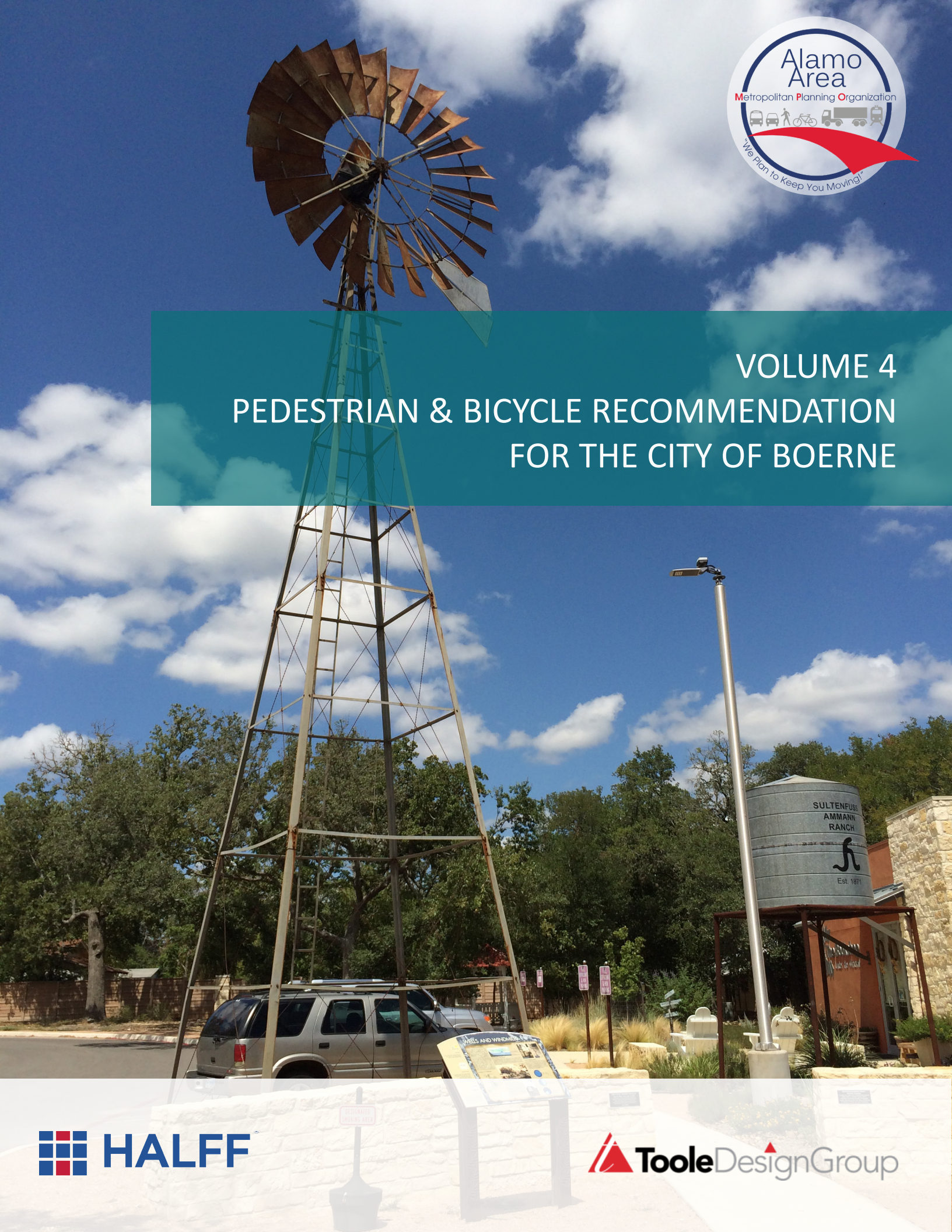




VOLUME 4 PEDESTRIAN & BICYCLE RECOMMENDATION FOR THE CITY OF BOERNE



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PEDESTRIAN & BICYCLE RECOMMENDATION FOR THE CITY OF BOERNE

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Boerne Lake City Park is a key destination for visitors and City residents.

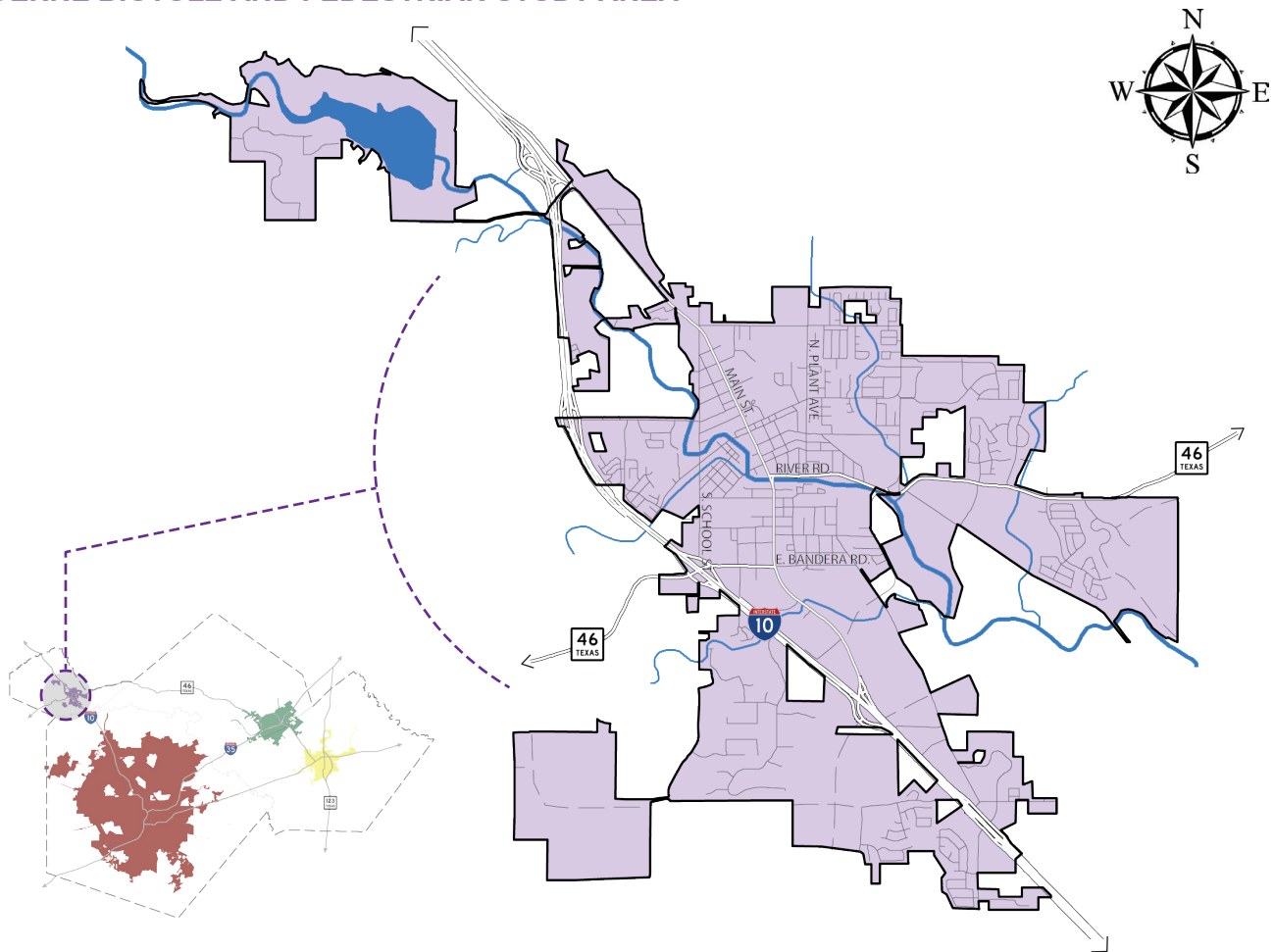
VOLUME 4 CHAPTER 1 BOERNE BICYCLE & PEDESTRIAN STUDY INTRODUCTION

Located approximately 30 miles northwest of downtown San Antonio, Boerne is a rapidly growing bedroom community located at the rural edge of the Alamo Area region. The City strives to become a destination defined by a high quality of life. In its latest comprehensive plan update, the provision of alternative transportation linkages was identified as a key objective of Boerne, and a top priority for future improvements to the City.

In order to encourage and enhance alternative modes of transportation such as walking and bicycling, the City of Boerne has partnered with the Alamo Area Metropolitan

Planning Organization (AAMPO) to conduct a Citywide pedestrian and bicycle study as a component of the MPO's five-volume *Alamo Area MPO Regional Bicycle and Pedestrian Planning Study*. Volume 4, *Boerne Bicycle and Pedestrian Study*, specifically aims to improve the environment for walking and bicycling throughout Boerne - and therefore increase walking and biking activity by making both modes of active transportation more viable and attractive for the City's residents and visitors.

BOERNE BICYCLE AND PEDESTRIAN STUDY AREA



The City of Boerne represents one of five focus areas within the Alamo Area MPO Regional Bicycle and Pedestrian Study (above left). The resulting Boerne Bicycle and Pedestrian Study evaluates the active transportation network within the entire municipal limits (above right).

Demographics & Commuting Characteristics

Boerne’s estimated 2014 population of 12,800+ people is more than double the City’s 2000 population of 6,000 persons.¹

The City is home to a relatively affluent population comprised mostly of individuals with high levels of education and established wealth. The median income for households in Boerne is 10 percent higher than that of the state of Texas.² Its population is older - with a median age of 38.2 years old (compared to the state median age of 33.8).³ In addition, school age children account for nearly 20 percent of Boerne’s population.⁴

According to the U.S. Census Bureau, over 90 percent of Boerne’s workforce commutes to work by car (either alone or in a carpool), even though 46 percent of this workforce works within the City. Data suggests that almost none of the City’s resident workforce took transit or rode a bicycle to their places of employment. Roughly 2.3 percent say they walk to work.⁵

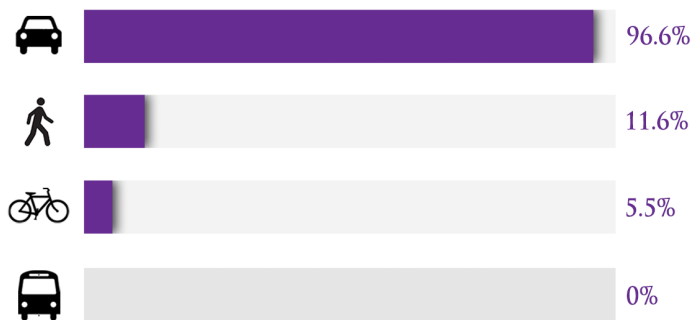
Projections suggest that Boerne’s population will grow to over 23,500 persons by 2040 - an increase of almost 100 percent over the 2014 estimated population.⁶ As the City continues to grow, not only will demands on the City’s transportation infrastructure increase, but interest in alternative transportation options (including transit, bicycling, and walking) will emerge and grow.

REGIONAL SURVEY HIGHLIGHTS

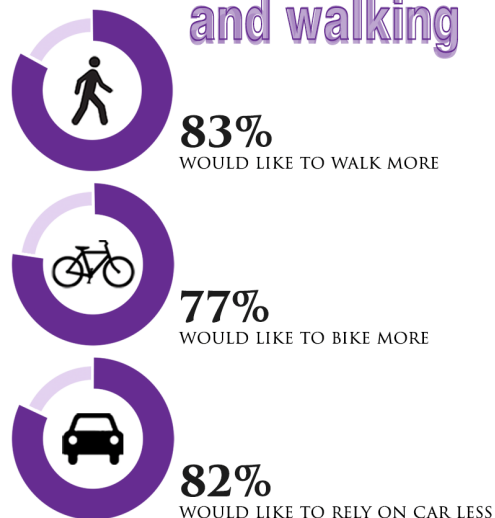
Data from the U.S. Census Bureau about travel patterns is limited to commuting to work. Additional data about biking and walking was collected by the AAMPO as part of this study. That survey reveals an interest in access to more transportation options, including walking and bicycling. While nearly all respondents said they use their car on a daily basis, a majority reported that they’d like to walk and bike more and rely on their car less.

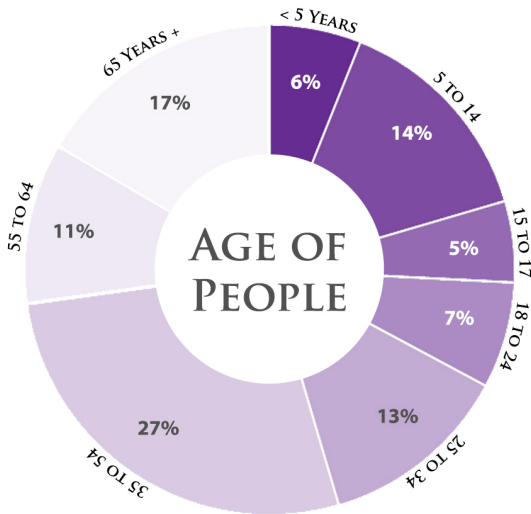
daily travel use

According to a regional survey, driving is the dominant form of travel. Nearly all survey respondents reported using a car on a daily basis, yet 11.6% and 5.5% reported they walk or ride their bike on a daily basis.



interest in biking and walking





age of population

Understanding the age of Boerne's population can help the city plan for proper transportation facilities to serve the varying needs of these populations. Key findings of this analysis include:

At least 19 percent of the population of Boerne **travels to school**, and of that population, 73 percent of them **cannot drive themselves** and rely on another form of transportation.

Boerne's workforce population is approximately 5,228 people, which is 47 percent of the total population of the city. This is the number of people who need to **get to their job** somehow.

Approximately 17 percent of Boerne's population is 65 years or older. Many of these people are retired and **trips to shopping, places of worship, or other errands** dominate their travel destinations. Additionally, some in this segment of the population **cannot drive themselves** and rely on other forms of transportation.

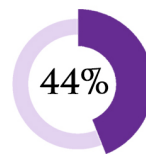
household economics

Often driving is not an option for a certain segment of the population simply because of economic hardships.

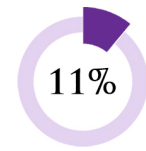
Of the households in Boerne, **44 percent make less than the state median household income*** and just over **11 percent are below the federal poverty level**. As income decreases, the cost of owning a vehicle becomes more burdensome. Approximately **4.4 percent of Boerne's households don't own a vehicle**, and another 36.7 percent only own one vehicle.

Whether by preference or necessity, a significant portion of Boerne's population may utilize alternative forms of transportation to a vehicle and **could benefit from facilities that enable walking and bicycling**.

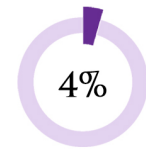
*Median Household Income for the State of Texas is \$51,900.



Percent of Boerne's households whose annual income is less than \$50,000*.



Percent of Boerne's households whose annual income is below the federal poverty level.



Percent of Boerne's households that don't own a vehicle.



0%



0%



2.3%

OTHER

1.0%

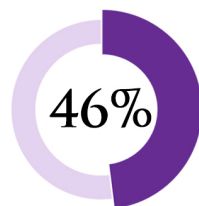
journey to work

Travel to work characteristics can help identify opportunities to encourage walking or bicycling for work related trips.

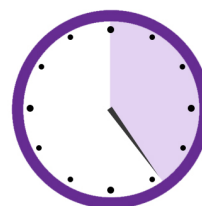
Forty-six percent of Boerne's workforce works within the city, yet over **90 percent of the workforce in Boerne drove to work**, either alone or in a carpool. None of the workforce in Boerne rode a bike or took public transit to work.

The average commute time among the workforce in Boerne is **24 minutes**, and 45 percent of the workforce has a commute longer than the regional average of 25 minutes, including **4.1 percent who have a commute longer than an hour**.

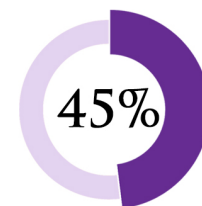
Approximately **2.3 percent of the workforce walked to work**. Of those people who walked to work, all of them worked within Kendall County.



Percent of residents of Boerne who work within the city.



Average travel time to work among Boerne workforce.



Percent of workforce whose commute is more than 25 minutes.

Relation to Other Plans

The *Boerne Bicycle and Pedestrian Study* supports and builds on existing City plans, policies, and initiatives. Future efforts to implement the recommendations of this study should also support the goals of these pre-existing plans and policy documents in order to facilitate implementation in a consistent manner. These cumulative initiatives strengthen the efforts to enhance walking and bicycling- and a more fiscally sustainable and efficient transportation system - by building off of the consistencies between stated local and regional visions.

Mobility 2040

The AAMPO long range regional transportation plan, *Mobility 2040*, is used to frame regional transportation efforts. The plan recognizes the importance of bicycle and pedestrian transportation in establishing a safe, sustainable, efficient, and accessible transportation network.

Boerne Master Plan Update, 2006

A comprehensive plan is a community's over-arching guiding document for growth and development. All other plans, policies, and initiatives focusing on specific geographic areas or topics must align with the comprehensive plan. The *Boerne Master Plan Update, 2006* identifies alternative modes of transportation such as walking and bicycling as important components of the City's future. Plan goals for transportation, community character, and land development also address ways to improve the pedestrian and bicycle network.

Alternative forms of transportation, such as public transit, rail, air, bicycle, and pedestrian, are important components to a community... the other forms of transportation influence area development patterns, economic viability, and the overall quality of life.

-*Boerne Master Plan Update, 2006*

Parks, Recreation, and Open Space Master Plan, 2012

Boerne's Parks, Recreation, and Open Space Master Plan, 2012, inventories existing City multi-use trails, and identifies potential trail opportunities that can support bicycling and walking in the City. There are four existing multi-use trails in Boerne which extend over 6 miles. These trails: Old No. 9 Trail; Cibolo Creek Trail; Currey Creek Trail; and, Cibolo Nature Center Trail; are key components of a Citywide pedestrian and bicycle network.

Public input received during the City's park planning process, identified trails and pedestrian linkages to community resources as a top priority. As such, plan goals and objectives prioritize the development of an interconnected network of pedestrian and bicycle facilities and trails that link parks, schools, downtown, and other important community destinations.



Residents and visitors would benefit from additional connectivity to Main Street in Boerne's downtown.

Economic Development Work Plan, 2015

This City strategic work plan identifies projects and initiatives that target economic development opportunities, and thereby promote financial growth and improve the quality of life in Boerne.

The plan identifies "Project 500," a catalyst project near Main Street/Hwy. 87 and IH-10. It is anticipated to include 500,000 sf of retail space. The *Economic Development Work Plan, 2015*, also supports efforts to make downtown Boerne walkable, and a destination for residents as well as tourists.

Other Plans

Other trail, corridor, and area plans provide a context for recommendations within this study. They can help to identify or clarify specific improvement needs for walking and bicycling in these areas. Those plans that were consulted during the preparation of this study include:

- **Hill Country Mile.** A corridor along Main Street in downtown Boerne. The City seeks to create a pedestrian friendly environment along the corridor and connect to surrounding destinations and neighborhoods.
- **Westside Mobility and Connectivity Project.** A pedestrian transit project for 9,000 linear feet of pedestrian paths, including bridges and easement acquisition.
- **Alamo Area Council of Governments Walkable Communities Workshop.** Two areas in Boerne where improvements to neighborhood walkability have been identified.

Development Code

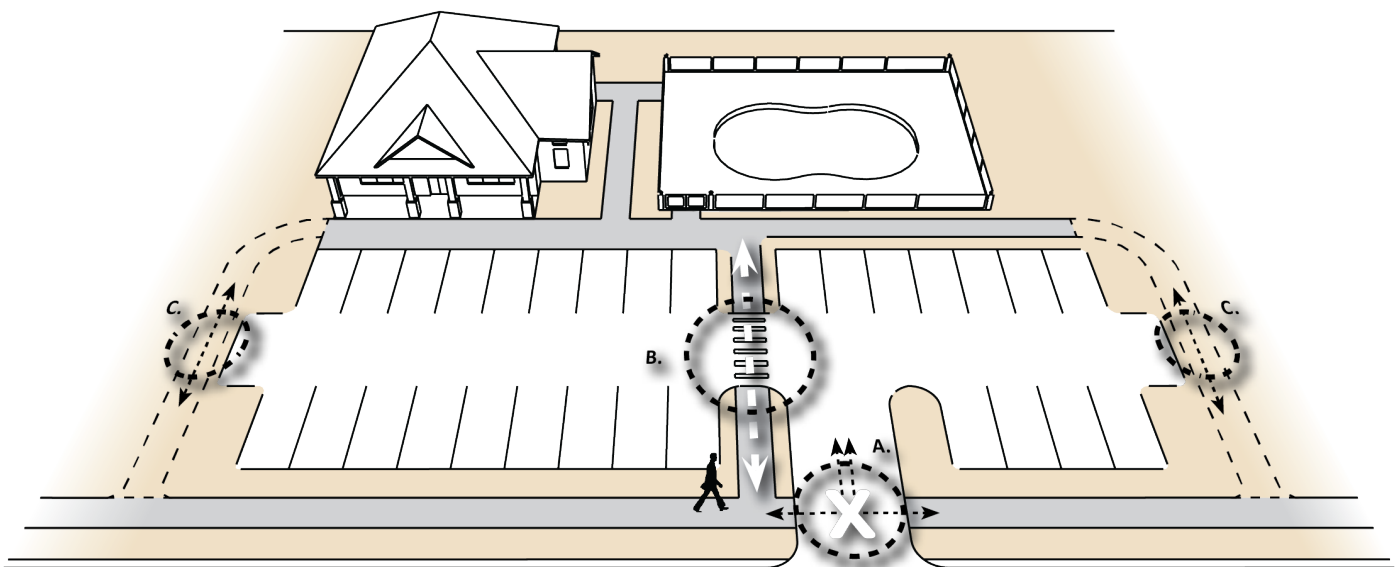
Municipal development codes in Texas regulate the form and function of new building and site development in the City, and (to some extent) the City's extraterritorial

jurisdiction. Such codes can promote a built environment that is more bicycle-friendly and walkable. This might include regulations for street design and pedestrian connectivity, parkland dedication for trails, and building and site design that includes bicycle parking and internal pedestrian pathways.

Boerne's subdivision regulations and zoning ordinance include provisions facilitating the inclusion of bicycle and pedestrian facilities in new development within the City. The City's subdivision regulations focus principally on bicycle and pedestrian facility requirements within the public right-of-way, while the zoning ordinance addresses on-site facilities at destinations.

Surrounding Jurisdictions

As one "volume" of a larger bicycle and pedestrian study effort initiated by the AAMPO, the *Boerne Bicycle and Pedestrian Study* considers how an enhanced pedestrian and bicycle network at the local level may augment a larger regional system. It is important to be aware of the transportation networks and plans of adjacent jurisdictions and to coordinate with these entities as the regional network is constructed.



Active transportation network implementation may be enhanced through the incorporation of simple guiding illustrations in development regulations. The example above conveys options for the pedestrian access to a development site.

Plan Purpose & Goals

The *Boerne Bicycle and Pedestrian Study* is a product of AAMPO's locally focused approach to building region-wide bicycle and pedestrian systems that link communities. This incremental method of regional bicycle and pedestrian transportation planning ensures that regional outcomes represent local preferences. With this planning philosophy in mind, the City submitted a "Request for Study" to the MPO to participate in AAMPO's overall *Alamo Area MPO Regional Bicycle and Pedestrian Planning Study*.

This study is intended to improve walking and bicycling in Boerne through the identification of a preferred bicycle/pedestrian system network in the City; and, through the prioritization of projects that can be incorporated into regional, state, and federal funding initiatives. The study's facility recommendations are augmented by education and encouragement program recommendations intended to increase local walking and bicycling activity by improving citizen comfort.

Why Plan for Walking & Bicycling?

As previously stated, substantial population growth projected in and around Boerne will place increasing demand on the City's transportation infrastructure. Providing for travel mode choice within a transportation

network can improve overall community mobility - most notably for those users that opt to utilize pedestrian and bicycle networks and facilities.

The benefits of walking and bicycling extend beyond transportation network impacts and general mobility. Active transportation in the form of walking and bicycling can generate cumulative environmental, health, and economic benefits in a community - which in turn improves residents' overall quality of life. An increasing number of communities across the nation are recognizing these cumulative benefits. Many cities and towns now view walking and bicycling as legitimate travel mode options, and are integrating the necessary facilities into their transportation networks.

Boerne's Master Plan identified a desire for a more walkable community and the need for making pedestrian and bicycle linkages. The City's Master Plan also promotes a future built environment of walkable and bikeable neighborhoods with easily accessible centers. A plan for walking and bicycling is critical to achieve these goals and Boerne's vision. The *Boerne Bicycle and Pedestrian Study* will facilitate the implementation of several applicable goals contained in the of the City's Master Plan. Walking and bicycling will be an important component to help Boerne become a destination in the Alamo Area, both to visitors and residents.



The Old No. 9 Trail is a key component of Boerne's off-street pedestrian and bicycle network

Goals and Objectives for Walking and Bicycling¹

BOERNE MASTER PLAN UPDATE, 2006

- Link centers, neighborhoods, open space, creeks with comprehensive pedestrian/bicycle system
- Achieve development that promotes pedestrian and bicycle access.
- Extend Old No. 9 Trail along Frederick Street continuing to Northrup Park.
- Develop a pedestrian trail running adjacent to Cibolo Creek and connecting Northrup Park to City Park.
- Ensure pedestrian accessibility and appropriate scale and setbacks.
- Encourage street and sidewalk connections.
- Pedestrian linkages within and between neighborhoods should be required.
- The updated transportation plan should promote a balanced multi-modal system that meets the present and future mobility needs of the community.
- Design standards should be developed for each thoroughfare classification to promote beautification, “Hill Country” character, and pedestrian and bicycling activities.
- The comprehensive trail system should link together the existing three major parks in Boerne. In addition, the proposed trail system also connects the centers and neighborhoods, and can be linked to other trail systems located outside Boerne.
- Trail specifications should be incorporated into thoroughfare design standards.
- Along other major thoroughfares and local neighborhood streets that do not have a trail designation, sidewalks should be present. Future subdivisions should be required to provide sidewalks.

PARKS, RECREATION, & OPEN SPACE MASTER PLAN, 2012

- Continue to develop pedestrian / bikeway trails and greenbelts to connect park and residential areas.
- Acquire adequate funding for greenway development from various sources; design and construct trails by following development and maintenance guidelines; develop a program for long term maintenance of publicly held greenways; and incorporate maintenance costs into future year budgets.
- Continue to develop a network of pedestrian and bicycle facilities throughout Boerne.

ECONOMIC DEVELOPMENT WORK PLAN, 2015

- Staff is pursuing grant funding to develop a connection between the Heart of Boerne Trail along the Cibolo with the US 87/ Cibolo Creek bridge to enhance downtown pedestrian mobility.
- Promoting the quality of life through a safer, cleaner, more walkable place to live, work and play. Higher levels of patron and pedestrian traffic.

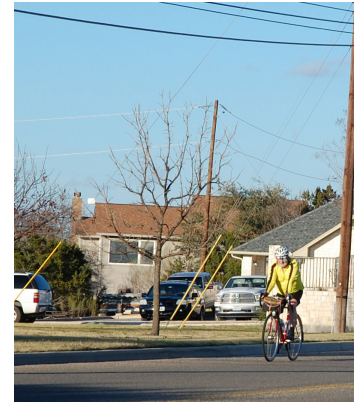
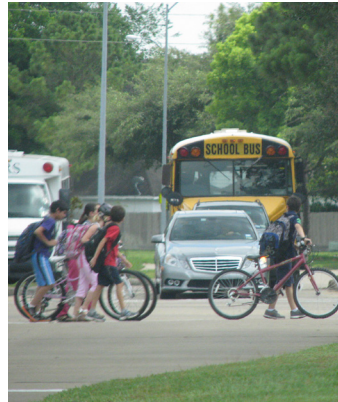
1. Some *Mobility 2040* goal and objectives herein are derivatives of the original statements found in Chapter 4: Bicycle System, and Chapter 5: Pedestrian System of the document.

Who Are We Planning For?

Boerne’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 the scenic routes around the city, but also younger riders as well as pedestrians throughout the city.

For some users, walking and bicycling is a choice, and the recommendations in this plan seek to encourage them to consider walking and bicycling alternatives. For others however who are not able to drive, walking or bicycling may be a necessity. For example, for children and some seniors, traveling via walking or bicycling helps establish or maintain their independence. For others, the economic benefits may be significant, while others yet may simply be interested in the health benefits.

Whatever the type of trip that is contemplated, having a viable, connected and comfortable network for walking or riding can satisfy the needs of a broad variety of Boerne residents, no matter their skill levels. Ultimately, those networks should be accessible to residents of all ages, means, abilities and purposes, and should be considered when implementing the recommendations of this study.



Active transportation networks must include a variety of facilities to serve different types of users (above).

Destinations in Boerne

A preliminary method to inform where active transportation network additions or enhancements are necessary is to identify key community destinations. What are the “everyday” locations that attract high volumes of visitors on either a constant basis during the week, or at critical peak times? How can the active transportation network better link these destinations with local points of origins (most predominantly residential areas)?

As with most communities, these “candidate” destinations in Boerne (those which would benefit from better bicycle and pedestrian linkages) include regional tourist attractions such as downtown Boerne, as well as local destinations that serve the community, including: schools, parks, employment areas, and commercial areas with “everyday” destinations.

Key destinations in Boerne which should be served by enhanced bicycle and pedestrian linkages are illustrated on page **4-13**.

Active Transportation Network: Destinations (Boerne)

- Boerne City schools
- Boerne Convention and Community Center
- Cibolo Creek corridor
- Downtown Boerne
- Boerne community parks (Boerne City Lake Park, City Park/Herff Park, etc.)
- Boerne neighborhood parks (Northrup, Optimist, Roeder Memorial, Veterans Plaza, etc.)
- S. Main Street (shopping) corridor
- W. Bandera Road (shopping) corridor

Destinations and Barriers in Boerne

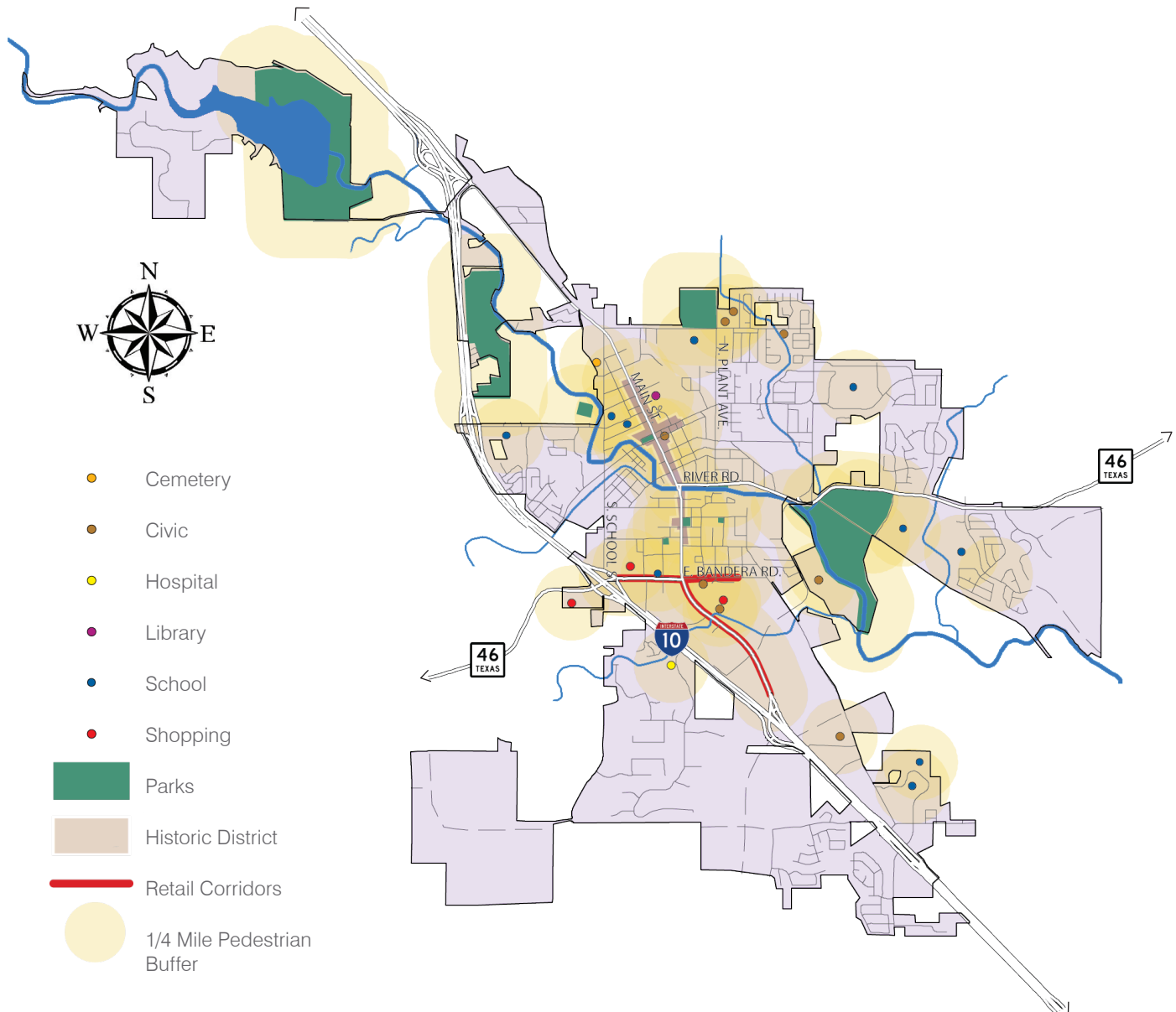
Figure 4.A, Active Transportation Opportunities and Barriers (Pedestrian), illustrates that many of the key destinations within Boerne that attract daily trips (i.e. schools, parks, shopping, etc.) are within close proximity to many of Boerne’s residential areas. This is particularly true for traffic generators and destinations north of IH-10.

The buffers around community destinations that are

shown in Figure 4.A illustrate a 1/4 mile radius - a distance that takes a typical pedestrian roughly 5 to 10 minutes to walk (a time/distance relationship that is seen as the margin within which a traveler may choose to walk rather than drive a car). The similar time/distance relationship for a bicyclist can extend up to three (3) miles in the same 15 minute period.

Figure 4.B, Active Transportation Opportunities and Barriers (Bicycle), illustrates a 2-mile radius biking buffer around key destinations throughout the City. Although

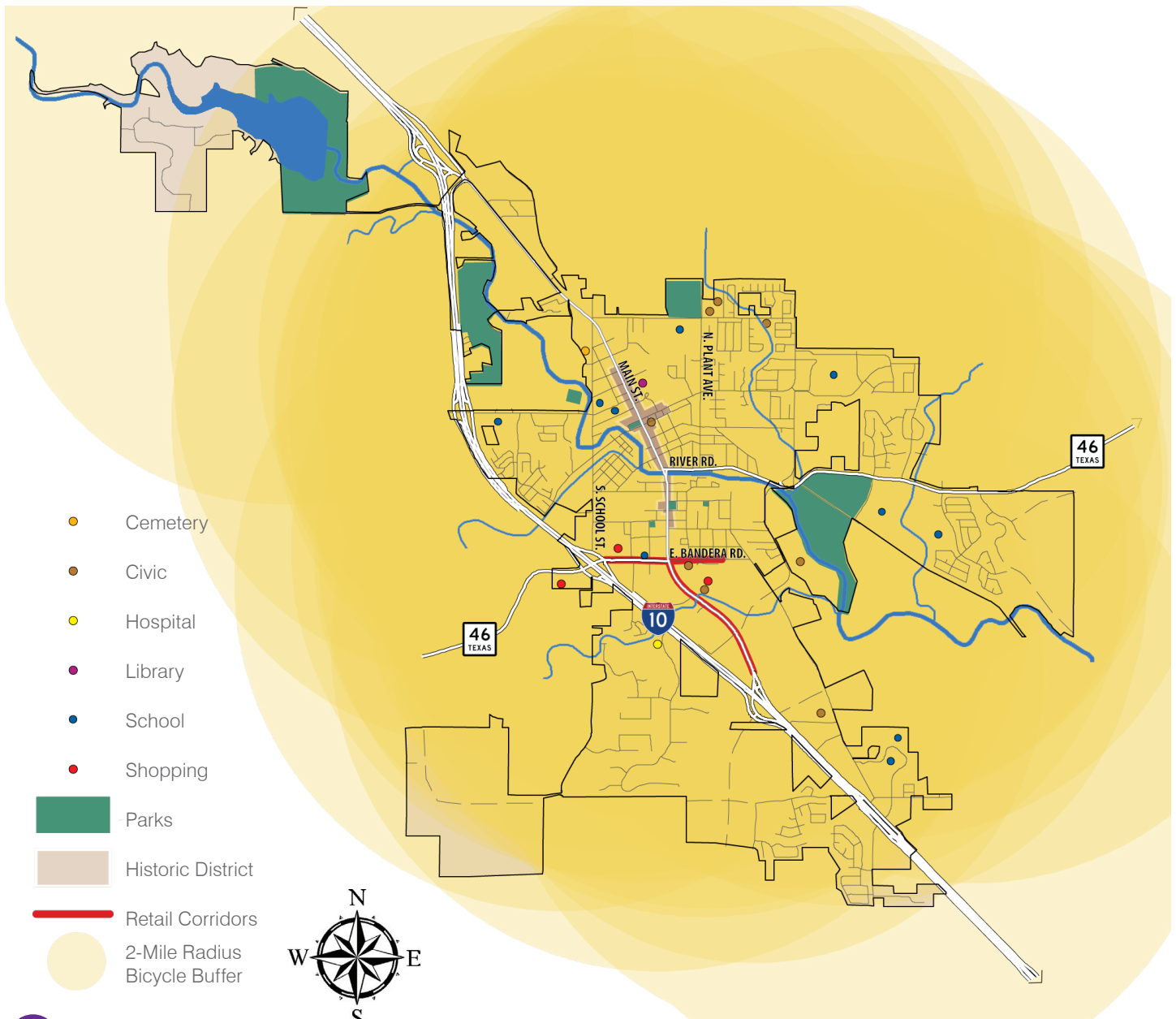
FIGURE 4.A: ACTIVE TRANSPORTATION OPPORTUNITIES AND BARRIERS (PEDESTRIAN)



the figures on this and the previous page illustrate that many key destinations in Boerne are within suitable walking and biking distances to and from the City's neighborhoods (1/4 mile to 2 miles or less), walking and bicycling activity is inhibited by network gaps, the sprawling nature of individual development sites, and substantial natural and man-made barriers.

In Boerne, key physical barriers to active transportation can be found at the IH-10 interchanges and Cibolo Creek (including locations where the creek is bridged). Other key barriers include the intersections of Herff and River Roads; and N. Main St. , N. School St., and Adler Rd. Solutions to resolve barriers are further discussed in Chapter 3, *Recommendations*.

FIGURE 4.B: ACTIVE TRANSPORTATION OPPORTUNITIES AND BARRIERS (BICYCLE)



General Characteristics

The existing active transportation network in Boerne is similar to those found throughout Texas municipalities. A fairly robust pedestrian network (almost exclusively in the form of sidewalks) can be found on local, collector, and arterial streets throughout Boerne's original town site. Many developments constructed in the second half of the twentieth century lack sidewalks, while more recent subdivisions at the fringe of the current municipal boundaries incorporate a sidewalk system in accordance with more recent City standards. The end result is a disconnected pedestrian network which is often confined to specific neighborhoods or districts.

Many of the existing pedestrian facilities in Boerne may be perceived as undesirable – and intended for use only if necessary. Crosswalks in Boerne are rarely marked in a manner that emphasizes them as areas intended for pedestrian use, while sidewalks (particularly older segments) are often narrow and/or built too closely to the street. The subsequent feeling of exposure that a pedestrian may experience likely results from the facility being built according to prior local requirements or state design standards; or, from roadway widening projects

that accommodate increased volumes of motor vehicles while reducing motorist/pedestrian separation.

Boerne's emerging bicycle network is defined by an increasing system of sidepaths - removing bicyclists from roadways in favor of a facility shared by bicyclists and pedestrians. This accommodation provides increased bicyclist interconnectivity within Boerne, but may not be the most feasible facility in previously developed portions of the City. Citywide bicycle interconnectivity in Boerne will require the application of bicycle facilities within the roadway surface in some areas.

Attitudes About Active Transportation

The presence or absence in a community of designated facilities for bicyclists and pedestrians greatly influences public perceptions – and by extension, public choice – regarding the feasibility of walking and bicycling as part of one's daily travel routine. The gaps in Boerne's current active transportation system decreases user volumes and may fuel negative attitudes relating to bicycle and pedestrian safety.

As part of this study, an online regional survey was



On-site pedestrian enhancements can mitigate negative perceptions about the distance between destinations.



Off-road trails provide an opportunity for pedestrian and bicycling connectivity and recreation.

prepared asking residents and property owners to identify challenges to bicycling and walking in the Alamo Area MPO region, and within the City of Boerne. The survey was accessible from late 2014 to Spring 2015, and included questions regarding perceptions of current facilities in relation to their community, and barriers that inhibit bicycling and walking in the City. Over 250 residents of Boerne and surrounding communities participated in the survey.

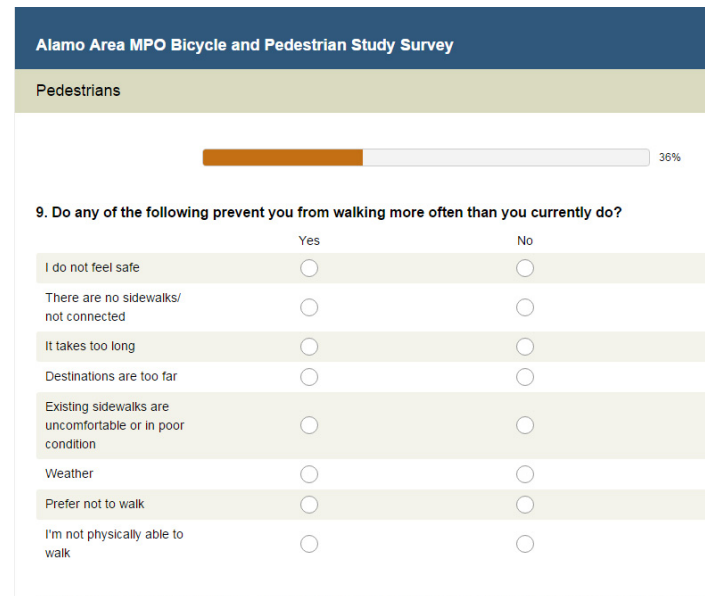
Bicycling in Boerne

Survey respondents from Boerne generally rated bicycling as “below average” in their neighborhoods. Bicycling as an activity was often described as “dangerous” or “unsafe.” Frequently cited barriers to bicycling included a lack of facilities (i.e. bike lanes or paths), safety, distance between destinations, weather, and lack of bicycle ownership. These key findings are summarized in **Figure 4.C, Challenges to Bicycling** (page 4-19).

Some of the factors inhibiting bicycling in Boerne (i.e. weather) cannot be easily controlled. Others however, such as the availability of bicycle lanes and improving safety for bicycling are intrinsically interrelated, and can be improved with a strong network of bicycle facilities and increased education and awareness of bicyclists.

Walking in Boerne

Boerne residents responding to the survey rated walking conditions in their community slightly higher than bicycling. Still, the survey reveals many consistencies between local bicycling and walking perceptions. Although a majority of survey respondents rated walking in their neighborhoods as “good” or “excellent,” such responses did not translate into a perception that the amount and condition of walking facilities in Boerne is sufficient. Walking as an activity was most frequently



An online regional survey was prepared asking residents and property owners to identify challenges to bicycling and walking in the Alamo Area MPO region.

described as “dangerous” – consistent with responses regarding bicycling. Frequently cited barriers to walking include a lack of available facilities (i.e. sidewalks), distance between destinations, weather, safety concerns, and time commitments. These key findings are summarized in **Figure 4.D, Challenges to Walking** (page 4-20).

Some of the factors inhibiting walking in Boerne seem to contradict the predominant attitude that the walking environment in Boerne is above average. (The survey question asked, “How do you rate walking **in your neighborhood?**” [Emphasis added]) From a facility perspective, this suggests that targeted investments and adjustments to design may go far to increase the frequency and volume of walking activity in the City. For instance, sidewalk construction on a few key collector

and arterial street segments may substantially reduce community perceptions that “there are no sidewalks” between neighborhoods, or that “destination are too far.” Greater separation between new sidewalks and streets, and intersection design enhancements, incorporated into City ordinances or design guidelines can mitigate survey respondents’ prevalent assertion that they “do not feel safe.”



Increased separation between sidewalks and streets adds a greater feeling of safety for pedestrians.

Public Participation

An ad-hoc committee of City staff from various departments, elected official representation, planning and zoning board members and citizen users met informally during the process. A meeting was held at the beginning to discuss key issues in the City, possible opportunities as well as areas of concern, and ideas that should be considered. A follow-up meeting was held further into the process to review preliminary concepts and possible solutions, and to get feedback on those. During each meeting, maps were provided where attendees noted issues or ideas.

A Citywide workshop was held in December 2014 at the Boerne Community Center. Approximately 40 attendees participated in the meeting, including Boerne residents, City staff, the planning team and representatives from

the Alamo Region MPO. After a brief introductory presentation, citizens participated in six smaller groups which outlined key challenges, opportunities and constraints, and indicated their potential routes on maps of Boerne.

Key comments included the need to address sidewalk gaps, establishing looped bicycle networks for distance riders, continuing to develop the City's trail system and connecting nearby areas of the City to the trails, and the need to address both pedestrian and bicycle safety concerns at key intersections throughout the City.

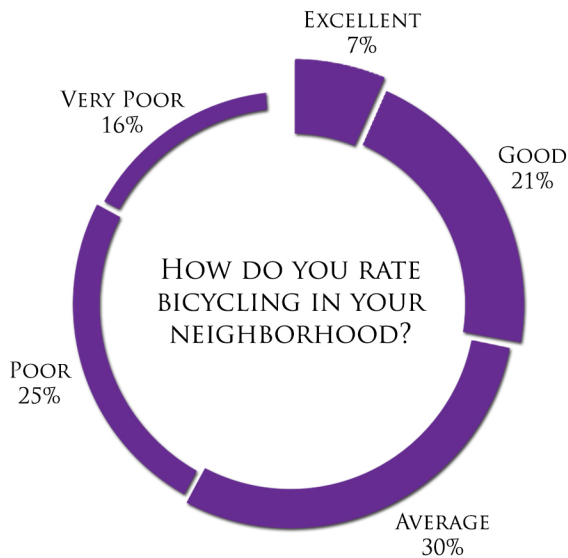


Residents, City staff, and members of the Alamo Region MPO provided valuable input throughout the planning process.

FIGURE 4.C:

challenges to bicycling

In the regional survey, residents of Boerne rated bicycling in their neighborhood as **BELOW AVERAGE**. When asked what prevents them from bicycling more, the top answer was the **LACK OF BIKE LANES, TRAILS, OR PATHS**.





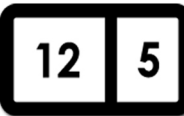

WHAT ONE WORD DESCRIBES BICYCLING IN BOERNE TODAY?



NEARLY 21% of the respondents to this question used the word "dangerous" to describe bicycling in Boerne.

top five

BARRIERS TO BICYCLING

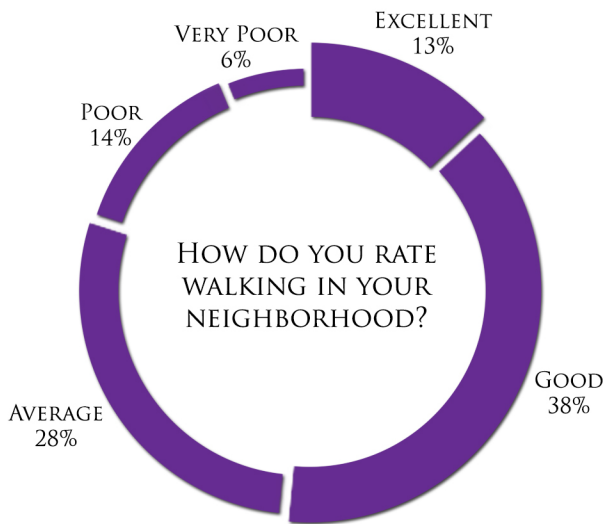
- 1 There are no bike lanes, trails, or paths. 
- 2 I do not feel safe. 
- 3 Destinations are too far. 
- 4 Weather. 
- 5 I don't own a working bike. 

OVER 64% of survey respondents from Boerne said that the lack of bike lanes, trails, or paths prevents them from riding their bicycle more than they currently do. This was followed by nearly 52% of respondents saying safety was a factor, 33% don't bicycle more because destinations are too far, 30% say the the weather deters them, and nearly 25% of the respondents don't ride more because they don't own a working bike.

FIGURE 4.D:

challenges to walking

In the regional survey, residents of Boerne rated walking in their neighborhood as **ABOVE AVERAGE**, with over 50% saying it's either excellent or good. When asked what prevents them from walking more, the top answer was the **LACK OF CONNECTED SIDEWALKS**.



WHAT ONE WORD DESCRIBES WALKING IN BOERNE TODAY?



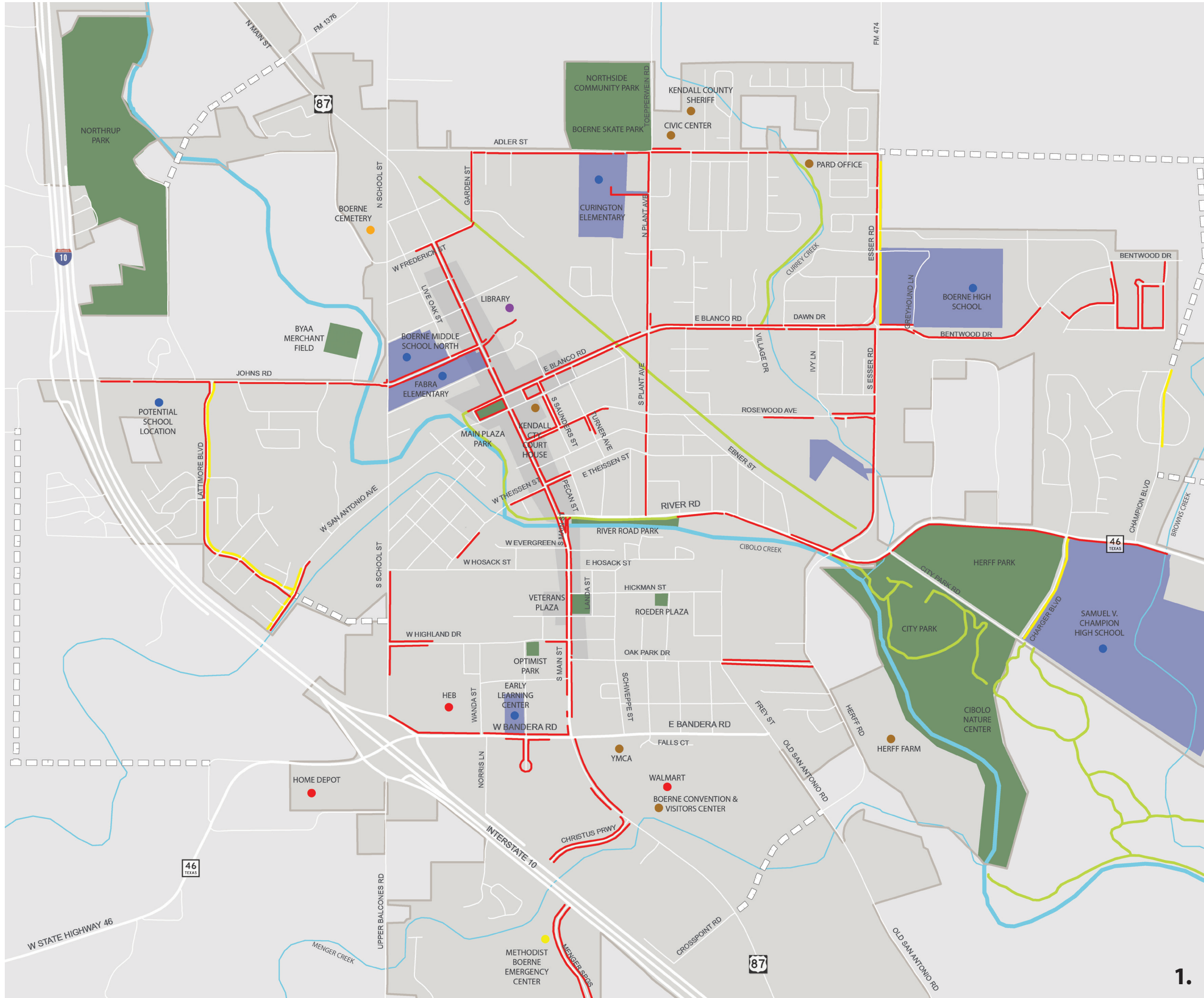
top five

BARRIERS TO WALKING

- 1 There are no sidewalks.
- 2 Destinations are too far.
- 3 Weather.
- 4 I do not feel safe.
- 5 It takes too long.

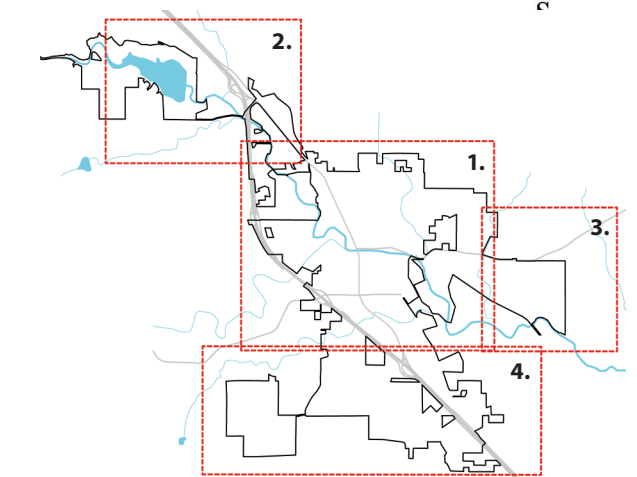
NEARLY 60% of survey respondents from Boerne said that the lack of a connected sidewalk network prevents them from walking more than they currently do. This was followed by nearly 50% of respondents saying destinations are too far, 39% say the weather deters them, 32% are concerned about safety, and nearly 32% of the respondents don't walk more because it takes too long.

MAP 4.1A: BOERNE EXISTING ACTIVE TRANSPORTATION FACILITIES



LEGEND

- Sidewalk, Existing
- Trail, Existing
- Sidepath, Existing
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterway
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination

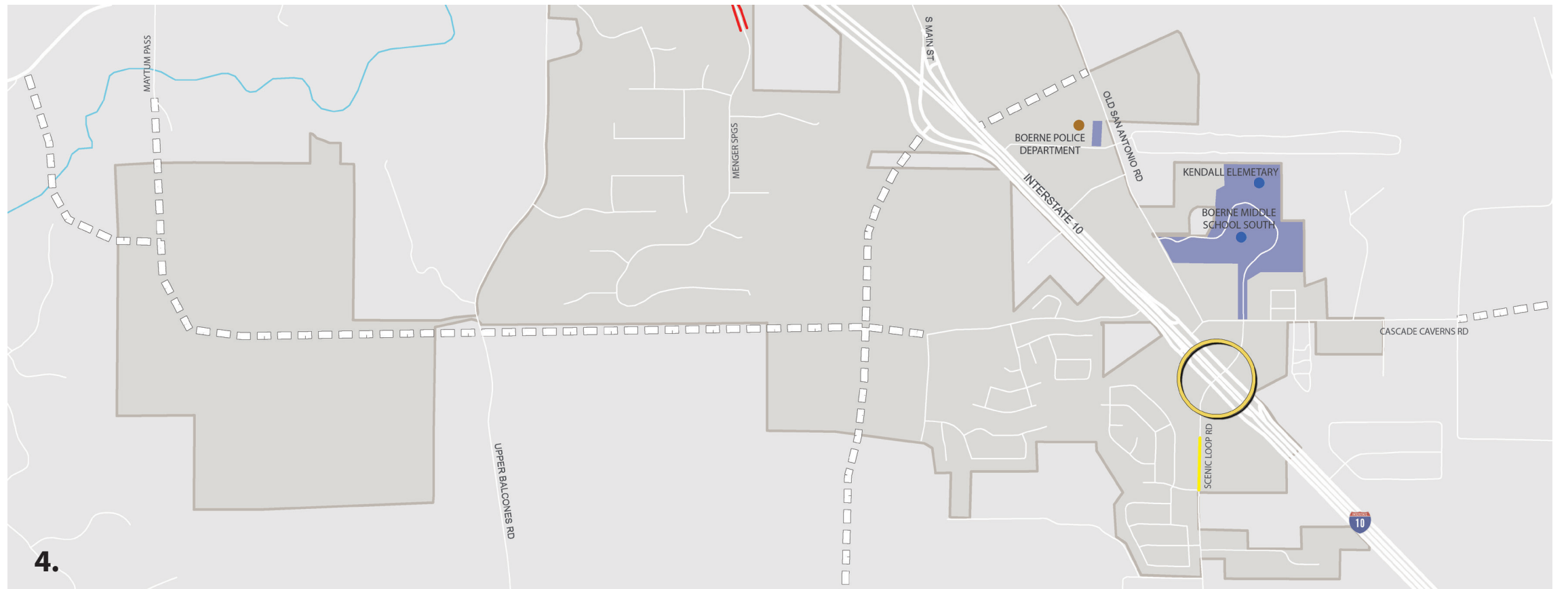
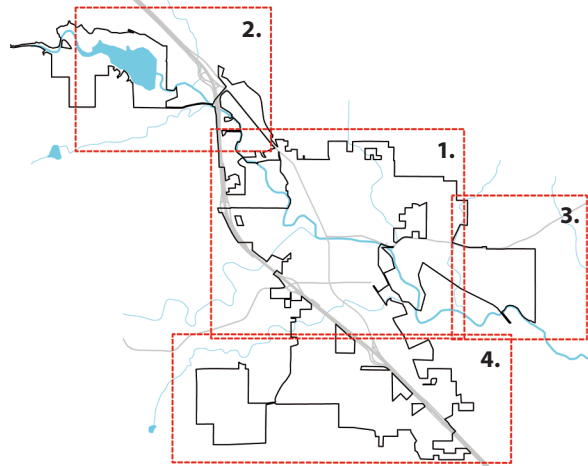
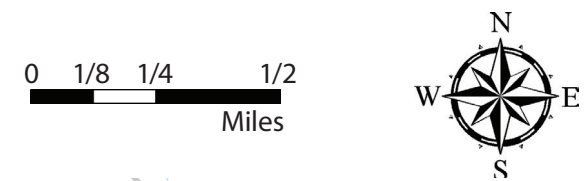
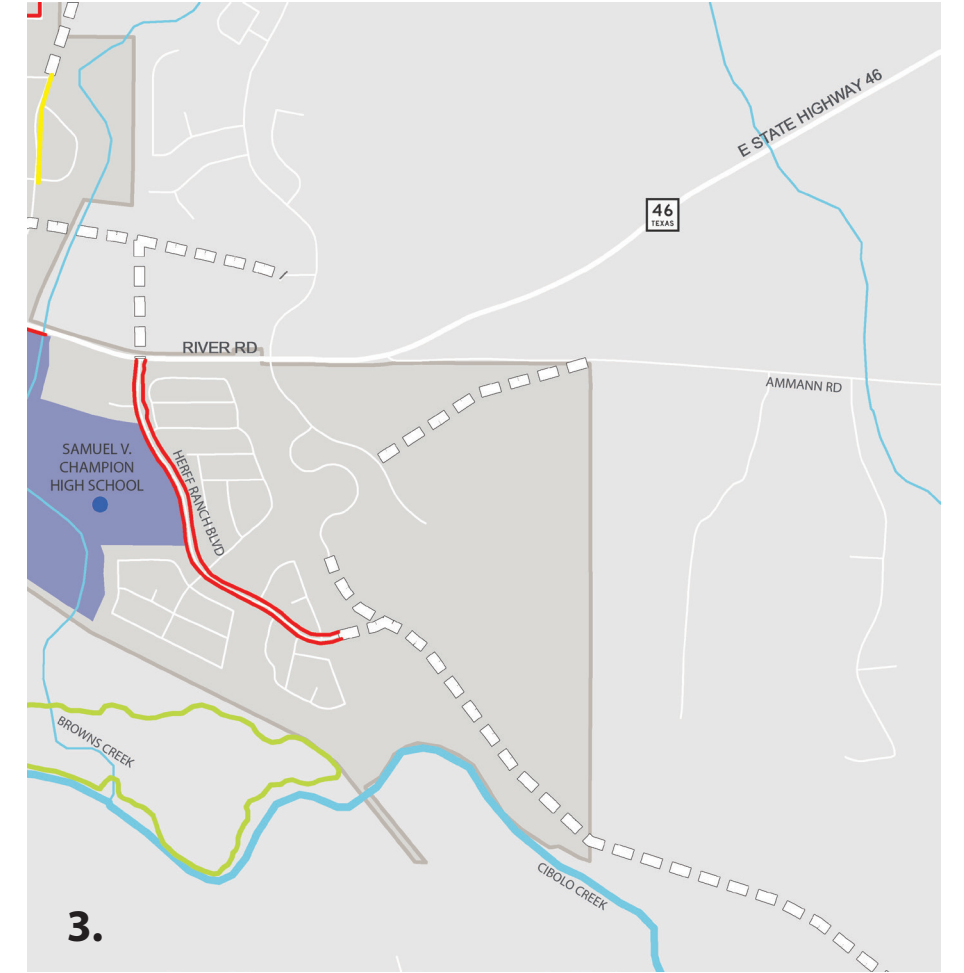
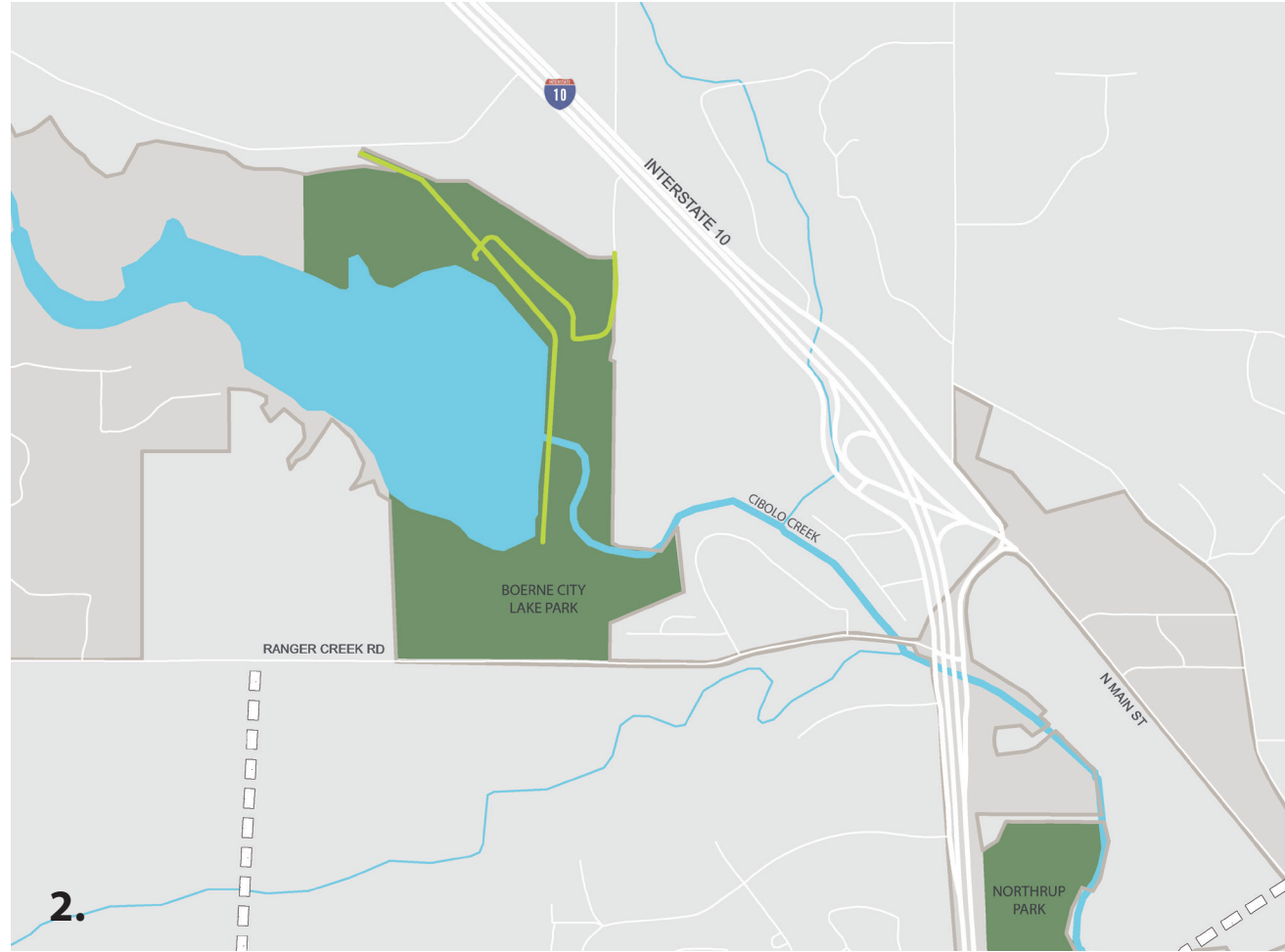


1.

MAP 4.1B: BOERNE EXISTING ACTIVE TRANSPORTATION FACILITIES

LEGEND

- Sidewalk, Existing
- Trail, Existing
- Sidepath, Existing
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterway
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination



Existing Facilities for Bicycling and Walking

An inventory of Boerne's existing active transportation network is provided in **Table 4.1, Boerne Active Transportation Network (2015)**. The table distinguishes between on-street bicycle facilities, on-street pedestrian facilities, and shared use facilities. These three facility categories are described in more detail in **Appendix A, Bicycle and Pedestrian Toolkit**, of this study.

Table 4.1 presents the cumulative length of all of Boerne's sidepaths and shared use paths. The cumulative length of sidewalk segments referenced in the table includes only those located on collector and arterial streets, and key local streets that provide important pedestrian interconnectivity.

Table 4.1 illustrates that the City's cumulative active transportation network is defined by three principal facility components: sidepaths, sidewalks, and shared use paths. There are currently no bicycle lanes, buffered bicycle lanes, cycle tracks, or shared lane markings in Boerne. In 2015, there were roughly 20.5 miles of sidewalks (on major thoroughfares) in Boerne, 2.0 miles of sidepaths, and 9.5 miles of shared use paths in the City.

The distribution of Boerne's sidepaths, shared use paths, and key sidewalk segments is illustrated on **Maps 4.1A** and **4.1B, Boerne Active Transportation Network** (pages



Recent active transportation investments in Boerne include the sidepath on Lattimore Boulevard.

4-21 and 4-22). Consistent with **Table 4.1, Maps 4.1A** and **4.1B** do not represent a comprehensive inventory of Boerne's existing sidewalks. Sidewalks illustrated on the maps are largely limited to those on collector and arterial streets, and those on key local street segments.

TABLE 4.1 BOERNE ACTIVE TRANSPORTATION NETWORK (2015)

| Facility Category* | Facility Type* | Length (Miles) |
|--|--------------------------------|----------------|
| On-Street Bicycle Facilities | Bicycle Lanes | 0 |
| | Buffered Bicycle Lanes | 0 |
| | Protected Bicycle Lanes | 0 |
| | Shared Lane Markings | 0 |
| | Bicycle Route | 0 |
| | Wide Shoulder | 0 |
| | Traffic Calming | 0 |
| On-Street Pedestrian Facilities | Sidewalks | 20.5** |
| Shared Use Facilities | Shared Use Trails (Off-street) | 9.5 |
| | Sidepaths (On-street) | 2.0 |

*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

**Excludes most local street segments within subdivisions.



BOERNE
OLD NUMBER
9
GREENWAY
TEXAS

Building Towards Creating a Great Network for Boerne

Opportunities for pedestrian and bicycle facilities are abundant in Boerne. They exist along drainage channels, power line corridors, street rights of way, and other linear greenbelts. This chapter summarizes overall recommendations by type and recommends early implementation and priority projects (noted as Tier 1 as opposed to Tier 2).

Meeting Boerne's Goals

All of the recommendations work towards meeting Boerne's goals for alternative modes of transportation (and especially by bicycle) noted in earlier chapters.

These key goals are:

Increasing connectivity for both short trips (less than 3 miles) in every part of the City, as well as across the City to major destinations centers such as the Downtown area, shopping corridors and other key destinations.

Creating facilities with as high degree a comfort as is possible, such as buffered bicycle lanes, cycle tracks (protected bicycle lanes) and off-street shared use paths. This also means creating routes that serve as alternatives to using high traffic volume streets such as West Bandera Road.

Emphasizing facilities that can be developed cost-effectively, such as on-street routes. These may be feasible in some parts of the City, but may be harder to find in other areas of the City with narrow streets and the need by residents for on-street parking.

Thinking both short term and long term, so that facilities which can be put in place today help create a citywide network in the future.

Emphasizing the connection to health benefits, so that Boerne's efforts to get more residents riding is shown to potentially yield great dividends in terms of community health.

Emphasizing the need for parallel encouragement efforts, including end trip, promotional and education efforts that encourage Boerne residents to get out and ride more frequently. These are discussed later in this chapter.

Evaluation Criteria

Corridors were evaluated in each area of the City using compatibility and accessibility criteria. Key evaluation areas included:

Citizen feedback - Neighborhood desires for pedestrian and bicycle facilities or concerns over specific corridors is considered as a key component of the evaluation.

Relationship to area homes - Occasionally a preferred



The street right-of-way allows adequate space for a greater sidewalk width.

corridor is along easements adjacent to residential backyards. Preference is given to corridors that allow greater separation from fences, and where the facility would be level with backyards to maintain the existing degree of privacy.

Connectivity - Potential corridors are evaluated as to their potential to connect to schools, area parks, employers, retail destinations, civic buildings, and other trails or routes.

Availability of the corridor - Preference is given to corridors that are controlled by the City of Boerne or other government entities. This ensures that acquisition or permission to use the corridor is at least possible.

Scenic qualities - Scenic features are considered as one of the evaluating issues, such as along drainage channels, greenbelts, unique views, wildlife, or native vegetation.

Potential use - Actual current use of the corridor, even without any facilities in place, is considered as a factor in determining whether to consider a corridor or not. If a corridor is currently used, or can be used with minimal improvement, then potential development of a facility is easier.

Facility Priorities and Preferences From Citizen Input

Boerne area residents rated their priorities and preferences as a part of the citizen survey and stakeholder and workshop meetings. Those preferences are shown on the following page.

The level of user “comfort” associated with different types of pedestrian and bicycling infrastructure also helped guide the recommendations for Boerne. The more comfortable and secure that a user feels, the more they are likely to consider walking or bicycling as a regular mode of transportation and recreation.

The diagram on page 4-28 illustrates the level of comfort as indicated by survey respondents from Boerne. On-street recommendations such as bicycle lanes and riding on a quiet neighborhood street are acceptable to more than 50% of the respondents. Conversely, 85% or more would be very comfortable on a shared use path or a separated lane (cycle track). Some potential facilities can be implemented relatively easily and at a moderate cost. Others are more extensive and will take longer to implement. Collectively, these recommendations can transform Boerne’s active transportation network into one of the best in the region.



Boerne residents expressed their preferences for facility types and route locations.

FIGURE 4.E: AAMPO ONLINE SURVEY: PUBLIC PRIORITIES FOR BOERNE

top improvements

Survey respondents identified how important or unimportant they felt several possible improvements would be to improving walking and bicycling in their city. Here are the top five most improvements that are considered most Boerne*.



*In order by the sum of both very important and important responses.

top destinations

Survey respondents were asked to identify destinations that they would be interested in walking or bicycling to. Top answers for both included for leisure or recreation, to parks, and to surrounding neighborhoods. The graphic below shows those destinations that at least 50% of the respondents indicated they were interested or very interested in walking or bicycling to.





Network Recommendations

This section summarizes both on-street and off-street recommendations. **Maps 4.2A** through **4.4B** illustrate all network recommendations with first and second priorities depicted differently. Tables associated with each map summarize the approximate total proposed facility length by category. Written descriptions of key corridor are included for each facility type.

This section summarizes recommendations by the following categories:

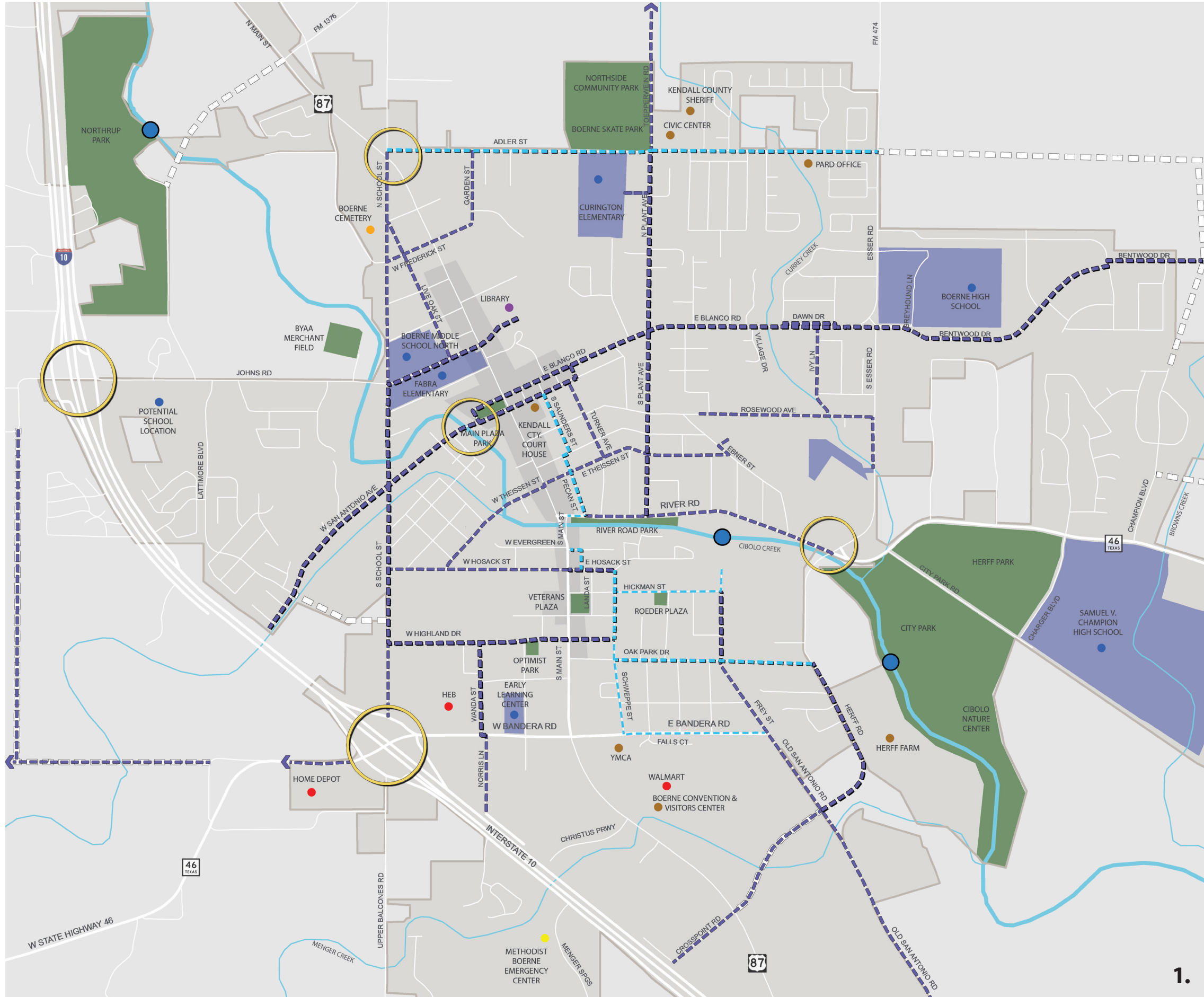
- On-street bicycle facility recommendations (including bicycle lanes, shared lane markings,

bicycle routes, wide shoulders, and separated facilities (cycle -tracks).

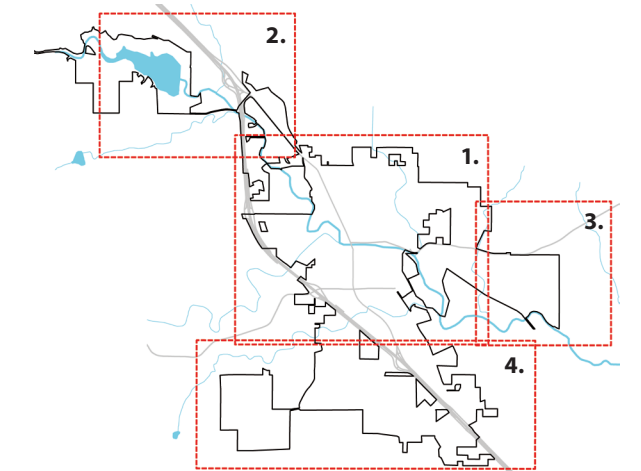
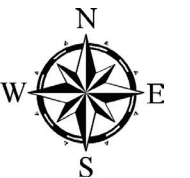
- Shared use network which includes sidepaths and shared use paths (trails).
- Key pedestrian corridors
- Key barrier resolution recommendations

Each recommendation should be further engineered, and may require more specific solutions for intersections or other key areas. Area property owners should be involved in the more detailed design process so that specific concerns can be addressed.

MAP 4.2A: BOERNE - RECOMMENDED ON-STREET BICYCLE FACILITIES



- Proposed Creek Crossing
- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Second Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Second Priority
- Sidepath, Existing
- Bike Lane, First Priority
- Bike Lane, Second Priority
- Bike Route, First Priority
- Bike Route, Second Priority
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterways
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination

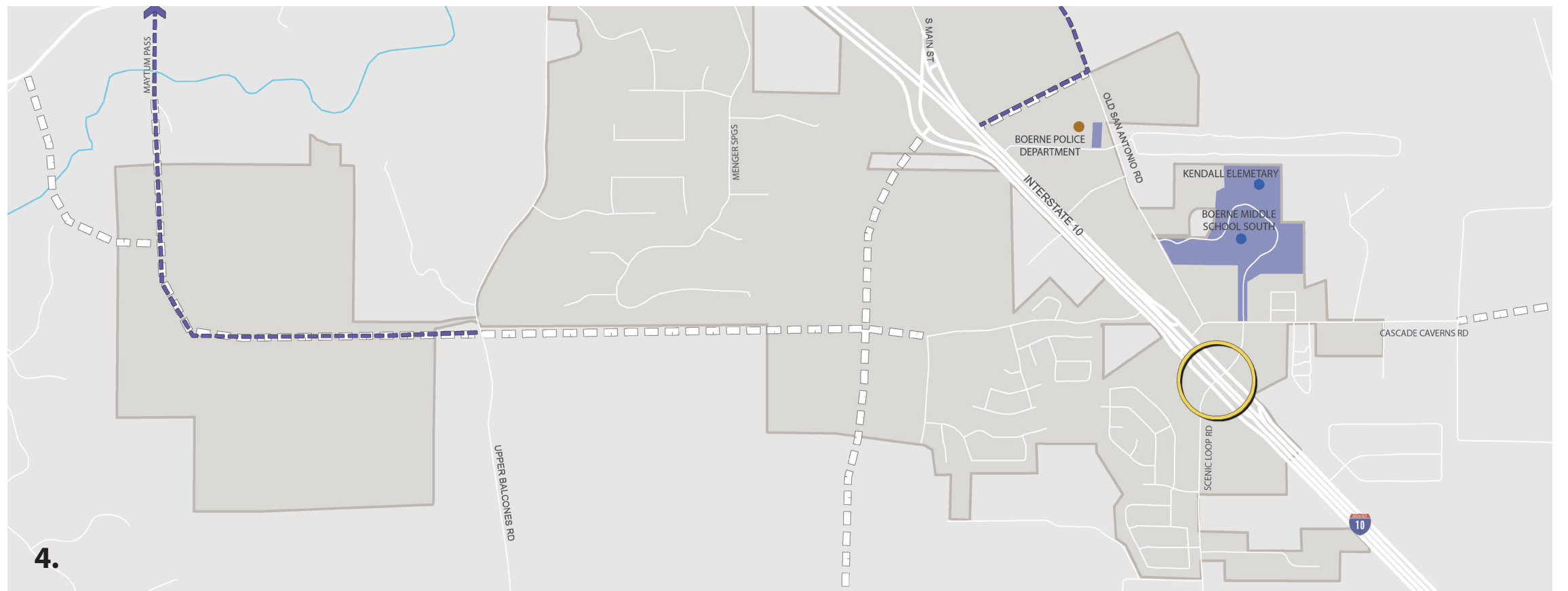
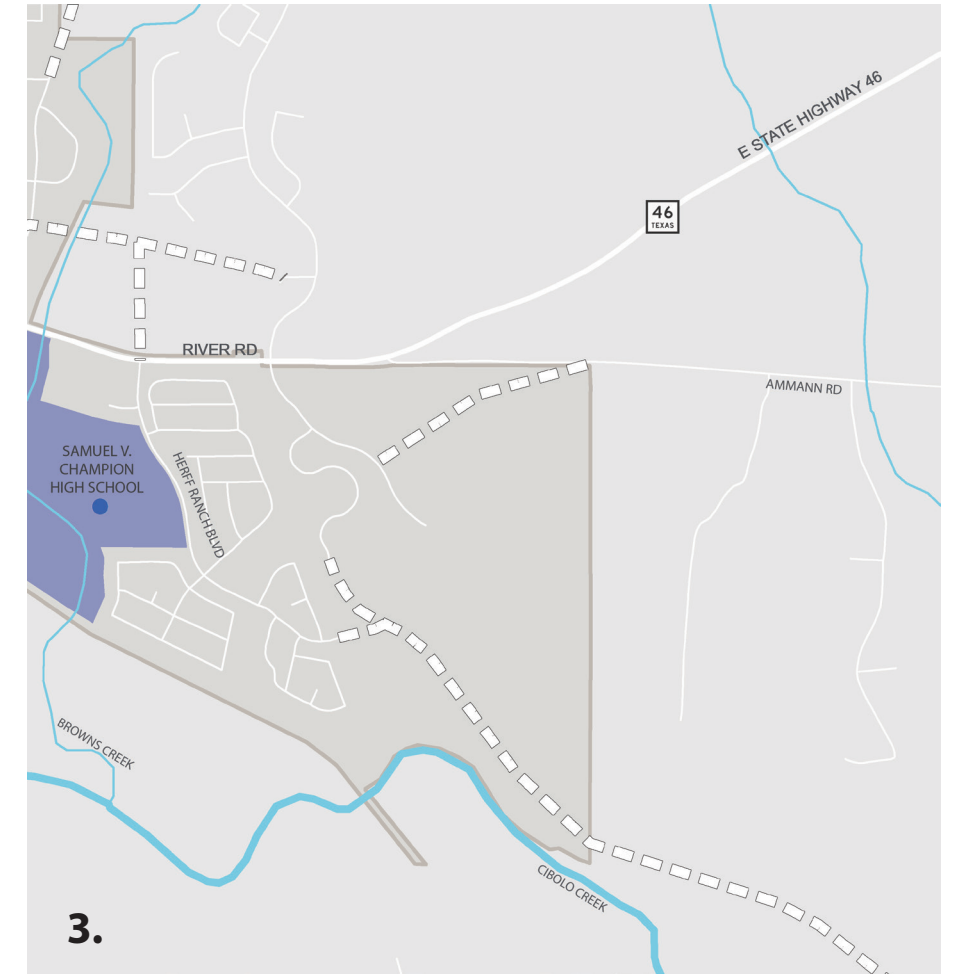
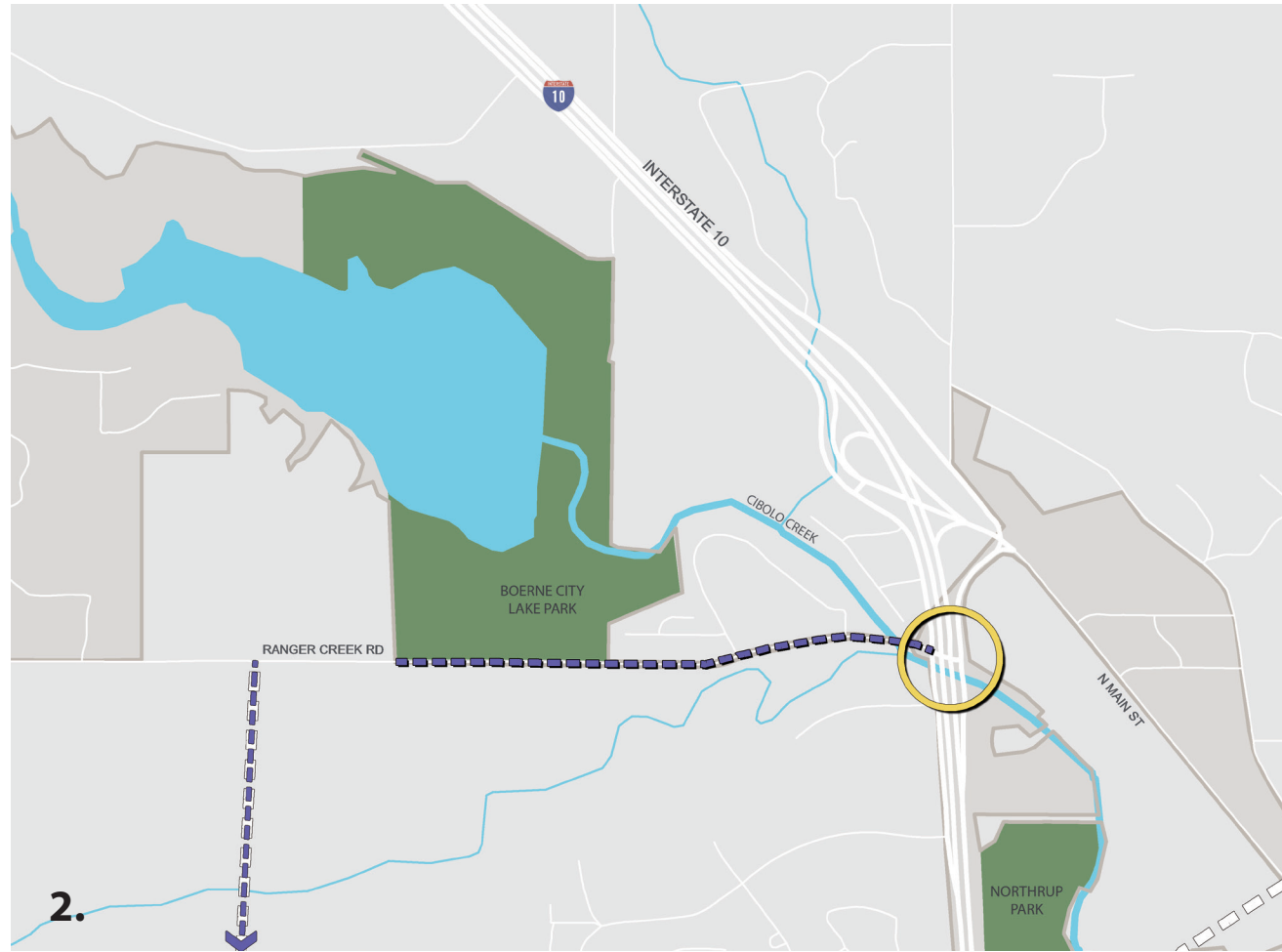
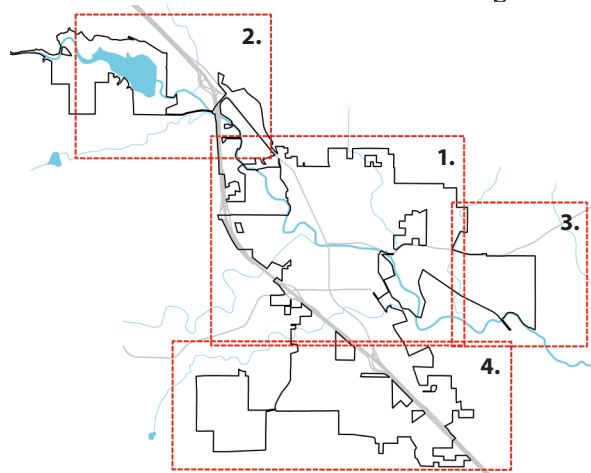


1.

MAP 4.2B: BOERNE ON-STREET BICYCLE FACILITIES

LEGEND

- Proposed Creek Crossing
- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Second Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Second Priority
- Sidepath, Existing
- Bike Lane, First Priority
- Bike Lane, Second Priority
- Bike Route, First Priority
- Bike Route, Second Priority
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterways
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination



On-Street Bicycle Facilities

Boerne has a number of opportunities for on-street bicycle lanes (see **Maps 4.2A** and **4.2B** on the previous two pages), but also has many streets with limited pavement or right-of-way widths that are challenging. In parts of the City, the grid network of streets with lower levels of traffic lends itself to creating routes that connect key destinations. While the relatively narrow pavement widths may preclude completely separated “cycle-track” type solutions, the many less travelled streets provide opportunities for comfortable routes. The on-street segments could be developed cost effectively, and can help jump-start a connected network throughout the City. Most of the routes mentioned below also connect to the Number 9 trail.

Key recommended on-street segments include:

East Blanco Road/West San Antonio Ave. – bicycle lanes/shared lane markings can create an east/west route that covers the northern half of the City. Portions of the roadway may not currently be wide enough for a full bicycle lane. As future maintenance improvements are made to these roads, additional width should be added where feasible to accommodate bicycle lanes.

Herff Road from Oak Park Drive to Old San Antonio Road – Herff Road is a major route connecting to the Nature Center and River Road. New improvements should accommodate a bicycle lane or sidepath.

West Highland Drive – this road helps connect neighborhoods east of South Main Street to areas along School Street. It also serves as a more comfortable parallel route to the higher traffic volumes on Bandera Road.

South Plant Street – South Plant connects the River Road pathway north to uses along Adler Road. It also helps link neighborhoods in the area to the core downtown area.

Secondary streets (Turner Ave., West Hosack, Live Oak Street, Rosewood Ave.) – other streets are candidates for bicycle lanes (or initially shared lane markings). These streets provide a “quiet” street network and alternative routes to the core downtown area and nearby schools and other destinations.

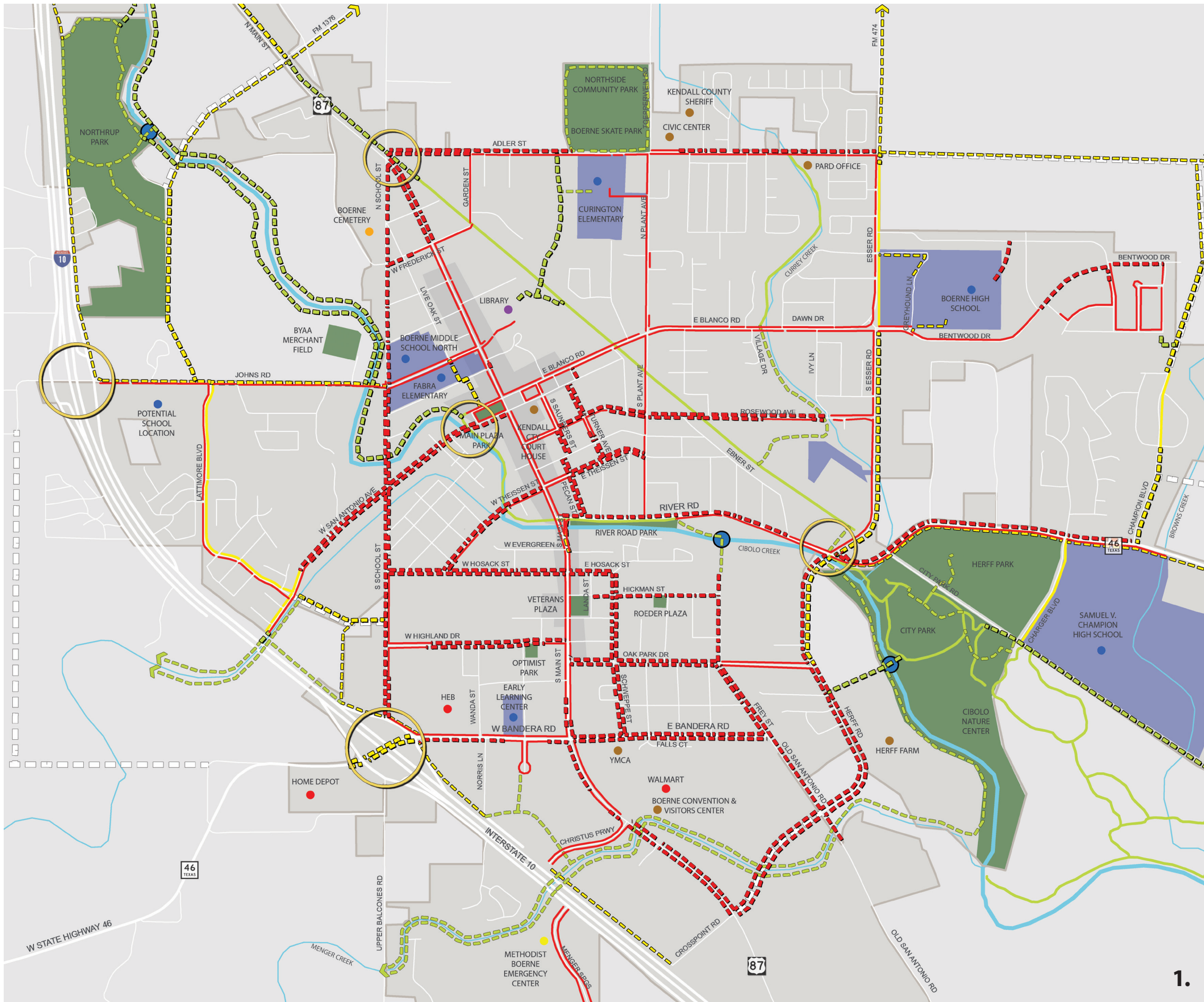
TABLE 4.2 PROPOSED ON-STREET BICYCLE NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|---|-------------------------|----------|-------------------|
| On-Street Facilities | Bicycle Lanes | Tier 1 | 8.7 |
| | | Tier 2 | 16.5 |
| | Buffered Bicycle Lanes | Tier 1 | 0 |
| | | Tier 2 | 0 |
| | Protected Bicycle Lanes | Tier 1 | 0 |
| | | Tier 2 | 0 |
| | Shared Lane Markings | Tier 1 | 0 |
| | | Tier 2 | 0 |
| | Bicycle Route | Tier 1 | 2.6 |
| | | Tier 2 | 1.1 |
| | Wide Shoulder | Tier 1 | 0 |
| | | Tier 2 | 0 |
| | Traffic Calming | Tier 1 | 0 |
| | | Tier 2 | 0 |
| ON-STREET BICYCLE FACILITIES (Cumulative Length) | | | 28.9 Miles |

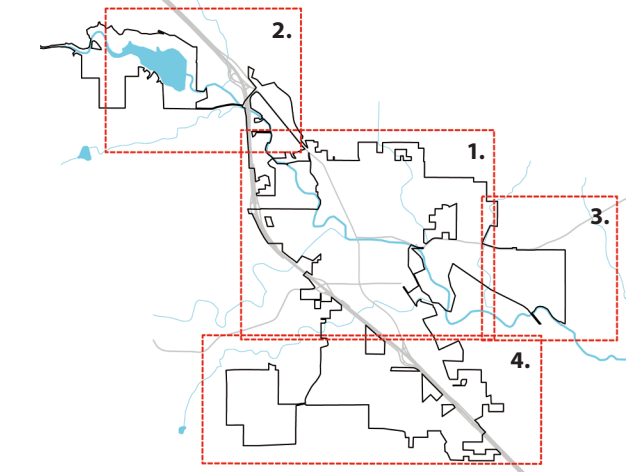
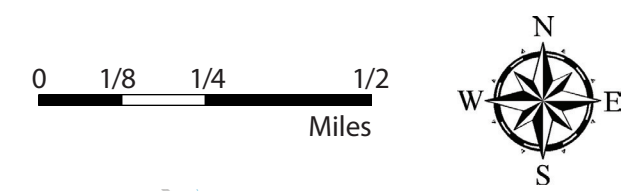
*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

** Single segment length - with facility striping and/or signage located on both sides of the street.

MAP 4.3A: BOERNE PEDESTRIAN FACILITIES (ON-STREET & SHARED USE)



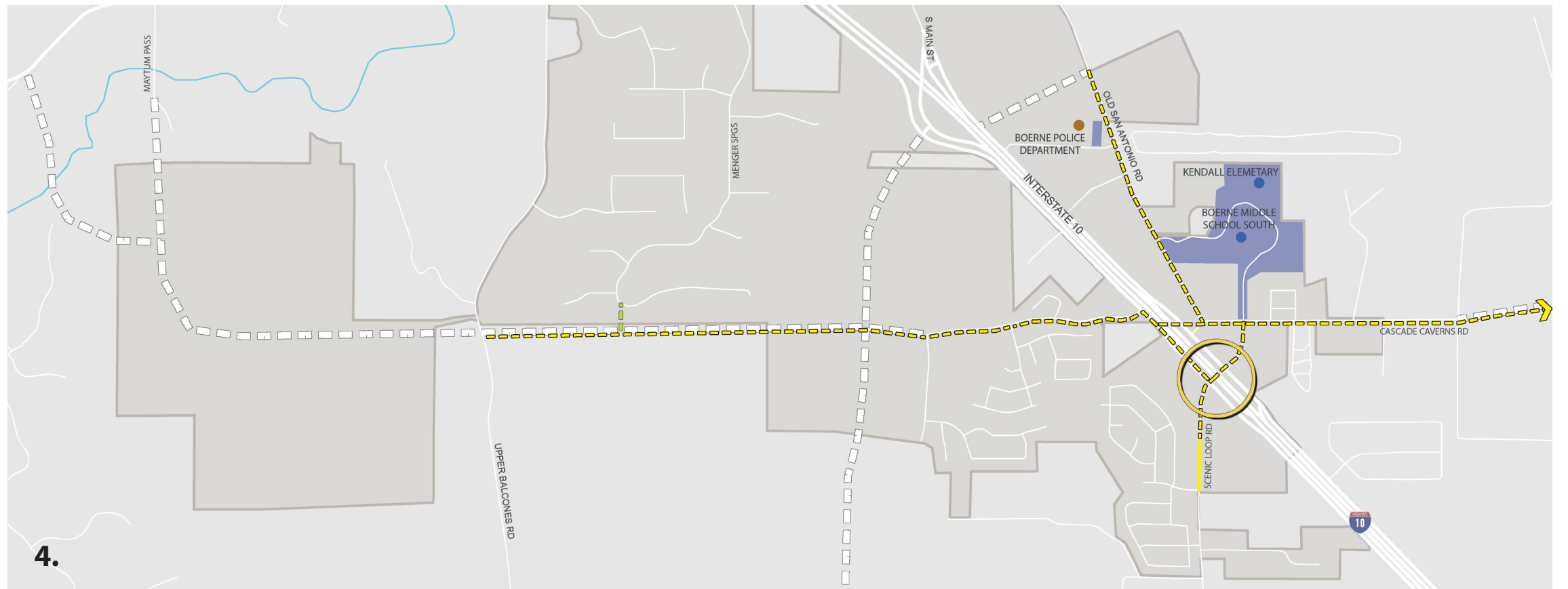
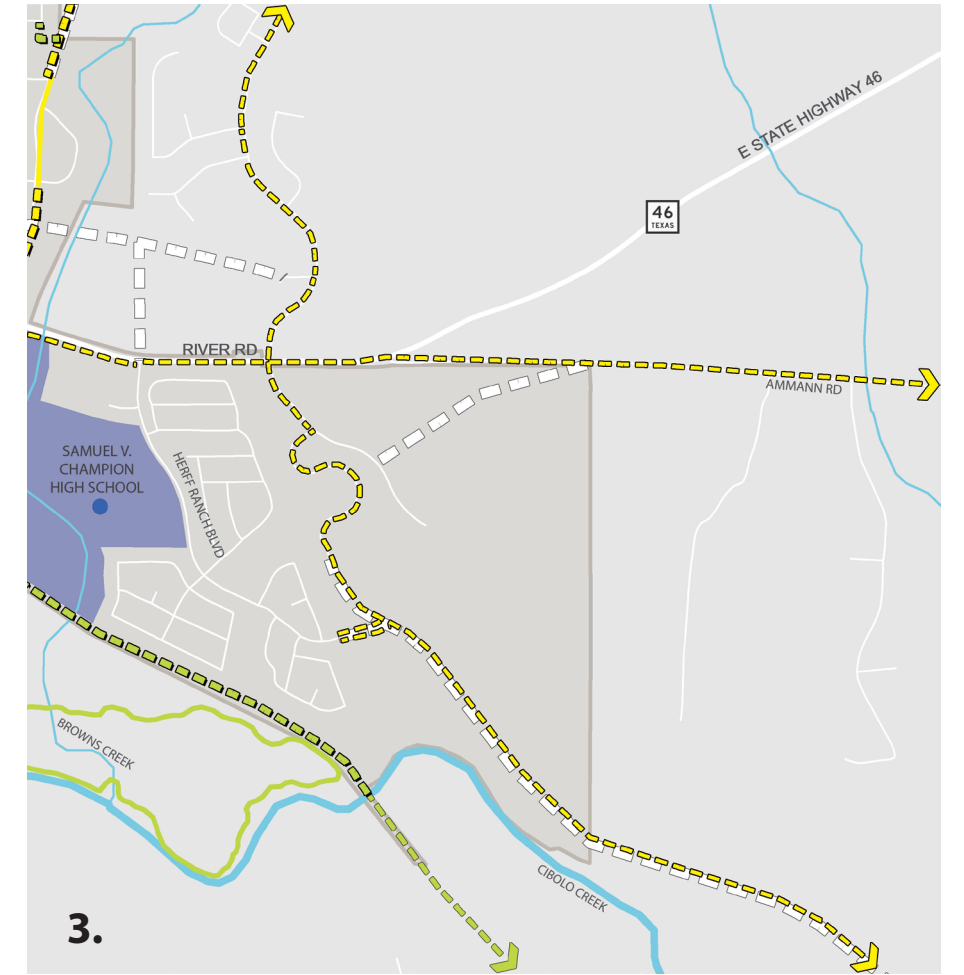
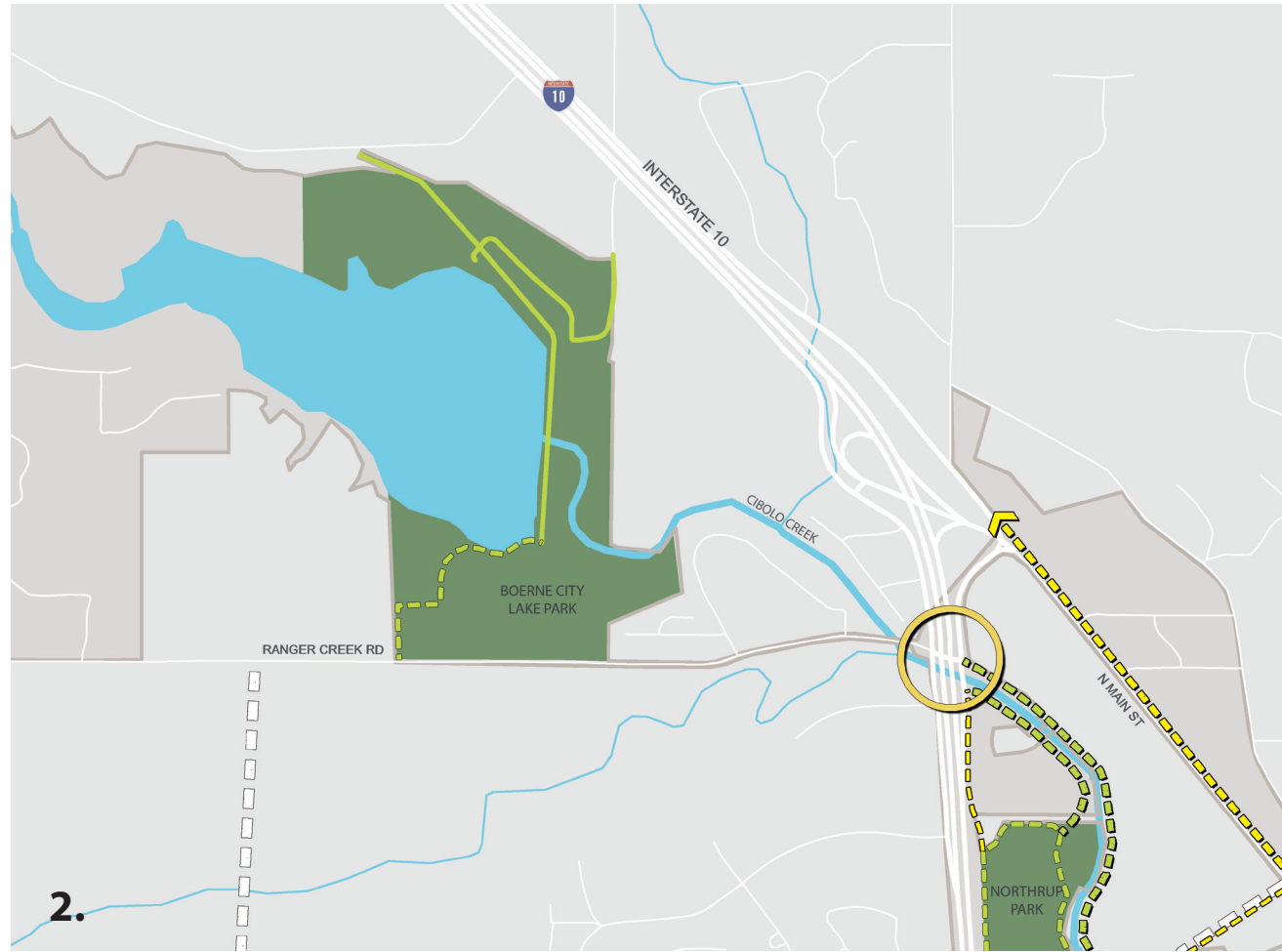
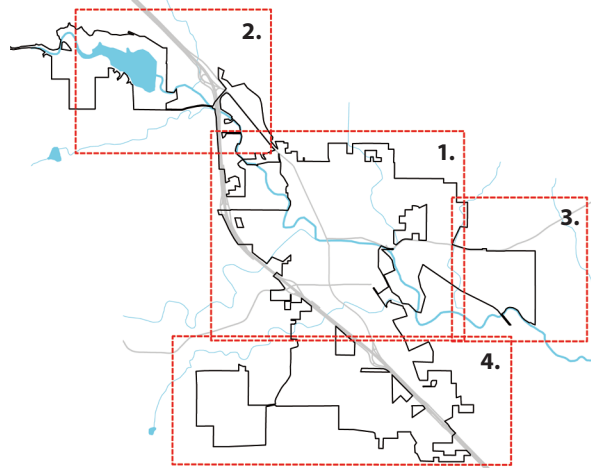
- LEGEND**
- Proposed Creek Crossing
 - Proposed Intersection Enhancement
 - Sidewalk, First Priority
 - Sidewalk, Existing
 - Trail, First Priority
 - Trail, Second Priority
 - Trail, Existing
 - Sidepath, First Priority
 - Sidepath, Second Priority
 - Sidepath, Existing
 - Bike Lane, First Priority
 - Bike Lane, Second Priority
 - Bike Route, First Priority
 - Bike Route, Second Priority
 - Historic District
 - Boerne ISD Properties
 - Parks
 - Future Roads
 - Waterways
 - City Boundary
 - Cemetery
 - Civic Destination
 - Hospital
 - Library
 - School
 - Shopping Destination



MAP 4.3B: BOERNE PEDESTRIAN FACILITIES (ON-STREET & SHARED USE)

LEGEND

- Proposed Creek Crossing
- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Existing
- Bike Lane, First Priority
- Bike Lane, Existing
- Bike Route, First Priority
- Bike Route, Existing
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterways
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination



Key Pedestrian Facilities

The core area of Boerne lends itself to walking from nearby neighborhoods. Sidewalks are not found on many streets in the City. Therefore this study focuses on recommending sidewalks along major streets in the center area of Boerne. These can help connect more of the City together and greatly encourage walking as an option. These also help to link neighborhoods to the Number 9 trail that bisects the City. Sidewalk recommendations for Boerne on shown on **Maps 4.3A** and **4.3B** on the previous two pages.

Key pedestrian areas of focus include:

West San Antonio Ave. to Lattimore Boulevard – links areas west of the downtown to the historic downtown area.

Rosewood Avenue to downtown Boerne – helps link the Esser Road corridor and neighborhoods in that area to the downtown area.

North right-of-way of River Road – provides additional walking capacity along the scenic roadway, and helps link area neighborhoods to the park and trail along Cibolo Creek.

East Bandera Road – helps link neighborhoods on the east side of the City to the commercial uses along West Bandera Road.

Schwepe Street – provides a parallel pedestrian route to South Main Street.

Herff Road to Old San Antonio Road – creates a strong pedestrian route and connection between the Menger Creek area and the River Road/Cibolo Nature Center area.

West Bandera Road from the I.H. 10 frontage road to past Norris Lane – completes a gap in sidewalk coverage along a major commercial corridor.



The intersection of South Main and Bandera Road illustrates the challenge that large intersections pose to pedestrians.

Downtown Pedestrian Crosswalks - create two to three additional locations with median refuges to cross Main Street. The distance between current crossing locations tempts pedestrians to cross mid-block. The reality is that downtown Boerne benefits more from being recognized as a great place to walk, and additional vehicular routes around the city (such as the new Herff Road to River Road connection) may alleviate the traffic volumes along Main in the downtown area.

Key intersection improvements - enhance the Herff Road/Esser Ave./River Road, the Bandera/ Main Street, and the South Main/Crosspoint intersections with improved pedestrian landings and distinctive crosswalks to facilitate pedestrian crossings.

TABLE 4.3 PROPOSED ON-STREET PEDESTRIAN NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|---|----------------|----------|-------------------|
| On-Street Facilities | Sidewalks | Tier 1 | 19.6 |
| | | Tier 2 | 0 |
| Shared Use Paths (See Table 4.?, Proposed Shared Use Network Facilities) | | | |
| Sidepaths (See Table 4.?, Proposed Shared Use Network Facilities) | | | |
| ON-STREET PEDESTRIAN FACILITIES (Sidewalks Only - Cumulative Length): | | | 19.6 Miles |

*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

** Single segment length - with facility striping and/or signage located on both sides of the street.

Key Shared Use Path (Trail) Facilities

Shared use paths (also commonly referred to as trails) already exist in some areas of Boerne, and are favored as a way to provide a level of separation from motor vehicles. Boerne residents have indicated that pathways are typically their preferred and most comfortable walking or bicycling facility type. The Number 9 trail creates a strong “spine” trail for the City that helps get residents from much of Boerne to routes that are close to the core area of Boerne.

Key shared use and sidepath segments that will help promote active transportation in Boerne are illustrated on **Maps 4.4A** and **4.4B** on the following pages, and include:

Sidepath extensions along Esser Road – a strong sidepath from Oak Park Drive, through S.H. 46 and north along Esser Road to Blanco can help create a major walking (and bicycling) corridor in the east part of the City.

Sidepath along Johns Road – a future sidepath from the IH 10 frontage road to School Street can help link the Lattimore Road sidepath to other areas of the City.

Champion Boulevard Sidepath – new residential development in the area has already built some sections of sidepath and these should be continued. The sidepath creates a direct connection to S.H. 46 and Samuel Champion High School.

Sidepath connection from Johns Road to North Main Street – if properties in the area are reconfigured for



The existing Lattimore Boulevard sidepath extends for almost a half-mile, and serves as an example of a facility that connects users of all ages within a neighborhood.

future development, a sidepath should be considered that would create a direct connection to Northrup Park and to FM 1376. This connection parallels a future roadway envisioned in the City’s thoroughfare plan.

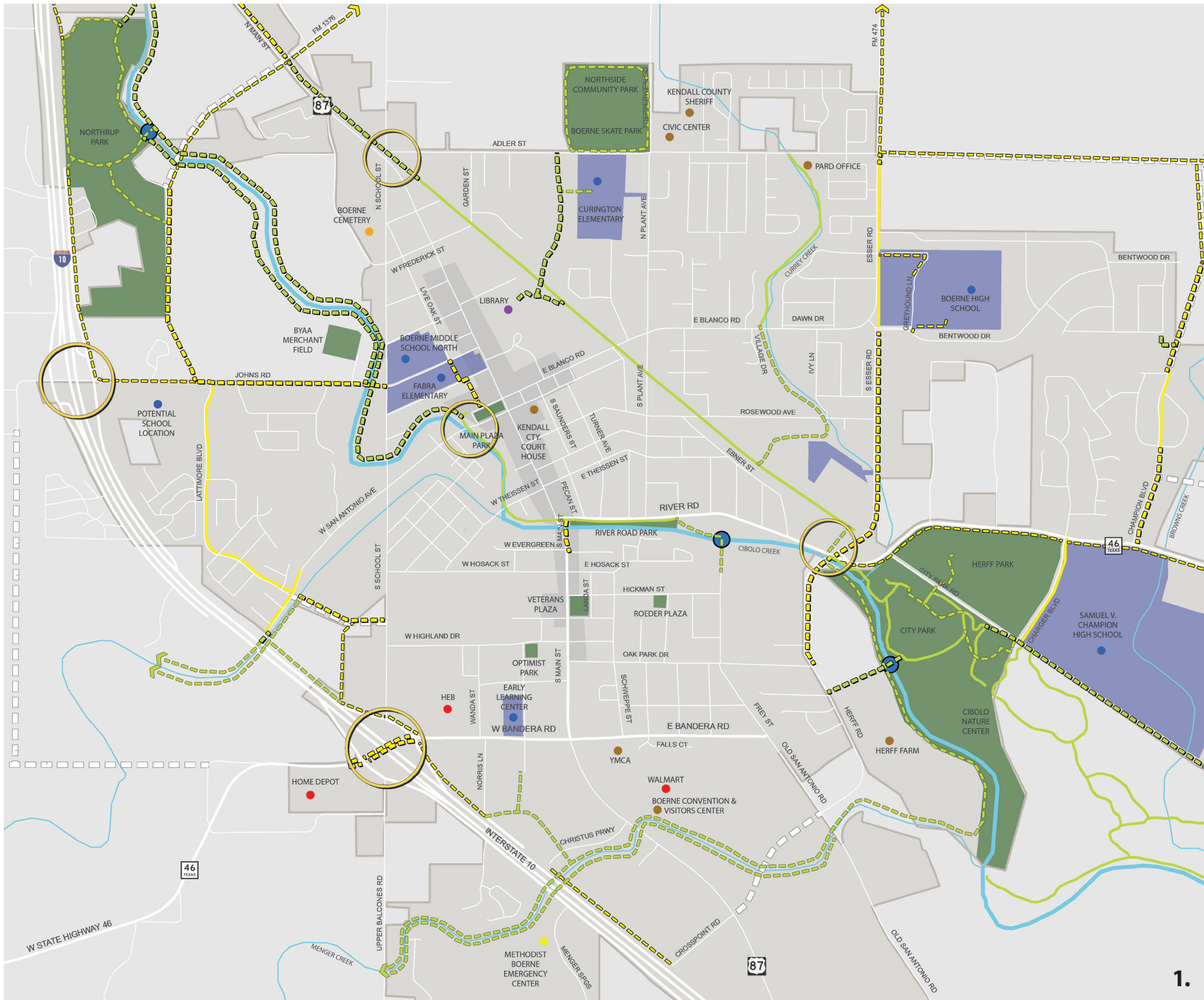
TABLE 4.4 PROPOSED SHARED-USE NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|--|-------------------|----------|-------------------|
| Shared-Use Facilities | Shared Use Trails | Tier 1 | 6.8 |
| | | Tier 2 | 12.5 |
| | Sidepaths | Tier 1 | 4.6 |
| | | Tier 2 | 33.0 |
| SHARED-USE FACILITIES (Cumulative Length) | | | 56.9 Miles |

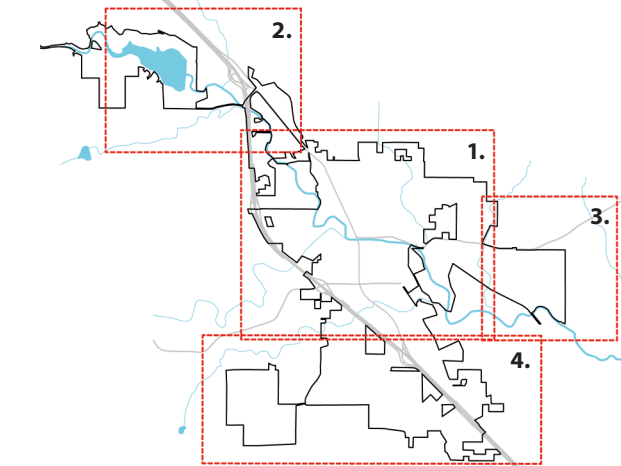
*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

** Single segment length - with facility striping and/or signage located on both sides of the street.

MAP 4.4A: BOERNE SHARED-USE FACILITIES



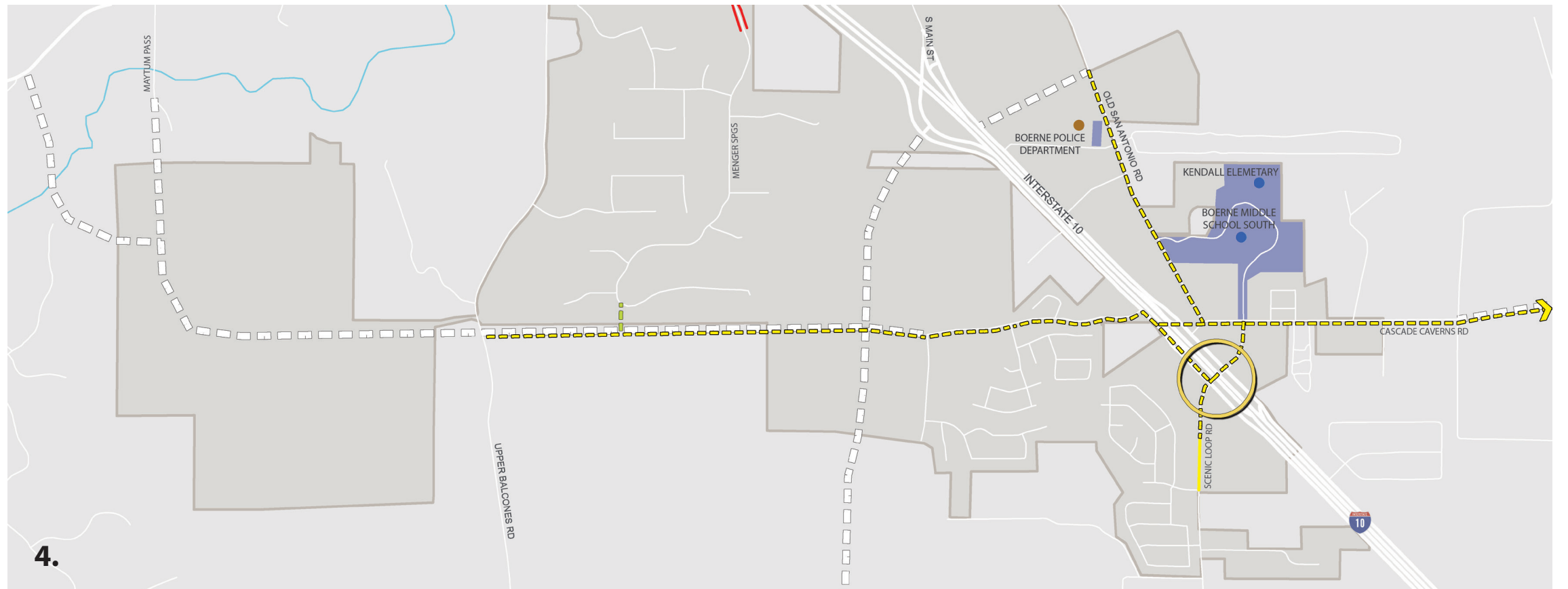
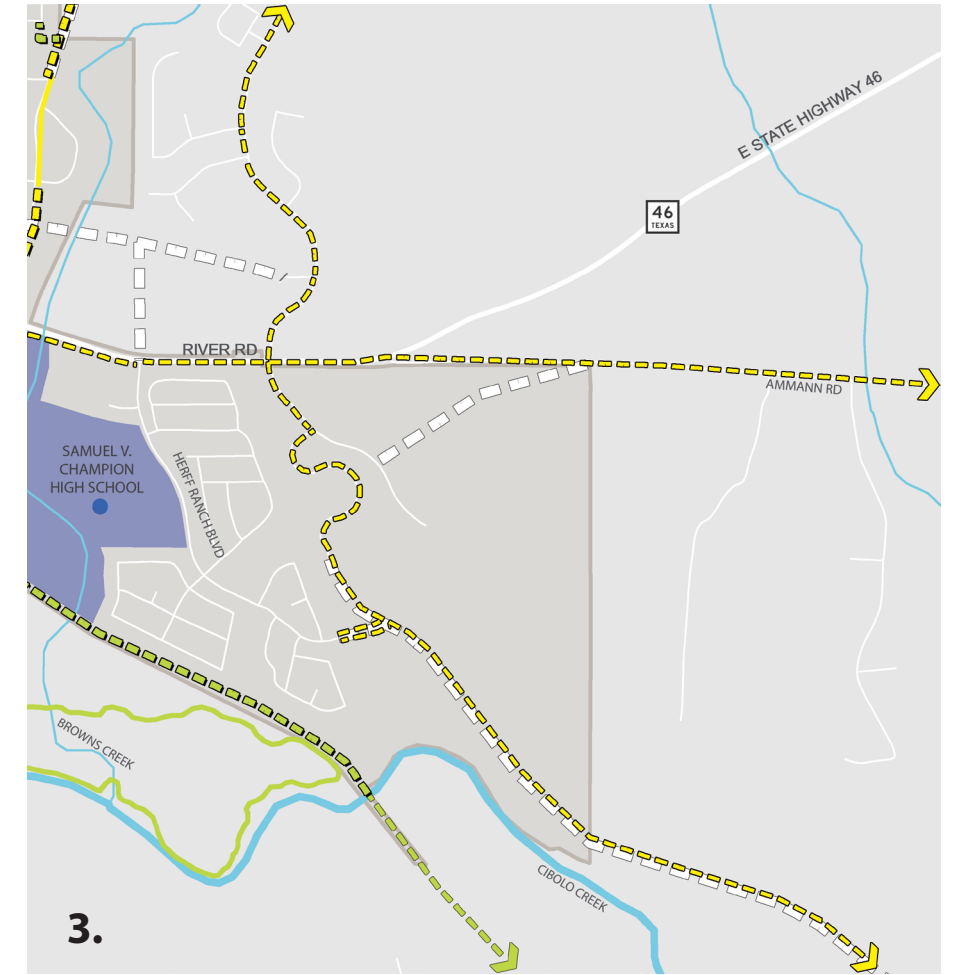
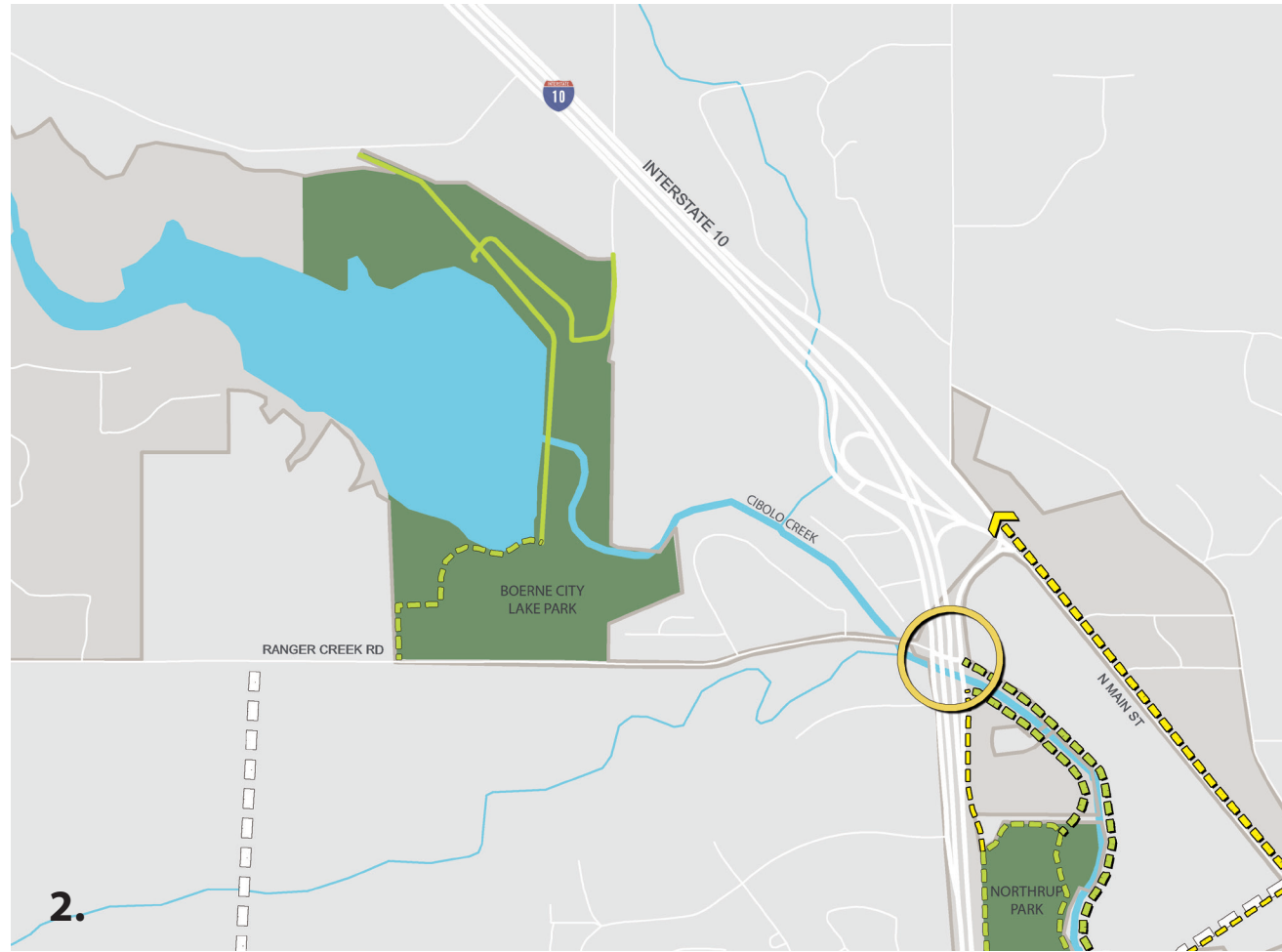
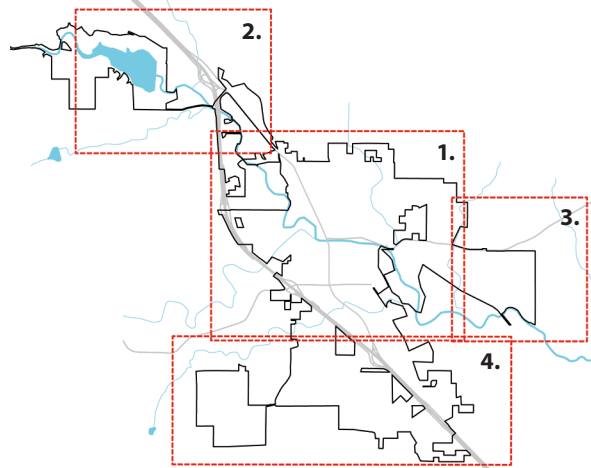
- LEGEND**
- Proposed Creek Crossing
 - Proposed Intersection Enhancement
 - Sidewalk, First Priority
 - Sidewalk, Existing
 - Trail, First Priority
 - Trail, Second Priority
 - Trail, Existing
 - Sidepath, First Priority
 - Sidepath, Second Priority
 - Sidepath, Existing
 - Bike Lane, First Priority
 - Bike Lane, Second Priority
 - Bike Route, First Priority
 - Bike Route, Second Priority
 - Historic District
 - Boerne ISD Properties
 - Parks
 - Future Roads
 - Waterways
 - City Boundary
 - Cemetery
 - Civic Destination
 - Hospital
 - Library
 - School
 - Shopping Destination



MAP 4.4B: BOERNE SHARED-USE FACILITIES

LEGEND

- Proposed Creek Crossing
- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Existing
- Bike Lane, First Priority
- Bike Lane, Existing
- Bike Route, First Priority
- Bike Route, Existing
- Historic District
- Boerne ISD Properties
- Parks
- Future Roads
- Waterways
- City Boundary
- Cemetery
- Civic Destination
- Hospital
- Library
- School
- Shopping Destination



Key Barrier Resolution Recommendations

Interstate Highway 10 - I.H. 10 creates a major barrier to walking and bicycling in Boerne. Only a handful of crossings exist, and none are favorable to pedestrians or bicyclists. Several of the existing bridges or underpasses are narrow and will need to be expanded to allow better traffic flow in the future. Better accommodations for walking and bicycling must be provided at that time.

Menger Creek and Cibolo Creek crossings - these creek crossings under I.H. 10 create opportunities for shared use path connections. These offer a much higher level of comfort and can link to trail corridors on both sides of the highway.

River Road and Herff Road/Essex Road - because of the popular River Road trail and the extension of Herff Road, this intersection is likely to become much more heavily used by walkers and bicycle riders. Users of the Number 9 trail must also cross at the intersection until a grade separated trail can be funded.



The Menger and Cibolo Creek crossings under I.H. 10 provide an opportunity for key future shared use path connections. The above image illustrates the Cibolo Creek crossing at Ranger Road.



Improvements to accommodate bicycle and pedestrian crossings across I.H. 10 are a high priority, but will require significant bridge redevelopment in several areas (existing West Bandera Road at I.H. 10 pictured here).

Education and Encouragement Recommendations for Boerne

The investment in better shared use paths and on-street bicycle lanes can reach its fullest potential in Boerne only if educational and promotional efforts are also implemented. These efforts will be key to the creation of a more accepted “culture” of bicycling in the City. They include increased education of both existing and new riders, stepping up promotional efforts, and incorporating safety efforts to enforce existing laws. Recommendations for Boerne (and for other communities in this study as well as throughout the AAMPO region) are as follows:

1. Implement/expand bicycle education programs

Education is a crucial component of increasing walking and bicycling while maintaining a safe environment for all users. Everyone in Boerne, including motor vehicle operators, should understand their rules, rights, and responsibilities. Educational efforts should be targeted:

- **To educate school-age children.** School-age children in Boerne are an important population to target for teaching and encouraging bicycling and walking. Though half of U.S. school-age children live within two miles of their schools, three-quarters of the households questioned in a 2009 National Household Travel Survey take their children to school in a private vehicle - a huge increase from the 15% that were driven in 1969. In Boerne, many children do not live that far from the schools they

attend and could walk or ride to school.

- **To educate adults on bicycle riding.** The City of Boerne should increase the availability of opportunities to improve the road safety education of both bicyclists and drivers in the City.

Specific efforts that the City of Boerne can take to improve walking and bicycle safety education include:

- Distribute information on the proper use of bicycle facilities.** The City should provide residents with information about the purpose of new bicycle facility treatments (e.g. bicycle lanes, shared lane markings, sidepaths, etc.) and safe behaviors for using these facilities as they are being designed and installed. Provide links to web pages that include information about each facility type. The pages should provide as many graphics and visuals as possible, including videos (where appropriate) to describe safe maneuvers. Entities such as Bike Texas can help provide this information.
- Promote Safe Routes to School efforts at all primary schools in Boerne.** Most children start to ride bicycles at a young age. For adolescents, bicycles offer independence and self-reliance. Therefore it is important to teach students safe bicycle skills as early as possible and reinforce that message as they approach driving age. Bicycle “Rodeos” are a fun way to help youth expand their bicycle riding skills.

Promote the goals of Safe Routes to School (SRTS), which educates children of the proper safety procedures when walking or biking, to encourage children to walk and bike to school where they are not currently doing so, and to improve facilities where students are already walking and biking.

In conjunction with area schools, help organize “walking school buses” or “bike trains” where groups of parents actively help students walk or ride to nearby schools.

The City should support the local school district’s efforts to provide walking and bicycle education for all students. To reach young students, conduct regular bicycle “rodeos” or half day training sessions given to all students at a certain grade level.



A student at a Bicycle “Rodeo” practices his maneuvering skills around tennis ball obstacles.

- c. Expand youth and adult bicycle education opportunities.** Private groups in Boerne could provide bicycle safety skills courses taught by League of American Bicyclists certified instructors. These courses are sometimes offered free of charge (where subsidized) or are offered at a reasonable charge (to compensate the instructors). The City of Boerne should partner with or support area advocacy groups and certified instructors to provide a central information source and marketing for area bicycle education events, and if necessary provide a location on City property to conduct the training sessions.

The City could also provide a way for people to sign up for classes held by various groups around the region and possibly offer discounted rates for City residents, such as for online classes offered by the League of American Bicyclists. Target audiences may include area college students where bicycle safety courses could be offered as part of orientation programs held at the beginning of each school year. Incentives could also be offered to area employers to have employees become certified instructors and regularly offer classes to their employees. The more confident people are in their bicycling abilities and safety knowledge, the more likely they are to substitute some short car trips for

ones on bikes.

- d. Provide information to promote safe walking.** Pamphlets and online information generated by many national and state entities can be distributed to Boerne residents to help promote safe walking habits.

2. Expand encouragement efforts and programs

Encouragement and promotion are extremely important components of an effort to get Boerne residents to walk and bike more frequently. Suggestions to encourage more walking and bicycling include the following. Many others can be used - the intent should be to have a consistent and vocal message that walking and riding more is good for Boerne in many ways.

- a. Encourage walking and bicycling commuting by City leaders, local employees, local students and area employers.**

Conduct biannual “open streets” events. In addition to being fun and well attended, these events draw significant attention to the benefits of walking and riding more in Boerne.

City staff, elected officials, and City business leaders should spearhead efforts to increase bicycling and walking. Encourage these leaders to attend walking and bicycling events, participate



Open street events (where streets are closed to motor vehicle traffic for a period of time) encourage bicycle riders of all ages and abilities to try out their skills and enjoy the fun of bicycling.

in public campaigns about walking and biking in Boerne.

Create a central location to serve as the “heart” of bicycling and walking efforts in Boerne. Such a facility could be associated with the Parks Department, but should focus exclusively on all aspects of educating and encouraging greater amounts of walking and riding in Boerne. A central and highly visible location is critical.

Encourage and incentivize local businesses that encourage their employees to commute by walking or biking. Offer discounts to City facilities, recognition at City events, promotion on the City’s cable access channel or other incentives.

Encourage bicycle commuting by making available information about economic benefits, health benefits, and potential commuting routes to employers and employees.

Promote Bike-to-Work and Bike/Walk-to-School Day. This encourages area employees, as well as children, to walk or bicycle to work or school by demonstrating how it can be done regularly. Many communities choose to build on Bike-to-Work Day and Bike/Walk-to-School Day and use



Provision of information and commuting routes can help encourage commuters to choose biking as a viable option.

it as the centerpiece of a larger community event focused on the local bicycling community.

The City of Boerne and other area public agencies should serve as an example by providing showers and lockers for employees so they can ride or walk to work. Another element of this strategy is to require all new and existing public buildings owned and operated by the City to include facilities for bicycle commuters, such as showers and bicycle parking.

Work with local bicycling groups to provide “bicycle mentors” to demonstrate to residents who have always driven to work how it may be possible to bicycle to work.

Educate employers on federal tax benefits for bicycle commuting by hosting workshops on a regular basis. Through the Federal Commuter Tax Benefit (Section 132(f) of the Internal Revenue Code reauthorized in 2013), employees can receive up to \$20 per month tax free from their employer for expenses related to commuting to work via bicycle.

Recognize local employers who actively encourage their employees to walk, ride or take transit to work with an annual awards program. Recognizing local employers for their efforts to encourage bicycle commuting promotes the awareness of bicycling and also showcases the efforts of leading examples. Employers get the benefit of the positive press, and the City benefits from the increase in bicycling.

Further support efforts to provide low cost or free bicycles and repairs to Boerne residents. Encourage the donation of used bicycles and parts, and heavily promote the availability of bicycles when residents volunteer their time to repair and build bicycles.

As feasible, acquire and provide helmets, lights and other safety equipment at low cost or no cost to Boerne residents in need. Seek sponsors and grants to continue to provide equipment to promote safe riding habits.

- b. Encourage Walking.** In concert with bicycle encouragement efforts, the City of Boerne should also target a greater amount of walking in the City. Types of efforts specifically devoted to walking may include:

Publicize key events, such as National Trails Day.

Develop inexpensive temporary signs that can alert residents to easy walking opportunities, such as “5 minute walk to a local restaurant.”

Develop specific “walk scores” for schools and other key destinations in the City. The application quickly rates a destination in terms of its access via walking, and can help publicize how accessible many destinations in Boerne are. It is available at walkscore.com.

Provide information on how to organize and encourage walking groups or clubs. The City and partners can help encourage neighbors to create groups that walk on a regular basis.

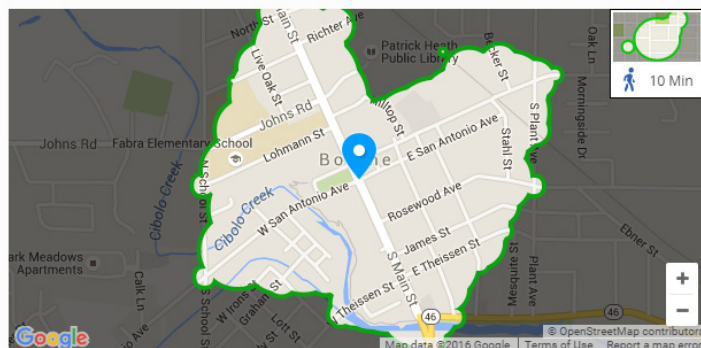
- c. Conduct a detailed school by school analysis to improve walking and bicycling routes to that school as part of any future Safe Routes to School Plan.** In partnership with area schools, and using each school’s attendance zone, continue to develop a detailed list of smaller improvements that can create more attractive walking and riding routes to each school as part of any future citywide Safe Routes to School strategy. Detailed Safe Routes to School plans



Example of secure bicycle parking that also doubles as an interesting art component of a city (Fairbanks, Alaska). The availability of secure bicycle parking can encourage more frequent use of bicycles for everyday trips.

Travel Time Map

Explore how far you can travel by car, bus, bike and foot from S Main St & W San Antonio Ave.



A simple walk distance map can be integrated into the City’s website to easily illustrate approximate walking times in the community.

would focus specifically on connecting the residences of enrolled school children to their school via a safe walking or bicycling route. A Safe Routes to School Plan also develops more detailed education and encouragement strategies for walking and bicycling specifically aimed at school aged children of that school. Individual school Parent/Teacher Associations (PTA) typically promote the development of individual school plans.

- d. Develop and distribute a route facility map.** To increase the citizens’ knowledge of existing walking and bicycling facilities and destinations in Boerne and to encourage the use of those



Markers and wayfinding signage help to orient visitors and infrequent users.

facilities, the City should develop a brochure type route map that can be printed and distributed and posted on-line. Longer term, investigate the possibility of developing a “map app” in coordination with other regional partners.

e. Increase citywide availability of bicycle parking. To quickly expand the relatively small amount of bicycle parking available at key destinations in Boerne, the City can consider purchasing bicycle racks in bulk and selling them at cost for key destinations throughout the City. The City may also partner with local advocacy organizations to support this type of program. The advocacy group/organization could purchase the bike racks and administer the program of which businesses receives them, while the City can store the racks and possibly install them through the Public Works Department.

f. Pursue “Bicycle Friendly Community” designation. The League of American Bicyclists’ Bicycle Friendly America Program recognizes communities, businesses, and college campuses for their active support in providing safe bicycling facilities and encouraging citizens to bicycle more frequently. Boerne should strive to be named a bicycle friendly community in the future. The award is based on the following criteria:

- Physical infrastructure and hardware to support cycling.
- Programs that ensure the safety, comfort and convenience of cyclists and fellow road users.

- Incentives, promotions and opportunities that inspire and enable people to ride.
- Equitable laws and programs that ensure motorists and cyclists are held accountable.
- Processes that demonstrate a commitment to measuring results and planning for the future.

By implementing the majority of the recommendations in this master plan, the City of Boerne should qualify as a bicycle-friendly community.

Enforcement Recommendations

It is important to remind Boerne residents that bicyclists are legally entitled to use the road, but are also required to obey the same rules and regulations that apply to vehicles. Enforcement should reinforce the right of each roadway user in Boerne. The Boerne Police Department should actively enforce traffic laws for both motorists and bicyclists.

To be effective, the enforcement program should be accompanied by awareness and education. The Police Department may elect to start with warnings and utilize citations only if necessary. Enforcement alone does not usually achieve long-term effects; rather, it needs to be partnered with strong education and encouragement efforts as well as physical improvements to facilities.

Another important aspect of a successful enforcement program is to recognize the nature of the problem. Where a significant number of users practice unsafe behavior, the physical design may need to be modified. More detailed changes beyond those recommended in this master plan should be made to the infrastructure.

- a. The City of Boerne should continue to monitor crash data.** If warranted by a high number of incidents, then the Boerne Police Department and the Planning and Public Works Departments should work together to study how best to reduce bicycle and motor vehicle crashes. The approach should focus on improving the behaviors of both bicyclists and motorists.
- b. As needed, and in focused areas of the City where applicable, increase enforcement of bicycling related infractions.**



The League of American Bicyclists recognizes communities for providing safe bicycling facilities and encouraging citizens to bicycle more frequently.

Targeted motorist behaviors include:

- Turning left and right in front of bicyclists
- Passing too close to bicyclists
- Speeding
- Parking in bicycle lanes where signage prohibits parking
- Rolling through stop signs or disobeying traffic signals
- Harassment or assault of bicyclists
- Targeted bicyclist behaviors include:
 - Ignoring traffic control (traffic signals and stop signs)
 - Riding the wrong way or against traffic on a street
 - Riding with no lights at night

c. Encourage the use of helmets by young bicyclists in Boerne. Parallel efforts to provide free or low cost helmets for some youth should be conducted.

d. Work with local advocacy groups to encourage a volunteer bicycle fleet to offer periodic group rides. Enforcement efforts do not need to necessarily come from police officers. Safe bicycle behavior can be established with good examples. Local bicycle retail stores and bicycle advocacy groups could organize group rides to help people learn safe bicycling skills and responsibilities. These can be especially helpful for those venturing out on the road for the first time. Having several bicyclists riding together also reminds motorists of the presence of bicyclists and encourages courteous sharing of the road. Group rides can also help people confidently ride in the evening and night hours. Each group ride may begin with a review of safe bicycling laws and tips.

e. Implement regular training for police officers on road safety for all roadway users. Bicycle transportation safety laws are a part of every patrol officer's training. However, if on-road bicycle use is not yet part of the

mainstream, some officers are not as familiar with laws that pertain to bicycles as compared to vehicles. The City should provide regular training on traffic safety laws as they pertain to bicyclists and motorists.

As bicycling in the City increases, it will be important for all officers to be prepared for potential conflicts and incorrect behavior. The National Highway Traffic Safety Administration (NHTSA) has several resources that can be inserted into regular trainings to keep the message fresh and engaging for officers.

The Police Department should offer educational training to officers about bicyclist rights and responsibilities as well as aggressive motor vehicle behavior toward bicyclists. For example, the Maryland Office of Highway Safety organizes safety training events for officers to raise awareness about rights, rules, and appropriate responses to incidents involving conflicts between motor vehicles, bicycles and pedestrians. The Federal Highway Administration offers a DVD that is an excellent training tool.



Police officers that are familiar with road safety regulations can help promote safe riding throughout the region. (Photo image from City of San Antonio)



CURREY

TRAIL

Implementation Program

This chapter focuses on Implementation, providing some of the parameters by which Boerne may enhance walking and bicycling by implementing the bicycle and pedestrian infrastructure and initiative recommendations. To that end, the chapter identifies methods of facility and initiative prioritization, identification of funding, defining the roles of responsible parties, and program monitoring. This chapter is also written under the assumption that the Boerne City Council will take official action to adopt this study as City policy.

These recommendations are similar to those for other communities in this study and throughout the AAMPO region.

Development of a Complete Network

Chapter 3 presents key facilities and improvements to be developed to create a connected network. These key projects were selected to meet the goals established by the planning effort, and to reflect citizen comments and desires received during the public input process.

The implementation of each specific active transportation network facility will generally follow these steps:

- **Route and Feasibility Confirmation.** Environmental analysis (if needed), detailed property easement or right of way needs analysis (if needed), detailed feasibility/concept design, and identification of funding for each project should be obtained before proceeding.
- **Permits.** By the City of Boerne, possibly Kendall County and all involved corridor owners, e.g.

TxDOT, utility companies and railroad companies. Responsibility for the project permitting construction typically lies with the City of Boerne.

- **Partnerships and Supplemental Funding.** Research for necessary grant qualification, Council approval to apply for grant pursuits or other funding sources, and completion of right of way acquisition (if needed) should be settled at this point.
- **Design.** Preparation of engineering and construction documents, specifications and cost estimates, followed by bid documents and bidding procedures after permits and funding are clarified. Even if for bicycle lane striping and internally prepared, schematic engineering of the route and intersections is recommended, since each corridor has its own unique characteristics and needs.
- **Physical project construction or implementation.**

Funding Active Transportation

Funding for pedestrian and bicycle facility development in Boerne can come from a variety of sources such as generated locally, from the State of Texas, and from federal sources. Private development can also aid in the establishment of many of the future facilities throughout the City identified in this study.

Sources of Funding

AAMPO survey results reveal that improved pedestrian and bicycle facilities are deemed to be important by residents of Boerne. Therefore, funding for these facilities should be treated as a key item in both annual

im•ple•ment (im'plə mənt), v. 4. to fulfill; perform; carry out. 5. to put into effect according to or by means of a definite plan or procedure.

and longer term budgeting. Regular steady funding is recommended so that the network is added to on a continuous basis. A broad range of funding mechanisms, from both the public and private sectors should be considered. These include:

General obligation bond funds. Bond funds are typically the primary source of significant development efforts. Larger capacity of these funding sources allows for more development to occur. They can also serve as a match for external grant sources.

CIP funds. An annual set-aside in the City's Capital Improvement Program (CIP) could be used to fund the pedestrian and bicycle network. These funds can also be leveraged as a match for state and federal grants if those become available.

Funding as part of other projects. Both on-street and off-street bicycling facilities, as well as sidewalks, can be efficiently funded as part of other larger City or County projects, such as new roads. The Herff Road extension that includes both pedestrian and bicycling facilities is an excellent example of this.

Parkland dedication funds. Funds generated by new development can be used to help develop nearby trails. These funds are accrued in lieu of parkland, and if deemed appropriate by the City, may be applied to building key shared use or sidepath facilities.

Special district funding. Funding from special districts, other new public improvement areas, or tax increment financing areas can be used to help develop pedestrian and bicycle facilities.

Grants from a variety of sources. Grants that can be used for pedestrian and bicycle facility development are available from a variety of sources. Given the compelling local issues of traffic congestion and air quality, as well as a large local population that supports alternative transportation methods, local pursuit of grants could be successful and should be aggressively pursued. Major grant types include:

- **Texas Parks and Wildlife Department grants.** Through its outdoor recreation and community trail development grants, these matching grants

can provide funding for shared use paths (trails) that can benefit Boerne's active transportation network.

- **Federal funds.** Federal dollars allocated to pay for non-motorized transportation improvements can be used to fund pedestrian and bicycling improvements in the City. These funds are administered by the Texas Department of Transportation and local metropolitan planning organizations such as the AAMPO, and as such must conform to federal guidelines for safety and construction procurement.
- **Congestion Mitigation and Air Quality (CMAQ) grant funds.** Federal dollars that assist in relieving traffic mitigation may also be used to develop trails corridors that can carry commuters to work or serve as an alternative transportation route to recreation or commercial areas.
- **Foundation and Company Grants.** Some assist in direct funding for projects, and some support efforts of non-profit or citizen organizations.

Implementation Roles

The City of Boerne is the primary implementing agency of this study. Should the City choose to adopt the study, it would be acknowledging its role and responsibility to take the lead in pursuing the plan's goals and objectives. Implementation actions by the City include actual construction of bicycle and pedestrian facilities and supporting programs to educate and encourage new users.

Multiple City departments may have a role in implementing and operating the facilities envisioned in this master plan. These include the following:

- **The Planning & Community Development Department** will have a major role in implementing study recommendations. Responsibilities will include developing and overseeing efforts to improve walking and bicycling, proposing pedestrian and bicycle



An annual set-aside in the City's Capital Improvement Program (CIP) could be used to fund the pedestrian and bicycle network.

facilities, scoping of education, encouragement and enforcement events, and coordinating among the various departments and agencies that have a role in implementing this study.

The department also enforces the City's development ordinances. This department is responsible for ensuring that infrastructure built through private development conforms to the City's codes. The department may also update the City's codes to establish new standards for projects identified in this study.

Finally, the department can assist in applying for grants to help construct pedestrian and bicycle facilities, as described in this study.

- **The Parks and Recreation Department** will have a role in education and promotion programs, as well as overall implementation of the study.
- **The Public Works Department** may assist with facility development and day-to-day operations and maintenance of the City's roads and sidepaths, including signage and striping, where much of the on-street infrastructure may be built. The department will also participate in the design

and construction of bicycle and pedestrian infrastructure.

- **The Police Department** will have a significant role in supporting and implementing safety education and enforcement components of the study.
- **The AAMPO** can assist in future transportation planning and support implementation of the recommendations of this study.

Monitoring Program Implementation

The *Boerne Bicycle and Pedestrian Study* is a living document and should be updated periodically to assess progress, identify new opportunities, and re-evaluate goals and priorities. An action plan should continually be updated for the following year and included in the annual Capital Improvements Program (CIP).

Should the City move forward in implementing this study, it is important to involve area stakeholders, residents and businesses located along any proposed network routes. Public engagement and input is a critical component of

any design process involving new pedestrian and bicycle facilities, and is also vital when updating, changing or re-prioritizing any recommendations.

The City should initiate and maintain an annually updated Capital Improvement Project (CIP) list of short- and long-term bicycle and pedestrian facility improvements based on this study. This CIP should be annually updated to reflect the highest priority projects for each fiscal year into the future.

To measure the successful implementation of the recommendations of this study, a series of benchmarks and periodic measures should be used to monitor implementation.

Monitoring measures can include:

- User bicycle and pedestrian counts along key segments both before implementation and after to track changes.
- Identify key locations for benchmark counts and conduct on a periodic basis.
- Monitoring bicycle parking usage at regular intervals.

- Documenting levels of walking and bicycling to area schools (both primary and secondary).
- Review periodic American Community Survey data provided by the US Census on commuting mode share.
- Quantifying the percentage of the system that is developed.
- Quantifying education and encouragement efforts by counting the distribution of route maps, the number of classes and participants enrolled in safety programs, etc.
- Quantifying end trip facilities provided at businesses and destinations within the City.

As the City's network grows and additional facilities are installed, other measures may be added that further gauge the success of Boerne's bicycling and pedestrian efforts. If the City so desires, this information could be provided on the City's website so that citizens can track the progress of study implementation.



Successful implementation of a citywide connectivity plan requires cooperation between various City departments but can make Boerne a better place to live in and to visit.

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