



VOLUME 6 PEDESTRIAN & BICYCLE RECOMMENDATION FOR THE CITY OF SEGUIN

This page was intentionally left blank.

PEDESTRIAN & BICYCLE RECOMMENDATION FOR THE CITY OF SEGUIN

Table of Contents

VOLUME 1 Alamo Area Regional Summary Report

| | |
|--|------|
| 1 Introduction | 1-5 |
| 2 The Need for Bicycling & Walking | 1-13 |
| 3 Planning Process..... | 1-19 |
| 4 Summary of Recommendations | 1-25 |

VOLUME 2 San Antonio Pedestrian Study

| | |
|----------------------|------|
| 1 Introduction | 2-5 |
| Area One | 2-16 |
| Area Two | 2-25 |
| Area Three | 2-30 |
| Area Four | 2-35 |
| Area Five | 2-42 |
| Area Six..... | 2-49 |
| Area Seven | 2-54 |
| Area Eight | 2-61 |
| Area Nine | 2-66 |
| Area Ten | 2-73 |

VOLUME 3 Mission Trail Access Study

| | |
|--------------------------------------|-----|
| 1 Making Community Connections | 3-5 |
|--------------------------------------|-----|

VOLUME 4 City of Boerne

| | |
|-------------------------------|------|
| 4.1 Introduction | 4-5 |
| 4.2 Existing Conditions | 4-15 |
| 4.3 Recommendations | 4-25 |
| 4.4 Implementation..... | 4-47 |

VOLUME 5 City of New Braunfels

| | |
|-------------------------------|------|
| 5.1 Introduction | 5-5 |
| 5.2 Existing Conditions | 5-17 |
| 5.3 Recommendations | 5-29 |
| 5.4 Implementation..... | 5-61 |

VOLUME 6 City of Seguin

| | |
|-------------------------------|------|
| 6.1 Introduction | 6-5 |
| 6.2 Existing Conditions | 6-17 |
| 6.3 Recommendations | 6-27 |
| 6.4 Implementation..... | 6-49 |

APPENDIX A *Bicycle & Pedestrian Planning Toolkit*

| | |
|--|------|
| Introduction..... | A-5 |
| Active Transportation Facility Matrix | A-7 |
| Active Transportation Design Challenges..... | A-16 |
| Network Support Facilities | A-21 |



Max Starcke Park, with the Guadalupe River running along it, is a key destination and one of the most scenic areas in Guadalupe County.

VOLUME 6

SEGUIN BICYCLE & PEDESTRIAN STUDY

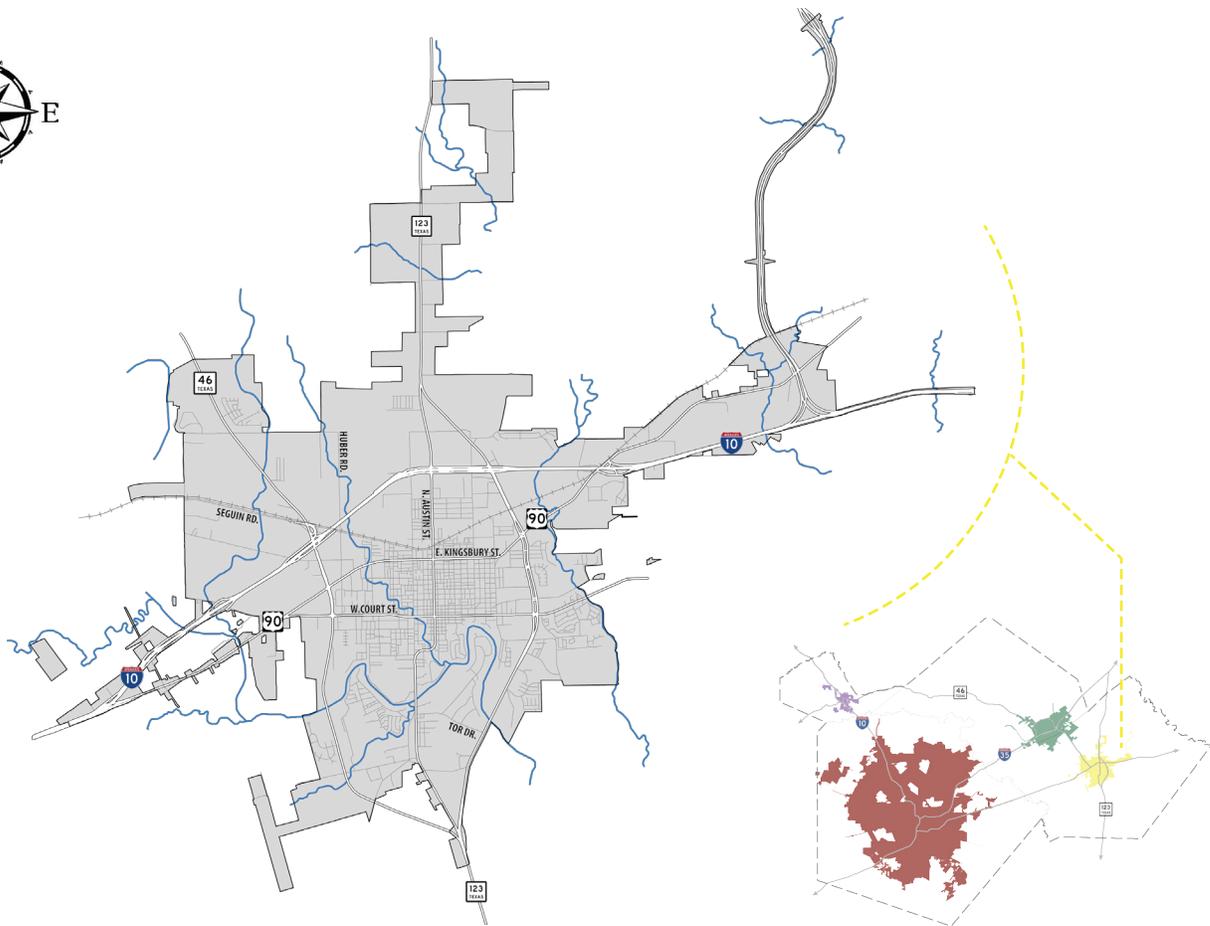
CHAPTER 1

INTRODUCTION

Seguin is located approximately 35 miles northeast of downtown San Antonio and 15 miles southeast of New Braunfels. In recent years, Seguin has experienced more stable growth than other cities in the region. However, development pressures and growth in Guadalupe County indicate the City could soon experience the rapid growth that other communities of the Alamo Area have had in recent decades. To preparation for growth, Seguin’s comprehensive plan outlines its desired vision, including several goals for improved pedestrian and bicycle mobility.

In order to achieve its vision and improve alternative modes of transportation such as walking and bicycling, the City of Seguin has partnered with the Alamo Area MPO (AAMPO) to develop this pedestrian and bicycle plan. The plan aims to both improve the environment for walking and bicycling as well as see increases in walking and biking by making it a more viable and attractive mode of travel for residents and visitors of Seguin.

SEGUIN BICYCLE AND PEDESTRIAN STUDY AREA



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

Demographics & Commuting Characteristics

In 2014, an estimated 27,000 people lived in Seguin, a 7.4% increase from 2010. For the most part, Seguin’s population includes middle-aged families and retirees, but there is a growing segment of young families. With the presence of Texas Lutheran University, there is also a higher-than-average (for suburbs) college student population.

The median income for households in Seguin is lower than that of the state. The median age of those living in the City is 35.6 years (higher than the state median age of 33.8), and school age children account for just over 20% of Seguin’s population.

Seguin has experienced a more modest growth rate than surrounding areas. This allows the City to be better prepared for more intense growth in the future. Growth projections anticipate that Seguin will have a projected population of over 43,000 by 2040. As the City continues to grow, not only will the demand on the

City’s transportation infrastructure increase, but new preferences for transportation will emerge and grow.

Seguin has a strong employment base for a community of its’ size, with over 7,500 employees at 11 major employers. Sixty-two (62) percent of residents in Seguin work within the City and 72% work within Guadalupe County. Average commute times for Seguin’s workforce are also short, at approximately 20 minutes. This indicates that much of Seguin’s workforce live near where they work, presenting a strong opportunity to increase bicycling and walking rates.

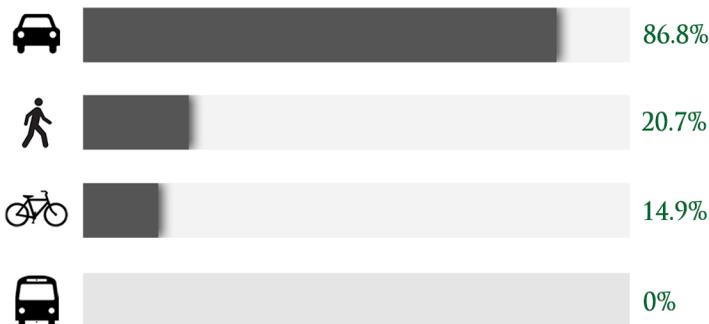
Texas Lutheran University is also a key opportunity to serve bicycle and pedestrian needs. Studies have shown that universities tend to generate high levels of bicycling and walking as they are affordable, flexible, and therefore attractive modes of transportation for students. Seguin already boasts some of the highest bicycling rates (for commuting) in the region, with 0.6% reporting that they ride their bike to work or school and 1.8% reporting walking to work or school.

REGIONAL SURVEY HIGHLIGHTS

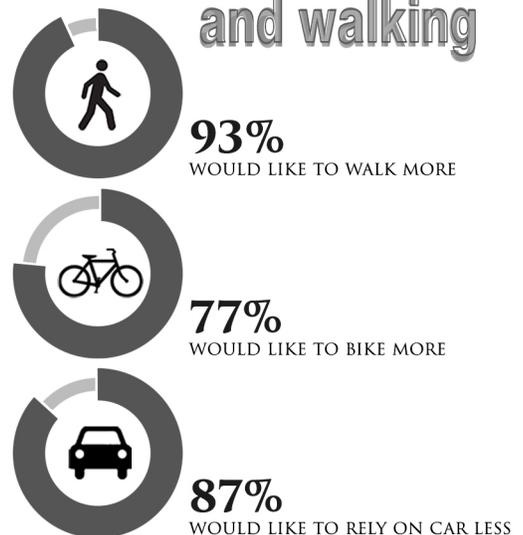
Data from the U.S. Census Bureau about travel patterns is limited to commuting to work. Additional data about biking and walking was collected by the AAMPO as part of this study. That survey reveals an interest in more transportation options, including walking and bicycling. While most respondents said 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

The residents of Seguin have a higher rate of walking and bicycling than other communities in the Alamo Area. According to a regional survey, 20.7% and 14.9% reported they walk or ride their bike on a daily basis.



interest in biking and walking



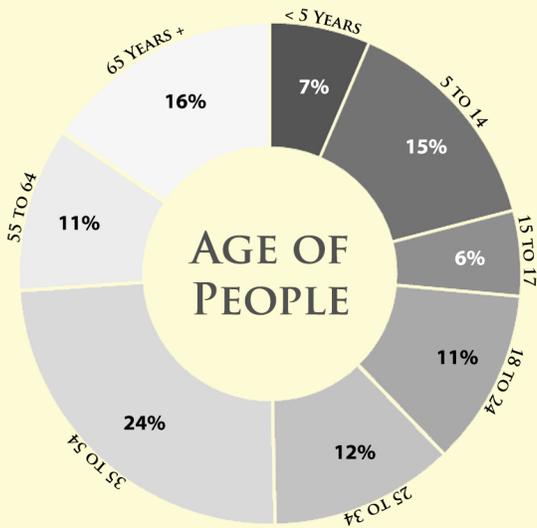
age of population

Understanding the age of Seguin's population can help the city plan for proper transportation facilities to serve the varying needs of these populations.

About 20 percent of the population of Seguin **travels to primary or secondary school**, and of that population, 81 percent of them **are not driving age** and rely on another form of transportation.

Seguin's workforce population is approximately 10,965 people, which is 43 percent of the total population of the city. This is the number of people who need to **get to their job** somehow.

Approximately 16 percent of Seguin'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 certain populations simply because of economic hardships.

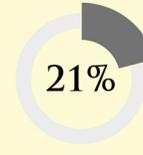
Of the households in Seguin, **61 percent make less than the state median household income*** and over **21 percent are below the federal poverty level**. As income decreases, the cost of owning a vehicle becomes more burdensome. Approximately **11 percent of Seguin's households don't own a vehicle**, and another 33.4 percent only own one vehicle.

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

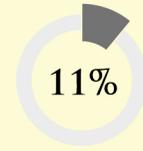
*Median Household Income for the State of Texas is \$51,900.



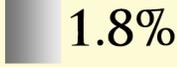
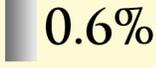
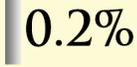
Percent of Seguin's households whose annual income is less than \$50,000*.



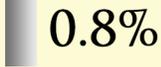
Percent of Seguin's households whose annual income is below the federal poverty level.



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



OTHER

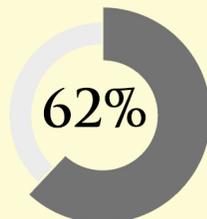


journey to work

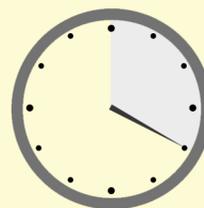
Travel to work characteristics can help identify opportunities to encourage walking or bicycling for work related trips.

Sixty-two percent of Seguin's workforce works within the city, yet over **94 percent of the workforce in Seguin drove to work**, either alone or in a carpool. Approximately **1.8 percent of the workforce walked to work**, **0.6 percent rode their bicycle**, and **0.2 percent took public transit**.

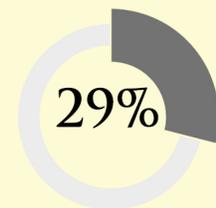
The average commute time among the workforce in Seguin is **20.2 minutes**, and 29.4 percent of the workforce has a commute longer than the regional average of 25 minutes, including **7.1 percent who have a commute longer than an hour**.



Percent of residents of Seguin who work within the city.



Average travel time to work among Seguin workforce.



Percent of workforce whose commute is more than 25 minutes

Relation to Other Plans

This Bicycle and Pedestrian Study for the City of Seguin supports and builds on existing City plans, policies, and initiatives. Future efforts should also support these goals in order to facilitate implementation. Together these plans and initiatives strengthen the efforts for walking and bicycling in order to implement the local and regional vision for a more sustainable and efficient transportation system.

Mobility 2040

The Alamo Area 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.

Comprehensive Master Plan, 2010

The City's comprehensive plan is the over-arching document that guides City leaders in decisions about future growth. Therefore, all other plans, policies, and initiatives must align with the comprehensive plan. Many of the goal statements of Seguin's Comprehensive Master Plan identify a need to improve pedestrian and bicycle mobility. Furthermore, the plan identifies non-vehicular corridors that can become part of the bicycle and pedestrian system. This includes trails, blueways (along water), and greenways (natural corridors).

Downtown revitalization component also prioritizes pedestrian movement within and into the downtown area by creating enhanced pedestrian zones as well as making connections to other pedestrian and bicycle corridors such as trails to connect to the rest of the City.



MESA

THE SEGUIN COMPREHENSIVE MASTER PLAN

Seguin's Comprehensive Plan supports the inclusion of active transportation initiatives as a key component of the City's transportation policy.

Seguin Thoroughfare Plan, 2014

The City's Thoroughfare Plan identifies the plan for the City's thoroughfare network (collectors, arterials, and highways), including proposed roadways. This document identifies opportunities for integrating new pedestrian and bicycle facilities in conjunction with new or improved roadway projects.

Other Plans

Other trail, corridor, and area plans provide a context for recommendations in this plan. They can help identify specific needs for improvements for walking and bicycling in these areas. Those that were consulted include:

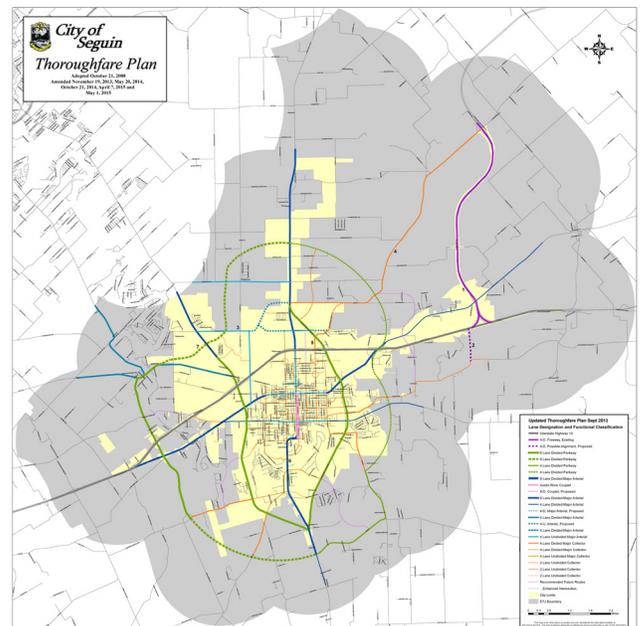
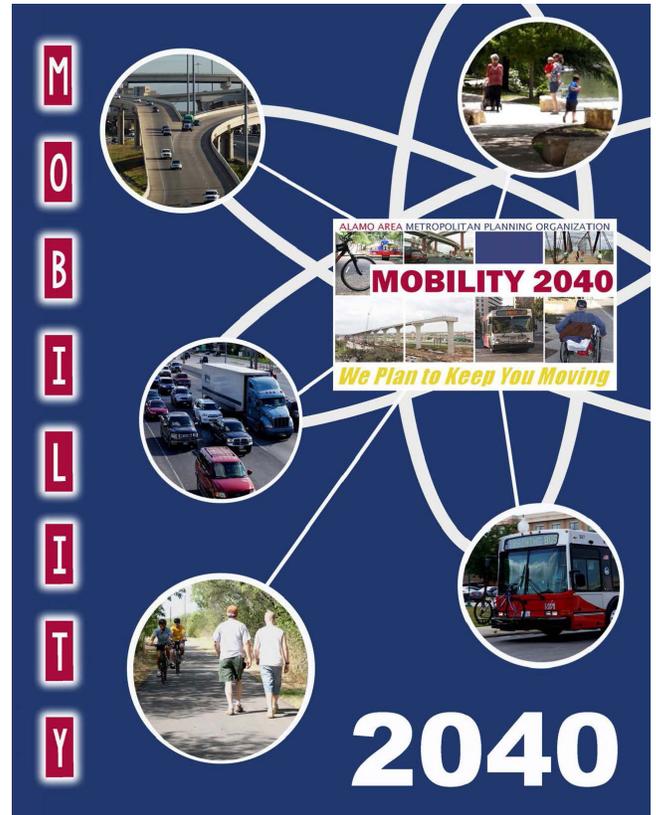
- **College-Cedar Street Sidewalk Network Expansion Project** is approximately 1.8 miles of sidewalks along these streets to connect neighborhoods, downtown, schools, the City library, and a senior housing development.
- **Community Park (Hoermann Property) Master Plan** will become a community-wide destination along Walnut Creek.
- **Nolte Farms Development** is a master planned community with areas for single-family housing, multi-family housing, and commercial development. The development is located southeast of the City along the Guadalupe River.
- **Walnut Branch Linear Park Master Plan** is a trail along Walnut Creek, extending from New Braunfels St. to near St. James Catholic School and connecting to many neighborhoods, schools, parks, major employers, and other destinations.

Development Code

The development code regulates development in the City and (to some extent) the extraterritorial jurisdiction. The code can influence the built environment to be 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 include bicycle parking and internal pedestrian pathways.

Surrounding Jurisdictions

This effort is part of a larger planning effort to develop a regional bicycle and pedestrian system. It is important to be aware of the transportation networks and plans of adjacent jurisdictions and to coordinate with these entities to build this regional network.



The Alamo Area Mobility 2040 and Seguin Thoroughfare Plan are two of the plans that informed this planning process.

Plan Purpose & Goals

The City of Seguin partnered with the Alamo Area MPO (AAMPO) to help improve walking and bicycling. The AAMPO employs a locally focused approach, encouraging individual communities to develop their preferred strategies, and then bringing individual plans together into a region-wide strategy. This effort is the result of the City's study proposal to the AAMPO.

The purpose of this plan is to align Seguin's walking and bicycling initiatives with those of the region. This plan promotes the development of a Citywide infrastructure network that provides a first class system for pedestrians and bicyclists anywhere in Seguin. It also lays out a plan to encourage greater amounts of walking and riding in the City by emphasizing comfortable facilities that appeal to users of all abilities.

Why Plan for Walking & Bicycling?

Seguin is currently home to over 27,000 people and is expected to grow to over 43,000 by 2040. This growth will create more demand on the City's transportation infrastructure.

Walking and bicycling has mobility, environmental, health, and economic benefits, which in turn improves the overall quality of life in a community. Increasingly, communities across the nation are recognizing these benefits and are taking important steps to promote walking and bicycling as a mode of travel.

The Seguin Pedestrian and Bicycle Plan will help meet several goals of the City's comprehensive master plan. Community goals of Seguin's comprehensive master plan identified a need to improve walking and bicycling and the need for making pedestrian and bicycle linkages. The downtown component also prioritizes pedestrian movement within and into the downtown area by creating enhanced pedestrian zones as well as making connections to other pedestrian and bicycle corridors, such as trails, to connect to the rest of the City.



The Walnut Branch creekway trail system serves as the active transportation "spine" for much of Seguin.

Goals and Principles for Walking and Bicycling in Seguin

Goals and principles that can guide the growth of Seguin’s active transportation network are noted below. These goals and principles help guide the recommendations presented in this study.

INFRASTRUCTURE

- Focus on improvements along key corridors within the core area that will become the major walking and bicycling network for the City.
- Link that core network to key focal points beyond I.H. 10 and S.H. 123 so that fast growing areas of the City are connected to that core.
- Develop high quality walking and bicycling facilities that are appealing and comfortable to use and that are attractive to area residents.

SUPPORT FACILITIES

- Include support features that make walking and bicycling more attractive, including shade, places to get a drink of water, wayfinding, and end of trip bicycle racks.

PROGRAMS

- As in other area communities, allocate resources to all departments to help promote the frequent use of active transportation network. Promote the benefits of Seguin’s physical layout so that residents are aware of the comparative ease of getting around in the City.
- Actively work with key area partners, such as the Seguin Independent School District, Texas Lutheran University, the Guadalupe Regional Medical Center, Seguin’s business community and others to co-develop walking and bicycling infrastructure, and to encourage and incentivize high levels of usage by employees and users.

IMPLEMENTATION

- Include funding for first class walking and bicycling infrastructure with all new road construction, especially along corridors noted as key components of the City’s network.
- Aggressively pursue additional supplemental funding sources to accelerate development of the active transportation network.

Who Are We Planning For?

Improving the City's infrastructure for walking and bicycling will benefit everyone that lives in Seguin. The underlying goal of this plan for walking and bicycling in Seguin is the a desire to create a better community by ensuring the City has a viable transportation system with a variety of travel choices for everyone.

Walking and bicycling is a choice for some, but for others it is a necessity. This includes children and the elderly, where the ability to travel by walking and bicycling is an important component of independence. For residents who want to live more economically, the ability to travel in the City without the cost of a motor vehicle can be significant. Other residents may be attracted to the health benefits from walking or bicycling. Students at Texas Lutheran University form another unique segment of pedestrians and bicyclists in Seguin. Not only do

these students require easy walking and biking on the campus, but access to areas around the campus and greater Seguin as well.

Ultimately, the goal for Seguin remains the same as for other communities in the Alamo Area region. Pedestrian and bicycle networks should be accessible to people of all ages, means, abilities, and purposes: the young and old, the rich and poor, the able and the disabled, the commuter and those seeking recreational activities. In essence, this plan should follow the "8 to 80" rule, where an eight year old can comfortable walk or ride throughout much of Seguin with an 80 year old. All users and types of reasons for walking and bicycling are important when implementing this plan.



The walking and bicycling network in Seguin should serve all types of users, including experienced riders, pedestrians of all ages and needs, and those using transit opportunities in the Seguin area.

Destinations in Seguin

With a compact core area size, many destinations in Seguin can be reached via a five to ten minute walk, or between a quarter mile and one mile in distance. Bicycling expands that even further, with almost every destination within the City's core area less than three miles away (or within an easy-paced 15 minute ride). Key destinations are noted, so that major routes help improve access to the highest number of locations.

From residential areas throughout Seguin, local destinations such as nearby schools, parks, retail areas and major civic areas are noted. Major destinations are shown below and on the map on the following page.

Destinations and Barriers in Seguin

Seguin is unquestionably an ideal candidate for significant pedestrian and bicycle activity. The City's compact size means that many of the most frequently visited destinations in the City are relatively close together.

A generally accepted rule of thumb consisting of a five to 10 minute easy walk, or about ¼ mile to about 1 mile is used for this effort. For bicycle riding, a two to three mile ride is generally considered to be the "sweet" spot, taking no more than 10 to 15 minutes at an easy riding rate.

Using this criteria, almost every major destination (including most elementary and secondary schools) in

Seguin is reachable via walking or riding a bicycle.

A one mile radius centering on downtown Seguin just about encompasses Texas Lutheran University and Park West Community Park to the west, Max Starcke Park and the Guadalupe River to the south, HEB, Seguin High School and the Guadalupe Regional Medical Center to the east, and stretches north of Kingsbury Street.

Figures 6.A and 6.B, Active Transportation Opportunities and Barriers, illustrates many of the key destinations in the City as well as major barriers. Those destinations attract daily use, and include schools, parks, retail areas and key civic uses such as the downtown library and City Hall.

Key barriers in the City include:

Guadalupe River – generally running west to east through the City for approximately 5 miles, the Guadalupe River is only crossed five times during that stretch. Only one of those four crossings includes a protected pedestrian/bicycle corridor (Business 123), while the other three consist of shoulders along high speed highways. Because of the width and significant flooding potential of the Guadalupe, it is unlikely that any non-vehicular bridges will ever be built. This points out the significant value of every existing crossing over the river, as well as future crossings, and the need for wide protected pedestrian and bicycle facilities on every bridge.

Active Transportation Network: Destinations (Seguin)

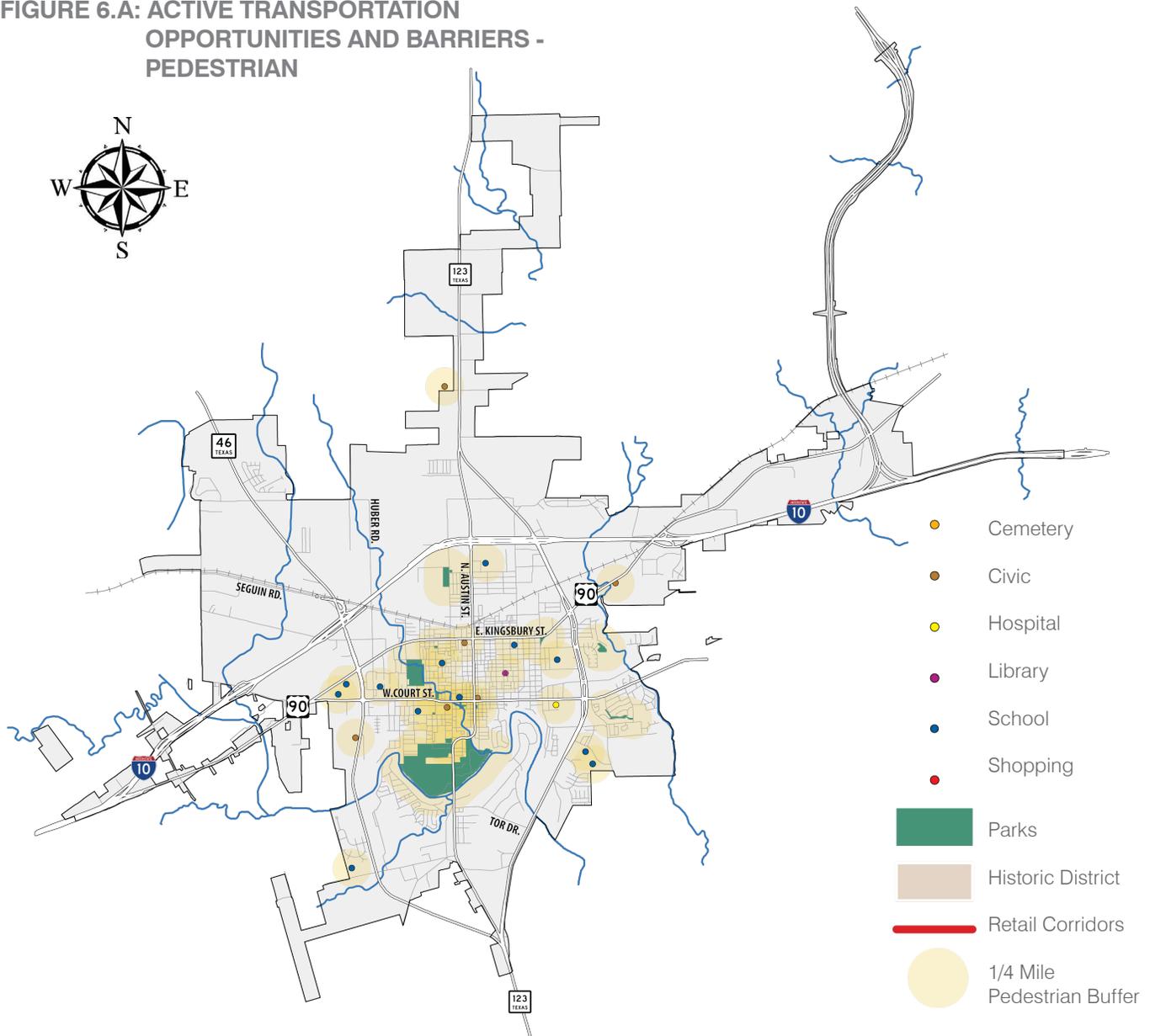
- Downtown Seguin
- Texas Lutheran University
- Max Starcke Park
- Guadalupe Regional Medical Center
- Walmart Supercenter
- Tyson Foods
- Caterpillar Industries
- Park West Community Park
- Seguin-Guadalupe County Coliseum
- Guadalupe County Courthouse
- Seguin High School
- GBRA Headquarters

State Highway 123 – between Interstate 10 and East Court Street, the frontage roads of SH 123 have been developed, and are currently being used as the main lanes. In the future, overpasses may be built at Court and East Kingsbury. Within the TxDOT right of way, wide pedestrian areas have been left in place, and provide signalized crossings at key locations. Significant growth is expected to the southeast, and these crossings will be vital to connect those newer areas of the City to the older core downtown and retail and civic destinations.



The Guadalupe River is one of the most attractive features of Seguin, but it is also a formidable barrier to walking and bicycling connections between the core area and growing areas south of the City.

FIGURE 6.A: ACTIVE TRANSPORTATION OPPORTUNITIES AND BARRIERS - PEDESTRIAN

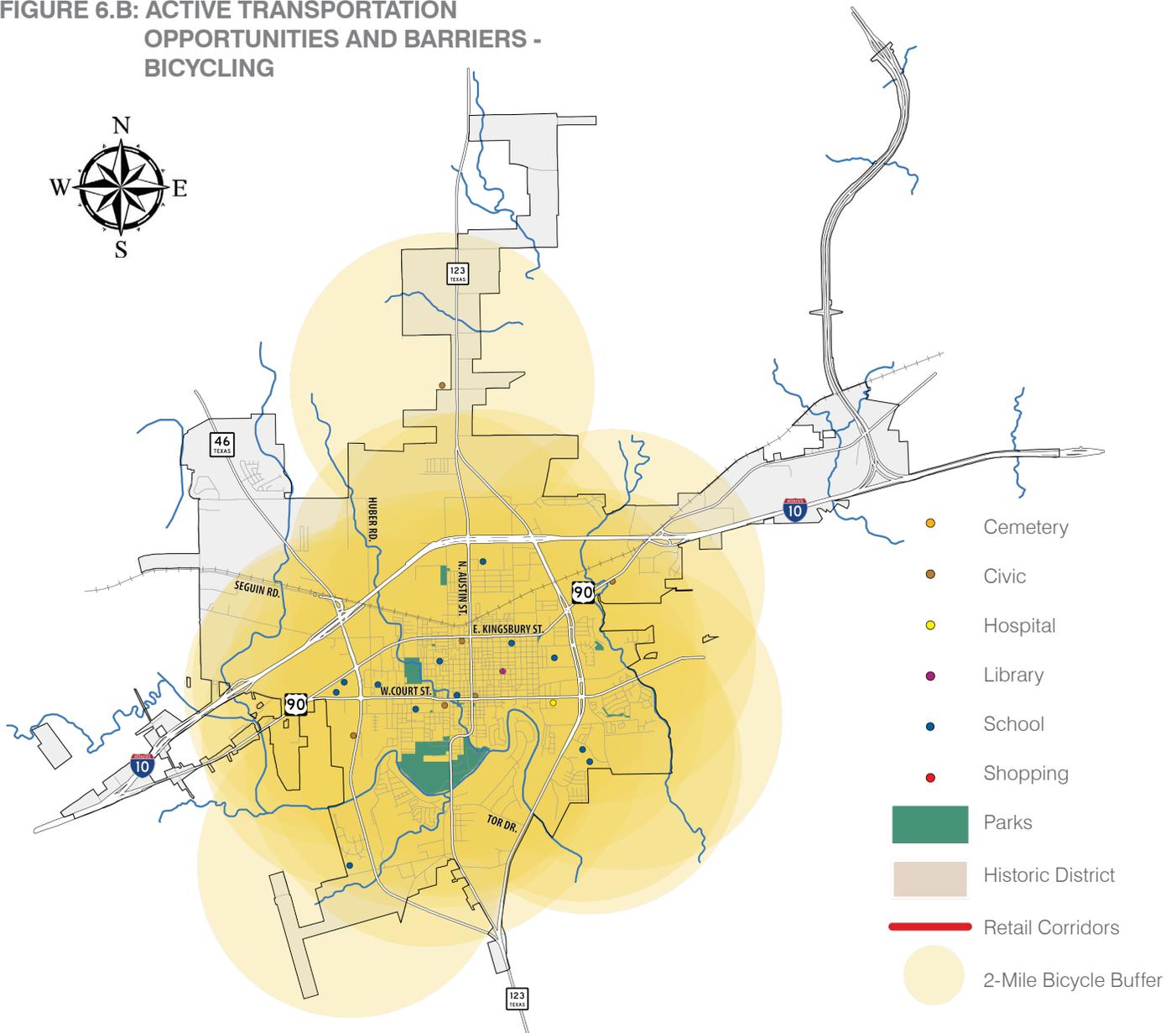


Interstate Highway 10 – although not as challenging a barrier as IH 35 in New Braunfels or Interstate 10 in Bourne, the highway in Seguin creates a major future barrier to pedestrian and bicycling connectivity north of the City. Only five underpasses exist along the four mile stretch of IH 10 between F.M. 464 to the west and Highway 90 to the east. Much of the new growth north of IH 10 will be centered on Highway 46, and “spine” pedestrian and bicycle facilities should be developed that connect to the Walnut Branch trail at Park West Community Park. Both New Braunfels Street and Huber Road provide lower traffic volume crossings under Interstate 10, and

those should be as future locations for shared use path connections.

Union Pacific railroad corridor north of Kingsbury – the UP railroad corridor creates a barrier between neighborhoods in north Seguin and core area destinations. Existing roadway crossings should be maintained and enhanced to facilitate bicycle and walking in the area.

FIGURE 6.B: ACTIVE TRANSPORTATION OPPORTUNITIES AND BARRIERS - BICYCLING





Seguin's historic downtown is a key destination for both visitors and residents alike. The area's history is celebrated on murals in the downtown area.



General Characteristics

Seguin is unique in that it is not as spread out as other cities in the area. The City's relatively compact footprint, as well as the grid network of streets in the core area, make it ideal for a strong active transportation network. Almost all of the core area of the City can fit within a one-mile radius from downtown Seguin. Much of the City also lies south of Interstate Highway 10, and the Guadalupe River generally flows south of the City, resulting in fewer significant barriers to bicycling and walking.

However, the City is changing as it grows. The majority of new development is occurring east of Highway 123 and north of Interstate 10, and those future areas will require comfortable connections to the core area of the City at freeway intersections. Seguin still has time to ensure that those connections can be made, and that new developments provide strong connectivity to those crossings.

Recent enhancements in the downtown area have created one of the better downtowns in the central area of Texas. Existing sidewalks in the downtown, as well as the expanding trail system along Walnut Branch combine to make the downtown comfortable from a pedestrian standpoint. Major streets, including Court Street, Austin

Street, College Street and Kingsbury Street have some sidewalk infrastructure, but also all have significant gaps and older sidewalk sections that may discourage high amounts of pedestrian activity. Other local destinations, such as Texas Lutheran University and the retail//medical hub at Court and SH 123 generate pedestrian and bicycle activity. But many residential streets and smaller collectors lack continuous sidewalks and make walking to nearby destinations more challenging.

Seguin does not currently have a significant amount of on-street bicycle infrastructure, but in recent years shared lane markings have been added to Nelda Street, and new bicycle lanes are being proposed in developments east of State Highway 123.

The off-street shared use path system is also growing. Paths now lead north from downtown along Walnut Branch to Park West, the City's newest community park, and eventually will continue north to Interstate 10 at Huber Road. This same trail system will eventually connect to Max Starcke Park on the southern side of Seguin. What is now needed are pedestrian and bicycling connections from nearby neighborhoods to the Walnut Branch trail and along the major corridors of the City.



East Court Street is a major link between Downtown Seguin and many retail destinations along State Highway 123, and over time the corridor can be transformed into an excellent corridor for walking.



Seguin has a strong grid of neighborhood streets that provide excellent routes for bicycling to most parts of the City.

Attitudes Regarding Active Transportation in Seguin

Previous citizen involvement efforts in Seguin have indicated an interest in improving facilities for walking and bicycling in the City. An on-line regional survey which included Seguin residents was used as part of this effort to help identify both opportunities and challenges to walking and bicycling in Seguin, and to determine if interest in improving the pedestrian and bicycle infrastructure in the City still exists. The survey was conducted over a five month period from late November 2014 through the spring of 2015, and was answered by almost 300 residents of Seguin.

Respondents to the survey in Seguin have a higher rate of walking and bicycling than residents of other cities in the survey. More than 20% noted that they walk on a daily basis, and almost 15% ride a bicycle daily. Residents of Seguin expressed a high degree of interest in bicycling and walking, with 93% indicating that they would like to walk more, 77% indicating that they would like to ride more.

Attitudes about Bicycling in Seguin

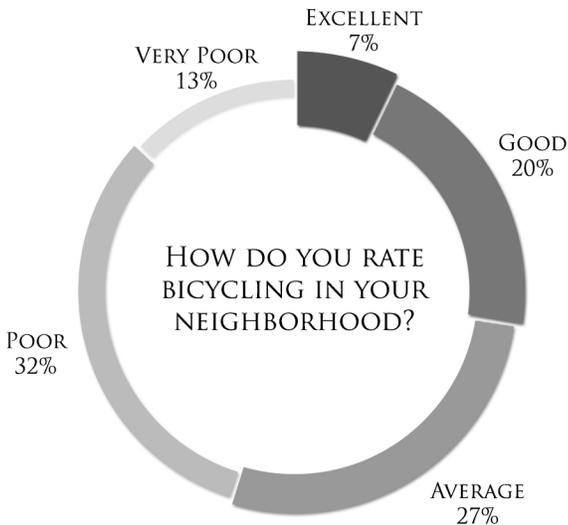
A little over 50% of the respondents in Seguin rated bicycling in their area of the City as being at least average, good or excellent. 45% indicated that riding in Seguin was poor or very poor. The single most significant barrier to riding more frequently was the lack of bicycle lanes, noted by over 75% of respondents. The lack of safety, weather, the lack of connections to transit and the lack of a working bicycle followed as key barriers to riding a bicycle in Seguin.

The lack of facilities as the single most significant hurdle can be overcome as new on and off-street facilities are developed, especially in the core area of the City. Safety can also be addressed by improvements to bicycling infrastructure as well as increased awareness and bicycle rider training.

FIGURE 6.C:

challenges to bicycling

In the regional survey, residents of Seguin 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 SEGUIN TODAY?



OVER 30% of the respondents to this question used the word "dangerous" or "unsafe" to describe bicycling in Seguin.

top five

BARRIERS TO BICYCLING

- 1 There are no bike lanes, trails, or paths. 
- 2 I do not feel safe. 
- 3 Weather. 
- 4 No connections to transit. 
- 5 I don't own a working bicycle. 



OVER 78% of survey respondents from Seguin said that the lack of bike lanes, trails, or paths prevents them from bicycling more than they currently do. This was followed by 54% of respondents who are concerned about safety, 41% who say weather is a factor, 32% who require a bicycle connection to transit, and nearly 26% of the respondents don't own a working bicycle.

Attitudes about Walking in Seguin

Almost 70% of respondents to the Regional Survey from Seguin indicated that walking in their area of the City was at least average or better. Over 40% indicated that walking was good or excellent, a generally higher rate than for other cities in the study. The single greatest barriers to walking were the lack of sidewalks (noted by 82% of all Seguin respondents) or the condition of existing sidewalks (noted by 72% of all Seguin respondents). Weather, safety and the distance to destinations were listed as other barriers to walking in Seguin.

As in other cities in this study, the word “dangerous” was mentioned by 20% of respondents when asked to describe bicycling or walking in the City. Other key words used include “unsafe,” but also “good” or “okay.”

Stakeholder Input

Stakeholder input in Seguin followed the pattern set by the City of Boerne, and included stakeholder input via an ad-hoc group, as well as input from the public at large at a workshop.

Stakeholder meetings with staff, key elected officials and board members were held at the beginning of the process and followed by reviews of preliminary recommendations. Meetings with City staff were also

held separately to discuss and vet the technical details of recommendations as they were prepared.

A Citywide workshop was held in December 2014 at the Guadalupe County Community Building, and was attended by approximately 50 participants. These included residents of Seguin, City staff, members of the planning team and representatives from the Alamo Region MPO. After a brief introduction, attendees broke into five groups and addressed key questions relating to current needs and issues and possible alternatives to consider.

Key comments included the development of a variety of alternative “loop” configurations around the City, as well as identification of key streets or corridors to consider using. Challenges to walking include no continuity with sidewalks and walking to places not being convenient or comfortable. Challenges to riding a bicycle involve lack of awareness about traffic laws, ROW at intersections, and unrestrained dogs. Attendees noted that they would like to see organized bike rides and leash laws to help with these challenges.

Ideas about a vision of the future include Seguin having an educated and supportive public and witnessing a bicycle and pedestrian friendly community that will see economic activity skyrocket, community relationships skyrocket and a much healthier city.



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

Existing Facilities for Walking and Bicycling in Seguin

Table 6.1, Seguin Active Transportation Network (2015), summarizes the active transportation infrastructure in Seguin today. This table distinguishes between on-street bicycle facilities, near street pedestrian facilities and shared use paths. These three active transportation infrastructure categories are describe in more detail in the introductory volume of this study and in **Appendix A, Bicycle and Pedestrian Toolkit**.

The table shows the approximate overall length of sidepaths and shared use paths. Sidewalk quantities are shown only for major streets in the City, and do not represent the total amount of sidewalks in Seguin.

The distribution of existing pedestrian and bicycle facilities in the City are shown on **Maps 6.1A** and **6.1B** on the following pages. These do not represent a total inventory of every sidewalk in the City, but rather only those along key corridors that could be mapped. The City has an extensive network of existing sidewalks, but has a lower amount of existing bicycling corridors than other cities in the study.

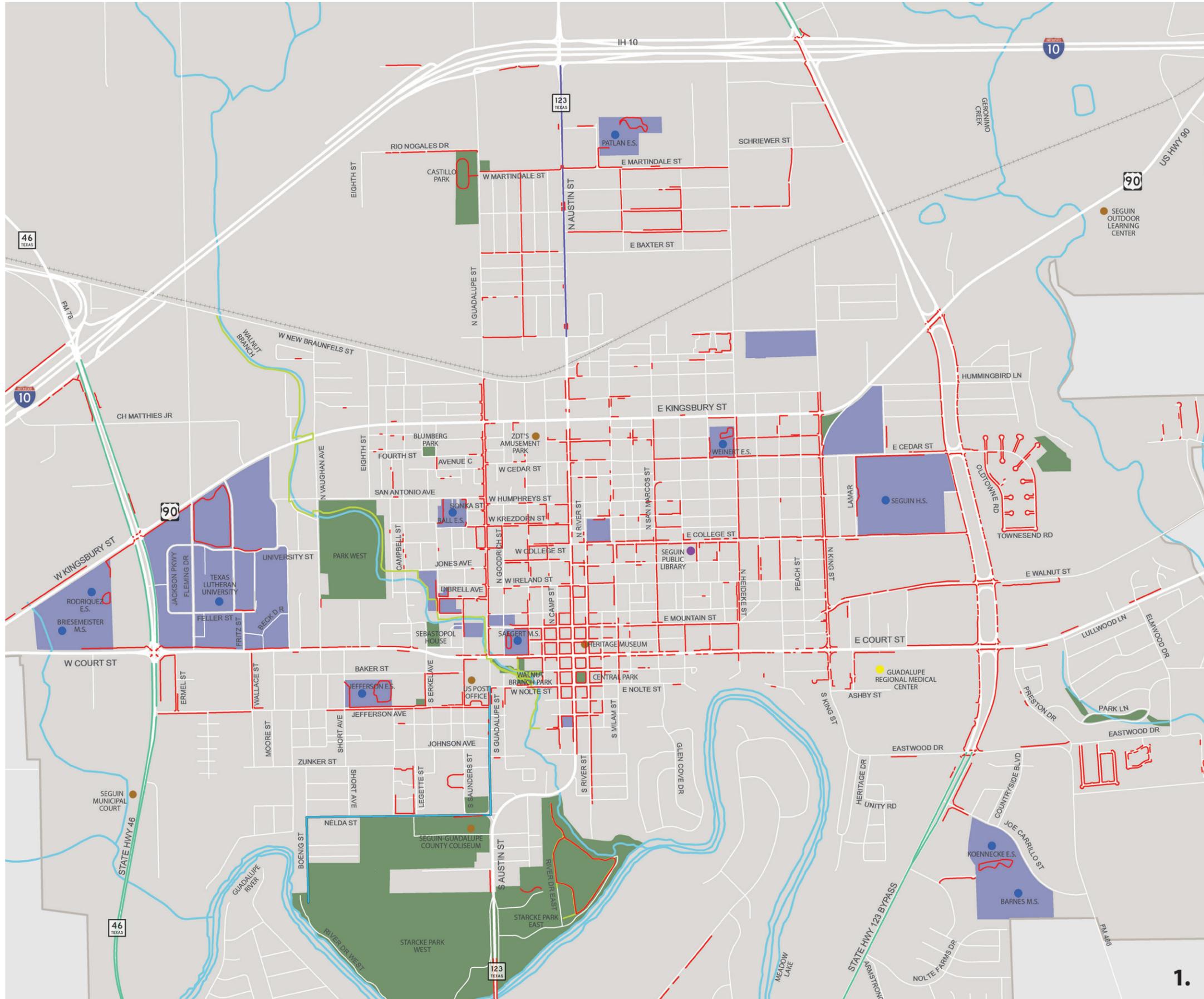
TABLE 6.1 SEGUIN ACTIVE TRANSPORTATION NETWORK (2015)

| Facility Category* | Facility Type* | Length (Miles) |
|--|--------------------------------|----------------|
| On-Street Bicycle Facilities | Bicycle Lanes | 0.9 |
| | Buffered Bicycle Lanes | 0 |
| | Protected Bicycle Lanes | 0 |
| | Shared Lane Markings | 0 |
| | Bicycle Route | 1.4 |
| | Wide Shoulder | 31.1 |
| | Traffic Calming | 0 |
| On-Street Pedestrian Facilities | Sidewalks | 58.0** |
| Shared Use Facilities | Shared Use Trails (Off-street) | 1.4 |
| | Sidepaths (On-street) | 0 |

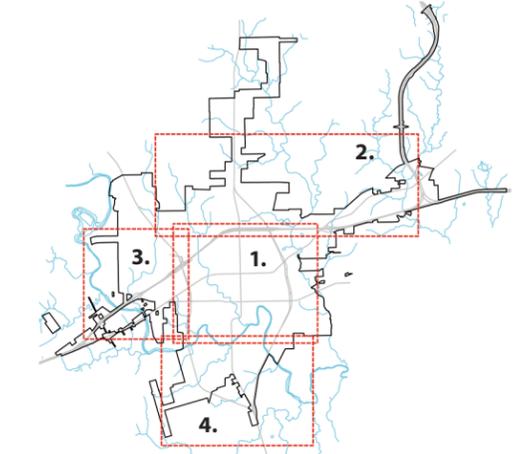
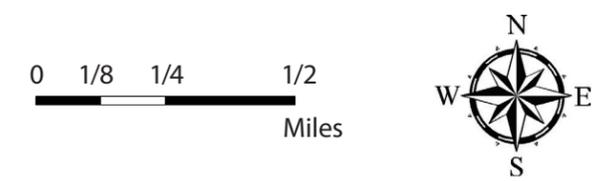
*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

**Excludes most local street segments within subdivisions.

MAP 6.1A: SEGUIN EXISTING ACTIVE TRANSPORTATION FACILITIES

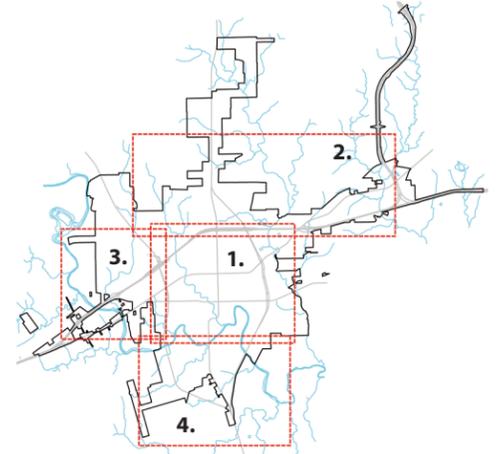
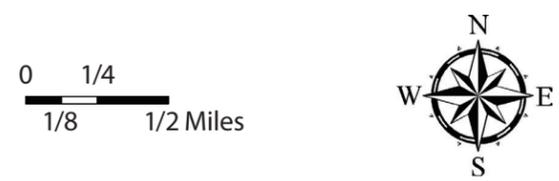
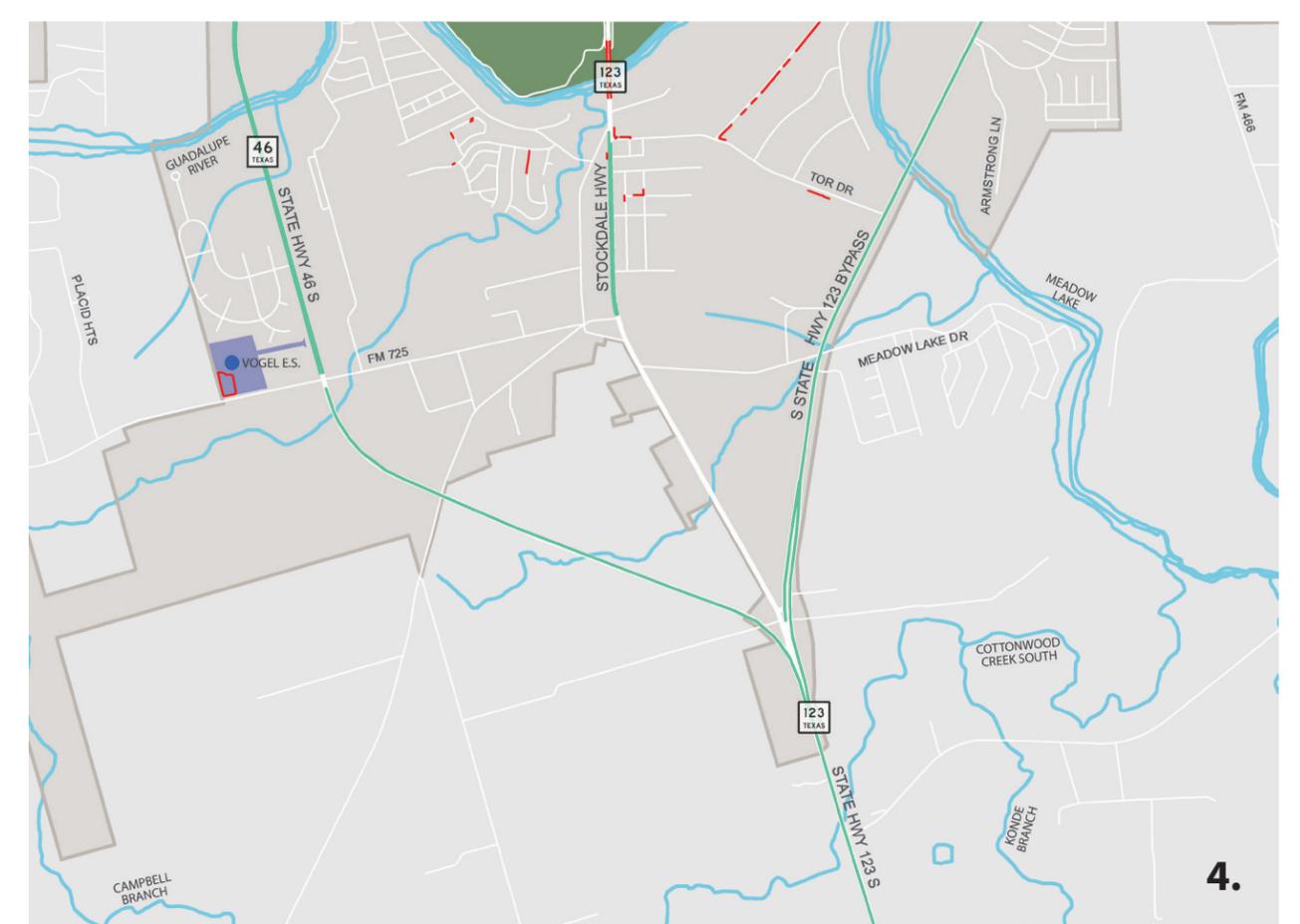
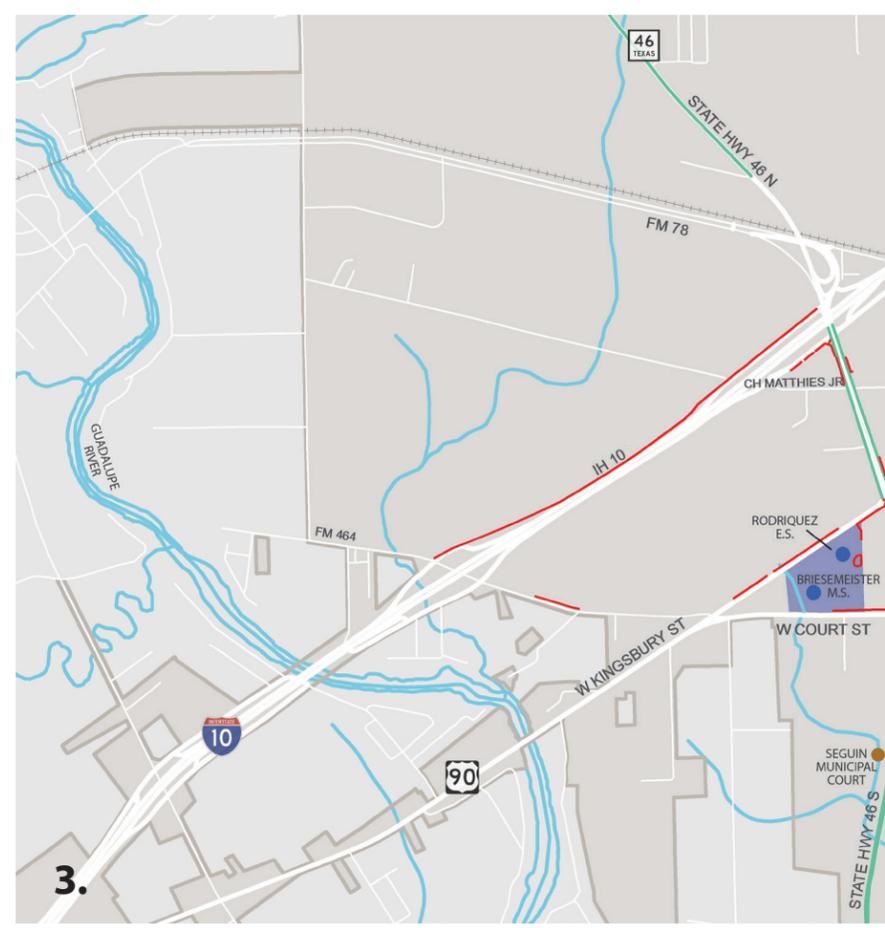
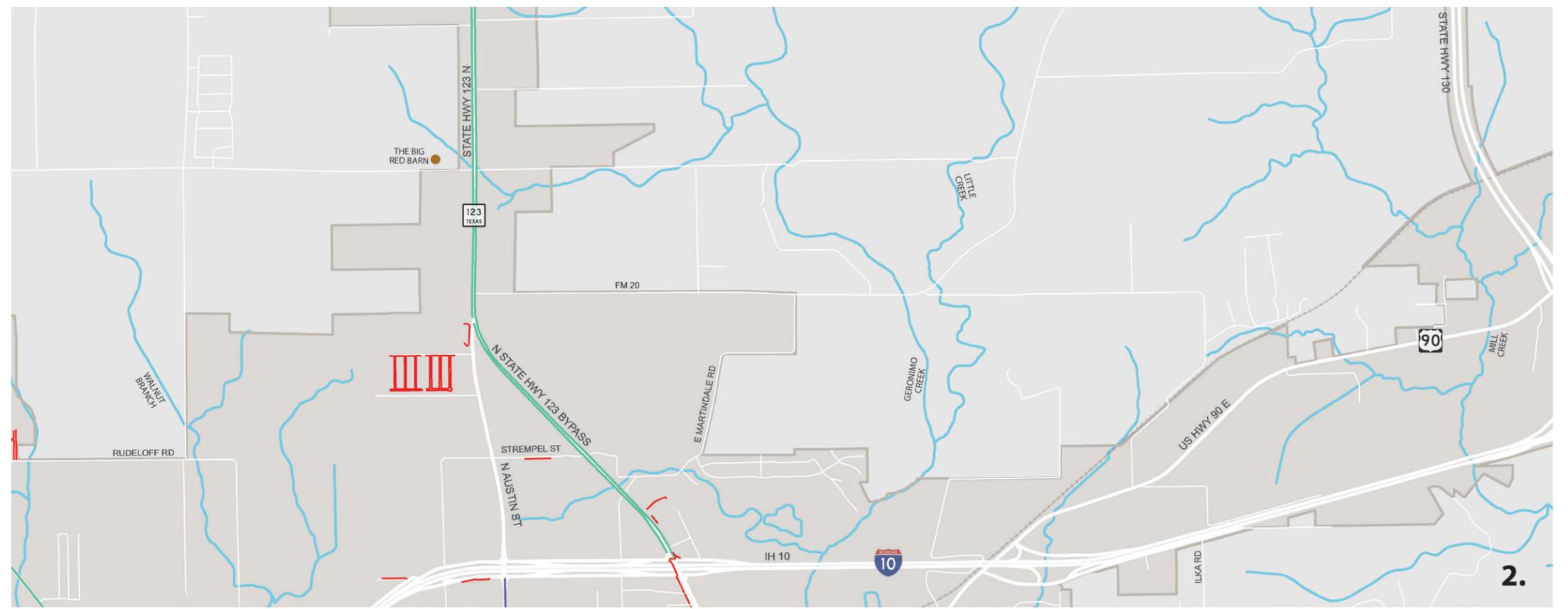


- LEGEND**
- Sidewalk, Existing
 - Trail, Existing
 - Bike Lane, Existing
 - Bike Route, Existing
 - Wide Shoulder, Existing
 - School Properties
 - Parks
 - Waterways
 - Railroad
 - City Boundary
 - School
 - Hospital
 - Library
 - Civic Destination



MAP 6.1B: SEGUIN EXISTING ACTIVE TRANSPORTATION FACILITIES

- LEGEND**
- Sidewalk, Existing
 - Trail, Existing
 - Bike Lane, Existing
 - Bike Route, Existing
 - Wide Shoulder, Existing
 - School Properties
 - Parks
 - Waterways
 - Railroad
 - City Boundary
 - School
 - Hospital
 - Library
 - Civic Destination





Portions of Austin Street, Seguin’s “main” street, are ready-made walking and bicycling routes, while the northern sections of the roadway are less inviting to pedestrians and bicycle riders.



image source: Alamo Area Council of Governments



image source: Seguintexas.gov

Caterpillar and other potential developments along the Interstate 10 corridor are important destinations for a connected active transportation network in Seguin.



Many streets in Seguin are excellent routes for walking and/or bicycling, but the current lack of places to walk or ride challenges potential users.



The Walnut Branch trail and linear park provides a tranquil and comfortable place to walk and ride in the heart of Seguin.

Creating a Great Active Transportation Network for Seguin

Seguin's more compact size and its grid street network provide strong opportunities to create a first-class active transportation network. This chapter summarizes overall recommendations for the City by type, and recommends early implementation and priority projects.

Meeting Seguin's Goals

The recommendations in this chapter seek to strongly move forward in meeting Seguin's goals for a viable and used active transportation network noted in earlier chapters. These key goals are:

- **Increasing connectivity to major destination centers within Seguin** such as the Downtown area, the Texas Lutheran University, major parks and recreation features, schools and retail areas.
- **Creating pedestrian and bicycling infrastructure that is actively used.** To do this, sidewalks and bicycle lanes that have as high degree a comfort as is possible, such as buffered bicycle lanes, cycle tracks (protected

bicycle lanes) and off-street shared use paths are proposed where feasible. This frequently means recommending routes along streets with lower traffic volume streets.

- **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.
- **Including recommendations that are longer term in nature,** so that the ultimate overall network can be planned for, and so that short term actions correctly contribute to the overall future network.
- **Emphasizing the health benefits of walking and riding,** so that community health dividends can be clearly understood and appreciated.
- **Emphasizing partnerships and encouragement efforts by many entities.** These may include end trip, promotional and education efforts that encourage Seguin residents to get out and ride more frequently.



Seguin has many streets that can become excellent walking and bicycling corridors..

Seguin Residents' Preferences

Preferences for facility types were compiled during the citizen survey and as part of stakeholder and public meeting workshops. These preferences are shown in **Figure 6.E** on the following page.

The level of user "comfort" associated with different types of pedestrian and bicycling infrastructure helps guide the recommendations for Seguin. When users feel safe and secure, they are more likely to consider

walking or bicycling as a regular mode of transportation and recreation. The diagram below illustrates the level of comfort as indicated by survey respondents from Seguin. On-street recommendations such as bicycle lanes are acceptable to more than 49% of the respondents. However, only 39% of respondents would feel reasonably comfortable on a street with shared lane markings. Similar to many communities, 95% or more would feel very comfortable on a shared use path.



FIGURE 6.E: AAMPO ONLINE SURVEY: PUBLIC PRIORITIES FOR SEGUIN

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 important in Seguin.



*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, parks, and surrounding neighborhoods, downtown, and restaurants. 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.



Evaluation Criteria

Corridors under consideration throughout Seguin were evaluated using compatibility and accessibility criteria. Evaluation considerations included:

Connectivity - the potential for the strongest routes that link residential areas to schools, area parks, employers, retail destinations, civic buildings, and other routes was a primary consideration. Emphasis is given to routes that ultimately can link up to create a true citywide network.

Directness – in general, more direct routes are preferred, since they can connect to the largest number of destinations and can yield the greatest benefit for the investment provided. However, in some cases the most direct route may occur along high traffic volume streets and may not be the preferred route for most bicycle riders.

Feasibility - Preference is given to corridors where adequate rights of way or existing pavement widths are generally available. Where possible, corridors that are controlled by the City of Seguin are preferred, but recommendations along County or TxDOT facilities are also included.

Potential use – any noted current use of the corridor, even if only partial walking or bicycling facilities are in place, is considered as a factor in determining the future potential of a corridor. If a corridor is currently used, or can be used with minimal improvement, then potential development of a facility is easier.

Citizen feedback – any citizen feedback received during the planning process for improvements or concerns at specific locations or along key corridors was considered as a key component of the evaluation.

Network Recommendations

This section summarizes both on-street and off-street recommendations for walking and bicycling in Seguin. A key consideration that drives the corridors shown is the level of user “comfort” associated with each recommendation. 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 the following page illustrates the level of comfort as indicated by survey respondents from Seguin. On-street recommendations such as bicycle lanes and riding on a quiet neighborhood street are acceptable to approximately 50% of the respondents, while almost 90% or more would be very comfortable on a shared use path or a separated lane (cycle track).

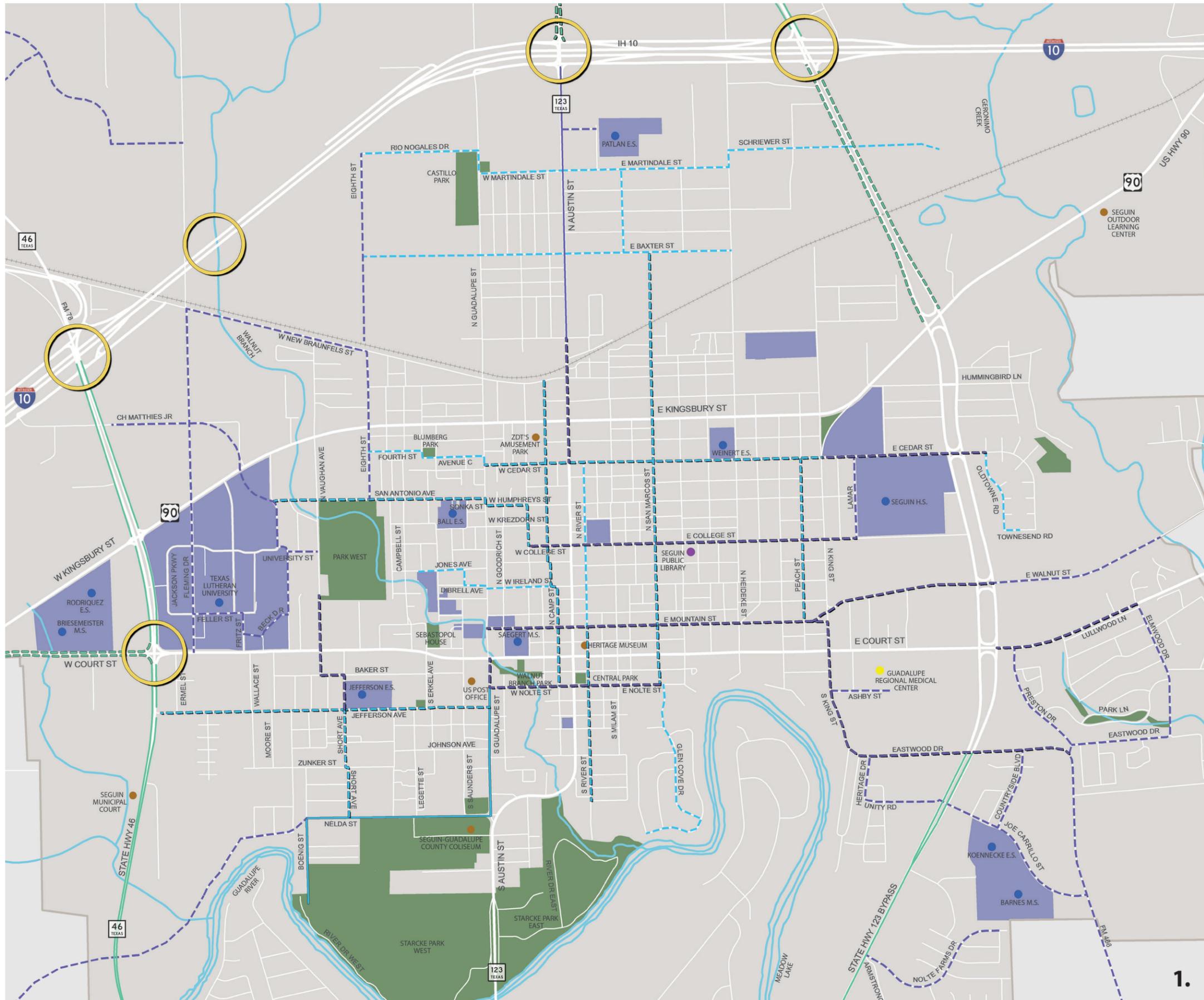
Maps 6-2A and **6.2B** illustrate recommendations for the entire City. Maps illustrating enlargements of key City areas follow. On each map, recommendations as to key priorities are indicated to be used as a starting point for more detailed implementation discussions.

Each recommendation shown in this study is preliminary in nature and should be further engineered. Each may also 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. Publicly owned rights of way are preferred but are not always feasible. In some cases, right of way width and/or acquisition requirements will need to be further confirmed or investigated.

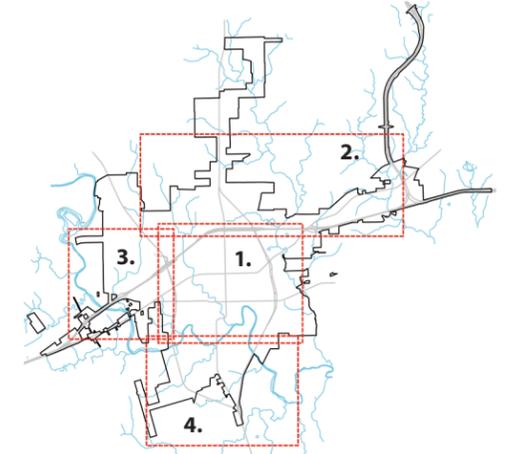
This section summarizes recommendations by the following categories:

- On-street bicycle facility recommendations (including bicycle lanes, bicycle routes, wide shoulders, and protected lanes (cycle tracks).
- Shared Use Network which includes sidepaths and shared use paths (trails).
- Key Pedestrian Corridors
- Key barrier resolution recommendations

MAP 6.2A: SEGUIN ON-STREET BICYCLE FACILITIES



- LEGEND**
- Proposed Intersection Enhancement
 - Sidewalk, First Priority
 - Sidewalk, Second Priority
 - Sidewalk, Existing
 - Trail, First Priority
 - Trail, Second Priority
 - Trail, Existing
 - Sidepath, First Priority
 - Sidepath, Second Priority
 - Bike Lane, First Priority
 - Bike Lane, Second Priority
 - Bike Lane, Existing
 - Bike Route, First Priority
 - Bike Route, Second Priority
 - Bike Route, Existing
 - Wide Shoulder, First Priority
 - Wide Shoulder, Second Priority
 - Wide Shoulder, Existing
 - School Properties
 - Parks
 - Waterways
 - Railroad
 - City Boundary
 - School
 - Hospital
 - Library
 - Civic Destination

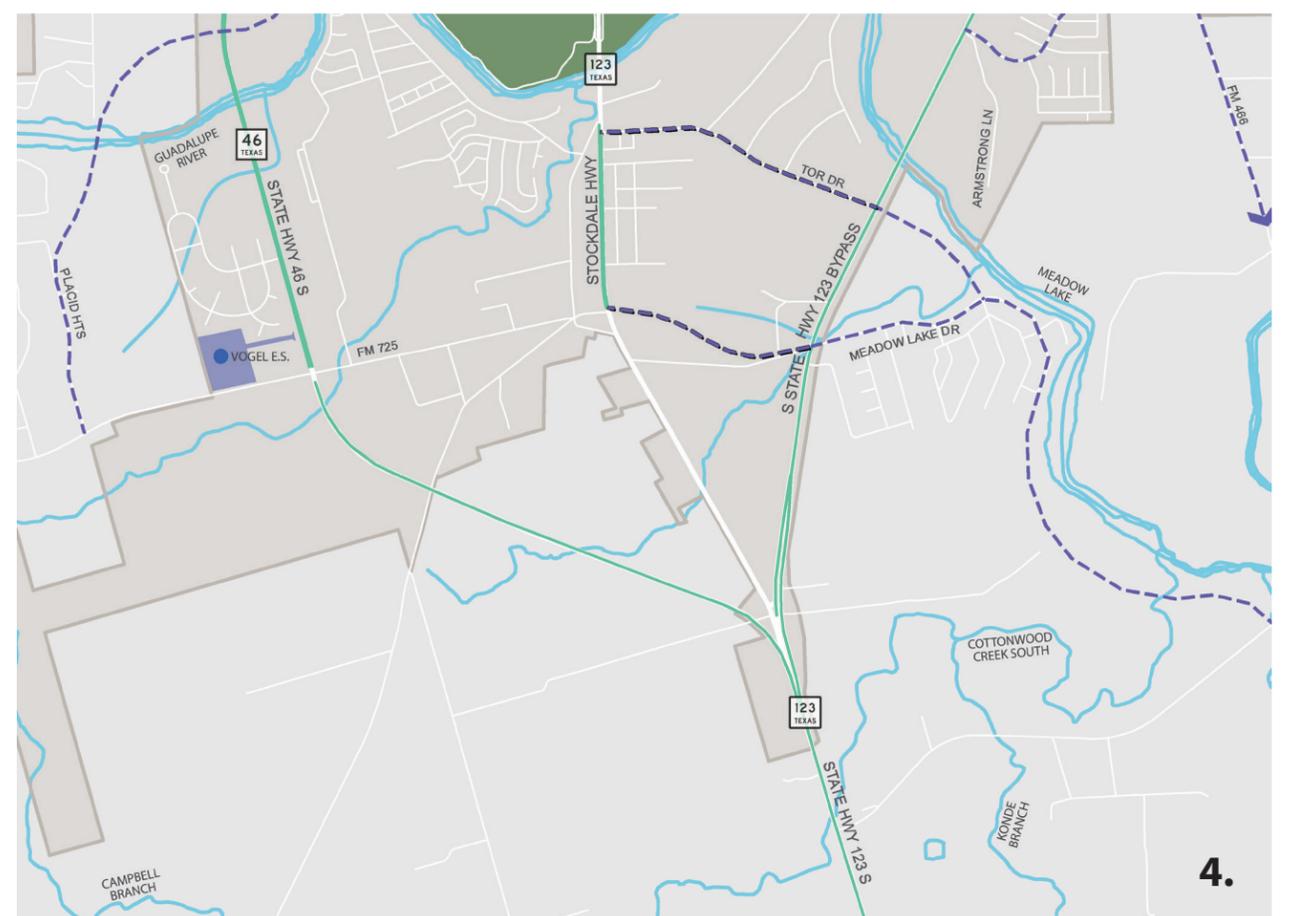
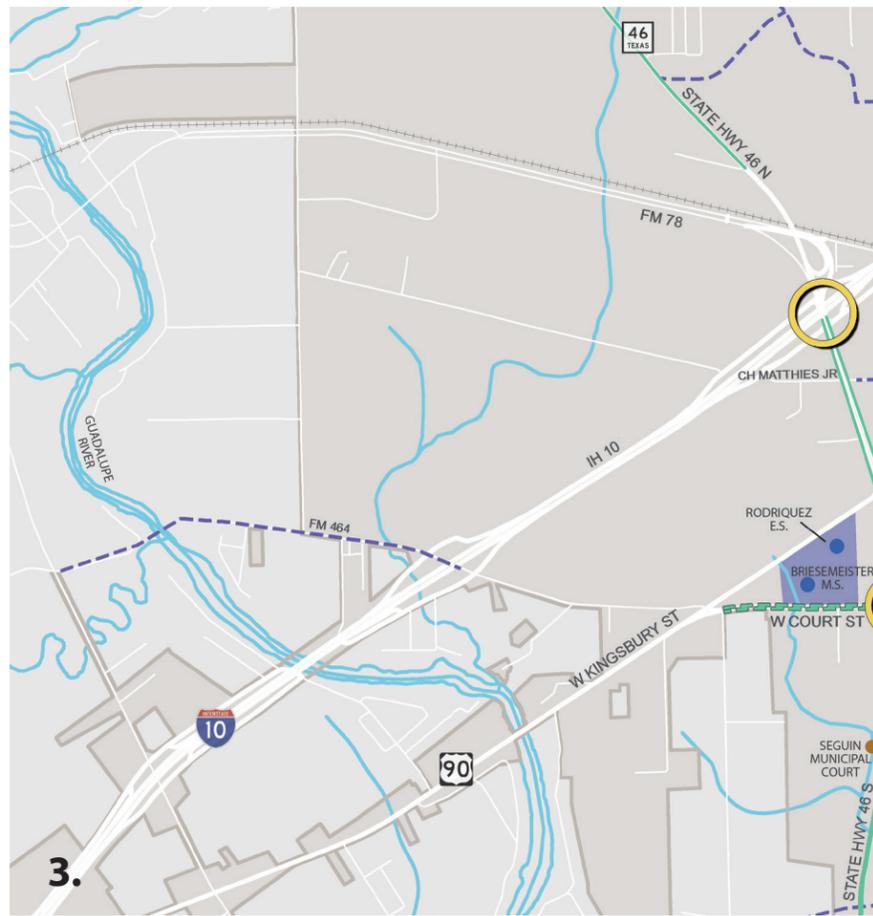
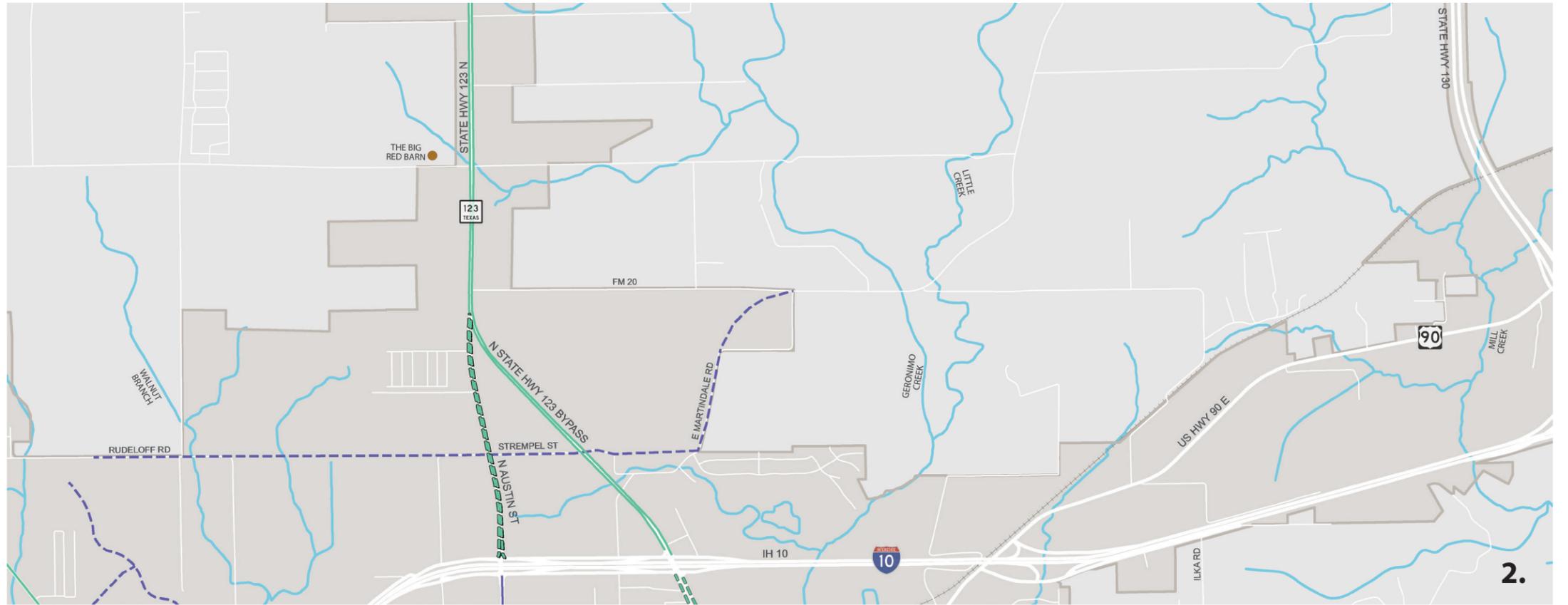
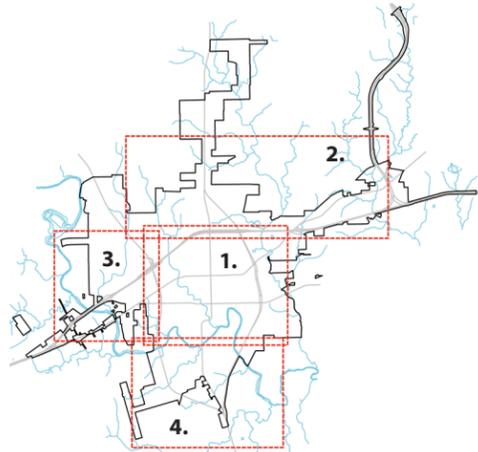


MAP 6.2B: SEGUIN ON-STREET BICYCLE FACILITIES

LEGEND

- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Second Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Second Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Second Priority
- Bike Lane, First Priority
- Bike Lane, Second Priority
- Bike Lane, Existing
- Bike Route, First Priority
- Bike Route, Second Priority
- Bike Route, Existing
- Wide Shoulder, First Priority
- Wide Shoulder, Second Priority
- Wide Shoulder, Existing
- School Properties
- Parks
- Waterways
- Railroad
- City Boundary
- School
- Hospital
- Library
- Civic Destination

0 1/4 1/8 1/2 Miles



On-Street Bicycle Facilities

Seguin has a number of opportunities for an excellent on-street bicycle network (see **Maps 6.2A** and **6.2B** on the previous pages). The City's grid network of streets with lower levels of traffic lends itself to creating routes that connect many key destinations. While the relatively narrow pavement widths may preclude completed separated "cycle-track" type solutions, the many less travelled streets provide opportunities for comfortable routes. Many of the on-street segments could be developed cost effectively, and can help build a connected network throughout the City. Most of the routes mentioned below also connect to the Walnut Branch trail.

Key on-street segments include:

College, Cedar and Mountain Streets (from Seguin High School to Bowie Street) – future bicycle lanes along these streets will link the high school and retail areas along SH 123 to the center of the City and beyond. They create the backbone of east west bicycle travel across Seguin.

San Antonio and Jefferson Streets – bicycle lanes along these streets provide east/west options in the western half of Seguin, and help link TLU to the downtown area and SH 123 retail uses.

Camp and River Streets – for north/south bicycling in the center of the City, these streets provide a comfortable alternative to Austin Street. Bicycle lanes are recommended along North Camp, while shared lane markings are recommended along River Street so as to preserve on-street parking.

San Marcos Street – additional north/south movement is provided through bicycle lanes along San Marcos Street. This route extends further north than other routes and links the northern areas of the City to near the downtown area.

Tor Drive, East Walnut Street, and Eastwood Drive – bicycle lanes along these roadways will connect growing neighborhoods east of SH 123 to the core area of the City.



It is recommended to provide key on-street bicycle connections within the downtown.



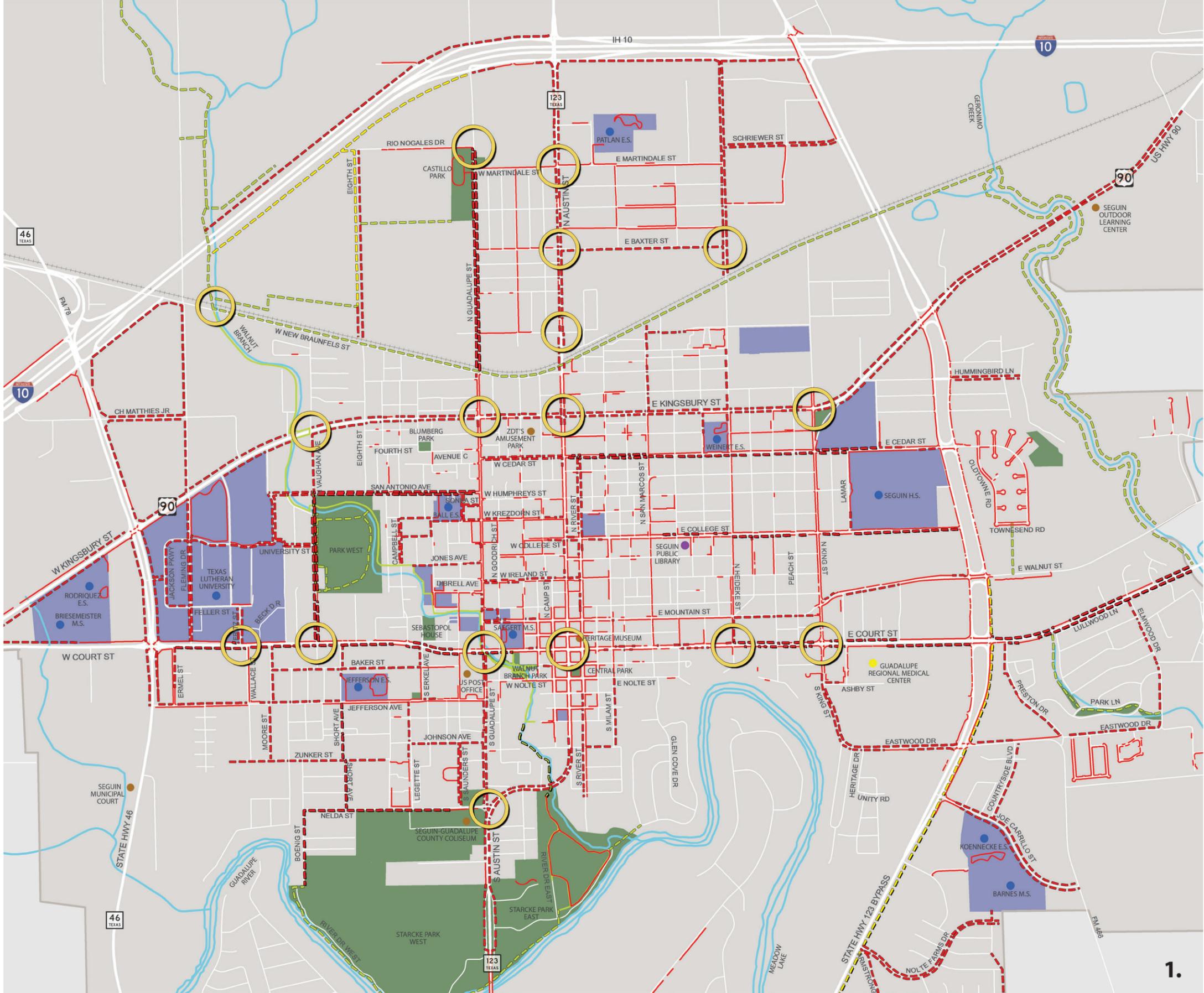
TABLE 6.2 PROPOSED ON-STREET BICYCLE NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|---|-------------------------|----------|-------------------|
| On-Street Facilities | Bicycle Lanes | Tier 1 | 8.7 |
| | | Tier 2 | 23.9 |
| | 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 | 7.5 |
| | | Tier 2 | 6.4 |
| | Wide Shoulder | Tier 1 | 2.4 |
| | | Tier 2 | 3.2 |
| | Traffic Calming | Tier 1 | 0 |
| | | Tier 2 | 0 |
| ON-STREET BICYCLE FACILITIES (Cumulative Length) | | | 52.1 Miles |

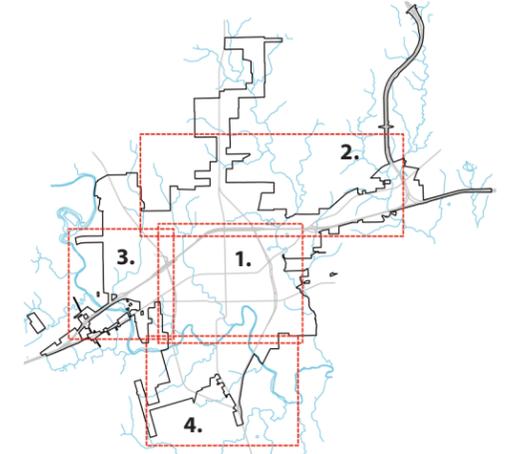
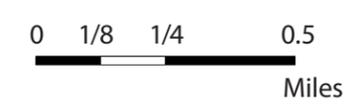
*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

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

MAP 6.3A: SEGUIN PEDESTRIAN FACILITIES (ON-STREET & SHARED USE)



- LEGEND**
- Proposed Intersection Enhancement
 - Sidewalk, First Priority
 - Sidewalk, Second Priority
 - Sidewalk, Existing
 - Trail, First Priority
 - Trail, Second Priority
 - Trail, Existing
 - Sidepath, First Priority
 - Sidepath, Second Priority
 - Bike Lane, First Priority
 - Bike Lane, Second Priority
 - Bike Lane, Existing
 - Bike Route, First Priority
 - Bike Route, Second Priority
 - Bike Route, Existing
 - Wide Shoulder, First Priority
 - Wide Shoulder, Second Priority
 - Wide Shoulder, Existing
 - School Properties
 - Parks
 - Waterways
 - Railroad
 - City Boundary
 - School
 - Hospital
 - Library
 - Civic Destination



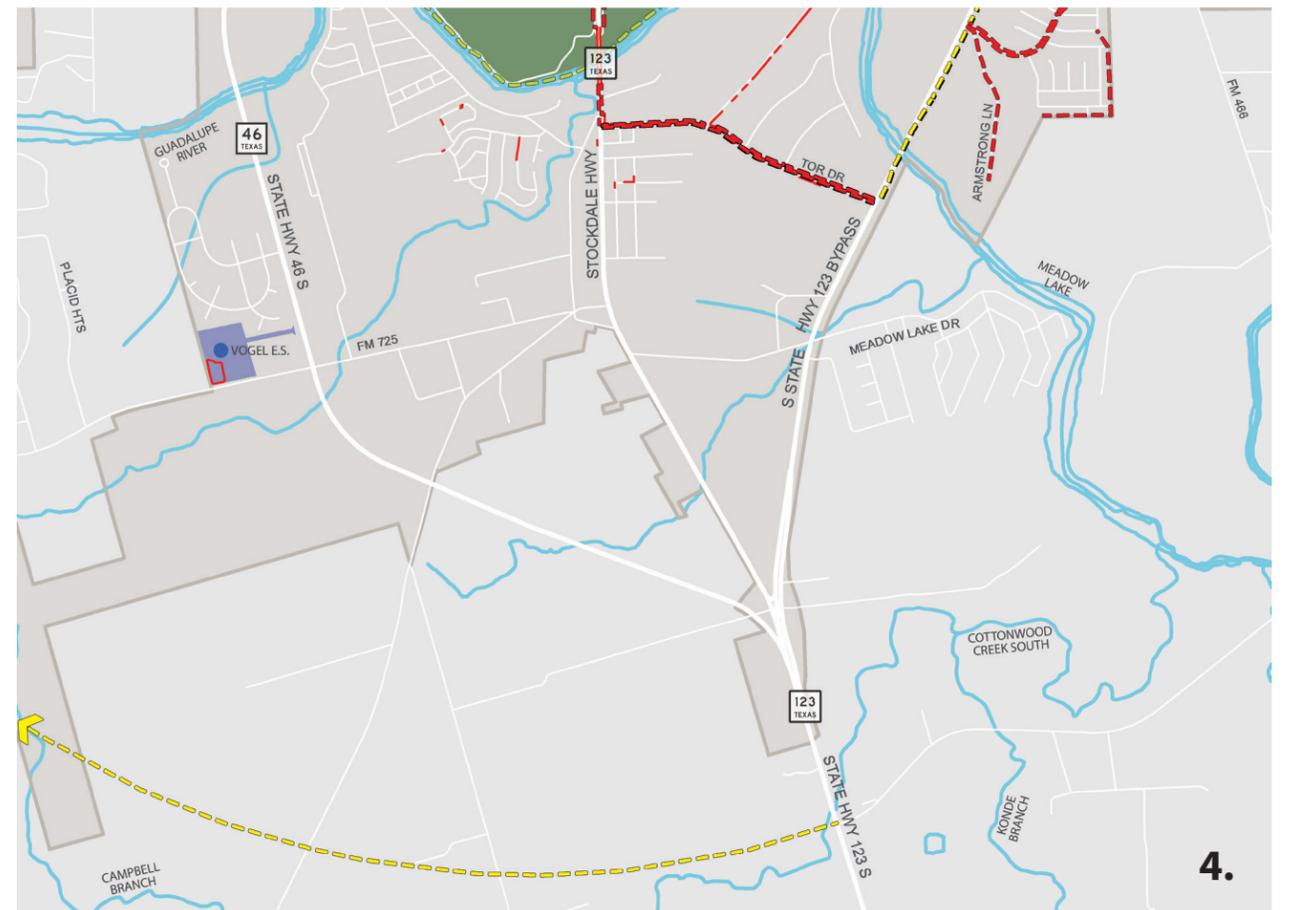
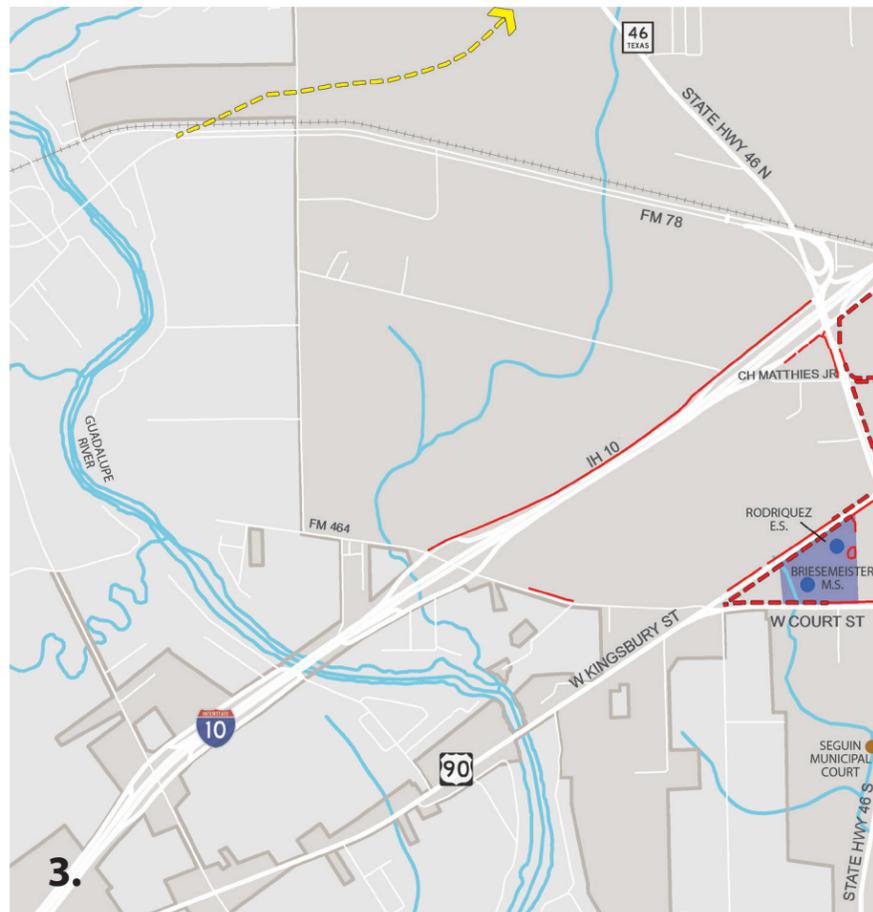
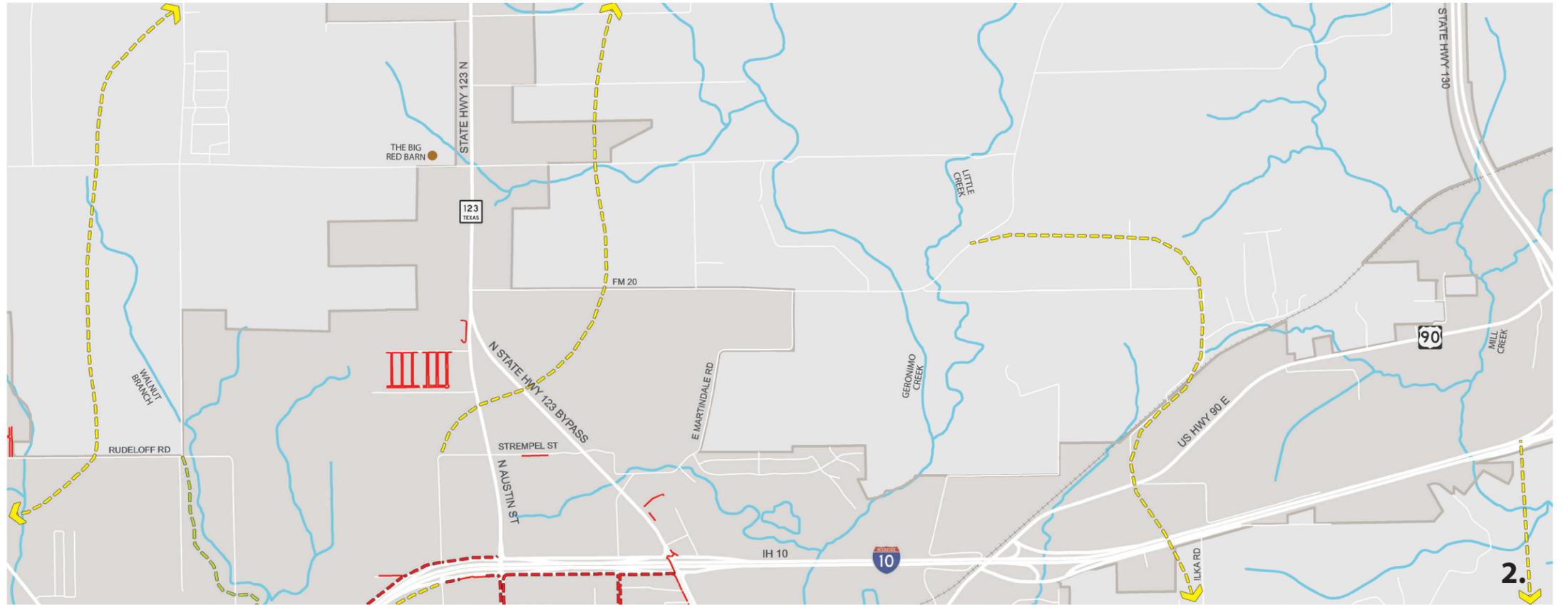
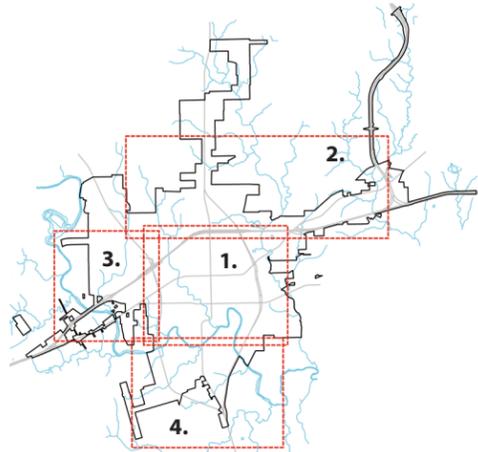
1.

MAP 6.3B: SEGUIN PEDESTRIAN FACILITIES (ON-STREET & SHARED USE)

LEGEND

- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Second Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Second Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Second Priority
- Bike Lane, First Priority
- Bike Lane, Second Priority
- Bike Lane, Existing
- Bike Route, First Priority
- Bike Route, Second Priority
- Bike Route, Existing
- Wide Shoulder, First Priority
- Wide Shoulder, Second Priority
- Wide Shoulder, Existing
- School Properties
- Parks
- Waterways
- Railroad
- City Boundary
- School
- Hospital
- Library
- Civic Destination

0 1/4 1/8 1/2 Miles



Key Pedestrian Facilities

As mentioned previously, Seguin’s compact size lends itself to walking. A more connected system of sidewalks would help connect much of the City together and encourage walking as an option. Areas for near term focus to improve pedestrian connectivity are more closely focused around key nodes such as the Downtown area, connections to the Walnut Branch spine trail and connections to TLU and area elementary and secondary schools. **Maps 6.3A** and **6.3B** illustrate recommended on and off-street pedestrian connections.

Key pedestrian areas of focus include:

Kingsbury and Court Streets – close gaps along both of these key pedestrian corridors between SH 123, Austin Street and State Highway 46.

Cedar, College and Mountain Streets – close gaps and complete sidewalk system between SH 123 and Austin Street.

Eastwood and Joe Carrillo Street – add sidewalks to these key streets that provide pedestrian connectivity from growth areas east of S.H. 123.

Connections to Jefferson, W.B. Ball, Weinert and Rodriguez Elementary Schools – enhance sidewalk connections/close gaps around area elementary schools in the core area of Seguin.

Park West Community Park and the TLU area – add sidewalks in the area to enhance connectivity to the Walnut Branch spine trail and to link area neighborhoods to both TLU and Park West.

Guadalupe Street – extend sidewalks south to the Seguin-Guadalupe County Coliseum, as well as north to



Extending the sidewalk network further south along South Austin Street will provide key connections to Max Starcke Park.

Castillo Park and growing commercial areas along I.H. 10.

Milam Street – close sidewalk gaps along Milam Street from near downtown to Kingsbury Street.

South Austin Street – completing this segment will be challenging due to limited right of way and steep grades coming out of the river floodplain, but it will help link the downtown area to Max Starcke Park and the Seguin Guadalupe County Coliseum.

TABLE 6.3 PROPOSED ON-STREET PEDESTRIAN NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|---|----------------|----------|-------------------|
| On-Street Facilities | Sidewalks | Tier 1 | 11.7 |
| | | Tier 2 | 40.1 |
| Shared Use Paths (See Table 6.?, Proposed Shared Use Network Facilities) | | | |
| Sidepaths (See Table 6.?, Proposed Shared Use Network Facilities) | | | |
| ON-STREET PEDESTRIAN FACILITIES (Sidewalks Only - Cumulative Length): | | | 51.8 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

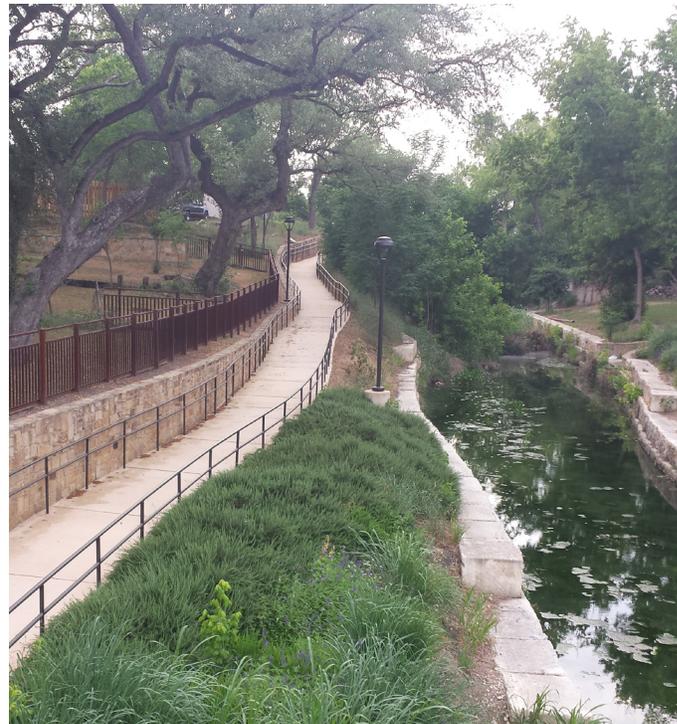
Shared use paths (also commonly referred to as trails) are typically the most comfortable location for most of us to ride on. Seguin has much of a major spine corridor completed, and is now ready to extend that trail north and south to fully link much of the City together. Shared-use recommendations are illustrated on Maps 6.4A and 6.4B. Key shared use key trail segments that will help promote active transportation in the City include:

Walnut Branch Trail Gap South (from West Nolte Street to existing trails in Max Starcke Park) – completing this segment of the spine trail will provide a continuous link from Park West all the way to Max Starcke Park in the southern area of Seguin.

Walnut Branch North Trail Extension (from Park West to I.H. 10 and areas north) – the extension of the Walnut Branch Trail north will complete this key spine corridor, and provide a separated pedestrian and bicycling corridor that connects much of Seguin.

Connection from Castillo Park to the Walnut Branch trail corridor – a trail in this area links neighborhoods south of I.H. 10 to the Walnut Branch trail corridor and Park West Community Park, as well as new retail areas along I.H. 10.

Rail with Trail corridor along Union Pacific corridor – when feasible, a trail that parallels the railroad corridor would provide an east/west crosstown trail route within the northern area of the City.



Extension of the Walnut Branch Trail will complete this key spine corridor.

S.H. 123 sidepath (from East Walnut to F.M. 406) – a sidepath along the eastern edge of State Highway 123 helps link multiple neighborhoods east of the highway to key intersections where a pedestrian and bicycling crossing is available. Portions of the sidepath can be developed as part of new residential communities planned for the area.

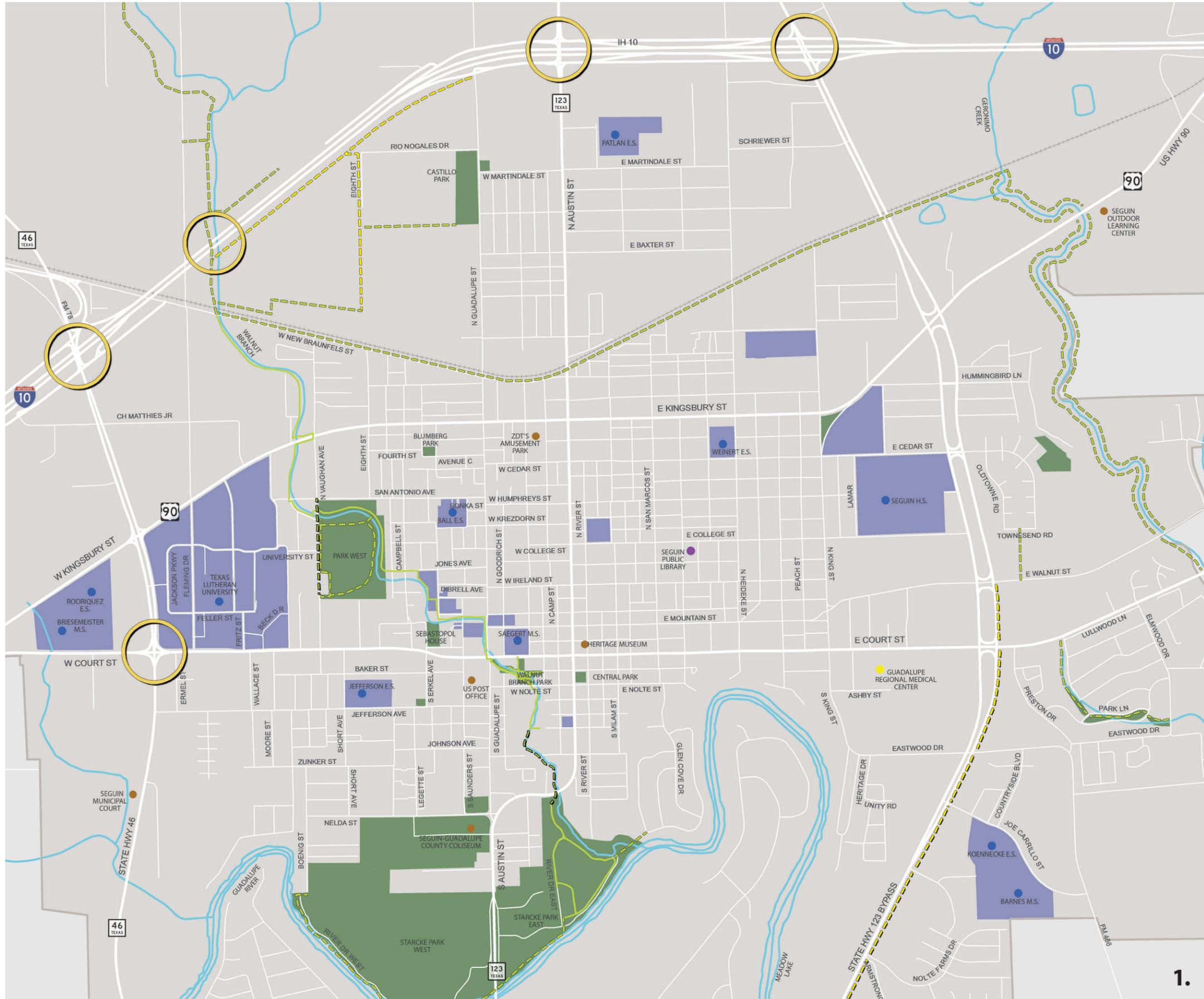
TABLE 6.4 PROPOSED SHARED-USE NETWORK PRIORITIES

| Facility Category* | Facility Type* | Priority | Length (Miles)** |
|--|-------------------|----------|-------------------|
| Shared-Use Facilities | Shared Use Trails | Tier 1 | 0.7 |
| | | Tier 2 | 12.9 |
| | Sidepaths | Tier 1 | 11.7 |
| | | Tier 2 | 40.1 |
| SHARED-USE FACILITIES (Cumulative Length) | | | 65.4 Miles |

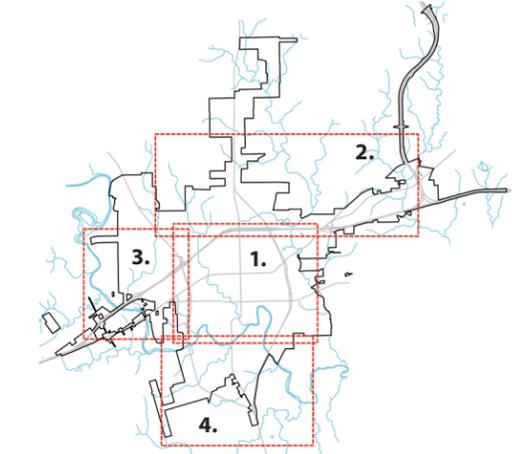
*Facility categories and type defined in Appendix A: *Bicycle and Pedestrian Toolkit*.

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

MAP 6.4A: SEGUIN SHARED-USE FACILITIES



- LEGEND**
- Proposed Intersection Enhancement
 - Sidewalk, First Priority
 - Sidewalk, Second Priority
 - Sidewalk, Existing
 - Trail, First Priority
 - Trail, Second Priority
 - Trail, Existing
 - Sidepath, First Priority
 - Sidepath, Second Priority
 - Bike Lane, First Priority
 - Bike Lane, Second Priority
 - Bike Lane, Existing
 - Bike Route, First Priority
 - Bike Route, Second Priority
 - Bike Route, Existing
 - Wide Shoulder, First Priority
 - Wide Shoulder, Second Priority
 - Wide Shoulder, Existing
 - School Properties
 - Parks
 - Waterways
 - Railroad
 - City Boundary
 - School
 - Hospital
 - Library
 - Civic Destination

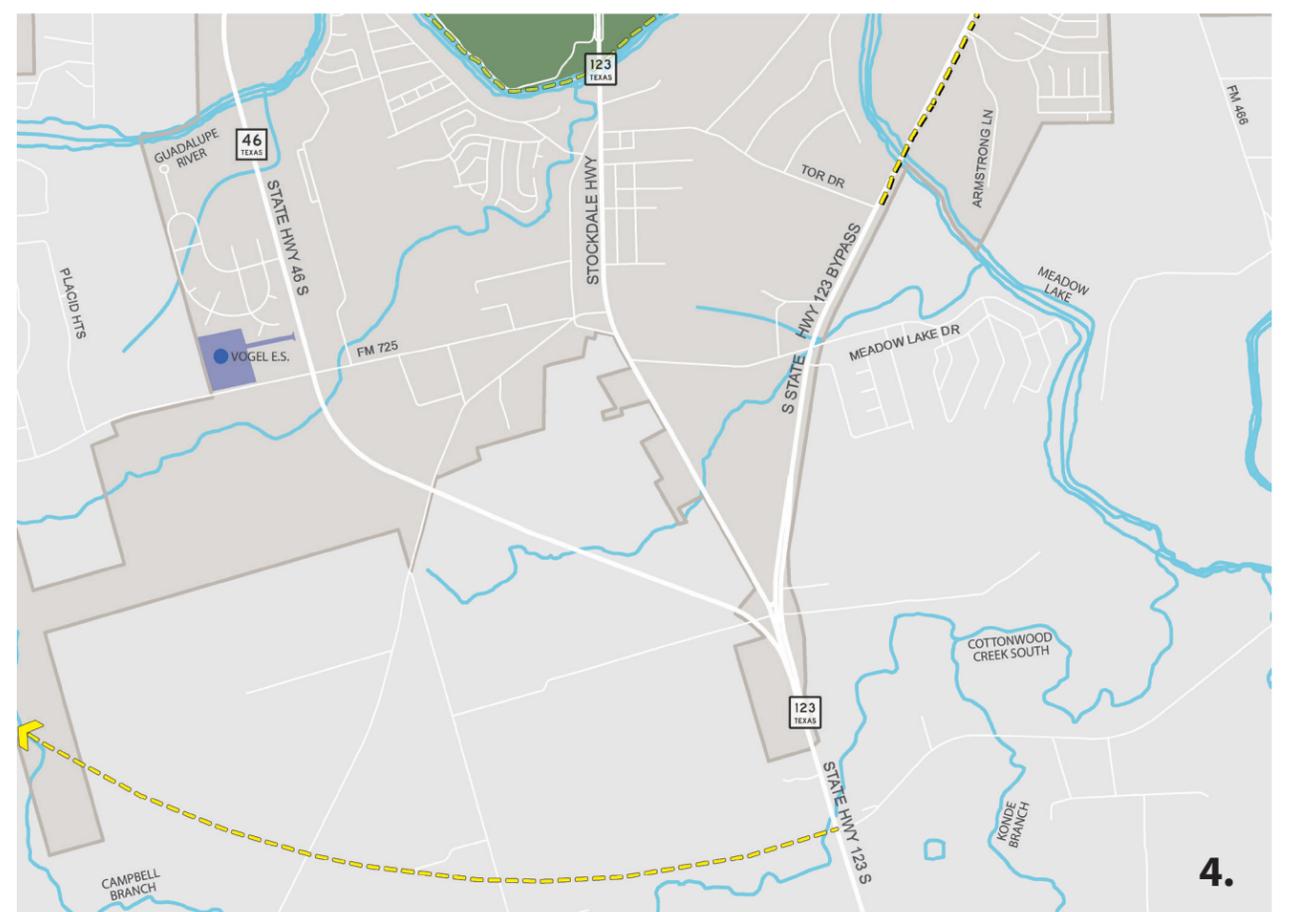
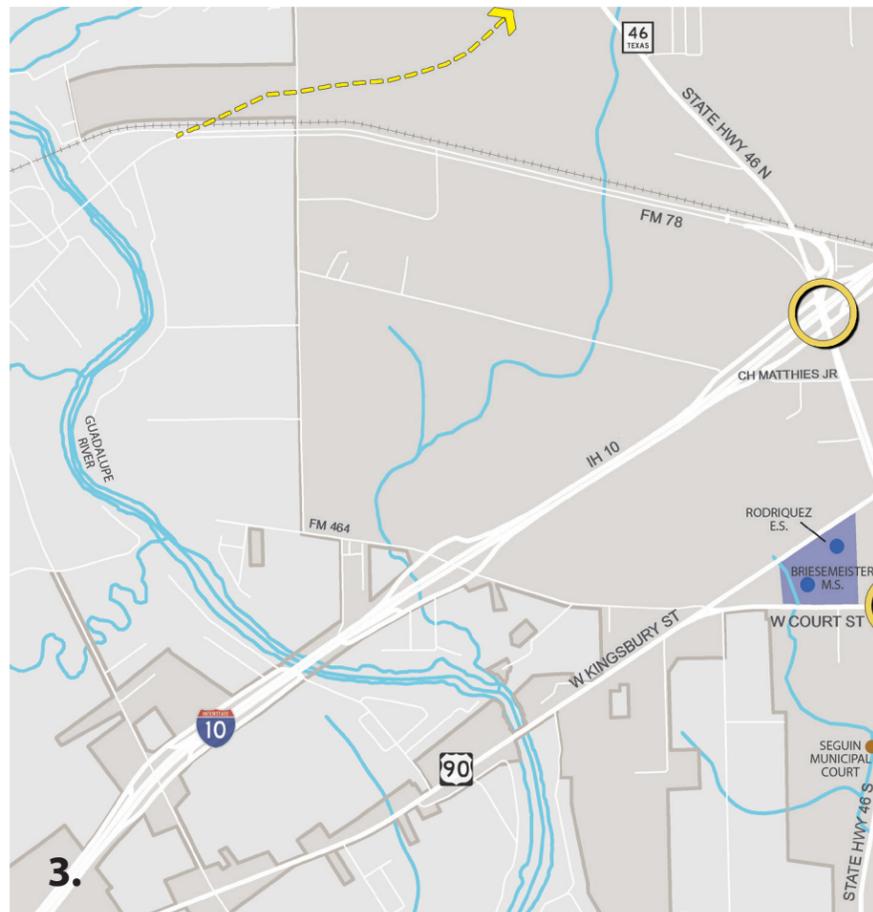
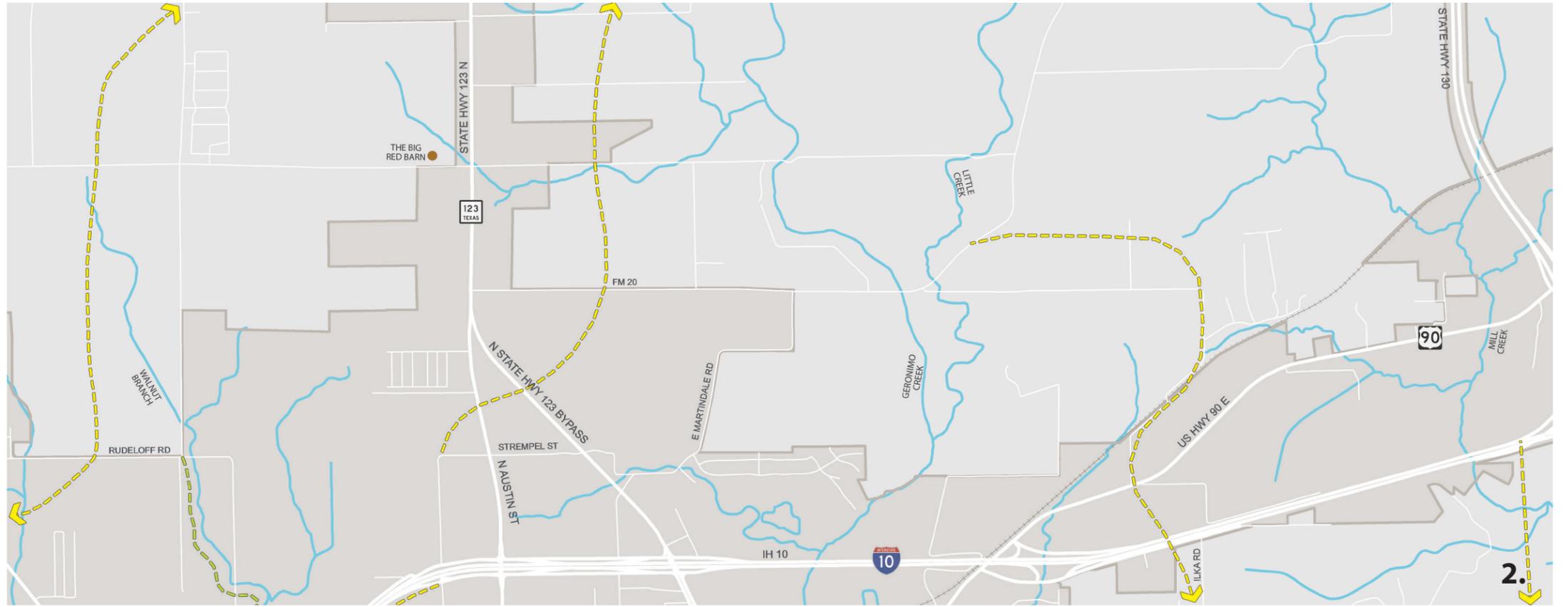
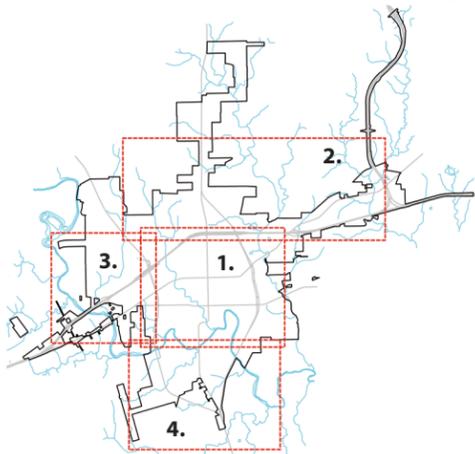


MAP 6.4B: SEGUIN SHARED-USE FACILITIES

LEGEND

- Proposed Intersection Enhancement
- Sidewalk, First Priority
- Sidewalk, Second Priority
- Sidewalk, Existing
- Trail, First Priority
- Trail, Second Priority
- Trail, Existing
- Sidepath, First Priority
- Sidepath, Second Priority
- Bike Lane, First Priority
- Bike Lane, Second Priority
- Bike Lane, Existing
- Bike Route, First Priority
- Bike Route, Second Priority
- Bike Route, Existing
- Wide Shoulder, First Priority
- Wide Shoulder, Second Priority
- Wide Shoulder, Existing
- School Properties
- Parks
- Waterways
- Railroad
- City Boundary
- School
- Hospital
- Library
- Civic Destination

0 1/4 1/8 1/2 Miles



Key Barrier Resolution Recommendations

Seguin is fortunate in that the core area of the City is unincumbered by major barriers. As noted previously, much of that compact core area can be reached without encountering a major freeway, railroad, or major drainage-way or river.

However, as the City grows to the north, east and south, major barriers will present challenges. Recommended considerations for each are as follows.

Interstate Highway 10 - I.H. 10 requires pedestrians and bicycle riders to be channelled to a relatively few intersections. Therefore, it is critical that each intersection be configured to welcome pedestrian and bicycle users.

For all freeway crossing, the installation of protected bicycle lanes (via a curb or at a minimum buffered striping) should be considered when the crossings are improved. The most important crossings are:

1. I.H. 10/S.H. 123 intersection - only the south side of the intersection has a sidewalk, requiring users to cross the intersection to go under the bridge. For bicycles, existing lane widths appear to preclude the inclusion of a bicycle lane. Any future upgrades to the underpass, especially to add U-turns, should accommodate bicycles and pedestrians.
2. I.H. 10/Business 123 intersection - this connection is vital, since Business 123 becomes Austin Street and leads directly into the core area of Seguin. Similar to the S.H. 123 underpass, this connection has limited sidewalk space on the south side. As the bridge is upgraded, enhanced pedestrian walks and bicycle lanes should be added to increase connectivity to areas north of I.H. 10.
3. West New Braunfels/Huber Road - of all of the crossings under I.H. 10, this route has the highest potential and is the most important. A route paralleling the railroad tracks along West New Braunfels Street connects to newly developing retail, employment and housing areas north of the interstate to the Walnut Branch spine trail. Capacity for a shared use path under the freeway at West New Braunfels appears to be available. Consider converting the Huber Road connection into a shared use path access route under I.H. 10.
4. State Highway 46 at I.H. 10 - S.H. 46 is a major vehicular connection between New Braunfels and Seguin, and



Best practice - An attractive pedestrian corridor under I.H. 35 at Main Street in Buda creates a well-defined, comfortable and inviting route under the freeway.

also connects directly to new retail developments and housing on S.H. 46. The underpass should be reconfigured to add improved sidewalks and bicycle facilities (either via a sidepath configuration or bicycle lanes).

Guadalupe River - improved pedestrian and bicycle facilities at river crossings at S.H. 46, Austin Street (Business 123) and S.H. 46 are critical to enhance connectivity to areas south of the City.

Due to its proximity to Max Starcke Park and the downtown area, the Austin Street bridge is the most important river crossing. The existing protected pedestrian walkway is narrow, and widening it via lane diets should be considered. A future protected bikeway/walkway should be implemented on either side of the bridge in the future.

The width of the river and its floodway make pedestrian-only bridges expensive, but planning for one to two long-range bridges should be considered. Locations with the narrowest section and strong connectivity should be identified and explored.

State Highway 123 - key pedestrian/bicycle crossing locations are already established in advance of the future grade-separated roadway. These should be enhanced with striping or protected lanes for bicycles and clearly delineated and inviting pedestrian zones.

Union Pacific Railroad - because the railroad reduces access to north Seguin, all vehicular crossings should be adapted to include routes for both pedestrians and bicycles.

Education and Encouragement Recommendations for Seguin

The investment in a strong active transportation network can reach its fullest potential in Seguin only if educational and promotional efforts are also implemented. These efforts will be key to the creation of a more accepted “culture” of walking and 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 Seguin (which also apply to other cities in the Alamo Area MPO 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 Seguin, 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 Seguin 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 Seguin, many children do not live that far from the schools they



Young riders at a Bicycle “Rodeo” event are instructed in how to ride safely, providing them skills for a lifetime and a lifelong enjoyment for bicycle riding.

attend and could walk or ride to school.

- **To educate adults on bicycle riding.** The City of Seguin 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 Seguin 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 Seguin.** 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 philosophical 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.

- c. Expand youth and adult bicycle education opportunities.** Private groups in Seguin 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 Seguin 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



“Walking school buses” can provide an alternate to traditional school transportation programs.

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 Seguin 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 Seguin 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 Seguin 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 Seguin.

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 streets events, such as the Siclovía events in San Antonio, help generate excitement and encourage new bicycle riders in Seguin.

in public campaigns about walking and biking in Seguin.

Create a central location to serve as the “heart” of bicycling and walking efforts in Seguin. 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 Seguin. 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 Seguin 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 Seguin 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 Seguin 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 Seguin 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 Seguin 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



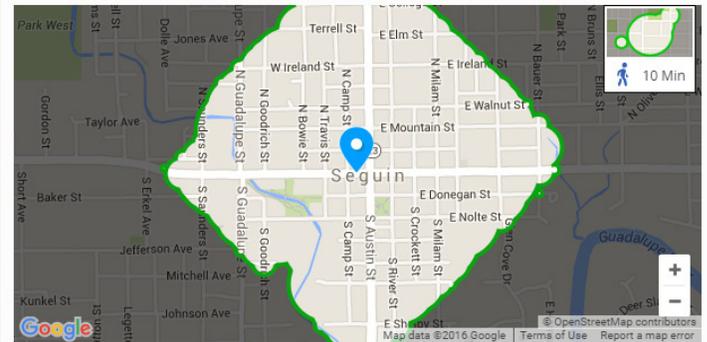
image source: creativepipe.com

Increased availability of secure bicycle parking encourages more people to bike to nearby locations.

Travel Time Map

[Add to your site](#)

Explore how far you can travel by car, bus, bike and foot from 59 U.S. 90 Alternate West.



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 programs for walking and bicycling specifically aimed at school aged children.

- d. Develop and distribute a route facility map.** To increase the citizens’ knowledge of existing walking and bicycling facilities and destinations in Seguin and to encourage the use of those 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 Seguin, the City should consider purchasing bicycle racks in bulk and selling them at cost for installation at key destinations throughout the City. The City may also partner with local advocacy organizations to support this type of program. For example, 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. Seguin 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 Seguin should qualify as a bicycle-friendly community.

Enforcement Recommendations

It is important to remind Seguin 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 Seguin. The Seguin Police Department should actively enforce traffic laws for both motorists



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

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 Seguin should continue to monitor crash data.

If warranted by a high number of incidents, then the Seguin 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.

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 Seguin. 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, it is not surprising that some officers are not as familiar with laws that pertain to bicycles as compared to vehicles, which they no doubt interact with regularly.

Unfortunately, what likely happens in these cases is that unsafe behavior by bicyclists and motorists goes uncorrected. It is the City's responsibility to emphasize the need for bicycle safety law enforcement. To do this, 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.



Training young bicyclists in the proper use of safety equipment should be a high priority. Consider providing free or low cost helmets to some youth.



Active transportation routes along Walnut Branch in Seguin.

Implementation Program

Chapter 3 of the *Seguin Bicycle and Pedestrian Study* contains bicycle and pedestrian infrastructure and initiative recommendations with which the City can build a comprehensive active transportation program. Successful implementation however, requires the identification of clear processes.

This chapter provides strategies for Seguin to establish an active transportation implementation program. 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 Seguin staff and elected officials will move forward in implementing the recommendations of this study.

Network Design and Construction

There are significant opportunities to expand the active transportation network in Seguin. Some opportunities can be implemented as part of new development, street construction projects, or as stand-alone projects.

Efforts should be focused on bicycle lanes, sidewalk segments and corridors that provide the most significant beneficial impact, and that truly begin to create a linked network. Chapter 3 recommends important facilities to be built - these key projects were selected to meet the goals identified by the City and to reflect citizen comments and desires received during the public input process.

The implementation of each specific active transportation network facility should coordinate with the following steps:

- **Preliminary items.** 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. As needed by** the City of Seguin, possibly Kendall County and all involved corridor owners, e.g. TxDOT, utility companies and railroad companies. Responsibility for the project permitting will typically rest with the City of Seguin.
- **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 unique characteristics and design challenges.
- **Physical project construction or implementation.**

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.

Funding Active Transportation

Funding for pedestrian and bicycle facility development in Seguin can come from a variety of sources, including local sources, from the State of Texas, and from federal sources. Private development can also help establish many of the future facilities throughout the City.

Each segment will have unique funding opportunities, based on the neighborhoods around it and the specific characteristics of the corridor.

If possible, funding should be continuous and steady. Annual designation of funds for pedestrian and bicycle development will result in a steady growth in the City's network, and will allow the citizens of Seguin to see a continuous flow of new facilities every year, rather than in sporadic bursts.

Sources of Funding

In many plans over the past decade, Seguin residents have demonstrated that they are interested in and value pedestrian and bicycle facilities. Therefore, funding for these facilities should be treated as a key item in both annual and longer term budgeting. As noted above, 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.

CIP funds. Allocations in the City's Capital Improvement Program (CIP) can be used to fund pedestrian and bicycle improvements. 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 projects, such as new roads. However, separate trail and bicycle funding should not be added to road projects to help supplement roadway funding that is inadequate.

Parkland dedication funds. Funds generated by new development can be used to help develop nearby trails. Cities may elect to accrue these funds in lieu of parkland.

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.

Sales tax revenues. 4B Sales Tax may use funds for a wide range of uses intended to give communities an opportunity to undertake quality of life improvements, including sidewalks, trails, 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 from \$50,000 dollars to \$500,000 dollars in grant assistance.
- **Federal funds.** Federal dollars allocated to pay for non-motorized transportation improvements can be used to fund pedestrian and bicycling in Seguin. 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.
- **Regional Surface Transportation Program (RSTP).** This is a block grant program that makes money available statewide for roads, bridges, transit capital, bicycle and pedestrian projects. Metropolitan planning organizations



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

(MPOs) can transfer money from other federal transportation funding sources to the RSTP program if they want more flexibility in how they allocate their funds.

- **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 Seguin 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:

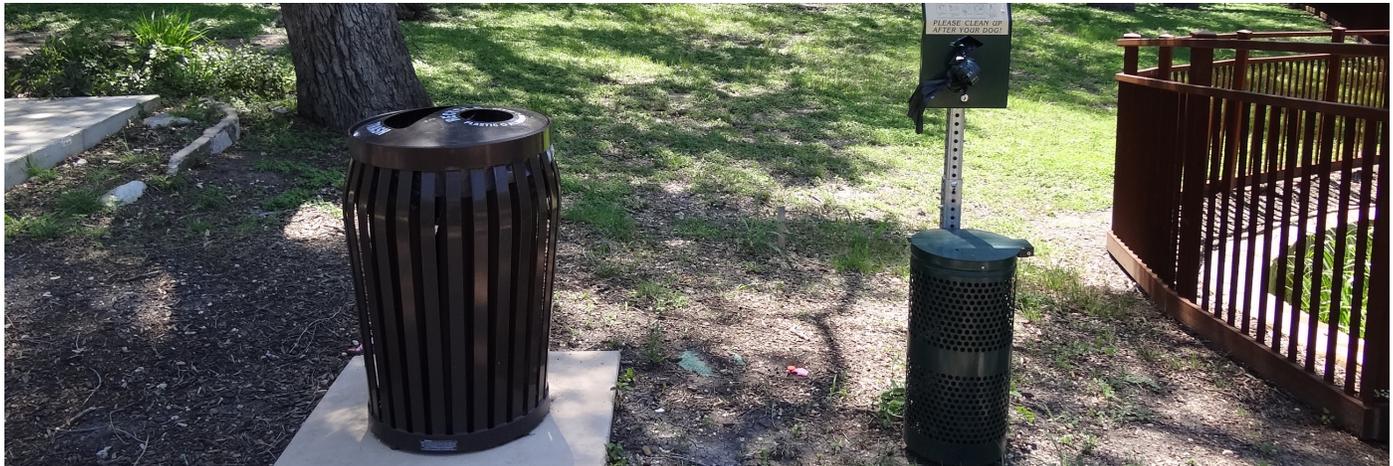
- **The Planning & Community Development Department** will have major roles in implementing study recommendations. Responsibilities will include developing and

overseeing efforts to improve walking and bicycling, proposing pedestrian and bicycle 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



Appropriate amenities can help improve the overall quality of the bicycle and pedestrian network.

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.

Contract implementers such as BikeTexas may assist in coordinating programs, helping to secure funding, managing implementation projects, and conducting encouragement efforts. These implementers should maintain a close working relationship with the City's planning and public works departments to ensure that efforts by all parties are closely coordinated.

Monitoring Program Implementation

The *Seguin 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.

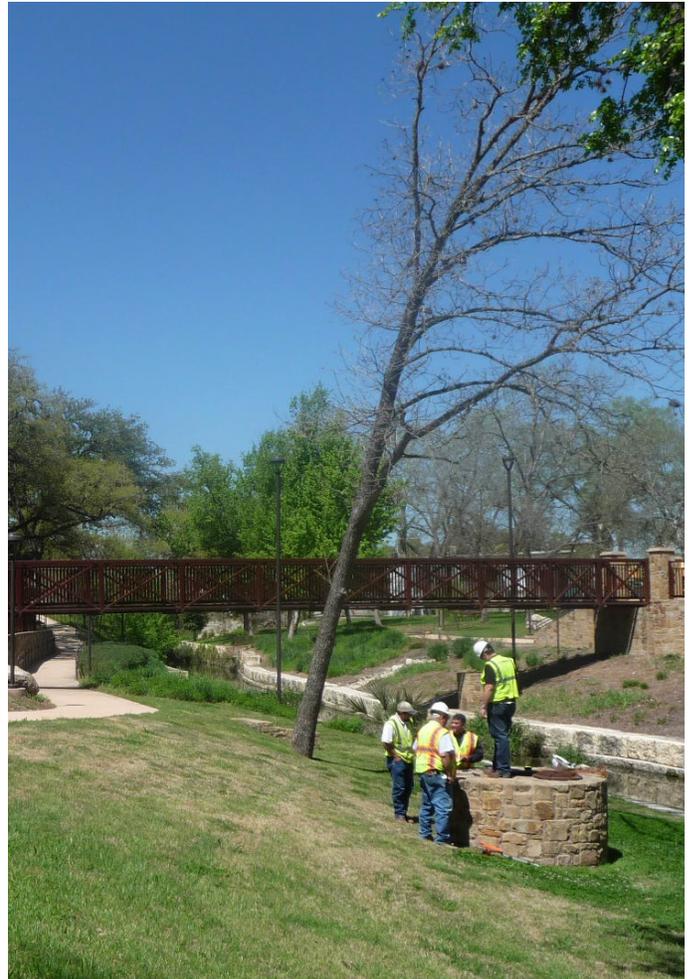
To measure the successful implementation of the recommendations of this study, a series of benchmarks and periodic measures should be used to monitor implementation.

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.
- 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 Seguin'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.



A variety of City departments will be involved in the implementation, upkeep, and overall success of the active transportation network.



References

1. U.S. Census Bureau. 2013 American Community Survey 5-Year Estimates. "Total population." Table B01003. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B01003&prodType=table.
2. U.S. Census Bureau. 2013 American Community Survey 5-Year Estimates. "Income in the past 12 months." Table S1901. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_S1901&prodType=table.
- 3 & 4. U.S. Census Bureau. 2013 American Community Survey 5-Year Estimates. "Age and sex." Table S0101. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_S0101&prodType=table.
5. U.S. Census Bureau. 2013 American Community Survey 5-Year Estimates. "Means of transportation to work by vehicles available." Table B08141. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B08141&prodType=table.
6. City of Boerne. "Figure 2-23: Population Projection - Boerne and Kendall County." *Boerne Master Plan Update*. by Gould Evans. 2006.