosswalk.



Sidewalks – Many comments were made at public meetings, in online surveys and in the local media about the conditions of the sidewalks in neighborhoods. These comments were regarding deteriorated surfaces and buckling pavement that create walking hazards and nearly impassable conditions for persons with mobility impairments.

Upgrade Existing Bike Lanes – The Ocean Drive and Shoreline Boulevard bike lanes are well used and have opportunity to add buffers and/or bollards.

Bike Lanes on High Speed/High Volume Streets - There is an existing bike lane for over 7 miles along Holly Road, but speeds are fast and volumes are heavy. There is need to create an east-west spine bikeway, but a safe one. Consider reducing speed limits.

Connectivity

Connectivity is an essential component of a successful Active Transportation Network as it is important to provide reliable connections between activity centers and provide alternative travel routes for various trip purposes.

Connect to Shoreline Boulevard/Ocean Drive Corridor – The bile lanes and trails along this corridor are wonderful facilities and can be made even more enjoyable. Getting to them from the surrounding areas is challenging due to few crossings and the provisions at those crossings, especially at Ennis Joslin Road, Louisiana Avenue and others. A nice connection has been made at Del Mar Boulevard – build on that.

Connect to TAMU-CC Main Campus – An 8-foot-wide sidewalk extends along the east side of Ennis Joslin Road from SPID to Ocean Drive and along the south side of Ocean Drive from Ennis Joslin Road to the TAMU-CC Main Campus. This wide sidewalk carries significant volume of pedestrians and bicyclists between campus and the nearby apartments. A 4-foot-wide shoulder bike lane is provided in both directions next to traffic traveling over 40 MPH, and a median area is provided and needs to be upgraded.

Connect to Del Mar College Heritage Campus – The campus is surrounded by residential neighborhoods, Staples Street on the east, Ayers Street on the west and Baldwin Boulevard on the north. These constrain access to the campus. Louisiana Avenue would make a good bike/ped gateway boulevard to the east side of campus.

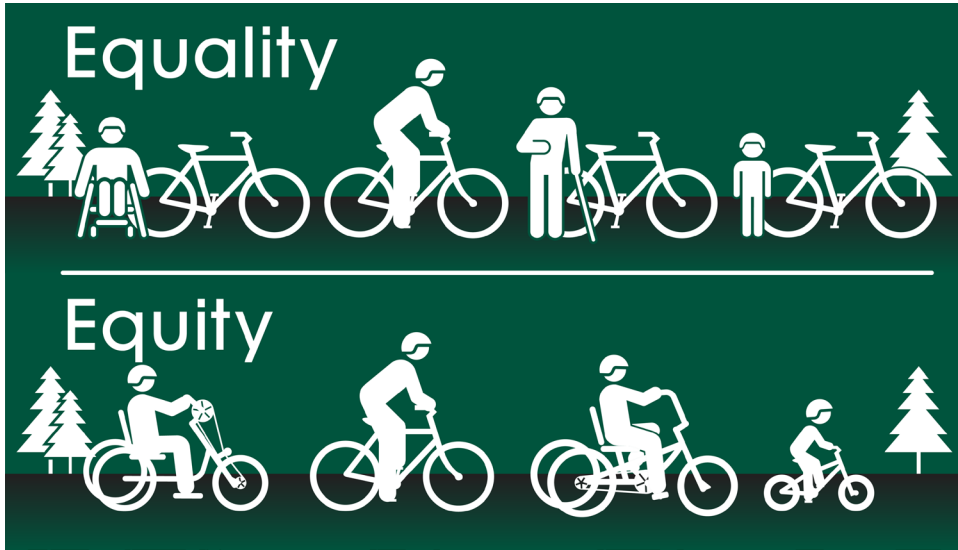
Missing Sidewalks – Many streets in Flour Bluff are built in a rural setting and have no sidewalks; many streets in Mustang Island also have not sidewalks, which limits non-motorized mobility and safety.

Equity and ADA Considerations

Equity in transportation involves meeting the needs of all community members by providing equitable levels of access to affordable and reliable transportation options based on the needs of the population being served, particularly populations that are traditionally underserved or disadvantaged. Equity differs from equality in that it considers each group’s individual needs and provides the appropriate solutions. Exhibit 3-13 illustrates this difference using bike riding as an example. In an equal situation, everyone is given the same bike without considering their actual need. In an equitable situation, everyone is given different tools based on their need and are able to successfully travel by bike.

Without equity, certain communities may be left behind, exacerbating inequalities in health, mobility and opportunity. By prioritizing equity, cities can create transportation systems that promote social inclusion, improve public health and reduce environmental impacts, benefiting the entire community.

Exhibit 3-13: Equality vs. Equity



Source: FHWA



Advocacy for Environmental Justice

Specific efforts were made to involve and gain input from representatives of organizations that support disadvantaged groups and promote environmental justice. These organizations included:

Coastal Bend Center for Independent Living, a non-profit organization providing core services for the disabled to help them live independently. The Director also serves as the chair of the Corpus Christi Traffic Advisory Committee. Issues identified through conversation:

- » Lack of accessibility, sidewalks and bike lanes throughout the region
- » Bus stops seen as too far
- » Need for more lighting especially at bus stops

Choice Living Community, operates a day activity center that provides vocational, social and life skills support for disabled persons. The Director also sits on the Corpus Christi People with Disabilities Committee. Issues identified through conversation included:

- » A need to have more bike/ped events
- » A desire to have protected bike lanes

Special Education Department at TAMU-CC, authored a 2023 study on accessibility for the disabled for parking, sidewalks, entrances, interiors, beaches and parks in Corpus Christi. Issues identified through conversation included:

- » E-Bikes are seen as more reliable than buses
- » No way to cross shoreline for parks
- » No sidewalks to access the beach

City of Corpus Christi Homeless Services, provides placement services for the low-income and homeless population in Corpus Christi. Issues identified through conversation included:

- » There is a lack of adequate sidewalks and bus access
- » Bus stops need shade structures

Timon’s Ministries, provides day services for the homeless in Flour Bluff. Issues identified through conversation included:

- » Most homeless walk to their destination making it difficult to reach shelters, including Timon’s Ministries
- » There is no homeless shelter in Flour Bluff
- » Homeless people are unable to cross the Oso Bridge
- » Need for a shuttle service to downtown to reach social services and administration

Catholic Charities of Corpus Christi, operates a food bank, shelters, immigration services and support services for the low-income/disabled/homeless in Corpus Christi. Issues identified through conversation included:

- » Homeless bicyclists need assistance keeping and maintaining their bikes (preventing them from being stolen, fixing flat tires, etc.)
- » Often run out of day passes for transit

Sidewalks and Disadvantaged Populations

An inventory of pedestrian activity revealed limited available data. As such, input from stakeholders representing disadvantaged communities was used to understand sidewalk-dependent populations. These groups include the disabled and homeless, who rely more on ADA-compliant sidewalks and transit than cycling for daily mobility needs.

Exhibit 3-15 on page 3-8 shows the sidewalk inventory colorized to represent where there are concentrations of disabled persons and with the locations of Housing Authority and Homeless Shelter locations. A detailed analysis of these concentrations and their specific needed treatments is needed, specifically in Flour Bluff, Calallen/Annaville, Portland/Gregory and the Downtown and Central City areas of Corpus Christi. A zone-based approach, as used the by City of Corpus Christi in its Downtown Marina Arts District ADA Audit (see page 3-9), is recommended.

The sources used to analyze areas where there are concentrations of disadvantaged communities to identify priority areas for sidewalk improvements are listed below.

Mobility-Challenged Populations

Public engagement revealed that there is a perceived lack of mobility options for those with physical, but also non-ambulatory disabilities. The Corpus Christi MPO Program for Addressing Discrimination includes a dataset on persons with disabilities that was used to gain a general understanding of where these populations reside.

Corpus Christi Housing Authority

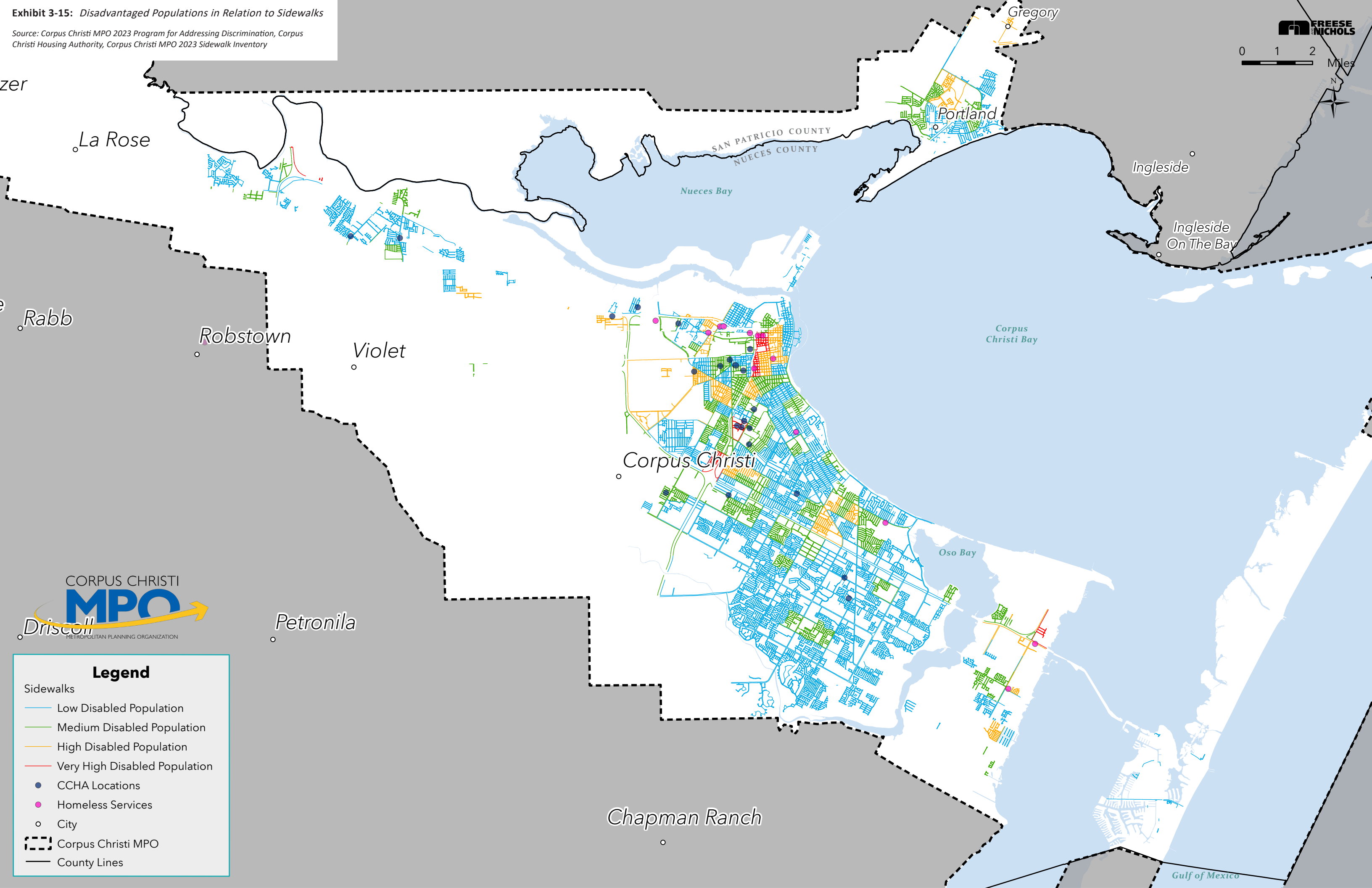
The Corpus Christi Housing Authority (CCHA) is a provider of affordable housing in the City of Corpus Christi, providing over 4,000 people with housing with an average rent of \$115 per month. In addition to managing and developing low-income housing, CCHA provides resources for residents of Corpus Christi. The location of CCHA housing is one indicator of where disadvantaged populations are concentrated.

Homeless Services

The locations of various known social services for the homeless, including shelters and food banks, have been identified. At these locations, pedestrian infrastructure should be complete so that those who use walking as their

Exhibit 3-15: Disadvantaged Populations in Relation to Sidewalks

Source: Corpus Christi MPO 2023 Program for Addressing Discrimination, Corpus Christi Housing Authority, Corpus Christi MPO 2023 Sidewalk Inventory



primary mode of transportation can access the services safely and conveniently.

Downtown Marina Arts District ADA Audit

A good sidewalk network requires not only the presence of sidewalks but also that they be accessible and ADA-compliant. Elements of good sidewalk networks include good pavement conditions, sidewalk width of at least 6-10 feet, presence of ramps, ADA warning pads, crosswalks, continuous sidewalk connections, lighting, shade, benches and signage.

The Downtown Marina Arts District conducted a detailed ADA audit of the sidewalk network that addresses the accessibility requirements listed above. The audit was conducted between April and June 2023. Exhibit 3-16 reveals that the majority of assessed locations were in a need of sidewalk reconstruction or minor repairs and multiple other locations were lacking an ADA ramp.

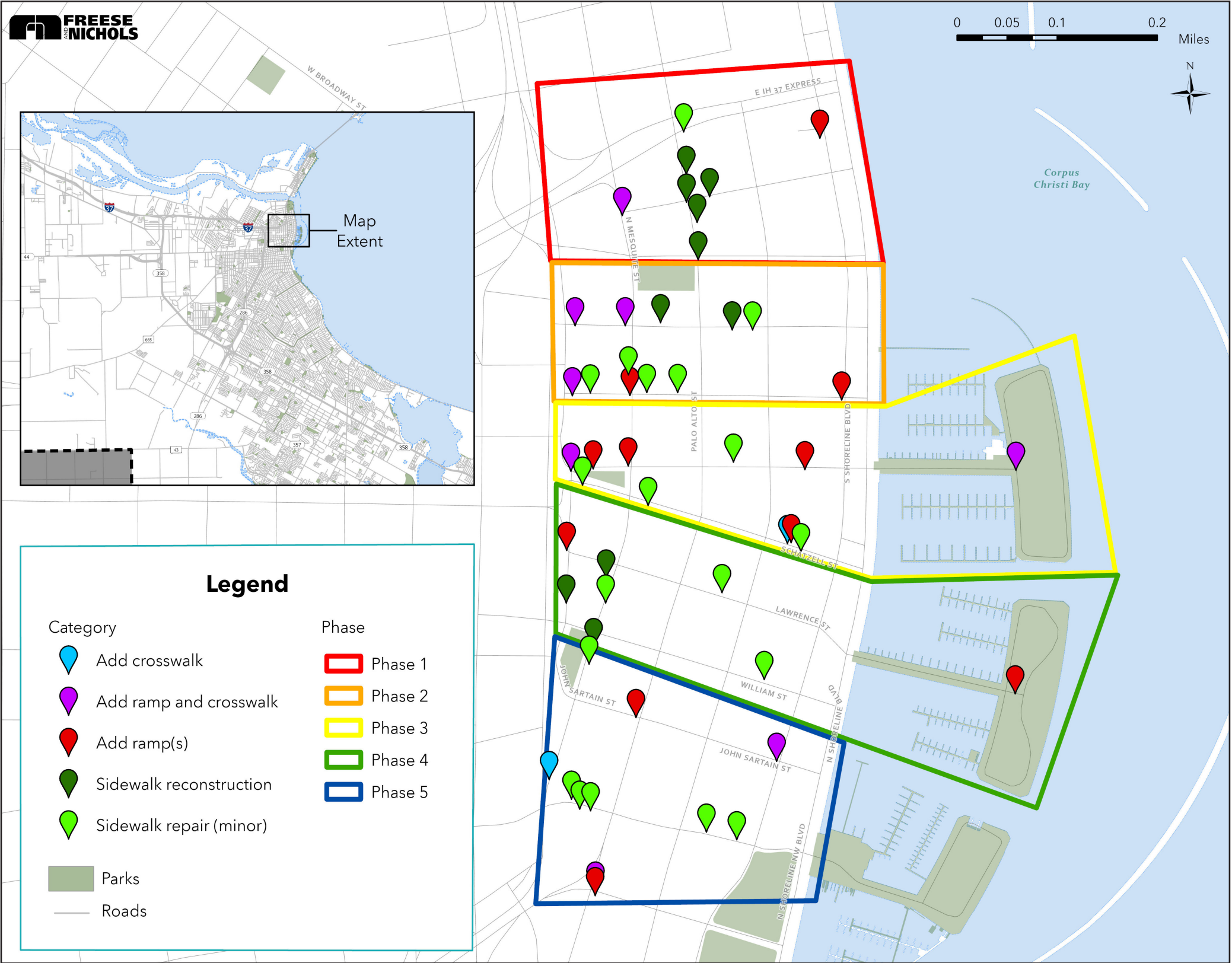
The recommendations from the ADA audit were incorporated into the City’s Bond Program and this Active Transportation Plan has incorporated bike/ped-related Bond projects into the proposed network.

TAMU-CC Accessibility Study

A 2023 study (Community Survey Report: Status of Corpus Christi’s Accessibility, Engagement and Inclusion) at Texas A&M Corpus Christi provided insight into the perception of accessibility in Corpus Christi. One key takeaway from the survey of 28 people is that beaches and parks were found among the least accessible areas.

Recommendations include providing wheelchair-accessible entrances, terrain and playground equipment and adding more accessible parking across the City. Generally, respondents felt that walking facilities are accessible but may be impeded by objects extending into the walkway.

Exhibit 3-16: Downtown Marina Arts District ADA Audit



Source: Corpus Christi Downtown Management District 2023 Scooter Fund Project Proposal & Accessibility Report

Bus Stop ADA Access Assessment

A 2022 ADA assessment of CCRTA bus stops, shown in Exhibit 3-18, identified stops that are non-ADA compliant. According to the U.S. Access Board, an ADA-compliant bus stop includes, but is not limited to, the following:

- » A stable and firm surface
- » Boarding and alighting areas that are:
 - At least 96 inches in length and 60 inches in width
 - Connected to a street, sidewalk or a pedestrian path by an accessible route
 - Do not have a slope steeper than 1:48.
- » Bus signs that comply with specific:
 - Font case, style, proportions (line/character spacing, etc.)
 - Accessibility symbols and pictogram sizes and colors

If the bus stop features a bus shelter, the shelter needs to be at minimum 48 inches in length and 30 inches in width, and be connected to the boarding and alighting area by an accessible route.

Over 40% of the assessed stops were identified as non-ADA compliant for various reasons, including issues with the boarding area (71.3% of total non-compliant stops), issues with the shelter, or a lack of accessible route to/from the stop.

Exhibit 3-17: Bus Stop ADA Compliance Assessment

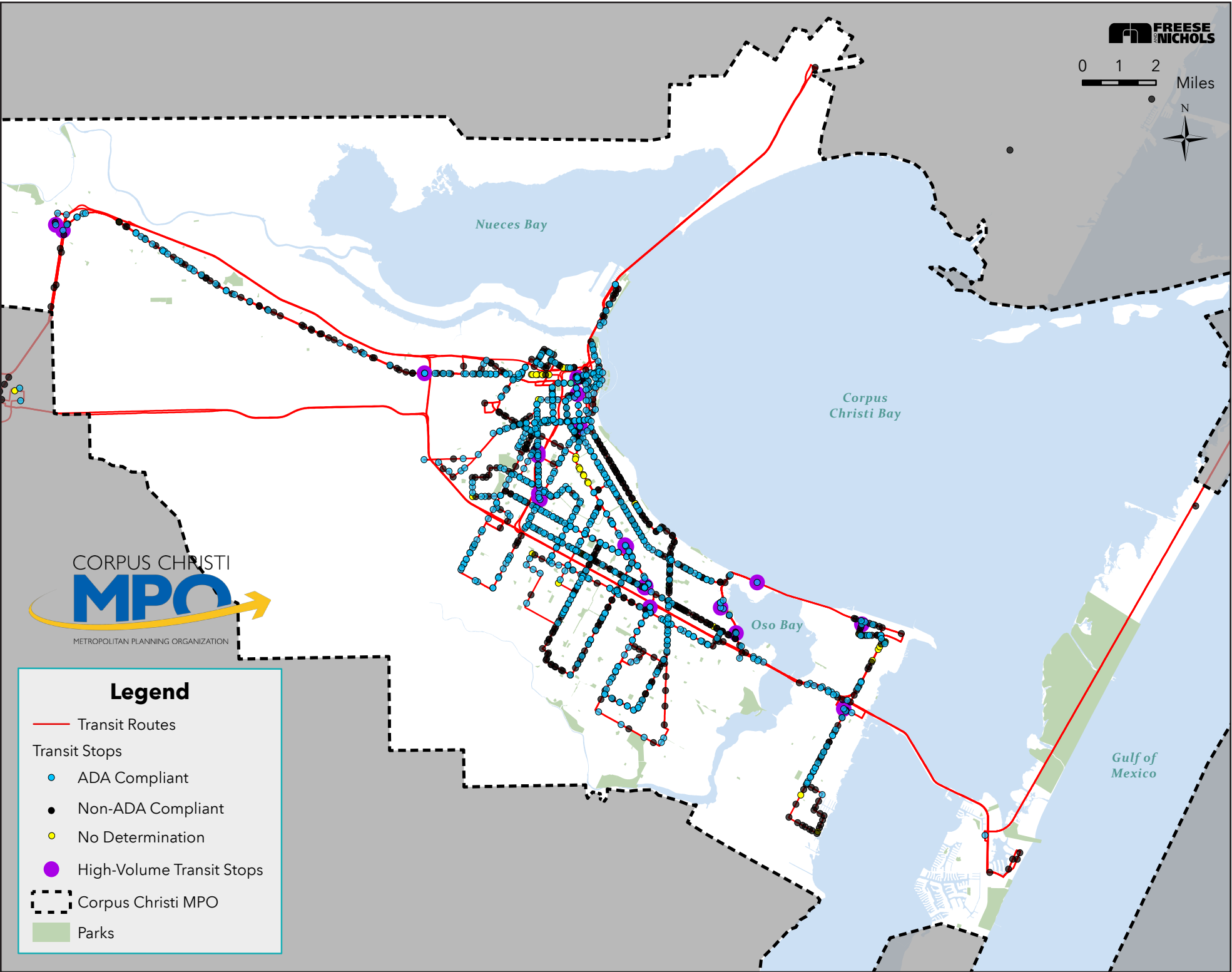
Non-Compliance Category	Count	Percent
ADA-Compliant Stops Total	779	56.16%
ADA-Non-Compliant Stops Total	567	40.88%
Boarding & Alighting Area Issues	404	29.13%
Shelter Issues	19	1.37%
Accessible Route Issues	57	4.11%
Multiple Issues	87	6.27%
Unknown Total	41	2.96%
Total	1,387	100%

Source: Bus Stop and Transfer Facility ADA Assessment, CCRTA Long Range System Plan, November 2022



Example of an inaccessible bus stop in Corpus Christi. The pad at the bus stop at Airline Road at Monette Drive does not have the required depth (96”) to be ADA-compliant. (Source: Google Street View)

Exhibit 3-18: CCRTA Bus Stop ADA Assessment Results



Source: Bus Stop and Transfer Facility ADA Assessment, CCRTA Long Range System Plan, November 2022

IDENTIFIED OPPORTUNITIES

The development of a robust Active Transportation Network is enhanced by identifying and acting on existing and predicted opportunities in the MPO planning area. The following opportunities for bike and pedestrian improvements have been identified.

Harbor Bridge

The new Harbor Bridge is being constructed by TxDOT. The new bridge will replace the existing Harbor Bridge across the Corpus Christi Ship Channel, reconstruct connecting roadways, and increase the height of the crossing to allow for larger ships to access the port. This new crossing will provide opportunities to enhance connections across the new bridge to North Beach and Portland as well as improve connectivity in Downtown Corpus Christi. An observation platform at the middle of the bridge span will provide a new tourist attraction accessible only by the bridge walkway.



New Harbor Bridge SUP under construction.

Higher Education Institutions

Colleges are hubs of active transportation activity, with college students using bikes and walking as their primary form of transportation more than other populations. Texas A&M University - Corpus Christi and DelMar College present opportunities to promote active transportation and create connections between these campuses and the surrounding area.

Trestle Bridge

The City of Corpus Christi was recently awarded \$13 million in funding to construct a hike and bike trail over the old railroad trestle across Oso Bay, allowing the trail to extend from Paul Jones Road/Oso Parkway to Flour Bluff Drive. This connection will greatly improve active transportation connectivity between Flour Bluff and Oso Bay and expand opportunities for Active Transportation Network development in Flour Bluff.



Washed out beams from the old railroad bridge crossing from Oso Bay to Flour Bluff, at the location of the new Trestle Bridge. Source: Corpus Christi Parks and Recreation, Caller-Times Contributed

Statewide Plans

TxDOT is in the process of developing its Statewide Bicycle Tourism Trail Network and Statewide Active Transportation Plan. This is an opportunity to connect the Corpus Christi MPO’s Active Transportation Network to an even larger hike and bike network. The current alignment of the Texas Bicycle Tourism Trail enters the Corpus Christi area from the west along SH 44 and continues through Corpus Christi to Mustang Island, as illustrated by Exhibit 3-19 on page 3-12.

Current and Planned CIP, IMP and Bond Projects

Full listing and descriptions of all current and planned Capital Improvement Plan (CIP), Infrastructure Management Program (IMP) and bond projects can be found in Appendix F.

Several planned CIP, IMP, and bond projects involve bike, pedestrian and ADA considerations which extensively enhance active transportation infrastructure throughout the Corpus Christi MPO area.

Corpus Christi Projects

The purpose of the City of Corpus Christi CIP, IMP and bond projects is to improve the City’s infrastructure and transportation network.

The CIP projects include improvements to bike mobility and ADA accessibility. These will be incorporated into the Active Transportation Network plan.

The IMP, also known as Rapid Pavement Program (RPP), focuses on street maintenance of aging infrastructure. The RPP rolls over every five years and sets up regular maintenance and rehabilitation of residential, local, and arterial streets to keep roadway pavement conditions at an acceptable level where rehabilitation is cost-effectively balanced against complete reconstruction. Sidewalks and ADA improvements may be included in residential street rebuild projects.

The proposed 2024 transportation bond projects are in the final stages of review by the City of Corpus Christi Parks Department and other entities. The bond will go before voters in November 2024. The projects will focus on street improvements and involve ADA-compliant improvements to sidewalks, and add sidepaths and trail segments.

Locations of all the CIP, IMP and Bond projects in Corpus Christi can be viewed in Exhibit 3-20 on page 3-13.

Portland Projects

The City of Portland’s Capital Improvement Program for 2022-2026 lists several projects pertaining to bike, pedestrian and ADA improvements. The City of Portland has no known bond projects in place at the time of creation of this Active Transportation Plan.

Locations of all the CIP projects in Portland can also be viewed in Exhibit 3-20 on page 3-13.

Source: TxDOT's 2018 Texas Bicycle Tourism Trails Study Report

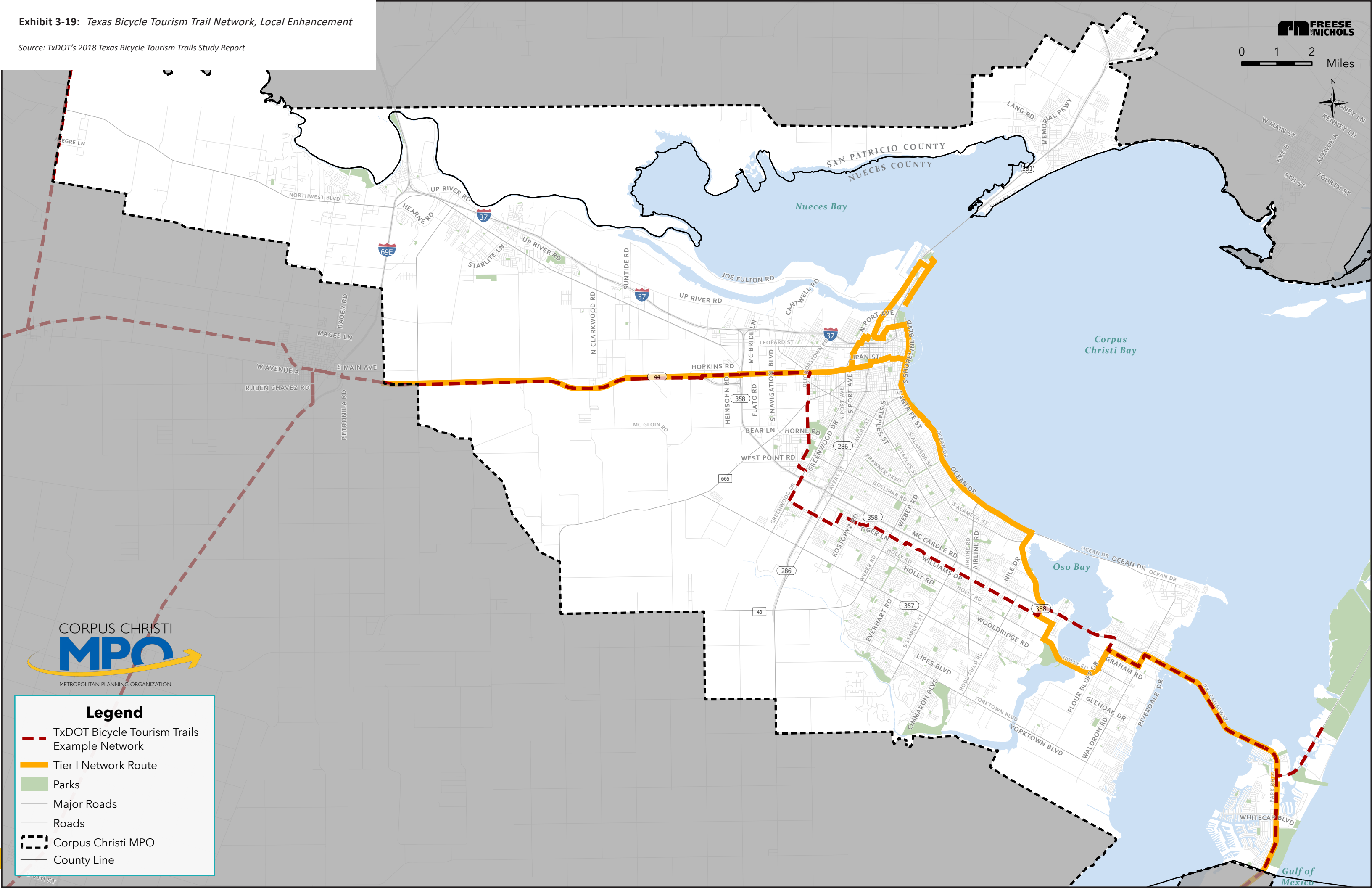
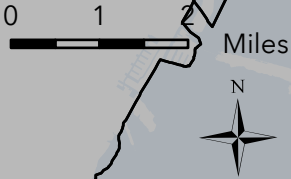


Exhibit 3-20: CIP, Bond and IMP Projects in the Corpus Christi MPO Area

Source: Council on Environmental Quality (CEQ) Climate and Economic Justice Screening Tool



Legend

- IMP Project

Bond Project

CIP Project

Disadvantaged Areas

Corpus Christi MPO

Major Roads

County Lines

Project Number:
See index in Appendix F
- Area Development Plan Districts

CC Airport

Chapman Ranch

Downtown

Flour Bluff

Midtown

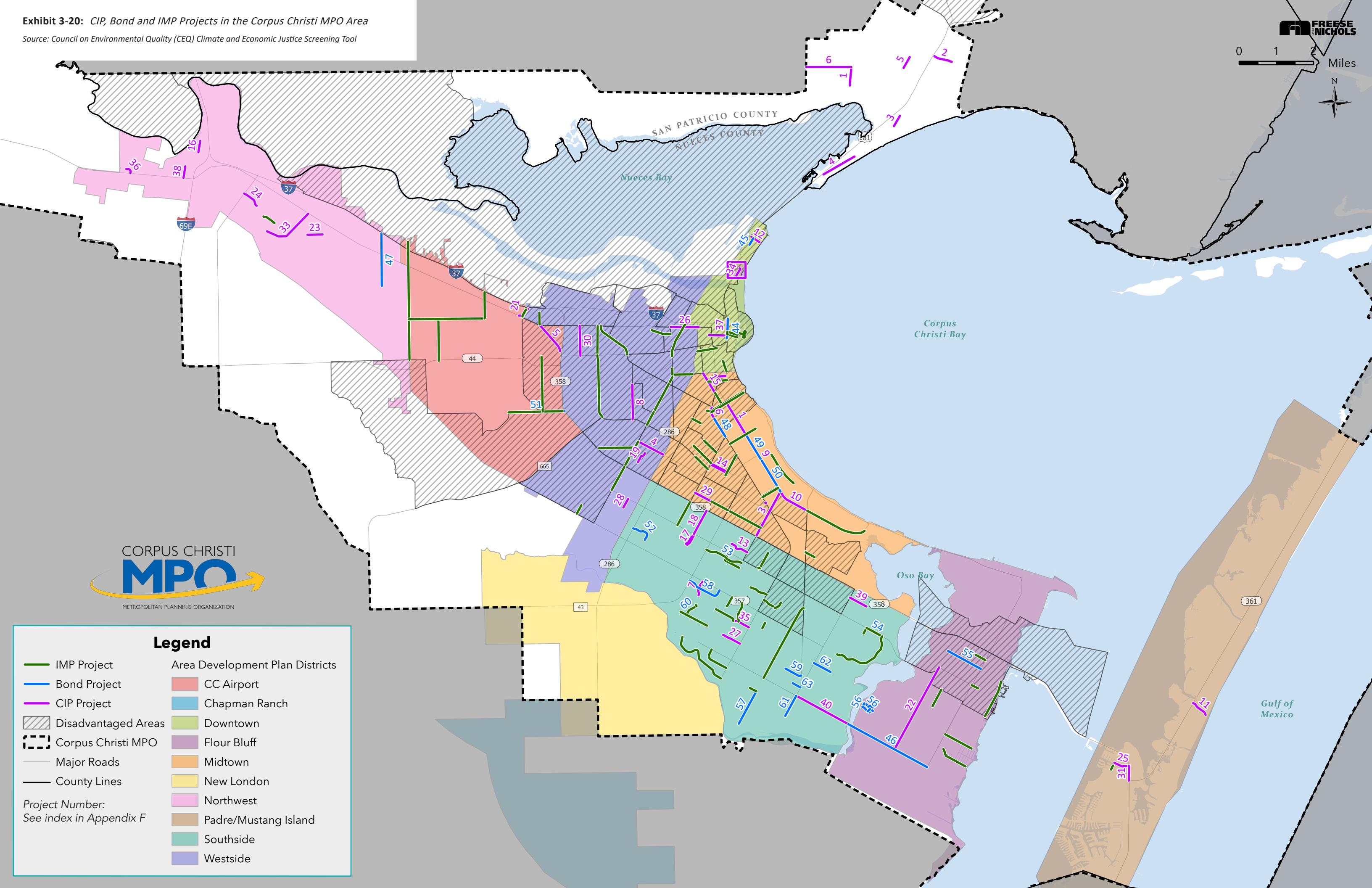
New London

Northwest

Padre/Mustang Island

Southside

Westside



Corpus Christi Area Development Plans

Many projects included in Area Development Plans (ADPs) focus on Active Transportation Network improvements. Projects that recommend the creation or design of a bike/ped facility were incorporated into the proposed Active Transportation Network.

Generally, street reconstruction projects should be considered as an opportunity to implement bicycle and pedestrian street design elements. The full listing of proposed projects from all ADPs, including street improvements, can be found in Appendix F.

Bayside ADP 2023

- » Key policy recommendations support prioritizing repairs and upgrades of existing sidewalks, providing shade, and improving the walking and biking experience
- » Recommendations include investing in bike/pedestrian improvements on Ocean Drive, Alameda Street, Airline Road, Ayers Street, Staples Road, Ennis Joslin Road, Gaines Street and around Brookdale Park

Exhibit 3-21: Bayside ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	P3	Louisiana Parkway Trail Design & Construction
	P12	Gollihar/Cullen Ditch Multi-Use Trail
	P13	Koolside Park Sidewalk/Trail
	P15	Brawner Parkway Trail Design & Construction
	S9	Bike/Pedestrian Safety Improvements (Ocean Dr/Airline Rd Intersection)
	S10	Bike/Pedestrian Improvements to Brookdale Park
	S11	Santa Fe Street. Multi-Modal Design & Reconstruction (Ayers to Doddridge)
	S15	Robert Dr. Sidewalks for Bus stops (Alameda Street to Ocean Dr)
	S18	Alameda Street Reconstruction and Bike/Pedestrian Improvements (Everhart to Airline, including Avalon)
	S22	Ocean Dr. Bike & Pedestrian Infrastructure Plan
	N/A*	MPO Complete Streets, Active Transportation, & Micro-Mobility Plan
MID-TERM	S2	Ayers Street Intersection and Sidewalk Improvements (Port to Gollihar)
	S5	Staples Street./McArdle Intersection & Sidewalk Improvements (Airline Rd to Holmes)
LONG-TERM	P4	TAMU-CC Intercampus Boardwalk Project
	S2	Staples Bike Infrastructure (Brawner to Gollihar)
	S3	Carmel Parkway Trail Intersection Improvements
	S5	Bike Loop Improvement (Ennis Joslin to Alameda to Airline to Ocean)
	S8	Ocean Drive Bike Improvements (Ennis Joslin to TAMU-CC)

Westside ADP 2023

- » Suggests the City follow Complete Streets and Vision Zero principles when designing future roadway improvements, including providing more signals and mid-block crossings on streets with long blocks, improving pedestrian crossings across Leopard Street and providing better school zone signs near Miller High School

Exhibit 3-22: Westside ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	P4	Salinas Park Neighborhood Connections
	P13	Dr. Hector P. Garcia Hike and Bike Trail along Ditch
	S67	Lipan Street Sidewalk and Traffic Improvements

Flour Bluff ADP 2021

- » Highlights the need for improvement in roadway conditions and enhanced connectivity to other transportation alternatives
- » Recommends investing in sidewalk extension and bike mobility between Flour Bluff Drive and Waldron Road and sidewalk improvements along Glenoak Drive and Purdue Road

Exhibit 3-23: Flour Bluff ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	P5	Oso Bay Trestle Bridge Hike & Bike Design
	P6	Oso Bay Hike & Bike Trail Phase 1
	P8	Laguna Shores Living Shoreline
	S6	Glenoak Drive Reconstruction + Bike Mobility (Flour Bluff Dr. to Waldron Rd.)
MID-TERM	P11	Laguna Madre / Dimmit Pier Trails Design
	P12	Oso Bay Trestle Bridge Construction
LONG-TERM	P14	Laguna Madre Living Shoreline (GLO Project)
	P15	Laguna Shores Hike & Bike Trail
	P16	Drainage Channel Hike & Bike Trail (Glenoak Dr. to Laguna Madre)
	P17	Drainage Channel Hike & Bike Trail (Parker Park to Laguna Madre)
	S29	Debra Ln. / Jamaica Street.- Street, Stormwater, & Pedestrian Improvements + Extension
	S30	Division Rd. Improvements + Bike Mobility

Northwest Boulevard Corridor Plan 2021

- » Aims for the corridor to be safe and accessible for people of all ages and abilities, suggesting the need for traffic calming devices and ADA-compliant sidewalks and biking facilities along the boulevard and adjacent streets
- » Recommends investing in bicycle and pedestrian facilities separated from vehicular traffic (e.g., sidepaths, buffered bike lanes, one-way cycle tracks and sharrows)

Exhibit 3-24: NW Corridor Boulevard Plan: Proposed Bike/Ped-Related Projects

	Strategy	Actions
2 YEARS	Coordinate with ISD to manage traffic demand	Organize a walking school bus program and other activities to encourage walking and biking to school
3 YEARS	Build active infrastructure along roadways	Install buffered bike lanes along recommended roadways
		Install shared-lane markings and signage along recommended roadways
5 YEARS	Improve intersections for safety and mobility	Construct sidepaths as recommended along Northwest Boulevard
		Incorporate traffic-calming, street lighting and pedestrian facilities into designs for prominent intersections

Padre/Mustang Island ADP 2021

- » Created to accomplish the goals and objectives in the MPO’s 2016 Strategic Plan for Mobility
- » Recommends creating and incorporating ADA accessibility designs to sidewalk network and bicycle connections to Flour Bluff to enhance pedestrian and bicycle connectivity

Exhibit 3-25: Padre/Mustang Island ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	S9	Island Mobility Plan for Pedestrian, Bicycle, Golf Cart and Other Alternative Transportation
	S10	Pedestrian and Bike Safety Improvements (North Padre Sea Wall Area)
MID-TERM	S27	PR22 Pedestrian and Access Management Improvements (TxDOT)
	S29	Mobility Plan Implementation Phase I
LONG-TERM	P17	Bike Path from Balli Park to Padre Island National Seashore
	S31	Mobility Plan Implementation Phase II

Southside ADP 2020

- » The vision theme includes improving transportation conditions including pedestrian, cyclist, vehicle, and public transportation connectivity and safety
- » Recommends investing in separated and shaded sidewalks, walking paths, bike lanes along stormwater drainage channels, and hike and bike trails in the following locations: Crossgate, Schanen (Phases III and IV) and Oso Creek (Phases I and II)

Exhibit 3-26: Southside ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	P6	Crossgate Trail
	P7	Schanen Hike & Bike Trail Phase III (underway)
	P8	Oso Creek Trail - Planning
	S3	Pedestrian Connectivity - Extended Sidewalk
MID-TERM	P9	Schanen Hike and Bike Trail Phase IV
	P10	Drainage Channel Trail Development Program Phase I
	P11	Oso Creek Trail - Phase I
	S22	Ayers Street Sidewalk
LONG-TERM	P13	Oso Bay Railroad Trestle - Hike and Bike Trail
	P15	Drainage Channel Trail Development Program Phase II
	P16	Oso Creek Trail Phase II

London ADP 2020

- » Vision theme includes promoting sustainable growth and Oso Creek and Oso Bay as a community amenity
- » As a mid- and long-term initiative, the plan recommends investing in the continuous hike and bike trails along Oso Creek and Oso Bay, including marked pedestrian crosswalks and bicycle paths at trail gateways

Exhibit 3-27: London ADP: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
MID-TERM	P3	Oso Creek Trail Phase I
	P4	Oso Creek Trail Phase II
LONG-TERM	P5	Oso Creek Channel Trail Development III
	P6	Drainage Channel Trail Development Phase II

Downtown ADP 2018

- » The plan aims to make Corpus Christi a top-tier 21st century waterfront city in Texas, with vibrant, safe, walkable and interconnected districts
- » Proposes a pedestrian and bicycle network routed through Washington-Coles along Lake Street connecting west to Hillcrest Park, east to the waterfront and south to Uptown

Exhibit 3-28: Downtown ADP: Proposed Bike/Ped-Related Projects

Project ID	Project Type
G7a	Bike/ped improvements—Antelope from Staples to Broadway; Peoples from Broadway to Shoreline (3,920 LF)
G7b	Mesquite Street bike boulevard (Cooper's Alley to I-37—3,330 LF)
G8a	Waterfront bike/ped improvements — Art Museum to Art Center (6,930 LF)
G8b	Bike/ped improvements—waterfront between Art Museum and ferry dock/Ortiz Center (1,500 LF)
G8c	Bike boulevard—Ortiz Center to I-37 on Mesquite (3,700 LF)
G9a	Cycle track & transitional bike boulevard—Hillcrest Park to Mesquite via Winnebago, Sam Rankin, N Sam Rankin, Resaca (11,000 LF)
G9b	Bike Boulevard - Port Avenue from Mesquite, W. Broadway, Lexington, Minton, Kennedy, Koepke, Van Loan, Noakes to Nueces Bay Boulevard (7,730 LF)
G10a	Cycle track—Winnebago, Staples, Comanche, Alameda
G10b	Cycle track, bike boulevard, Blucher Park path—Comanche from Culbertson, Blucher Park, Cooper's Alley
G11a	South Chaparral and Coleman bike boulevards (4,920 LF); Park Avenue cycle track (930 LF)
G11b	Buford and 3rd Street Cycle tracks (3,850 LF); 6th Street Bike boulevard to Morgan (1,000 LF)
G12	Recreation Trail—Aquarium to Dolphin Park along existing Beachwalk to New Harbor Bridge; along Timon and Surf-side median (8,000 LF)
S4	Ped improvements—Leopard Street at Broadway: Stop signs, crosswalks
S5	Pedestrian improvements—Accessible ramps from Upper to Lower Broadway
S8	Phase 1: Brewster from Tanchua to Chaparral; sidewalks/shared ped/ vehicle street
S11	Street/ped improvements—Shoreline Boulevard
S12	Street/ped improvements—Coopers Alley—Shoreline Boulevard to Broadway
S13	Street/ped improvements—Lawrence Street—Shoreline Boulevard to Broadway
S14	Street/ped improvements—Hill-crest-Kennedy Avenue., Peabody Avenue., Hill-crest-Kennedy Avenue., Peabody Avenue., Van Loan Avenue., Hulbirt Street., Minton Street., Nueces Street., John Street.

TIRZ #3 Traffic and Planning Analysis

- » The plan’s purpose is to “reinvent downtown Corpus Christi and the greater TIRZ #3 areas into a walkable and connected neighborhood through key investments”
- » Proposes pedestrian and bicycle network improvements on Chaparral Street, Brewster Street, Shoreline Boulevard, Coopers Alley, Mesquite Street, and a new bike/ped bridge on Twig Street

Exhibit 3-29: TIRZ #3: Proposed Bike/Ped-Related Projects

	Project ID	Project Type
SHORT-TERM	S1	Chaparral Street - Pedestrian Improvements
	S2	Brewster Street - Phase 1 improvements - sidewalks/shared pedestrian/vehicle Street
	S3	Shoreline Boulevard - Ped safety improvements, crosswalks and signage at IH-37, Twigg, Kinney, Park, Furman and Lawrence
	S17	Coopers Alley - Sidewalk from Shoreline to the Sea Wall, crosswalks, sidewalk to public restroom and two ramps
MID-TERM	S19	Agnes Street - Feasibility Study of street configuration and reconstruction, appropriate bike facility for corridor, pedestrian improvements and landscaping
	M4	Brewster Street - Phase 2: Sidewalk/Shared Ped/Vehicle Street
	M13	Twigg Street Bridge - Pedestrian and bicycle bridge over IH-37
	M17	Mesquite Street - Two-Way Conversion; Resurfacing; Lighting; Bike Boulevard; and Streetscape Improvements
	M21	Sea Wall Ped Improvements and Flood Protection - Flood prevention and pedestrian access

Candidates for a Road Diet

A road diet involves re-striping a roadway to reduce the number of vehicle travel lanes to dedicate more of the right-of-way to other uses such as bike lanes or on-street parking (see Exhibit 3-32). This form of roadway reconfiguration is relatively low-cost compared to other types of road reconstruction projects and presents an opportunity to enhance the Active Transportation Network in the Corpus Christi MPO.

Exhibit 3-30 lists, and Exhibit 3-31 illustrates, the candidates for a road diet. Roadways for which road diets are appropriate have relatively low traffic volumes and either 4 or 5 lanes. In the Corpus Christi MPO area, potential candidates for road diets were either:

- » 4-lane roads with less than 15,000 daily traffic volumes
- » 5-lane roads with less than 20,000 daily traffic volumes
- » Identified as good road diet projects in the City of Corpus Christi Roadway Safety Action Plan

The following are benefits of a road diets:

- » A roadway that more effectively serves all users via the addition of bike lanes, transit lanes/stops, or sidewalks
- » Safety increases due to lowered vehicle speeds and volumes
- » Fewer lanes to cross for pedestrians and vehicles on side streets
- » Traffic calming

Some of these streets in Exhibit 3-31 were also included as recommendations for potential road diet in Mobility CC.

Exhibit 3-30: List of Road Diet Candidates

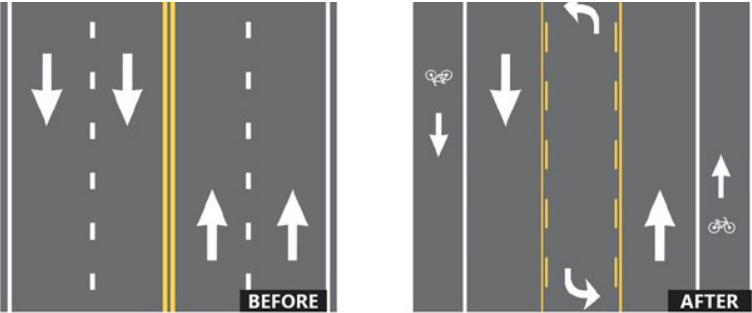
Roadway	Current Daily Traffic Volume (vehicles/day)	Current Number of Lanes	Proposed Number of Lanes
1. Ayers Street Between Saratoga Boulevard and Holly Road	4,693 - 10,000	5	3
2. Louisiana Avenue Between Swantner Street and Ocean Drive	6,684	4 Divided	3
3. Brawner Parkway Between Ramsey Street and S. Alameda Street	3,933	4 Divided	3
4. Airline Road Between Ocean Drive and S. Alameda Street	7,647	4-5 Undivided	3
5. Ennis Joslin Road Between Ocean Drive and Holly Road	19,695	4 Divided	3
6. Ocean Drive Between Sand Dollar Boulevard and Naval Air Station	2,229	4 Undivided	3
7. Ayers Street Between S. Staples Street and Baldwin Boulevard	6,482	4 Undivided	3
8. Ayers Street Between Baldwin Boulevard and Horne Road	13,423	5	3
9. Leopard Street Between N. Staples Street and Upper Broadway	3,142	4 Undivided	3

Source: TxDOT Traffic Count Database System (TCDS)

Exhibit 3-31: Road Diet Candidates in the City of Corpus Christi



Exhibit 3-32: Example of a Road Diet Before and After Re-striping



4. ACTIVE TRANSPORTATION NETWORK DEVELOPMENT

STREET DESIGN FOR ACTIVE TRANSPORTATION

This Active Transportation Plan focuses on two principles from FHWA’s Safe System Approach: Safer Roads and Safer Speeds. Safer Roads is designing roadway environments to mitigate human mistakes and account for injury tolerances, encourage safer behaviors, and to facilitate safe travel by the most vulnerable users. Safer Speeds is defining speeds for all roadway environments using thoughtful, equitable, context appropriate design, appropriate speed limit setting, targeted education, outreach campaigns, and enforcement.

The American Heart Association has stated that “We all want and deserve to live in safe, healthy communities. Complete Streets policies make communities and neighborhoods more livable by ensuring all people can get safely to where they need to go – work, school, the library, grocery stores, or parks. They also help people feel more connected to their neighbors, which improves quality of life.”

Land Use Context

This section extracts information from the 7th edition of the Policy on Geometric Design of Highways and Streets (the Policy) developed by the American Association of State Highway and Transportation Officials (AASHTO). Please refer to the Policy document for more detailed information on land use context in street designs.

Street designs vary based on locational contexts. The Policy categorizes them into five contexts, as illustrated in Exhibit 4-01.

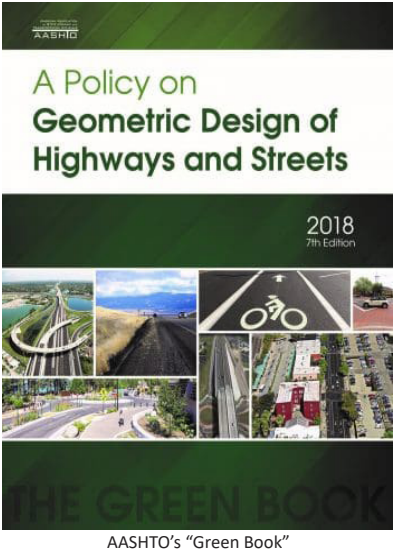
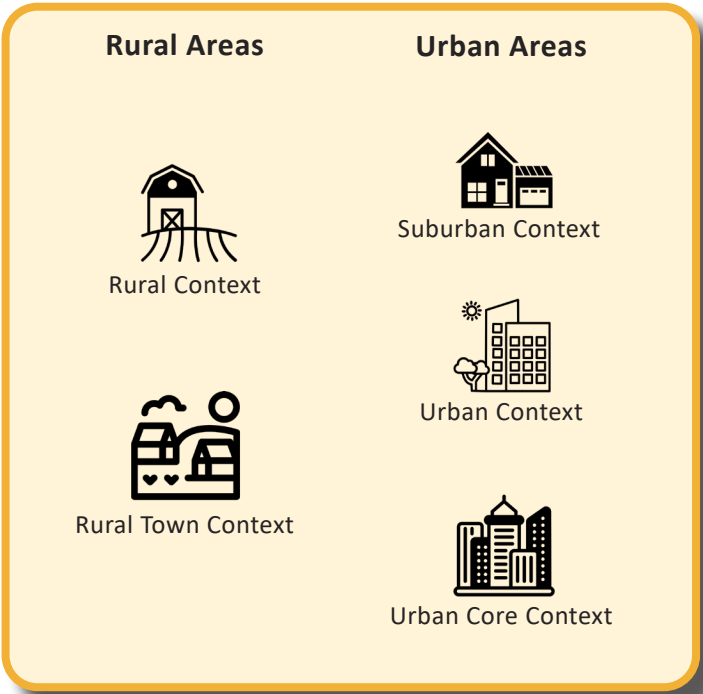
Development density, land uses, and building setbacks are the main determinants of these contexts. By reviewing the character of an area, cities can understand the community needs in relation to mode choices. It is important to consider both the existing and future contexts when designing streets and other transportation elements, so that predicted transportation needs can be accommodated.

Land Use Context in Active Transportation

The level of density and types of land uses are closely related to implementing active transportation in cities. In areas with higher density and more diverse land uses, such as a mix of commercial, residential, and institutional land uses within a small area, residents are more likely to use active transportation modes to satisfy their daily needs, which are generally located closer to one another. Such areas present higher active transportation demand and require municipalities to create street conditions that are safe and welcoming for all residents and support their commuting needs.

The AASHTO Policy states that urban contexts have more active pedestrian and cyclist activities than rural contexts. This is consistent with the National Association of City Transportation Officials (NACTO) Urban Street Design Guide which states that urban contexts have higher development density and diverse land use types, which creates more favorable environments for pedestrians and cyclists. Sidewalks and other pedestrian amenities are important in facilitating active transportation, especially in urban contexts. Pedestrian bridges and plazas are also commonly found in such locations. Urban core contexts should have a sidewalk network that is nearly continuously connected. Sidewalk networks in urban and suburban contexts should be well-developed. In addition to sidewalks, bike lanes should also be present in urban contexts to allow cyclists to travel safely. Despite relatively lower pedestrian and cyclist activities in rural contexts, sidewalks and other pedestrian or cyclist amenities are still essential components in street design.

Exhibit 4-01: Context Classifications for Geometric Design



Pedestrian Elements

This section extracts information from the Complete Streets Program Guide, unless specified otherwise. The full Program Guide can be found in Appendix A.

Walking is the most basic mode of transportation, yet pedestrians are often ignored in roadway design. Certain areas generate high pedestrian activity, such as downtowns, residential, commercial and entertainment areas and schools. Yet even in areas of low pedestrian activity, such as along commercial strip-developed arterials, pedestrian needs and safety must be addressed, as drivers usually do not expect pedestrians.

As speeds increase, drivers are less attentive to what is happening on the side of the road. Reaction time is increased and the pedestrian has a higher chance of dying or becoming severely injured in case of a crash.

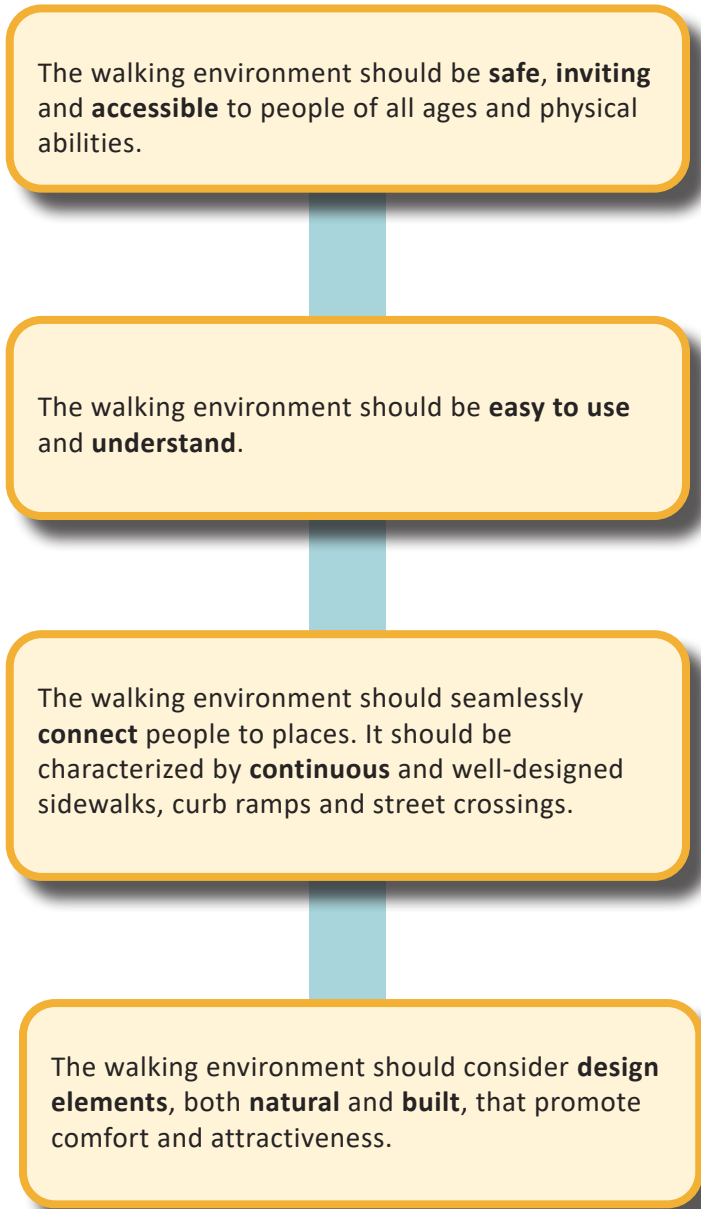
Most pedestrian crashes occur when a person crosses the road and the most common crash type is a conflict between a crossing pedestrian and a turning vehicle at an intersection. But designing for pedestrians should not focus primarily on avoiding crashes; the goal of roadway and intersection design should be to create an environment that is conducive to walking, where people can walk along and cross the road, where the roadside becomes a place where people want to be. The two most effective methods to achieve these goals are to minimize the footprint dedicated to motor vehicle traffic and to slow down the speed of moving traffic. This approach allows the designer to use many features that enhance the walking environment, such as trees, curb extensions and street furniture, which in turn slow traffic: a virtuous cycle.

Accessibility

Nowhere is the concept of universal access more important than in the design of the pedestrian environment. While perhaps not intuitively obvious at first glance, this is the realm of streets with the greatest variation in user capabilities and where attention to design detail is essential to effectively balance user needs. This is also the realm where signs and street furniture are located and where transitions are made between modes (e.g., driver or passenger to pedestrian via parking, bus stop/train station, or bike rack). The pedestrian environment includes sidewalks, curb ramps, crosswalks, bus stops, signs and street furniture.

The design principles listed in Exhibit 4-02 should be incorporated into every pedestrian improvement.

Exhibit 4-02: Principles of Universal Pedestrian Access



Elements of Pedestrian Design

To provide a seamless path of travel throughout the community that is accessible to all, designers should consider five important elements: sidewalks/sidepaths, curb ramps, crosswalks, signals and bus stops.

Sidewalks/Sidepaths

Sidewalks and sidepaths should provide a comfortable space for pedestrians between the roadway and adjacent land uses. Sidewalks and sidepaths along city streets are the most important component of pedestrian mobility. They provide access to destinations and critical connections between modes of travel, including transit and bicycles. General provisions for sidewalks and sidepaths include pathway width, slope, space for street furniture, utilities, trees and landscaping and building ingress/egress.

Sidewalks and sidepaths include four distinct zones as illustrated in Exhibit 4-03: the frontage zone, the pedestrian and bicycling zone, the furniture zone and the curb zone.

Frontage Zone

The frontage zone is the portion of the sidewalk located immediately adjacent to buildings and provides shy distance from buildings, walls, fences, or property lines. It includes space for building-related features such as entryways and accessible ramps. It can include landscaping as well as awnings, signs, news racks, benches and outdoor café seating. In single-family residential neighborhoods, landscaping typically occupies the frontage zone.

Pedestrian and Bicycling Zone

The pedestrian and bicycling zone, situated between the frontage zone and the furniture zone, is the area dedicated to walking and bicycling and should be kept clear of all fixtures and obstructions. Within the pedestrian and bicycling zone, the Pedestrian Access Route (PAR) is the path that provides continuous connections from the public right-of-way to building and

property entry points, parking areas and public transportation. This pathway is required to comply with ADA guidelines and is intended to be a seamless pathway for persons with disabilities.

According to FHWA, sidewalks require a minimum width of 5.0 feet if set back from the curb or 6.0 feet if at the curb face. Any width less than this does not meet the minimum requirements for people with disabilities. Walking is a social activity. For any two people to walk together, 5.0 feet of space is the bare minimum. In some areas, such as near schools, sporting complexes, some parks, and many shopping districts, the minimum width for a sidewalk is 8.0 feet. Thus, any existing 4.0-foot-wide sidewalk (permitted as an AASHTO minimum) often forces pedestrians into the roadway. The desirable width for a sidewalk is often much greater. Some shopping districts require 12, 20, 30, and even 40 feet of width to handle the volumes of pedestrian traffic they encounter.

Designers must pay close attention to minimums, and only use variances below these levels for short sections. All transitions (e.g., from street to ramp or ramp to landing) must be flush and free of changes in level. The engineer should determine the pedestrian zone width to accommodate the projected volume of users. In no case will this zone be less than the width of the PAR.

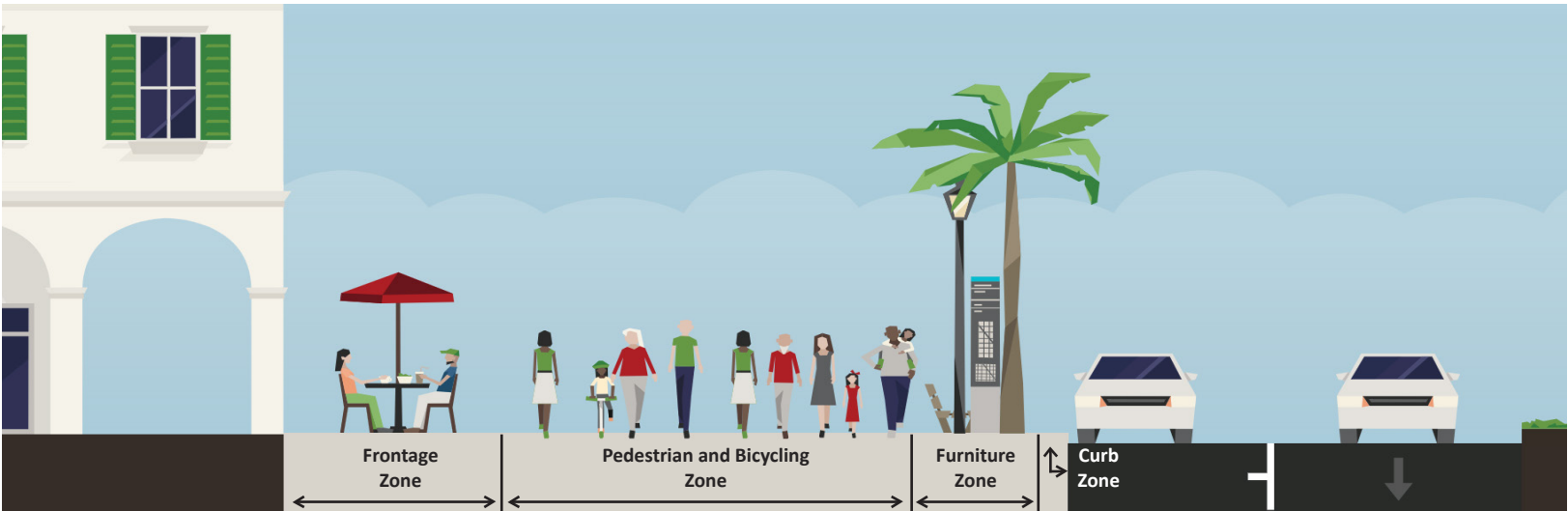
Furniture Zone

The furniture zone is located between the curb line and the pedestrian zone. The furniture zone should contain all fixtures, such as street trees, bus stops and shelters, parking meters, utility poles and boxes, lamp posts, signs, bike racks, news racks, benches, scooter corrals, waste receptacles, drinking fountains and other street furniture to keep the pedestrian zone free of obstructions.

Curb Zone

The curb zone serves primarily to prevent water and cars from encroaching on the sidewalk. It defines the areas of pedestrian and automobile activity in the right-of-way. It is the area people using assistive devices must traverse to get from the street to the sidewalk, so its design is critical to accessibility.

Exhibit 4-03: Sidewalk Zones

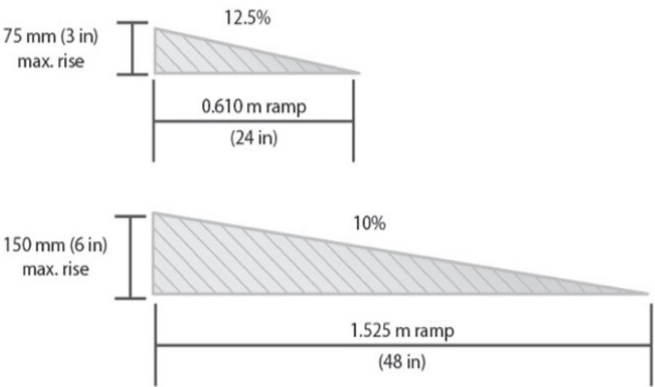
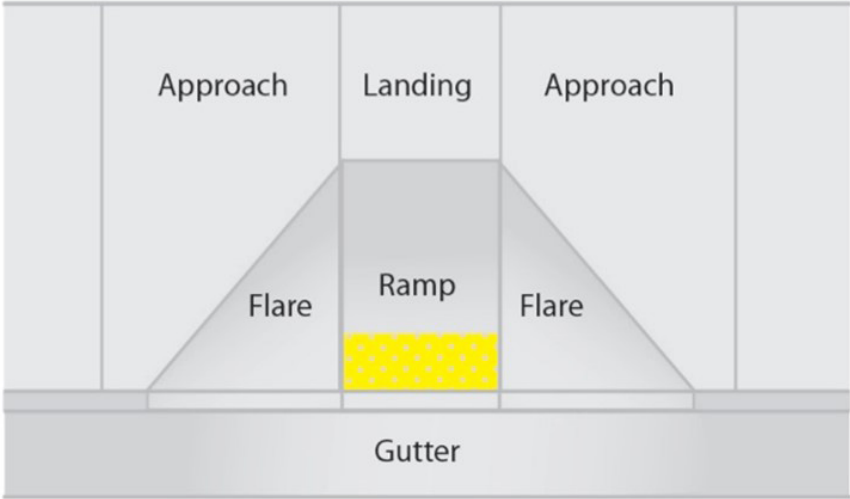


Curb Ramps

Proper curb ramp design is essential to enable pedestrians using assistive mobility devices (e.g., scooters, walkers and crutches) to transition between the street and the sidewalk. These design guidelines provide a basic overview of curb ramp design. The ADA requires installation of curb ramps in new sidewalks and whenever an alteration is made to an existing sidewalk or street. Landings and ramps should be the full width of the sidewalk/ sidepath.

Roadway resurfacing is considered an alteration and triggers the requirement for curb ramp installations or retrofits to current standards. Curb ramps are typically installed at intersections, mid-block crossings (including trail connections), accessible on-street parking and passenger loading zones and bus stops.

Exhibit 4-04: Curb Ramp Components and Alternate Slopes



Crosswalks

Crossing a street should be easy, safe, convenient and comfortable. While pedestrian behavior and intersection or crossing design affect the street crossing experience, motorist behavior (whether and how motorists stop for pedestrians) is the most significant factor in pedestrian safety.

A number of tools exist to improve pedestrian safety and to make crossing streets easier. Effective traffic management can address concerns about traffic speed and volume. A motorist driving more slowly has more time to see, react and stop for a pedestrian. The number of pedestrians also influences motorists; in general, motorists are more aware of pedestrians when there is more pedestrian activity. Most tools to address crossing challenges are engineering treatments, but enforcement, education and planning are also important. Engineering treatments include raised crosswalks and crossing islands, as shown in Exhibit 4-05.

Exhibit 4-05: Examples of Engineering Treatments at Crosswalks



Crossing island. (Credit: Ryan Snyder)



Raised crosswalk. (Credit: Ryan Snyder)

Signals

Signalized street crossings require special consideration of people with disabilities.

Crossing Times

In planning for people with disabilities, slower speeds must be considered. This is critical in setting the timing of the walk phase of signalized intersections. Federal ADA requirements specify that transportation agencies use an assumed walking speed of 3.5 feet/second for signal timing, with a minimum walk interval of 7 seconds. In situations where a large number of older adults or persons with disabilities cross, special pedestrian detection devices may be needed, such as the Pedestrian User Friendly Intelligence Intersection (PUFFIN) that is depicted in Exhibit 4-06.

Exhibit 4-06: Automated Pedestrian Sensor Used for a PUFFIN Signal



(Source: FHWA)

Bus Stops

Public transit is an important part of many pedestrians’ daily travel and should be planned and designed as part of the street system. It should interface seamlessly with walking, bicycling, car, taxi, or paratransit networks whenever possible.

The essential streetscape elements for transit include signs, shelters and benches.

Flag signs indicate where people are to wait and board a transit vehicle. The signs should clearly identify the transit operator, route number and schedule. Maps showing the transit lines servicing that stop, local destinations and additional transfer transit lines should also be provided. Flag signs should be located toward the front of the stop.

Benches should be provided at transit stops with headways longer than 5 minutes.

Shelters provide comfort and security for passengers by keeping them out of the rain, sun, heat, and wind. Shelters vary in size and design; standard shelters are 3 to 7 feet wide and 6 to 16 feet long. They include covered seating and sign panels that can be used for transit information. Shelters should:

- » Be provided at transit stops with headways longer than 10 minutes.
- » Have electrical connections to power lighting and/or real-time transit information, or accommodate solar power.
- » Be located in a sidewalk’s furniture zone so they don’t conflict with the pedestrian zone. Shelters may be placed in the sidewalk’s frontage zone provided that they do not block building entrances or the pedestrian zone.

Transit Stops should also provide other amenities to make waiting for the next bus comfortable. These amenities could include:

- » Trash/recycling receptacles should be provided and maintained at most stops.
- » Depending on service frequency and the number of passengers boarding and alighting, electronic “next bus” readouts can be used to inform passengers when to expect the next bus. Cell phone applications can also be used.
- » High volume bus stops and stations should include space for vendors to sell goods and services.



Example of a sheltered bus stop with a bench and highly visible flag signs. (Source: CCRTA)

Bicycle Elements

As a general rule, designated bicycle facilities (e.g., bike lanes and cycle tracks) should be considered for all major streets (avenues and boulevards), as these roads generally offer the greatest level of directness and connectivity in the network and are typically where destinations are located. There are occasions when it is infeasible or impractical to provide bikeways on a busy street, or the street does not serve the mobility and access needs of bicyclists.

Well-designed bicycle facilities guide cyclists to ride in a manner that generally conforms to the vehicle code: in the same direction as traffic and usually in a position 3 to 4 feet from the right edge of the traveled way or parked cars to avoid debris, drainage grates and other potential hazards. Cyclists should be able to proceed through intersections in a direct, predictable and safe manner.

Exhibit 4-07: Bicycle Experience Continuum



Design Elements

This section has been adapted from NACTO’s Urban Bikeway Design Guide, the prevailing guidance on bikeway design. Please refer to the Design Guide for more detailed information on bikeway design elements.

Signing and Marking

Colored Bike Facilities

Colored pavement within a bicycle lane increases the visibility of the facility, identifies potential areas of conflict and reinforces priority to bicyclists in conflict areas and in areas with pressure for illegal parking. Colored pavement can be utilized either as a corridor treatment along the length of a bike lane or cycle track, or as a spot treatment, such as a bike box, crossing markings, or intersection crossing marking.



Example of a colored bike lane.

Bicycle Parking

Bike racks along sidewalks should support the bicycle adequately and make it easy to attach a lock to the frame of the bike and the rack. Refer to the Association of Pedestrian and Bicycle Professionals (APBP) Bike Parking Guidelines for additional information.

Intersection Treatments

Most conflicts between roadway users occur at intersections, where travelers cross each other’s path. Good intersection design indicates to those approaching the intersection what they must do and who has to yield. Conflicts for pedestrians and bicyclists are exacerbated due to their greater vulnerability, lesser size and reduced visibility to others.

Exhibit 4-08 on page 4-5 describes NACTO’s Bikeway Design Guide tools that are design considerations in intersection geometry to improve safety, accessibility and mobility for all users.



Bike Box

A designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.



Two-Stage Turn Queue Box

A designated area for cyclists to queue while waiting to turn.



Combined Bike Lane/Turn Lane

Places a suggested bike lane within the inside portion of a dedicated motor vehicle turn lane. Shared lane markings or conventional bicycle stencils with a dashed line can delineate the space for bicyclists and motorists within the shared lane or indicate the intended path for through bicyclists.



Through Bike Lane

A bike lane that continues through an approach to an intersection with vehicular turn lanes.



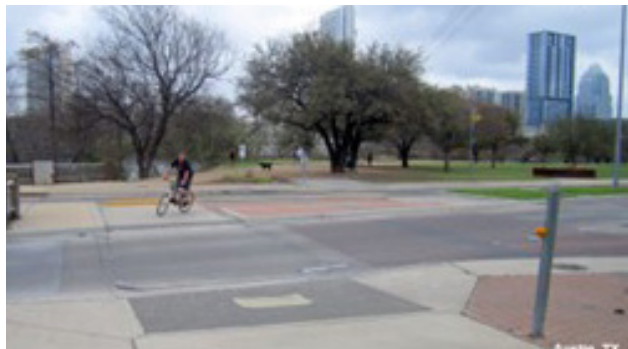
Cycle Track Intersection Approach

The approach to an intersection from a cycle track. Should be designed to reduce turn conflicts for bicyclists and/or to provide connections to intersecting bicycle facility types.



Intersection Crossing Markings

Markings that indicate the intended path of cyclists through an intersection.



Median Refuge Island

Protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings.

Source: NACTO Bikeway Design Guide

Bikeway Typologies

There are some general principles that should guide the selection of bikeway types. For instance, as traffic volumes and speeds increase, greater separation of the bikeway from motor vehicle traffic is desirable. Other factors to consider are users, adjacent land uses, available right-of-way and costs.

Within the Corpus Christi MPO, several of the bikeway typologies already exist. Exhibit 4-09 to Exhibit 4-17 on page 4-7 describe those typologies and also additional typologies that currently do not exist in the MPO planning area but can be provided to accommodate cyclists of different comfort levels and in different contexts:

On-Street

- » Bike Route
- » Bike Lane/Shoulder Bike Lane
- » Buffered Bike Lane
- » Protected Bike Lane
- » Separated Bike Lane/Cycle Track
- » Shared Parking Lane and Bike Lane
- » Shared Bike Lane and Bus Lane

Off-Street

- » Sidepath
- » Hike and Bike Trail

Exhibit 4-09: Bike Lane



Ocean Drive, Corpus Christi, TX (Source: FNI)

- » Designates an exclusive area for cyclists through pavement marking and signage
- » Visually reminds motorists of cyclists’ right to the street
- » Increases cyclists’ comfort and confidence on busy streets
- » Relatively easy to implement and maintain
- » Does not provide physical protection for cyclists

Exhibit 4-10: Buffered Bike Lane



Doddridge Street, Corpus Christi, TX (Source: FNI)

- » Buffer between car traffic and bike traffic via two painted white lines, with or without diagonal cross hatching
- » Allows cyclists more room without appearing as a car travel/parking lane
- » Does not provide physical protection for cyclists

Exhibit 4-11: Protected Bike Lane



Doddridge Street, Corpus Christi, TX (Source: Google Street View, FNI)

- » Provides physical separation from car traffic via bollards, planters, raised curb, or parked cars
- » Prevents double-parking unlike conventional bike lanes
- » Requires special maintenance

Exhibit 4-12: Separated Bike Lane/Cycle Track



Alameda Street, Corpus Christi, TX (Source: FNI)

- » More attractive to wider range of bicyclists at all levels and ages
- » Lower stress level than bike lanes due to the physical separation from traffic
- » Vertically separated from the street pavement

Exhibit 4-13: Sidepath



Brawner Parkway, Corpus Christi, TX (Source: FNI)

- » Serves multiple types of users – cyclists, pedestrians, inline skaters, wheelchair users, joggers, and other non-motorized users
- » Adjacent and parallel to a street
- » Accommodates two-way traffic on one side of the street

Exhibit 4-14: Hike and Bike Trail



Holly Road Park Trail, Corpus Christi, TX (Source: FNI)

- » Path serving multiple types of users, particularly pedestrians, cyclists and joggers
- » Completely separated from traffic (off-street)
- » Usually passes through a greenway, park or an open space

Exhibit 4-15: Shared Parking Lane and Bike Lane



Mescalero Road, Roswell, NM (Source: FNI)

- » Uses edge lines to provide curbside space for bikers and on-street parking
- » Appropriate on streets with low volumes and on-street parking needs

Exhibit 4-16: Bike Route



Liptonshire Drive, Corpus Christi, TX (Source: Google Street View, FNI)

- » Provides basic bicycle access on roads where no space for a designated bicycle facility is available
- » Helps to maintain connectivity between destinations and streets with designated bicycle facilities
- » “Share the Road” signage recommended to remind motorists of cyclists’ right to the street

Exhibit 4-17: Shared Bus Lane and Bike Lane



Walnut Street, Philadelphia, PA (Source: NACTO)

- » Provides basic bicycle access on transit routes if no space is available for designated bikeways
- » Accommodates both modes (bicycle and transit) at low speeds
- » Is not a high-comfort bike facility

MICRO-MOBILITY

The following information has been extracted from the Corpus Christi MPO 2023 Micro-Mobility Plan and Ordinance. To view the full document, refer to Appendix C.

Micro-Mobility Defined

The Federal Highway Administration (FHWA) defines micro-mobility as:

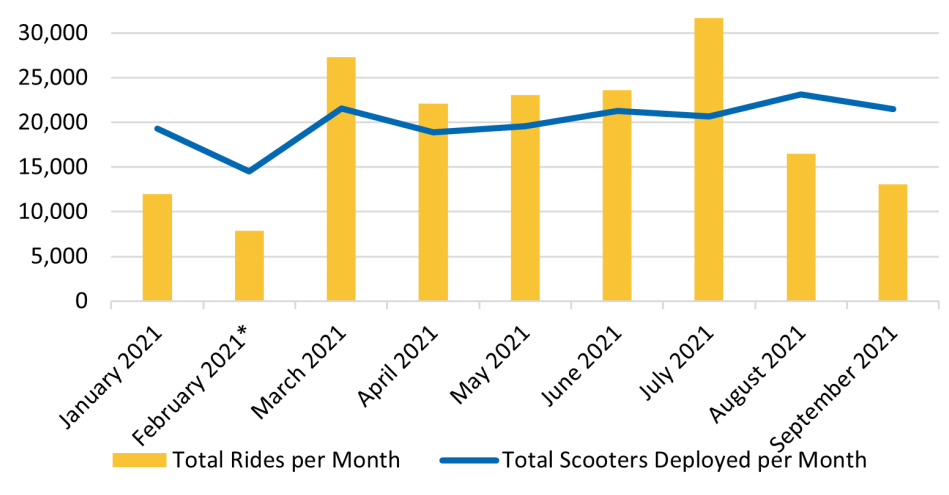
“Any small, low-speed, human or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles (e-bikes), electric scooters (e-scooters) and other small, lightweight, wheeled conveyances.”

Micro-mobility is one part of a complete active transportation system that is especially helpful for first- and last-mile trips. Micro-mobility ridership is growing rapidly, especially on college campuses and in cities with a large population of young adults. While bicycles have been a reliable mode of transportation, electric micro-mobility vehicles (such as e-bikes and e-scooters) and shared micro-mobility systems have led to an increase in micro-mobility ridership.

» What is shared micro-mobility?

Shared micro-mobility entails various forms of micro-mobility that are shared between more than one person. This is often done either through a public bike or scooter-share system, like MetroBike in Austin, or a private company like Lime. Shared micro-mobility allows the user to forgo costs associated with owning, maintaining and storing a micro-mobility vehicle and instead pay only for operating the vehicle. Shared micro-mobility often requires the use of a smartphone app.

Exhibit 4-18: e-Scooter Ridership and Deployment in Corpus Christi



* Scooters were removed for over a week due to the winter event in February

Currently, there is one shared e-scooter system in the Corpus Christi MPO Planning Area within the City of Corpus Christi. Lime provides around 800 scooters and operates under a license agreement administered by the City of Corpus Christi in accordance with its ordinances.

Exhibit 4-18 shows the monthly e-scooter ridership and deployment in Corpus Christi in 2021. Ridership generally increased during the spring and summer months and decreased during the fall and winter. The average number of scooters deployed each day in FY 2021 ranged between 728 in November 2020 and 518 in February 2021.

Overview of Existing Technologies

The discussion around micro-mobility is complicated by the ever-changing scope of what micro-mobility is, and new emerging vehicles and technologies. To properly discuss micro-mobility, it is important to explicitly define each different mode and some important terms. The classification of micro-mobility vehicles is a necessary first step:

- » **Pedal Bike** - A pedal bike (or “traditional” bike) is a form of Non-Motorized Transportation (NMT) on which a rider sits on a seat, pushes two pedals with his feet and steers using a handlebar.

- » **Electric-assist Bike** – Electric-assist bikes (e-bikes) are motorized versions of pedal bikes. These have a similar look but allow the user to travel faster and for longer distances due to the assistance of the motor. e-Bikes can be individually owned or accessed via shared mobility.
- » **Kick Scooter** - A kick scooter (or push scooter) is a two-wheeled, manual, single-rider vehicle that is operated by kicking the ground as one stands on a deck. It is a form of non-motorized travel (NMT) and is steered using a handlebar.
- » **Electric Scooter** - An electric scooter (e-scooter) is a motorized version of a kick scooter. Modern e-scooters can travel around 15 miles before requiring recharging and are typically recharged once a day.
- » **Other small, lightweight, wheeled conveyances** – Other, less used micro-mobility vehicles include skateboards, Onewheels, hoverboards, segways and electric unicycles. These vehicles are usually less than 50 lbs and individually owned.

Exhibit 4-19: Types of Micro-Mobility Vehicles

Vehicle	Other - Skateboard, e-Skateboard, Onewheel, Hoverboard, Segway	Kick scooter	e-Scooter	Pedal bike	e-Bike		
					Class 1	Class 2	Class 3
Defining Features	Small, lightweight, single-user	Deck for standing	Motor, deck for standing, optional seat	User is seated	Pedal assist	Throttle assist	High-speed pedal assist
Typical Speed	Typically 20 mph or less	10 mph	15-20 mph	15 mph	20 mph or less	20 mph or less	28 mph or less
Weight	<50 lbs	Typically <15 lbs	Typically <50 lbs	Typically <50 lbs	Typically <100 lbs	Typically <100 lbs	Typically <100 lbs

Micro-Mobility Benefits

First- and Last-Mile Connections

One of the most significant benefits of micro-mobility is its role in facilitating first- and last-mile connections to and from transit services. Micro-mobility vehicles can increase the service area of a bus route by expanding the 1/4 mile walking catchment area to over a mile using micro-mobility vehicles. This can make transit a more attractive choice for the public and increases transit accessibility.

Alternative Mode Choice

Micro-mobility provides an easy and convenient option for transportation supplementing automobiles, transit and walking. This allows people to travel by car less, which has many benefits for the community:

- » Relieves pressure on the road system, helping to alleviate congestion
- » Decreases noise pollution
- » Provides more transport options for disadvantaged communities
- » Contributes to the “safety in numbers” effect wherein the presence of other pedestrians creates a safer street for all

Stewardship

Research shows that micro-mobility vehicles reduce carbon emissions and decrease reliance on fossil fuels¹. The adoption of micro-mobility options reduces the use of personal automobiles on short distance trips and assists in first- and last-mile travel, allowing for increased use of public transportation.

National Renewable Energy Laboratory (NREL) reported that high adoption of shared micro-mobility can save 2.3 billion gasoline-equivalent gallons per year nationwide and that increasing access to transit is micro-mobility’s largest contribution to reducing energy consumption in cities².

1 Rusul L. Abduljabbar, Sohani Liyanage and Hussein Dia “The role of micro-mobility in shaping sustainable cities: A systematic literature review” (2021) <https://www.sciencedirect.com/science/article/abs/pii/S1361920921000389?via%3Dihub>
2 NREL, “Data-Informed Analysis Reveals Energy Impacts of Shared Micromobility” (2021) <https://www.nrel.gov/news/program/2021/data-informed-analysis-reveals-energy-impacts-of-shared-micromobility.html>

Areas of Concern

Safety

Micro-mobility users are considered “vulnerable road users” by the FHWA due to the lack of protection of an enclosed vehicle. Interactions between micro-mobility and users of more established modes like drivers and pedestrians can be dangerous³. Misuse while operating the vehicles, as well as the improper placement of the vehicles after use, are of concern.

In its first 100 million e-scooter rides, Lime reported nine fatalities of riders. In the first 50 million rides on Bird scooters, there were five reported fatalities. Existing EMS and hospital visit data estimates that injuries due to e-scooter crashes occur at a rate of 87-251 emergency room visits per million trips and 29-62 hospital admissions per million trips. Comparatively, bicycles are safer, with 110-180 emergency room visits per million trips and 5-10 hospital admissions per million trips⁴.

To mitigate safety issues, communities can employ several tactics, such as guidelines for proper use, requiring safe features on micro-mobility vehicles, geofencing and prioritizing regular road maintenance.

Tension Between Stakeholders

Users of micro-mobility depend on bicycle and pedestrian paths and sidewalks for safe travel. Two major infrastructure challenges face micro-mobility users: parking and operation in high-traffic corridors. Municipalities can create designated parking areas for bikes and dockless micro-mobility vehicles (corrals) to lower the likelihood that these vehicles clutter the public right-of-way and create tension between varying stakeholders.



Source: CNN

3 Hong Yang a, Qingyu Ma a, Zhenyu Wang a, Qing Cai b, Kun Xie c and Di Yang “Safety of micro-mobility: Analysis of E-Scooter crashes by mining news reports” (2020) <https://doi.org/10.1016/j.aap.2020.105608>
4 International Transport Forum “Safe Micromobility” (2020) <https://www.itf-oecd.org/safe-micromobility>

Equity

While micro-mobility can help counter equity issues caused by cars and increase connectivity for disadvantaged populations, it can also create its own equity issues. When prices are not regulated by the municipality, prices of shared micro-mobility will continue to increase - average e-scooter and e-bike trip costs doubled from 2018 (\$3.50) to 2021 (around \$7)⁵.

Additionally, some people may be physically unable to ride traditional scooters or bikes and may require adaptive devices. These can include seated scooters, segways with handles, powered cycles that attach to wheelchairs, or others.

The cost of purchasing a bicycle, while still relatively inexpensive compared to a car, has increased significantly over the last several years. Discounted fare structures, equitable distribution of micro-mobility devices and connection to public transportation can help advance transportation equity via micro-mobility.

Promotion and Regulation of Shared Micro-Mobility Providers

New and established companies are eager to employ their vehicles on to the streets. Cities should anticipate this and have policies in place to ensure a proactive response when considering adoptions of micro-mobility services. See Appendix C for more information on the promotion and regulation of shared micro-mobility.



Shared micro-mobility provider in Austin, Texas. (Source: FNI)

5 NACTO, “Shared Micromobility Snapshot” (2022) https://nacto.org/wp-content/uploads/2022/12/2020-2021_shared_micro_snapshot_Dec7_2022.pdf

COMPLETE STREETS

The following information has been extracted from the National Complete Streets Coalition (NCSC) and Corpus Christi MPO’s Complete Streets Program Guide. To view the full document, refer to Appendix A.

Background

The Complete Streets concept evolved from a recognition that traditional transportation planning, heavily focused on automobiles, often neglected the needs of pedestrians, bicyclists, and transit users. This shift gained momentum in the late 20th and early 21st centuries, with the first Complete Streets policies adopted by nine jurisdictions nationwide in 2000. As the movement expanded, it emphasized creating streets that are safe and accessible for all users, regardless of age, ability, or mode of transportation. This approach aligns with broader efforts to create more livable, equitable, and resilient communities. By 2020, over 1,300 cities and towns, 93 counties, 1 tribe, 78 regions, and 36 states and territories had adopted Complete Streets policies. Agencies supporting Complete Streets include, but are not limited to:

- » American Association of Retired Persons
- » American Heart Association
- » U.S. Department of Transportation
- » FHWA
- » Institute of Transportation Engineers
- » American Planning Association
- » Smart Growth America

Complete Streets Defined

According to the NCSC, Complete Streets is a process and approach that enables safe access to streets for all users. Complete Streets aims to fix **incomplete streets** that have an outdated design that can be dangerous or deadly for users without a personal vehicle.

A benefit of Complete Streets is that it responds to the needs and context of the community and can change shape accordingly. Based on the context of a community, Complete Streets will look different each time and can include a combination of the following transportation design elements:

- » Sidewalks
- » Bike lanes (or paved shoulders)
- » Special bus lanes
- » Comfortable and accessible public transportation stops,
- » Frequent and safe crosswalks
- » Median islands
- » Accessible pedestrian signals
- » Curb extensions
- » Narrower travel lanes
- » Roundabouts

“Complete Streets are streets for everyone. Complete Streets is an approach to planning, designing, building, operating and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.”

Source: NCSC, Smart Growth America



Complete Streets Policy

Adopting a Complete Streets policy is crucial in planning for Complete Streets. The policy will specify how a community will plan, design and maintain its Streets. The NCSC created a Complete Streets Policy Framework outlining 10 elements of best practices in creating and implementing a Complete Streets policy. An ideal Complete Streets policy includes the following:

1. Establishes commitment and vision
2. Prioritizes under-invested and underserved communities
3. Applies to all projects and phases
4. Allows only clear exceptions
5. Mandates coordination
6. Adopts excellent design guidance
7. Requires proactive land-use planning
8. Measures progress
9. Sets criteria for choosing projects
10. Creates a plan for implementation



Source: NCSC, Smart Growth America

Planning Policies for Implementation

Policy is just a first step in the process of creating a Complete Streets design that later results in a Complete Streets network. A policy that does not get implemented has no impact on the community. NCSC developed a set of steps to help guide communities in putting their policy into practice:

1. Change procedures and processes
2. Review and revise design guidance
3. Train agency staff and community members
4. Establish new performance measures
5. Begin transforming the project selection process
6. Create a committee to oversee implementation
7. Create an inclusive community engagement plan

Street Design

It is impossible to prioritize street design that encourages both speed and safety. Roadway design is ever present on the streets and has a stronger influence on driver behavior than signage present only every few blocks or miles. Just as roadway design can contribute to pedestrian and bicyclist injuries and deaths, it can contribute to their prevention.

Speed is the main factor in a majority of pedestrian and bicyclist deaths. Higher speed has translated into higher number of pedestrian and bicyclist injuries and deaths on the roads. Taller, heavier and more powerful vehicles have exacerbated the issue.

Complete Streets approach works under the belief that aside from limited access roads like interstates and freeways, it is impossible to prioritize street design that encourages both speed and safety. The approach thus emphasizes the use of design to alter driver behavior to lower their speed.

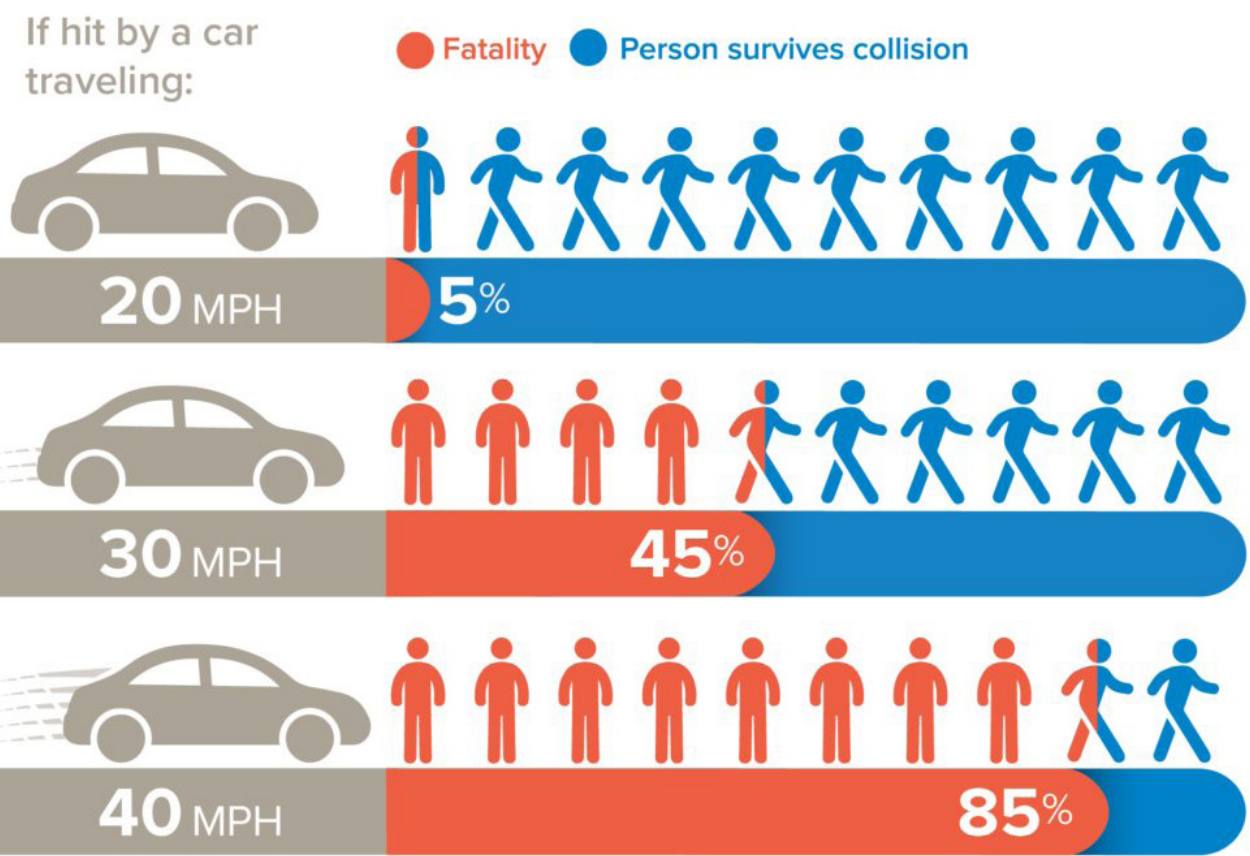
Roadway design that encourages speeding is typical of arterial design in the United States, prioritizing speed over safety. Elements include:

- » Wide and straight travel lanes
- » Connecting streets without crosswalks or curb ramps
- » Wide corners at turning lanes
- » Right turn “slip” lanes
- » Long distances between intersections/crosswalks
- » Sidewalks as an afterthought or more of an edge treatment

Complete Streets approach prioritizes safety over speed. Through design, drivers receive multiple visual clues to slow down that affect their behavior, such as:

- » Narrower travel lanes
- » Landscaping and trees
- » On-street parking lanes
- » High-visibility crosswalks
- » Curb extensions
- » Eliminating right turn “slip” lanes in favor of right angle turns
- » Decreasing distances between intersections/crosswalks
- » Adding signalized crosswalk in the middle of long blocks
- » Treating pedestrian and bicyclist safety as a number one priority

Exhibit 4-20: Pedestrian Fatalities by Vehicle Speed



National Traffic Safety Board (2017) Reducing Speeding-Related Crashes Involving Passenger Vehicles. Available from: <https://www.nts.gov/safety/safety-studies/Documents/SS1701.pdf>

Source: NCSC, Smart Growth America

ACTIVE TRANSPORTATION NETWORK DEVELOPMENT

Several factors were considered in the development of the Active Transportation Network. These included expansion of existing facilities, fulfillment of local area plans, and other identified needs to create a regional network and to propose active transportation projects.

The Bike/Ped Network

A bike/ped network is a seamless interconnected system of hike and bike trails, SUPs and bikeways. The purpose and quality of the network depends on the assumptions, goals and decisions made during the planning process. Networks should be thoughtfully planned to provide necessary and desired connections and access. The most successful bike/ped networks enable people of all ages and abilities to safely and conveniently get where they want to go.

Network Principles

Effective bike/ped networks lead to more people bicycling by creating active transportation facilities that are efficient, seamless and easy to use. Seven key principles for network design, shown in Exhibit 4-21, are described in the Bikeway Selection Guide published by FHWA in 2019. Of these seven principles, three have particular importance in guiding bike/ped facility selection:

- Safety:** Bike/ped facility designs should be selected to reduce the frequency and severity of crashes and minimize conflicts between users.
- Comfort:** Bike/ped facilities should be selected to minimize stress, anxiety and safety concerns for the target design user. Comfort and safety are closely related.
- Connectivity:** Trips within a bicycle network should be direct and convenient and offer access to all destinations served by the roadway network. Transitions between active transportation facilities should be seamless and clear.

Exhibit 4-21: Seven Principles of Bike/Ped Network Design



Source: FHWA 2019 Bicycle Selection Guide

Network Formulation

The Active Transportation Network development process considered the following steps:

- » Expanding upon what works – extend existing trails, add more SUPs along roadways, trails, protected bikeways
- » Enhancing what exists – transitions, compliance
- » Adding local connections – parks, schools, local Area Development Plans
- » Creating a core network – key attractions, destinations
- » Accommodating multiple user groups - local trips as well as longer-distance travel

The proposed Active Transportation Network is shown in Exhibit 4-22 on page 4-13.

Functional Areas

The network has been subdivided into 10 functional areas developed based on the existing ADPs and special areas of interest. The functional areas are:

- » SEA/New Harbor Bridge/North Beach (NHB)
- » Shoreline Boulevard/Ocean Drive/Alameda Street (SLB)
- » Ennis Joslin/Holly Bridge (EJR)
- » Flour Bluff (FBL)
- » Padre/Mustang Island (PMI)
- » Midtown (MDT)
- » Southside (SSD)
- » East-West Connection/Texas Bicycle Network (EWC)
- » Calallen/Annville (CAL)
- » Portland/Gregory (PGR)

Priority Network

The Priority Active Transportation Network connects through high profile areas and to significant attractions in Corpus Christi including the following:

- » USS Lexington and Texas State Aquarium
- » North Beach beach front trail
- » New Harbor Bridge Trail
- » Science, Arts and Entertainment district
- » Shoreline Boulevard scenic promenade and two-way cycle track
- » Ocean Drive shoulder bike lanes along the scenic roadway corridor
- » Ennis Joslin Road SUP and bike lanes through high-density residential areas
- » Holly Road Trail and Holly Road Trestle Bridge
- » Flour Bluff Road SUP and SUP network in Flour Bluff
- » Bike-on-Bus connection to Mustang Island

The following tiers list the priorities for implementation of the network:

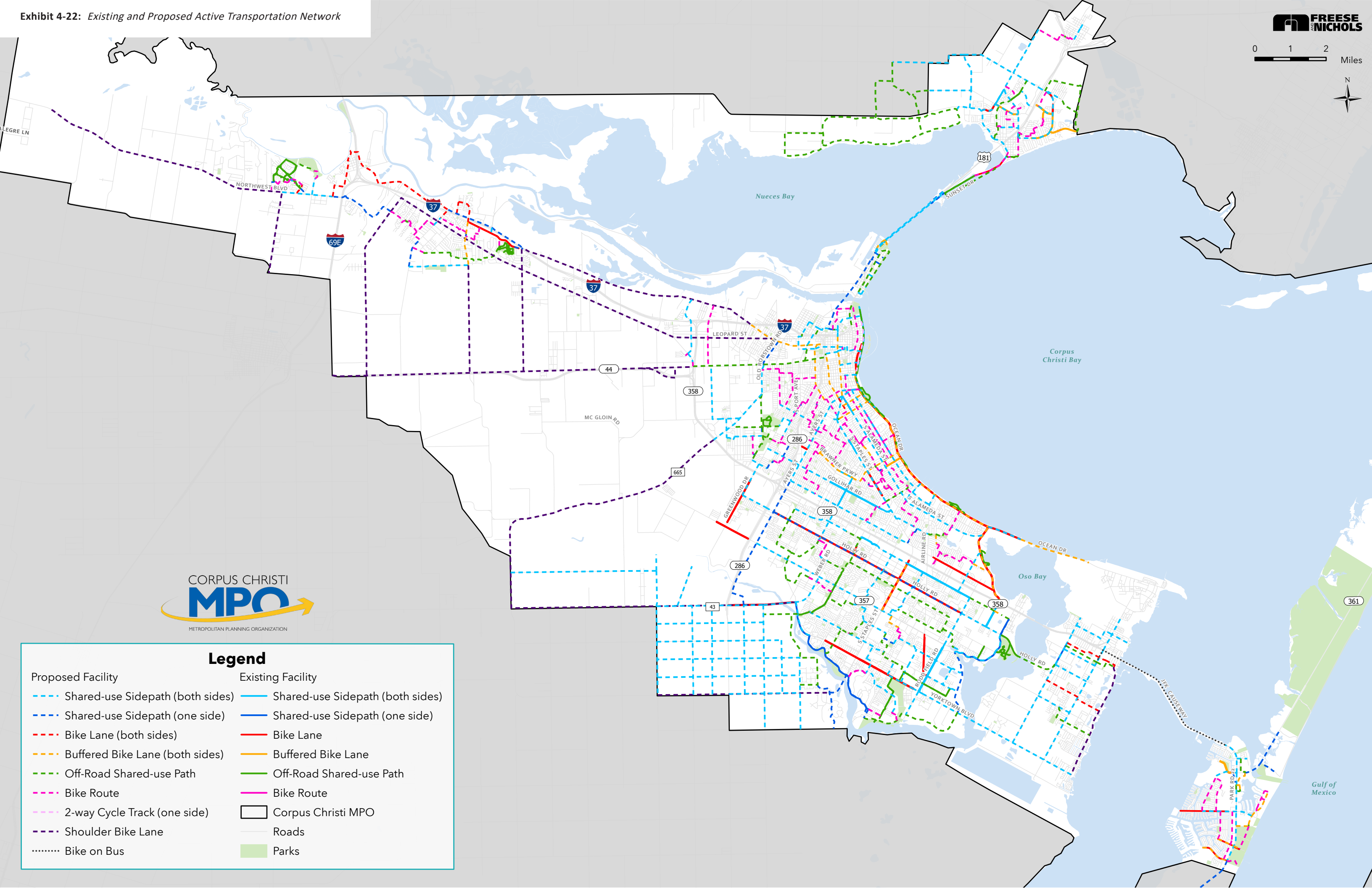
- Tier I**
Tier I is a priority network of trails, SUPs and bike lanes that provide connectivity to the high profile destinations and locations in the MPO region. The elements of the Tier I network should be continuously advanced for funding and implementation of the enhanced and completed high quality network.
- Tier II**
The second tier of projects would be completed in conjunction with ongoing CIP projects. The elements of the Tier II network may advance short segments of the larger network and should be brought to a logical terminus while awaiting completion of the network.
- Tier III**
The third tier of projects include the remaining trails, bike lanes and bike routes that connect to the various neighborhoods, schools and parks that are not in the priority network nor in a current CIP. The network elements in Tier III would be implemented as opportunities arise in conjunction with development and as special funding is available, such as Safe Routes to Schools and Parks under the Transportation Alternatives program.

Exhibit 4-22: Existing and Proposed Active Transportation Network



Legend

- | Proposed Facility | Existing Facility |
|----------------------------------|----------------------------------|
| Shared-use Sidepath (both sides) | Shared-use Sidepath (both sides) |
| Shared-use Sidepath (one side) | Shared-use Sidepath (one side) |
| Bike Lane (both sides) | Bike Lane |
| Buffered Bike Lane (both sides) | Buffered Bike Lane |
| Off-Road Shared-use Path | Off-Road Shared-use Path |
| Bike Route | Bike Route |
| 2-way Cycle Track (one side) | Corpus Christi MPO |
| Shoulder Bike Lane | Roads |
| Bike on Bus | Parks |



SEA/New Harbor Bridge/North Beach

The new Harbor Bridge will provide new mobility opportunities for bicyclists and pedestrians in Corpus Christi. This new crossing will increase the span height across Nueces Bay, thus allowing larger ships to port access. The bridge will also include a scenic overlook, providing additional tourism opportunities and destinations by cyclists and pedestrians.

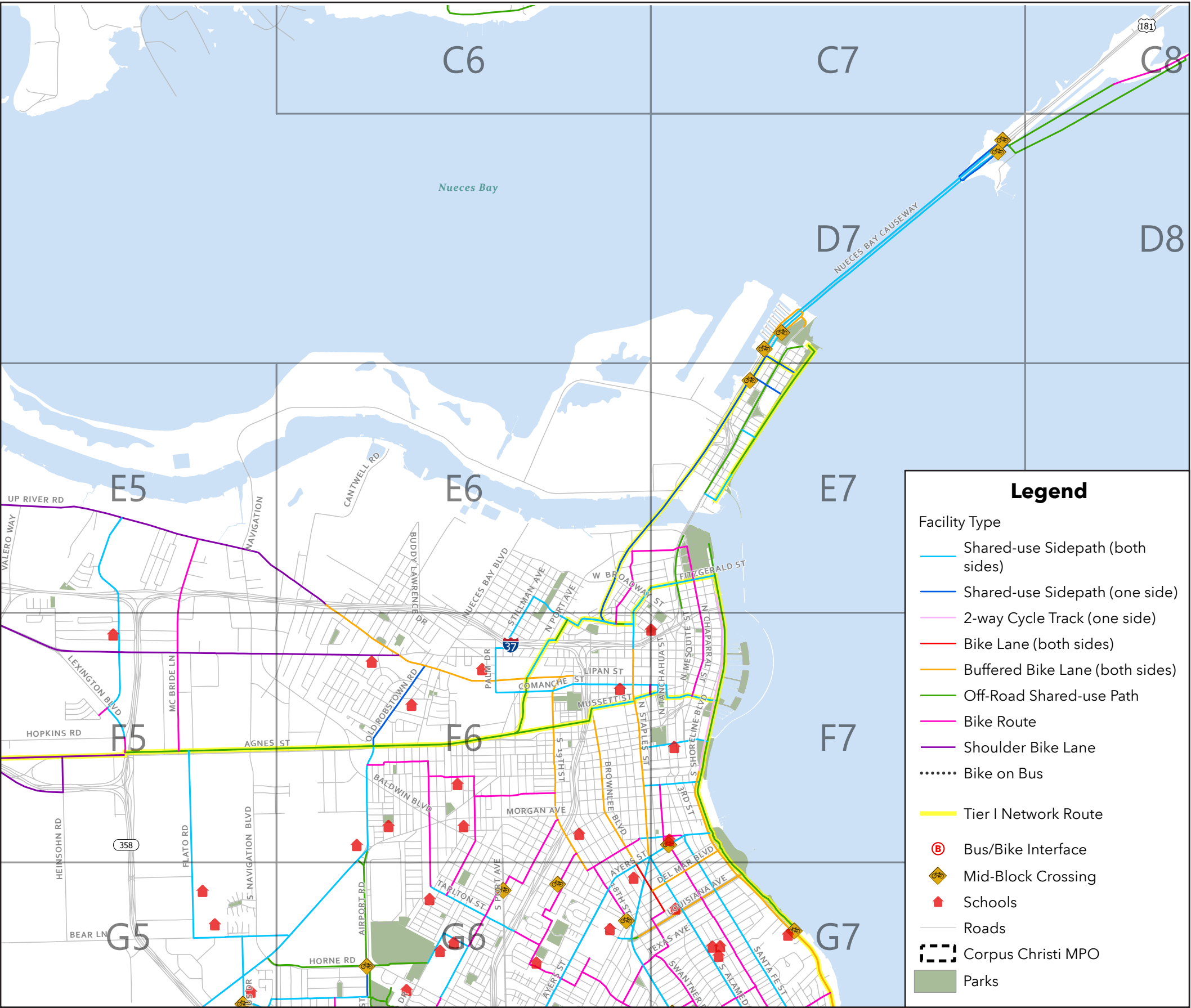
The bridge will have an SUP along the east side of the street, extending from a trailhead on Lake Street on the south to a pedestrian crossing of the northbound service road near Gulf Spray Avenue on the north. An SUP is recommended along Gulf Spray Avenue that would connect to the public beach at Gulf Spray Park as well as the existing 1.5-mile-long beachside trail that runs from Dolphin Park and public bathhouse on the north to the USS Lexington and Texas State Aquarium on the south. A 1.5-mile-long SUP is proposed to run along the wide median between Timon Boulevard and Surfside Boulevard that would complete the trail loop between those destinations. Access to and from the shoulder lanes on the Causeway Bridge to Portland would be via the vehicular ramps just north of Beach Avenue.

East-west connection across the Hillcrest/Washington/Coles and the Sports/Entertainment/Arts (SEA) area north of I-37 would extend from Stillman Avenue along Winnebago Street to Lake Street to Broadway to Beldon Street to connect to the SUP along Shoreline Boulevard. East-west conveyance south of I-37 would be provided by the newly constructed Leopard Street crossing of the Crosstown Expressway.

Bridge crossings over I-37 would be provided by the Harbor Bridge project at Stillman Avenue and at Staples Street. Those crossings would provide connection to the newly improved Leopard Street and to Comanche Street, which provide grade-separated crossings of the Crosstown Expressway. At Staples Street, SUPs are provided along each side of that bridge. A bike/ped bridge at Stillman Street connects via Palm Street to Leopard and Camanche Street.

An abandoned railroad corridor crosses under the I-37 grade separation near Port Avenue, allowing for bicyclists and pedestrians to have room adjacent to Port Avenue at the crossing under I-37. Some businesses have acquired and built upon the abandoned railroad corridor north of Lipan Street, so a SUP would need to extend along the east side of Port Avenue between Lipan Street and the I-37 service roads. The SUP along Port Avenue would then continue southward toward the east-west rail-to-trail corridor along the north side of Agnes Street.

Exhibit 4-23: SEA/New Harbor Bridge/North Beach Functional Area



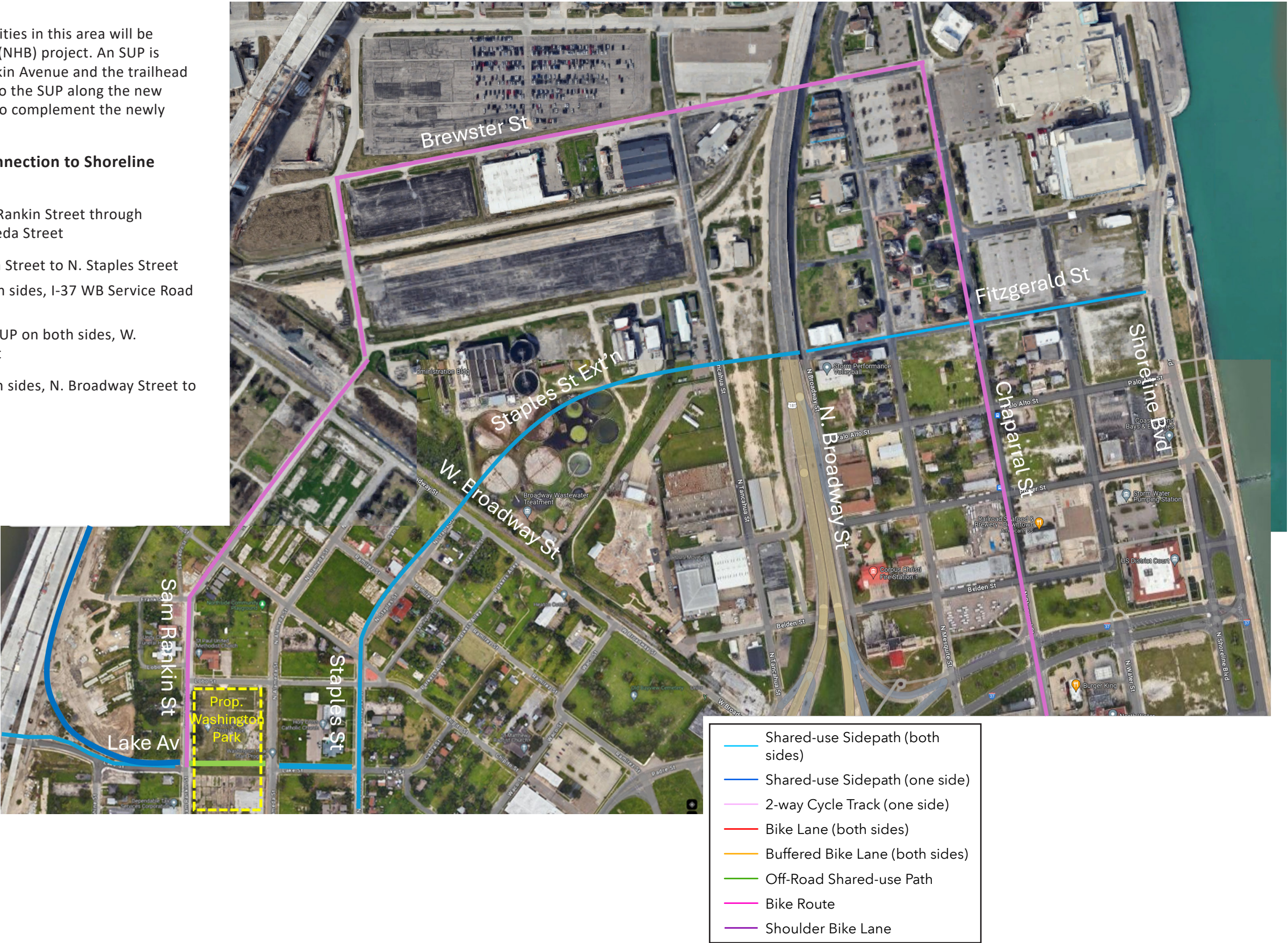
Proposed Improvements for SEA/New Harbor Bridge/North Beach

Much of the noted bicycle and pedestrian facilities in this area will be constructed as part of the New Harbor Bridge (NHB) project. An SUP is provided along Lake Street, between Sam Rankin Avenue and the trailhead parking near Winnebago Street, for access onto the SUP along the new Harbor Bridge. Several projects are proposed to complement the newly completed network.

NHB 1 - New Harbor Bridge South End Connection to Shoreline Boulevard SUP

- » NHB 1.1 - Lake Avenue SUP/Trail, Sam Rankin Street through Proposed Washington Park to N. Alameda Street
- » NHB 1.2- Lake Avenue SUP, N. Alameda Street to N. Staples Street
- » NHB 1.3 - N. Staples Street SUP on both sides, I-37 WB Service Road to W. Broadway Street
- » NHB 1.4 - N. Staples Street extension SUP on both sides, W. Broadway Street to N. Broadway Street
- » NHB 1.5 - Fitzgerald Street SUP on both sides, N. Broadway Street to Shoreline Boulevard

Exhibit 4-24: NHB 1 - New Harbor Bridge South End Connection to Shoreline Boulevard SUP



NHB 2 New Harbor Bridge South End Connection to Agnes Street Rail-to-Trail SUP

An existing bike/ped bridge has been built to span I-37 at Stillman Street, with extensive ramps to get from street level to bridge level at each end just beyond the service roads.

- » NHB 2.1 – W. Broadway Street SUP, Stillman Street to Port Avenue
- » NHB 2.2 – Nueces/Winnebego SUP, Lake Avenue to Nueces Bay Boulevard
- » NHB 2.3 – Stillman Street SUP, W. Broadway to I-37 WBSR
- » NHB 2.4 – Antelope/Palm Drive SUP, I-37 EBSR to Comanche Street
- » NHB 2.5 – Comanche SUP, Palm Drive to Staples Street
- » NHB 2.6 – Port Avenue Road Diet/SUP, I-37 WBSR to Agnes Street
- » NHB 2.7 – Nueces Bay Boulevard SUP, Nueces to Agnes Street
- » NHB 2.8 – Rail-to-Trail, W. Broadway to I-37 WBSR

Exhibit 4-25: NHB 2 - New Harbor Bridge South End Connection to Agnes Street Rail-to-Trail SUP

Shared-use Sidepath (both sides)

Shared-use Sidepath (one side)

2-way Cycle Track (one side)

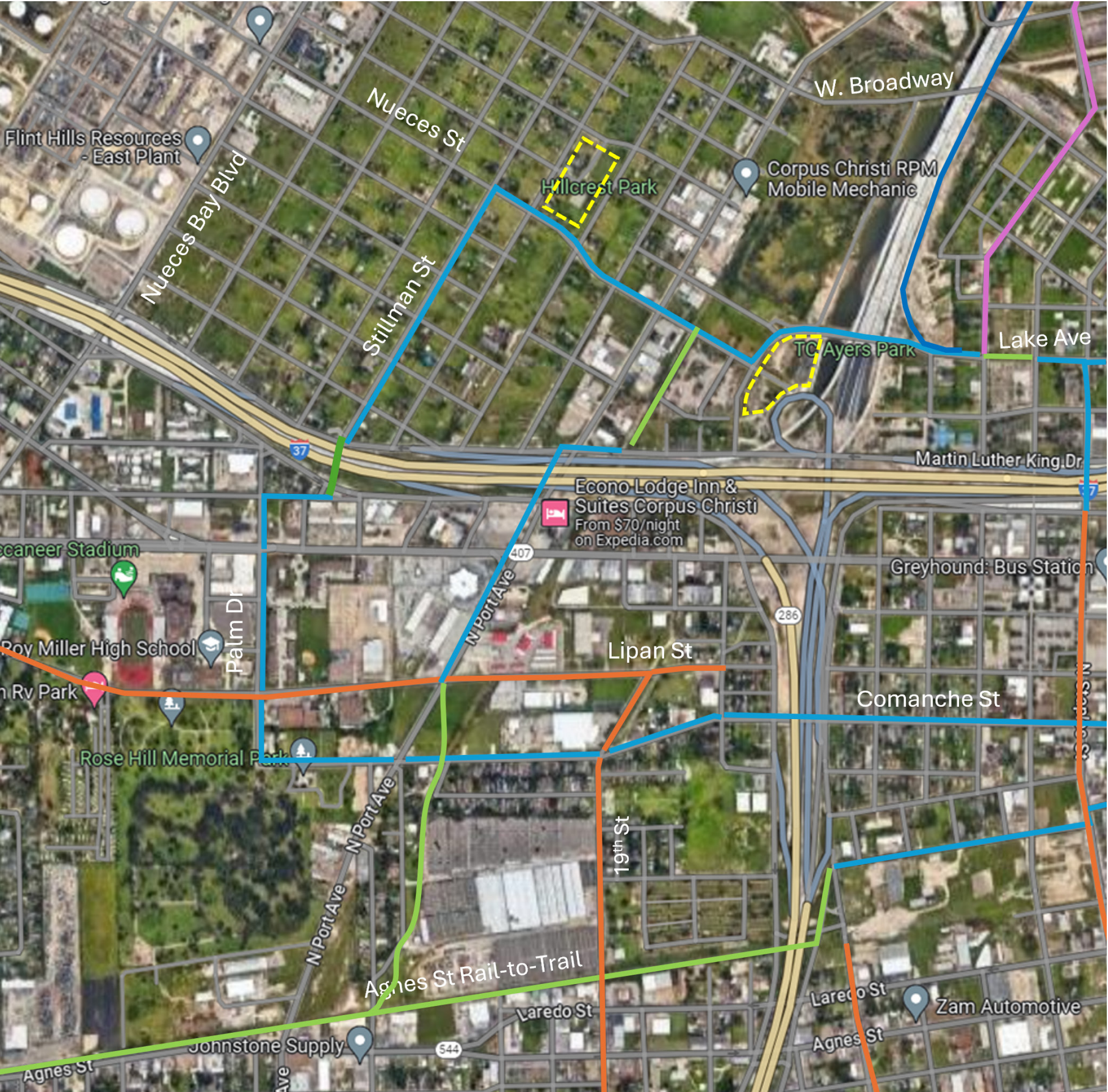
Bike Lane (both sides)

Buffered Bike Lane (both sides)

Off-Road Shared-use Path

Bike Route

Shoulder Bike Lane



NHB 3 - New Harbor Bridge North End Connection to Waterfront, Lex, Aquarium

The SUP across the new Harbor Bridge terminates at a signal-protected pedestrian crossing of the northbound service road of US 281 between Surfboard Avenue and Gulf Spray Avenue. The TxDOT project extends a 10-foot SUP along the northbound service road between Surfboard Avenue and Beach Avenue. An existing 10-foot-wide concrete beachfront path extends along the length of the eastern shore of North Beach from Dolphin Park on the north to the USS Lexington on the south. Wide sidewalks extend between the USS Lexington and the Texas State Aquarium.

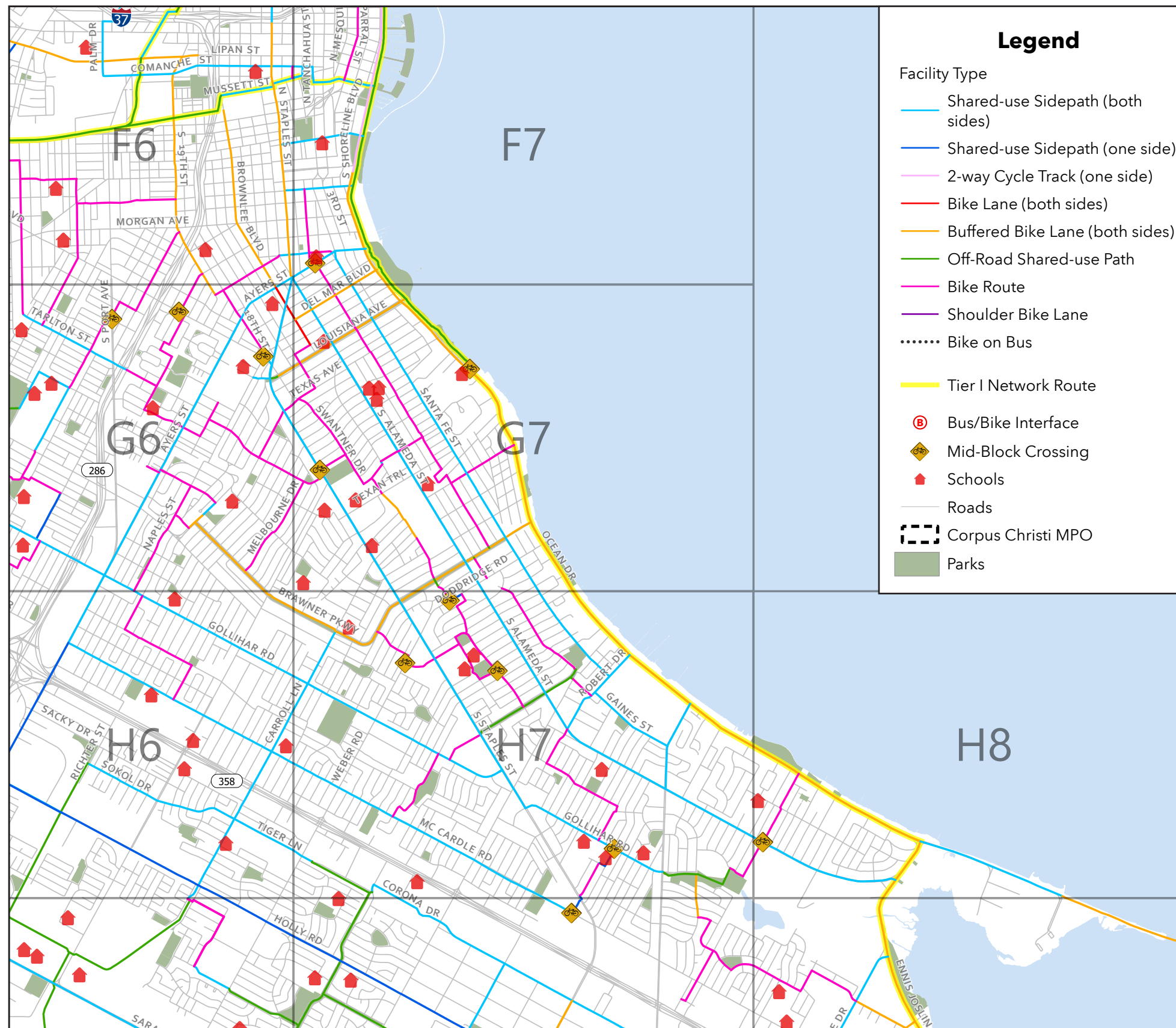
- » NHB 3.1 – Beach Avenue SUP, US 281 NBSR to Beachfront Path (proposed in City of Corpus Christi 2024 Bond program)
- » NHB 3.2 – Gulf Spray Avenue SUP, US 281 NBSR to Gulf Spray Park (proposed in City of Corpus Christi 2024 Bond program)
- » NHB 3.3 – Median SUP, Dolphin Park to Pearl Avenue
- » NHB 3.4 – Breaker Avenue SUP, Median SUP to Beachfront Path
- » NHB 3.5 – Golf Place SUP, Median SUP to Beachfront Path

Exhibit 4-26: NHB 3 - New Harbor Bridge North End Connection to Waterfront, Lex, Aquarium



Shoreline Boulevard/Ocean Drive

Exhibit 4-27: Shoreline Boulevard/Ocean Drive Functional Area



The existing bicycle and pedestrian provisions along Shoreline Boulevard and along Ocean Drive attract large volumes of pedestrians, bicyclists and micro-mobility users. Proposed east-west connections would be used by area residents to access the Ocean Drive bike/ped corridor and include:

- » Lake/Broadway/Belden
- » Musset Street/Blucher Street/Blucher Park/Coopers Alley
- » Park Avenue
- » Furman Avenue
- » Ayers Street
- » Del Mar Boulevard
- » Louisiana Avenue
- » Doddridge Street

Proposed Improvements to Shoreline Boulevard/Ocean Drive

SLB 1 - Shoreline Boulevard Reconfiguration Completion

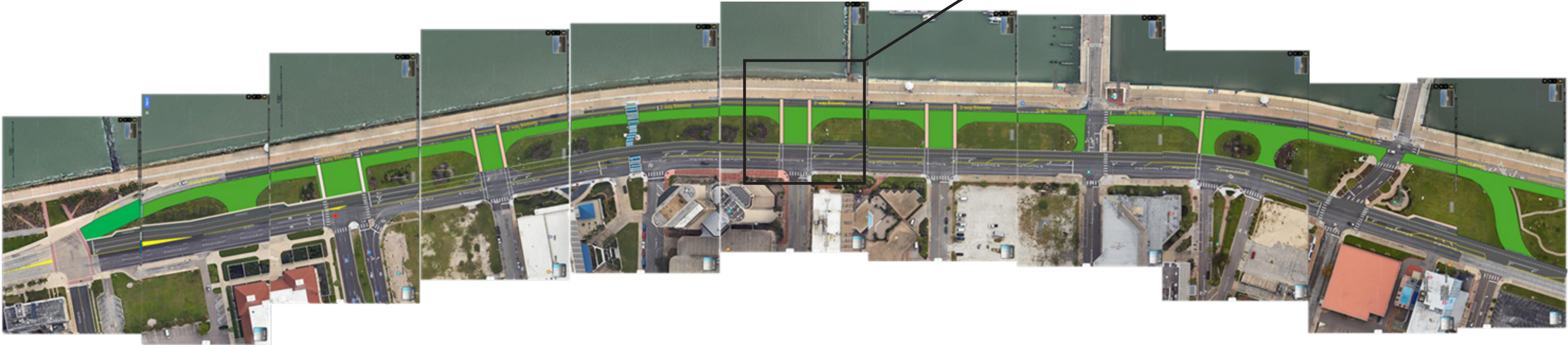
In the 1990s, the City of Corpus Christi undertook a reconfiguration of Shoreline Boulevard to move the 80-foot-wide median between northbound and southbound Shoreline Boulevard up against the seawall SUP, pushing the northbound lanes to the west up against the southbound lanes. That reconfiguration extended between Furman Avenue on the south and Lomax Street on the north (about 3,600 linear feet) and amassed over 5 acres of park and open space near the seawall and provided nearly 200 off-street parking spaces. Coopers Alley passes through the space between Shoreline Boulevard and the seawall SUP to provide access to the Coopers Alley L-Head. Part of the former northbound lanes are utilized to provide access to the Arts Center of Corpus Christi.

- The proposed reconfiguration project, between Lomax Street and Power Street, would consist of the following elements:
- » SLB 1.1 – Widen SB Shoreline Boulevard pavement to provide 5 lanes. As space allows, provide a parking lane on each side
 - » SLB 1.2 – Modify existing traffic signals and pavement markings to accommodate two-way traffic in the 5-lane roadway
 - » SLB 1.3 – Shift the northbound Shoreline Boulevard traffic onto the new 5-lane roadway
 - » SLB 1.4 - Abandon the former 3-lane northbound roadway and adapt for use as a two-way bikeway
 - » SLB 1.5 – Remove unneeded roadway pavement, add off-street parking and landscape as appropriate
 - » SLB 1.6 – Re-stripe the two-way Shoreline Boulevard between Furman Avenue and Coopers Alley to eliminate the shoulder bikeway and restripe to provide dedicated left turn lanes at cross streets



Taylor Street at Shoreline Boulevard concept illustration.

Exhibit 4-28: SLB 1 - Shoreline Boulevard Reconfiguration



SLB 2 – Shoreline Boulevard/Ocean Drive Shoulder Bike Lanes Enhancement

The existing realigned Shoreline Boulevard begins at Furman Avenue. An approximately 8-foot-wide shoulder bike lane is designated in each direction along the entire length of Shoreline Boulevard/Ocean Drive. While this bikeway is good, there is much room for improvement. At some intersections, the shoulder lane is narrowed to introduce a left turn lane or entirely repurposed as a right turn lane. To continue a high level of bicyclist accommodation to the south of Furman Avenue, enhancements to the bike lanes to create more of a protected bikeway are proposed and include the following:

- » SLB 2.1 – Within the 8-foot-wide shoulder bike lanes, add a second 4-inch-wide stripe to create a 2-foot buffer for the remaining 6-foot bike lanes, between Furman Avenue and Ennis Joslin Road, with special treatments at key locations.
- » SLB 2.2 – Install flexible bollards within the 2-foot buffer at approximately 20 feet on center along the buffered bike lanes between Furman Avenue and Ennis Joslin Road. Leave 200-foot long gaps in bollards at locations that need parking for home maintenance vehicles.
- » SLB 2.3 – Widen sidewalks along Ocean Drive. There are segments of sidewalk along the west side of Ocean Drive that are only about 3 feet wide. Widen sidewalks along the west side of Ocean Drive to a minimum of 5 feet wide and preferably 8 feet wide.



Example of a protected bike lane (Source: FNI)

SLB 3 – Establish bike lane continuity though the intersections along Shoreline Boulevard and Ocean Drive

Several intersections along the Shoreline/Ocean Drive corridor present challenges for bicycling and pedestrian conveyance and crossings. These intersections are proposed for treatments to improve non-motorized mobility and safety. Recently installed intersection improvements include the new Pedestrian Hybrid Beacon at Shoreline Boulevard at Del Mar. Additional proposed improvements include the following:

- » SLB 3.1 – Shoreline Boulevard at Furman Avenue as depicted in Exhibit 4-29 – A new traffic signal for interrupting continuous flow to accommodate bicycle and pedestrian connectivity at this junction of two-way separated bikeway to the north, buffered one-way bike lanes to the south and bike lanes with SUPs to the west along Furman Avenue.
- » SLB 3.2 – Shoreline Boulevard at Louisiana Avenue – Convert this complex directional intersection into a standard roundabout with pedestrian crossings and bike lane conveyance through the roundabout.
- » SLB 3.3 – Ocean Drive at Doddridge Street – Eliminate the southbound right turn lane and continue the buffered bike lane to the intersection.
- » SLB 3.4 – Ocean Drive at Robert Drive – Narrow the southbound through lanes to maintain a minimum 4-foot-wide bike lane up to the intersection.
- » SLB 3.5 – Ocean Drive at Airline Road - Narrow the southbound through lanes to maintain a minimum 4-foot-wide bike lane up to the intersection, positioned between the through lane and the right turn lane. Narrow the northbound lanes to maintain a minimum 4-foot-wide bike lane through the intersection.



Example of a protected bike lane (Source: FNI)

Exhibit 4-29: SLB 3 - Proposed Improvements on Shoreline Boulevard at Furman Avenue



SLB 4 – Agnes Street Rail-to-Trail Connector to Shoreline Boulevard

A direct connection between the Agnes Street Rail-to-Trail and the bicycle and pedestrian facilities and bayfront along Shoreline Boulevard would be provided through a series of connecting facilities, as shown in Exhibit 4-30 and listed here:

- » SLB 4.1 – Rail-to-Trail SUP from near Port Avenue to SH 286 Crosstown Expressway service roads crossing and using a remnant of the northbound service road to tie-in to Mussett Street
- » SLB 4.2 – SUP along one side of Mussett Street to Staples Street, chevron pavement markings
- » SLB 4.3 – Offset crossing of Staples Street at Musset/Blucher, enhanced bus stop and crossing
- » SLB 4.4 – Shared street along Bluchers Street to Carrizo Street, chevron pavement markings. Tie into Blucher Nature Park
- » SLB 4.5 – An SUP along edges of La Retama Central Library to Coopers Alley, enhanced crossing at Tancahua Street

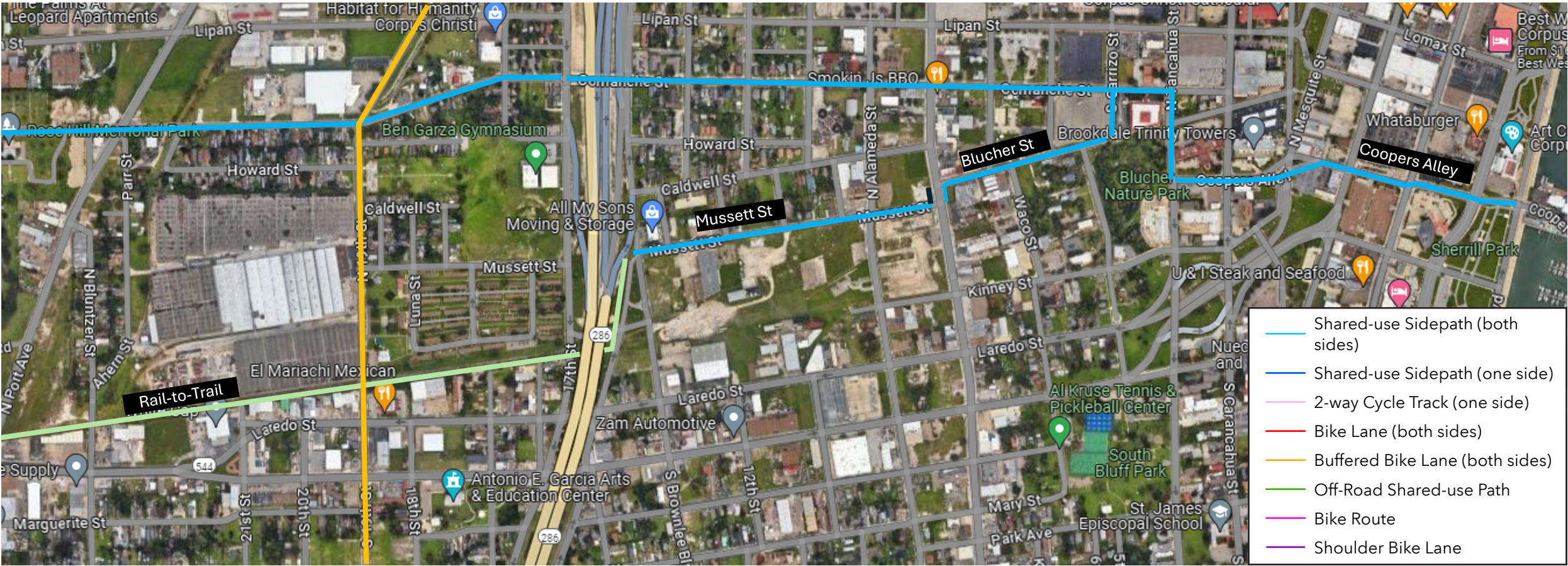
- » SLB 4.6 – Bike lanes along Coopers Alley from Blucher Nature Park to Mesquite Street (TX 544), enhanced crossing at Mesquite Street
- » SLB 4.7 – Bike lanes along Coopers Alley from Mesquite Street (TX 544) to Shoreline Boulevard

SLB 4.8 – Comanche Street

As part of the new Harbor Bridge project, Comanche Street has a new bridge across the Crosstown Expressway, provided with SUPs along both sides of the bridge. The bridge for Lipan Street across the Crosstown Expressway was removed and the ramping to and from the Crosstown is now via Comanche Street. Proposed improvements to Comanche Street include the following:

- » SLB 4.8.1 - SUP along both sides of Comanche Street from Crosstown Expressway to Carancahua Street.
- » SLB 4.8.2 - SUP along both sides of Comanche Street from Crosstown Expressway to Lipan Street

Exhibit 4-30: SLB 4 - East-West Connector between Agnes Road Rail-to-Trail and Shoreline Boulevard/Ocean Drive



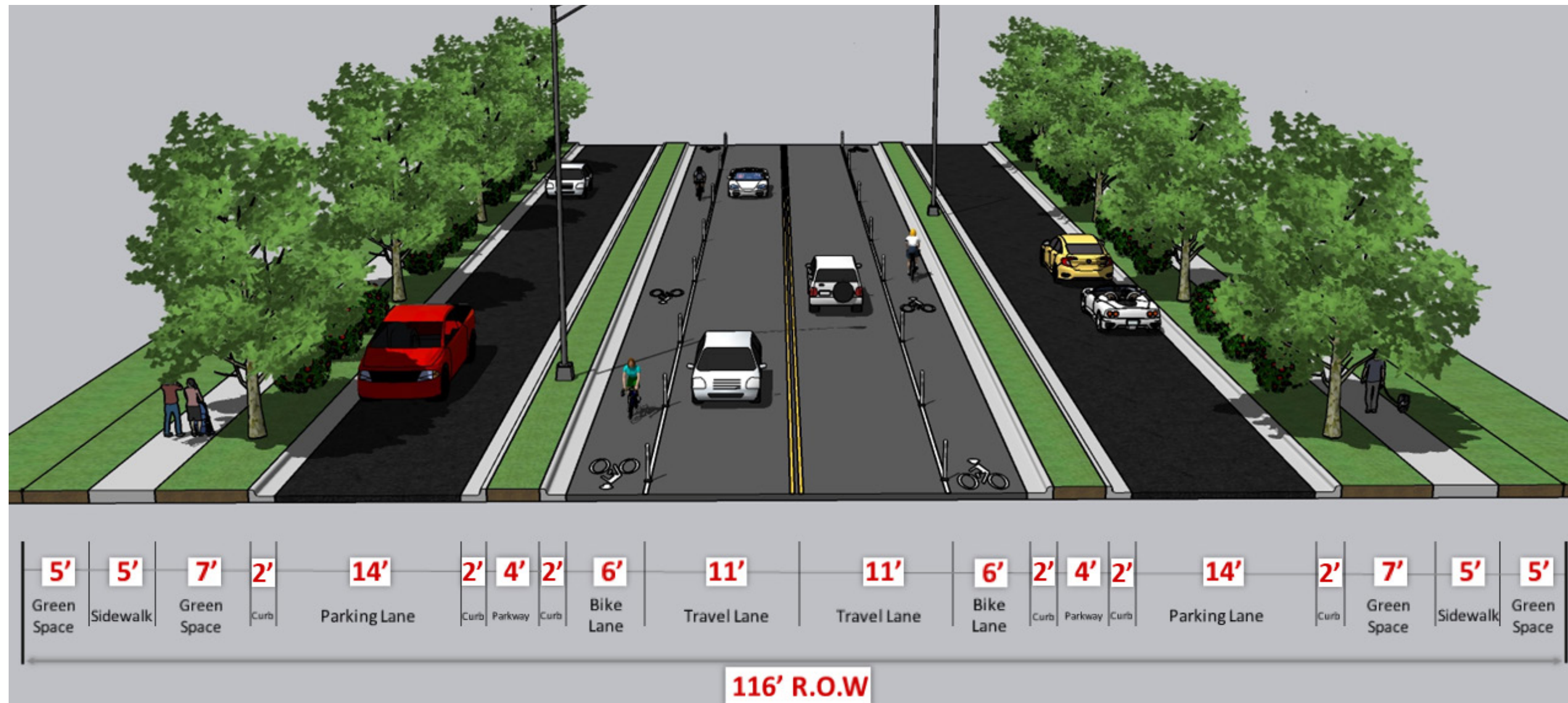
SLB 5 – Del Mar Boulevard Connection to Ocean Drive

Del Mar Boulevard extends westward from Ocean Drive on its eastern end to Staples Street on its western end. The street configuration is unique in that it is a wide 2-lane street with parallel one-way street segments in between cross streets that provide protected parallel parking for adjacent residents. The street provides sidewalks along the tree-lined parallel parking lanes. The wide 2-lane street segment tends to experience speeding and also sees parking along the curbsides during special events at Cole Park. A pedestrian hybrid beacon was recently installed on Ocean Drive at Del Mar Boulevard to facilitate bicycle and pedestrian crossing of Ocean Drive.

Additional proposed improvements include the following:

- » SLB 5.1 - Del Mar Boulevard is proposed to be strengthened as a multimodal, Complete Street with traffic calming treatments. The proposed enhancement to the typical section is shown in Exhibit 4-31. The treatment would add a 12-inch-wide bike lane stripe with bollards to reduce the through lanes to 11 feet and create a buffered 5-foot-wide bike lane in each direction.
- » SLB 5.2 – A roundabout controlled intersection would be installed at South Alameda Street for traffic calming in both directions and to facilitate pedestrian crossings.

Exhibit 4-31: *SLB 5 - Proposed Multimodal and Traffic Calming Treatment on Del Mar Boulevard*



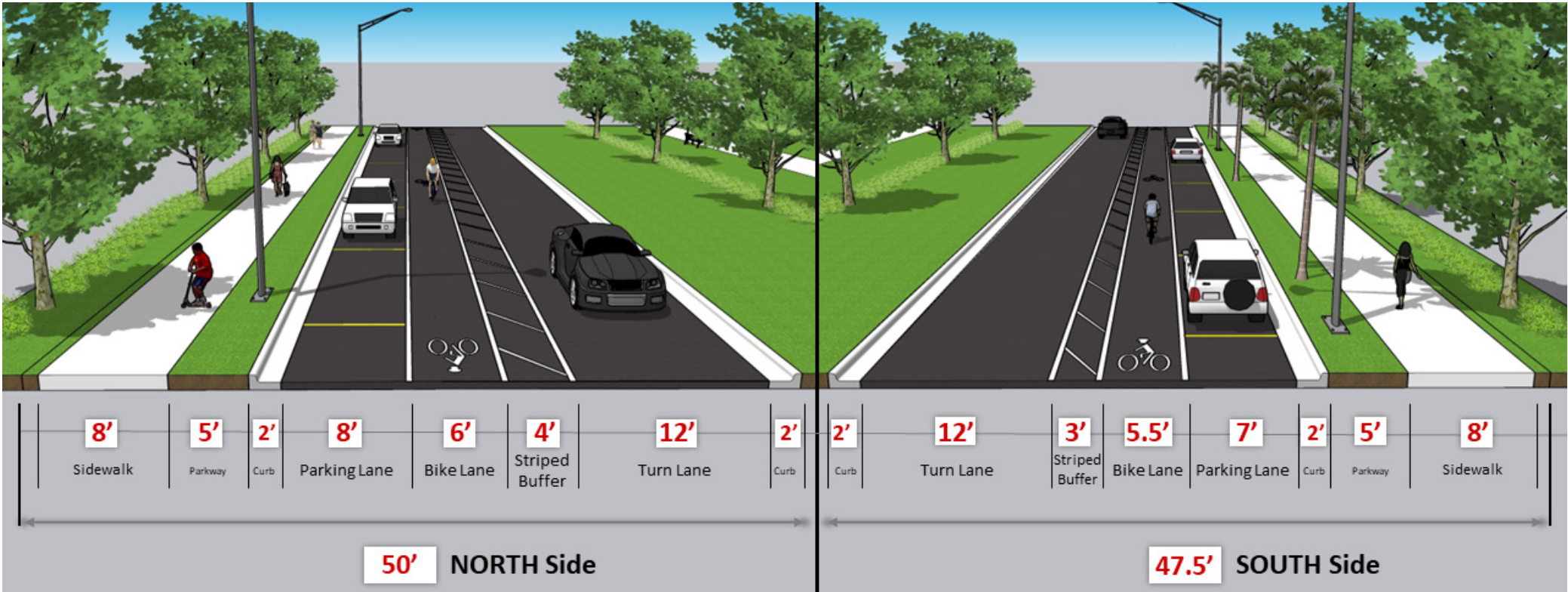
SLB 6 – Louisiana Avenue Connection to Ocean Drive

The existing 4-lane divided roadway with parking carries about 9,000 vehicles per day, total both directions, with a speed limit of 30 mph. A planned pavement overlay project by the City of Corpus Christi (programmed for 2026) provides the opportunity to restripe the pavement to introduce a buffered bike lane. Proposed improvements include the following:

- » SLB 6.1 – Reduce the two 11-foot-wide travel lanes (each way) to one 12-foot travel lane plus a buffered bike lane, retaining the existing parking
- » SLB 6.2 – Improve the existing sidewalks, enhancing as needed to a minimum width of 5 feet and preferably 8 feet.
- » SLB 6.3 – Hike and bike trail (SUP) within center median landscaped drainage area

Related: SLB 3.2 – Ocean Drive at Louisiana Avenue – Convert this complex directional intersection into a standard roundabout with pedestrian crossings and bike lane conveyance through the roundabout. Alternatively, reconfigure the signalized intersection to provide interruption of the northbound free flowing traffic to allow access to and from the shoulder bike lane and trail along the east side of Ocean Drive.

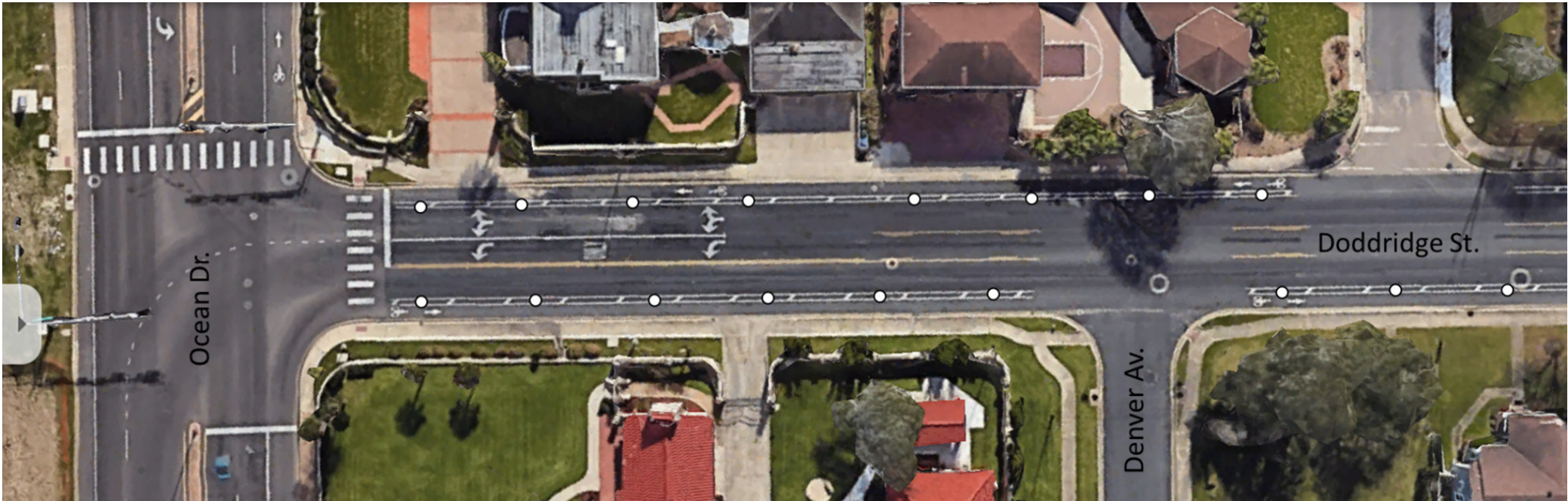
Exhibit 4-32: SLB 6 - Louisiana Avenue Connection to Ocean Drive



SLB 7 – Doddridge Street Buffered Bike Lanes to Protected Bike Lanes

Enhance the existing buffered bike lanes along Doddridge Street, between Alameda Road and Ocean Drive, by adding bollards in the buffer area, at approximately 40 feet on center, to create a protected bike lane and a better feeling of separation from moving traffic (see Exhibit 4-33). Leave up to 200-foot-long gaps between bollards at key locations such as side streets and driveways.

Exhibit 4-33: SLB 7 - Doddridge Street Buffered Bike Lanes Concept



Proposed Improvements to Alameda Street

When Alameda Street was reconstructed between the Staples/Ayers intersection and Louisiana Avenue, a road diet project was implemented to convert the former 4-lane roadway to two lanes with a center turn lane which also provided 10-foot-wide SUPs on both sides of the street between Cole Street, just south of the Staples/Ayers intersection and Southern Street, just north of Louisiana Street. The SUP was provided with green colored pavement to denote the bicyclist half of the SUP and was signed for one-way bicycling in the direction of the adjacent traffic flow.

The City of Corpus Christi is currently in design of the reconstruction of Alameda Street between Louisiana Avenue and Doddridge Street. The design is proposed to consist of a 5-lane roadway with a protected bike lane and sidewalks in each direction. The typical section is planned to continue to Airline Road.

SLB 8 – Modify the Alameda SUP Intersection Treatments

Bicyclists have complained about the transition of the bicycle half of the Alameda SUP ending in advance of the 5-foot-wide sidewalk ramp at the cross street intersections. Modify the SUP intersection treatments and provide a minimum 8-foot-wide ramp at the crosswalks to remove the bottleneck. Where the SUP shifts to be at the back of curb to avoid obstacles, flexible bollards would be installed to enhance the feeling of bicyclist protection from traffic in the adjacent lane.



Alameda Street with one-way cycle track in Corpus Christi. (Source: FNI)

Project SLB 9 - Alameda SUP, Louisiana Avenue to Airline Road

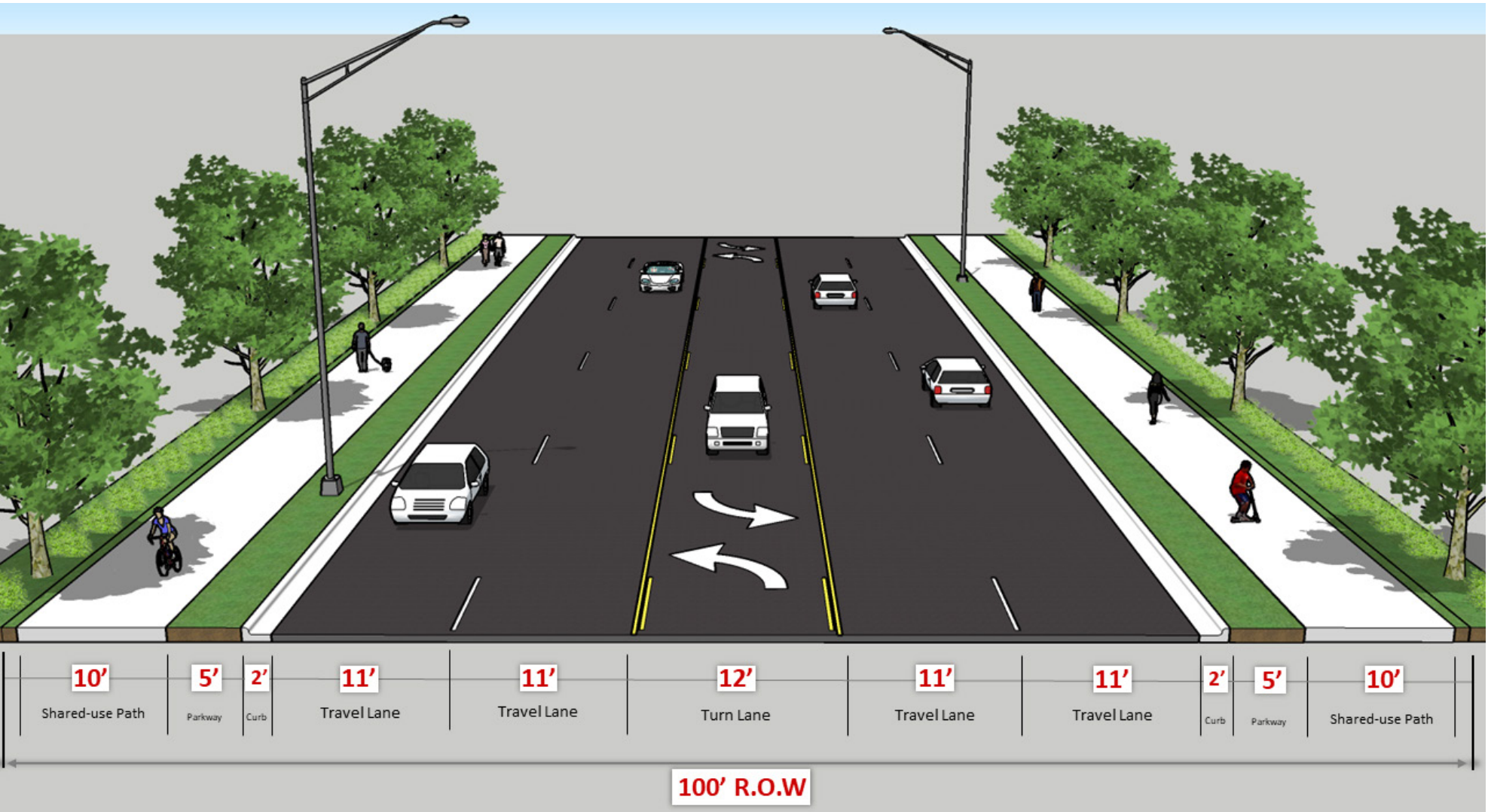
The street right-of-way along Alameda Street is 100 feet in width southeast of Louisiana Avenue compared to just 80 feet of right-of-way northwest of Louisiana Avenue. This right-of-way allows for enhanced bicycle and pedestrian accommodations while providing the needed 5-lane roadway. One concept for the treatment is shown on Exhibit 4-34. The improved roadway would consist of a 5-lane roadway with a protected bike lane and sidewalks in each direction. The separated bike lanes would transition to the SUP with green one-way bicycle segmentation at Louisiana Avenue.

- » SLB 9.1 - The City of Corpus Christi is currently in design of the reconstruction of Alameda Street between Louisiana Avenue and Doddridge Street and they chose to provide SUPs on both sides of Alameda Street in this segment
- » SLB 9.2 – The typical section would continue along Alameda Street between Doddridge Street and Airline Road
- » SLB 9.3 – Southeast of Airline Road to Ennis Joslin Road, the typical section would reduce to a 3-lane roadway with SUPs on both sides

Project SLB 10 – Local Street Bike Route Network Surrounding Alameda Street

Some bicyclists have indicated a preference for riding on lower volume, lower speed local streets in their residential area to get to nearby destinations. While bicyclists could use any local street to get to the bikeway network along the minor arterial network, one particular set of local streets makes up an extensive network of local and neighborhood collector streets that offer signalized crossings of the arterials. This network of local and collector streets is supplemented by trail connectors and street crossing safety enhancements to enlarge and interconnect the network of bike routes.

Exhibit 4-34: SLB 9 - Proposed SUPs on Alameda Street, Louisiana Avenue to Airline Road

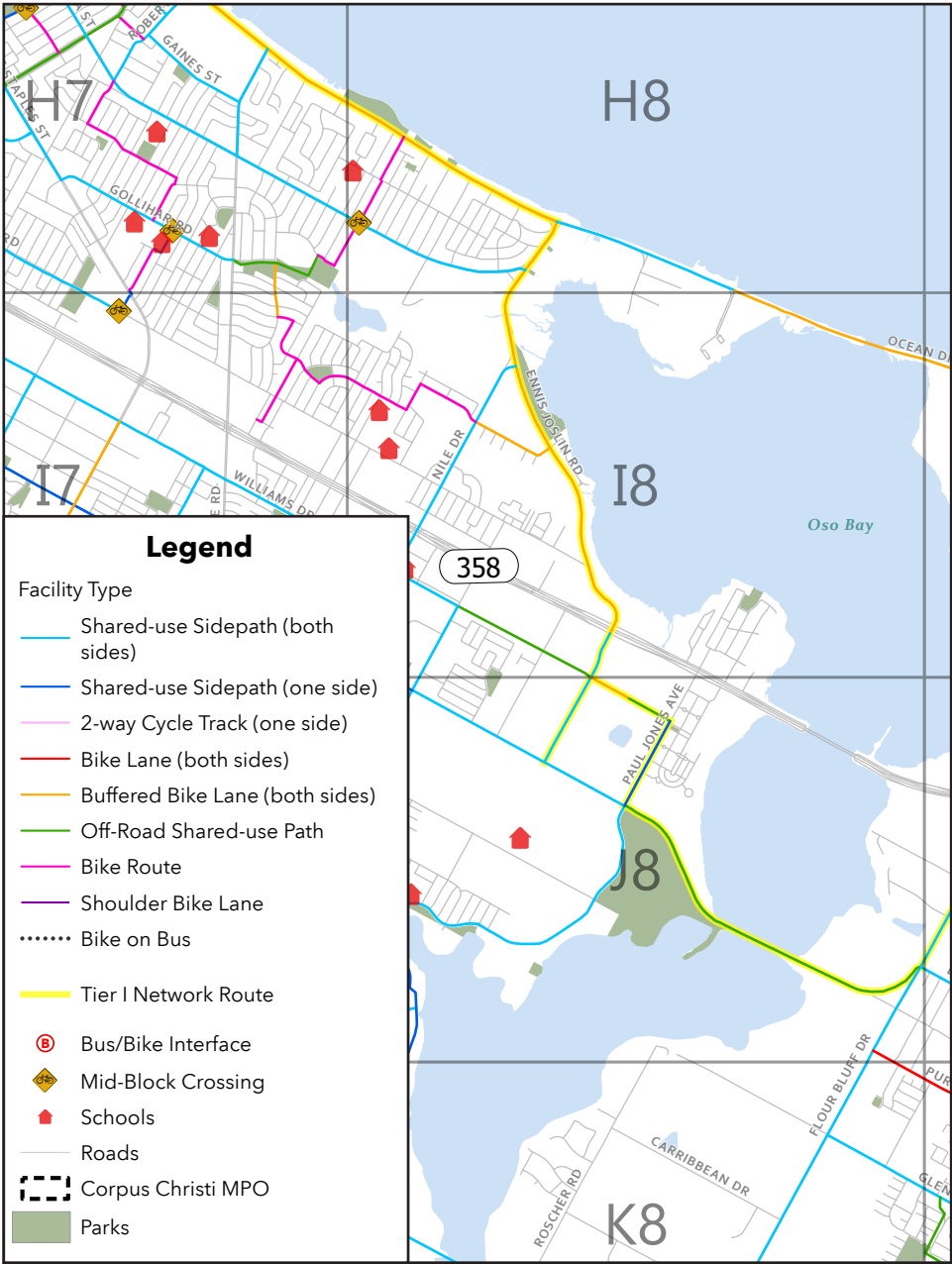


Ocean Drive/Ennis Joslin/Holly Bridge

Completing the Statewide Bicycle Touring network through Corpus Christi, the network would extend along Ocean Drive to Ennis Joslin Road, along Ennis Joslin Road between Ocean Drive and Holly Road, and then along the Holly Road Trail and the programmed Trestle Bridge to Flour Bluff Drive, ending at the RTA Bus Transfer location near Waldron Road at South Padre Island Drive (SPID).

Ennis Joslin Road north of SPID has a significant amount of multifamily residential development that caters to the housing needs of the TAMU-CC campus. This segment of roadway currently has an 8-foot SUP along the east side and sidewalks along the west side and a narrow (3-foot-wide) bike lane.

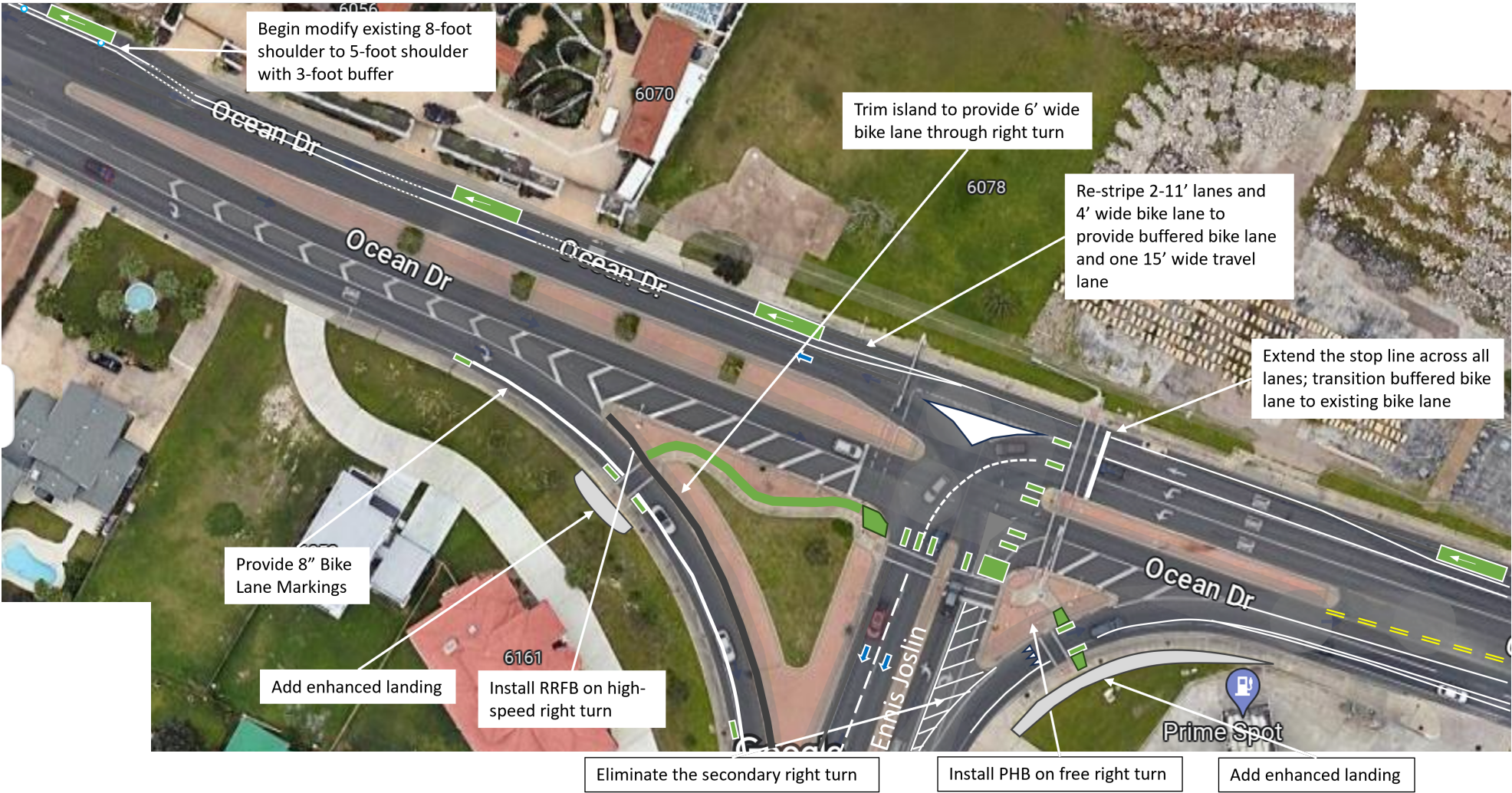
Exhibit 4-35: Ocean Drive/Ennis Joslin Road/Holly Bridge Functional Area



On Ocean Drive east of Ennis Joslin, narrow (3- to 4-foot wide) shoulder bike lanes are provided adjacent to travel lanes with a posted speed limit of 45 mph. An 8- to 10-foot-wide SUP is provided at the back of curb on the south side of Ocean Drive, from Ennis Joslin to the first driveway to the TAMU-CC campus at Island Boulevard, with a 1,500-foot-long, 8-foot-wide barrier separated segment at the crossing of a bay inlet that constrains two-way passage of bicyclists and pedestrians.

Ennis Joslin Road south of Williams Drive to Holly Road has 10-foot-wide SUPs on both sides, but only 4-foot-wide sidewalks on both sides between SPID and Williams Drive.

Exhibit 4-36: EJR 1 - Enhanced Channelization of Ocean Drive at Ennis Joslin Road



Proposed Improvements to Ocean Drive/Ennis Joslin/Holly Bridge

EJR 1 - Ocean Drive at Ennis Joslin Road

Enhance the connectivity of the proposed buffered bike lanes along Ocean Drive to the proposed enhanced bike lanes along Ennis Joslin Road:

- » EJR 1.1 An enhanced channelization of the intersection of the two roadways is proposed as illustrated in Exhibit 4-36.
- » EJR 1.2 Add RRFB or PHB at the ped/bike crosswalks across the two high-speed uninterrupted right turn lanes

EJR 2 - Conversion of Ennis Joslin Road to a High Quality Multimodal Corridor, Ocean Drive to SPID

Ennis Joslin Road is in a strategic location within the roadway grid to allow for enhanced accommodation of bicycle and pedestrian mobility while also providing for transit service and a moderate capacity and acceptable level of service for general traffic. Ennis Joslin Road is lined with apartment complexes, many of which focus on housing for students of Texas A&M University – Corpus Christi.

- » EJR 2.1. The proposed conversion concept for the roadway is to reallocate the outside lane to the provision of a buffered bike lane. The remaining one lane would be increased in width from its current 10 feet to 12 feet in width.
- The two southbound lanes extending from Ocean Drive would force off one lane to go onto Alameda Road, leaving one southbound through lane from Alameda Road to just before SPID
- At intersecting streets and driveways, the buffered bike lane striping would be dashed for a length of about 150 feet to allow right turning vehicles to move into the right lane to execute their turn
- At bus stops, the buffered bike lane striping would be dashed for a length of about 150 feet to allow buses to move out of the through lane into the curbside to service passengers

Exhibit 4-37: EJR 2 - Ennis Joslin Road at South Alameda Street



Exhibit 4-38: EJR 2 - Intersection Concepts on Ennis Joslin Road



EJR 3 - Ennis Joslin Road from SPID interchange to Williams Drive

The SPID interchange presents an opportunity to improve operations for motorized traffic as well as bicyclists and pedestrians traversing along Ennis Joslin Road.

- » EJR 3.1 Ennis Joslin Road north of SPID Interchange
 - The long right turn lane would be converted to a second general purpose lane with the existing narrow bike lane. To add the third lane, transition the two lanes with a buffered bike lane at the center median. At a distance of about 200 feet in advance of the SPID westbound service road, transition to two through lanes and one right turn lane that would be a shared lane with bicyclists, in which bicyclists would be allowed to proceed straight through the intersection. An enhanced sidewalk would allow less advanced bicyclists to not use the shared right turn lane to get through the intersection.
- » EJR 3.2 Ennis Joslin Road at SPID Interchange
 - Two lanes would be provided in each direction between service roads, providing for one dedicated left-turn lane and one through and left-turn lane in each direction
 - The southbound double left turn onto the eastbound service road of SPID would be channelized with lane markings into the leftmost two lanes of the service road to facilitate their entry to the on ramp to SPID. The service road U-turn would be converted from a free-flow to yield condition.
 - The eastbound service road would be channelized to provide one through and left turn lane and one through and right turn lane
- » EJR 3.3 Ennis Joslin Road south of SPID Interchange
 - 10-foot-wide SUPs would be installed on both sides of Ennis Joslin Road southward to tie to the existing SUPs that begin just south of Williams Drive, between SPID and Williams Drive
 - The traffic volumes on Ennis Joslin Road are currently well below the capacity of the existing 5-lane roadway. Just south of SPID, there is currently one southbound lane that operates adequately. The remaining southbound pavement would be restriped to provide one through vehicular lane and a buffered bike lane in each direction.
 - Northbound Ennis Joslin Road would also be restriped to provide one through lane and a buffered bike lane. At the approach to SPID, the pavement would be restriped to provide two through lanes and one right turn lane, with the buffered bike lane crossing the right turn lane to the right of the through lanes.

Exhibit 4-39: EJR 3.1 - Ennis Joslin Road North of SPID Interchange

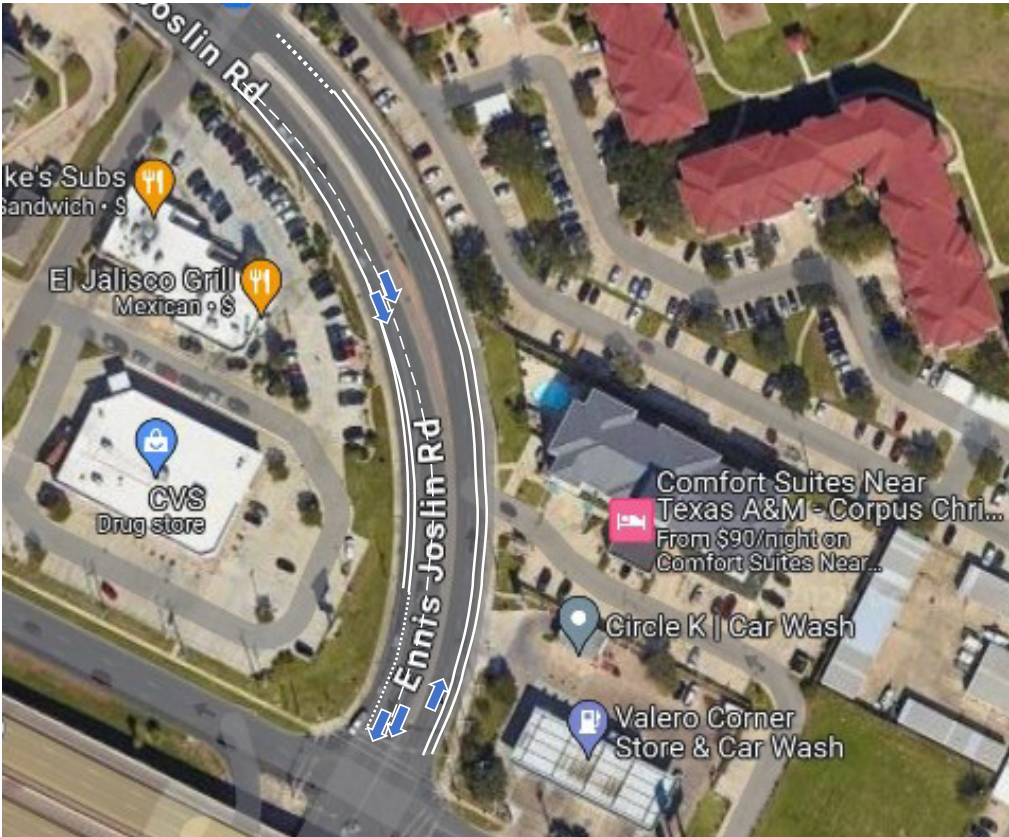


Exhibit 4-41: EJR 3.3 - Ennis Joslin Road South of SPID Interchange

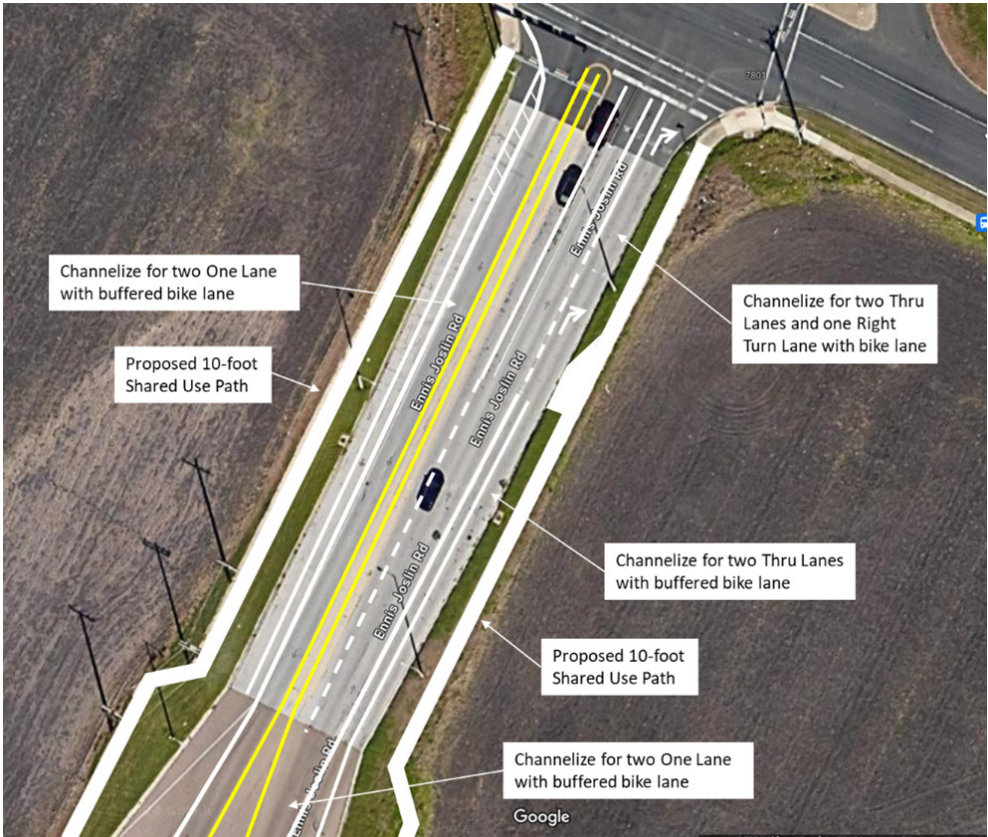


Exhibit 4-40: EJR 3.2 - Ennis Joslin Road at SPID Interchange



EJR 4 - Connection from Ennis Joslin Road to Holly Road Trail

An existing 10-foot-wide SUP is provided along both sides of Ennis Joslin Road south of Williams Drive to Holly Road. An existing 10-foot-wide SUP extends along the Paul Jones Drive frontage of the City’s softball complex and extends southward to Holly Road, with connection to the existing hike and bike trail east of Paul Jones Avenue. North Oso Parkway aligns with Paul Jones at Holly Road and has an 8-foot-wide SUP along its eastern edge, though a short connecting segment is needed. A 2024 Bond project would add sidewalks along Holly Road between Rodd Field Road and Paul Jones Road; the project would be amended to increase the sidewalks to SUP.

- » EJR 4.1 - Williams Drive Extension SUP/Trail
 - The City of Corpus Christi Thoroughfare Plan includes an extension of Williams Drive from Rodd Field Road to Ennis Joslin Road. A current City project is in design to extend Williams Drive east of Rodd Field Road to Lexington Road. In conjunction with or in advance of that extension, a 10-foot-wide SUP or trail would extend the SUP along both sides of Williams Drive west of Rodd Field Road to tie to the SUP along both sides of Ennis Joslin Road.
- » EJR 4.2 - Williams Drive Connection to Paul Jones Drive Trail
 - Bike lanes would be marked along Williams Drive east of Ennis Joslin Road. A connecting trail will be provided from the end of the existing Williams Drive pavement to connect to the 10-foot-wide SUP along Paul Jones Avenue.

EJR 5 - Holly Road Trail and Bridge

The existing 10-foot Hike and Bike trail through Holly Road Park provides access to a large nature area and park, with a terminus near the banks of Oso Bay at Osprey Outlook where the piers of a former railroad track still remain. The City of Corpus Christi recently was awarded funding to put a hike and bike trail deck atop the railroad trestle foundations, allowing the trail to extend from Paul Jones Road/ Oso Parkway to Flour Bluff Drive.

- » EJR 5.1. Railroad Trestle Connection to Flout Bluff Drive SUP
 - Some of all of the 10-foot-wide trail will be installed with the trestle bridge project. A traffic signal will be needed to connect to the SUP.

Exhibit 4-42: EJR 4 - Connection from Ennis Joslin Road to Holly Road Trail



Exhibit 4-43: EJR 5 - Connection from Ennis Joslin Road to Holly Road Trail



Flour Bluff

A 12-foot-wide SUP currently extends from Don Patricio Road to north of Graham Road. The RTA currently runs bus service from a sheltered stop on Waldron Road near Graham Road to a sheltered stop on Mustang Island, which currently serves to connect Flour Bluff and Mustang Island for pedestrians and bicyclists as a way to traverse the causeway bridge.

Proposed Improvements to Flour Bluff

FLB 1 – Graham Road SUP

A 10-foot-wide SUP would run along the north side of Graham Road and tie to the RTA bus stop on Waldron Road adjacent to Parker Park and a City Police Station. This roadway is included in the proposed Bond 2024 set of projects, but with sidewalks and not an SUP, so the bond project scope would need to be modified.

FLB 2 – Flour Bluff Drive, Yorktown Boulevard to Don Patricio Road, Graham Road to north of SPID

- » FLB 2.1 - A 10-foot-wide SUP would extend south from Don Patricio Road to Yorktown to complete the circuit of SUPs on either side of the Oso Bay.
- » FLB 2.2 - The existing SUP along Flour Bluff Road would be extended northward from its terminus north of Graham Road to north of SPID at Sunbird Street, widening existing sidewalks.

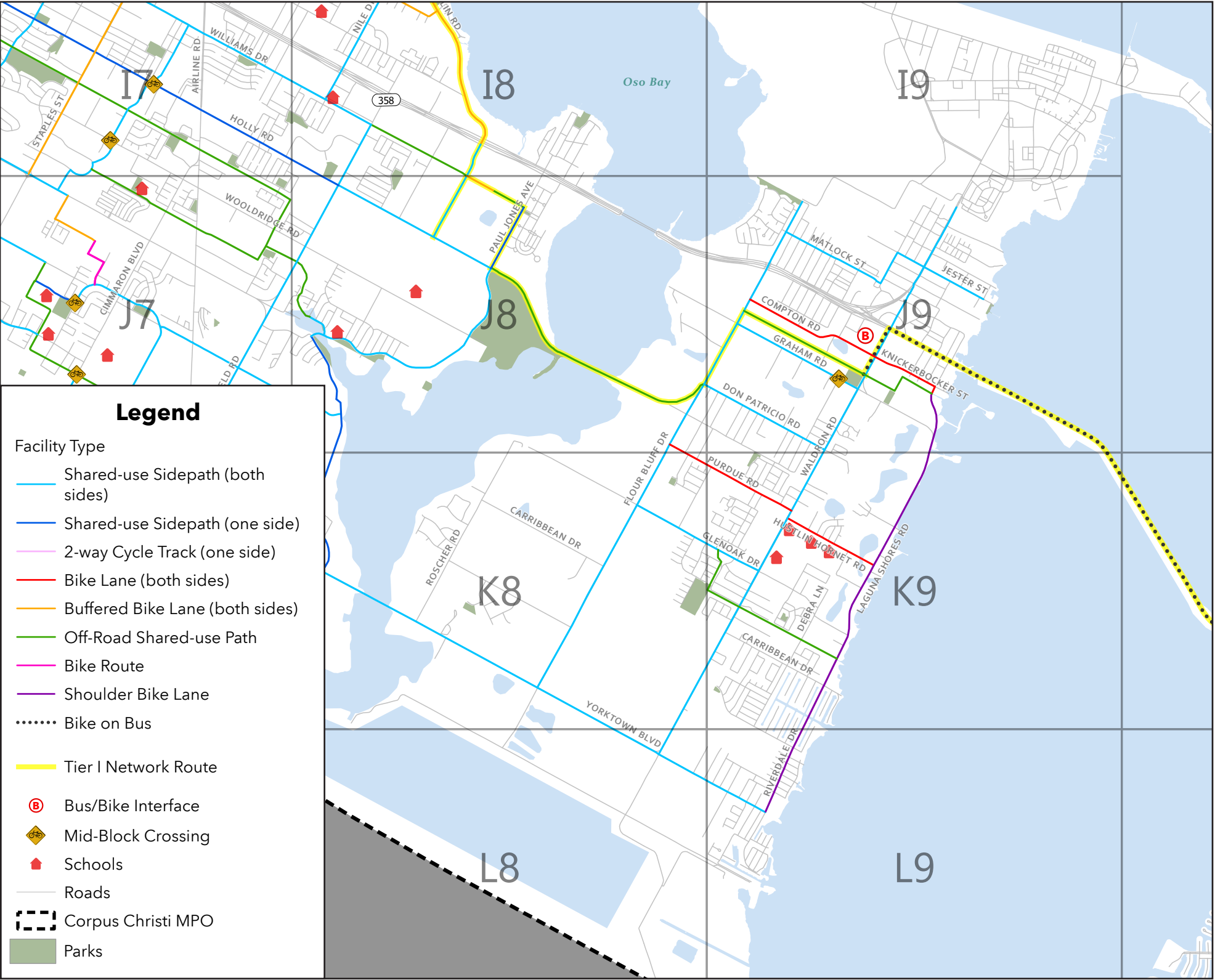
FLB 3 – Yorktown Boulevard SUP to Laguna Shores Road

The City of Corpus Christi is currently designing improvements to Yorktown Boulevard east of Rodd Field Road toward Flour Bluff, to include SUPs along one or both sides of the roadway. The 2024 Bond Program of projects includes the design of improvements to Yorktown Boulevard from the Oso Bay Bridge to Waldron Road to include sidewalks, which would need to be increased to SUPs. Extend the SUP along Yorktown Boulevard to a terminus at Laguna Shores Road.

FLB 4 – Waldron Road SUP, Yorktown Boulevard to NAS Drive

A 10-foot-wide SUP would run along both sides of Waldron Road and crossing under SPID to connect high school, park and residential destinations and tie to the SUPs within the NAS. In addition to the signalized intersections, controlled street crossings would be added strategically as needed to support access to and from the SUP.

Exhibit 4-44: Flour Bluff Functional Area



FLB 5 – Laguna Shores Road Shoulder Bikeway

The recently reconstructed Laguna Shores Road provides 3- to 4-foot-wide striped shoulders. While narrower than desired for use as a shoulder bike lane, the corridor is a scenic conveyance and serves to create the opportunities for loop routes in Flour Bluff for recreational bicycling. The existing roadway pavement has 12-foot-wide travel lanes which would be narrowed to 11-foot-wide by adding a second white edge line to denote the slightly buffered shoulder bike lanes. The 40 mph speed limit would be reduced to 30 mph.

FLB 6 – Knickerbocker Street/Compton Road Bike Lanes, Laguna Shores Road to Flour Bluff Drive

Existing striped parking lanes along Knickerbocker Street would be jointly utilized for bicycling between Laguna Shores Road and Waldron Road, the wide 2-lane Compton Road west of Waldron Road to 1st National Drive would have a bike lane striped and the narrow 2-lane roadway between 1st National Drive and Flour Bluff Drive would be widened to add a 4-foot-wide shoulder bike lane.

FLB 7 – Don Patricio Road SUP, Flour Bluff Drive to Waldron Road

A new 10-foot-wide SUP along the north side of Don Patricio Road would connect the proposed SUP along Waldron Road to the existing SUP along Flour Bluff Drive and the trail connector to the Holly Road Trestle Bridge.

Exhibit 4-45: FLB 10 - Glenoak Drive SUP Rendering from the Flour Bluff ADP



FLB 8 – Purdue Road Bike Lane, Flour Bluff Road to Waldron Road

Existing striped parking lanes along Purdue Road would be jointly utilized for bicycling between Flour Bluff Drive and Waldron Road.

FLB 9 – Hustlin’ Hornet Drive Bike Lanes

Existing striped parking lanes and striped shoulder along Hustlin’ Hornet Drive would be jointly utilized for bicycling between Waldron Road and Laguna Shores Road. The crossover between Hustlin’ Hornet Drive and Purdue Road bike lanes would utilize SUPs along both sides of Waldron Road.

FLB 10 – Glenoak Drive SUP, Flour Bluff Road to Waldron Road

A new 10-foot-wide SUP along the north side of Glenoak Drive would connect the proposed SUP along Waldron Road to the proposed SUP along Flour Bluff Drive. See Exhibit 4-45 for rendering of the Glenoak Drive from the Flour Bluff ADP.

FLB 11 - Trail along Ditch North of Graham Road

A new 10-foot trail would connect the existing 10-foot-wide SUP along Flour Bluff Drive to the proposed SUPs along Waldron Road. At Waldron Road, the ditch would be adjacent to Parker Park, a Police Station and an CCRTA bus stop.

FLB 12 - JFK Causeway Crossing via Bike-on-Bus

The CCRTA Route #4 carries bicyclists and pedestrians between Flour Bluff Road and Padre/Mustang Island. This would be the interim connection until the JFK Bridge can be enhanced to add a SUP along its edge.

Bike on Bus Connection between Flour Bluff and Padre/ Mustang Island

There are no bicycle or pedestrian accommodations on the JFK Causeway, which is currently the only way to get between the Flour Bluff area and Padre/Mustang Island. To create a connection for the Active Transportation Network across the JFK Causeway, a bike-on-bus accommodation is designated using the existing Route #65 bus service provided by the CCRTA. RTA buses are equipped with front-mounted bike carriers that can hold two bicycles. The Flour Bluff Transfer Point is on the north side of Compton Road west of Waldron Road.

Exhibit 4-46: Bicycle Network Connection to CCRTA Transfer Point in Flour Bluff



- Shared-use Sidepath (both sides)
- Shared-use Sidepath (one side)
- 2-way Cycle Track (one side)
- Bike Lane (both sides)
- Buffered Bike Lane (both sides)
- Off-Road Shared-use Path
- Bike Route
- Shoulder Bike Lane
- Bus/Bike Interface

Padre/Mustang Island

The City of Corpus Christi is developing a plan for bicycle and pedestrian facilities on Padre/Mustang Island. The current version of the plan for facilities is depicted in Exhibit 4-47. One existing 3,000 LF of buffered bike lane is provided along Commodores Drive just west of Park Road 22, between Aquarius Street and Compass Street. The RTA bus stop that serves the route between Mustang Island and Flour Bluff is located on Compass Street just south of Commodores Drive.

Existing bike lanes are striped along the length of Encantada Avenue west of Park Road 22 (PR 22) and along Padre Balli Park Road east of PR 22, though no safe crossing of PR 22 is provided to connect the two segments. Bike lanes are also striped on Sea Pines Drive west of PR 22 and on most of Whitecap Boulevard west of PR 22. TxDOT recently reconstructed the bridge on Park Road 22 over the inlet, about midway between Commodores and Whitecap, that left space for a trail undercrossing between the two sides of PR 22. Significant elements of the proposed network include the following.

Proposed Improvements to Padre/Mustang Island

PMI 1 – Park Road 22 SUP

A 10-foot-wide SUP/hike and bike trail would be added to the PR 22 corridor, from Verdmar Drive to Sea Pines Drive/Access Road 6. The trail would be positioned at least 10 feet off the edge of the pavement along the high speed roadway. The trail would include an undercrossing of PR 22 at the bay inlet.

PMI 2 – Whitecap Boulevard SUP

A 10-foot-wide SUP along the length of one or both sides of Whitecap Boulevard on both sides of PR 22 is proposed.

- » PMI 2.1 Whitecap Boulevard SUP west of PR 22 – The SUP would widen the existing 4-foot-wide sidewalk, where provided, to supplement or perhaps replace the existing bike lanes.
- » PMI 2.2 Whitecap Boulevard SUP east of PR 22 – The existing 8-foot-wide brick paver SUP would be enhanced as needed. The intersection at Whitecap Boulevard at Windward Drive would be enhanced to provide better crossing provisions for pedestrians and bicyclists, potentially considering a roundabout for traffic control of the intersection.

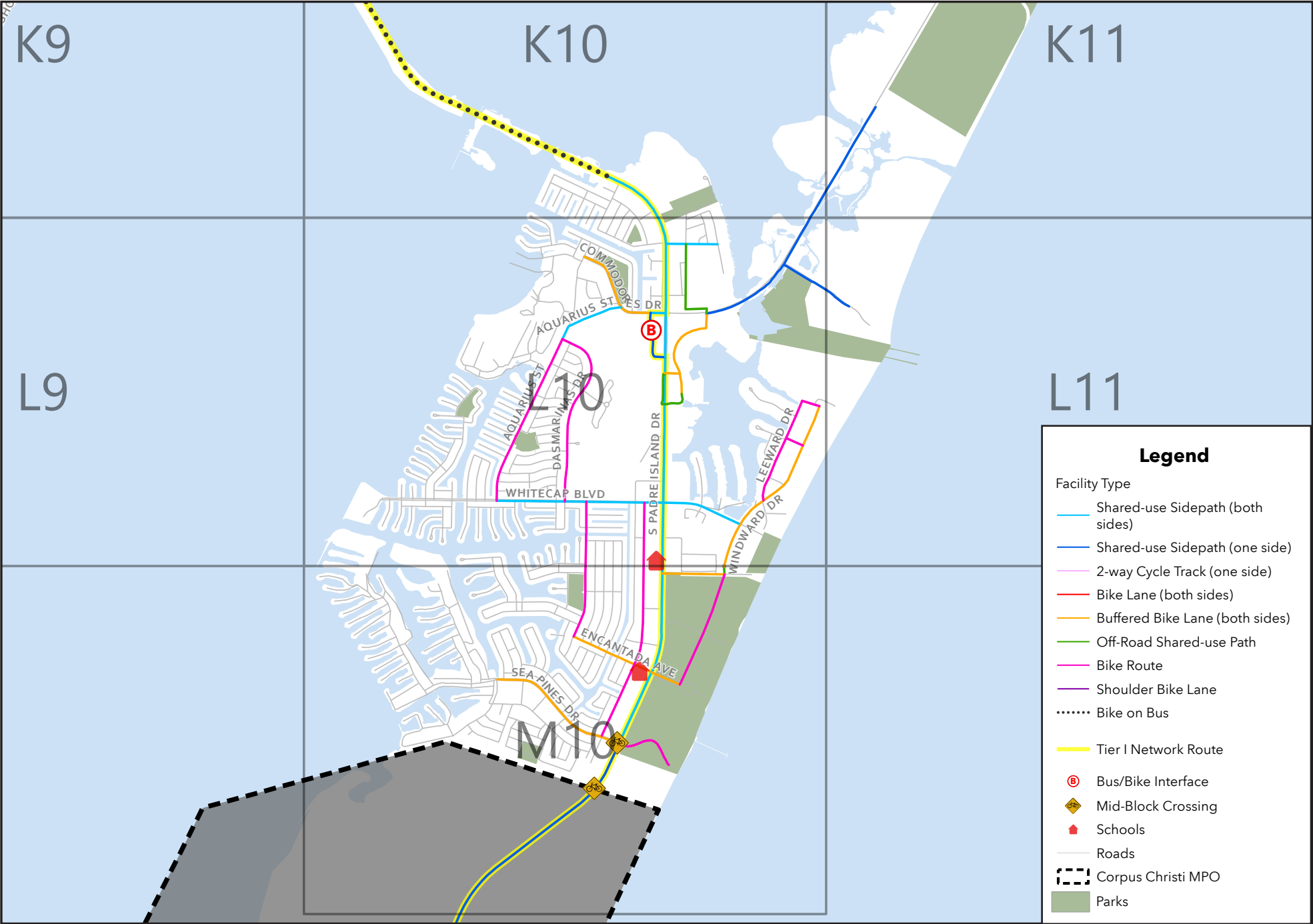
PMI 3 – Sea Pines Drive/Access Road 6

- » PMI 3.1 – The existing bike lanes along Sea Pines Drive would be enhanced to be buffered bike lanes by a lane diet or road diet of the 4-lane divided Sea Pines Drive.
- » PMI 3.2 – Bike lanes along Access Road 6 would be provided by widening the narrow 2-lane roadway.

PMI 4 - Elliff Road and Windward/Leeward Drives

A 2-mile-long north-south bikeway east of PR 22 would be created by designating Elliff Road as a bike route, providing a connecting SUP to Windward Drive, enhancing the existing bike lanes along Windward Drive to add buffer space between the bike lanes and travel lanes, and designating shared parking and bike lanes in both directions along Leeward Drive.

Exhibit 4-47: Padre/Mustang Island Functional Area



Midtown

This area of Corpus Christi north of SPID and east of the Crosstown Highway comprises fully developed residential neighborhoods with sidewalks on both sides of streets, as well as established local businesses and some areas in transition. Within the last several years, street improvement projects have incorporated SUPs along one or both sides of several collector and minor arterial roadways including:

- » Gollihar Road between Staples Street and Kostoryz Road (10-foot-wide with 5 feet of green colored concrete to denote bicycle passage portion of SUP).
- » Carroll Lane between McArdle Road and Houston Street just south of Brawner Parkway (10-foot-wide with 5 feet of green colored concrete to denote bicycle passage portion of SUP).

Exhibit 4-48: Midtown - East Functional Area



Proposed Improvements to Midtown - East

MDT 1 - Brawner Parkway

The existing two-way pair of roadways carries a total of about 9,000 vehicles per day, total both directions, with a posted speed limit of 30 mph. The pair of roadways runs parallel to each side of a large drainage channel for a distance of over 2 miles through a fully developed residential area of mostly single-family homes. Each roadway provides a narrow travel lane (9 to 10 feet) in each direction next to a 6-foot-wide parking lane.

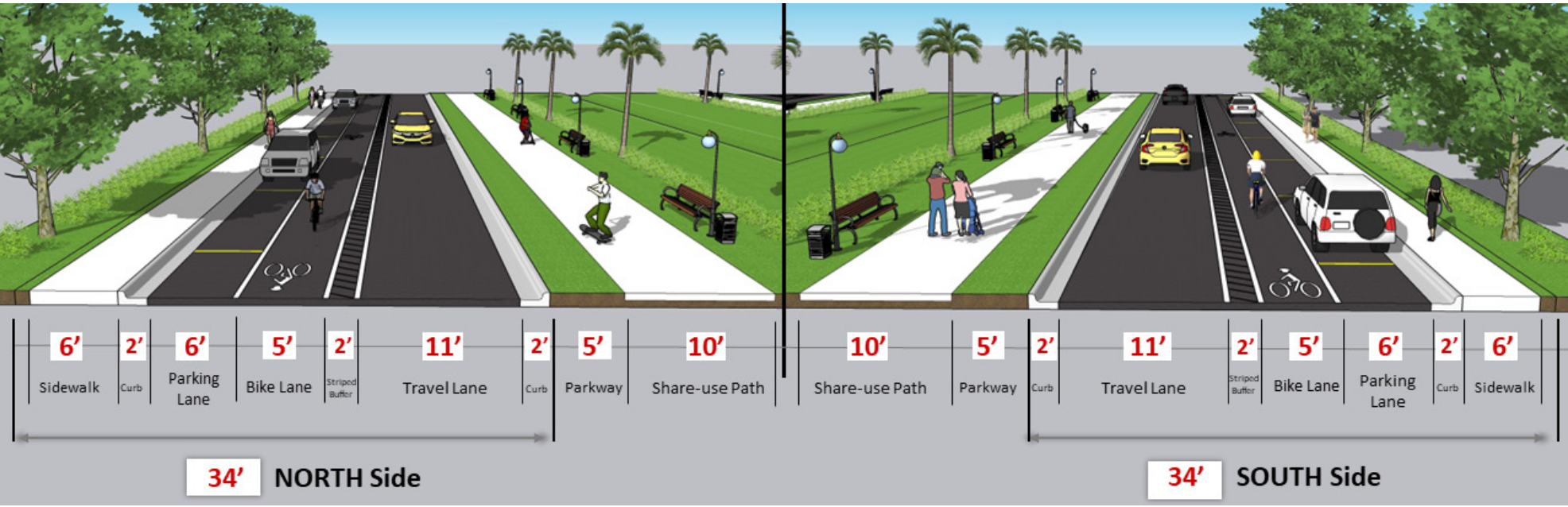
A 2,500-foot-long section of SUP/hike and bike trail has been installed along the north side top bank of the drainage ditch between Kostoryz Road and Carrol Lane and is popularly used. Segments of Brawner Parkway are programmed for pavement improvements while the entire length of the roadway could use an overlay.

- » MDT 1.1 - Convert Brawner Parkway from a pair of two-way streets to a one-way couplet of streets on either side of the drainage ditch. Assess local circulation needs for additional crossover streets between the two sides of the drainage channel.
- » MDT 1.2 - Right size the one-way couplet to provide one travel lane (each side) and a buffered bike lane with curbside parking.
- » MDT 1.3 - Provide SUPs within center landscaped drainage area, along both sides if feasible.
- » MDT 1.4 - Improve the intersection of Brawner Parkway at South Staples Street
 - Converting Brawner Parkway to a pair of one-way streets will reduce the number of conflict points at the intersection at Staples Street. The simplified intersection will then facilitate the traffic control of the intersection with a traffic signal.

Exhibit 4-50: MDT 1.4 - Intersection Concept of Brawner Parkway at South Staples Street



Exhibit 4-49: Concept for Complete Street along Brawner Parkway Including Conversion to a One-Way Couplet



MDT 2 – Carmel Parkway

Similar to Brawner Parkway, the existing two-way pair of roadways comprising Carmel Parkway carries a total of about 5,000 vehicles per day, total both directions, with a posted speed limit of 30 mph. The pair of roadways runs parallel to each side of a large drainage channel for a distance of one-half mile, between Staples Street and Alameda Street, through a fully developed residential area of mostly single-family homes and some multifamily and with commercial development at the two arterial intersections. Each roadway provides a narrow travel lane (9 to 10 feet) in each direction next to a 6-foot-wide parking lane. Segments of Carmel Parkway are programmed for pavement improvements while the entire length of the roadway could use an overlay. The signalized intersection at Staples Street is made complex by the pair of two-way streets of Brawner Parkway.

- » MDT 2.1 - Convert Carmel Parkway from a pair of two-way streets to a one-way couplet of streets on either side of the drainage ditch. Assess local circulation needs for additional crossover streets between the two sides of the drainage channel at San Fernando Place.
- » MDT 2.2 - Right size the one-way couplet to provide one travel lane (each side) and a buffered bike lane with curbside parking, improve sidewalks as needed
- » MDT 2.3 - Provide SUPs within center landscaped drainage area, along both sides if feasible.
- » MDT 2.4 – Realign westbound Carmel Parkway to come to a single point at the intersection with Staples Street.
- » MDT 2.4 – Realign with eastbound Carmel Parkway to come to a single point at the intersection with Alameda Street and add traffic control at the intersection and a turnaround.

MDT 3 - Carroll Lane Bikeway

A 10-foot-wide SUP is provided along both sides of Carroll Lane between McArdle Road and Houston Street just south of Brawner Parkway (10-foot-wide with 5 feet of green colored concrete to denote bicycle passage portion of SUP). Expansion of the SUP provisions along Carroll Lane would create a multimodal corridor connecting residential, school, park and commercial destinations using one of the less intense crossings of SPID.

- » MDT 3.1 – Extend the SUP along both sides of Carroll Lane from Houston Street to Brawner Parkway.
- » MDT 3.2 – Extend the SUP along both sides of Carroll Lane from Brawner Parkway to Staples Street, tie to the 8-foot SUP on the west side of Staples Street. Designate Dabney Street as a bike route between Staples Street and Fort Worth Street.

- » MDT 3.3 – Extend the SUP along both sides of Carroll Lane from McArdle Street to and through the SPID underpass. There are houses that front onto Carroll Lane between McArdle and SPID that have their own driveways and will likely be sensitive to converting the parking lane to provide the needed width for the SUP on both sides of Carroll Lane.
- » MDT 3.4 – Add 10-foot-wide SUP along both sides of Carroll Lane from SPID to Tiger Lane.
- » MDT 3.5 – Add 10-foot-wide SUP along both sides of Carroll Lane from Tiger Lane to Holly Road, connecting to the trail along Carroll Ditch that leads to Mary Carroll High School.

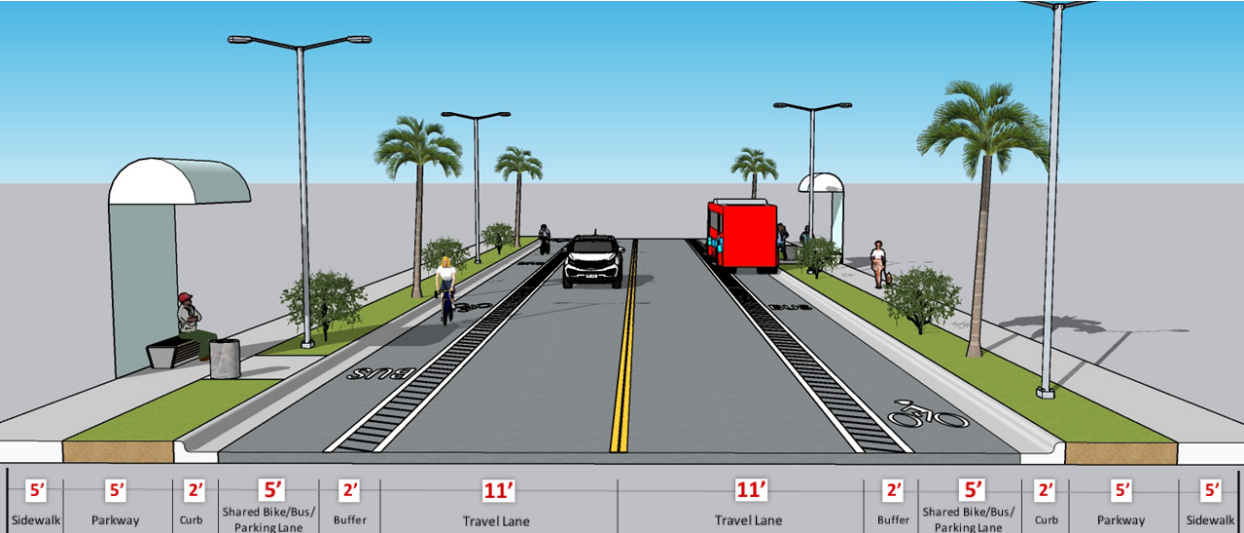
MDT 4 - Brownlee Boulevard

Brownlee Boulevard, from Louisiana Avenue to Mussett Street is a 2-lane and at times a 4-lane roadway with signalized crossings of Staples Street, Ayers Street, Morgan Avenue and Agnes Street. Brownlee Boulevard carries about 5,0000 vehicles per day with a posted speed limit of 30 mph and accommodates a bus route. At its northern terminus, Brownlee Boulevard connects to the Agnes Road Rail-to-Trail project (see SLB 4 – Agnes Street Rail-to-Trail Connector to Shoreline Boulevard on page 4-21).

The concept for this treatment would be to add bike lanes on the 2-lane street segments, and on the 4-lane segments, between Staples Street and Laredo Street, to convert the four 10-foot-wide lanes to two 12-foot-wide lanes and an 8-foot-wide buffered bike lane (5-foot-wide bike lane with 3-foot-wide striped buffer). The RTA buses servicing the corridor would drive in the 12-foot-wide travel lane with other motorized traffic until needing to serve passengers at the bus stop. Buses would move in and out of the buffered bike lane as needed for prevailing traffic conditions, yielding to bicyclists in the buffered bike lane.

Notably, parking was observed in the outside 10-foot-wide travel lane of the 4-lane segments. Conversion to the buffered bike lane would enhance the safety for conveyance of traffic along Brownlee Boulevard and pose a minor inconvenience for bicyclists to leave the bike lane to pass the parked car.

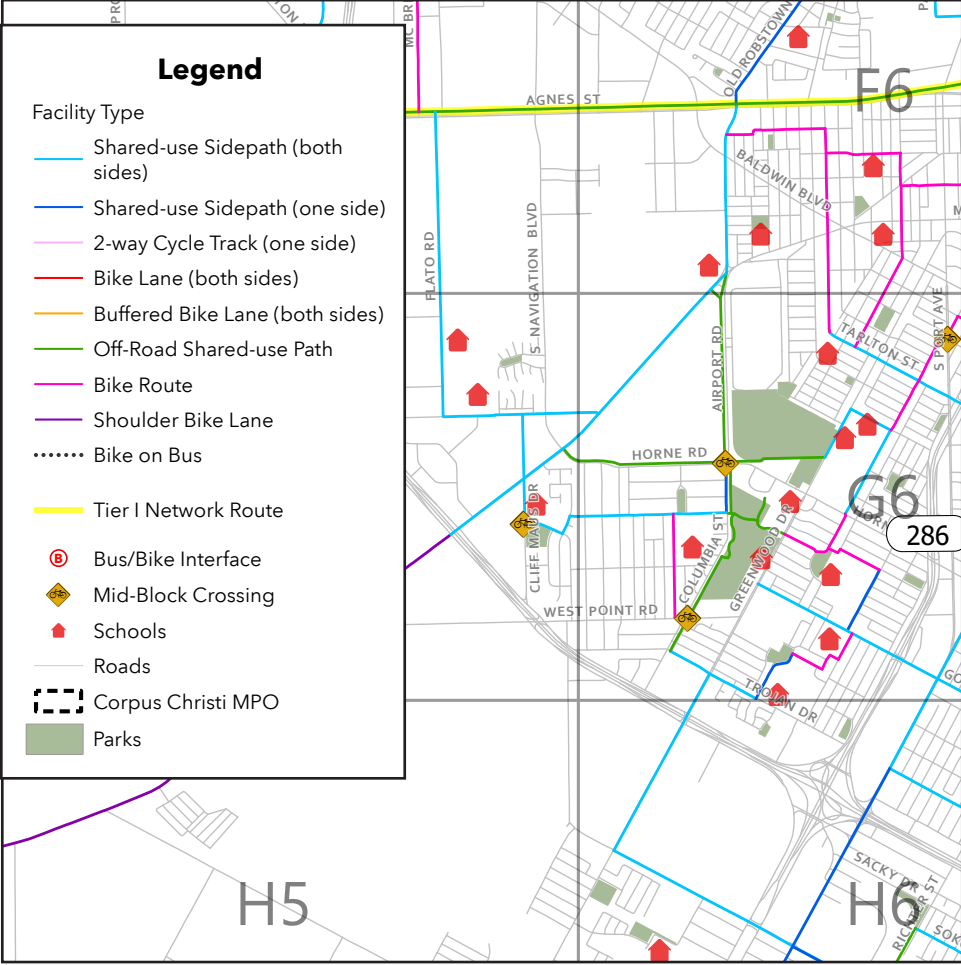
Exhibit 4-51: Brownlee Boulevard Conversion from Four Lanes to Two Lanes with Buffered Bike Lanes



Proposed Improvements to Midtown - West

This area of Corpus Christi north of SPID and west of the Crosstown Highway comprises fully developed residential neighborhoods with sidewalks on both sides of streets, as well as local businesses and some areas in transition.

Exhibit 4-52: Midtown - West Functional Area



Southside

The southern area of Corpus Christi, south of SPID and east of Crosstown Highway is a sector that has seen relatively high growth in residential and commercial development over the last two decades compared to the rest of the City. This area has been developed with an extensive system of drainage ditches, which were proposed for an extensive trail network along the edges of the ditch right-of-way in the previous MPO Plan. Several segments of the system have already been developed, including:

- » Schanen Hike and Bike Trail, from Yorktown Boulevard to Killarmet Drive
- » Carroll Trail, from Carroll Lane at Holly Road to Kostoryz near the new Mary Carroll HS
- » Ditch side trail from Slough Road to Rodd Field Road SUP and continuing (with a 1,300 LF gap) westward to just west of Morteza Drive to a bridge crossing over the ditch and connection to Yorktown Boulevard across from Bill Witt City Park. A project in the proposed 2024 Bond Program would complete the gap in the trail at Rodd Field Road and enhance the crossings of Rodd Field Road and Yorktown Boulevard.

A 10-foot-wide SUP is provided along both sides of Williams Drive/Corona Drive between Rodd Field Road and Flynn Parkway, a length of about 3.5 miles.

Proposed Improvements to Southside

SSD 1 – Expansion of the Schanen Hike and Bike Trail beyond Killarmet Drive

A trail network of over 5 miles extending to Oso Bay, with ditch extension northward to a crossing of Holly Road and connection to the SUP along Tiger Lane/Corona Drive/Williams Drive.

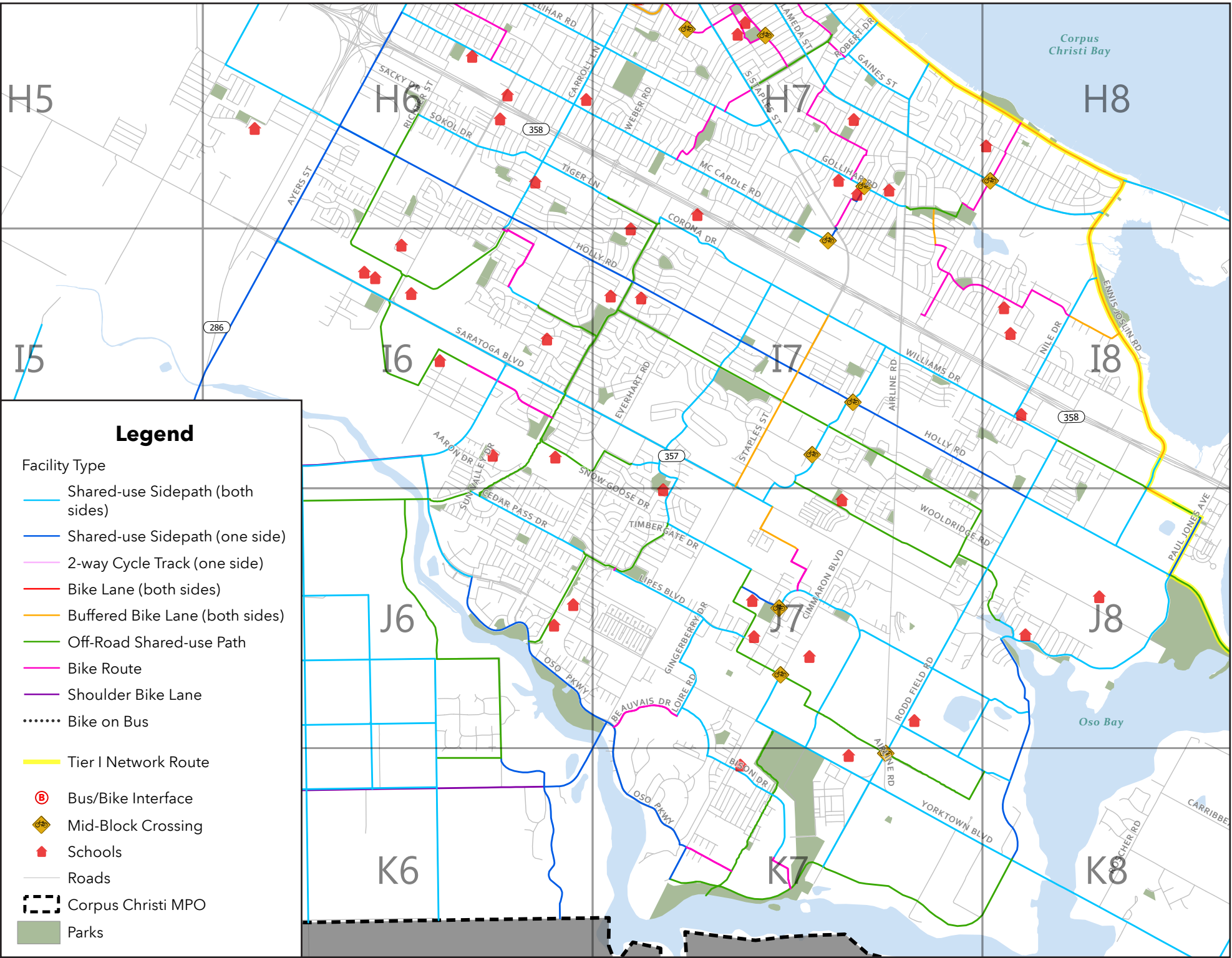
SSD 2 – Expansion of the (ditch) trail from Morteza Drive to Timbergate Drive

Extending from the current connection to Billy Witt Park, continue the hike and bike trail westward to a terminus at Timbergate Drive.

SSD 3 – Timbergate Drive Bike Lane/Parking Lane

Connecting between the two major hike and bike tails ending at Spanish Wood Drive and Hunt Drive, the existing parking lane would be co-designated as a shared use bike lane.

Exhibit 4-53: Southside Functional Area



East-West Connection/Texas Bicycle Network

Many bicyclists in Corpus Christi enjoy long rides on roadways with stretches of uninterrupted riding, often riding 20 miles or more on an outing. Local bicycle groups have indicated that Upriver Road is a route that they ride often due to its uninterrupted flow, relatively low volume and 35 mph speed limit, despite the roadway being industrial in nature and having less than 3 feet of shoulder. Leopard Road (SH 407) is a 5-lane roadway that has a 3- to 6-foot-wide shoulder and 35 mph speed limit along the majority of its length from west of Callicoatte Road to Upriver Road.

The Texas Bicycle Tourism Study has proposed an example statewide network of bicycle touring routes, building upon a collection of localized plans. The example network indicates statewide connectivity to enter the Corpus Christi MPO area using shoulder bikeways along SH 44 from a nexus in Robstown. SH 44 from Robstown is mostly a limited access highway with service roads that have 6- to 8-foot-wide shoulders. There are several enhancements that are needed to add to the safety and attractiveness of these routes.

Proposed Improvements to East-West Connection/Texas Bicycle Network

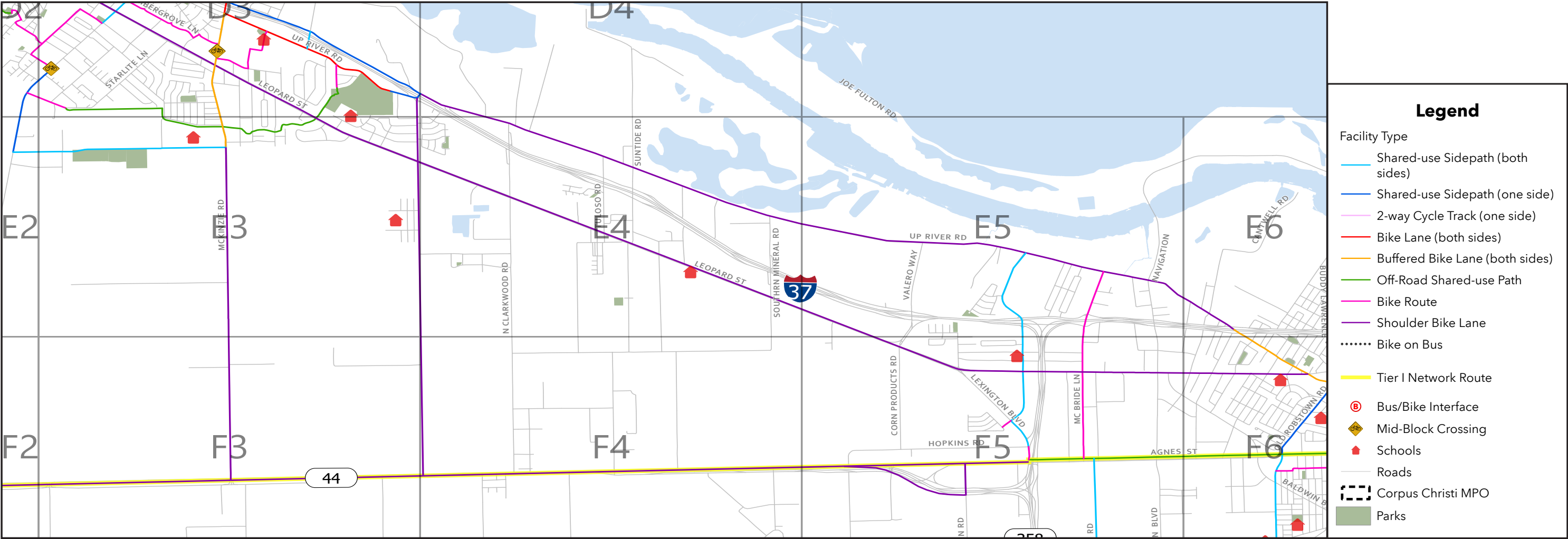
EWC 1 – Transition between SH 44 Service Roads and Agnes Street Rail to Trail

Between Corpus Christi Airport and SH 358, SH 44 has a transition to the Agnes Street alignment. Eastbound bicyclists on SH 44 Service Road should continue to Heinsohn Road and turn left onto Heinsohn Road. Westbound bicyclists on Agnes Street can continue straight directly onto the SH 44 westbound Service Road shoulder lanes.

- » EWC 1.1 – Heinsohn Road Bike Lane
 - Heinsohn Road is only a 2-lane two-way 28-foot-wide curbed roadway crossing under the SH 44 freeway. But there is a large paved median between Heinsohn Road and the westbound to eastbound U-turn lane that, with the addition of a ramp at each end, could serve as a raised one-way cycle track for eastbound bicyclists to go northbound on Heinsohn Road toward Agnes Street.

- » EWC 1.2 - Heinsohn Road Bike Route
 - The 1,000 LF of Heinsohn Road between the SH 44 westbound service road and Agnes Street is a 20-foot-wide 2-lane two-way roadway. It appears to have low volumes, so could serve as a northbound bike route for the touring bicyclists.
- » EWC 1.3 – Agnes Street at SH 358 Transition to SUP along North Side of Agnes Street
 - The westbound and eastbound shoulder lanes on Agnes Street west of SH 358 end at the southbound service road of SH 358. Ramps onto the paved areas alongside both sides of Agnes Street between the SH 538 Service Roads would need to be provided so that bicyclists could utilize that area as a one-way cycle track. Some repairs to the roadside paved area would be needed for rideability. Eastbound bicyclists would need to cross Agnes Street at the SH 538 northbound Service Road to access the SUP along the north side of Agnes Street.

Exhibit 4-54: East-West Connection/Texas Bicycle Network Functional Area



EWC 2 – Agnes Street Rail to Trail/Rail with Trail

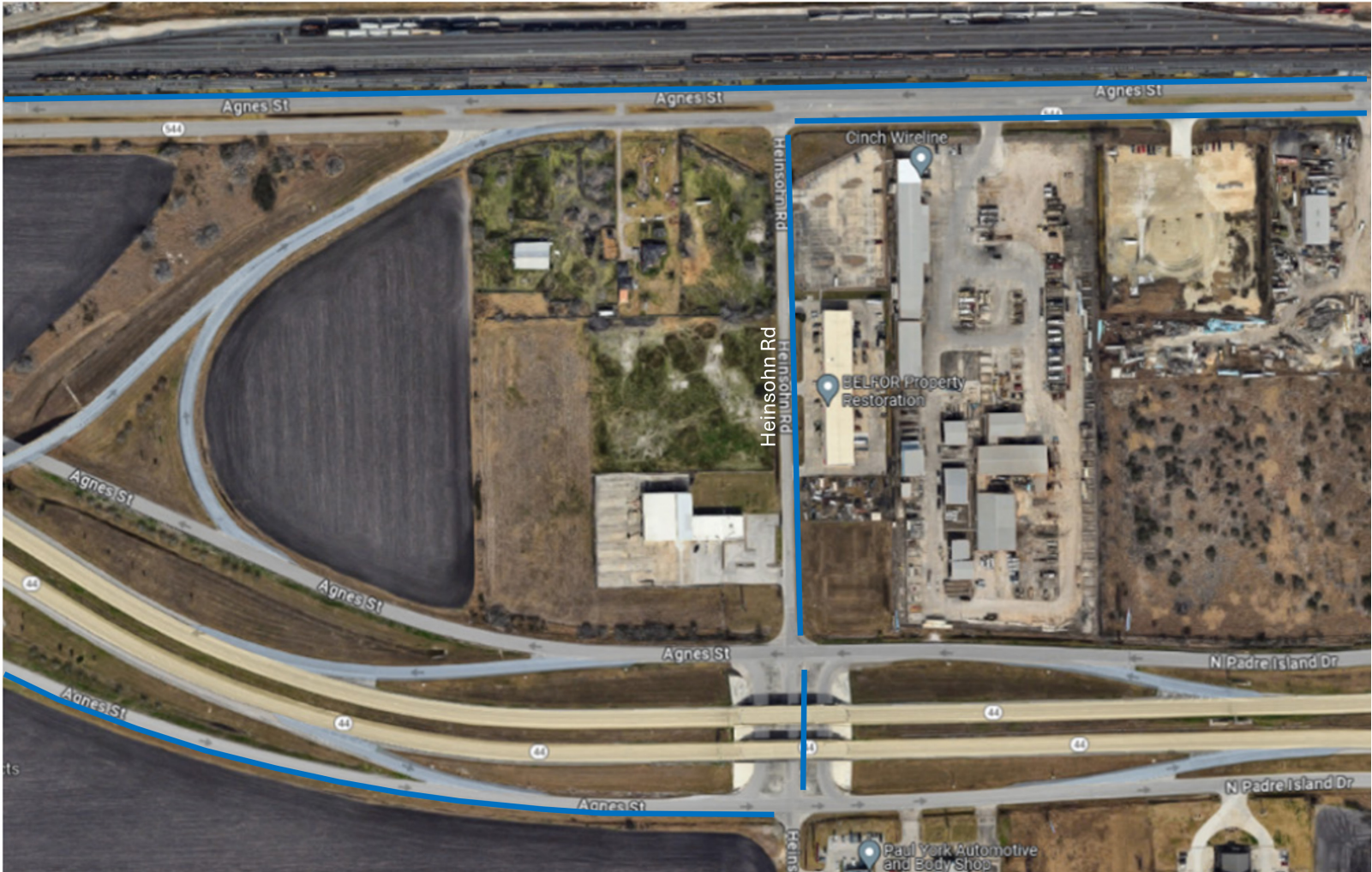
The freight railroad, which parallels the north side of SH 44 and Agnes Street, has a rail yard just west of SH 358 and continues eastward for about ¾ mile to just west of Navigation Boulevard where the service line bends northward to serve the Port of Corpus Christi. A service spur continues eastward to serve a recycling plant just west of Driscoll Drive after which the tracks have been removed from the north side of Agnes Street.

- » EWC 2.1 SUP along North Side of Agnes Street/Rail with Trail, SH 358 to Driscoll Drive
 - There is a significant amount of greenspace between the railroad tracks and the north side of Agnes Street curbline east of SH 358. The provision of the westbound right turn lane on Agnes Street at SH 358 narrows the greenspace, but there appears to be sufficient street right-of-way to construct a 10-foot-wide SUP at the back of curb of the right turn lane. Once east of the right turn lane, the SUP can have a minimum 5-foot-wide buffer to the Agnes Street roadway.

- » EWC 2.2 SUP/Hike and Bike Trail along North Side of Agnes Street, Driscoll Drive to Port Avenue
 - At Driscoll Drive and eastward, the railroad tracks have been removed, indicating railroad abandonment of the right-of-way. The ownership of that former railroad corridor needs to be determined, whether it is still in railroad ownership or has been quit claimed and reverted to the state of Texas as the adjacent landowner. A 12-foot-wide hike and bike trail would be constructed atop the former railroad bed. At Port Avenue, the trail would be brought onto the SUP along Port Avenue to utilize the traffic signal at Agnes Street, less than 100 feet away.
- » EWC 3 – Leopard Street (SH 407) Shoulder Bikeways
 - As TxDOT continues to upgrade and enhance Leopard Street, retention of the paved shoulder should be included with additional width as needed to effect a 6-foot-wide designated shoulder bikeway on the 35 mph roadway.

- » EWC 4 – Upriver Road Shoulder Bikeways
 - When the City of Corpus Christi programs pavement improvements on Upriver Road, improvement of the paved shoulder should be included with additional width as needed to effect a 6-foot-wide designated shoulder bikeway on the 35 mph roadway.
- » EWC 5 - Cross-connecting Bikeways
 - Routes extending between SH 44, SH 407 and Upriver Road allow flexibility in making longer or shorter excursion routes and accessing desired destinations.
- » EWC 5.1 – FM 1694 Shoulder Lanes
- » EWC 5.2 – Rand Morgan Road (FM 2292) Shoulder Lanes
- » EWC 5.3 – Lantana Street Shoulder Lanes and SUP along East Side
- » EWC 5.4 – McBride Lane Shoulder Lanes/Bike Route

Exhibit 4-55: Transition between SH 44 Service Roads and Agnes Street



Calallen/Annaville

Several bicycle facilities exist in this area, mostly focusing on access to parks. Upriver Road south of I-37, beginning 500 feet west of Rand Morgan Road (FM 2292) has 5-foot-wide bike lanes on a 2-lane two-way roadway past the entrance to West Guth Park and extending 1.6 miles to McKinzie Road. In Guth Park a network of bikeable roadways and SUPs is provided.

Proposed Improvements to Calallen/Annaville

CAL 1 – Upriver Road Bike Lane Connection through FM 2292 Interchange at I-37

Tying the existing bike lanes on Upriver Road to accommodations through the interchange and connecting to the proposed shoulder bike lanes on Upriver Road east of FM 2292 north of I-37.

CAL 2 – McKinzie Road Bike Lanes from Upriver Road to Sessions Road

North of I-37, stripe 5-foot-wide bike lanes on the 38-foot-wide 2-lane two-way street with posted 30 mph speed limit. From Upriver Road to the I-37 westbound service road, provide a 10-foot-wide SUP on both sides of McKinzie Road and crossing enhancement at Upriver Road.

CAL 3 – Hike and Bike trail along the ditch west of West Guth Park

Extending to Starlite Lane just east of Violet Road, with enhanced trail crossings of Leopard Street (SH 407) and McKinzie Road.

CAL 4 – SUP along both sides of FM 624 Northwest Boulevard west of I-69

TxDOT is currently in the schematic design stage for improvements on FM 624 from Wildcat Drive (just west of I-69) to CR 73, a distance of about 3 miles. TxDOT is proposing to include a 10-foot-wide SUP along the north side and a 6-foot-wide sidewalk along the south side, both with landscaped buffers to the road, with enhanced crosswalks at controlled crossings at key locations. An extension of the SUP and sidewalks will be needed east of Wildcat Drive through the I-69 interchange to the intersection at Hearn Road.

CAL 5 – SUP along one side of Hearn Road, Northwest Boulevard/ Leopard Road to FM 1694 Callicoatte Road

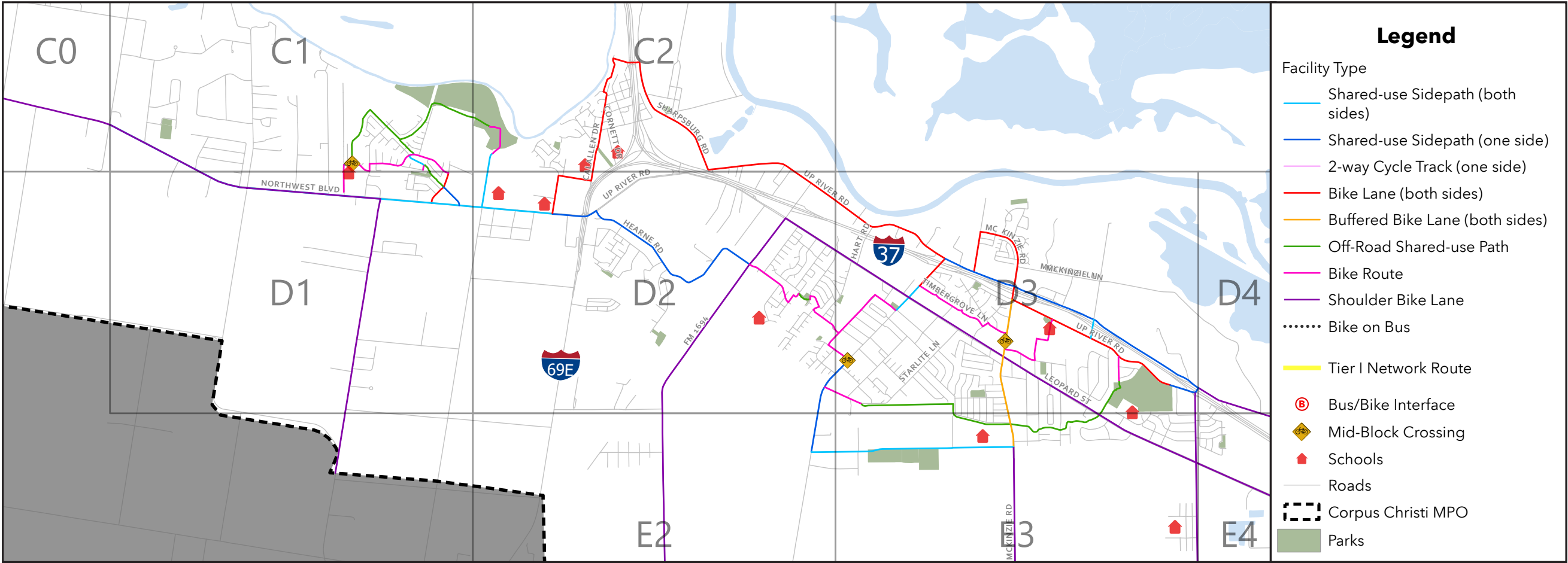
CAL 6 – Local On-Street Connections. Hearn Road, etc. connecting to Starlite Lane at Violet Road and to Upriver Road Bike Lanes

CAL 7 – SUP/Hike and Bike Trail along CO 69 from Northwest Boulevard to Hazel Bazemore-Calallen Park

CAL 8 – Hike and Bike Trail from Hazel Bazemore-Calallen Park through Subdivision

Upgrade existing sidewalks along ditches and add connecting trails to create an off-street network of bikeways. Add connecting on-street bikeways to complete connections within the network.

Exhibit 4-56: Calallen/Annaville Functional Area



Portland/Gregory

The Comprehensive Plan for the City of Portland contains a plan for non-motorized transportation facilities including a mixture of SUPs, trails, and some connecting on-street bikeways. The Portland network of SUPs, trails and bike routes were incorporated into this MPO Active Transportation Plan directly from the City of Portland’s Comprehensive Plan.

Currently, there are numerous existing active transportation facilities in Portland, including:

- » Sunset Lake Park Hike and Bike Trail, accessible via Sunset Drive which has a shoulder lane striped along one side of the 2-lane roadway
- » Hike and Bike Trail though Violet Andrews Park and connection to Sunset Drive
- » Segments of striped bike lane along Broadway
- » Wildcat Drive SUP (10-foot-wide SUP east side, 6-foot-wide sidewalk west side), Memorial Parkway to Buddy Ganem Drive, east side SUP only from Ganem Drive to Solis Drive
- » Atkins Drive SUP from Moore Avenue to Wildcat Drive
- » FM 3239 Buddy Ganem Drive (10-foot-wide SUP south side, 6-foot-wide sidewalk north side), US 181 to Wildcat Drive

Advancement of the planned Active Transportation Network would coincide with the emerging development in the northwestern sector of Portland.

Proposed Improvements to Portland/Gregory

The proposed improvements to the Portland/Gregory functional area are shown in Exhibit 4-57.

PGR 1 – Sunset Lake Park Bikeways Enhancement

The City of Portland has an active funding application, submitted to the Corpus Christi MPO, for an enhancement to the on-street access to the existing Sunset Lake Park Hike and Bike Trail and expansion of the hike and bike trail.

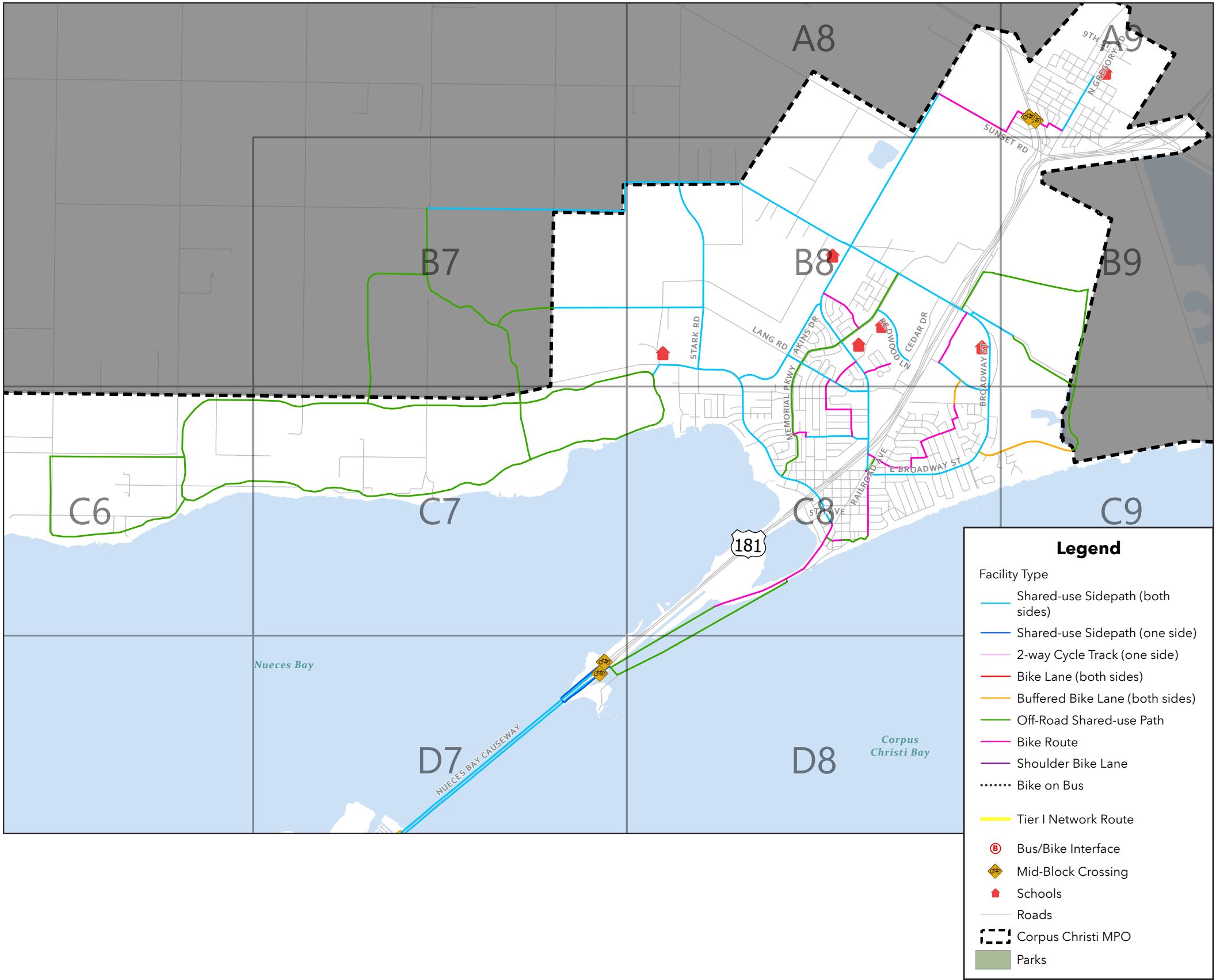
PGR 2 – Memorial Parkway Hike and Bike Trail

Between Buddy Ganem Road and Moore Avenue, utilizing the drainageway greenspace in between the two directions of Memorial Parkway and other channels.

PGR 3 – SUP along both sides of Moore Avenue

From Sunset Drive to Hunt Road, enlarging existing sidewalks.

Exhibit 4-57: Portland/Gregory Functional Area



Disposition of Existing Bike Lanes on Arterial Roadways

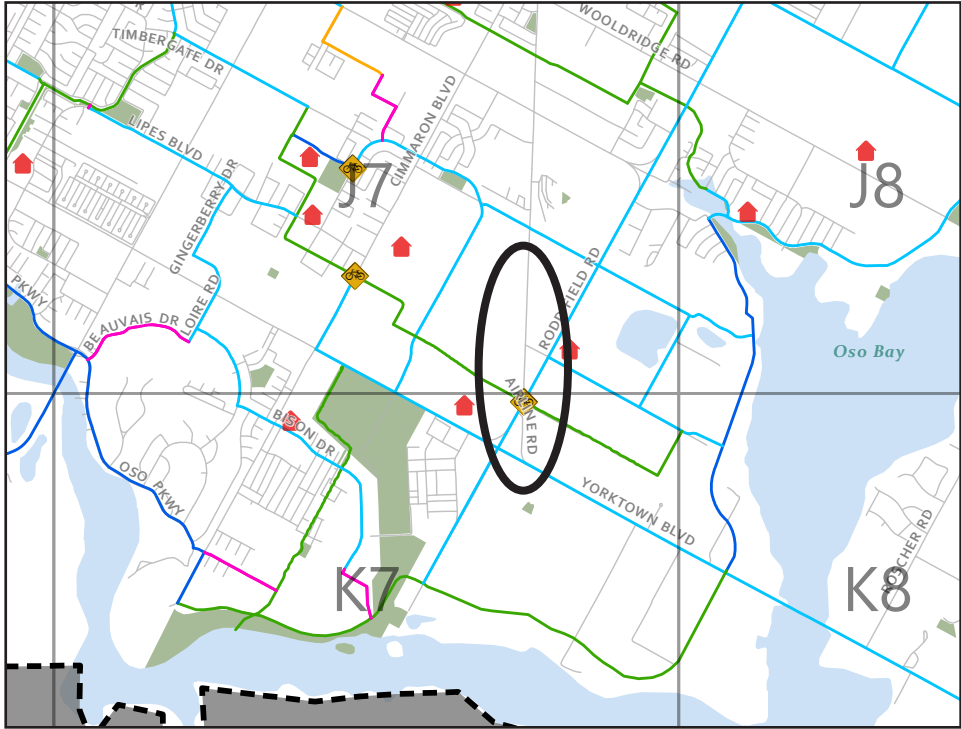
There are five streets with bike lanes that should be reevaluated for their continued inclusion in the bikeway network:

- » Airline Road between Saratoga Road and Rodd Field Road – 5-foot-wide bike lanes on a 5-lane roadway with 40 mph speed limit
- » Holly Road between Ayers Road and Rodd Field Road – 5-foot bike lanes on a 5-lane roadway with 40 mph speed limit
- » Staples Street between Williams Drive and Saratoga Boulevard – 5-foot-wide bike lanes with 2-foot-wide buffer on a 5-lane roadway with 35 mph speed limit
- » Greenwood Drive between Saratoga Boulevard and Silverberry Drive – 4-foot-wide bike lane on 5-lane roadway with 35 mph speed limit
- » Saratoga Boulevard between Greenwood Drive and SH 286 Crosstown Highway – 5-foot-wide bike lanes on a 5-lane roadway with 55 mph speed limit

Airline Road Bike Lanes between Saratoga Boulevard and Rodd Field Road

Either un-designate this segment as a bike lane or reduce the speeds of the corridor to 30 mph if retaining the lane is desired. Retain the edge line striping of a shoulder area for a safety edge treatment for Airline Road traffic and as a buffer from potential SUP development along the length of Airline Road.

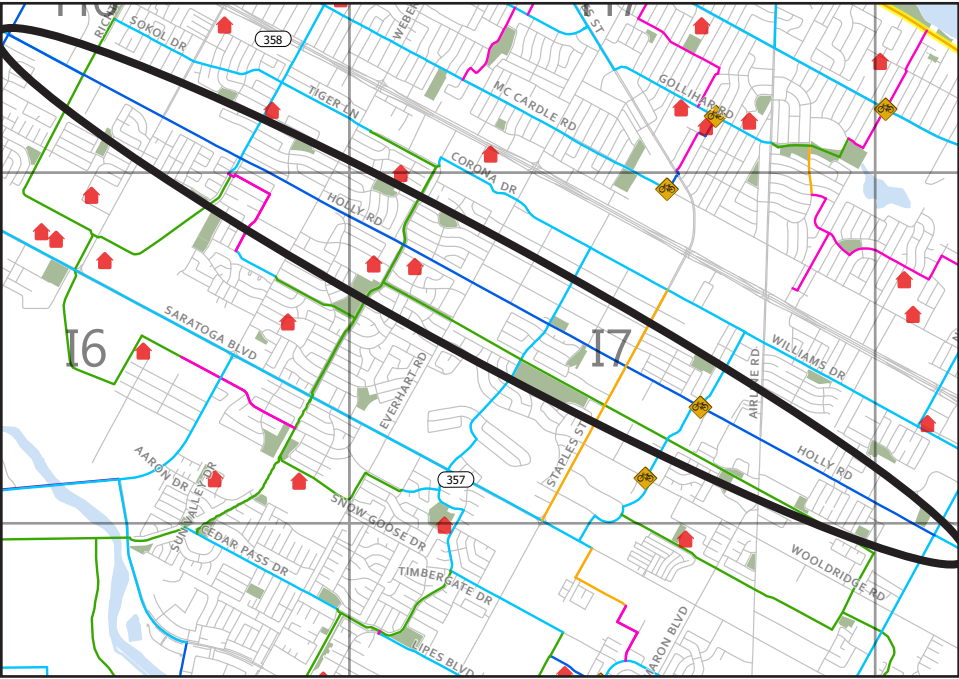
Exhibit 4-58: Airline Road between Saratoga Boulevard and Rodd Field Road



Holly Road Bike Lanes between Ayers Road and Rodd Field Road

Either un-designate this segment as a bike lane or reduce the speeds of the corridor to 30 mph if retaining the lane is desired. Retain the edge line striping of a shoulder area for a safety edge treatment for Holly Road traffic and a buffer from proposed SUP development along Holly Road.

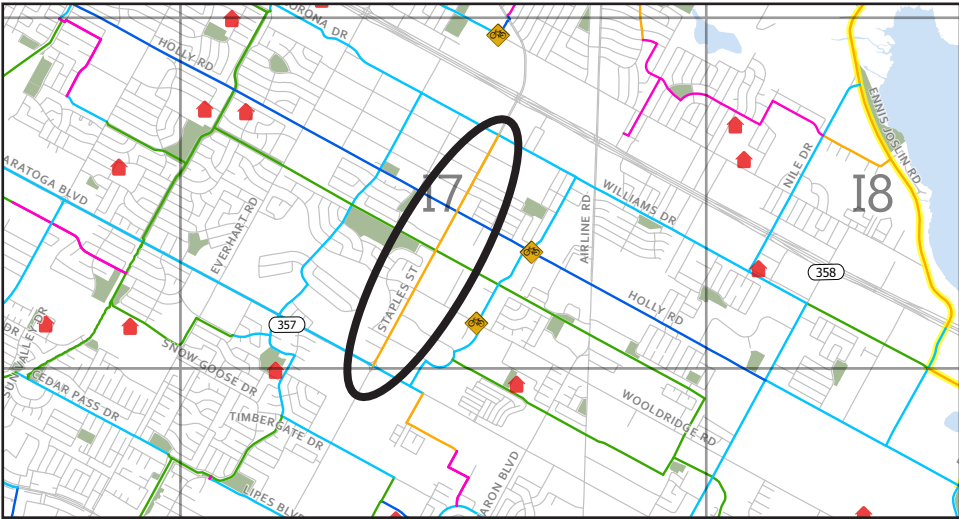
Exhibit 4-59: Holly Road between Ayers Road and Rodd Field Road



Staples Street Bike Lanes between Williams Drive and Saratoga Boulevard

Retain this segment of buffered bike lanes on a 35 mph roadway. Consider reducing the posted speed limit to 30 mph. The 8-foot-wide SUP along most of the length of both sides of Staples Street complements the buffered bike lanes.

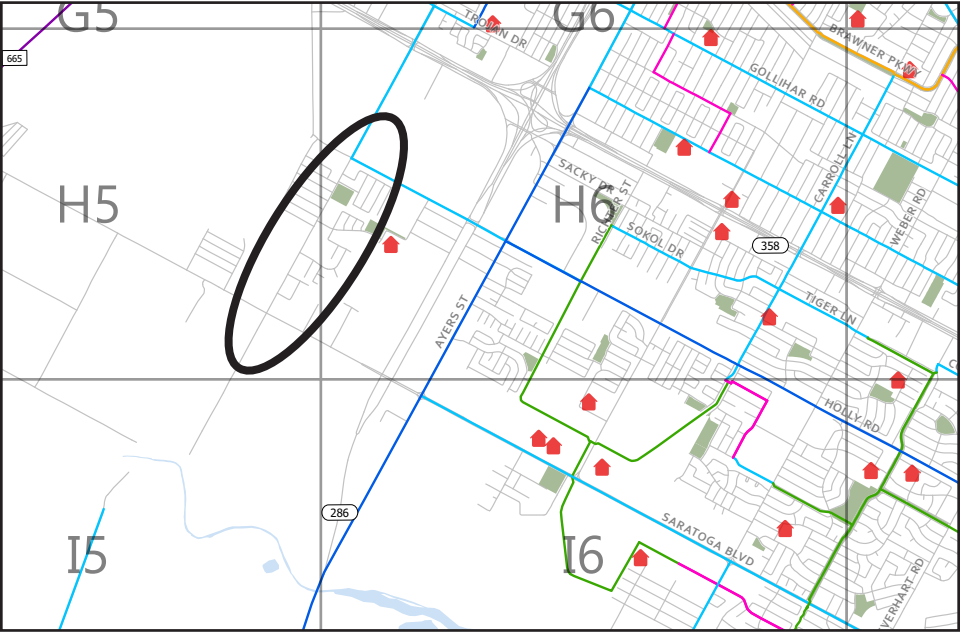
Exhibit 4-60: Staples Street between Williams Drive and Saratoga Boulevard



Greenwood Drive between Saratoga Boulevard and Silverberry Drive

Either un-designate this segment as a bike lane or reduce the speeds of the corridor to 30 mph if retaining the lane is desired. Retain the edge line striping of a shoulder area for a safety edge treatment for Greenwood Drive traffic and as buffer for the proposed SUP development along Greenwood Drive between Saratoga Boulevard and north of SPID.

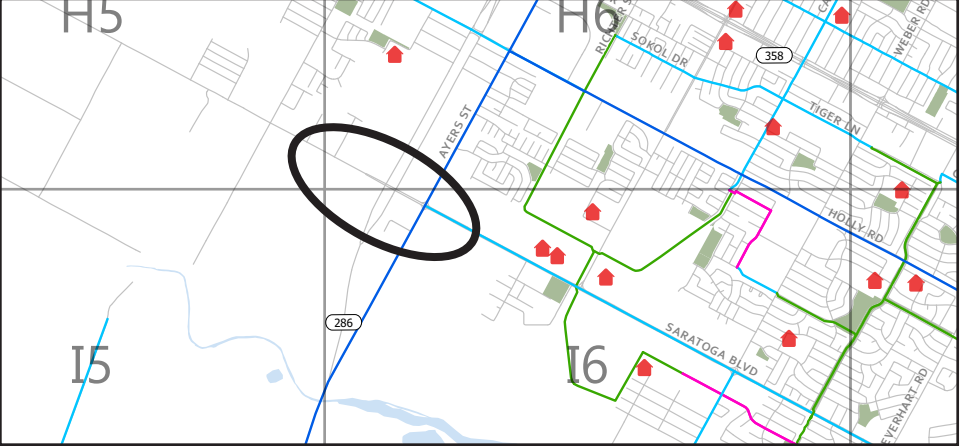
Exhibit 4-61: Greenwood Drive between Saratoga Boulevard and Silverberry Drive



Saratoga Boulevard between Greenwood Drive and SH 286 Crosstown Highway

Either un-designate this segment as a bike lane or reduce the speeds of the corridor to 30 mph if retaining the lane is desired. Retain the edge line striping of a shoulder area for a safety edge treatment for Saratoga Boulevard traffic and as buffer for the proposed SUP development along Saratoga Boulevard between Greenwood Drive and Staples Street.

Exhibit 4-62: Saratoga Boulevard between Greenwood Drive and SH 286 Crosstown Hwy



Sidewalks

Chapters 2 and 3 introduce the existing network of more than 2,700 sidewalks in the MPO planning area, with over 2,500 miles of sidewalks in the City of Corpus Christi. The network of sidewalks serves as the underlying fabric of personal mobility for many urban area residents. Several maps present the juxtaposition of sidewalks near schools, parks, service centers and areas of disadvantaged populations. To address any shortcomings of the sidewalk network serving these areas and locations, detailed assessments should be performed to identify the missing, gaps or damaged areas in the sidewalk system. The following detailed analyses should be conducted.

Safe Routes to Schools

The Corpus Christi ISD and Gregory-Portland ISD do well in addressing the provision of crossing guards for students to cross busy streets at the edge of their school campuses. The cities collaborate with their ISDs to ensure that school speed zones are correctly signed and crosswalks are visibly marked each school year.

However, a Safe Routes to School (SRTS) Plan should be prepared for each school to encourage students to walk and bicycle to elementary and middle school campuses. After identifying the areas where students live within a one-mile walking distance of each school, an assessment should be made of the needed improvements to sidewalks and crossings along the student’s route to school. An example of a SRTS assessment for the Flour Bluff ISD complex is shown in Exhibit 4-63.

With schools placed strategically throughout the communities, after each school prepares an SRTS Plan, a significant portion of the sidewalk network in the urban areas of the cities will be assessed, and areas in need of improvement will be identified.

Safe Routes to Parks

The Parks, Recreation and Open Space Departments of the cities of Corpus Christi and Portland have been including park access via sidewalks and short trail segments to and from nearby residential areas as part of their park planning efforts for the past several years. The departments should continue these efforts, extending their purview to a connecting trails network and the safe crossings of busy streets.

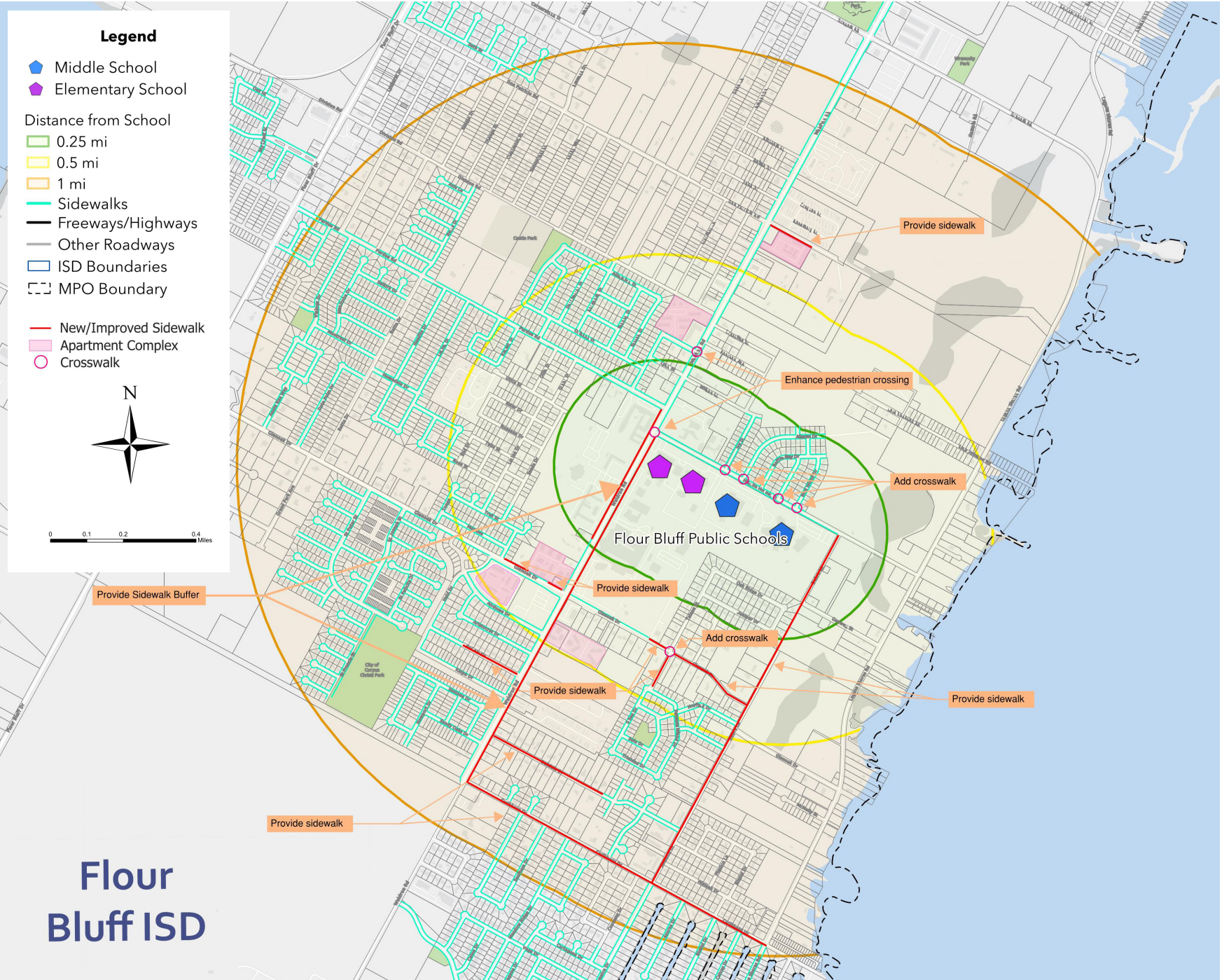
Safe Routes to Transit

The CCRTA regularly assesses the sidewalk access to and from their bus stops. Federal funding is available to provide or improve sidewalks and improved crossings within a certain walking distance of each bus stop. In 2022, CCRTA completed an ADA assessment of its 1,300 active bus stops, noting any shortcomings of the accessible routes due to width, debris or sidewalk ending, and any ADA non-compliance at the boarding and alighting area. Hundreds of improvement needs were identified. Where an accessible route issue was identified, CCRTA coordinates with the cities with jurisdiction to devise a solution. Once accessible routes are improved, ADA accessibility at bus stops should be reevaluated every two to three years to address any emerging needs.

Citywide Sidewalk Conditions Assessment

In concert with or subsequent to the outlined safe routes initiatives, a complete assessment of the conditions of all existing sidewalks and curb ramps in the urbanized area of the MPO planning area should be conducted. The identified areas needing improvement should comply with the current PROWAG published in August 2024. An annual funding allocation for sidewalk repairs and ramp upgrades and/or installations should be established. Special attention should be given to areas near service centers and areas of disadvantaged populations.

Exhibit 4-63: Example of a Safe Routes to School Assessment



5. RECOMMENDATIONS AND IMPLEMENTATION

PROJECT RECOMMENDATIONS

Based upon a synthesis of the review of existing conditions, addressing of stakeholder comments, application of best practices and leveraging of ongoing transportation initiatives, an Active Transportation Network, and a set of supporting policies and programs have been developed.

Active Transportation Network

Exhibit 5-01 summarizes the existing and proposed length of each bike/ped facility by cities in the Corpus Christi MPA. The network map in Exhibit 5-03 on page 5-2 and tables in Exhibit 5-04 on pages 5-4 to 5-7 list the network recommendations described in Chapter 4. The proposed projects are assigned as Tier I, Tier II or Tier III to guide their relative priority of implementation.

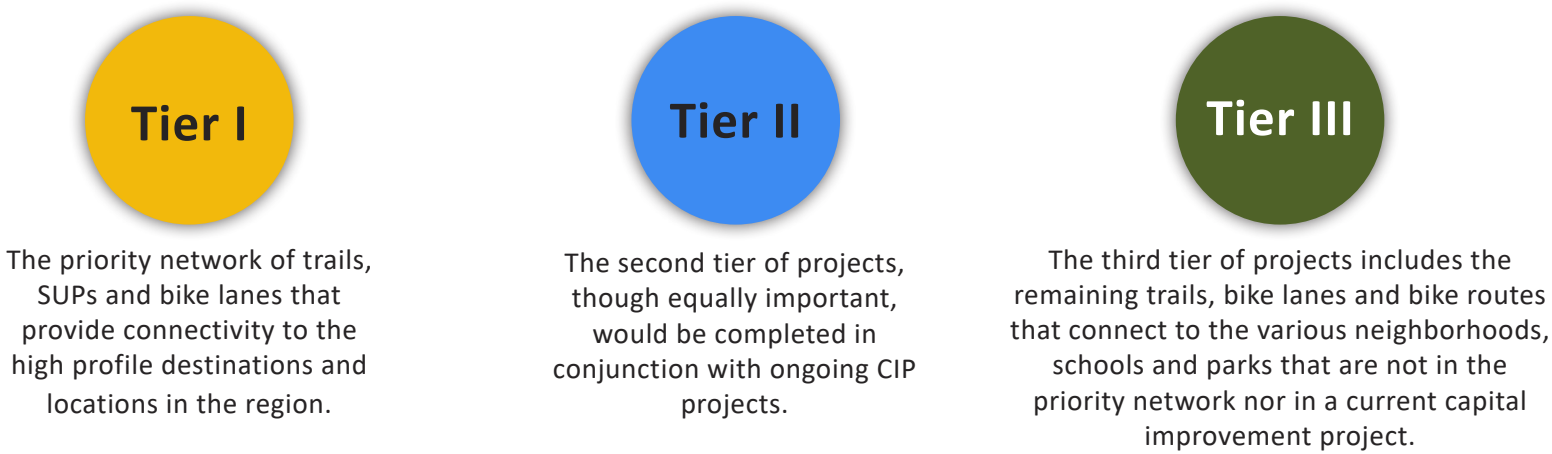


Exhibit 5-01: Mileage of Existing and Proposed Active Transportation Facilities

Facility Type	Existing Miles				Proposed Miles				Total Miles
	Corpus Christi	Portland	Gregory	Outside City Limits	Corpus Christi	Portland	Gregory	Outside City Limits	
2-way Cycle Track (one side)	-	-	-	-	1.43	-	-	-	1.43
Bike Lane	59.18	3.06	-	3.06	10.63	-	-	-	75.93
Bike on Bus	-	-	-	-	4.86	-	-	-	4.86
Bike Route	2.67	-	-	-	55.18	5.16	0.55	1.16	64.73
Buffered Bike Lane	1.57	6.22	-	-	30.82	0.21	-	-	38.82
Off-Road Shared-use Path	17.38	1.57	-	-	71.63	6.49	0.05	17.64	114.77
Shared-use Sidepath (both sides)	17.50	0.52	-	-	180.02	19.22	0.50	34.17	251.93
Shared-use Sidepath (one side)	6.32	-	-	-	43.39	0.98	-	11.59	62.28
Shoulder Bike Lane	-	-	-	-	75.59	-	-	37.15	112.74
Total Miles per City	104.62	11.38	-	3.06	473.55	32.05	1.11	101.71	727.48
Total Existing vs Proposed Miles	119.06				608.43				

Project Implementation

The following strategy is recommended to advance the projects and programs of the Active Transportation Plan.

1. The elements of the Tier I network should be continuously advanced for funding and implementation of the enhanced and completed high quality network.
2. The elements of the Tier II network may advance short segments of the larger network and should be brought to a logical terminus while awaiting completion of the network.
3. The network elements in the Tier III network would be implemented as opportunities arise in conjunction with development and as special funding is available such as might be dedicated for safe routes for schools and parks under the Transportation Alternatives program.

Prioritization

In addition to the three-tier priority project framework, advancement of highly desired active transportation projects should focus on providing easily implementable and high-value active transportation projects emphasizing ADA compliance, safety, network connectivity, and promoting walking and cycling activity within the region.

An example of a screening methodology for advancing projects is shown in Exhibit 5-02. As the network grows and becomes more established, many of these criteria can be altered to support the maintenance and expansion of a more comprehensive and defined network.

Exhibit 5-02: Proposed Prioritization Methodology for Bike/Ped Projects

Criteria	Metric
Multi-Modal Opportunity	How many bus routes are within ½ mile of the project?
	Does the project involve a strong ADA compliance component?
	Is this project within ½ mile of an identified scooter corral?
Access / Place-Based Connections	How many high-value civic/health (clinics/pharmacies/hospitals) destinations are within ½ mile?
	How many high-value recreational amenities (community centers/pools) are within ½ mile?
	How many high-value tourist attractions are within ½ mile?
Network Connectivity	Does the project provide a key connection between bike/ped facilities or to a major bike path or attraction?
	Does the project remove a barrier to overall bike/ped network development?
Target Populations	Does the project support access to known key service points for at-risk disadvantaged groups?
	Is the project within one of the Corpus Christi MPO identified disadvantaged populations areas?
Public Safety	How many annual fatal or severe crashes involved bike/ped users (last 5 years)
	Would the proposed improvement resolve/mitigate contributing factors associated with the crash?
	Will the improvement include lighting or shading improvements?
Imminent Funding	Is the project on the roadway that is part of the bond program, CIP project listing, Rapid Replacement Program, or TxDOT project?
Schools	Is the project within ¼ mile of a school? Does the school participate in a Safe Routes to School Program? Is the improvement consistent with its program?
Activity Promotion	Will this activity directly help promote walking and cycling? Is it adjacent to or provides access to major walking/cycling events or known area bike/ped activity?
Area Plans	Is the project listed in an area development plan?



Proposed Facility	Existing Facility
Shared-use Sidepath (both sides)	Shared-use Sidepath (both sides)
Shared-use Sidepath (one side)	Shared-use Sidepath (one side)
Bike Lane (both sides)	Bike Lane
Buffered Bike Lane (both sides)	Buffered Bike Lane
Off-Road Shared-use Path	Off-Road Shared-use Path
Bike Route	Bike Route
2-way Cycle Track (one side)	Corpus Christi MPO
Shoulder Bike Lane	Roads
Bike on Bus	Parks

Exhibit 5-04: List of Proposed Bike/Ped Network Improvements

Functional Area	Project ID	Description	From	To	Priority
SEA/ New Harbor Bridge/ North Beach	NHB 1 New Harbor Bridge South End Connection to Shoreline Boulevard SUP				
	NHB 1.1	Lake Avenue SUP/Trail	Sam Rankin Street	N. Alameda Street	Tier I
	NHB 1.2	Lake Avenue SUP	N. Alameda Street	N. Staples Street	Tier I
	NHB 1.3	N. Staples Street SUP on both sides	I-37 WB Service Road	W. Broadway Street	Tier I
	NHB 1.4	N. Staples Street SUP extension on both sides	W. Broadway Street	N. Broadway Street	Tier I
	NHB 1.5	Fitzgerald Street SUP on both sides	N. Broadway Street	Shoreline Boulevard	Tier I
	NHB 2 New Harbor Bridge South End Connection to Agnes Street Rail-to-Trail SUP				
	NHB 2.1	W. Broadway Street SUP	Stillman Street	Port Avenue	Tier I
	NHB 2.2	Nueces/Winnebego SUP	Lake Avenue	Nueces Bay Boulevard	Tier I
	NHB 2.3	Stillman Street SUP	W. Broadway Street	I-37 WB Service Road	Tier I
	NHB 2.4	Antelope/Palm Drive SUP	I-37 EB Service Road	Comanche Street	Tier I
	NHB 2.5	Comanche SUP	Palm Drive	Staples Street	Tier I
	NHB 2.6	Port Avenue Road Diet/SUP	I-37 WB Service Road	Agnes Street	Tier I
	NHB 2.7	Nueces Bay Boulevard SUP	Nueces Bay Boulevard	Agnes Street	Tier I
	NHB 2.8	Rail-to-Trail	W. Broadway Street	I-37 WB Service Road	Tier I
	NHB 3 New Harbor Bridge North End Connection to Waterfront, Lex, Aquarium				
	NHB 3.1	Beach Avenue SUP (proposed in City of Corpus Christi 2024 Bond program)	US 281 NB Service Road	Beachfront Path	Tier I
	NHB 3.2	Gulfspray Avenue SUP (proposed in City of Corpus Christi 2024 Bond program)	US 281 NB Service Road	Gulfspray Park	Tier I
	NHB 3.3	Median SUP	Dolphin Park	Pearl Avenue	Tier I
	NHB 3.4	Breaker Avenue SUP	Median SUP	Beachfront Path	Tier I
	NHB 3.5	Golf Place SUP	Median SUP	Beachfront Path	Tier I
Shoreline Boulevard/ Ocean Drive	SLB 1 - Shoreline Boulevard Reconfiguration Completion				
	SLB 1.1	Widen SB Shoreline Boulevard pavement to provide 5 lanes. As space allows, provide a parking lane each side.	Ocean Drive/Buford Street	Power Street	Tier I
	SLB 1.2	Modify existing traffic signals and pavement markings to accommodate two-way traffic in the 5-lane roadway.			Tier I
	SLB 1.3	Shift the NB Shoreline Boulevard traffic onto the new 5-lane roadway.			Tier I
	SLB 1.4	Abandon the former 3-lane NB roadway and adapt for use as a two-way bikeway.			Tier I
	SLB 1.5	Remove unneeded roadway pavement, add off-street parking and landscape as appropriate.			Tier I
	SLB 1.6	Re-stripe the two-way Shoreline Boulevard to eliminate the shoulder bikeway and restripe to provide a continuous left turn lane and dedicated left turn lanes at cross streets.	Furman Avenue	Coopers Alley	Tier I
	SLB 2 – Shoreline Boulevard/Ocean Drive Shoulder Bike Lanes Enhancement				
	SLB 2.1	Within the 8-foot-wide shoulder bike lanes, add a second 4-foot-wide stripe to create a 2-foot-wide buffer for the remaining 6-foot-wide bike lanes, with special treatments at key locations.	Furman Avenue	Ennis Joslin Road	Tier I
	SLB 2.2	Install flexible bollards within the 2-foot-wide buffer at approximately 40 feet on center along the buffered bike lanes. Leave (200-foot) gaps in bollards at locations that need parking for maintenance vehicles.	Furman Avenue	Ennis Joslin Road	Tier I
	SLB 2.3	Widen sidewalks along Ocean Drive. There are segments of sidewalk along the west side of Ocean Drive that are only about 3-feet wide. Improve sidewalks along the west side of Ocean Drive to a minimum of 5-feet wide and preferably 8-feet wide.	Shoreline Boulevard/ Buford Street	Texas A&M University- Corpus Christi	Tier I
	SLB 3 – Establish Bike Lane Continuity through Intersections along Shoreline Boulevard and Ocean Drive				
	SLB 3.1	Shoreline Boulevard at Furman Avenue – A new traffic signal is proposed for interrupting continuous flow to accommodate bicycle and pedestrian connectivity at this junction of two-way separated bikeway to the north, buffered one-way bike lanes to the south and bike lanes with SUPs to the west along Furman.	Furman Avenue		Tier I
	SLB 3.2	Shoreline Boulevard at Louisiana Avenue – Convert this complex directional intersection into a standard roundabout with pedestrian crossings and bike lane conveyance through roundabout.	Louisiana Avenue		Tier III
	SLB 3.3	Ocean Drive at Doddridge Street – Eliminate the SB right turn lane and continue the buffered bike lane to the intersection.	Doddridge Street		Tier II
	SLB 3.4	Ocean Drive at Robert Drive – Narrow the SB through lanes to maintain a minimum 4-foot-wide bike lane up to the intersection.	Robert Drive		Tier II

Functional Area	Project ID	Description	From	To	Priority	
Shoreline Boulevard/ Ocean Drive	SLB 3.5	Ocean Drive at Airline Road - Narrow the southbound through lanes to maintain a minimum 4-foot-wide bike lane up to the intersection, positioned between the through lane and the right turn lane. Narrow the northbound lanes to maintain a minimum 4-foot-wide bike lane through the intersection.	Airline Road		Tier II	
	SLB 4 – Agnes Street Rail to Trail Connector to Shoreline Boulevard					
	SLB 4.1	Rail-to-Trail SUP from near Port Avenue to SH 286 Crosstown Expressway service roads crossing and use a remnant of the NB service road to tie-in to Musset Street	(near) Port Avenue	Musset Street	Tier III	
	SLB 4.2	SUP along one side of Mussett Street to Staples Street, chevron pavement markings	Musset Street	Staples Street	Tier III	
	SLB 4.3	Offset crossing of Staples Street at Musset/Blucher, enhanced bus stop and crossing	Staples Street	Carrizo Street	Tier III	
	SLB 4.4	SUP along Blucher Street to Carrizo Street, chevron pavement markings. Tie into Blucher Nature Park	Mussett Street	Blucher Street	Tier III	
	SLB 4.5	An SUP along edges of La Retama Central Library on Tanchua Street to Coopers Alley, enhanced crossing at Tanchua Street	Comanche Street	Coopers Alley	Tier III	
	SLB 4.6	Bike lanes along Coopers Alley from Blucher Nature Park to Mesquite Street (TX 544), enhanced crossing at Mesquite Street	Blucher Nature Park	Mesquite Street	Tier III	
	SLB 4.7	Bike lanes along Coopers Alley from Mesquite Street (TX 544) to Shoreline Boulevard	Mesquite Street	Shoreline Boulevard	Tier III	
	SLB 4.8.1	SUP along both sides of Comanche Street	Crosstown Expressway	Carancahua Street	Tier III	
	SLB 4.8.2	SUP along both sides of Comanche Street	Crosstown Expressway	Lipan Street	Tier III	
	SLB 5 – Del Mar Boulevard Connection to Ocean Drive					
	SLB 5.1	Del Mar Boulevard is proposed to be strengthened as a multimodal, complete street with traffic calming treatments. The treatment would add a 12-foot-wide bike lane stripe with bollards to reduce the through lanes to 11 feet and create a buffered 5-foot-wide bike lane in each direction.	Ocean Drive	S. Staples Street	Tier I	
	SLB 5.2	A roundabout-controlled intersection would be installed at S. Alameda Street for traffic calming in both directions and to facilitate pedestrian crossings.	S. Alameda Street		Tier III	
	SLB 6 – Louisiana Avenue Connection to Ocean Drive					
	SLB 6.1	Reduce the two 11-foot-wide travel lanes (each way) to one 12-foot-wide travel lane plus a buffered bike lane, retaining the existing parking	Ocean Drive	S. Staples Street	Tier I	
	SLB 6.2	Improve the existing sidewalks, enhancing as needed to a minimum width of 5 feet and preferably 8 feet			Tier III	
	SLB 6.3	Hike and Bike trail (SUP) within center median landscaped drainage area			Tier III	
	SLB 7 – Doddridge Road Buffered Bike Lanes to Protected Bike Lanes			Ocean Drive	S. Alameda Street	Tier III
	SLB 8 – Modify the S. Alameda Street SUP Intersection Treatments			S. Alameda Street		Tier III
	SLB 9 – Alameda SUP, Louisiana Avenue to Airline Road					
	SLB 9.1	The City of Corpus Christi is currently in design of the reconstruction of Alameda Street between Louisiana Avenue and Doddridge Road		Louisiana Avenue	Doddridge Road	Tier II
	SLB 9.2	The typical section would continue along Alameda Street between Doddridge Road and Airline Road		Doddridge Road	Airline Road	Tier II
	SLB 9.3	Southeast of Airline Road to Ennis Joslin Road, the typical section would reduce to a 3-lane roadway with buffered/protected bike lanes		SE of Airline Road	Ennis Joslin Road	Tier III
	SLB 10 – Local Street Bike Route Network Surrounding Alameda Street					Tier III
Ocean Drive/ Ennis Joslin/Holly Bridge	EJR 1 - Ocean Drive at Ennis Joslin Road					
	EJR 1.1	An enhanced channelization of the intersection of the two roadways	Ennis Joslin Road		Tier I	
	EJR 1.2	Add RRFB or PHB at the ped/bike crosswalks across the two high-speed uninterrupted right turn lanes			Tier III	
	EJR 2 - Conversion of Ennis Joslin Road to a High Quality Multimodal Corridor, Ocean Drive to SPID					
	EJR 2.1	The proposed conversion concept for the roadway is to reallocate the outside lane to the provision of a buffered bike lane. There would be special accommodations for conditions on various segments	Ocean Drive	SPID Interchange	Tier I	
	EJR 3 – Ennis Joslin Road from SPID interchange to Williams Drive					
	EJR 3.1	Ennis Joslin Road just north of SPID	N of SPID Interchange	SPID Interchange	Tier I	
	EJR 3.2	Ennis Joslin Road at SPID Interchange	SPID Interchange		Tier I	
	EJR 3.3	Ennis Joslin Road south of SPID	SPID Interchange	Williams Road	Tier I	
	EJR 4 – Connection from Ennis Joslin Road to Holly Road Trail					
	EJR 4.1	Williams Drive Extension SUP/Trail	W of Rodd Field Road	Ennis Joslin Road	Tier II	
	EJR 4.2	Williams Drive Connection to Paul Jones Drive Trail	Ennis Joslin Road	Paul Jones Drive	Tier I	
	EJR 5 – Holly Road Trail and Bridge					
	EJR 5.1	Railroad Trestle Connection to Flour Bluff Drive SUP	Holly Road	Flour Bluff Drive	Tier II	

Functional Area	Project ID	Description	From	To	Priority
Flour Bluff	FLB 1 – Graham Road SUP		Flour Bluff Drive	Waldron at Graham Bus Stop	Tier I
	FLB 2 – Flour Bluff Drive				
	FLB 2.1	A 10-foot-wide SUP would extend south from Don Patricio Road to Yorktown to complete the circuit of SUP on either side of the Oso Bay.	Don Patricio Road	Yorktown Boulevard	Tier II
	FLB 2.2	The existing SUP along Flour Bluff Drive would be extended NB from its terminus north of Graham Road to north of SPID at Sunbird Street, widening existing sidewalks.	N of Graham Road	Sunbird Street	Tier III
	FLB 3 – Yorktown Boulevard SUP to Laguna Shores Road		E of Rodd Field Road	Laguna Shores Road	Tier III
	FLB 4 – Waldron Road SUP, Yorktown to NAS Drive		Yorktown Boulevard	NAS Drive	Tier III
	FLB 5 – Laguna Shores Road Shoulder Bikeway		Yorktown Boulevard	Graham Road	Tier III
	FLB 6 - Knickerbocker Street/Compton Road Bike Lanes, Laguna Shores Road to Flour Bluff Drive		Laguna Shores Road	Flour Bluff Drive	Tier III
	FLB 7 – Don Patricio Road SUP, Flour Bluff Drive to Waldron Road		Flour Bluff Drive	Waldron Road	Tier III
	FLB 8 – Purdue Road Bike Lane, Flour Bluff Drive to Waldron Road		Flour Bluff Drive	Waldron Road	Tier III
	FLB 9 – Hustlin’ Hornet Drive Bike Lanes		Waldron Road	Laguna Shores Road	Tier III
	FLB 10 – Glendale Drive SUP, Flour Bluff Drive to Debra Lane		Flour Bluff Drive	Waldon Road	Tier II
	FLB 11 - Trail along Ditch North of Graham Road and S of Compton Road		Flour Bluff Drive	Waldon Road	Tier III
	FLB 12 - FLB 12 JFK Causeway Crossing via Bike-on-Bus		Waldron Bus Stop	Park Road 22	Tier III
Padre/Mustang Island	PMI 1 – Park Road 22 SUP		Verdmar Drive	Sea Pines Drive	Tier III
	PMI 2 – Whitecap Boulevard SUP				
	PMI 2.1	Whitecap Boulevard SUP west of PR 22	Aquarius Street	Park Road 22	Tier III
	PMI 2.2	Whitecap Boulevard SUP east of PR 22	Park Road 22	Windward Drive	Tier III
	PMI 3 – Sea Pines Drive/Access Road 6				
	PMI 3.1	The existing bike lanes along Sea Pines Drive would be enhanced to be buffered bike lanes by a lane diet or road diet of the 4-lane divided Sea Pines Drive.	S. Padre Island Drive	El Socorro Loop	Tier III
	PMI 3.2	Bike lanes along Access Road 6 would be provided by widening the narrow 2-lane roadway.	S. Padre Island Drive	Beach Access	Tier III
	PMI 4 - Elliff Road and Windward/Leeward Drive		Encantada Avenue	Windward Drive	Tier III
Midtown	MDT 1 - Brawner Parkway				
	MDT 1.1	Convert Brawner Parkway from a pair of two-way streets to a one-way couplet of streets on either side of the drainage ditch. Assess local circulation needs for additional crossover streets between the two sides of the drainage channel.	Santa Fe Street	Ramsey Street	Tier II
	MDT 1.2	Right-size the one-way couplet to provide one travel lane (each side) and a buffered bike lane with curbside parking.			Tier II
	MDT 1.3	Provide SUPs within center landscaped drainage area, along both sides if feasible.			Tier III
	MDT 1.4	Improve the intersection of Brawner Parkway at South Staples Street.	S. Staples Street		Tier III
	MDT 2 – Carmel Parkway				
	MDT 2.1	Convert Carmel Parkway from a pair of two-way streets to a one-way couplet of streets on either side of the drainage ditch. Assess local circulation needs for additional crossover streets between the two sides of the drainage channel at San Fernando Place.	S. Staples Street	Center Drive/Lamar Park	Tier II
	MDT 2.2	Right-size the one-way couplet to provide one travel lane (each side) and a buffered bike lane with curbside parking, improve sidewalks as needed.			Tier II
	MDT 2.3	Provides SUPs within center landscaped drainage area, along both sides if feasible.			Tier III
	MDT 2.4	Realign WB Carmel Parkway to come to a single point at the intersection with Staples Street.	S. Staples Street		Tier III
	MDT 2.5	Realign with EB Carmel Parkway to come to a single point at the intersection with Alameda Street and add traffic control at the intersection and a turnaround.	S. Alameda Street		Tier III
	MDT 3 - Carroll Lane Bikeway				
	MDT 3.1	Extend the SUP along both sides of Carroll Lane	Houston Street	Brawner Parkway	Tier III
	MDT 3.2	1. Extend the SUP along both sides of Carroll Lane, tie to the 8-foot-wide SUP on the west side of Staples Street. 2. Designate Dabney Street as a bike route between Staples Street and Fort Worth Street.	1. Brawner Parkway 2. S. Staples Street	1. S. Staples Street 2. Fort Worth Street	Tier III
	MDT 3.3	Extend the SUP along both sides of Carroll Lane. There are houses that front onto Carroll Lane between McArdle and SPID that have their own driveways but will likely be sensitive to converting the parking lane to provide the needed width for the SUP on both sides of Carroll Lane.	McArdle Street	SPID Interchange	Tier III
	MDT 3.4	Add 10-foot-wide SUP along both sides of Carroll Lane from SPID to Tiger Lane.	SPID Interchange	Tiger Lane	Tier III
	MDT 3.5	Add 10-foot-wide SUP along both sides of Carroll Lane, connecting to the trail along Carroll Ditch that leads to Mary Carroll High School.	Tiger Lane	Holly Road	Tier III
	MDT 4 - Brownlee Boulevard		Louisiana Avenue	Mussett Street	Tier II

Functional Area	Project ID	Description	From	To	Priority
Southside	SSD 1 – Expansion of the Schanen Hike and Bike Trail beyond Killarmet Drive		Killarmet Drive	Tiger Lane/Corona Drive/Williams Drive	Tier III
	SSD 2 – Expansion of the (ditch) Trail from Morteza Drive to Timbergate Drive		Morteza Drive	Timbergate Drive	Tier III
	SSD 3 – Timbergate Drive Bike Lane/Parking Lane		Hunt Drive	Spanish Wood Drive	Tier III
East-West Connection/Texas Bicycle Network	EWC 1 – Transition between SH 44 Service Roads and Agnes Street Rail to Trail				
	EWC 1.1	Heinsohn Road Bike Lane	SH 44	Agnes Street	Tier III
	EWC 1.2	Heinsohn Road Bike Route	SH 44	Agnes Street	Tier III
	EWC 1.3	SH 544 Agnes Street at SH 358 NPID Transition to SUP along North Side of Agnes Street	NPID Interchange		Tier III
	EWC 2 – Agnes Street Rail to Trail/Rail with Trail				
	EWC 2.1	SUP along North Side of Agnes Street/Rail with Trail, SH 358 to Driscoll Drive	SH 358	Driscoll Drive	Tier III
	EWC 2.2	SUP/Hike and Bike Trail along North Side of Agnes Street	Driscoll Drive	Port Avenue	Tier III
	EWC 3 – Leopard Street (SH 407) Shoulder Bikeways		I-69E	N. Upper Broadway	Tier III
	EWC 4 – Upriver Road Shoulder Bikeways		I-37	Rand Morgan Road	Tier III
	EWC 5 - Cross-connecting Bikeways				
	EWC 5.1	FM 1694 Shoulder Lanes	Leopard Street	SH 44	Tier III
	EWC 5.2	Rand Morgan Road (FM 2292) Shoulder Lanes	Upriver Road	SH 44	Tier III
	EWC 5.3	Lantana Street Shoulder Lanes and SUP along East Side	Upriver Road	N. Lexington Boulevard	Tier III
	EWC 5.4	McBride Lane Shoulder Lanes	Upriver Road	Agnes Street	Tier III
Calallen/Annaville	CAL 1 – Upriver Road Bike Lane Connection through FM 2292 interchange at I-37		FM 2292/Rand Morgan Road at I-37		Tier III
	CAL 2 – McKinzie Road Bike Lanes from Upriver Road to Sessions Road		Upriver Road	Session Road	Tier III
	CAL 3 – Hike and Bike trail along the ditch west of West Guth Park		West Guth Park	Starlite Lane	Tier III
	CAL 4 – SUP along both sides of FM 624/Northwest Boulevard west of I-69		I-69	WB MPA Limits	Tier III
	CAL 5 – SUP along one side of Hearn Road, Northwest Boulevard/Leopard Road to FM 1694 Callicoatte Road		Northwest Boulevard	Callicoatte Road	Tier III
	CAL 6 – Local on-street Connections. Hearn Road etc. connecting to Starlite Lane at Violet Road and to Upriver Road Bike Lanes		Hearn Road	Starlite Lane	Tier III
	CAL 7 – SUP/Hike and Bike Trail along CO 69 from Northwest Boulevard to Hazel Bazemore-Calallen Park		Northwest Boulevard	Hazel Bazemore-Calallen Park	Tier III
	CAL 8 – Hike and Bike Trail from Hazel Bazemore-Calallen Park		Hazel Bazemore-Calallen Park	Dry Creek Drive	Tier III
Portland/Gregory	PGR 1 – Sunset Lake Park Bikeways Enhancement		Indian Point Pier	4th Street	Tier I
	PGR 2 – Memorial Parkway Hike and Bike Trail		Moore Avenue	Buddy Ganem Drive	Tier II
	PGR 3 – SUP along both sides of Moore Avenue		Houston Street	Hunt Road	Tier II

CODE, POLICY AND PROGRAM RECOMMENDATIONS

While the Corpus Christi MPO jurisdictions are too diverse in size, topography, demographics, built environments, and resources to apply a single set of recommendations to all communities, the following general recommendations provide a foundation for improving the walking and bicycling environment.

Code Recommendations

The existing foundation for active transportation and ADA compliance in the Corpus Christi MPO municipalities could be enhanced by adopting bike/ped-specific ordinances. Example language for sidewalks, bicycle facilities and bicycle parking is outlined in Exhibit 5-05.

Exhibit 5-05: Active Transportation Plan Code Language Recommendations

Code Topic	Example Language
Sidewalks and Bicycle Facilities – General Requirements	a) Where required, sidewalks shall be installed on both sides of the local residential, collector and arterial streets right-of-way and adjacent to the property line and parallel to the curb line. All major and minor arterials, collectors and other thoroughfares appearing on the City’s bike plan shall have bike facilities installed in accordance with its Street Design Manual or equivalent as determined by the City Engineer and/or the Planning Department. b) Sidewalks shall be 5-feet-wide if separated from the curb and be separated from the adjacent travel lane by at least 3 feet; if tied to the back of a curb or edge of roadway, the sidewalk should be at least 7-feet-wide c) The sidewalk must be wide enough to provide a minimum clear width of 4 feet at encroachments, including street lights, traffic signs, traffic control devices, utility installations, or other facilities. d) All new sidewalks must adhere to the City Design Manual’s technical standards and design requirements and applicable state and federal disability rights laws. e) Sidewalks determined to be in high pedestrian traffic areas, or pedestrian-oriented developments determined by the City Planning Department may required to be wider than the minimum widths. f) A SUP shall be required within the street right-of-way if the street is within a two-mile radius of a public school. A SUP may be substituted for one of the required sidewalks.
Bicycle Parking	a) Bicycle parking facilities shall be provided for new buildings or facilities, additions to or enlargements of existing buildings, or for changes in the use of buildings or facilities that result in the need for additional auto parking facilities in accordance with City parking requirements. b) One bicycle space shall be required for every 20 dwelling units in a multifamily (apartment-style) building, with fractions rounded to the next highest whole number. c) Individual bicycle parking spaces shall be a minimum of 75 inches by 24 inches wide for each space. Where double-sided multi-racks are utilized in overlapping of bicycle parking spaces, the minimum bicycle parking space shall be 100 inches long by 36 inches wide. d) Bicycle parking racks shall be located in areas visible from the public ROW and shall be provided with adequate lighting if intended for use after dark. e) Bicycle parking racks shall be placed a minimum of 24 inches away from walls and other elements that may create an obstacle to accessing the bike parking spaces. f) The City may authorize a reduction in the number of required off-street parking spaces for development uses that make special provisions to accommodate bicyclists, such as bicycle lockers, employee showers, and changing areas for employees. g) Bicycle parking spaces may be installed to alleviate vehicle parking space requirements if the development is located adjacent to a bike lane or an off-road bike path or adjacent to a street with an existing bike lane or off-road path. The provision of bicycle parking spaces can be used to reduce the number of required vehicle parking spaces by up to 10%. Up to six bicycle parking spaces (bike racks) can be used for every vehicle parking space.

Policy and Program Recommendations

Integrate street infrastructure that provides balanced transportation options and design features into street design and construction to create safe and inviting environments for all users to walk, bicycle and use public transportation.

1. Ensure that sidewalks, crosswalks, public transportation stops and facilities, and other aspects of the transportation right-of-way are ADA-compliant and meet the needs of people with different types of disabilities, including mobility, vision, and hearing impairments.
 - It is recommended that a code review workshop be created in partnership with Portland and Corpus Christi to review existing codes and provide recommendations to ensure ADA compliance and adequate provision of bicycle and pedestrian facilities in city codes and ordinances.
2. Prioritize incorporating Complete Street design features and techniques that promote safe and comfortable travel by pedestrians, bicyclists, and public transportation riders, such as roundabouts, road diets, high street connectivity, and physical buffers and separations between vehicular traffic and users.

Make practices that balance transportation options a routine part of everyday operations.

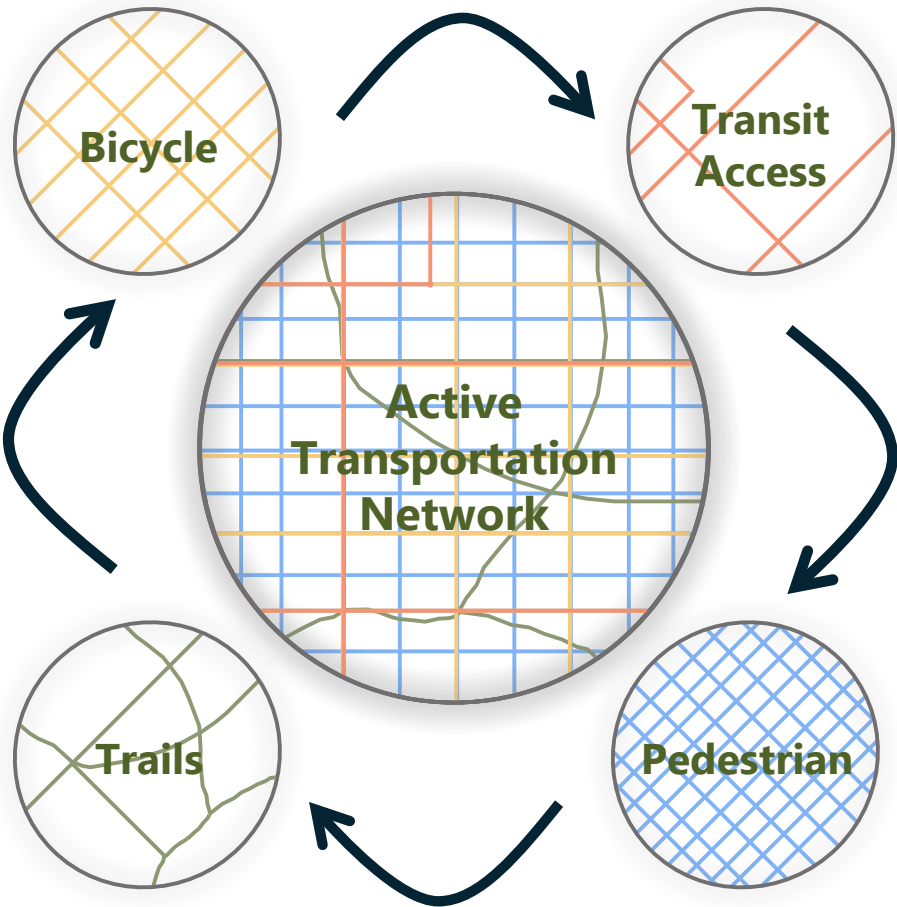
1. As new guidance and data becomes available, restructure and revise the zoning and subdivision codes and other plans, laws, procedures, rules, regulations, guidelines, programs, templates and design manuals, including the Unified Development Code, to integrate, accommodate, and balance the needs of all users in all street projects on public and private streets.
2. Develop or revise street and trail standards and design manuals, including cross-section templates and design treatment details, to ensure that standards support and do not impede Complete Streets; coordinate with related policy documents, including the trail master plans, ADA master plans and the Transportation Plan.
3. Encourage targeted outreach and public participation in community decisions concerning street design and use.
4. Reconsider using the automobile level of service as a dominant determinant when assessing mobility needs. Consider additional assessment criteria that support the expansion of active transportation when developing the final design.

Make public transportation an interconnected part of the transportation network.

1. Partner with CCRTA to enhance and expand public transportation services and infrastructure throughout the City of Corpus Christi and the surrounding region; encourage the development of a public transportation system that increases personal mobility and travel choices, conserves energy resources, preserves air quality and fosters economic growth.
2. Work with CCRTA to provide destinations and activities that can be reached by public transportation and are of interest to public transportation-dependent populations, including youth, older adults and people with disabilities.
3. Collaborate with the CCRTA to incorporate infrastructure to assist users in employing multiple means of transportation in a single trip in order to increase transportation access and flexibility; examples include, but are not limited to:
 - Seamless bicycle access to the transit system
 - Secure bicycle storage at transit stops
 - Connections to trails and recreational destinations
4. Ensure safe and accessible pedestrian routes to transit stops; relocate stops if safe routes are not feasible at current location.
5. Work with the CCRTA to ensure that public transportation facilities and vehicles are fully accessible to persons with disabilities.

Promote safety of all users.

1. Assess existing efforts by transit agencies in improving passenger safety accessing bus stops. Identify safety improvements to pedestrian and bicycle routes used to access public transportation stops; collaborate with transit to relocate stops where advisable.
2. Identify intersections and other locations where collisions have occurred or that present safety challenges for pedestrians, bicyclists, or other users; consider gathering additional data through methods such as walkability/bikeability solutions to safety issues.
3. Collaborate with schools, senior centers, advocacy groups and public safety departments to provide community education about safe travel for pedestrians, bicyclists and other users.



Sidewalk Network Enhancements and Expansion Recommendations

Provide children with safe and appealing opportunities for walking and bicycling to school to decrease rush-hour traffic and fossil fuel consumption, encourage exercise and healthy living habits in children, and reduce the risk of injury to children by vehicle traffic near schools.

1. Support Safe Routes to School Programs.
- Work with local public and private school districts to pursue encouragement programs such as Walk and Bike to School Days, as well as Walking School Bus/Bike Train programs at elementary schools, where parents take turns accompanying groups of children to school on foot or via bicycle.
 - Gather baseline data on attitudes about and levels of walking and bicycling to school through student tallies and parent surveys; gather additional data each spring and fall to measure progress.
 - Work with local public and private school districts and advocates to obtain Safe Routes to School funding to implement education programs.
 - Work with local and private school districts to encourage education programs that teach students walking and bicycling behaviors, and educate parents and drivers in the community about the importance of safe driving.
 - Work with law enforcement to enforce speed limits and traffic laws, assist in ensuring safe crossings, and promote safe travel behavior within the schools.
 - Encourage parents to get children to school through active travel such as walking or bicycling.
2. Prioritize safety and roadway improvements around our schools.
- Conduct walkability and bikeability audits along routes to schools to identify opportunities and needs for infrastructure improvements.
 - Ensure that speed limits in areas within 1,000 feet of schools are no greater than 15 mph below the posted speed limit.
 - Assess traffic speeds, volumes, and vehicle types around schools; implement traffic calming in areas immediately around schools where indicated by speed and volume; consider closing streets to through traffic during school hours if other methods cannot reduce the threat to safety.
 - Pursue Safe Routes to School funding to implement infrastructure improvements.

Create safe routes to parks and open spaces.

1. Encourage the development of parks and open space with a network of safe and convenient walking and bicycle routes, including routes that access other popular destinations, such as schools.
2. Implement traffic calming measures near parks where advisable due to vehicle speeds and volumes.
3. Improve intersections at park access points to create greater visibility for all users and provide accessible curb ramps and additional time to cross the street.
4. Improve public transportation connections to trails, parks and other recreational locations.
5. Ensure that all parks and open spaces are accessible by safe bicycling, walking, micro-mobility and public transit routes.
6. Ensure that trails, parks and open spaces have secure bicycle parking facilities.

Ensure that residents of all ages and income levels can walk and bicycle to meet their daily needs.

1. Improve bicycle, pedestrian, and public transportation access to residential areas, educational and child care facilities, employment centers, grocery stores, retail centers, recreational areas, historic sites, hospitals and clinics, and other destination points.



Source: Seattle Public Schools

FUNDING RECOMMENDATIONS

Appendix B provides a list of the funding sources that could be pursued to implement the active transportation, Complete Streets, and micro-mobility projects. The Corpus Christi MPO and cities may leverage their local resources by tapping into state, federal and other resources to enhance their Active Transportation Network and programs.

As can be seen in the tables in the appendix, there are numerous funding opportunities available for project and program development from sources at the local, state and federal level. Some funding sources require significant efforts to prepare an application and some funding sources are highly competitive and/or over-subscribed. There should be careful consideration of the competitive strength of the projects and the inter-agency support needed for the pursuit. The Corpus Christi MPO and the cities in its jurisdiction should collaborate to identify and pursue outside funding sources to supplement the available local funds to more readily advance the planned network and programs.

MPO Strategic Assistance for Grant Pursuits

To overcome the challenges of applying for funding grants and other opportunities, the Corpus Christi MPO should use its knowledge of grants available and the interagency procedures to facilitate the pursuit and effective attainment of non-local funds for active transportation.

Grant Matching Fund Assistance

The Corpus Christi MPO should establish a Matching Funds Program that could be utilized as matching funds for state and federal grant pursuits.

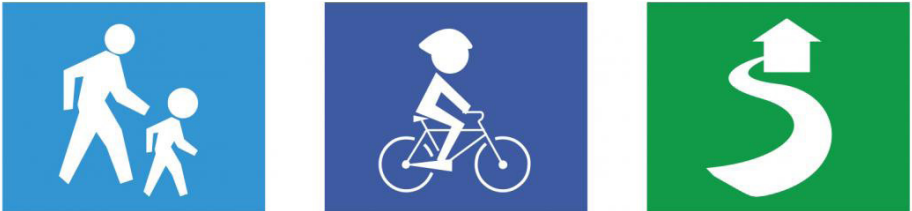
Local Support to Implement Active Transportation Plan Recommendations

There are many individuals in the communities that have skills that can be utilized by the MPO and cities to assist with grant writing, project conceptual designs, illustrative graphics and other grant writing support. Many are willing to offer their assistance at little or no cost for the betterment of their community. The MPO should utilize the local talent of its active citizens and consulting community to develop and promote the Active Transportation Plan.



Source: TxDOT

SafeRoutes



Source: Valley Transportation Authority



Source: USDOT