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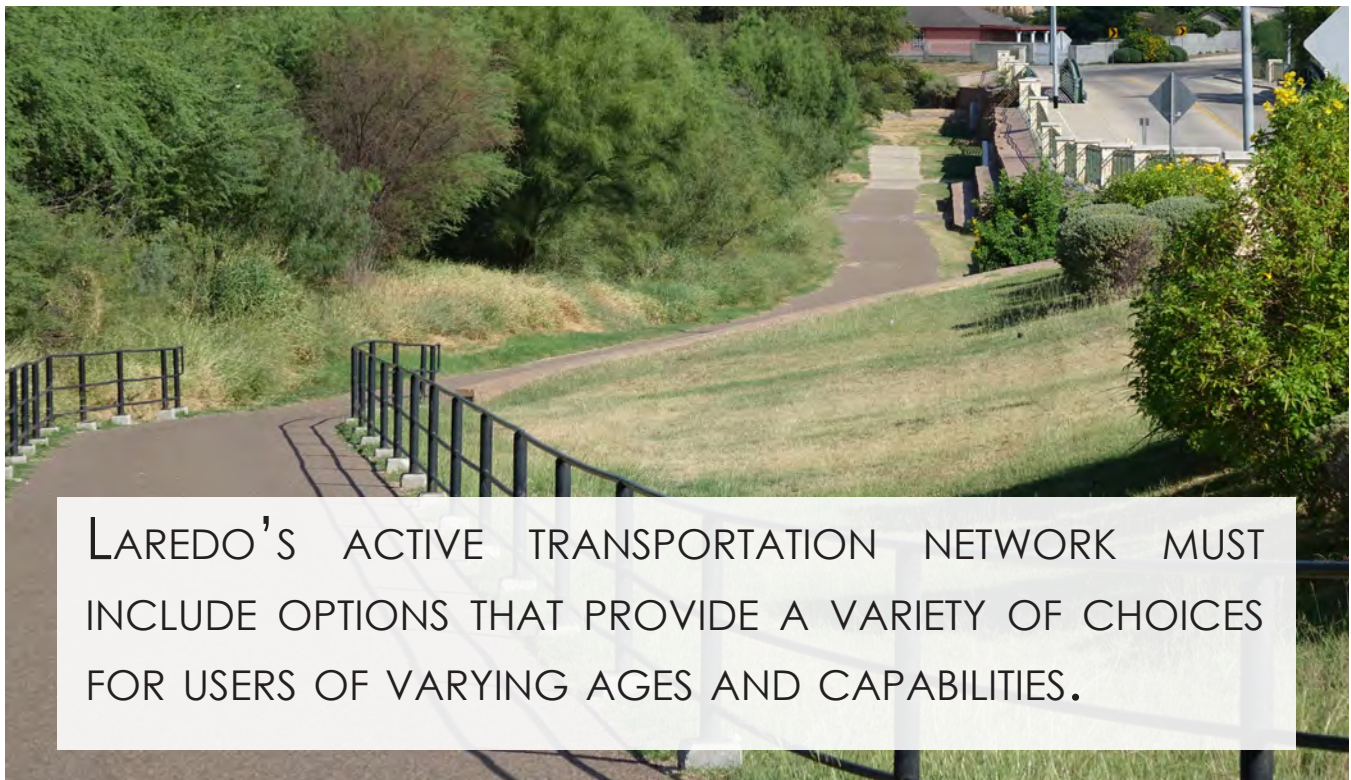
4.1 FUTURE BICYCLE NETWORK

Laredo's current and future active communities deserve a safe, connected, and substantive active transportation network that provides a balance of utilitarian and recreational facilities. The Active Transportation Plan will assist the City and County in decision making, resource allocation, design, implementation, and maintenance of the proposed multi-modal network.

Laredo's active transportation network must include options that provide a variety of choices for users of varying ages and capabilities. This includes existing users in the area such as road cyclists that ride scenic routes to younger riders that ride recreationally, as well as pedestrians throughout the region. Bicycling and walking infrastructure are most effective when destinations are nearby, as is the case in mixed-use developments, and when multiple transportation options are available for residents near employment centers. A multi-use trail system is also an important element of the proposed active transportation network and can improve community wide mobility.

The Active Transportation Plan recommends carefully integrating pedestrian, bicycle, and transit planning to ensure an effective active transportation system. Connecting both walking and bicycling to transit increases the "catchment area" of transit stations and increases the total possible trip length for all users, which replaces longer car trips and can lead to reduced emissions.

This chapter provides recommendations for actions that go beyond engineering focused around five elements: Evaluation, Education, Encouragement, Enforcement, and Equity. These "Beyond Engineering" elements are important to keep in mind when planning and implementing active transportation projects and programs. Nearly all recommendations in this Plan require collaborative effort between public, private, non-profit organizations, and local businesses and residents. LW-CAMPO cannot implement the Plan's recommendations without support and leadership from a network of strong and willing partners.



LAREDO'S ACTIVE TRANSPORTATION NETWORK MUST INCLUDE OPTIONS THAT PROVIDE A VARIETY OF CHOICES FOR USERS OF VARYING AGES AND CAPABILITIES.

4.1 FUTURE BICYCLE NETWORK

BEYOND ENGINEERING KEY ELEMENTS

Evaluation & Planning:

- Increase local capacity for pedestrian/bike project planning, implementation, and evaluation
- Create a “data dashboard” of key metrics and evaluate progress towards walk and bike mode goals

Education:

- Change how Laredo talks about traffic injuries & fatalities
- Design and launch a broad reaching bike skills training and bike lock/safety gear distribution initiative
- Launch a professional driver education program
- Improve the reach of Laredo’s safety outreach campaigns to drivers
- Public Service Announcements- Visual Trainings to educate all ages on important safety topics

Encouragement:

- Expand the landscape of encouragement events to offer new, and more frequent programming
- Host targeted events and programs to engage

underrepresented groups, such as women and seniors

- Grow awareness of and participation in existing Transportation Demand Management Programs

Enforcement:

- Revise crash reporting protocol to collect more robust data for crashes involving people walking or biking
- Increase collaboration between local law enforcement agencies, emergency service providers , City and County departments, and local organizations

Equity:

- Expand education efforts and access to low income and minority communities
- Consider location equity in distributing walk/bike improvements across Laredo’s neighborhoods
- Safeguard against discriminatory enforcement
- Deepen understanding of the needs and priorities of populations underrepresented in Laredo’s active transportation advocacy community.

4.1 FUTURE BICYCLE NETWORK

Through extensive research, public input, and a carefully designed methodology, the recommendations included in this Chapter outline projects, programs, and policies that can be implemented over the next 20 years to create a safe and equitable active transportation network that is accessible and well-connected throughout the region.

The recommendations were built around the following considerations:

- Building a Functional Pedestrian/Bicycle Transportation Network
- Coordinating planning efforts
- End of trip Facilities
- Connecting bicycles and public transit
- Improving signage

The Active Transportation Plan's recommendations are broken down into six elements:

- Bicycle Network
- Pedestrian Network
- Transit
- Last Mile
- Wayfinding
- Other Recommendations

The recommendations were prioritized using stakeholder feedback and prioritization criteria focused on creating a connected, safe, and equitable active transportation network. The recommendations are prioritized individually for each element in alphabetical order with "A" being the highest priority. These recommendations represent the vision of the community and provide Laredo and Webb County area residents with a safe and accessible means to move around the region.

4.1 FUTURE BICYCLE NETWORK

A primary objective of this Plan is to create a well-connected network through loops, spines, branches, and protected lanes. An additional objective of the Plan is to focus on investing and creating a connected network of active transportation facilities, not isolated facilities.

Many of the recommendations from the "1994 Bicycle Transportation Plan" are reiterated and complement the newer and expanded aspects of this update. Based on the assessment of bicycle transportation needs and practices in the region, action and funding commitments to the recommendations presented in this Plan are necessary to support the City's vision to attract more residents to use alternative modes of transportation.

4.1 FUTURE BICYCLE NETWORK

Methods for creating a safe and desirable bicycle network include the process of making all significant destinations accessible. Traits of a proper bicycle network include the use of a combination of four types of bikeways: bicycle paths, bicycle lanes, separated bicycle facilities, and shared routes.

Bicycle networks should accommodate a wide range of bicyclists in the community. Common trends in bicycle networks across the United States are incorporating design features to accommodate for all ages and abilities. Designing an interconnected and accessible network for all ages and abilities provides the entire community a safe alternative mode of transport.

The proposed network is based on the notion that bike lanes address the desire for efficient bicycle transportation with more cyclist's comfort when compared to sharing the same travel lane with vehicular traffic. This would appeal to those who are not as comfortable to ride in traffic, but are frustrated by factors such as indirectness and frequent stops and starts. Creating a high-quality, connected network appeals to a broader range of residents.

The proposed bike facility projects could be implemented incrementally by building on Laredo's existing base of bikeways and paths over the next 20 years to achieve the long-term network.

4.1.1 NETWORK METHODOLOGY

The network design is focused on connecting people to places and uses a place-based approach. The proposed bicycle network was developed by documenting the existing infrastructure, reviewing proposed bicycle projects from previous plans and studies, and analyzing existing data. The network was carefully designed by developing routes that connect with regional destinations or other bicycle facilities, while ensuring routes were placed in the safest and most accessible locations. The proposed network routes were then refined through stakeholder feedback.



RENDERING OF PROTECTED BIKE LANE (SOURCE: NACTO)



PROTECTED BIKE LANE IN AUSTIN, TX

4.1 FUTURE BICYCLE NETWORK

4.1.2 BIKE FACILITY TYPES

This Plan recommends both off-street and on-street bicycle facilities. Considering the Plan's focus on safety, only three bicycle facility types are recommended for the proposed network:

- Buffered Bike Lanes
- Protected Bike Lanes (i.e. cycle tracks)
- Shared-Use Paths (i.e. paved trails)

OFF-STREET FACILITIES

Existing and new trails will serve as the spines for the bicycle network. These were selected because they provide the highest level of safety considering they are not sharing a road. The Rio Grande flows continuously along the western most side of our City. The trail along the river is considered a spine. The local creeks will also serve as branches that connect from the river into the community. These include:

- Rio Grande River
- Main Stem of the off-street network, connects from La Bota to Laredo College South
- Sombrerito Creek & Cuervo Creek
- Manadas Creek
- Multi-Phase Project- From North Central Park to Rio Grande, route is lacking connection downstream
- Zacate Creek- Multi-Phase Project- has existing trails and needs missing middle section
- Chacon Creek- Multi-Phase Project- has existing trails and need to be completed
- Un-named Tributary - Connection to LC South campus
- San Idelfonso Creek- Southernmost section that provides connection to loop back up towards the City



TWO-WAY PROTECTED BIKE LANE IN COLUMBUS, OH



BUFFERED BIKE LANE IN FAIRFAX, CA (SOURCE: NACTO)

SPINE AND BRANCHES MAP

- Active Greenspace - Spine & Branches
- Access to Greenspace (< 0.5 mi)

LOCAL WATERWAYS

This map displays local creeks that extend through the region. These natural waterways are an asset to the community in developing an off-street connected network. The light green color indicates the area of the region within one half-mile of a creek.

4.1 FUTURE BICYCLE NETWORK

ON-STREET FACILITIES

Protected bike lanes are considered the most ideal infrastructure to incorporate into a developing network since they provide clear lanes and barriers that provide the most safety. They are essential in building a connected bike network. Ensuring protected bike lanes is a priority of this Active Transportation Plan.

BENEFITS OF PROTECTED BIKE LANES

- Increases number of people biking across all ages and levels
- Makes biking more comfortable
- Makes biking safer
- Makes driving less stressful
- Spurs economic growth
- Reduces sidewalk biking
- Makes it safer for pedestrians
- Reduces the risk of 'dooring'



PROTECTED LANE WITH ARMADILLOS IN SAN ANTONIO, TX

RECOMMENDATIONS

1.A Improve connectivity and access to destinations by completing segments of existing trails and creating an interconnected network of trails to allow for regional mobility without obstructions.

1.B Amend Land Development Code to require bicycle lanes, bicycle amenities, and bicycle parking in future developments or subdivisions.

1.C Connect mobility projects related to active transportation that are currently in-progress to the overall network; connect existing and proposed on-street bike facilities to off-street facilities.

1.D Establish a network of on-street protected bike lanes that compliment and connect to the off-street trail network.

1.E Establish a network of an off-street trail network consisting of a main spine and branches that connect throughout the City along our waterways.

1.F Develop and adopt a local Complete Streets Policy focused on high activity corridors.

1.G Improve access to the off-street network by adding additional entry points along the route.

- Project: Improve access to trails at the neighborhood level by working with neighborhood organizations and stakeholders to identify access gaps along existing trails.

1.H Ensure trails provide safe access to regional destinations

- Project: Extend the Chacon Creek Hike and Bike Trail from Saunders (Hwy59) to L.I.F.E Downs/Casa Blanca Spillway.

1.I Create an Adopt-A-Trail program in partnership with keystakeholders such as Keep Laredo Beautiful, Parks and Recreation, local schools, and other local organizations to improve trail maintenance, beautification, and safety.

EXISTING NETWORK

Existing Bikeways

- On-Street
- Off-Street

EXISTING BICYCLE FACILITIES

The current network consists of 35 miles of improved bicycle facilities.

PROPOSED 10-YEAR ROUTES

Existing Bikeways

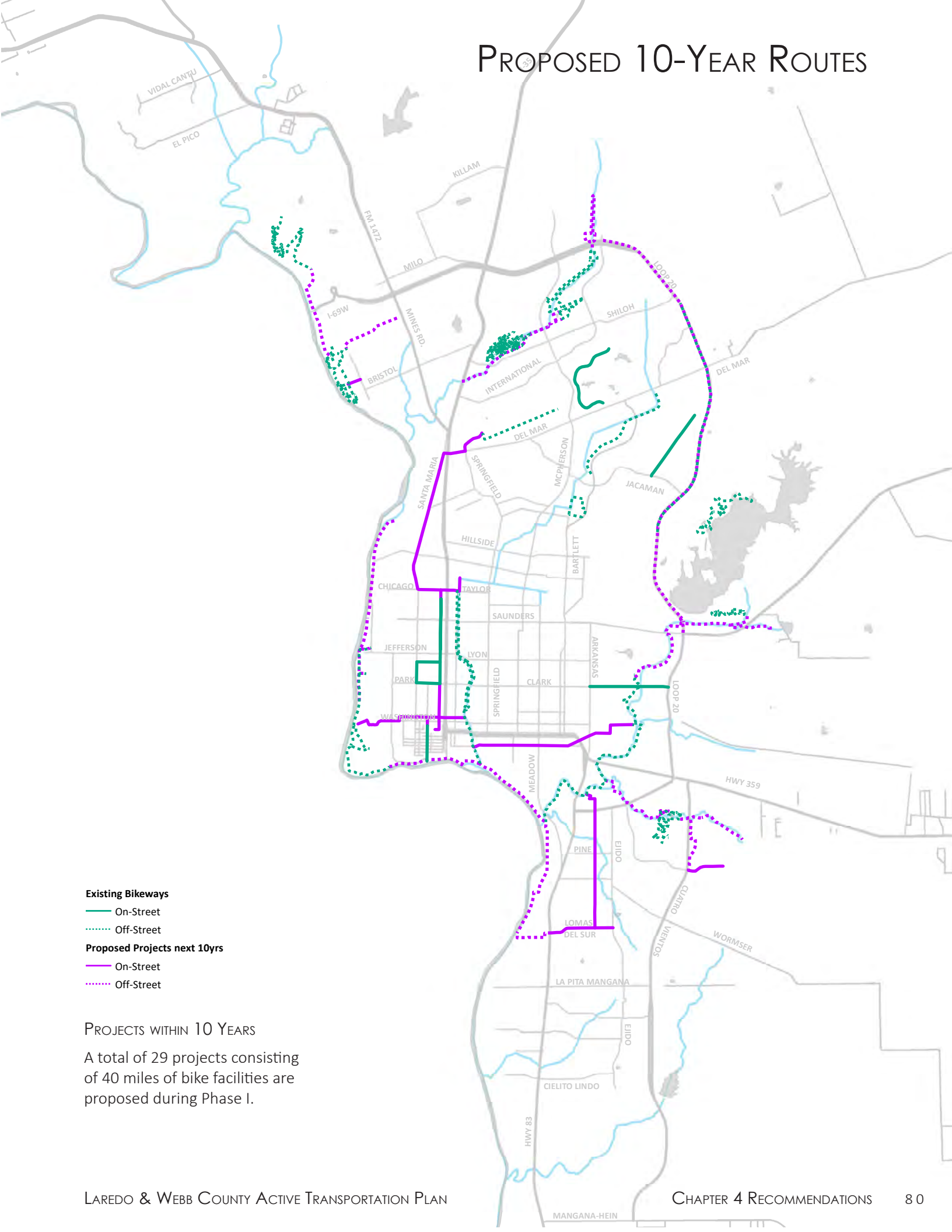
- On-Street
- Off-Street

Proposed Projects next 10yrs

- On-Street
- Off-Street

PROJECTS WITHIN 10 YEARS

A total of 29 projects consisting of 40 miles of bike facilities are proposed during Phase I.



PROPOSED 20-YEAR ROUTES

Existing & Projected Network

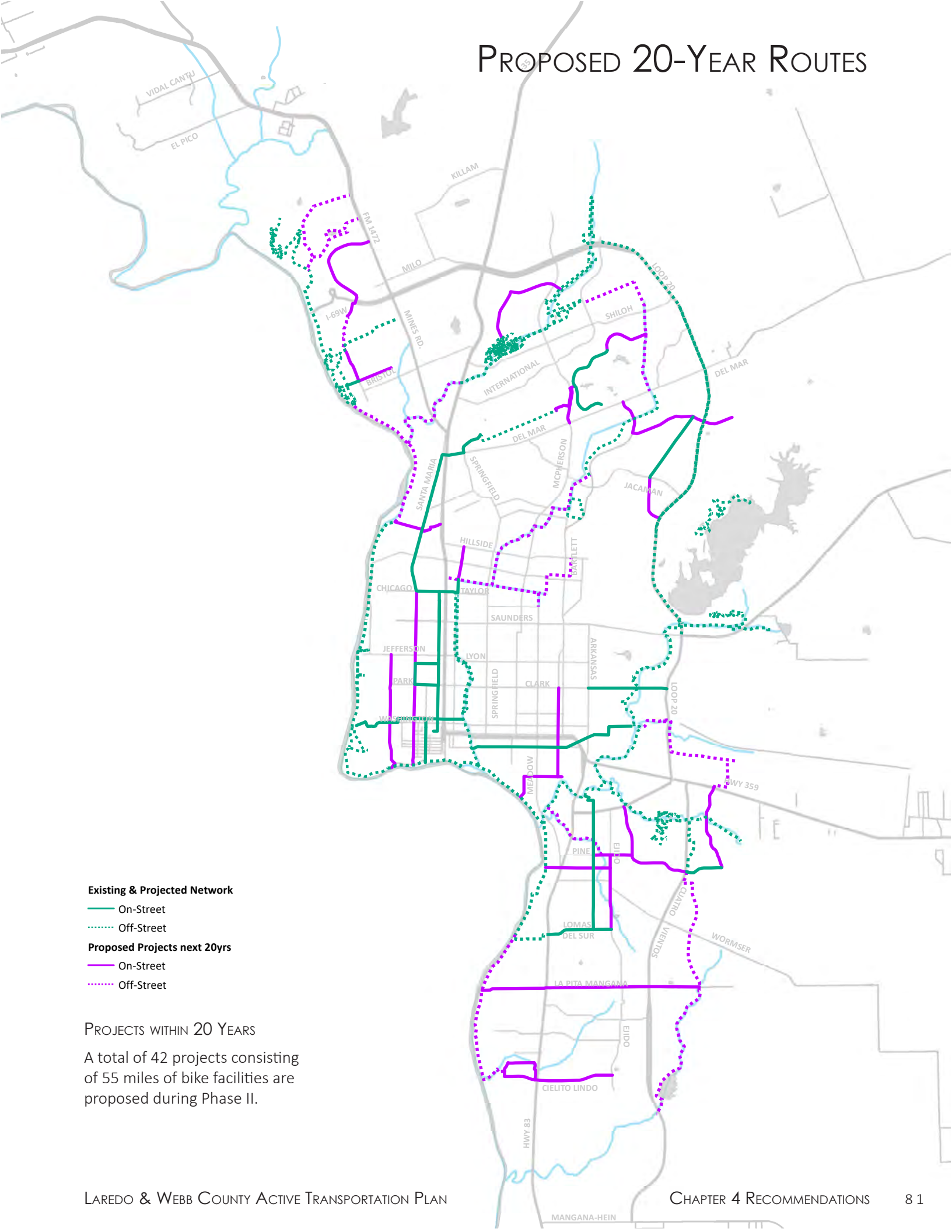
- On-Street
- ... Off-Street

Proposed Projects next 20yrs

- On-Street
- ... Off-Street

PROJECTS WITHIN 20 YEARS

A total of 42 projects consisting of 55 miles of bike facilities are proposed during Phase II.



PROPOSED BUILDOUT ROUTES

Existing & Projected Network

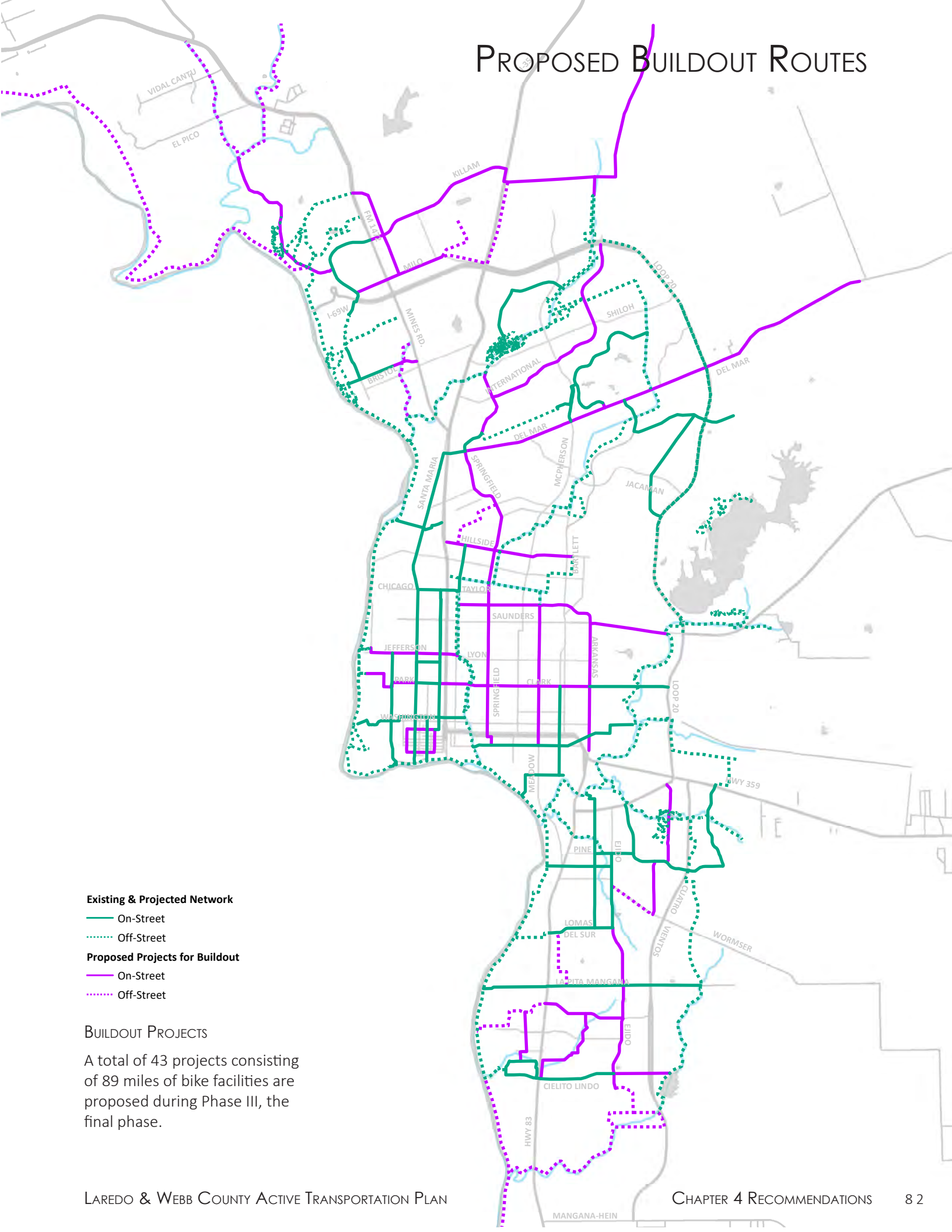
- On-Street
- Off-Street

Proposed Projects for Buildout

- On-Street
- Off-Street

BUILDOUT PROJECTS

A total of 43 projects consisting of 89 miles of bike facilities are proposed during Phase III, the final phase.



PROPOSED BUILDOUT NETWORK

Existing & Projected Network

— On-Street

... Off-Street

Proposed Projects next 10yrs

— On-Street

... Off-Street

Proposed Projects next 20yrs

— On-Street

... Off-Street

Proposed Projects for Buildout

— On-Street

... Off-Street

COMPLETE BUILDOUT NETWORK

This map displays the complete proposed network of connected on-street and off-street bike facilities.

4.2 FUTURE PEDESTRIAN NETWORK

4.2 FUTURE PEDESTRIAN NETWORK

A priority of this Plan is to ensure residents have secure, reliable, accessible, and connected sidewalks. Establishing a pedestrian network to include accessible sidewalk connections to all stops and transit stops equipped with shelters, signage, and education resources should be considered, as well as incorporating accessible boarding and alighting for those with mobility issues. Connecting various networks, while providing safe, accessible, and reliable sidewalks should encourage residents to walk more often to their destinations.

RECOMMENDATIONS

2.A Perform a gap analysis of the existing sidewalk network and make strategic improvements based on an approved timeline and criteria.

2.B Prioritize safety, crosswalk, and ADA improvement along corridors within a ¼ mile buffer of schools, bus stops, major health facilities, parks, and recreation centers.

2.C Establish a network of an off-street trail network consisting of a main spine and branches that connect throughout the City along our waterways.

2.D Develop and adopt a local Complete Streets Policy focused on high activity corridors.

2.E Identify pedestrian boulevards with expanded features and amenities along key retail and entertainment corridors in Downtown Laredo.

- Project Recommendation: Commission a study that identifies the best location and amenities to provide enhancement.
- The pedestrian boulevard will help enhance the history and beauty of Downtown Laredo, while providing a safe and comfortable way to move around Downtown.

2.F Prioritize Safety Features along trails, in particular “Emergency Beacons”.

2.G Create a program for neighborhood-initiated traffic calming improvements and tactical urbanism in collaboration with various City departments including Planning, Parks and Recreation, Traffic, and Public Works.

- Neighborhood interventions can include installation of pilot bike lanes, tree planting, addition of shade facilities, and crosswalk beautification projects.

2.H Prioritize Redevelopment of San Bernardo Avenue into a Complete Street.

- The existing bike lane on San Bernardo does not provide the type of safety features and design criteria outlined in this Plan.
- Project Recommendation: Create a History and Culture Trail along San Bernardo. This would entail redeveloping the avenue by installing a shared use path to improve bicycle and pedestrian mobility, while providing space for parklets and parking.



EXISTING CROSSWALK AT NORTH CENTRAL PARK

4.3 INTERCONNECTED TRANSIT SOLUTIONS



4.3 INTERCONNECTED TRANSIT SOLUTIONS

To ensure a complete and effective active transportation network, it is important to include various transit operations that carefully integrate pedestrian, bicycle, and transit planning. Connecting both walking and bicycling to transit stops increases transit ridership and increases the total possible trip length for all users. This in turn replaces longer car trips and can lead to reduced emissions. Creating higher frequency and reliable, accessible, and affordable local and regional transit would make transit a more convenient option for residents.

RECOMMENDATIONS

3.A Create a policy requiring development to reserve space for bus stops and loading bay (bus turnouts).

3.B Enhance transit stops to provide secure bicycle parking.

3.C Study the potential for a partnership between El Metro and El Aguila to develop a transit hub in South Laredo to serve urban & rural routes.

3.D Improve transit user experience by integrating wayfinding and route awareness tools.

3.E Study the potential for a partnership between El Metro and a third-party micromobility provider allowing for a multi-pass program.

3.F Prioritize bus stop improvements to the highest demand routes.

4.4 LAST MILE & MICROMOBILITY SOLUTIONS

4.4 LAST MILE & MICROMOBILITY SOLUTIONS

To provide additional affordable transportation options for residents, new micromobility options and programs should be considered. This will involve developing new regulations and making infrastructure improvements to accommodate micromobility options in a safe and orderly manner.

RECOMMENDATIONS

4.A Collaborate with a third-party micromobility provider to establish a bike share program in Laredo.

4.B Study the potential for a partnership between El Metro and a third-party micromobility provider allowing for a multi-pass program.

4.C Encourage availability of e-scooters and extend the areas where they are utilized to include strategic locations Citywide.

- Expand service and place stations at strategic locations such as regional parks and local university and college campuses.

4.D Enhance transit stops to provide secure micromobility hubs.

4.E Classify micromobility types and designate standards of use.



EXAMPLE OF MICROMOBILITY DEVICES



EXAMPLE OF ENHANCED TRANSIT STOP

4.4 LAST MILE & MICROMOBILITY SOLUTIONS

BIKE SHARE PILOT PROGRAM

LW-CAMPO and El Metro Transit staff have discussed the possibility of partnering with a micromobility provider to initiate a pilot bike share program. Bike share programs provide a service where bicycles can be rented for a fee from an automated self-service station. Bike share is often used for first-and-last mile trips to help users connect with transit as the common bike share price structure encourages short distance trips.¹ Bike share users are able to access bicycles at various locations where stations are placed, which supports an on-demand and low emission mobility option.²

Initiating a bike share program requires a minimal investment while providing several benefits. Implementation costs of a bike share program in Laredo for 10 initial stations is estimated at \$473,000. This is significantly less than one lane-mile of urban highway.³

To initiate the Laredo Bike Share Pilot Program, LW-CAMPO and El Metro will need to collaborate with various City departments. Initially, the program proposes five bike share stations located at local parks to ensure visibility and generate the community's interest. After starting the pilot program with a few stations at parks and studying the program's demand and success, stations can be expanded to strategic locations in other parts of the City such as downtown. Additionally, LW-CAMPO should look at the feasibility of partnering with Nuevo Laredo to provide an additional mobility option for people crossing the U.S.- Mexico border and encourage bike share use on both sides of the border.

A private-public business model is recommended for the pilot program. This program would require the micromobility provider to provide equipment and technical assistance. The operations and maintenance can be managed publicly. El Metro Transit has shown interest in serving as the operations partner, which would require them to manage the program and perform equipment maintenance. This type of partnership would require that the City enter into a service agreement

with the micromobility provider. The service provider agreement should outline program responsibilities, expected service levels, data sharing requirements, and maintenance standards. A collaborative public-private partnership and effective management can ensure the success of a pilot bike share program in Laredo.

BIKE SHARE PROGRAM HIGHLIGHTS

- Minimal investment required to initiate program
- Improves mobility, connectivity, and accessibility
- Complements transit and walking; inexpensive way to strengthen transit network
- Bike share improves quality of life
- Economic and environmental benefits
- Bike share can improve community health
- Can increase local familiarity of existing trail system and connect parks
- Bike share helps promote a positive, forward-thinking community image
- Bike share is attractive to visitors and can encourage repeat visits



BIKE SHARE IN McALLEN, TEXAS

SUGGESTED LOCATIONS FOR BIKE SHARE STATIONS

Bike Rental Program Participation (June 1 - Dec. 3, 2020)	
Site	Participants
North Central Park	2,924
Jovita Idar's El Progreso Park	1,483
Independence Hills Park	929
Haynes Rec. Center- Chacon Hike & Bike Trail	782
Father McNaboe Park	577

Bike Share Locations

Initial

Secondary

Existing Bikeways

On-Street

Off-Street

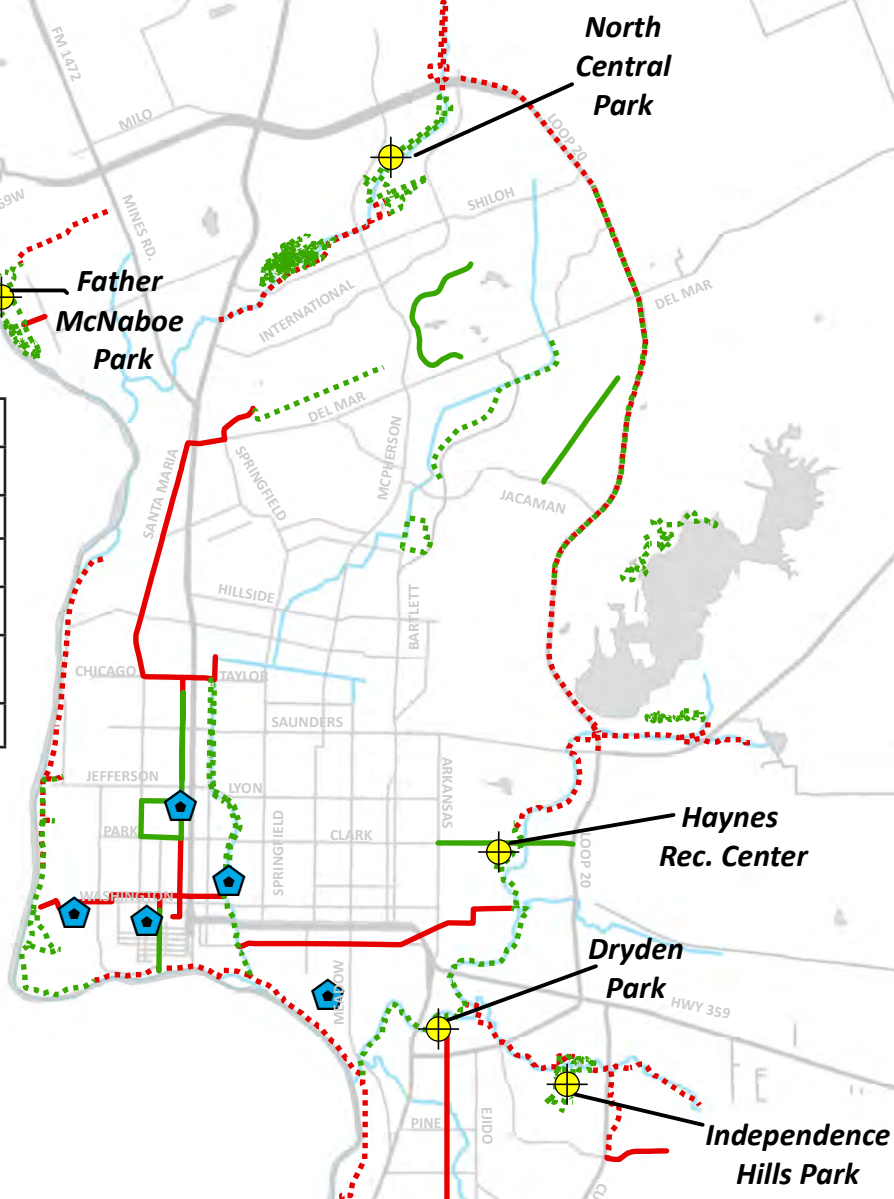
Proposed Projects next 10yrs

On-Street

Off-Street

BIKE SHARE LOCATION STRATEGY

The City of Laredo Parks and Recreation Department started a bike rental program in 2020. The program accounted for a total of 6,695 participants from June to December of 2020. Initial sites selected correspond to parks that have the highest activity for bike rentals and connect to existing bicycle facilities.



4.5 WAYFINDING

4.5 WAYFINDING

Wayfinding helps pedestrians and bicycle riders find their way around the City, and typically consists of signs, pavement markings, or materials such as maps. Route or destination signage can help bicyclists navigate throughout the City when the bicycle route deviates from one street to another.

Wayfinding can be enhanced through the use of gateway features and signs to make the bicycle and pedestrian network more visible. Wayfinding signs should also serve to “brand” the community’s growing network of pathways and on-street bicycle facilities. Creating a design that provides an attractive and uniform system of signs and gateway markers throughout the City and at key access points would promote active transportation routes and can help increase the number of people using the network.

THE NEED FOR WAYFINDING

Feedback from public engagement activities and the public survey indicates that many residents are not aware of the existing bike trails in the community. Survey participants were asked if they had to guess, how many bicycle trails or lanes exist in the region. The majority of respondents thought there were less than 10 trails and bicycle lanes in the community. Additionally, 66% of survey respondents indicated that they never ride a bicycle on existing trails. The lack of familiarity and use of the existing bicycle network among survey respondents demonstrates that there is a need to improve wayfinding. This presents an opportunity to brand the active transportation network, initiate marketing efforts, and implement system wide wayfinding signage to increase the community’s familiarity with the existing and future network and promote active transportation in the region.



DIRECTIONAL SIGN INDICATING TRAIL LOCATION



EXAMPLES OF BIKE TRAIL SIGNAGE AT INTERSECTIONS

4.5 WAYFINDING



EXISTING TRAILHEAD SIGNAGE AT CHACON TRAIL LACKING DETAIL



ENHANCED TRAILHEAD SIGNAGE IN SAN ANTONIO

4.5 WAYFINDING

RECOMMENDATIONS

5.A Create highly visible signage indicating to vehicles where roads intersect or overpass hike and bike trails.

5.B Create highly visible signage along the active transportation network to increase route awareness and familiarize users with the network.

5.C Create web-based and mobile tools to facilitate wayfinding for users and promote points of interest.

5.D Develop a print pamphlet with the system map and important route information that can be disseminated to the community.

5.E Develop branded trailhead signage showing system-wide amenities.

5.F Provide emergency call boxes in strategic locations, especially on off-street trails, to enhance safety and security of the active transportation network.



System information signs can include network maps, trail information, and safety guidelines.



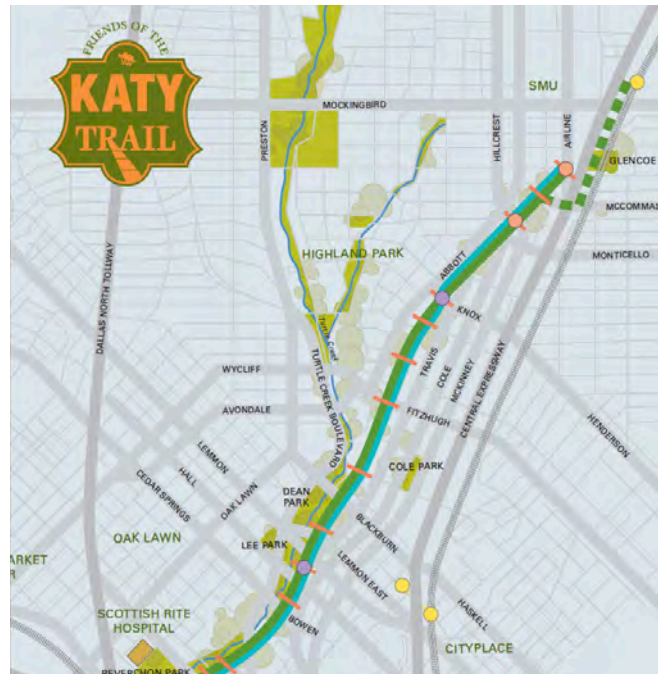
Interpretive signs can include educational, cultural, and historic information. Interpretive signage helps create a sense of place.



Directional signs show users how to access destinations and distance to different destinations.



WAYFINDING SIGN IN PORTLAND, OREGON



EXAMPLE OF BIKE ROUTE MAP - DALLAS, TX

PROPOSED WAYFIDING LOCATIONS

Wayfinding Signs

- ◆ Roadway - Route Identifier
- Trailhead - Access Point

Existing Bikeways

- On-Street
- ⋯ Off-Street

Proposed Projects next 10yrs

- On-Street
- ⋯ Off-Street



4.6 OTHER RECOMMENDATIONS

4.6 OTHER RECOMMENDATIONS

To ensure a safe and highly utilized network, education and outreach programs will be essential. Education components should involve the following:

- Educate adults and school-age children to understand their rules, rights, and responsibilities. Target certain educational efforts to maintain a safe environment for users and motorists.
- Educate residents regarding the usage of sidewalks, bicycle lanes, transit, and assist in maintaining safe active transportation environments
- Continuation of BikeLaredo educational programs

To promote active transportation and educate the community, partnerships with the following entities should be considered:

- City of Laredo Health Department
- City of Laredo Parks and Recreation Department
- Keep Laredo Beautiful
- Law enforcement agencies
- School districts
- Walk.Bike.Ride Laredo
- Rio Grande International Study Center (RGISC)
- El Metro and El Agulia
- Texas A&M International University (TAMIU) and Laredo College (LC)
- Bicycle Friendly Business (BFB)
- Texas Parks and Wildlife
- Neighborhood groups
- Civic organizations
- Texas Department of Transportation

RECOMENDATIONS

The following recommendations focus on promoting education, increasing data for better decision-making, and facilitating implementation.

6.A Collaborate with partners to launch the Bicycle 101 safety education campaign for cyclists and drivers.

6.B Improve data collection inventory to facilitate decision-making and prioritization and location of projects.

6.C Partner with schools to educate students about the benefits of active transportation and safety awareness.

6.D Promote Safe Routes to School activities in partnership with local schools.

6.E Initiate Bike to Work/School Day and secure funding for annual promotion.

6.F Organize an Active Transportation Sub-committee of the MPO to provide ongoing recommendations to the Policy Committee.

6.G Hold an annual Active Transportation summit bringing together MPO, City, and all relevant organizations to review progress on completion of this plan and discuss new opportunities.

6.H Develop a detailed funding and finance plan for priority projects listed in the recommendations of this plan.

6.I Provide resolutions for adoption to City of Laredo and the Laredo & Webb County Area MPO for recommended percentage of total budget to be spent on active transportation infrastructure (with separate allocations for each category) and incorporated into the Capital Improvement Plan (CIP) and Transportation Improvement Program (TIP).

OMAR RAMIREZ



Omar Ramirez has two jobs and is a tutor at both. He uses the transit system since he does not have a car to get to work. Since Mr. Ramirez has two jobs, he has to use two different transit routes to get to his destinations. However, in order to arrive at the transit stops, he does have to walk to those destinations.

When asked how his experience could be improved, Mr. Ramirez stated, "Sheltered roof bus stops make a difference."

ENDNOTES

- 1 Pedestrian and Bicycle Information Center. Bike Sharing in the United States: State of the Practice and Guide to Implementation. http://www.pedbikeinfo.org/pdf/Webinar_PBIC_LC_042612.pdf
- 2 U.S. Department of Transportation FHA. Shared Mobility: Current Practices and Guiding Principles. <https://ops.fhwa.dot.gov/publications/fhwahop16022/fhwahop16022.pdf>
- 3 City of Wilmington. Bike Share Feasibility Study. <https://www.wilmingtonde.gov/government/city-departments/planning-and-development/bike-wilmington/bike-share-feasibility-study>