April 2014

City of Austin Urban Trails Master Plan






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EXECUTIVE SUMMARY

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The Purpose of this Master Plan

Austin is two things: active and growing. Because of the favorable weather throughout most of the year and a plethora of opportunities to be outdoors, Austin is a very active city. Furthermore, Austin was rated as the number one fastest growing city in the nation by *Forbes Magazine* in 2013 and will continue to grow rapidly over the decades to come.

Providing an active transportation network allows Austin residents to commute by alternative modes. This long range plan envisions a system of Urban Trails that connects all of Austin by allowing residents to go from one end of the City to the other in a safe and healthy way. The Urban Trails network is intended to work in conjunction with the on-street pedestrian and bicycle networks, giving residents the opportunity to commute greater distances across all parts of Austin and creating a true "8 to 80" network (where a child of 8 can walk or ride with an 80 year old). The Urban Trails network is also intended to provide access to scenic recreation corridors throughout the built environment of the City. The master plan:

- Outlines criteria for urban trail design standards;
- Identifies which of the existing trails in Austin should be designated as Urban Trails;
- Highlights the need for improvements to upgrade existing trails so that they meet minimum requirements for Urban Trails; and
- Incorporates recommendations for future expansion of the Urban Trails network throughout the City.

The Urban Trails Master Plan directly supports all eight of the priority programs in *Imagine Austin,* the City's Comprehensive Plan. The eight priority programs described in *Imagine Austin* are intended to provide structure and direction for the actions recommended in Imagine Austin, and this plan and its related policies directly follow the vision and guidelines set forth in the comprehensive plan. As an amendment to the Imagine Austin Plan, this plan also serves as a regulatory plan within City of Austin jurisdiction.

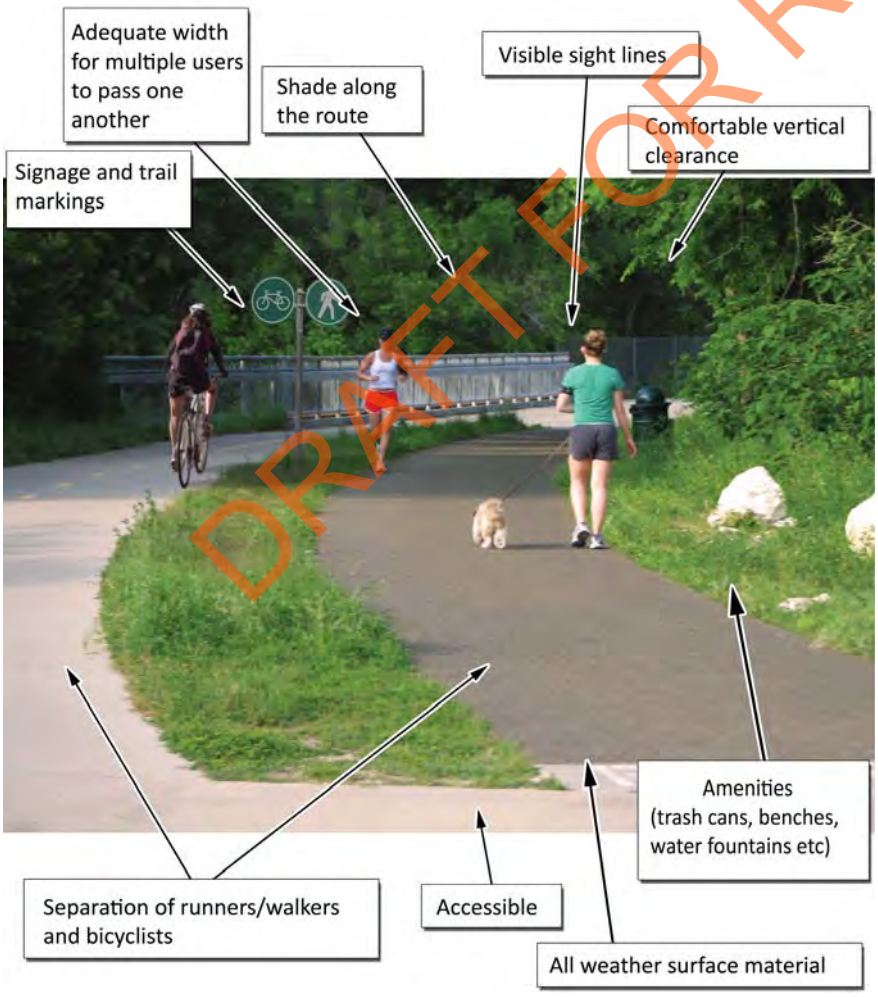
This plan is intended to be flexible and remain a viable tool as Austin continues to grow and change. The plan will continue to serve for many years, but should be periodically updated to reflect changing conditions within the City, the neighboring communities and the greater Central Texas area as a whole.

What Is An Urban Trail?

The definition of an Urban Trail that was developed through this planning process follows the guidance and recommendations from *Imagine Austin*, and was confirmed by the Citizen Advisory Group (CAG) and the Technical Advisory Group (TAG). For the City of Austin, the Urban Trail network is defined as:

> "A citywide network of non-motorized, multi-use pathways that are used by bicyclists, walkers and runners for both transportation and recreation purposes."

Desired characteristics of an urban trail are shown in the illustration on this page.



Intercept survey along Shoal Creek Trail near 3rd Street

Open House participants give feedback on bicycle and urban trail recommendations

In total, 6 public meetings were held during the planning process

Young participants learn about safety at the bicycle rodeo on Saturday, February 22, 2014

Urban Trail Goals and Objectives for Austin

Goals and objectives for a plan such as this create the foundation for future decisions and development. Goals are an important part of the planning process in that they provide the underlying philosophical framework for decisions and also guide decision makers on issues. The goals expressed in this master plan reflect the desires of the citizens, elected and appointed officials, and the staff of the City of Austin, and build upon the vision establish by the City's Comprehensive Plan. They are expressed as follows:

- Goal #1: Provide easy access to Urban Trails for both transportation and recreation users from all parts of the City.
- Goal #2: Link all Urban Trails to the on-street bicycle and sidewalk network around them.
- Goal #3: Ensure that all Urban Trails are adequately sized to accommodate both recreation and transportation uses.
- Goal #4: Incorporate trail amenities and features that transform them from a paved surface into unique greenways that reflect the City around them.
- Goal #5: Provide adequate funding and resources to maintain and operate urban trails in Austin.
- Goal #6: Ensure that all Urban Trails are context-sensitive and environmentally sustainable.

Public Engagement

A detailed public input process was utilized to inform and engage the citizens about the Austin Urban Trails Master Plan and Bicycle Master Plan update. Since both plans work together to create the overall Active Transportation Network, the public input process for both was combined and occurred simultaneously. The wide variety of methods employed to gain public input included:

- A statistically valid citywide telephone survey (600 responses)
- A citywide online survey (2,400 responses),
- Trail intercept survey (conducted at 7 locations),
- Input from both a Citizens Advisory Group (CAG) and a Technical Advisory Group (TAG),
- Public meetings (6 meetings), and
- Online open house (conducted over two months)

We learned valuable information regarding attitudes towards riding a bike and interest in using an Urban Trail:

- 41% of adults and 75% of kids ride bicycles in Austin.
- The majority of people in Austin want to ride more than they currently do.
- The majority of residents and current bicyclists are not as comfortable in a traditional bicycle lane but would feel very comfortable riding on a separated path.
- Residents of Austin are much more willing to ride a bicycle if there is some sort of separation between themselves and on-street traffic.
- The most important actions and improvements for Urban Trails are:
  - Improve access to trails from nearby neighborhoods or businesses,
  - Improve smoothness of trail,
  - Widen trail surface,
  - Create separate areas for walkers and bicycle riders,
  - Add lighting as appropriate,
  - Provide more shade,
  - Provide more drinking fountains, and
  - Trim landscaping and obstructions to improve sight lines.

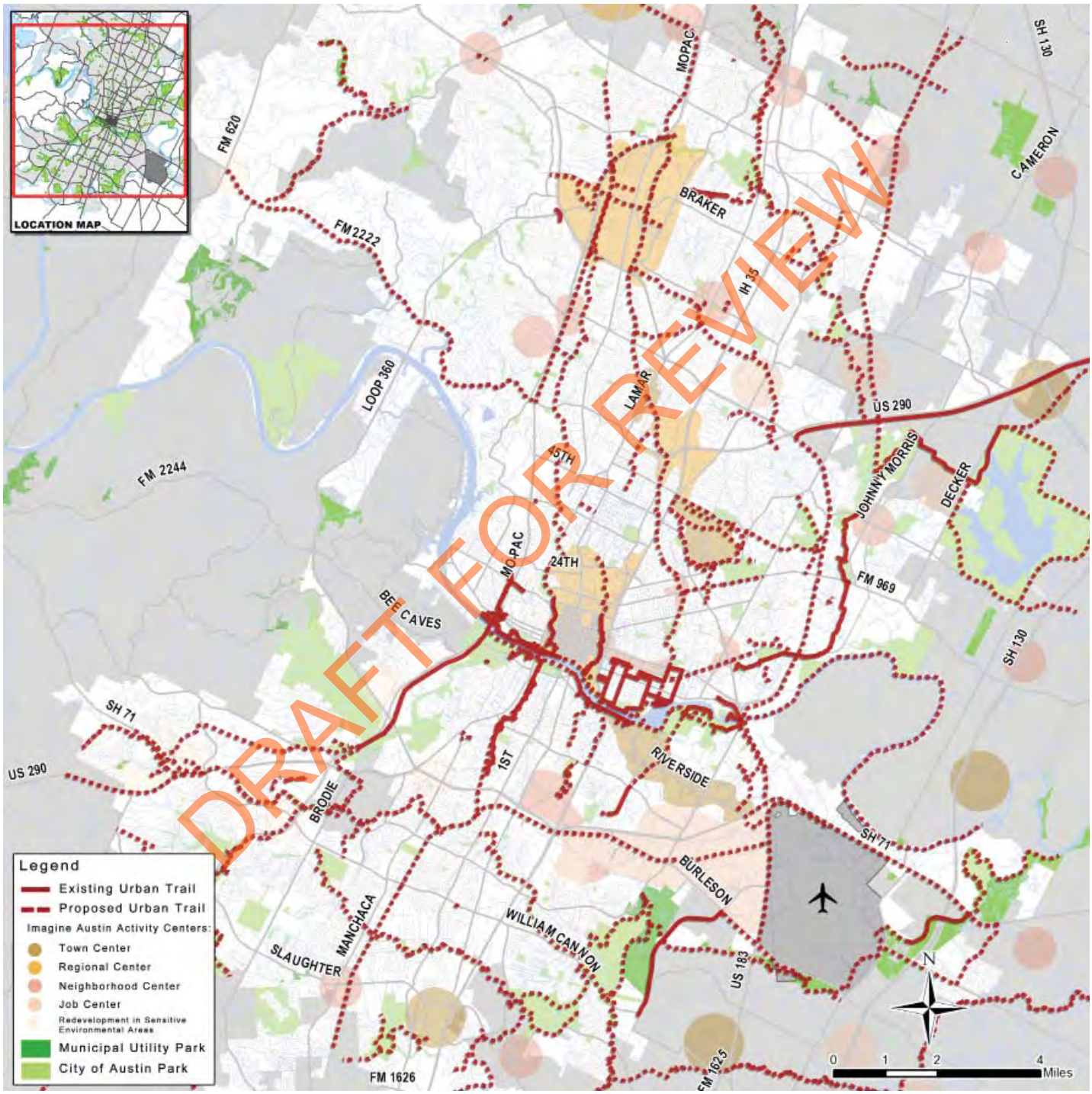
Existing and Recommended Urban Trails

Austin has many opportunities to create a citywide network of Urban Trails. The City currently has approximately 300 miles of trails of all types, and approximately 30 miles of these existing trails can be defined as Urban Trails. The Austin Urban Trails map on the following page shows existing and proposed Urban Trails.

There are currently many opportunities for Urban Trails in Austin, and over the next two to three decades it is anticipated that many of those opportunities can actually be developed. However, the City's efforts should be focused on those corridors that provide the most significant beneficial impact and that truly contribute to the citywide Urban Trails network.

Trails with the highest priority include those that provide a strong potential for both transportation and recreation use, that serve significant surrounding populations and that enhance connections to the on-street bicycle and sidewalk network, and that are sensitive to the existing environment along the corridors that are used. The ultimate goal of this plan is for the development of the majority of the high priority projects to be completed within approximately ten to fifteen years. Additional trail segments identified in the plan can be undertaken in partnership with other agencies, non-profit entities or private development or re-development efforts.

Austin Urban Trails



Alignments shown are conceptual, and are intended to show geographic connectivity. More detailed routing, environmental evaluations and area connections will be developed for each corridor as funding is identified. Pending a more detailed analysis and adjacent, adequate bicycle/pedestrian facilities, a "no-build" option may be appropriate.

Policy Considerations

From the federal to local level, policies affect the integrity and mechanisms of the Urban Trails Master Plan. There are many new and developing planning initiatives in Austin, including CodeNEXT, the Sidewalk Master Plan and Prioritization Matrix, and the Wayfinding Project, which merit recognition and coordination of goals and operations. The Urban Trails Master Plan reviews and summarizes some of the more recent policy changes that may impact the design, placement and funding opportunities for Urban Trails in Austin.

Policy and plans for consideration include:

- MAP-21
- FHWA Memorandum supporting NACTO and AASHTO bicycle design guidelines
- CAMPO 2035
- Imagine Austin
- Capital Improvement Plan
- Watershed Protection Ordinance
- Heritage Tree Ordinance
- Land Development Code
- Technical Criteria Manuals - Environmental Criteria Manual, Drainage Criteria Manual, Transportation Criteria Manual
- Other adopted plans - 2009 Bike Plan, Sidewalk Master Plan, Parks and Recreation Long Range Facilities Plan for Land, Facilities and Programs, Downtown Austin Wayfinding Plan

Watershed Protection Ordinance

The new Watershed Protection Ordinance (WPO) was passed in October 2013 and provides important guidance for the Urban Trails Master Plan. The intent of the new ordinance is to protect area watersheds through clear policy and guidance. One of the Watershed Protection Department's goals is to improve the urban environment by maximizing use of waterways, drainage facilities and floodplain areas for public recreation. The Urban Trails Master Plan helps the Watershed Protection Ordinance achieve its goals by creating green infrastructure and reducing transportation pollution through the enhancement of non-motorized transportation.

Goal: Improve the urban environment by fostering additional beneficial uses of waterways and drainage facilities.

Objective: Maximize the use of waterways and drainage facilities for public recreation; and, Maximize areas for public use within floodplains.

- Watershed Protection Department Master Plan Goals and Objectives

Partnerships with Other Departments and Agencies

Interdepartmental and interagency collaborations are a critical component of developing a regional network of Urban Trails, and achieving the goals and objectives of this plan. Moreover, many federal-aid funding opportunities require cooperation among local and regional entities in developing and implementing goals. By partnering with other agencies and organizations, funding resources can be utilized more efficiently. Various City of Austin departments, including Parks and Recreation, Transportation and Public Works, may all have an interest in Urban Trails from different perspectives and different funding opportunities. Private or nonprofit groups like The Trails Foundation or the Hill Country Conservancy also promote Urban Trails through different means. Collective efforts can make the legal, financial and political process of improving and expanding Austin's Urban Trail system more efficient.

Some recommendations in this plan will require partnerships and collaboration with other City departments, municipalities, agencies, and organizations across the region. The Public Works Department should coordinate with other City of Austin departments, agencies, and organizations where necessary to implement the Urban Trails Master Plan by identifying and pursuing funding partnerships and support from other departments, agencies, and organizations.

Urban Trail Maintenance

Effective trail maintenance is critical to the overall success and safety of Urban Trails in Austin. Maintenance activities typically include pavement stabilization, landscape maintenance, facility upkeep, sign replacement, mowing and litter removal. A successful maintenance program requires continuity. Routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. This plan includes operation recommendations for providing effective and appropriate trail maintenance. The Urban Trails Program seeks to clarify maintenance policy to maximize the quality and enjoyment of our Urban Trails.

The Parks and Recreation Department (PARD) retains the approval authority on trails within parkland as well as corresponding maintenance responsibilities. PARD and the Public Works Department (PWD) have created written agreements regarding operation and maintenance responsibilities for trails to clarify duties and ensure adequate trail maintenance.

Upon adoption of the Urban Trails Master Plan staff will found

an Interdepartmental Agreement (IDA) between the Parks and Recreation Department, Watershed Protection Department, Health and Human Services Department and other internal City departments as needed to create an over arching agreement regarding maintenance of Urban Trails. This IDA will address levels of responsibility and will define expectations, contacts and jurisdictions for maintenance.

Constructing Future Urban Trails

This master plan identifies key Urban Trails and connections, as well as prioritizes these corridors based on the criteria discussed in the previous chapter. Once an Urban Trail corridor is selected for implementation, it then goes through a separate process of identifying the exact trail alignment. Implementation of an Urban Trail is based on:

- Funding
- Environmental Constraints
- Stakeholder/resident input

Once a funding source for Urban Trail development is identified, a Preliminary Engineering Report (PER) process is started. This PER process evaluates all the environmental constraints of the corridor including: topography, drainage, various soil types, tree canopy, wildlife habitat, floodplain, surrounding land uses, location of utilities, property ownership, as well as several other elements. The entire length of the corridor will be reviewed by the Watershed Protection Department and Planning and Development Review to ensure the environmental constraints are accurately recorded before any design process begins. During the PER process the public, residents and area stakeholders are also engaged at a public open house to get feedback about the corridor, voice any concerns, and help identify potential access points. Once the PER process is complete, a preferred alignment for the trail is developed based on the environmental constraints and public input. The trail then goes into the process of design and developing construction documents. From there, it is then in the bidding stage for construction, and once a contractor is selected construction of the trail begins.

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CHAPTER 1: INTRODUCTION TO URBAN TRAILS

CHAPTER 1

INTRODUCTION TO URBAN TRAILS

Southern Walnut Creek Trail

Urban Trails Working Group 2009 Vision Statement:

"To create an interconnected non-motorized network of on-road routes and off-road trail corridors that provides both single use and multi use purpose that include transportation, environmental and historical resources protection, and recreation, socialization and health benefits."

THE PURPOSE OF THIS MASTER PLAN

Austin is two things: active and growing. Because of the favorable weather throughout most of the year, and a plethora of opportunities to be outdoors, Austin is a very active city. Furthermore, Austin was rated as the number one fastest growing city in the nation by *Forbes Magazine* in 2013. Providing an active transportation network will allow residents to commute by alternative modes which will in turn allow for more vehicular space on the roadways for these new residents. The urban trails network is intended to work in conjunction with the on-street pedestrian and bicycle networks, giving residents the opportunity to commute greater distances across all parts of Austin. The urban trails network is also intended to provide scenic recreation corridors throughout the built environment of the City.

Over the past decade, various departments within the City of Austin have developed graphical illustrations of potential trail plan corridors as part of other planning efforts. The Parks and Recreation Department developed a potential trails and greenways graphic in 2007. In 2009, an Urban Trails Working Group was formed whose purpose was to facilitate the creation of new trails for bicycle and pedestrian transportation and recreation. The vision statement formed by that group is shown to the left, and is still relevant for today's Urban Trails Master Plan. Also in 2009, the Bike Plan identified multi-use paths that are intended to be used by both transportation and recreational users. The City's 2012 comprehensive plan, *Imagine Austin*, also identified existing trails and key corridors as urban trails. However, none of these efforts provided a detailed trails plan document to accompany those concepts and conceptual maps.

This master plan develops an Urban Trails plan for the City of Austin that will: outline criteria for Urban Trail design standards; identify which of the existing trails in Austin are Urban Trails; identify improvements to upgrade existing trails so that they meet minimum requirements for Urban Trails; and finally, provide recommendations for future expansion of the Urban Trails network. This master plan seeks to develop a cohesive document to be utilized by the Public Works Department for the design, construction, maintenance and policy actions needed to create a successful Urban Trail network for the City of Austin.

This long range plan envisions a system of Urban Trails that connects all of Austin by allowing residents to go from one end of the City to the other in a safe and healthy way. This Urban Trails Master Plan is intended to be flexible and remain a viable tool as Austin continues to

grow and change. The plan will continue to serve for many years, but should be periodically updated to reflect current conditions within the City, the neighboring communities and the greater Central Texas area as a whole.

Furthermore, this plan directly supports all eight of the priority programs in *Imagine Austin*. Trail design criteria, prioritization of trails and implementation of this plan and related policies directly follow the vision and guidelines set forth in the comprehensive plan. The eight priority programs described in *Imagine Austin* are intended to provide structure and direction for implementation. This plan implements *Image Austin* and as an amendment to the AMATP, serves as a regulatory plan within City of Austin jurisdiction.

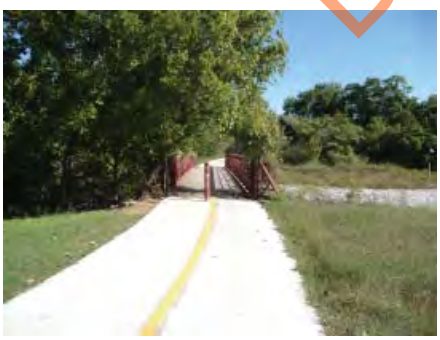
Eight priority programs from Imagine Austin

Table 1.1 Relationship of Urban Trails Master Plan to *Imagine Austin*

***Imagine Austin* Priority Program**	**How the UTMP Supports the Program**
Compact and Connected	The primary intention of the Urban Trails Master Plan is to provide off-street routes and link to other transportation networks and destinations
Sustainably manage water resources	Some Urban Trails utilize greenbelts and will adhere to the Watershed Protection Ordinance
Grow Austin's economy	Urban Trails will help grow Austin's economy by providing access to businesses via affordable, active transportation options
Green Infrastructure	Urban Trails embody green infrastructure by providing emission-free, low impact transportation infrastructure
Austin's creative economy	Austin's creative economy needs affordable, progressive and engaging forms of moving around the city. Trails provide a unique opportunity to commune with nature and seek respite from urban life.
Household affordability	Transportation costs are a household's second largest expense after housing costs. Reducing reliance on automobiles saves money on vehicular ownership and maintenance
Healthy program	Urban Trails provide the opportunity for people to exercise for fun or transportation
Development regulations and processes	This plan recommends policy and operational actions for implementation

Definition:

The Urban Trail network is a citywide network of non-motorized, multi-use pathways that are used by bicyclists, walkers and runners for both transportation and recreation purposes.



Existing urban trails in Austin: Shoal Creek (top); Johnson Creek (middle); Southern Walnut Creek (bottom)

What Is An Urban Trail?

Imagine Austin defined an Urban Trail as "a multi-use public path that creates an active transportation corridor through a built environment to provide mobility for active transportation and create greenways through developed areas and provide expanded travel choices" (*Imagine Austin Comprehensive Plan*, pg. A-27). Using this definition as a starting point, best practices were researched from cities around the nation to refine what is meant by an Urban Trail in the City of Austin.

Typically, cities will include a trail plan as a component of their park plan. The majority of those plans tend to have a recreational focus. Currently, very few cities have developed an Urban Trails plan with the intention and design of the facilities for both recreation and transportation purposes.

Table 1.2 Best Practices Comparisons

City	Defining Characteristics of Urban Trails
Colorado Springs, CO	Used for recreation and off-street transportation for non-motorized users. The easement/corridor width standard is 50 feet. Trail is 12 feet wide and a hard surface with a two to four foot soft shoulder.
Flagstaff, AZ	Non-motorized, shared-use pathways used by bicyclists, walkers, hikers, runners and others for both recreation and transportation. Generally eight or ten feet in width; can be concrete, asphalt or hard-packed, aggregate surface. Must be within the urban area of the City.
San Francisco, CA	Located within natural areas, most often parks. Typically used for hiking, with no set standards to improve trails for commuting or transportation. Intended purpose is recreation.
Seattle, WA	Called the "Urban Trails and Bikeways System" it includes both multi-use trails and streets with bicycle lanes to form an interconnected system.
Portland, OR	Regional trails include off-street paved and natural surface trails, and on-street trails. Policy to maintain separate and protected facilities for each mode (bicyclist, pedestrian, other non-motorized user) whenever feasible.
American Trails Organization	Can be used for bicycling, walking, running, in-line skating, stroller or wheelchair use. An active transportation corridor through the built environment.

The definition of an Urban Trail that was developed through this planning process follows the guidance and recommendations from

Imagine Austin, and was confirmed by the Citizen Advisory Group (CAG) and the Technical Advisory Group (TAG). For the City of Austin, the Urban Trail network is defined as a citywide network of non-motorized, multi-use pathways that are used by bicyclists, walkers and runners for transportation or recreation purposes.

Characteristics of Urban Trails

The Urban Trails in Austin will appeal to everyone. Whether young or old, commuting or wanting no more than a few minutes out in a beautiful area, everyone can find something to do on an Urban Trail. This section lays the foundation for Urban Trail characteristics. Urban Trails in Austin will:

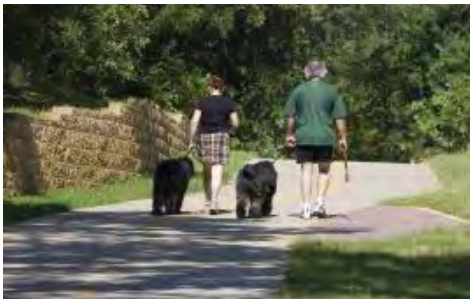
- Serve both transportation and recreation users,
- Provide multiple connections to key destinations around the City,
- Accommodate a variety of bicycle and pedestrian users,
- Have an aesthetic appeal and will be along scenic corridors whenever feasible, and
- Be perceived as safe.

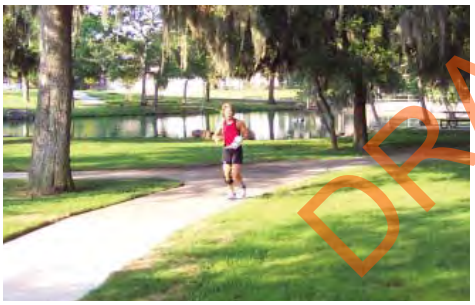
In order for a trail corridor in Austin to be considered an Urban Trail, it must have:

- The potential to connect significant destinations,
- The potential for multiple access points from neighborhoods and areas around it,
- The capability of being wide enough to accommodate two-way pedestrian and bicycle use,
- All weather pavement surface,
- A location which is generally outside or on the fringes of significant natural areas, and
- Connections to the on-street bicycle and sidewalk network so that is becomes part of the active transportation network of the City.

Benefits of Urban Trails

For many decades, trails have been one of the most popular assets that a community can offer. A well planned and interconnected trails system can serve as an alternative mode of transportation as well as recreation. With the high price of gas, worsening traffic congestion and a growing desire to decrease our carbon footprints, Urban Trails present a solution for residents





Potential Urban Trail users may include dog walkers, roller bladers, joggers, commuters and recreational bicyclists.

to commute to work or school as well as places to shop, restaurants, and other entertainment venues.

Because of the favorable weather in Austin the majority of the year, trails are often the most frequently requested amenity when surveying the community. Trails offer many benefits, they:

- Give people the opportunity to be physically active, which in turn can reduce their risk of heart disease, obesity, depression, diabetes and other health problems,
- Help reduce traffic congestion by having fewer vehicles on the road,
- Help improve air and water quality,
- Help improve the quality of life in Austin,
- Accessible for people of all ages, from 8 to 80,
- Provide opportunities to socially interact with others,
- Help stimulate economic growth by attracting businesses and keeping residents,
- Increase bicycle safety and ridership,
- Make economical sense to the City: the cost of constructing roadways is 50 times greater than the cost of constructing cycle tracks, and 12 times greater than the cost of constructing Urban Trails[1], and
- Make economical sense to you: the cost of owning a vehicle is nearly 73 times greater than the cost of owning a bicycle[2].

Who Will Implement This Plan?

The implementation of the Urban Trails Master Plan will be lead by the City of Austin Public Works Department. However, everyone in Austin has a vested interest in developing the citywide network of Urban Trails. Other key implementers could include:

- All area governmental entities, including the City of Austin,

1 As determined by the City of Austin Public Works Department for recent construction costs per mile for four-lane roadways, cycle tracks and trails

2 The American Automobile Association estimates that the average American spends an estimated $8,776 per year to own and operate a car, while bicyclists typically spend less than $120 per year as estimated by the League of American Bicyclists

Travis County, other surrounding cities and counties, Austin ISD, and other entities such as CapMetro and TxDOT.

- Other departments within the City of Austin, including Watershed Protection, Transportation, Planning, and Parks & Recreation.
- Property owners, developers, commercial entities, and others in the business community in Austin by constructing or offering trail connections.
- Community homeowner associations (HOAs) and other collective groups of neighborhoods who construct trails and trail connections.
- Adjacent residents of the surrounding counties and cities to help encourage connections to other adjacent systems.

The timeframe for this plan is formulated to address the timeframe from 2014 through the year 2030. Periodic review is recommended to provide an opportunity for citizen feedback and to adjust for any major events or occurrences that may significantly alter the recommendations of this plan. The current state of practice recommends an update to the plan five years after approval by City Council.

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CHAPTER 2: GOALS AND OBJECTIVES OF THE URBAN TRAILS MASTER PLAN

CHAPTER 2

GOALS & OBJECTIVES

Highland Station Urban Trail Grand Opening

INTRODUCTION

The system of Urban Trails and connections recommended in this plan will enhance transportation and recreation opportunities, as well as to influence the overall appearance of the City.

This plan is both visionary and practical. The visionary component foresees a network of Urban Trail corridors that complement the on-street bicycling and sidewalk network by seamlessly allowing users to easily go anywhere in Austin by riding a bicycle or walking. The practical side envisions connections to all neighborhoods via readily accessible, safe and attractive urban trail facilities.

The following guiding principles were developed through the planning process, using public feedback, CAG and TAG input, and meetings with City staff. The goals serve to guide the recommendations proposed in this document. These goals also build upon visions and goals established in previous planning efforts such as *Imagine Austin*.

GUIDING PRINCIPLES FOR URBAN TRAILS

- **Create a Citywide Network** - The ultimate goal is to create an interconnected network that allows someone to travel across all of Austin. Existing unconnected sections should be united into an overall system of Urban Trails. Urban Trails are intended be used for both transportation and recreation. The City should create facilities that allow for commuting and short trips to retail and civic destinations.
- **Promote Safety** - Urban Trails should provide a smooth, usable, visible corridor that feels safe.
- **Access & Connectivity** - Access to the Urban Trail system must be maximized as much as feasible. This may range from simple sidewalk connections to complete trailheads with parking and comfort facilities such as shade shelters and restrooms. The City can encourage use of the system by creating easy access to Urban Trails, and creating an Urban Trails map for distribution. Where possible, Urban Trail corridors and alignments should be designed to enhance linkages between parks, neighborhoods, schools, civic facilities, and community destinations, as well as complement the on-street bicycle and sidewalk network.
- **Urban Trails should enhance Austin** - Urban Trails should enhance the physical appearance of the City, whether through new

facilities, improved landscaping, added green infrastructure, or tree and vegetation plantings.

- **Character of the City** - Urban Trails should take into consideration the environmental and historical character of the City of Austin. They should relate to and harmonize with adjacent neighborhoods. Preservation of trees, vegetation and wildlife is vital to the character of the city.
- **Create partnerships** - The citywide Urban Trails system should encourage the creation of public and private partnerships that support the implementation of the recommendations in this plan.

Urban Trail Goals and Objectives for Austin

Goals and objectives for a plan such as this create the foundation for guiding future decisions and development. They are intended to build upon the vision established by the City's Comprehensive Plan. Goals are an important part of the planning process in that they provide the underlying philosophical framework for decisions and also guide decision makers on issues. The goals expressed in this master plan reflect the desires of the citizens, elected and appointed officials, and the staff of the City of Austin.

Goal #1 Provide adequate access to Urban Trails for both transportation and recreation users from all parts of the City.

- Objective 1.1 - In the central area of the City, no point is farther than a 5 minute bicycle ride or a 10 minute walk from an Urban Trail (approximately a 1/2 mile radius).
- Objective 1.2 - In other parts of the City, no resident is farther than an 8 minute bicycle ride or 15 minute walk from an urban or park trail (approximately 3/4 mile radius).

Goal #2 Link all Urban Trails to the on-street bicycle and sidewalk network around them.

- Objective 2.1 - As feasible, work with stakeholders to identify and build appropriate gateways or access points to the Urban Trail network.
- Objective 2.2 - Ensure that any user can safely ride or walk to the Urban Trail nearest to them.

"For urban wildlife, trails are about connectivity too – corridors for movement through the urban landscape especially since our trails mostly follow waterways which are natural corridors through the city."

– Dr. Kevin Anderson,
City of Austin
Wildlife Biologist

Goals describe the desired outcome for a plan. They are different from a vision in that they speak directly about a component of the overall system.

Objectives are identified statements or policies that work toward the goal. They are more specific than a goal, and address particular issues related to the elements to achieve the desired goal.

Goal #3 Ensure that all Urban Trails are adequately sized to accommodate both recreation and transportation uses.

- Objective 3.1 - Urban Trails are developed with all weather surfaces that can accommodate both pedestrians and bicycles.
- Objective 3.2 - Urban Trails are developed with accessibility for all users and all levels of ability, including users with a disability of some type.

Goal #4 Incorporate trail amenities and features that transform them from a paved surface into unique greenways that reflect the City around them.

- Objective 4.1 - Incorporate amenity features, including mile markers, wayfinding, periodic trailheads, gateway features, parking and access points to increase interest in the Urban Trail corridors.
- Objective 4.2 - Include interpretive/educational features and public art components that link the trail to the area around it.

Goal #5 Provide adequate funding and resources to maintain and operate Urban Trails in Austin.

- Objective 5.1 - Ensure that trails are maintained in an adequate manner as highly visible components of the City's urban infrastructure.
- Objective 5.2 - Plan and fund periodic upgrading/replacement of Urban Trail paving and associated features.
- Objective 5.3 - Include adequate and appropriate levels of lighting and safety patrols to maintain a strong sense of security along all Urban Trails.
- Objective 5.4 - Promote the use of Urban Trails with maps, wayfinding and periodic events celebrating Austin's unique Urban Trails system.

Goal #6 Ensure that all Urban Trails are context-sensitive and environmentally sustainable.

- Objective 6.1 - Minimize impacts to water quality of creeks, lakes, and aquifers through the use of appropriate green infrastructure.
- Objective 6.2 - Avoid placement within Erosion Hazard Zones.
- Objective 6.3 - Preserve vegetation, trees, and wildlife habitat.

CHAPTER 3: EXISTING AND RECOMMENDED URBAN TRAILS

CHAPTER 3

EXISTING & RECOMMENDED URBAN TRAILS

Southern Walnut Creek Trail

Austin has many opportunities to create a citywide network of Urban Trails. There are approximately 300 miles of trails of all types within the city. Roughly 30 miles of these existing trails can be defined as Urban Trails. These trails include:

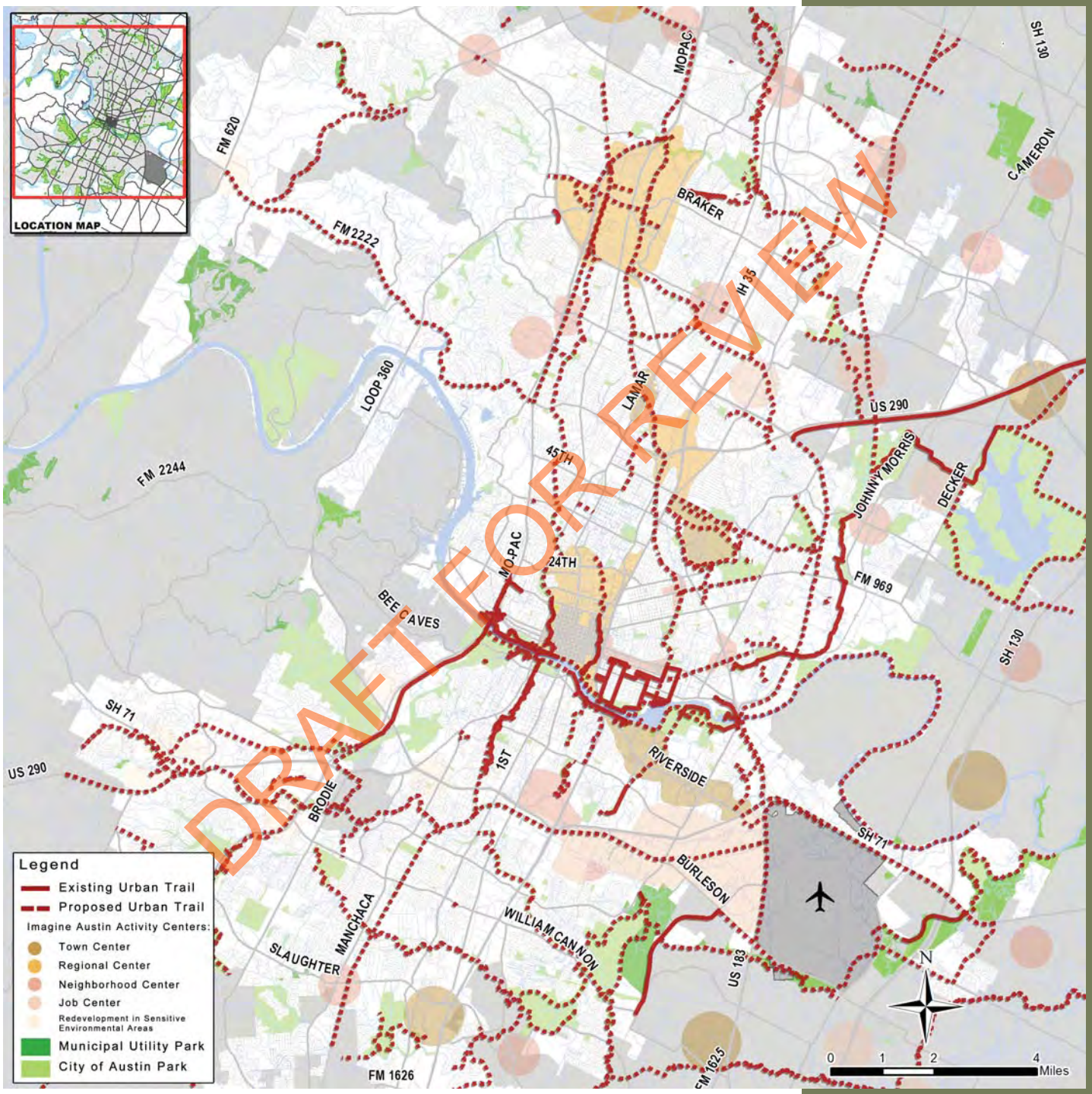
- Shoal Creek Trail
- Johnson Creek Trail
- Lance Armstrong Bikeway
- Country Club Creek Trail
- Southern Walnut Creek Trail
- Northern Walnut Creek Trail
- The Boardwalk at Lady Bird Lake
- Austin to Manor Trail
- MoPac Bicycle and Pedestrian Bridge

This plan recommends an additional __ miles of Urban Trails and ___ miles of planned trails. The trail alignments depicted are conceptual and intend to show geographic connectivity at a 30,000 foot level to help form a general vision for the trail network. More detailed routing, environmental assessment and area connection will be developed for each corridor as identified for evaluation. Pending a more detailed analysis of any given trail other options including on-street facilities or even a "no-build" option as appropriate.

The following three maps show existing and recommended Urban Trails in Austin. The next section of this chapter describes the current conditions of existing Urban Trails. A map and brief narrative accompany each trail. Following this review of existing trails various recommended trails are examined based on their high prioritization criteria ranking. Input from the many inter-departmental meetings, public meetings and surveys helped to shape the prioritization criteria. The recommended trails identified include funded and unfunded phases, with trail segments that may be under construction or segments that have not been fully identified and designed.

The recommendations that arise from this chapter are tailored to each trail or corridor. Recommendations include improvements to existing trails and proposed trail expansions and routes.

Austin Urban Trails



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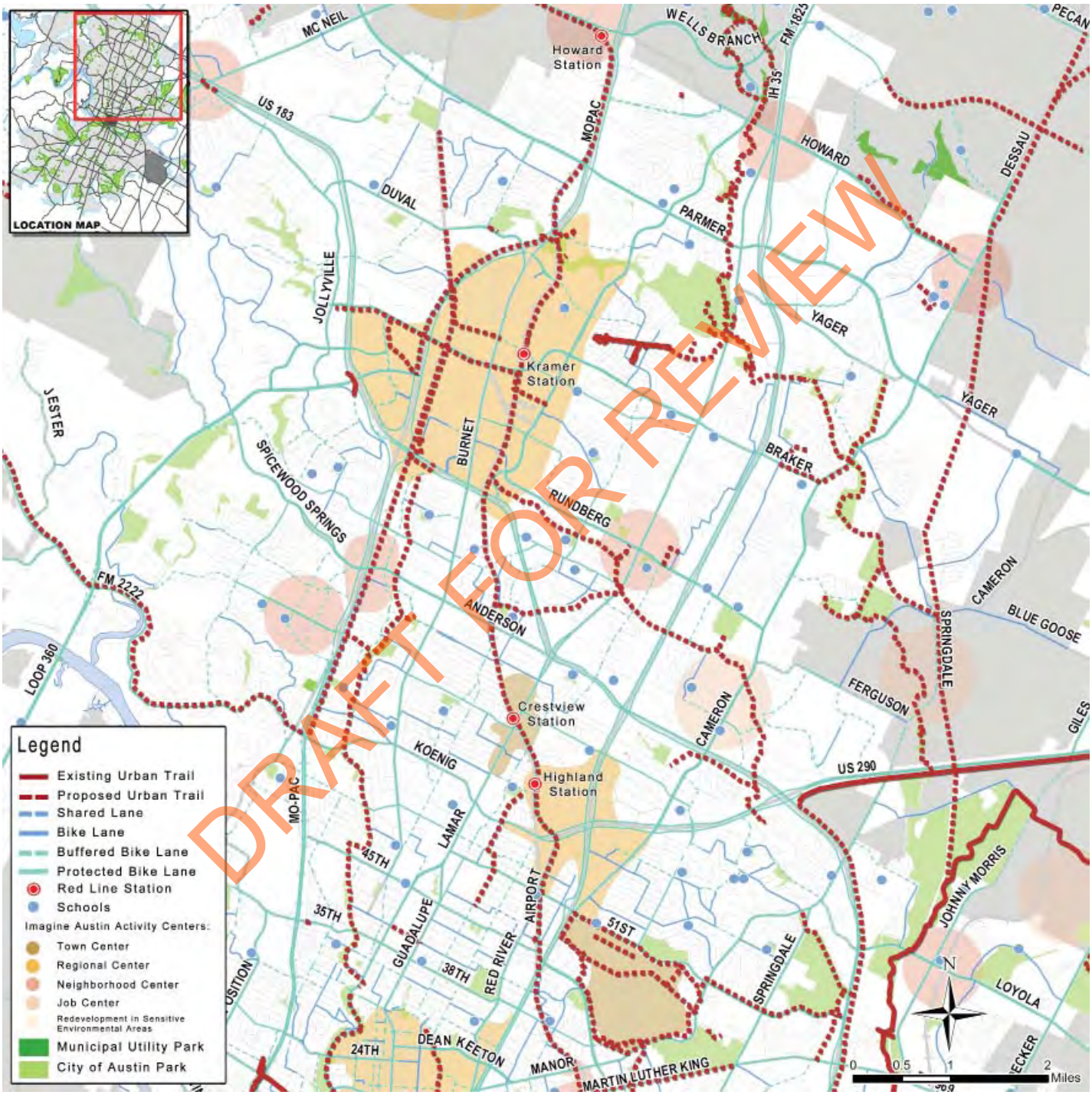
Austin Urban Trails - North



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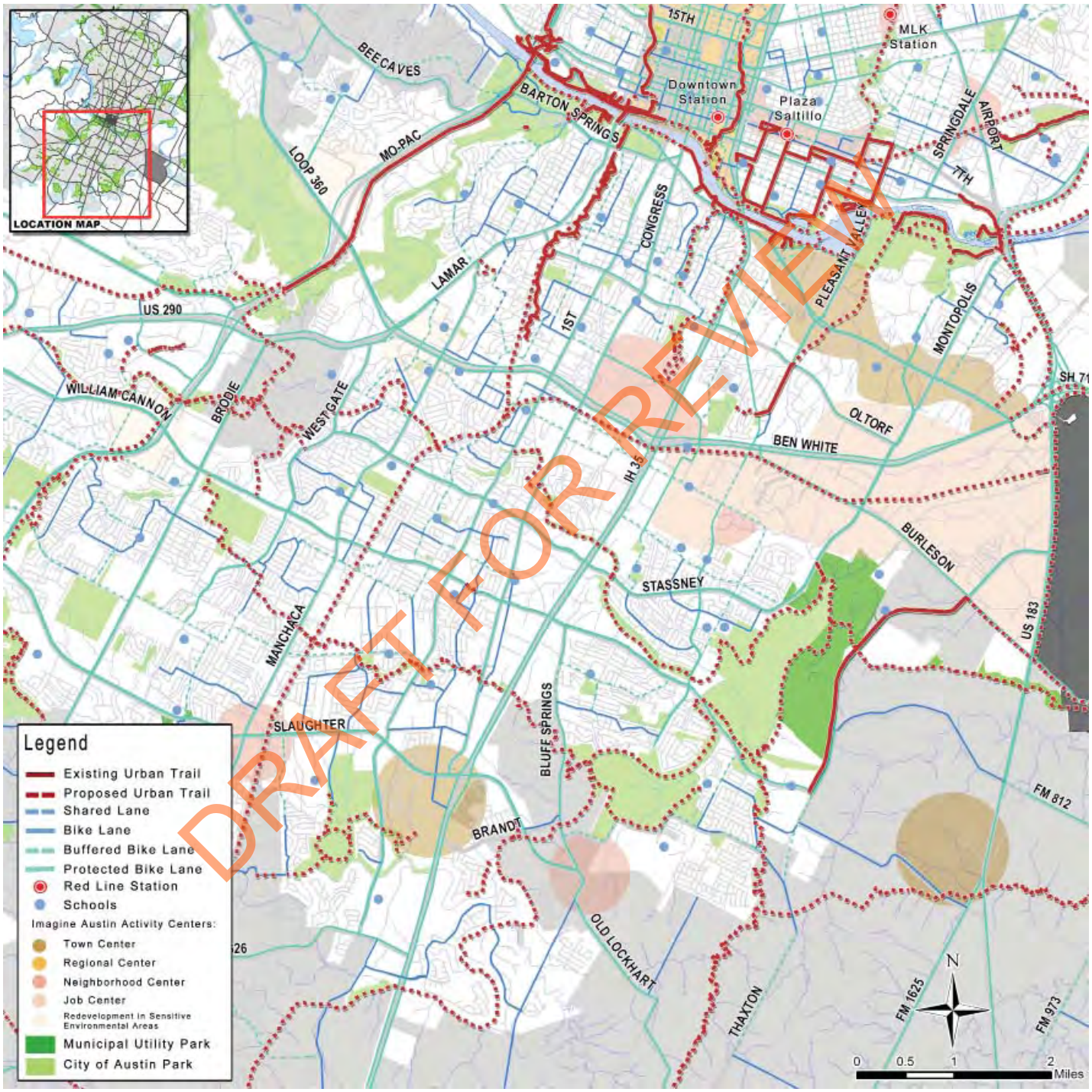
AUSTIN URBAN TRAILS - SOUTH



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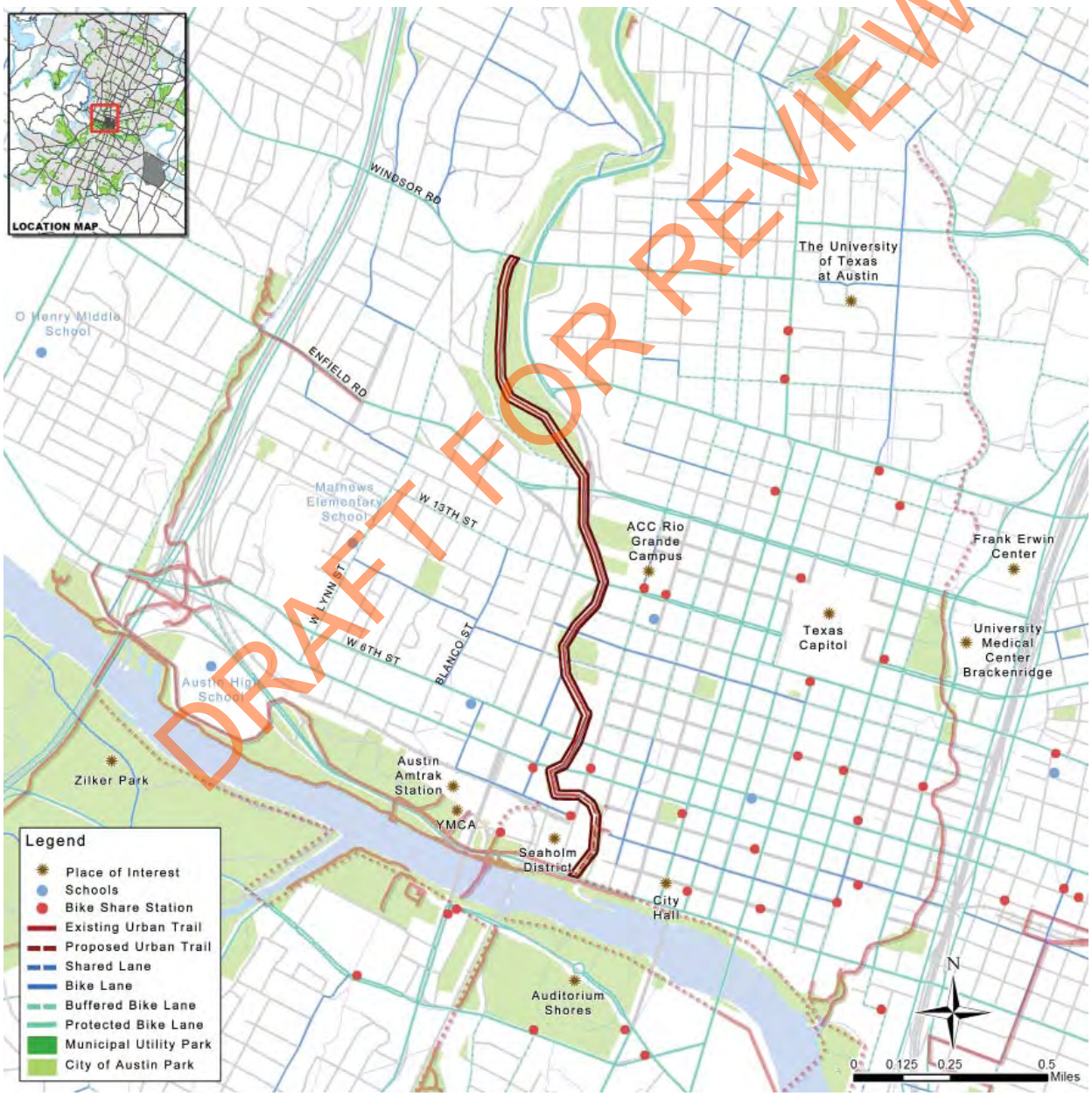
The Shoal Creek Trail represents a key Urban Trail serving much of the core area of Austin just west of Downtown. The trail parallels Lamar Boulevard providing a peaceful, scenic route alongside a major urban thoroughfare and connects to the Lance Armstrong Bikeway. One of the greatest features of this trail is its proximity and access to central Austin. Spanning from W 38th Street down to Lady Bird Lake, the trail offers more than 15 access points and 5 major trailheads. There are 10 bus lines that run nearby with stops within walking distance from the trail and five bike share stations within a five minute walk. A multitude of destinations exist along and nearby the trail, from restaurants to parks to places of employment. The majority of the trail is hard surface but several segments of the trail are decomposed granite or gravel. The trail corridor width varies from 20 feet to over 100 feet, presenting one of the trail's greatest challenges. Shoal Creek Trail has lighting only in areas along roadways, which includes about 30% of the trail corridor. Trail amenities include directional signage, trailhead features and some trail furniture.

In 1998 the Shoal Creek Action Plan was



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published as a guide for future work in the area. This document provides an insightful overview of the Shoal Creek Trail and development recommendations including trail lighting, increase in signage along trail, access points and recommendations on care and consideration for trees and other vegetation.

The Public Works Department will work closely with Parks and Recreation (PARD) on additional infrastructure investments, as much of Shoal Creek Trail runs through parkland and will meet PARD's standards.

On Shoal Creek Trail between 6th St and 9th St, facing North.

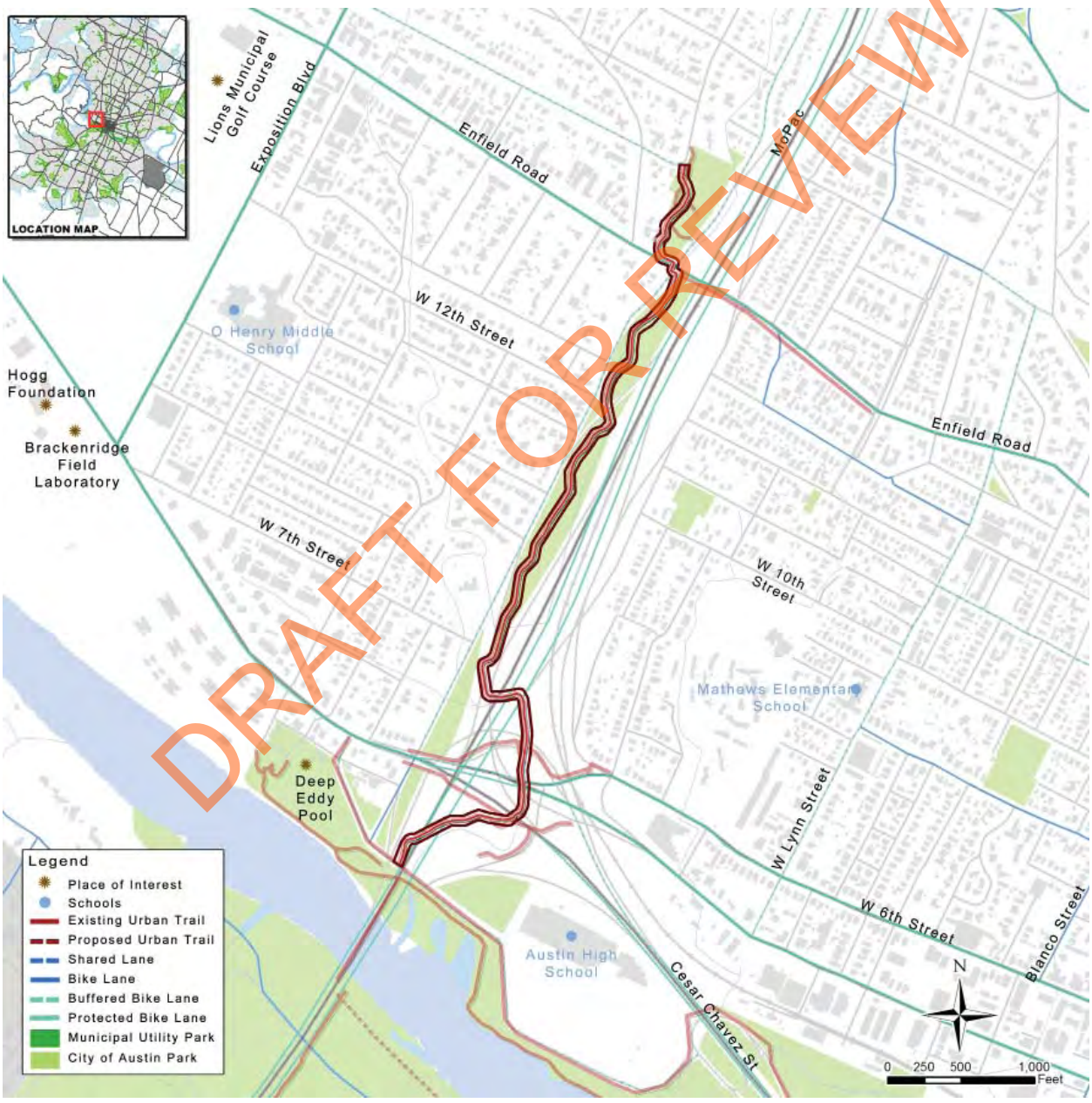
Shoal Creek Trail looking Southwest between Cesar Chavez Blvd and 3rd St connection.

Shoal Creek Trail	
Year Built	Early 1960s
Location	Central Austin
Length	2.5 miles (from 5th Street to 31st Street)
Average Trail Width	6 ft. to 8 ft.
Surface Material	Concrete
Pavement Condition	Average to fair
Access & Connectivity	Excellent; LAB, 5 bike share stations, 10 bus lines
Lighting	Lighting along Lamar Blvd (30% of trail)
Trail Amenity Features	Directional signage, trailhead features at three locations along the trail
Additional Investment Required	Widening of trail where feasible and appropriate, additional signage, improve accessibility, increase amenities such as drinking fountains

JOHNSON CREEK TRAIL

The Johnson Creek Trail spans for about one mile parallel to MoPac. It begins at Enfield Road and ends at Veterans Drive. The Johnson Creek Trail is a significant path in West Austin that links west-side neighborhoods to the Lance Armstrong Bikeway, Downtown Austin and the Lady Bird Lake area. The trail is concrete and the majority of the trail is about six ft. wide. A large portion of the path is not constrained, currently providing wide grassy shoulders, and could be widened in the future. However, the trail width is constrained in certain areas where it passes through drainage box culverts.

In 2012 the The Trail Foundation was awarded a Keep Austin Beautiful Best of the Best Award for their renovation and beautification of the Johnson Creek trailhead near Austin High School.



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Entrance to Johnson Creek Trail at Enfield Rd and Winsted Ln, facing South.

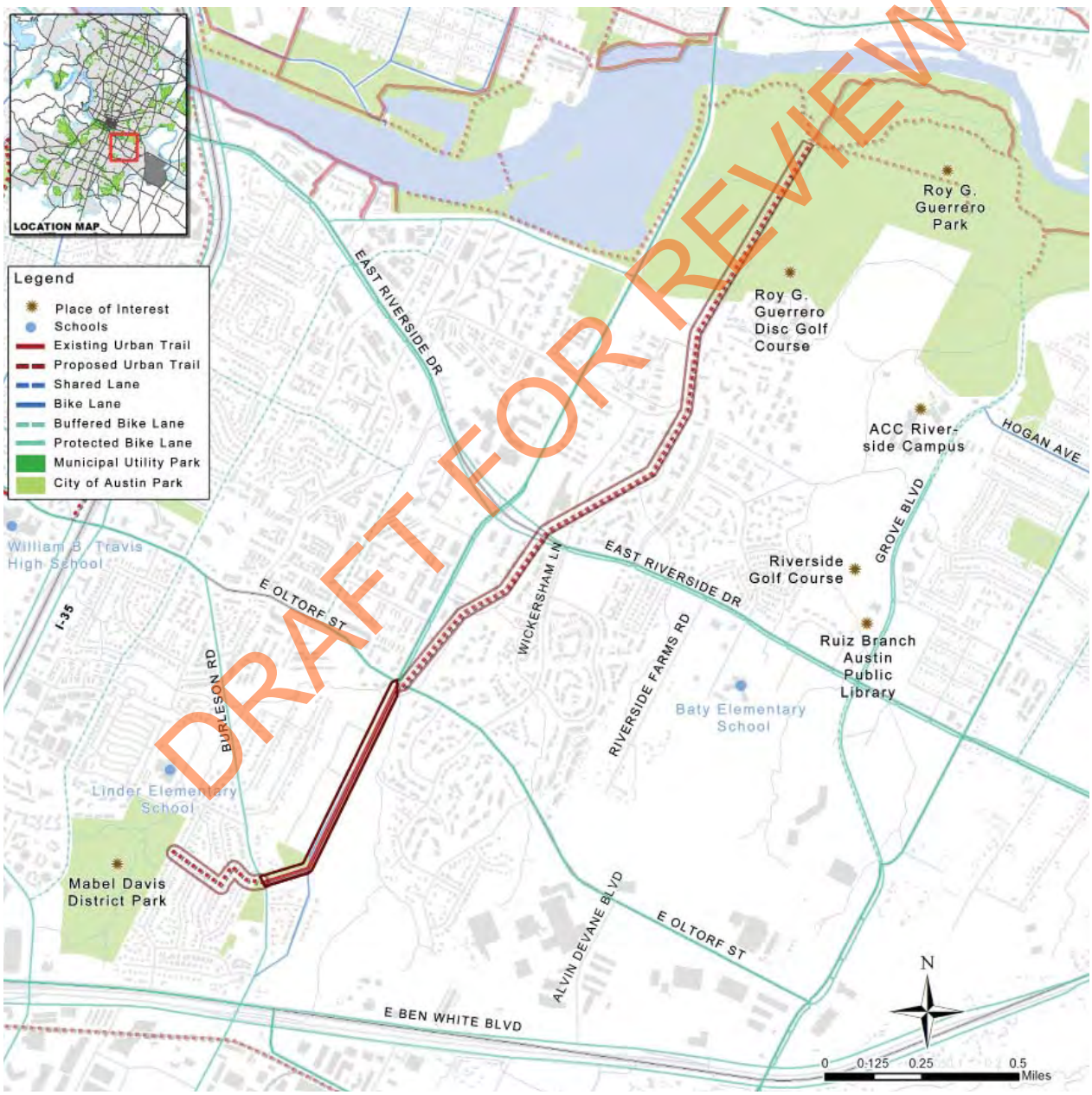
Johnson Creek Trail facing South.

Johnson Creek Trail	
Year Built	1977
Location	Central West
Length	1 mile
Average Trail Width	6 ft. to 8 ft.
Surface Material	Concrete & wood slat bridges
Pavement Condition	Average to fair Significant portions require re-paving
Access & Connectivity	Adequate; two trailheads, links neighborhoods, connects to sidewalk on W 5th St.
Lighting	Exists only along roadways (60% of trail)
Trail Amenity Features	New wayfinding signage, award-winning trailhead,
Additional Investment Required	Widening of trail as feasible where appropriate, additional lighting, additional signage, flooding mitigation, increased access points

Country Club Creek Trail

The Country Club Creek Trail serves as an important route in Southeast Austin with great potential to connect many surrounding areas and trails. It was originally identified and partially constructed by the South East Austin Trails and Greenways group. The path continues for four miles but just over half a mile constitutes an Urban Trail. The majority of the trail is natural surface, running along the Roy G. Guerrero Park, with the concrete surface picking up at E Oltorf Street and S Pleasant Valley Road. This section serves as a great neighborhood connector and runs parallel to the west side of S Pleasant Valley Road until Burleson Road. A planned trail will extend south from Burleson Road and continue for about half a mile to Mabel Davis Park, and north from Oltorf Street to the Roy G. Guerrero Park.

The Urban Trails Master Plan recommends a hard surface for all Urban Trails in Austin to increase accessibility for a variety of trail users, from walkers with strollers to bike commuters. The Country Club Creek Trail has the potential to connect to several Urban Trails, on-street facilities, transit and neighborhoods.



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The Country Club Creek Trail near Lakeshore Blvd, facing North.

View of the river from the Roy G. Guerrero Park

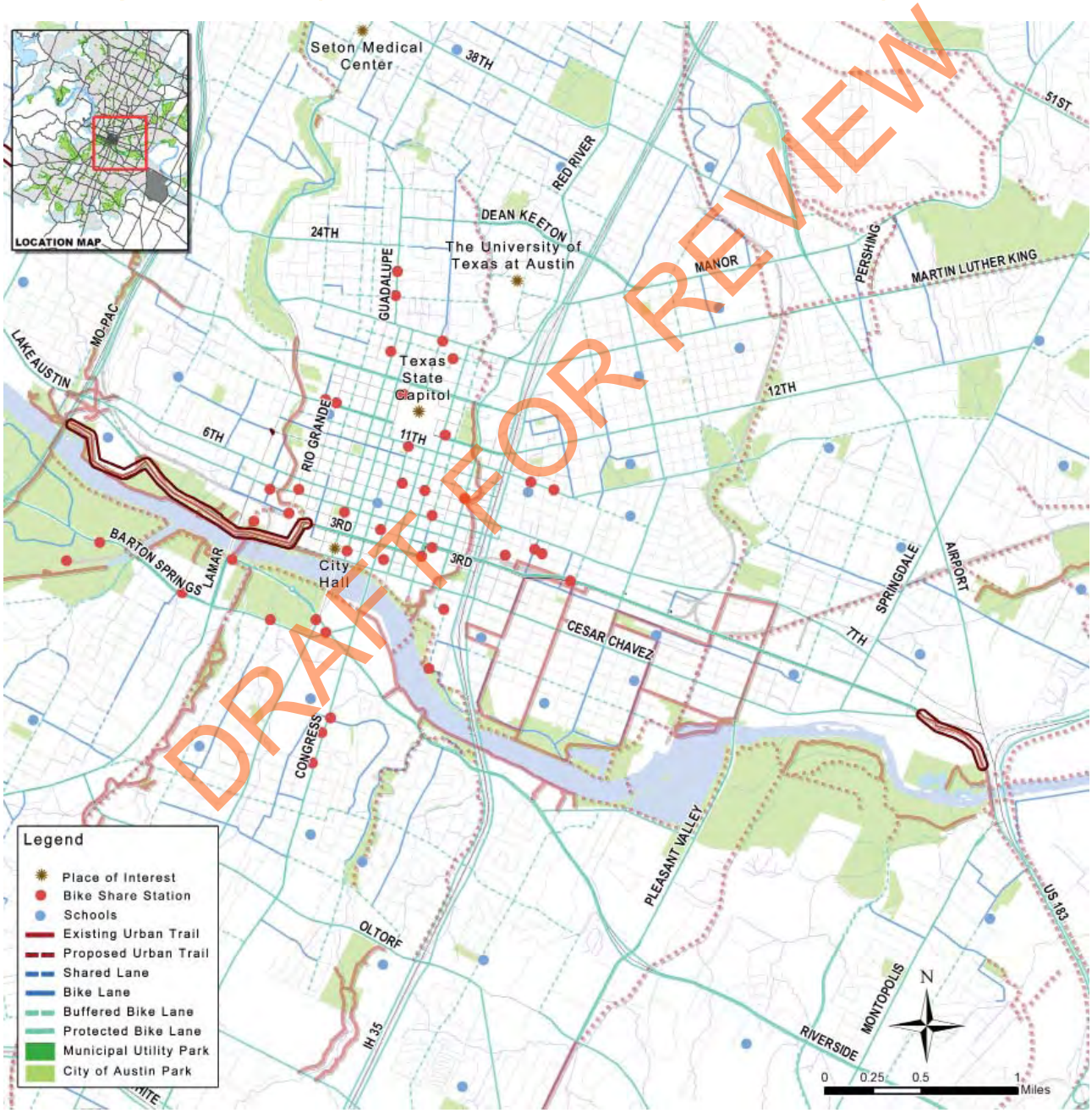
Facing North, near the Mabel Davis Park.

Country Club Creek Trail	
Year Built	2007 last improvement
Location	South East
Length	0.6 miles
Average Trail Width	10 ft.
Surface Material	Concrete
Pavement Condition	Average, many gaps and areas need re-paving
Access & Connectivity	Access to Butler Trail, Lady Bird Lake, Montopolis Blvd. bridge, Roy G. Guerrero Park, Mabel Davis Park
Lighting	Minimal, along roadways
Trail Amenity Features	Unique placemaking, trail furniture
Additional Investment Required	Enhance and expand hard surface trail

Lance Armstrong Bikeway

The Lance Armstrong Bikeway (LAB) represents an important East-West route in Central Austin. The route spans 6 miles from the western end of MoPac to Montopolis Drive, however the portion of the bikeway that is considered an Urban Trail comprises about 2 miles. The off-street, Urban Trail section of the LAB begins as far west as the intersection of Stephen F. Austin Drive and Cesar Chavez Boulevard. Then the LAB connects with the Shoal Creek Trail, continuing east as an on-street protected bikeway. Phase 3 of the Lance Armstrong Bikeway is an Urban Trail that extends east from Shady Lane to Montopolis Drive, providing a connection to US 183. Ultimately, the LAB will provide an East-West route across town.

Construction of the Lance Armstrong Bikeway began in 2007 with the support of numerous neighborhood associations, private businesses and grant financing from the Statewide Transportation Enhancement Program. The trail is 10 ft. wide with 2 ft. grass shoulders and includes bridges and railing where necessary. The connection to Shoal Creek Trail allows trail users to ride or run seamlessly for miles in Central Austin. In 2010, a bike and pedestrian counter



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was installed along the cycle track section of the LAB just west of I-35. Since the counters installation on December 18, 2010, 923,967 bicyclists and 440,868 pedestrians have traversed the Lance Armstrong Bikeway.

Along the LAB looking northbound between Cesar Chavez Blvd. and 3rd St.

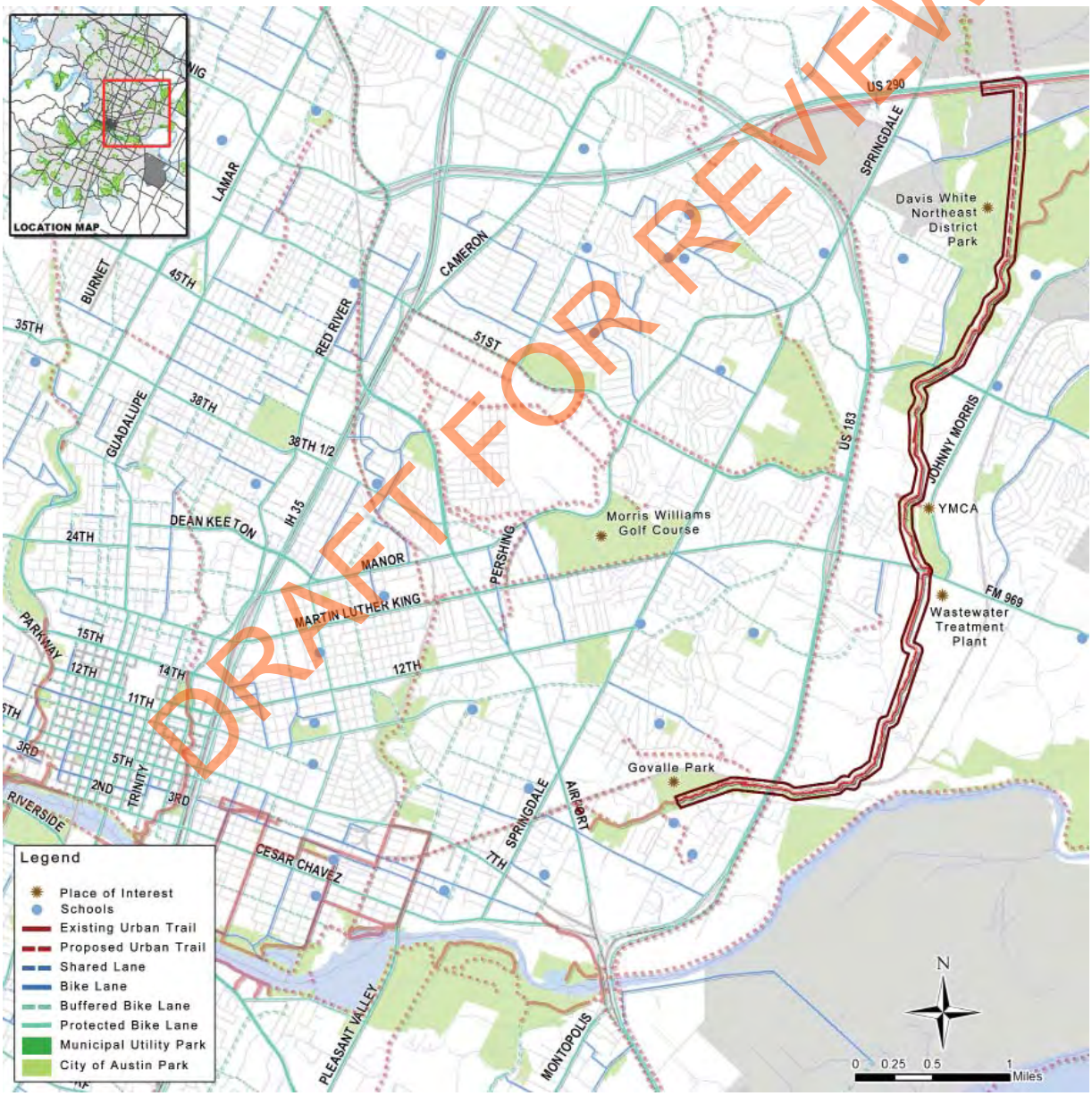
Along the LAB looking west near Lamar Blvd. and B.R. Reynolds Dr.

An Art in Public Places installation to create a cohesive design element along the route. Other elements include yellow benches and yellow thermoplastic plaint.

Lance Armstrong Bikeway	
Year Built	2007
Location	Central
Length	6 miles
Average Trail Width	10 ft. with 2 ft. grass shoulder
Surface Material	Concrete
Pavement Condition	Good
Access & Connectivity	High access to nearby areas, 3 bus lines, 2 bike share stations, connects to Shoal Creek Trail, Country Club Creek Trail, Butler Trail, Town Lake Metropolitan Park, Roy G. Guerrero Park, access to Lamar Beach and Zilker Park
Lighting	Adequate lighting along roadway
Trail Amenity Features	Directional pavement markings, interesting wayfinding
Additional Investment Required	Continue to work with Capital Metro and other landowners to implement the trail east of I-35

Southern Walnut Creek Trail

The Southern Walnut Creek Trail follows the Walnut Creek watershed starting at Govalle Park and winding northeast where it will eventually stop at Daffan Ln. The trail will be 7.3 miles once complete and construction is scheduled to finalize in summer 2014. The entire trail will be 10 feet wide with 2 foot shoulders and include five bridges, three culverts, two trailheads, and parking. The most unique aspect of this trail is its remote natural environment. The path traverses mostly undeveloped land and is surrounded by established trees and greenery. The first trailhead is in Govalle Park and the second is at Johnny Morris Road, just west of US-183 near Daffan Lane. Until development occurs around the trail corridor area, the Southern Walnut Creek Trail will most likely be mainly used for daytime recreational purposes. Therefore only some lighting is needed at this point. The most important additional investment for this trail is to improve access and connectivity to nearby neighborhoods and development as it occurs. The trail should connect to the Northern Walnut Creek Trail in the future. This would create an incredible, expansive system enhancing the Urban Trail network as a thoroughfare for non-motorized users. The dashed section connecting Daffan Lane to US-290 illustrates a proposed extension.



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Runners on the Southern Walnut Creek Trail.

Elevated segment of the trail along Delwau Lane.

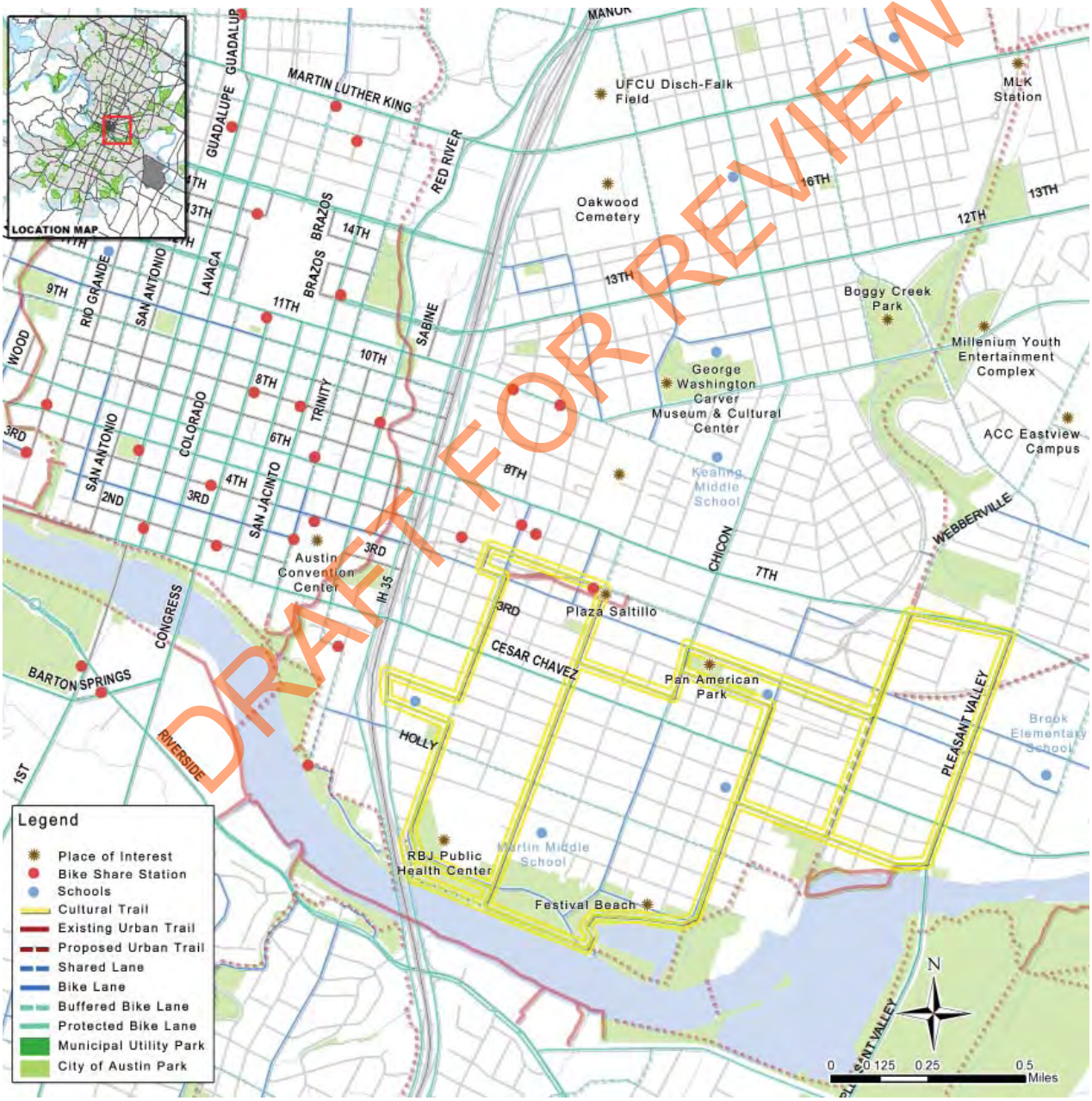
Railroad crossing, looking northbound, just North of Delwau Lane.

Southern Walnut Creek Trail	
Year Built	2013-2014
Location	East
Length	7.3 miles, under construction
Average Trail Width	10 ft. wide with 2 ft. shoulders
Surface Material	Concrete
Pavement Condition	New
Access & Connectivity	Low access due to remote nature of trail
Lighting	Daytime use only
Trail Amenity Features	Designed not yet incorporated (benches, signage, trailheads)
Additional Investment Required	Connection to Northern Walnut Creek Trail

Tejano Trail

The Tejano Trail is a unique cultural trail in Central East Austin. It provides approximately a 4 mile loop through the neighborhood, including almost 40 sites of interest along the way. Currently, the Tejano Trail consists of an ADA compliant sidewalk along roadways. Adding pavement markings and wayfinding will designate this trail as a unique, cultural Urban Trail.

Informational sign at the Town Lake Metropolitan Park, looking West.



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Tejano Trail

The Tejano Healthy Walking Trail was developed by East Cesar Chavez Neighborhood leaders who wanted to accomplish three goals established in the official Neighborhood Plan:

1. Preserve historic structures and affordable homes. This Trail recognizes native families' contributions to build Austin into the Live Music Capital of the World. This historically working class neighborhood is adjacent to downtown Austin and sits 10 blocks from the Texas Capitol and 15 blocks from the UT Austin Campus. The neighborhood is in transition from being a low-income, minority community into a desirable location for young professionals and new urbanists. Our concern for native neighborhood people, especially retirees struggle to keep up with rising taxes to stay in their family homes, leads us to believe that educating younger family members might help keep their family roots in the neighborhood.

2. Educate speculators and newcomers about the historic assets in hopes they might choose to upgrade old structures rather than destroy them. Many have stood for over 100 years and define the neighborhood character. Distribution of the Trail Guide and getting access to it online has helped those who couldn't walk it themselves.

See it at http://www.preservationaustin.org/uploads/Tejano_Trail_revised2013.pdf

3. Encourage a healthier lifestyle, especially for youth and seniors who rarely walk, bike or exercise. The Trail is promoted at four schools, two health clinics, community gardens, the AB Cantu Pan American Recreation Center, Camacho Youth Activity Center, adjacent libraries, and the East Austin Neighborhood Center - all identified on the Trail Map.

The Tejano Walking Trail Guide includes the Trail of Tejano Music Legends which was created in 2005 and is a project of the Austin Latino Music Association. This Trail Guide describes almost 40 sites considered historical, cultural, or community gems in the East Cesar Chavez Neighborhood. It's a labor of love by volunteers who mapped out the Trail, conducted research, and gathered descriptions. Five thousand copies of the Trail Guide were published with a City of Austin's Neighborhood Enhancement Fund. Almost all of the copies have been distributed, sparking the interest of donors willing to help publish a 2nd edition.

On August 8, 2011 the Austin City Council passed resolution number 20110804-022, directing the City Manager to work with residents of the East Cesar Chavez Neighborhood to pursue recognition of the Tejano Trails as National Recreational Trails by the United States Secretary of the Interior. The City of Austin along with the East Cesar Chavez Neighborhood applied for and received the designation of the Tejano Walking Trails as a National Recreation Trail on May 30, 2012.

The designation of the Tejano Walking Trails as a National Recreational Trail enabled the neighborhood to receive a planning grant from the National Parks Service's Rivers, Trails, and Conservation Assistance program (RTCA). The dedicated RTCA planners assigned to work with the neighborhood, in partnership with the City of Austin and other key stakeholders are now working on a strategic plan that will expand the number of sites on the Trail, improve its walkability and signage, and develop interpretive walking tours.

Source: Lori Renteria and the Tejano Trails Working Group

Upon completion of the Urban Trails Master Plan, staff recommends that the Tejano Trails working group seek approval by City Council to include the Tejano Trail Plan as either an amendment or an appendix to this plan.

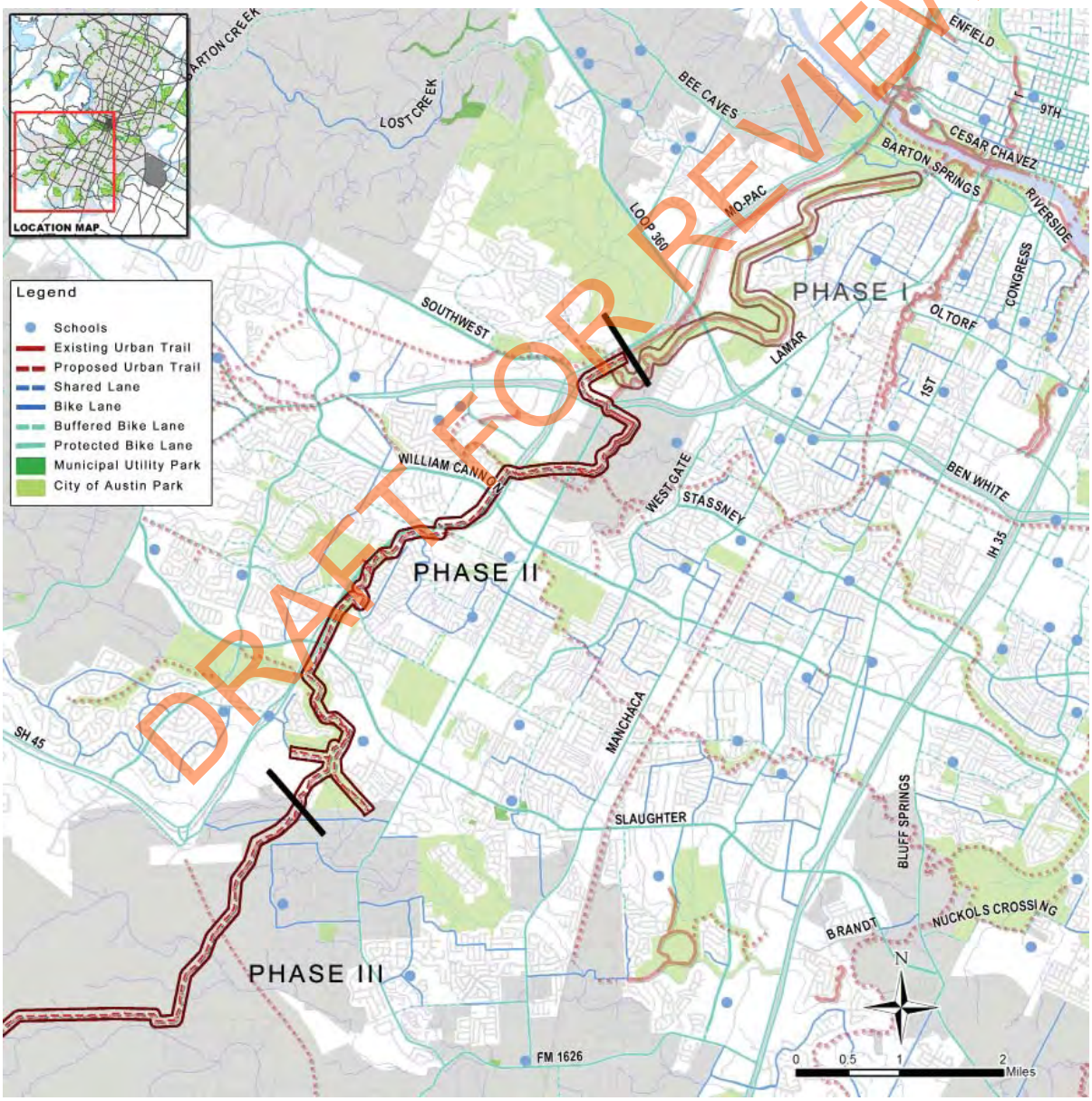
Violet Crown Trail

Phase I - This section is not an Urban Trail and provides a natural path along Barton Creek. It is currently used as an alternate route from Zilker Park to the 360, 290 and Mopac Triangle in Oak Hill. This section of the Violet Crown will remain a natural trail and other adjacent routes along Mopac and Lamar will be identified for other non-motorized users.

Phase II - This piece of the trail will extend further South to the Lady Bird Johnson Wildflower Center and The Veloway. It will be one of the more scenic trails in Austin as well as a great connection to large neighborhoods, parks, shopping centers and connections to downtown.

This trail could become a landmark trail in South Austin not only because of its potential connectivity aspects, but for its natural beauty and enjoyable environmental experiences.

Phase III - The last phase of this trail completes the Violet Crown Trail network of 24 miles. It has the potential to serve a large population of commuters, recreational users and encourage appreciation of the natural environment in our city.



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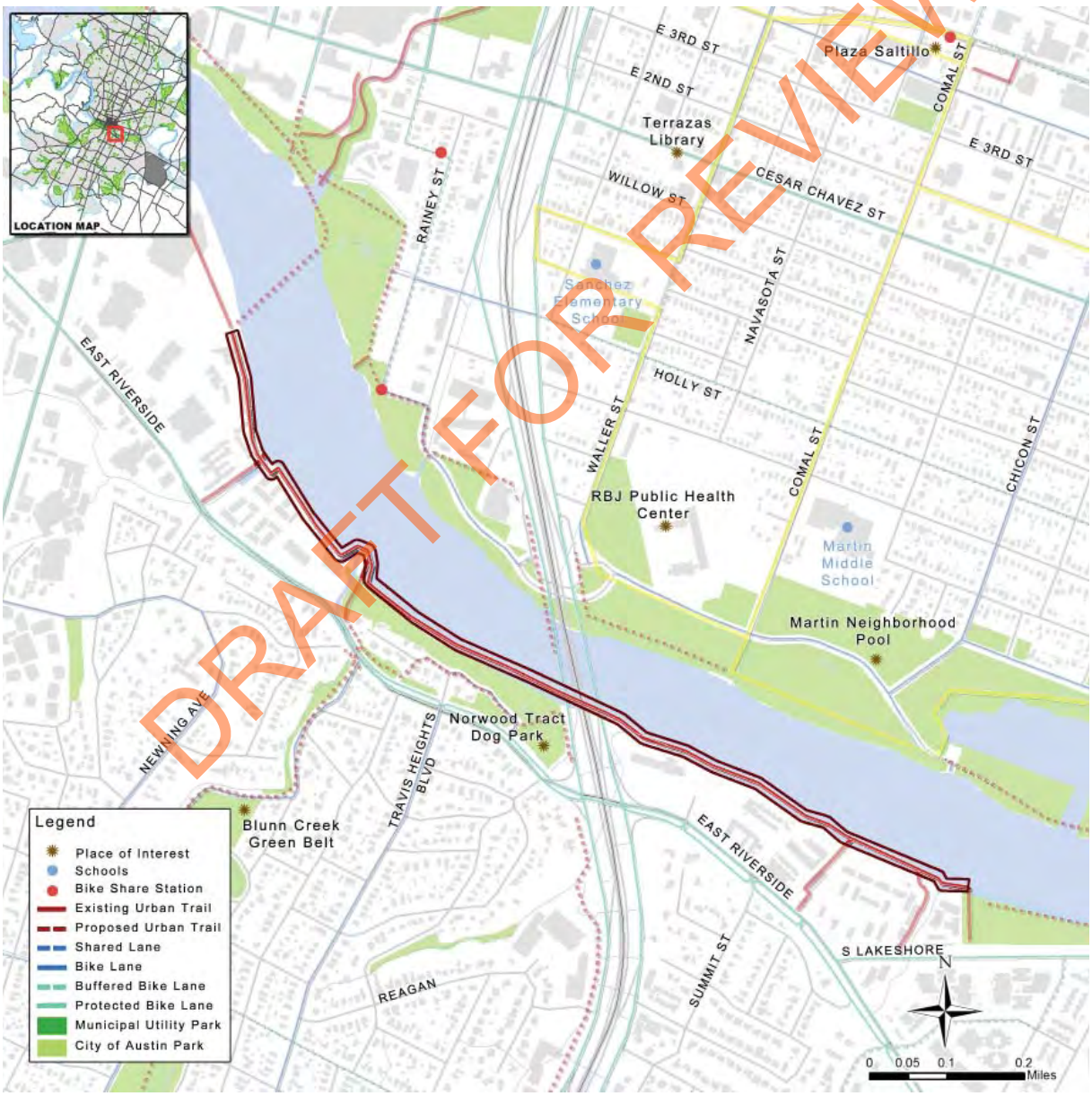
HILL COUNTRY CONSERVANCY VIGNETTE TO BE ADDED.

Boardwalk Trail

The Boardwalk Trail is a unique new Urban Trail in Central Austin along the south side of Lady Bird Lake. The Boardwalk covers a little over one mile and is partially on land and about half over water. It closes the eastern gap of the Butler Trail by the Austin American Statesman building and connects to Lakeshore at Town Lake Metropolitan Park. The Boardwalk Trail will complete the 10 mile loop trail system within the Town Lake Metropolitan Park. The Trail Foundation was instrumental in making the Boardwalk Trail a reality. In 2007 the Trail Foundation launched efforts to analyze the feasibility of the boardwalk. In 2010, City of Austin Bond funding was matched by approximately $3 million in private funding. The designs, engineering and public engagement process followed soon after. Construction on the Boardwalk is scheduled to be complete in June 2014.

The Boardwalk Trail is 14 ft. wide and has a concrete surface. The on-land portions have a decomposed granite surface. The design meets the Americans with Disabilities Act Accessibility Guidelines, making the trailhead and route very accessible. The handrail of the trail along the water is equipped with shielded LED lighting. There is no lighting on the land portion except at the restroom.



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This overpass will connect the North side of the Butler Trail to the new Boardwalk Trail.

On the pedestrian and bicycle path along I-35 looking East at the Boardwalk.

Photo source: The Trail Foundation

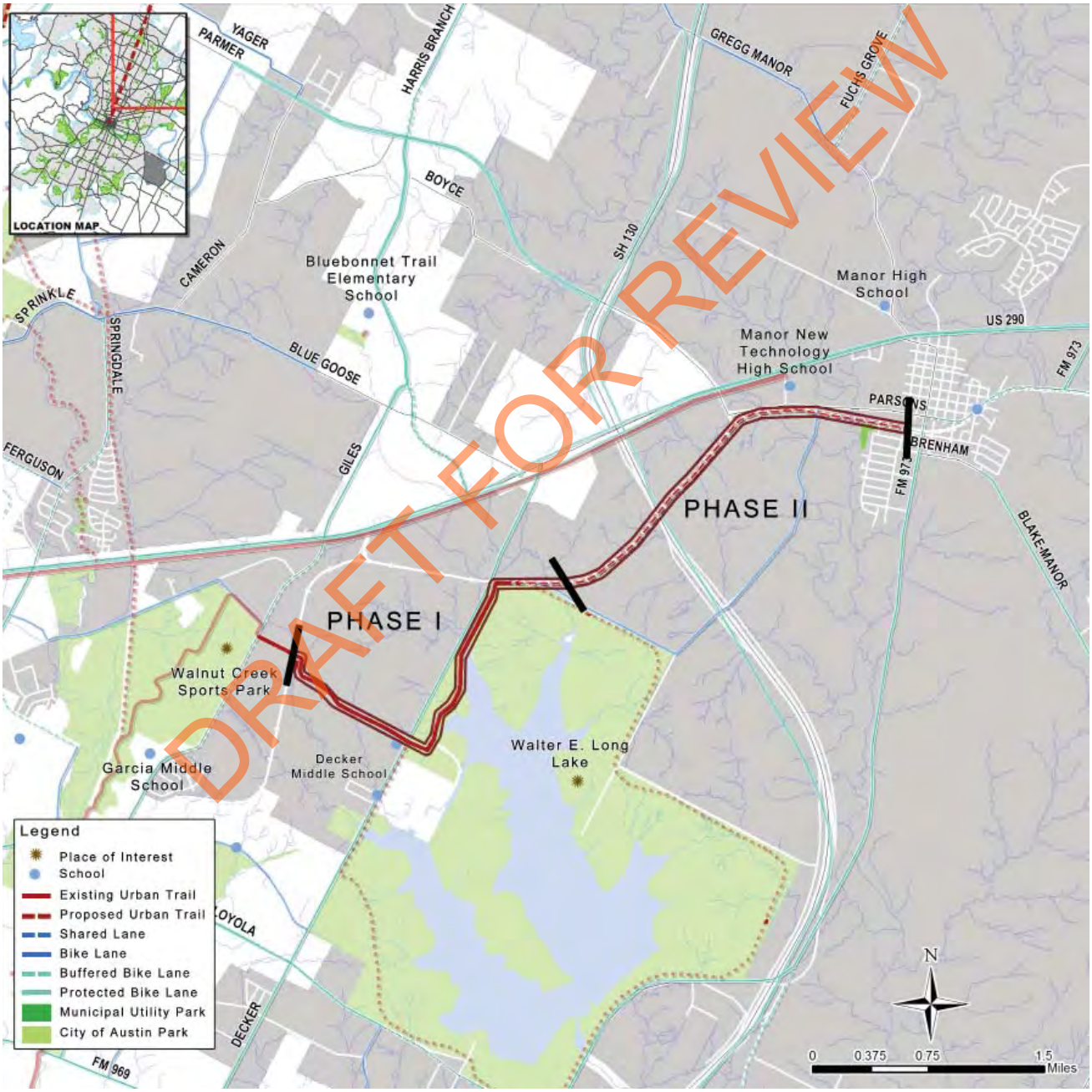
On the Boardwalk looking North

Boardwalk Trail	
Year Built	2013-2014
Location	Central East
Length	1 mile
Average Trail Width	14 ft.
Surface Material	Concrete
Pavement Condition	New
Access & Connectivity	High access along south side of Lady Bird Lake, connects to Butler Trail
Lighting	Shielded, LED lighting in guardrail
Trail Amenity Features	Water access and viewing, restroom at trailhead
Additional Investment Required	Scheduled to complete June 2014

Austin to Manor Trail

The Austin to Manor Trail is an Urban Trail just south of US Highway 290. Phase 1 is complete and comprises 2.5 miles, beginning at Daffan Lane and running along the northern side of the Walter E. Long Metropolitan Park until Lindell Lane. Phase 2 is proposed and not yet funded. It picks up at Lindell Lane and extends 2.5 miles northeast ending at Ben E. Fisher Park in Manor, TX.

The trail will be a 10 foot wide concrete path with 2 foot wide grass shoulders. This path provides a safe, comfortable alternative to the existing wide shoulder lane on Decker Lane.



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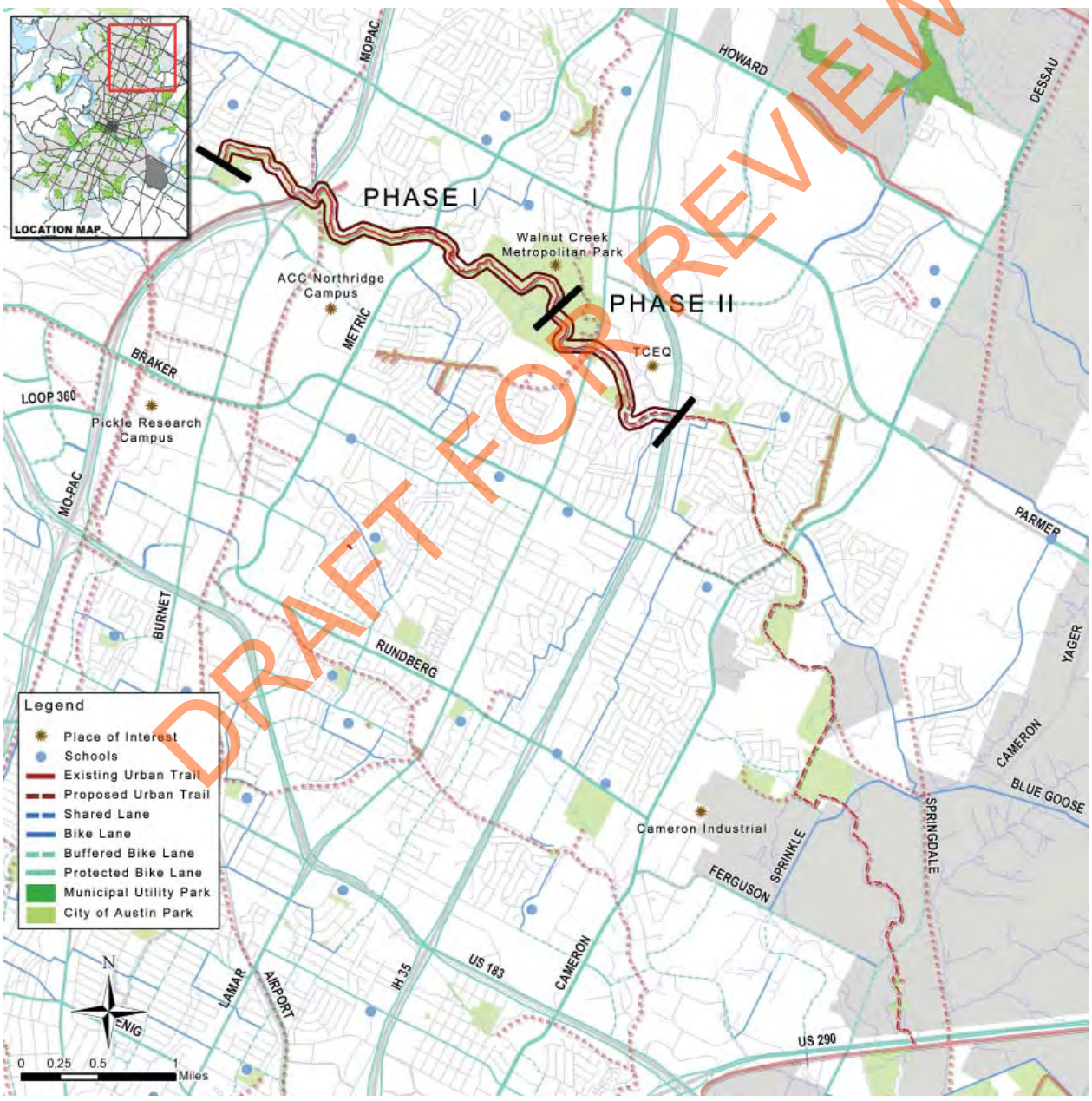
Near Decker Elementary School looking East.

Near Decker Elementary School looking East.

Austin to Manor Trail	
Year Built	2014
Location	Far East
Length	2.5 miles, under construction
Average Trail Width	10 ft. wide with 2 ft. grass shoulders
Surface Material	Concrete
Pavement Condition	New
Access & Connectivity	Direct access to Decker Elementary School, Decker Middle School and Manor New Technology High School, accessible from adjacent roadways, access to Walter E. Long Metropolitan Park, limited
Lighting	Along roadways
Trail Amenity Features	N/A
Additional Investment Required	Additional connections to adjacent areas and on- and off-street facilities

Northern Walnut Creek Trail

The only major East-West trail in North Austin, Northern Walnut Creek Trail is a great amenity for North Central Austin. Northern Walnut Creek Trail will be completed in three phases. The first phase of construction began in 2010 and is scheduled to be complete in 2014. The Parks and Recreation Department initiated the project and construction was funded by the Texas Department of Transportation. The second phase remains to be determined. This trail will connect Balcones District Park to Walnut Creek Metropolitan Park. A map of the Urban Trails Master Plan proposed extension is shown on page 3-32. All phases will construct 10 foot wide concrete trails with 2 foot shoulders. Phase 1 included nine creek crossings and four trailheads and Phase 2 will include four creek crossings and two trailheads. The Northern Walnut Creek Trail has been under development for over a decade and achieves Parks and Recreation priorities and goals.



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A gazebo along the Northern Walnut Creek Trail near Bittern Hollow

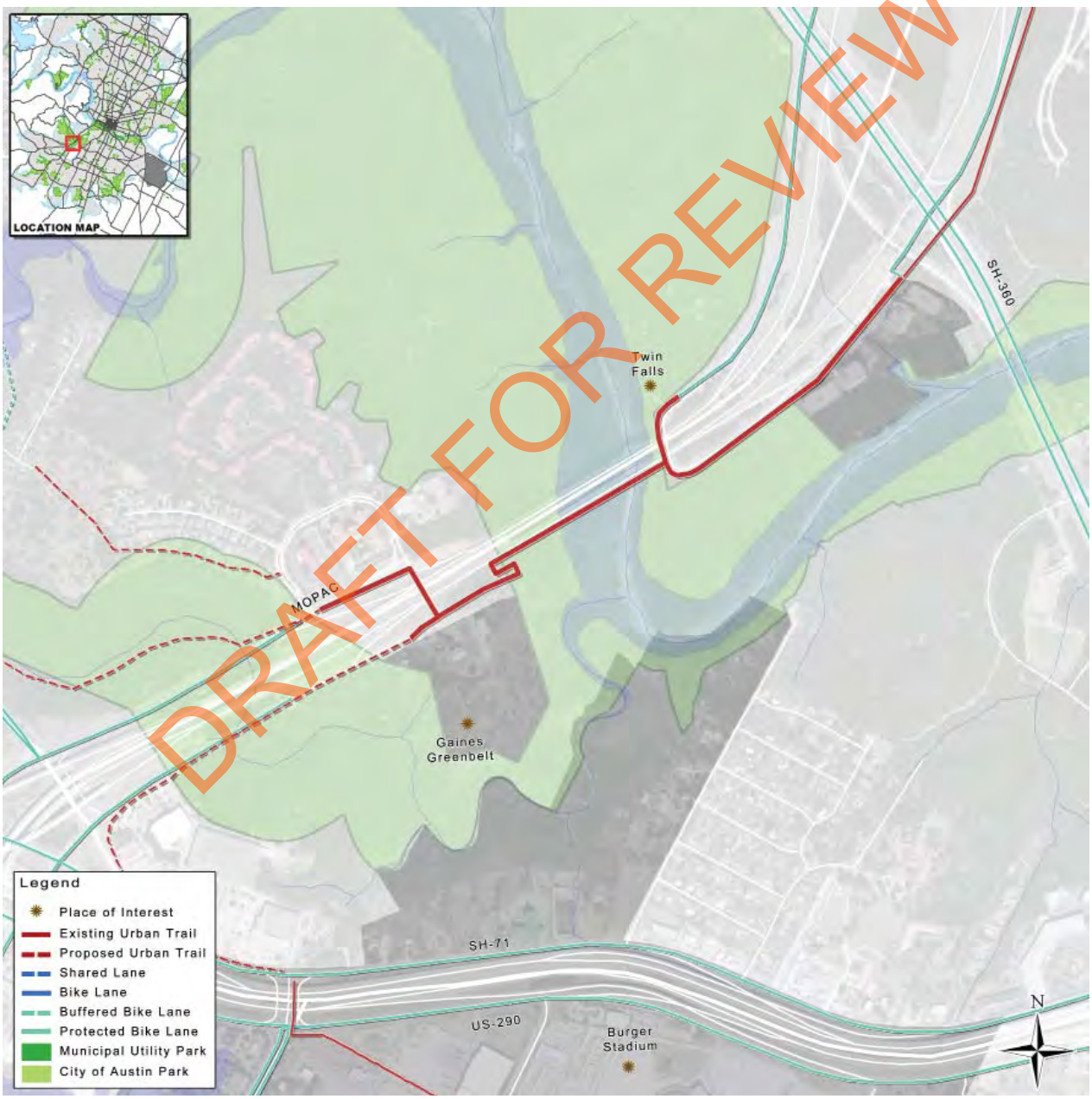
Northern Walnut Creek Trail near Bittern Hollow

Northern Walnut Creek Trail	
Year Built	2014 - 2015
Location	North Central
Length	3 miles
Average Trail Width	8 ft. to 10 ft.
Surface Material	Concrete
Pavement Condition	New
Access & Connectivity	Phase 1 connects parkland, Austin Community College Northridge, Brentwood School, St. David's North Medical Center, Summit Elementary School
Lighting	Majority of trail has no lighting
Trail Amenity Features	Enhances connectivity for North Austin, enhances access to Balcones District Park and Walnut Creek Metropolitan Park
Additional Investment Required	Additional access and connectivity to neighborhoods, wayfinding, extension to Southern Walnut Creek

MoPac Bicycle and Pedestrian Bridge

The MoPac Bicycle and Pedestrian Bridge project addresses issues of access and connectivity in Southwest Austin. The project includes three phases, providing protected bridge facilities over Barton Creek and Loop 360. The first phase will construct a bicycle/pedestrian bridge over Barton Creek at MoPac and improve bicycle and pedestrian connections to Southwest Parkway, Loop 360, the Violet Crown Trail and the Oak Hills Neighborhood Trail System. Phase 2 will construct a bicycle/pedestrian bridge over Loop 360 at MoPac. The first two phases are funded and construction is scheduled to be complete in 2015. The third phase, which has not been funded yet, proposes an Urban Trail along the west side of MoPac connecting Loop 360 to Barton Creek Square Mall.

This project is a collaboration of Federal, State, Regional and City efforts. Phase 1 is made possible through Proposition 12 Congestion Management funds and Capital Area Metropolitan Organization (CAMPO) oversight. Phase 2 is funded through Surface Transportation and Metropolitan Mobility (STPMM) and also administered by CAMPO. These projects aim



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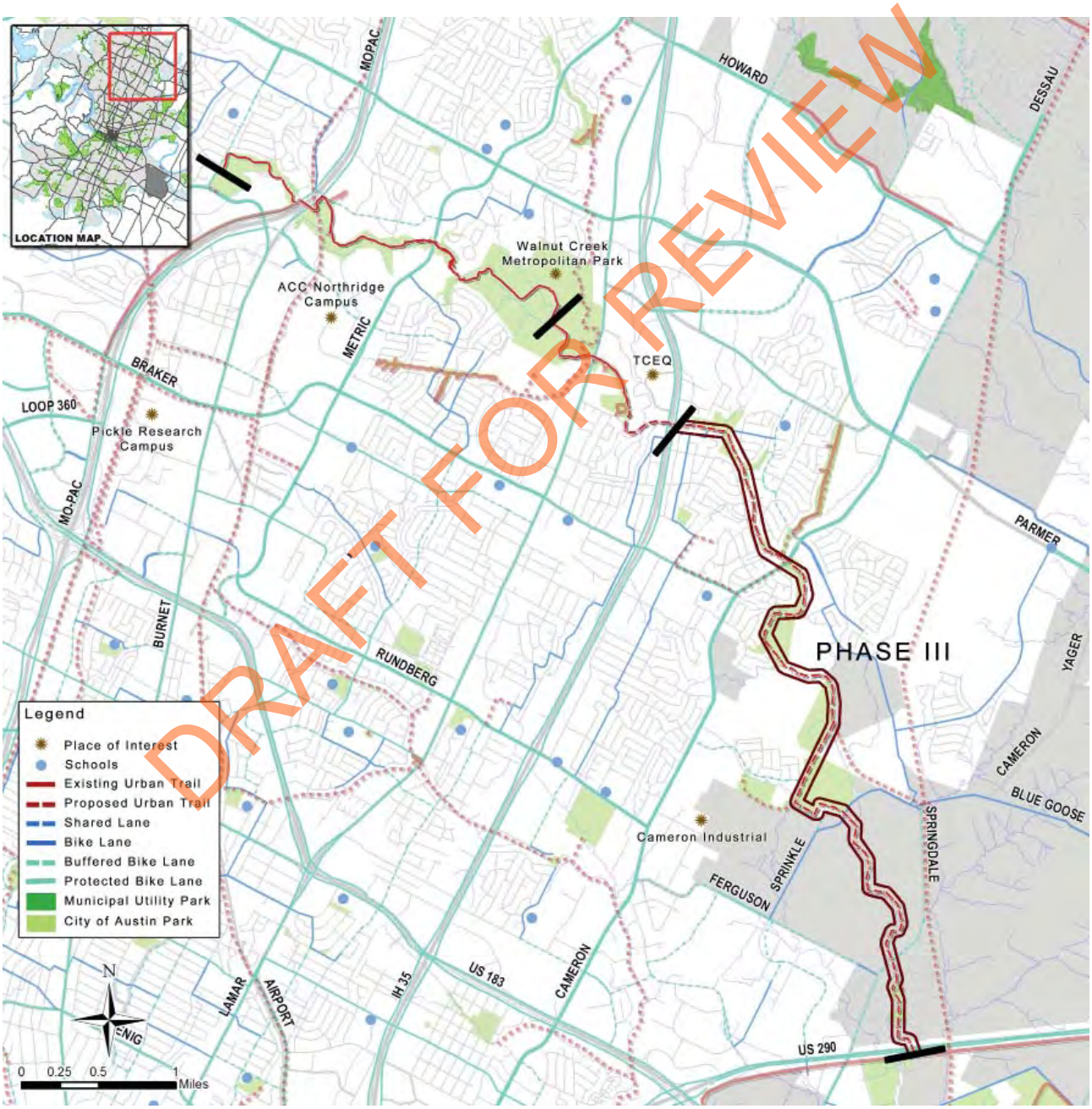
to alleviate congestion, promote healthy and environmentally-friendly transportation, and enhance access and connectivity of the Active Transportation Network.

This rendering is from the City of Austin Public Works Department web page and depicts the proposed design of the MoPac Bicycle and Pedestrian Bridge Project.

Northern Walnut Creek Trail Extension

As the largest East-West connector in North Austin the Northern Walnut Creek Trail system has the potential to significantly impact non-motorized travel in this part of the City. The extension proposes connecting the Walnut Creek Metropolitan Park and end near the Texas Commission on Environmental Quality offices near I-35. This section is 1.8 miles and will consist of a 10 ft. wide concrete trail and 2 ft. wide shoulders.

A conceptual Phase 3 has been proposed with ultimate goal to connect this trail to the Southern Walnut Creek Trail. The route below shows the proposed extension as far south as US-290.



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E Ben White Blvd. Rail Corridor

The E Ben White Blvd. Rail Corridor is a prioritized route because it would greatly enhance the accessibility to Urban Trails in the Southeast area as well as improve connectivity. This corridor could span six miles, connecting to the proposed UPC/ASA Trail at S 1st St. to US 183. It would help neighborhoods in Austin that do not have many safe bicycle options by providing an East-West route and connecting to many North-South on- and off-street routes, including the Country Club Creek Trail, as well as provide a viable route the airport.

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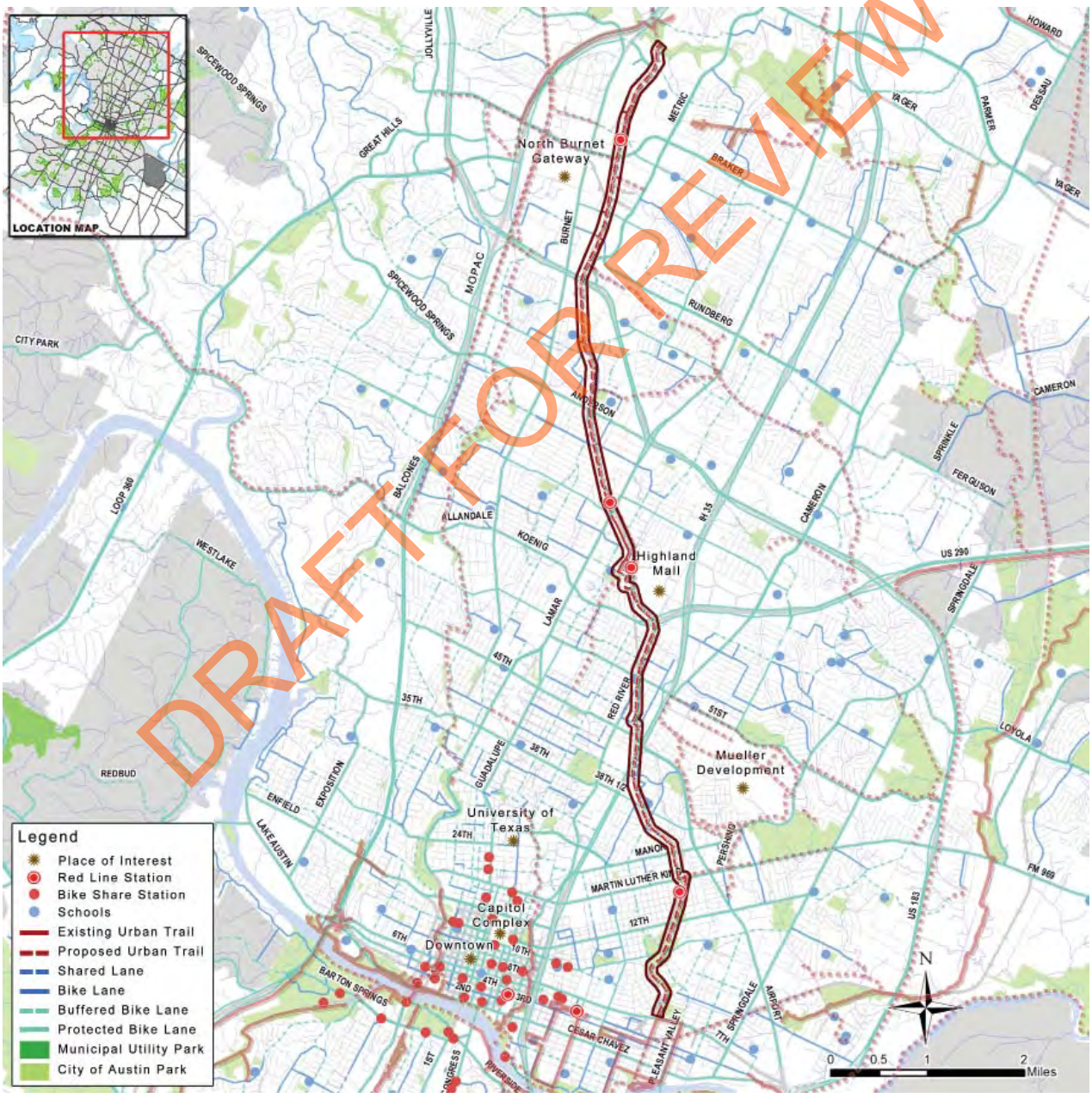
PROPOSED

Red Line Corridor

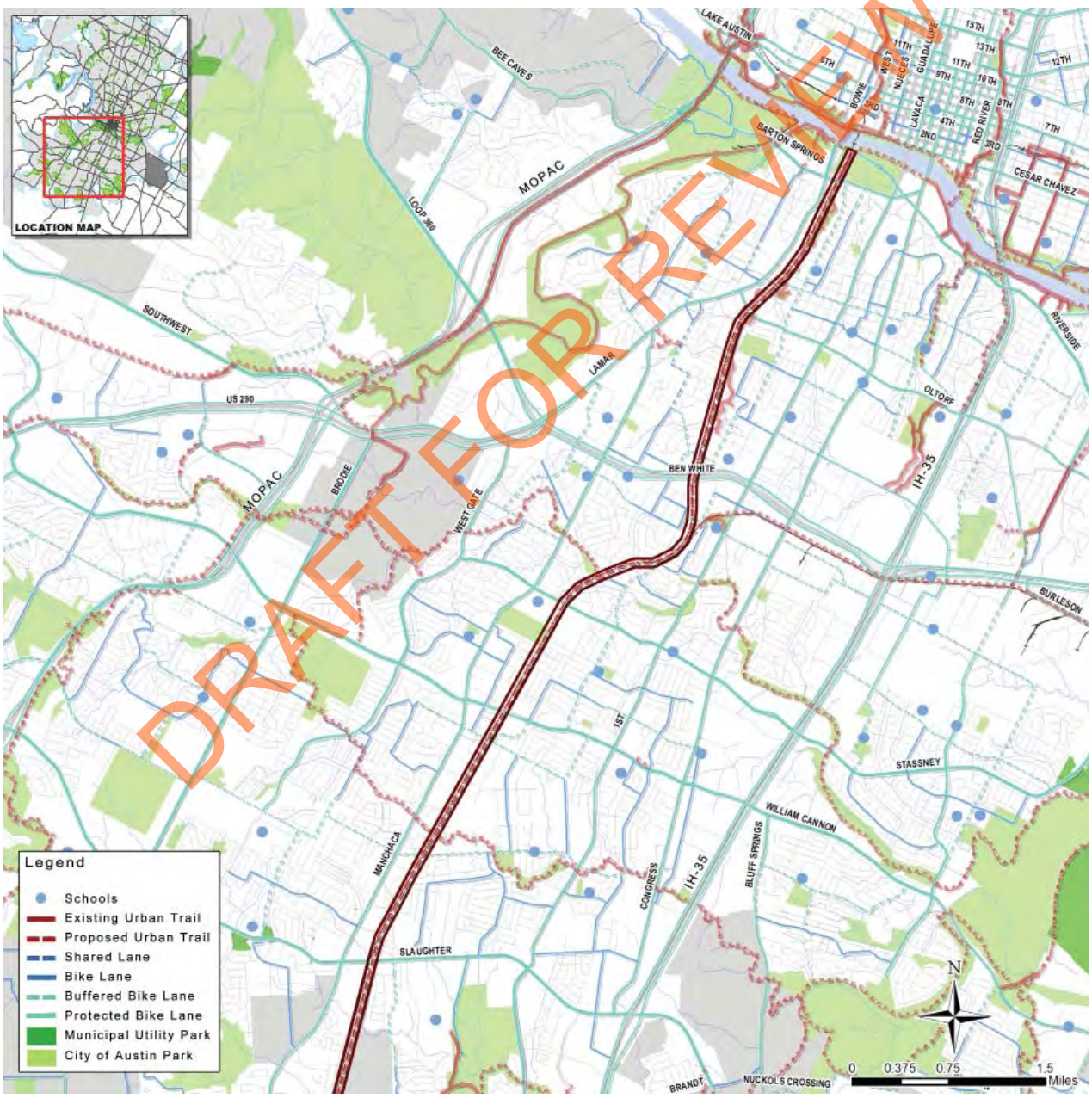
The Red Line Corridor is a well-established public transportation corridor, hosting Austin's sole MetroRail line. This corridor presents a great opportunity for North-South connectivity starting from Central East Austin and spanning the length of the city. It could link to the on- and off-street network including the LAB, public transit stops and bike share stations along the route. It has the potential to connect to myriad destinations including Downtown, Austin Community College and the North Burnet Gateway area.



Alignments shown are conceptual, and are intended to show geographic connectivity. More detailed routing, environmental evaluations and area connections will be developed for each corridor as funding is identified. Pending a more detailed analysis and adjacent, adequate bicycle/pedestrian facilities, a "no-build" option may be appropriate.

UPC/ASA Rail Corridor

The UPC/ASA Rail Corridor represents an important route for South Austin. Currently, this area lacks bicycle infrastructure and could be greatly served by a safe, off-street Urban Trail facilities for bicyclists and pedestrians. It has the possibility of continuing for over seven miles from Lady Bird Lake down past Slaughter Ln. It could connect to the proposed East-West route along the E Ben White Blvd. corridor, creating a safe, convenient network for non-motorized users in South Austin.



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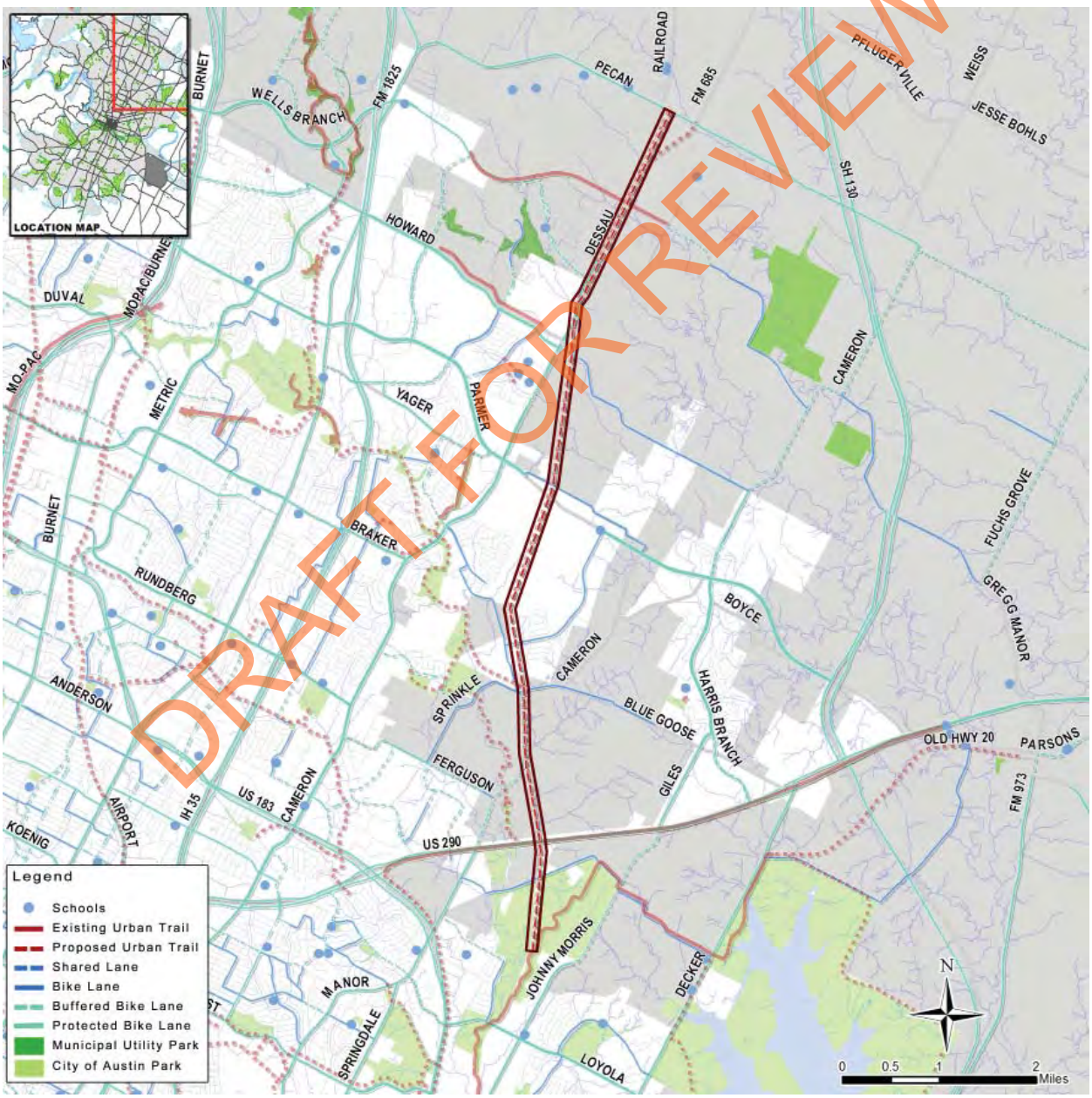
MoKan

The proposed MoKan Rail Corridor starts at Davis White Northeast District Park along Johnny Morris Rd. and continues nine miles north until Pecan St. MoKan could connect to the Northern Walnut Creek Trail and potentially link the Northern Walnut Creek Trail and the Southern Walnut Creek Trail, creating a continuous path for over 16 miles.



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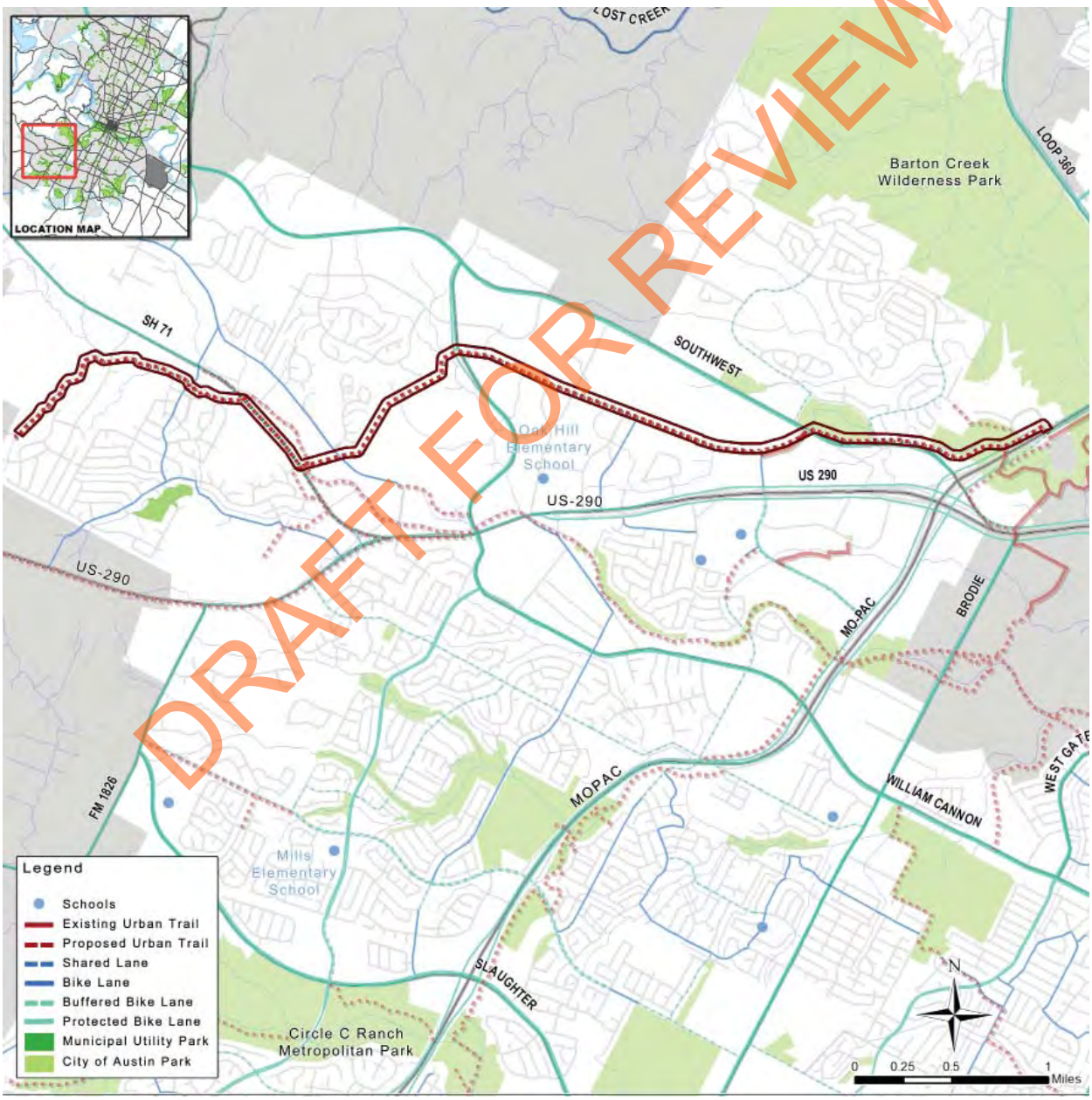
YBC Corridor

The YBC Urban Trail would connect much of the Oak Hill and Barton Creek areas of Austin through a network of trails through a variety of natural areas and watersheds parallel to 290 and Mopac in the southwest part of Austin. Not only would it be a great asset for connectivity in this specific area, but also provide a linkage to an off-street route to Downtown Austin for everyone in this region. With the support of a pedestrian bridge over Barton Creek at the intersection of Highway 360 and Mopac, the trail will be able to overcome the largest obstacles that this projected alignment faces.

Providing a route for this growing part of Austin will continue to become more of a benefit as the area becomes more occupied in the near future. The YBC has already been funded to be designed and will hopefully become a reality in the near future as construction of the trail becomes funded.



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TxDOT Shared Use Paths

Urban Trails, Multi-use Paths, Shared Use Paths and Sidepaths

AASHTO and NACTO use the term "sidepath" whereas TxDOT uses "shared use path" to refer to a multi-use non-motorized path adjacent to a roadway. The Urban Trails Master Plan embraces different terminology for the same end goal and infrastructure: an off-street, hard surface path which accommodates pedestrians and bicyclists.

The Texas Department of Transportation (TxDOT) is required by law to accommodate pedestrians and bicyclists on all state funded and delegated federally funded projects within the project limits. The goal of this policy is to help create healthier communities, reduce air pollution, decrease congested roadways and promote more livable, safe and cost-efficient communities.

Guidelines for constructing such facilities include the Texas Accessibility Standards and Americans with Disabilities Act Accessibility Guidelines, AASHTO and TxDOT's Roadway Design Manual. In August 2013 the Federal Highway Administration issued a memorandum supporting AASHTO and NACTO guidelines.

Common practice for accommodating bicyclists along major TxDOT roads includes constructing a 14 ft. wide curb lane for shared automobile and bicycle use. With the recent statement from the FHWA supporting AASHTO and NACTO guidelines DOTs around the country will have the opportunity and challenge to reevaluate bikeway designs like protected, off-street paths.

The Urban Trails Master Plan endorses the construction of off-street, shared use paths to safely and conveniently accommodate bicyclists and pedestrians. The standards of these shared use paths should reflect the Urban Trails standards defined in this plan. The City of Austin should work with TxDOT to promote the inclusion of paths along major TxDOT roads. As TxDOT embarks on new projects in the Austin area we can work together to improve safe, efficient transportation options in the city. This collaboration has already begun with the US-290 and MoPac projects, which will be providing shared use paths.

Special Considerations for Implementation

Recommendations in this plan on TxDOT roadways warrants special consideration at the time of implementation. As mentioned before, while many of these roadways are within the City of Austin or the Extraterritorial Jurisdiction (ETJ) of this plan, the roadways are owned and operated by TxDOT. Therefore the planning and implementation of projects on TxDOT represents a very different process and it is very important to have a clear understanding of how the Urban Trails Master Plan would affect TXDOT project delivery and scope as this could have significant potential consequences.

The intentions of the recommendations of the Urban Trails Master Plan are as follows:

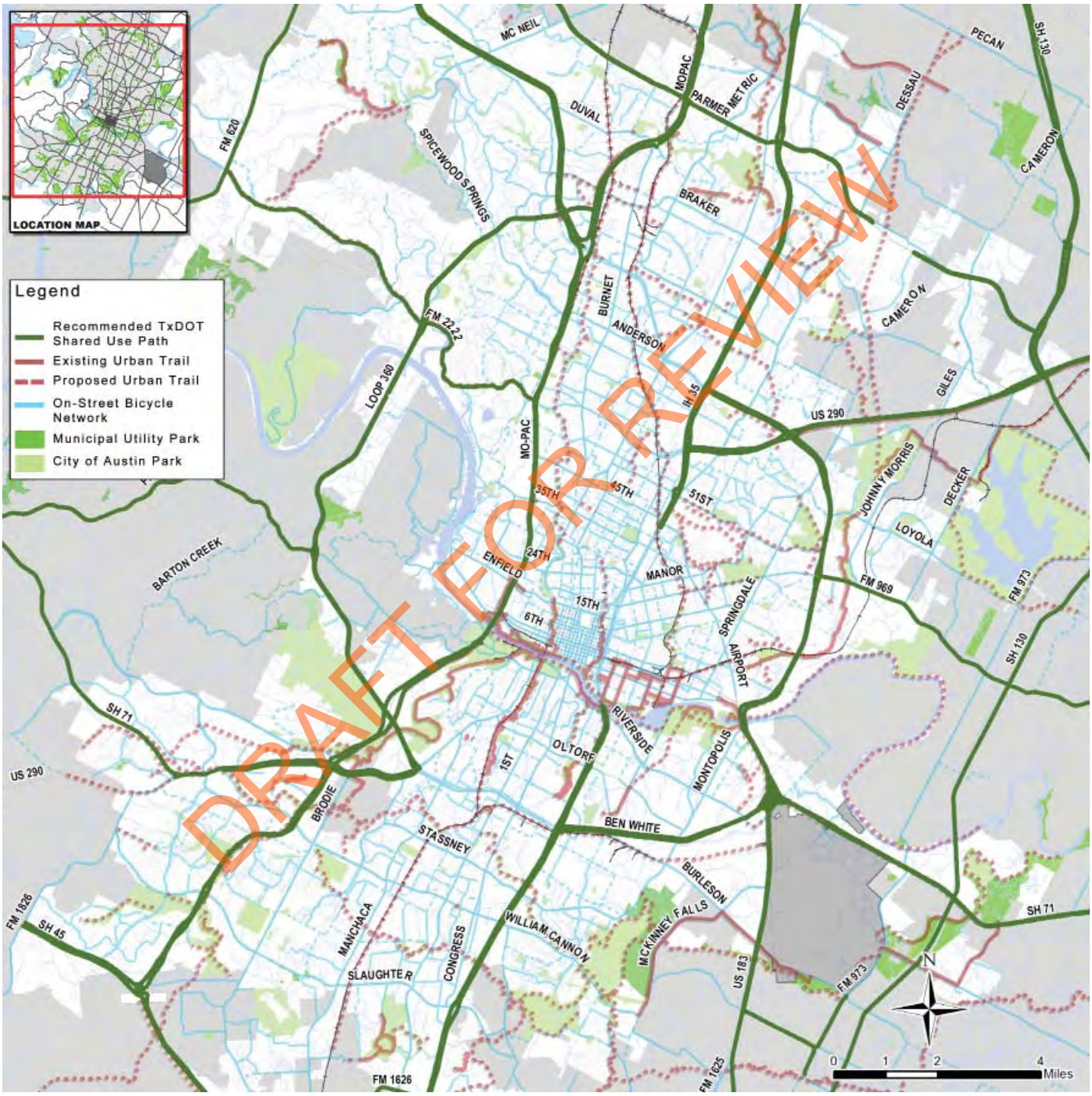
- To capture best practice in accommodating bicyclists and

pedestrians of all ages and abilities on Austin's roadway network, including TxDOT roadways.

- For the recommendations to be a resource during the development of projects along TxDOT roadways while *not* mandating a particular outcome.
- These recommendations serve as a resource for future roadway development with TxDOT ROW
- This plan acknowledges that TxDOT and City of Austin have different design standards, internal processes, public processes and implementation standards, and recommends working together to achieve the highest quality bicycle and pedestrian network to the extent practicable.

The map on the following page illustrates some of the TxDOT roads where a shared use path would enhance the health and safety of the community as well as increase the accessibility and connectivity of the Active Transportation Network.

Recommended TxDOT Shared Use Paths



Alignments shown are conceptual, and are intended to show geographic connectivity. More detailed routing, environmental evaluations and area connections will be developed for each corridor as funding is identified. Pending a more detailed analysis and adjacent, adequate bicycle/pedestrian facilities, a "no-build" option may be appropriate.

RECOMMENDATIONS

The Urban Trails reviewed in this chapter represent the prioritized routes for the Urban Trails Master Plan. These trails have been evaluated based on an encompassing prioritization criteria that quantifies the value of a given Urban Trail. The trails described in this chapter include existing, proposed, funded and unfunded trails that will enhance the overall trail network.

Existing Urban Trails
Many existing trails provide excellent transportation corridors and recreational opportunities. They allow for trail users to enjoy the beautiful green space that makes Austin a unique place to live. The existing trail system represents an incredible public resource and enhances the Active Transportation Network.

A key part to enhancing the trail system is to improve our existing trails. Many existing Urban Trails have sections that are not hard surface, need repair or widening. Austin is known for being an active, outdoorsy city with a wealth of green space. The trails are well-used and could serve a greater users base if they had better trail access and connections, and continuous, wide, hard surface paths to accommodate multiple trail uses. It is important to maintain a high standard of quality for our trails and the Urban Trails Master Plan recommends prioritizing improvements to existing trails as well as constructing proposed Urban Trails. The prioritization criteria helps determine the order of trail projects, whether it involves repairing or filling in gaps to existing trails like Shoal Creek or investing in a new trail like the Red Line Corridor.

Other connections:
Multiple small connections have been identified by stakeholders and citizens throughout the Urban Trails Master Plan process. This plan reserves the right to cooperate in partnership with interested parties to pursue these connections where feasible and appropriate. Many of these connections make vital access to schools, churches, libraries and other popular destinations possible, while greatly improving quality of life and reducing the need to make short trips by motor vehicle.

Shoal Creek Trail has many narrow paths that will need to be widened.

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CHAPTER 4: POLICIES & OPERATIONS

Bike rodeo in February 2014

CHAPTER 4
POLICY & OPERATIONS

RELEVANT POLICIES

From the federal to local level, policies affect the integrity and mechanisms of the Urban Trails Master Plan. This section reviews some of the more recent policy changes that may impact the design, placement and funding opportunities for Urban Trails in Austin.

Federal Policy Update

MAP-21 was enacted July 6, 2012, and replaced SAFETEA-LU as our national transportation policy and funding mechanism. The new law significantly reduces funds for pedestrian and bicycle projects, and includes notable legal and funding changes. It changes the way certain funds are allocated, ultimately making project funding more competitive and also allowing a state opt-out provision, which would cut funding in half for bicycle and pedestrian projects. Unlike under SAFETEA-LU, there is no dedicated project funding. Instead, MAP-21 combined Transportation Enhancements, Safe Routes to School and Recreational Trails into one program called the Transportation Alternatives Program (TAP), in which 2% of federal highway funds are reserved for projects defined as transportation alternatives, including Urban Trails. MAP-21 amended the Surface Transportation Program to permit projects that are eligible under the Recreational Trails Program to be eligible for STP funding.

The main changes that will impact federal funding for Urban Trails include:

- The grouping of projects and programs under the Transportation Alternatives Program (TAP)
- The provision for states to opt-out of funding the TAP

FHWA Memorandum

In August 2013, the FHWA issued a memorandum supporting the NACTO and AASHTO guidelines. The memo encourages transportation agencies to go beyond minimum requirements and refer to NACTO and AASHTO facility designs. The significance of this federal endorsement will be felt in cities all over the country and state departments of transportation will have the opportunity and challenge to re-evaluate bikeway designs like protected bike paths.

CAMPO 2035

One of the main goals of the CAMPO 2035 Plan is to expand investments in regional bicycle infrastructure. The plan provides a map with identified bicycle corridors, ranging from High – Medium –

Low prioritization. CAMPO intends to allocate 50% of future Surface Transportation Program-Metropolitan Mobility funding for projects that support one of the 37 designated activity centers.

During their public input process, CAMPO found that nearly half of participants supported transportation investments on non-motorized options. One of the top three concerns of participants included the need for infrastructure and access to downtown areas. CAMPO 2035 and the Urban Trails Master Plan share similar goals to increase alternative transportation infrastructure in the Austin area. The people of Austin want better facilities and support investments in the Active Transportation Network.

Imagine Austin

The award-winning Comprehensive Plan, *Imagine Austin*, calls for a compact and connected urban environment. The plan received an Award for Excellence in Sustainability from the American Planning Association in 2014. Recognizing the incredible growth Austin has been experiencing and the opportunities ahead, one of the plan's goals is to provide better transportation choices. *Imagine Austin* introduces a shift in focus from promoting a friendly coexistence of bicyclists in Austin to maximizing the contribution of bicycling to amplify Austin's quality of life.

The Urban Trails Master Plan addresses the goals of *Imagine Austin* to be sustainable, provide better transportation options, protect the environment and enhance bicycle infrastructure. People in Austin believe one of the main benefits of investing in the Active Transportation Network is increasing their quality of life. This plan strives to increase the connectivity and accessibility of trails throughout the City.

Watershed Protection Ordinance

The new Watershed Protection Ordinance (WPO) was passed in October 2013 and provides important guidance for the Urban Trails Master Plan. The intent of the new ordinance is to protect area watersheds through clear policy and guidance. It identifies problems such as not enough setback distance, too much water runoff, too little baseflow and too many pollutants. Solutions include detailed Erosion Hazard Zones, impervious

"Urban trails serve recreation and transportation functions, including biking and hiking, and also provide important environmental benefits by creating open space linkages and expanding the City of Austin's green infrastructure network."

- Imagine Austin

Goal: Improve the urban environment by fostering additional beneficial uses of waterways and drainage facilities.

Objective: Maximize the use of waterways and drainage facilities for public recreation; and, Maximize areas for public use within floodplains.

- Watershed Protection Department Master Plan Goals and Objectives

cover limits, green infrastructure and pollution source controls. The Urban Trails Master Plan helps the Watershed Protection Ordinance achieve its goals by creating green infrastructure and reducing transportation pollution through the enhancement of non-motorized transportation. The WPO encourages multiple use of waterways and drainage facilities.

One of the Watershed Protection Department's goals is to improve the urban environment by maximizing use of waterways, drainage facilities and floodplain areas for public recreation. Urban Trails represent a great example of how this can be achieved. The WPO does not consider Urban Trails a threat to water runoff problems and excludes Urban Trails from the definition of impervious surface. Urban or "multi-use" trails should be constructed outside the Erosion Hazard Zone unless protective works are provided. This means if the trail is close to the Erosion Hazard Zone it must be armored to protect the creekbed. This "avoid or protect" practice provides a financial disincentive to building a trail within the Erosion Hazard Zone because of the prohibitively high cost of constructing protective works. Trails may cross a critical water quality zone (CWQZ) of any waterway. The ordinance restricts trail width to 12' maximum unless a wider trail is designated in this Urban Trails Master Plan. The trails in this master plan that are within greenbelts are only recommended to be over 12' in width if the density of the trail and number of potential users justifies needing a wider trail than the standard. Urban Trail width will be determined on a case-by-case basis during the design phase of each project.

Heritage Tree Ordinance

The Heritage Tree Ordinance was adopted in 2010 to enhance and preserve a healthy urban forest. The ordinance defines a Heritage Tree as a tree that has a diameter of 24 inches or more, measured four and one-half feet above natural grade, and is one of the following tree species (though the list is subject to supplementation): Texas Ash, Bald Cypress, American Elm, Cedar Elm, Texas Madrone, Bigtooth Maple, all oaks, Pecan, Arizona Walnut and Eastern Black Walnut. A Heritage Tree may not be removed unless the Planning and Development Review Department or the Land Use Commission grants a variance, which may occur only after earning the recommendation of the City Arborist. Some of the existing Urban Trails in Austin were built before the Heritage Tree Ordinance, but all future trail development will be subject to the new law.

Land Development Code

The City of Austin is currently updating its Land Development Code. This endeavor arose out of the *Imagine Austin* Plan and will promote the goals of making Austin compact and connected through future

land development. The code rewrite process will provide a more updated, streamlined policy by creating the framework for smart, sustainable development.

Austin, Texas Technical Criteria Manuals
The City of Austin's Technical Criteria Manuals were created to interpret and clarify the requirements set forth in the Land Development Code. Organized by discipline, three manuals of great importance and relevance to the Urban Trails Master Plan include:

- Environmental Criteria Manual
- Drainage Criteria Manual
- Transportation Criteria Manual

Other Relevant Policies:

- Bicycle Master Plan
- Sidewalk Master Plan
- Parks and Recreation Long Range Plan for Land, Facilities and Program
- Downtown Austin Wayfinding Plan

Previous Efforts
In 2008, the Trails Master Plan workgroup was formed, following the directive by City Council that there should be interdepartmental collaboration to coordinate pedestrian and bicycle connectivity efforts by multiple departments including Parks & Recreation, Public Works, Watershed Protection, Development Review, Neighborhood Planning & Zoning, and Austin Water Utility. This resolution is included in Appendix D of this plan. The Urban Trails Working Group was pivotal in activating discussions on the creation of an Urban Trails Master Plan.

The Urban Trails Master Plan recognizes the efforts of the Urban Trails Working Group as fundamental to the inception of this plan.

Linking to the On-Street Pedestrian and Bicycle Network

The Urban Trails network is intended to integrate with the on-street pedestrian and bicycle network to create a comprehensive network of active transportation facilities. Therefore, coordination with

departments and agencies involved with development of on-street facilities is critical to implementing and maintaining the Urban Trails component of the entire Active Transportation Network.

The overall Active Transportation Network can be compared to the roadway network for vehicles, in that Urban Trails are like "arterial roadways" meant to carry people for longer distances to get to citywide destinations, and the on-street facilities serve as "local collectors" to provide access to the Urban Trails from their neighborhoods or their destinations.

Key points to consider when connecting Urban Trails to the on-street network include:

- As a regulatory document, the recommendations of this plan will be considered when development review occurs. This will include review by the Transportation, Watershed, and Planning Departments.
- To help facilitate connections between the on-street and Urban Trails networks, create and implement a wayfinding plan that directs bicyclists and pedestrians between the networks.
- Ensure that Urban Trails are available for commuters traveling before dawn or after dark.

Partnerships with Other Departments and Agencies

Interdepartmental and interagency collaborations are a critical component of developing a regional network of Urban Trails, and achieving the goals and objectives of this plan. Moreover, many federal-aid funding opportunities require cooperation among local and regional entities in developing and implementing goals. By partnering with other agencies and organizations, funding resources can be utilized more efficiently. The City of Austin and surrounding communities must work together to implement a connected Urban Trail network that does not become victim to political boundaries.

Some recommendations in this plan will require partnerships and collaboration with other City departments, municipalities, agencies, and organizations across the region. The Public Works Department should coordinate with other City of Austin departments, agencies, and organizations where necessary to implement the Urban Trails Master Plan by identifying and pursuing funding partnerships and support from other departments, agencies, and organizations. The following table summarizes potential partnership opportunities with

departments, agencies, and organizations.

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Table 4.0 Interdepartmental and Interagency Partnership Opportunities	
Department/Agency	Partnership Opportunity
COA Parks & Recreation Department	Access, public land use, shared maintenance, shared programming, wayfinding, education, on-street to trail connections
COA Transportation Department	On-street to trail connections
COA Watershed Protection Department	Urban Trails within creekways, coordination with environmental constraints
COA Capital Improvements Management Services	Future bond initiatives
Lower Colorado River Authority (LCRA)	Coordinate trail efforts where appropriate
COA Planning Department	Integrate Urban Trail components and connections into planning documents, communicate and collaborate on the Wayfinding Project, integrate review for Urban Trails into development review
COA Police Department	Enforcement, emergency response
Capital Metro	Integrate Urban Trails and transit, rails-to-trails opportunities
CAMPO	Federal funding opportunities, assistance with coordinating with other municipalities, identifying regional transportation goals and recommendations
TxDOT District Office	Implementing Urban Trails, or sidepaths, along TxDOT roadways, transportation enhancement grants
Travis County/Surrounding Counties	Implementing Urban Trails along county roads
Area Municipalities	Implementing trails in other jurisdictions that connect to Urban Trails network in Austin
Austin and other local ISDs	Education and encouragement programs targeting school-aged children, implementing trail connections to schools
University of Texas at Austin and other universities	Education and encouragement programs targeting college and university students; implementing trail connections with direct access to and on campus

Table 4.0 Interdepartmental and Interagency Partnership Opportunities	
Department/Agency	Partnership Opportunity
Local Bicycle Shops	Education and encouragement programs, tourism, map distribution
Bike Texas and other advocacy groups	Policy guidance for bicycling, education programs
Private developers	Construction of trails and trail connections that meet the standards set in this plan and/or collaboration or partnership in the provision of appropriate ROW or easement for trail construction.

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CHAPTER 5: IMPLEMENTATION PLAN

CHAPTER 5

IMPLEMENTATION PLAN

Shoal Creek Trail

URBAN TRAIL PRIORITIZATION

As shown in the previous chapters, there are many opportunities for Urban Trails in Austin. Over the next two to three decades, it is anticipated that many of those opportunities can actually be developed. However, the City's efforts should be focused on those corridors that provide the most significant beneficial impact, and that truly contribute to the citywide urban trails network.

This chapter highlights the most important Urban Trails to be built using prioritization criteria developed for Austin. This criteria is shown in a matrix in table 5.1. The corridors were selected to meet the goals established by the planning effort, and to reflect citizen comments and desires received during the extensive public input process.

The priorities are ranked either as high, medium, or low. The priority rankings are meant to help guide Urban Trail development in the short and long term. As opportunities arise, whether from various City departments, non-profit organizations or developers, an understanding of route prioritization is essential to create an accessible, connected and equitable trails network. Prioritization rankings are based on four main elements: proximity to attractions/destinations, surrounding residential population density, connectivity and community support. High priorities are recommended to be initiated or completed within fifteen years. These are projects that are considered to be the most vital to enhancing the Urban Trail system and overall Active Transportation Network in the short term. Medium priority projects also demonstrate accessibility, connectivity and community support but do not have a real time frame for construction because of funding constraints. Low priority projects demonstrate valuable connections or opportunities to keep open for future development.

Availability of funding, feasibility of construction and environmental constraints are major factors that will determine the outcome of every trail project and will play a major role in each project. The first step in planning the development of the Urban Trails system is to identify important routes. After prioritization of the Urban Trails is determined each trail will undergo an extensive design process prior to construction.

The prioritization criteria is based on these four elements:

- **Proximity to Attractors/Destinations** - The purpose of a transportation corridor is to get people places. Proximity to major employers, schools, parks and transit are essential for making a

successful trail. (155 total points possible)

- **Residential Population of Census Tract Within 1/2 Mile** - High population density around an Urban Trail increases accessibility and the potential usage for that corridor. Five population density categories are available within this criteria element, and areas within 1/2 mile of an Urban Trail with a population greater than 8,000 people per census tract will earn 100 points. (100 total points possible)
- **Connectivity** - One of the most elements to any efficient transportation system is connectivity. In this case, connectivity is measured by linkages to other trails, the on-street pedestrian or bicycle network, or whether the trail creates a connection where a barrier previously prevented non-motorized users from continuing their path of travel. (100 total points possible)
- **Community Support** - Through the many public involvement processes that are conducted in all parts of Austin, residents may express interest or support for specific trail facilities. These may also be supported as part of ongoing or past neighborhood plans in coordination with the Neighborhood Planning Contact Team or other appropriate entity. (50 total points possible)

Funding Strategies for Urban Trails

Funding availability is a major determinant for timing the implementation of this plan. Funding for Urban Trails should be treated as a key item in both annual and longer term budgeting. Regular steady funding is recommended so that the Urban Trail network is added to on a continuous basis. A broad range of funding mechanisms, from both the public and private sectors should be considered. Recommendations for funding are as follows:

General Obligation Bond Funds - Bond funds are typically the primary source of significant trail development efforts. The larger capacity of these funding sources allows for more development to occur.

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

Parkland Dedication Funds - Funds generated by new development

Table 5.1 Prioritization Criteria Matrix

Criteria		Points	Score
Proximity to Attractors/Destinations	Check all that apply		
3 or more Major Employers within 1/2 mile from route (Major Employer = over 250 at one location)	☐	30	0
3 or more public and private schools (grades K-12) within 1/2 mile from trail	☐	25	0
Transit Facility within 1/2 mile (BRT, Rail, Bus, Park and Ride)	☐	20	0
Direct access to Bike Share	☐	5	0
Direct access to Central Business District	☐	20	0
Direct access to University of Texas or any other higher education institution	☐	20	0
Direct access to public places (parks, libraries, other civic uses)	☐	20	0
Direct access to Imagine Austin Centers	☐	15	0
		Total	**0**
Residential Population of Census Tract Within 1/2 mile	Check Only One		
Population > 8,000	☐	30	0
Population ≥ 4,000 < 8,000	☐	25	0
Population ≥ 1,000 < 4,000	☐	20	0
Population ≥ 500 < 1,000	☐	15	0
Population < 500	☐	10	0
		Total	**0**
Connectivity	Check all that apply		
Completes barrier in trail	☐	50	0
Completes gap in existing on-street sidewalk or bicycle facility	☐	30	0
2 or more existing or planned trails connected by the proposed trail	☐	20	0
		Total	**0**
Community Support	Check all that apply		
Recommended by another adopted plan	☐	30	0
Adopted in Neighborhood Plan	☐	20	0
		Total	**0**
		Grand Total	**0**
			Out of 335
			0%

can be used to help develop nearby trails. These funds are accrued 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 trails.

4B Tax - 4B Sales Tax can be used for projects that improve a community's quality of life, including parks, professional and amateur sport and athletic facilities, tourism and entertainment facilities, and other improvements or expenditures that promote new or expanded business activity that create or retain primary jobs.

Private Residential or Commercial Development - Many of the Urban Trails noted in this master plan are located near residential communities or adjacent to commercial or business areas. As such, trail segments associated with either existing or new development could be partially or entirely built by the private development community.

Grants From a Variety of Sources - Grants that can be used for trail 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 to $500,000 in grant assistance.
- **Transportation Alternatives Program** - Under the new Federal policy, MAP-21, the previous Transportation Enhancements, Safe Routes to School and Recreational Trails programs are combined into one. Under this new program, 2% of federal highway funds are reserved for projects defined as transportation alternatives, which includes trails.
- **Regional Surface Transportation Program (RSTP)** - This is a block grant program that makes money available statewide for roads, bridges, transit capital, and bicycle and pedestrian projects. Applicants eligible for RSTP funds include cities, counties, Metropolitan Planning Organizations (MPOs), transit operators, and the Texas Department of Transportation. Nonprofit organizations and special districts also may apply for funds, but they must have a city, county or transit operator sponsor and in some cases administer the project.

- **Highway Safety Improvement Program (HSIP)** - This is a federal safety program that provides funds for safety improvements on all public roads and highways. These funds serve to reduce traffic fatalities and serious injuries on all public roads.
- **Foundation and Company Grants** – Some assist in direct funding for trail projects, and some support efforts of nonprofit or citizen organizations.
- **Grants for Greenways** – This is a national listing that provides descriptions and links to groups who provide technical and financial support for greenway interests.

Opportunities for Future Urban Trails

Incentives for Development - Austin continues to experience rapid growth and development. Urban Trails can be considered an asset for neighborhoods, and incentives should be provided to encourage private developers to build trails, in particular if they have been previously identified in the Urban Trails Master Plan or if existing features occur that create a favorable location for an Urban Trail. Private sector developments should be carefully reviewed to determine if key trail corridors shown in this plan can be integrated into the proposed development.

Major public works improvements such as new development or drainage facilities can provide an opportunity for trail development. When large new public facilities are being built, trail connection opportunities along their edges should be considered. Drainage channels can be planned in such a manner that they include trails along one or both sides, and can be oriented so that adjacent homes are not impacted.

Every effort in the City, whether private or public, whether funded by the City or by another agency, should be evaluated early on as a potential Urban Trail candidate. Adequate right of way should be acquired early so as to provide corridors for trails and access points to existing Urban Trails. It is extremely difficult to retrofit trails once development around it has occurred.

Many options are available to the City, public agencies, nonprofit groups, and private landowners to ensure the protection/reservation of these critical trail corridors. The objective of the Urban Trails Master Plan is to provide a menu of available options to both public agencies and private landowners, promoting flexibility and creativity in the negotiation process. Careful crafting of transactions between private landowners and public agencies can and should produce mutually beneficial results.

Trail Development Ordinance - Consideration of a trail development ordinance is recommended by the Urban Trails Master Plan. Similar ordinances have been enacted in other cities in Texas, and have proven successful in helping to get trails constructed. The ordinance model used in Allen, Texas requires complete developer construction of key trail segments that fall within their property limits, without city participation, that will provide connections to the overall trails network. Often, the required trails replace adjacent sidewalks; and therefore, do not add significantly to the cost of the development. Credits for landscaping, pavement, or other infrastructure elements can be given in return for trail construction. A central point to consider is that most developments will add trails automatically; therefore, such a mandatory trail development ordinance only serves to create a level playing field between the many developments that include trails and those that will build them only if required to do so.

Develop Trail Cost Sharing Ordinance - An alternative type of ordinance is patterned after sidewalk requirements, in which adjacent property owners fund a portion of the trail installation cost, and the City of Austin covers the remainder of the cost.

New Development Reservations and Dedications - The preservation of trail corridors in conjunction with or independent of the open space areas required to be created with new residential and commercial development could be required in the City Code. Right of way reservations for pedestrian connections, bikeways, and multiple use trails could be required of new residential and commercial developments consistent with the engineering standards and/or this Urban Trails Master Plan. An offer of dedication is required when a reasonable relationship is demonstrated between the need for the dedication and the characteristics and impacts of the proposed development.

The City Code could also provide incentives to new developments to encourage connections to the Urban Trails network. Reduction in required open space areas and fee waivers are two specific incentives for public trail reservations and dedications beyond that required of any new development. Additional flexibility could be provided for new development, promoting the highest quality development in concert with the public need and benefit derived from creative and innovative development proposals. This flexibility might come by allowing reductions in required off-street parking and flexibility in internal project circulation layout, which is justified with the reservation/dedication of lands in support of the planned Urban Trails network.

Existing Development - In cases where trail corridors shown in the

Urban Trails Master Plan intersect with existing developed areas, the acquisition of lands will be necessary to create connectivity with adjoining trail corridors. Acquisition can be accomplished through a variety of forms such as outright purchase of property, purchase of easements, or donations. These varieties of acquisition may be employed, while always seeking the most cost effective method to secure appropriate public interest when necessary and warranted. Public/private negotiations for outright purchase of private property may be necessary in some instances; however, the purchase of easement or partial/restricted property right at less cost to the public is encouraged.

Adopt-a-Trail Programs

Teaming up with private and non-profit partners is a great way to involve the community and provide adequate maintenance for a trail. While the Public Works Department and the Parks and Recreation Department strive to maintain all their respective trails, community assistance can be an effective way for a beloved trail to remain in excellent condition. The Austin Parks Foundation has experienced a successful partnership with the City of Austin's Adopt-a-Park Program. Keep Austin Beautiful has partnered with the Watershed Protection Department to offer an Adopt-a-Creek program. The Friends of Barton Springs Pool helps improve and maintain the water quality of Austin's famous natural spring. Many organizations like the Ghisallo Foundation are already helping to maintain Austin's Urban Trail network. In 2012, the non-profit launched its first Clean Sweep event where community members picked up trash and swept away debris from the Lance Armstrong Bikeway. These kinds of partnerships provide an excellent service for the City and the community.

How a Trail Becomes a Trail

The Austin Urban Trails Master Plan is a living document and should be updated ideally every five years to assess progress, identify new opportunities, and re-evaluate goals and priorities. The citizens of Austin have expressed interest and support for an accelerated implementation of the priority actions of this plan. To account to the residents of the City, an annual review of implementation successes over the preceding year will be conducted as part of the Public Works Department performance measures report. In addition, an action plan for the following year should also be developed and proposed for inclusion in the annual Capital Improvements Program (CIP).

As the City moves forward in building the Urban Trails network and implementing this plan, it is important to continue to involve residents,

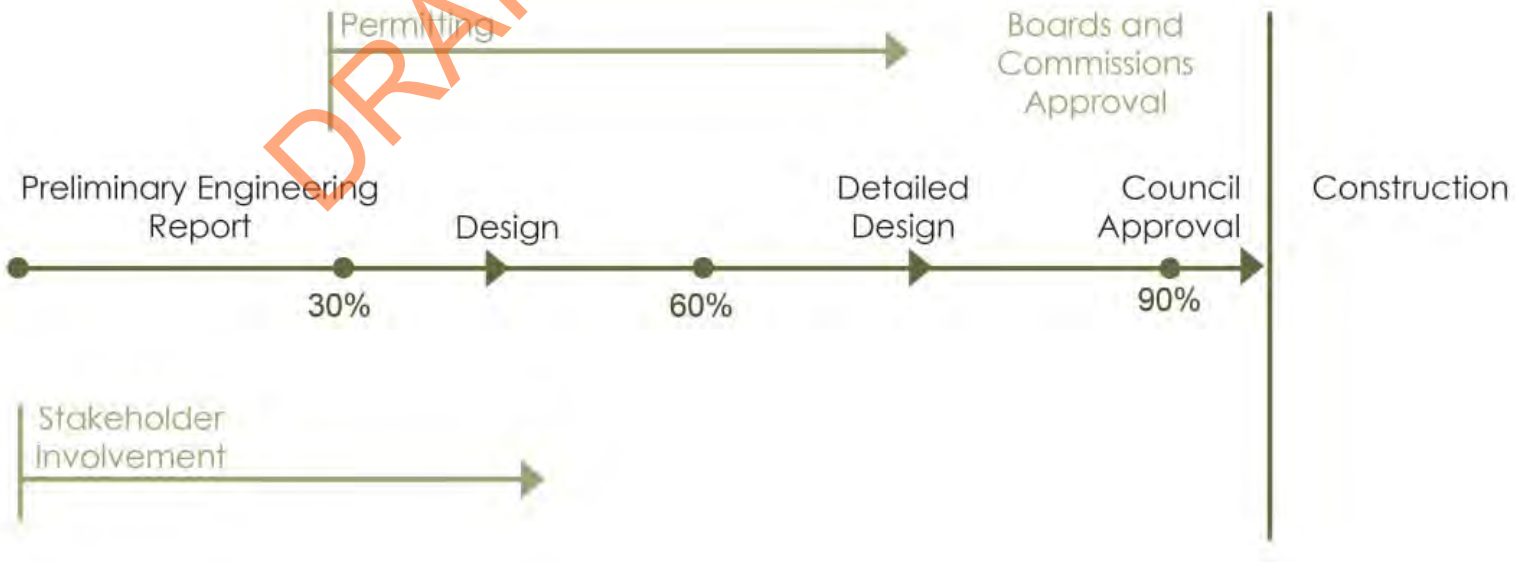
area stakeholders and businesses located along any proposed routes. Public engagement and input is a critical component of any design process involving new trail facilities, and is also vital when updating, changing or re-prioritizing any recommendations. The Urban Trail Implementation Plan diagram illustrates this process.

Once an Urban Trail corridor is selected for implementation, it then goes through a separate process of identifying the exact trail alignment. Implementation of an Urban Trail is based on:

- Funding
- Environmental Constraints
- Stakeholder/resident input

Following the selection of the Urban Trail project there is a data collection process including field surveys, feasibility of construction and the Preliminary Engineering Report (PER) process begins. The PER process evaluates all the environmental constraints of the corridor including: topography, drainage, various soil types, tree canopy, wildlife habitat, floodplain, surrounding land uses, location of utilities, property ownership, as well as several other elements. If an environmental constraint is present the project staff will analyze different possibilities ranging from alternative routes to a no-build

Urban Trail Implementation Plan Diagram



option. The entire length of the corridor will be reviewed by the Watershed Protection Department and Planning and Development Review to ensure the environmental constraints are accurately recorded before any design process begins. During the PER process the public, residents and area stakeholders are invited to a public open house to get feedback about the corridor, voice any concerns, and help identify potential access points. As appropriate, staff will brief the Urban Transportation Commission, Environmental Board, Urban Forestry Board, the Bicycle Advisory Council and the Pedestrian Advisory Council. Once the PER process is complete, a preferred alignment for the trail is developed based on the environmental constraints and public input. If the proposal is recommended by Boards and Commissions staff will proceed with the design and seek permits for construction. The trail then goes into the process of design and developing construction documents. From there, it is then in the bidding stage for construction, and once a contractor is selected construction of the trail begins.

Finally, the City will continue to add to the annually updated Capital Improvement Project (CIP) list of short- and long-term Urban Trail improvements based on this plan. This CIP list will reflect the highest priority projects for each fiscal year into the future.

Conclusion

Austin is already one of the premier communities in the nation, and it continues to excel at meeting the needs of its residents. While always acting carefully and considering its options, the City's leaders have never been afraid to look into the future, envision the needs and desires of its residents in the future, and plan towards that future.

Urban Trails are a necessary component to an efficient transportation system. Having a connected network of well designed Urban Trails will enable access to these modes of transportation by allowing more choices in how citizens of Austin get around the City.

The Urban Trails Master Plan guides City leaders and staff to develop and enhance safe and adequate infrastructure for walking and bicycling in Austin. The plan was developed through extensive engagement with the citizens of Austin, key stakeholders, and City staff from various departments; and that input helps make it a feasible and achievable plan for bicycling and walking.

This plan recognizes the demand for providing alternative transportation modes, and that the best cities must offer their residents

According to the 2014 national survey by The Rockefeller Foundation and Transportation for America, the Millennial generation wants to drive less. Comprising of Americans 18-34 years old and representing the largest generation in history, 54% of Millennials would consider moving to another city where they would not have to rely on a car for transportation.

a variety of choices as to how to get around. Interest in walking and bicycling, both for fun and to get to key destinations, is growing. This plan will further contribute to Austin being a premier city in which to ride a bicycle, walk and live.

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APPENDIX A: TRAILS CRITERIA GUIDELINES

APPENDIX A

TRAILS CRITERIA GUIDELINES

Lance Armstrong Bikeway

The intent of the Urban Trail Program is to work with internal and external stakeholders to draft a Trail Criteria Manual that will go through the City of Austin Rule Posting Process (Chapter 1-2 of the City Code). Amongst other trail design criteria it will detail: drainage criteria to address erosion and steep slopes, preservation and protection of trees and vegetation, trail distance from creek, trail construction footprint and maintenance.

The Trails Criteria Guidelines describes the standards of the Urban Trails Master Plan and serves as a platform for the development of a Trail Criteria Manual. This chapter is divided into 10 sections: Urban Trails in Austin, Elements of Urban Trail Design, Designing with Nature, Bridges and Underpasses, Lighting, Trailheads and Access Points, Features and Amenities Signage and Wayfinding, Creating Whimsy, and Urban Trail Maintenance.

Primary national resources for trail standards and design guidelines include The American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO), the Federal Highway Administration (FHWA), the Institute of Transportation Engineers (ITE) and City of Austin adopted ordinances and policies. This plan considers recommendations set forth by these entities and supports the use of these resources for trail standards and design guidelines.

The Urban Trails Master Plan utilizes these resources:

- AASHTO *Guide for the Development of Bicycle Facilities*, 2012
- NACTO *Urban Bikeway Design Guide*, 2011 and *Urban Street Design Guide*, 2013
- ITE *Designing Urban Walkable Thoroughfares*, 2010
- TMUTCD (Texas Manual on Uniform Traffic Control Devices)
- FHWA Memorandum on Guidance: *Bicycle and Pedestrian Facility Design Flexibility*, 2013
- ADAAG (Americans with Disabilities Act Accessibility Guidelines)
- TTI (Texas Transportation Institute)
- TxDOT (Texas Department of Transportation)
- U.S. Department of Transportation

- TAS (Texas Accessibility Standards)
- City of Austin Criteria Manuals
- City of Austin Land Development Code
- City of Austin Watershed Protection Ordinance
- The United States Access Board: *Final Guidelines for Outdoor Developed Areas*

To guide the future development of Urban Trails in Austin, a range of design standards should be developed to accommodate different conditions and needs. Creating a range of design standards takes into account the many constraints and particularities of varying trail settings. This flexible approach to trail design aims to maintain superior standards by taking a context-sensitive approach to design.

Looking East from the Lance Armstrong Bikeway just east of the Pfluger Bridge extension

Urban Trails in Austin

The Austin Urban Trail design aims to provide a comfortable experience for walkers, joggers, wheel chair users, people with strollers, bicycle commuters on thin-tired road bicycles, mountain bikers and kids on razor scooters alike. Depending on location, some Urban Trails may serve more recreational users than transportation users, while others may serve more bicycle riders than pedestrian users. The over arching design principles consider safety, accessibility, connectivity,

At the public meetings that took place in November 2013 – February 2014, Austinites expressed that widening trails is one of the most important actions for improving Urban Trails.

and user experience. The Austin Urban Trail Master Plan will meet AASHTO standards for design elements including slope, grade, clearance and sight distance.

Elements of Urban Trail Design

The width of a trail significantly impacts the accommodation capacity, safety, comfort and experience of an Urban Trail. Narrow trails may create dangerous situations when many different trail users traveling at various speeds try to use the same space and pass each other. Wider trails are necessary to safely accommodate a wide range of trail users. Urban Trails in Austin are recommended to be a 12' wide hard surface path to accommodate a variety of trail users simultaneously without conflict. This will allow a trail user, such as a runner or bicyclist, to pass another trail user while, simultaneously, a third trail user such as a walker is approaching from the opposite side.

Dual Track Urban Trail

A dual track is a separated trail with designated pedestrian use on one side and bicyclists on the other side. This type of trail is appropriate where high volume of both pedestrians and wheeled users is expected. It can provide a safer accommodation of high-volume traffic by reducing user conflicts, allowing bicyclists to travel at higher speeds and allowing pedestrians to stop and enjoy many viewing points. Dual track trails can be particularly safe and convenient on trails where there are many scenic overviews, steep hills which cause bicyclists to pick up speed, turns which reduce sight lines, or along busy roadways in which noise pollution makes communication between users difficult. The trail sides should be well marked with bicycle and pedestrian symbols and there should be a physical separation between the two sides. This separation may be a painted or thermoplastic stripe and/or a buffer area, a concrete barrier, landscaping or a gradient difference.

Example of an ideal Dual Track Urban Trail

Surface Material

The preferred surface material for an Urban Trail is asphalt. Asphalt provides an all-weather, smooth, hard surface that can accommodate a wide range of users from bicycle commuters on thin-tired road bicycles to a parent with a stroller. Asphalt affords many advantages as a trail surface material, notably lower initial costs than other hard surface materials. It is also the preferred hard surface material by runners because it is softer than concrete. Finally, asphalt trails may include a concrete ribbon on each side to extend the length of the maintenance cycle and minimize erosion.

Another recommended surface for Urban Trails is concrete. Concrete makes a good Urban Trail material because, like asphalt, it offers an all-weather, smooth, hard surface. While it has higher initial costs, the longevity and durability of concrete make it very cost-efficient in the end. Reinforced concrete trails can last around 20 years with very little maintenance. In the case of the Boardwalk Trail at Lady Bird Lake, concrete was chosen because of its durability, long life span, ability to withstand the occasional flood and resistance to slipping.

Asphalt and concrete surface trails are recommended to accommodate a wide variety of recreational and transportation uses. The Urban Trails Master Plan does not recommend decomposed granite (DG) as an Urban Trail surface material. While DG offers a pleasant aesthetic appeal it has many disadvantages. The material does not accommodate multi-use; small-wheeled users like skateboarders or thin-tired bicycles cannot easily or safely ride on this material. It also assumes excessively high maintenance costs, averaging about three times the cost of concrete trail maintenance. Though DG is a semi-pervious surface it does not offer significant advantages for drainage or water runoff. It also presents a serious problem for storm water infrastructure as the material gets washed away with rain, clogging storm water drains and requiring frequent maintenance. Until better management techniques or material composition for decomposed granite arise the Urban Trails Master Plan does not recommend DG as an Urban Trail surface material.

Other pervious trail materials such as porous asphalt or concrete are not recommended because of exceptionally high maintenance cost and upkeep. When the material and application become more feasible for the Public Works Department to maintain, it will then be considered as a potential trail surface material.

The AASHTO Guide as well as the City's Land Development Code provides standards for design elements including shoulder width, clearance, cross slope, grade and stopping sight distance. These standards ensure trail safety and can provide an accessible, comfortable Urban Trail experience without user conflict.

- **Width** - Urban Trails are intended to be used by a variety of users from bicycle commuters to dog walkers as two-way facilities. The width of the trail greatly impacts the safety of trail users. A trail width of 12' is the recommended standard in this plan. There have been reported collisions between trail users in cities around the country because of narrower trail widths in high-use areas that have resulted in injury or even death. The Urban Trails Master Plan aims to provide a safe trail environment for all users and

Asphalt
Advantages:
- All-weather, smooth, hard surface,
- Lower construction costs than concrete, and
- Softer surface than concrete, hence preferred by runners

Disadvantages:
- Less durable than concrete thus will incur higher maintenance costs,

Concrete
Advantages:
- All-weather, smooth, hard surface,
- Long life span, and
- Low maintenance makes it very cost-efficient

Disadvantages:
- High initial cost

Decomposed Granite
Advantages:
- Aesthetic appeal

Disadvantages:
- Does not accommodate multi-use,
- High cost of maintenance, and
- Problem for storm water drainage

emphasizes the significance of trail width for user safety. In areas where a higher amount of both pedestrians and bicyclists are anticipated, a dual track design with a width of up to 18' should be considered.

- **Vertical clearance** - A vertical clear zone of ten feet (10') is preferred. In limited conditions, an absolute minimum distance of eight feet (8') may be considered for short distances, but should be clearly marked so it can be seen at night.
- **Curvature** - Curves in the Urban Trails should be gentle and should follow minimums established for the design speed. Guidance for the design of horizontal and vertical curves provided in the AASHTO Guidelines should be followed. These vary based on the design speed and gradient of the facility.
- **Corridor width** - The overall corridor width should be at least 20' wide to allow for a minimum of 5' of clearance between adjacent features and either side of the Urban Trail. The edge of the urban trail should be at least 2' away from adjacent trees or landscaping.
- **Pavement type and thickness** - Urban Trail design should conform to established design standards, including the City of Austin Transportation Criteria Manual, and consider soil type and usage characteristics. The National Cooperative Soil Survey provides soil data on nearly all of the counties in the nation. In areas where uplifting by tree roots is anticipated, a thicker pavement depth of 6" or greater, sand bridging, root barriers or additional steel reinforcing are recommended to increase the durability of the Urban Trail. Where maintenance vehicles are anticipated to drive on the Urban Trail, thicker pavement and/or deeper edge footings should be considered.

Table A.1 Summary of Urban Trail Design Considerations

	Austin Urban Trail	Dual Track Urban Trail
Standard Width	12'	10' for bicyclist side 5' for pedestrian side
Surface	Asphalt	Asphalt
Minimum shoulder	2'	5' recommended 2' user separation
Vertical Clearance	10'	10'
Maximum Cross Slope	2%	8% for bicyclist side
Maximum Grade	5%	5%
Design Speed	18mph	3mph - 30mph
Minimum Distance from Roadway	5'	5'

- **Fencing/Railing** – AASHTO recommends a railing height on stand-alone structures between 42" and 48". In cases where the bridge crosses a roadway, a high protective fence of 72" - 96" may be considered, according to the Rails to Trails Conservancy bridge design standards.
- **Retaining walls** – These may be necessary for trails with steep slopes and may consist of stone, concrete or masonry.
- **Obstructions** – These may include plastic or concrete bollards placed at the entrance of a trail. The purpose of obstructions is to enhance the safety and integrity of the trail by keeping motorized vehicles off the trails.
- **Pavement Markings** – These will enhance safety and provide an effective method of communication to trail users. They can communicate two-way trail traffic with a dashed yellow centerline, direction of traffic with arrows, and pedestrian and bicyclist trail sides with respective symbol markings.

Typical Trail Type Cost Estimates

Trail costs vary considerably based on a wide range of construction needs, including the type of material used for the trail, the number of bridges or drainage crossings that are required, the need for retaining walls or other protective works and the type of amenities that are included in each trail segment.

Designing Trails with Nature

One of the goals of the Urban Trails Master Plan is to ensure environmental sustainability. The plan will comply with the new Watershed Protection Ordinance, the Heritage Tree Ordinance and the Sustainable Plan Award-winning *Imagine Austin*. Vegetation and tree plantings should follow the Environmental Criteria Manual recommendations for local and low-maintenance species listings. Tree preservation and plantings are important to trails because they provide shade and respite from the sun. One of the biggest deterrents of trail use in Austin is the hot weather, so shade offers a huge benefit. Urban Trails can also improve conditions for trees through design by nature techniques. This can include manipulating drainage to lead to a tree-covered area.

Some Urban Trails may have more scenic qualities, and as such may vary in their design to acknowledge those

Note on Environmental and Public Health

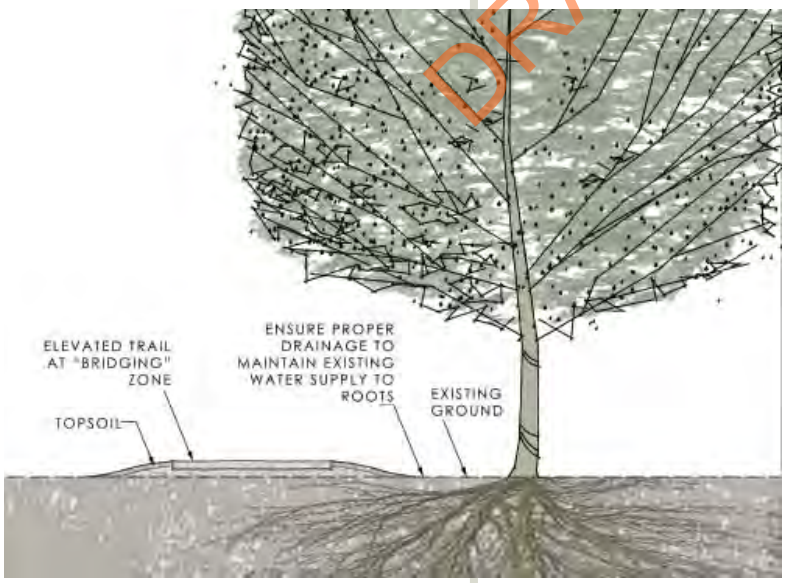
Due to the environmental and public health risks the City of Austin's City Council voted unanimously in 2007 to ban the sale and use of coal tar containing pavement sealants in the city and its ETJ. Coal-tar sealcoat is a product commonly used on asphalt pavement to protect and beautify the surface. It is widely recognized as potent source of polycyclic hydrocarbons (PAHs) and a carcinogen. New studies reveal that living adjacent to a coal-tar sealed pavement is associated with significant increases in cancer risk and that children are particularly vulnerable (USGS, 2013).

"Our urban forest encompasses the trees and vegetation, publicly and privately owned, within Austin's urban area. We receive an estimated $10.7 million in social, economic and environmental benefits each year. To get the benefits that trees bring to our city, they need to remain healthy and properly maintained, to provide us with all of these benefits year after year."

- Austin Urban Forestry Newsletter

qualities. The development of all trails in greenbelts will have to be coordinated with the Watershed Protection Department and the Parks and Recreation Departments and adhere to their policies. For Urban Trails that will be located in environmentally sensitive areas, several measures are recommended to minimize the impact of the trail and trail users on the area:

- The riparian setback should be as wide as possible: 30' to 50' is recommended,
- Slope the trail away from the waterway or pre-treat trail run-off with a trailside swale or vegetated filter strip,
- Limit vegetation removal,
- Preserve trees or vegetation as close to the trail as possible,
- Support the retention of existing trees over removal and mitigation practices,
- Incorporate smaller curve radii to preserve the scenic qualities of the corridor,
- Locate the trail outside the 100-year floodplain wherever possible,
- Remove invasive plant species, and
- Use the trail as an opportunity to restore and enhance the waterway or environmentally sensitive area.



Sand Bridging Rendering

Sand Bridging

This is a relatively new technique that the City utilizes which helps preserve existing trees along a trail. The sand bridging technique lowers impacts to root zones, eliminating the need for removal and mitigation and thus preserving trees as close as possible to the alignment of the trail. Instead of excavating the ground for trail construction, sand is used to build up the site and the trail is then placed on top, and hand digging is done when necessary. By utilizing this technique, no compaction takes place in areas within the critical root zone. The schematic diagram below shows a detail of sand bridging that was recently done for the Shoal Creek Restoration project.

Pedestrian Bridges and Underpasses

Pedestrian bridges and underpasses provide access across barriers that would otherwise hinder connectivity of a trail system. These bridges may be typical pre-fabricated designs, but should always strive to be a step above the customary steel bridge design.

From a user's perspective, bridges should be at least one to two feet wider than the trail on each side. This allows pedestrians to stop and view the adjacent scenery without obstructing the trail. Any bridge that is specifically designated for bicycle traffic must have appropriate railing for bicyclists. When designing a trail across a high bridge, such as a bridge that goes over a body of water or major roadway, railings should be tall enough to prevent a bicyclist from falling over the side in case of a collision. The design should also consider sight lines of pedestrians and bicyclists. Texas has adopted the AASHTO Bridge Design Specifications requirement that railing of bridges that are designated for bicycle traffic should be a minimum of 54" high and should observe design guidelines for pedestrian railing. Bridge approaches and span should not exceed 5% slope for ADA access.

Table A.3 General Bridge Standards

Width	14' minimum
Vertical Clearance	10' minimum
Railing	42" minimum

Bridges should accommodate maintenance vehicles if necessary. Bridge structures should be out of the 100-year floodplain. Footings should be located on the outside of the stream channel at the top of the stream bank. The bridge should not constrict the floodway. All bridges and footings in the stream corridor will need to be designed by a registered geotechnical or structural engineer. Cost, design and environmental compatibility will dictate which structure is best for the trail corridor. If the bridge cannot be located outside of the 100 year floodplain because of land constrictions, a low water crossing can be considered as an alternative.

Underpass along the Southern Walnut Creek Trail

Underpasses provide a more direct route to go under a busy street or railroad crossing. Underpasses should be well lit and attractive, and most of all provide a sense of security for the user. A clearance of 10' is preferred, with 8' as a minimum.

Lighting

As the Urban Trail network in Austin expands and aims to serve transportation needs as well as recreational purposes, lighting should be considered along certain trails and urban segments where not

already provided. Installing lighting along certain trails allows users to access them safely and conveniently by enhancing nighttime visibility, orientation and a sense of security. Lighting will promote evening use, permitting the flexibility necessary to accommodate a wide variety of users.

The type of lighting installed along trails should consider the scale of its users, as well as the urban and natural surroundings. Appropriate lighting techniques for pedestrians and bicyclists includes lower-level human-scale lighting at a lower height, as opposed to higher and brighter roadway luminaires which are effective for automobile traffic but create shadows that make it difficult for pedestrians and bicyclists to see well.

Benefits of lighting:
- Nighttime visibility
- Extends hours of Urban Trail use
- Sense of security
- Orientation
- Creates beautiful public space

Successful lighting techniques can provide more than just better nighttime visibility and a sense of security, they can help create a sense of place as well. Low-level, landscape lighting can create beautiful, engaging public spaces and help make the Urban Trails a destination themselves. Examples include the provision of lights in bollards, along fences or railings, and along the trail surface. This style of lighting should be considered at trailheads and along high use trail segments or intersections where feasible.

AASHTO provides guidelines for lighting at the pedestrian scale. Average horizontal illumination levels should be 0.5 to 2-foot candles (5 to 22 lux) and placement of luminaries should be able to accommodate this standard. This standard may be different dependent on levels of evening trail use and should be considered contextually, on a trail-by-trail basis. The height of luminaires can range from ground level landscape lighting to light posts no taller than 15 feet.

Trail lighting is recommended at the following locations:

- Under vehicular bridges, underpasses, tunnels or locations with limited visibility,
- Along bridges used by bicycles and pedestrians,
- Along urban routes or trail segments where frequent evening or nighttime use is anticipated,
- On routes that are within 1/4 mile from Metro rail transit stations,
- Along high use portions of trails that lead to areas with frequent evening events (example – Butler Trail segments near Auditorium Shores),
- On routes that are within areas having a residential density greater than 10,000 residents per square mile (e.g. Downtown Austin),
- At trail intersections with roadways or driveways where crossing is required, and

The CAG recommended artificial nighttime lighting should be turned off after 10:00 PM along riparian corridors and other less/ underdeveloped areas. Any essential lights for safety that are left on all night should be red wavelength and shielded to minimize disturbance.

- At major trail entrances.

Other factors to consider when planning lighting elements for an Urban Trail include:

- Limit lighting in natural and undeveloped areas to mitigate environmental disturbance,
- Consider timed lighting for commuting (e.g. evening and early dawn),
- Acknowledge that lighting invites nighttime and evening use (but embrace this use), and
- Include signage or information for trail users to call 311 in case a light is out or damaged
- Artificial nighttime lighting should be turned off after curfew along riparian corridors and other less/undeveloped areas. Any essential lights for safety that are left on all night should be red wavelength and shielded to minimize disturbance.

It would be impossible and superfluous to provide lighting for the entirety of the Urban Trails network. Certain trails may be very popular day attractions but not necessarily used at night. Other routes may be used around the clock as a safe, pleasant way for non-motorized users to get around the City. These routes can be identified using travel data, popular evening destinations, residential density, and local knowledge. Some routes traverse environmentally sensitive areas like creeks and should avoid excessive lighting in order to not disturb wildlife. During the Urban Trail public input sessions, the CAG expressed concern about nighttime lighting along riparian corridors and other less or underdeveloped areas.

Lighting Maintenance:
Advances in technology have made lighting very affordable. However, maintaining the trails will only become more taxing as the network expands. Street lighting or other sources may provide adequate lighting. This should be taken into account when lighting a trail segment is considered. It is important for the City and trail users to have a clear understanding of who to contact when a light is out or damaged. Trail users should be encouraged to use the 311 system to alert the City about maintenance issues, and the 311 Ambassadors should be trained to take trail related calls to ensure the proper responsiveness. Furthermore, 311 information should be included along the trail whether it is communicated on light poles, stand alone signage or kiosks located at trailheads.

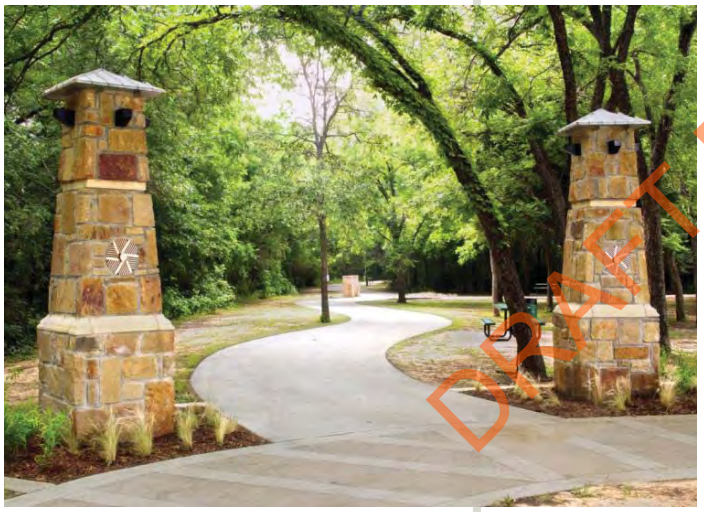
Trail Curfew - An important consideration that may impact lighting

Over 85% of participants of the Online Your Path survey responded that they use the trails in the evening.

Participants of the intercept survey marked "add lighting for evening use along some sections of the trail" as the second most important potential improvement that could be made to the trails in Austin.

An example of low-level, pedestrian-scale luminaires at the Lady Bird Wildflower Center

Urban Trails is the operating hours imposed by the City. As of May 3, 2014 a new trail curfew of 12 midnight to 5:00 AM has been approved for Johnson Creek Trail, Shoal Creek Trail from 15th Street to Cesar Chavez St, and the Ann and Roy Butler Trail from the Boardwalk trailhead on International shores to the Pfluger Bridge. However, other Austin parks are typically open from 5:00 AM to 10:00 PM. It is important to monitor what type of curfew is appropriate on certain Urban Trails. For example, the San Antonio Greenway Trails have hours of "sunrise to sunset." In that case, the curfew can be a serious hindrance to a commuter who begins his trip at 6:00 AM before the sun rises, or during the winter months when the sun sets at 5:30 PM. For the Urban Trail network in Austin to be a useful component of the Active Transportation Network, it is important to have flexible hours of operation. The Public Works Department is currently coordinating with Austin Police Department, Transportation Department, Watershed Protection Department, and Parks & Recreation Department on curfew issues.



Example of a trailhead

Trailheads and Access Points

It is important that Urban Trails possess a high level of accessibility. Since they are designed with a wide range of users in mind, from recreational to work commuters, a high number of access points is desired to accommodate diverse trail use. This way Austinites can use the trails for long bicycle rides, taking their dog out in the morning or running errands.

More access points and intersections increase a sense of security by allowing more people to cross paths and providing more "eyes on the area." Access points should be no more than a 1/4 mile to a 1/2 mile apart, and placement of access points should take into consideration the nearby on-street transportation network and points of interest. Access points should provide adequate signage and wayfinding regarding the 3 D's: direction, distance and destination.

Spacing between trail access points/trailheads – 1/4 mile

- Include connections to other trails, the on-street network, transit stops, bike share stations, and nearby destinations, and
- May incorporate scenic overlooks or pull-offs.

Major trailheads can be spaced 1/2 mile or farther apart. Placement should consider on-street transportation systems like bike lanes,

transit stops and bike share stations. Trailhead design should include maps and signage that are informative while being visually easy to understand.

Two general types of trailheads include:

- Access to trail from adjacent streets or trails, and
- Access to trail from parks.

Trailhead features may include:

- Trash receptacles and dog-waste pick-up stations,
- Benches or other trail furniture,
- Bicycle parking,
- Information kiosk, where appropriate
- Trail map including a "You are here" orientation, and
- Landscaping.

Signs can inform trail users of:

- Location
- Orientation
- Distance and travel time
- Speed
- Safety and alerts
- Trail etiquette

Connecting to the City's utility lines may be difficult in some cases. Therefore, recommendations from this plan for prioritized locations of lighting for trails should be considered during the design and construction of trails. Alternative designs for toilets, like composting toilets or portable toilets, should be considered when necessary.

Features and Amenities

In order for the trails system to be a successful community amenity, the trails should appeal to a wide variety of users including both the elderly and young children. These groups will use the trail more often if the trails are designed to provide a high level of user convenience and the appropriate amenities are provided. Recommended trail amenities include:

Drinking Fountains provide drinking water for people (and pets in some cases).

Bicycle Parking Racks allow trail

Trail amenities like drinking fountains serve basic needs. Others, like the bench pictured in the top right, can be functional and create a unique place.

Walk Raleigh
A remarkable example of citizen activism, Walk Raleigh began in 2012 and aimed to communicate alternative transportation choices for people in the central Raleigh area. The goal of the project was to encourage people to walk when they would have otherwise driven by disclosing the short amount of time it would take to walk to various popular destinations. This project effectively used wayfinding to alter people's transportation behavior and their perception of distance. Walk Raleigh has since evolved into Walk [Your City], an online platform encouraging smart and accessible bicycle and pedestrian wayfinding. A Walk Austin group was created in 2013.

users to safely park their bicycles if they wish to stop along the way, particularly at parks and other desirable destinations.

Art Installations make a trail system uniquely distinct. Local artists can be commissioned to provide art for the trail system. Many trail art installations are functional as well as aesthetic, as they may provide shade, and places to sit or play.

Restrooms shall be ADA accessible and are appropriate at major trailheads or if previously existing in City parks along the trail route.

Pedestrian-scale Lighting improves safety by enhancing night-time visibility and the perception of security. Light fixtures should be designed at the pedestrian or bicyclist scale. High-use trails will be given priority lighting. Solar-powered lighting should be considered where feasible.

Trail Furniture such as benches at key rest areas and viewpoints encourages people of all ages to use the trail by ensuring that they have a place to rest along the way. Benches can be simple (e.g. wood slats) or more ornate (e.g. stone, wrought iron, or concrete).

Maps and Directional Signage allow users to navigate the trail system. Information kiosks with maps at trailheads and wayfinding signs throughout can provide enough information for someone to use the trail system with little introduction. A central information installation at trailheads and major crossroads also helps users find their way and acknowledges the rules of the trail. The directional signage should be ADA accessible and may include features for those with limited sight or other visual impairments, identify accessible routes, and impart a unique theme so trail users know which trail they are following and where it goes.

Reference Location Markers or mile markers are an effective way for trail users to track their location, and they enhance safety in the event of an emergency. They should communicate the trail name and reference location in miles. They may also include a unique identification number that can be relayed to emergency services personnel.

Information Kiosks provide trail users with information and the rules of the trail. A legible trail system map with a "You are here" marker is helpful for orientation. Involving school children, university students, civic organizations or the Art in Public Places program in the research, design and construction of these kiosks would be an excellent community activity. They are also useful for interpretive education

about plant and animal life, ecosystems, and local history.

Trash Receptacles and Dog Waste Pick-up Stations are important trail features that can help keep the trails maintained. Periodic containers at access points should be provided. Additionally, dog waste pick-up bag dispensers should be placed at trailheads and key neighborhood access points along the route. Signs should be placed along the trail notifying dog owners to pick up after their dogs.

Shade Pavilions are important to give trail users a respite from the hot Texas sun. Shade pavilions should include some furniture for trail users to rest and relax.

Landscaping should consider practical and aesthetic appeal, including trees for shade and native, low-maintenance plants. The City of Austin Watershed Protection Department and the Environmental Criteria Manual provide guidance on responsible landscaping techniques for our climate. Urban Trails under design will be reviewed by Watershed Protection and Planning Departments to ensure landscaping for the trails meets current city standards.

Bike Share is a program where users can rent a bicycle at one location, ride to their destination, and return the bicycle at another location nearby. Placing bike share stations at key urban trail access points and trailheads is recommended. This would allow someone to enjoy an urban trail on a bicycle, or to commute on the urban trails by bicycle even if they do not own one.

What is wayfinding?
The term wayfinding was introduced in one of the most influential urban planning and design books called *The Image of the City* (1960) by Kevin Lynch. Lynch investigated the concept of memory and experience in urban environments, noting how people use landmarks to orient themselves in space and identify locations. He described wayfinding as "a consistent use and organization of definite sensory cues from the external environment."

Signage and Wayfinding

Signage and wayfinding represents an important element of a successful trails network. An effective system will promote safety, convey useful information, clarify perceptions of distance, provide a sense of familiarity, offer assurance for first-time users and attract new trail users.

Signs can inform trail users of their location relative to the trail network and the city around them. Orientation signs guide trail users in the right direction. Providing information on the distance and travel time to other trails or nearby destinations creates a pleasant, fluid experience for new and seasoned trail users. Trails that have speed limits should have signs notifying users of the speed limit, and should encourage safe and respectful interactions between users on the trail. The AASHTO guide recommends a

The green tipped bollards in Copenhagen provide great cohesion and recognizability that there is a trail crossing. These bollards are at every trail-street intersection and provide an excellent alternative to standard signage.

Examples of wayfinding and signage along various trails around the State.

general design speed of 18mph. Safety and alert signs can include precautionary messages about steep terrain, sharp turns or narrowing of the trail. Trail etiquette signage may remind users the trail is multi-use with pedestrian and bicycle icons. They may also convey "keep right pass left" etiquette and other appropriate behavior depending on the location.

Many organizations and governmental entities, including AASHTO and TxDOT, provide basic guidelines for signage and wayfinding. The Texas Manual on Uniform Traffic Control Devices (TMUTCD) discusses shared-use signage standards in Chapter 9B-1 including sign size, mounting height and placement in relation to the trail. Yet beyond the rudimentary structural elements of regulatory, warning and directional signage are techniques that can have a significant impact on trail user experience.

The current Urban Trails network in Austin lacks signage and wayfinding. A well-designed signage and wayfinding system can greatly impact user experience and attract new users. One of the goals of the Urban Trails Master Plan is to accommodate recreational needs as well as transportation needs. Many Austinites who do not currently use the trails for recreational purposes may be unaware of convenient trails nearby. During the public input process we learned that the majority of residents in Austin are interested in using an off-street path for recreation and transportation purposes, which points to a large potential for increased Urban Trail use in Austin. The signage and wayfinding system should extend beyond the trails to inform on-street users of nearby off-street options.

As the on- and off-street Active Transportation Network continues to grow, it is important that the systems complement each other. Adequate signage and wayfinding describing travel options should include a cohesive, easy-to-replicate design that is easily identified by Active Transportation Network users.

Wayfinding Within and Beyond

An effective wayfinding system will help guide Urban Trail users and attract passersby. Wayfinding along the trails should consider navigation within the Urban Trails Network as well as to and from destinations beyond the trail. Wayfinding signs should also alert on-street users of nearby urban trail facilities. This may increase urban trail use by offering people in Austin an alternative way to get around the City. This will enhance the Urban Trails as a multi-purpose system, enabling Austinites to navigate through the trail network for miles and allowing others to use the trails as a way to get to their destinations.

Signage and Wayfinding Best Practices:

- **Uniformity of Design** - The Transportation Department, Public Works Department, Parks & Recreation Department, Art in Public Places program, Downtown Austin Wayfinding Project and non-governmental stakeholders should work together to create a streamlined design of wayfinding signs that Urban Trail users can easily identify, understand and navigate the network. Resources such as the Downtown Austin Wayfinding Master Plan and Graphics Manual should be utilized.

Shoal Creek Trail - A scenic route that cuts through the central city, Shoal Creek has great signage and wayfinding opportunities. Intersections should provide adequate, legible signs to nearby destinations and places of interest.

- **Legibility** - The shape and size of the sign, text and icons should be legible for trail users of all ages, locals and visitors, and should be easy to understand for English, visually impaired, and non-English speakers. For important messages conveyed by text consider including a Spanish translation.
- **Placement** - Signs should be placed at entrances, intersections and at forks in the trails to inform and guide urban trail users. Such signage aims to inform users of any and all directional options, nearby destinations and attractions. This includes assuring the user how to stay on the current path. AASHTO provides guidelines about placement distances for signage to avoid clutter.
- **Safety** - Reference location signs, or mile markers, represent an important safety measure for the Urban Trail system. They provide a simple, straightforward way of identifying location in case of an emergency. They also provide a measure of progress for users. It is important to communicate any unusual or upcoming trail circumstances like intersections with on-street traffic, sharp turns or trailheads.
- **Communication** - Convey the 3 D's: distance, direction and destination. Trail etiquette signage conveys appropriate speed and "keep right pass left" messages.
- **Advertise** - An effective wayfinding system will help guide trail users and attract passersby. In some ways it could be considered advertising. In order for more people to use the urban trails they

A Little Free Library on a neighborhood street in Atlanta, GA.

need to know they exist, where they are located, and how to access them. Austin is known for being an outdoorsy, fit city, and it is likely that more people would be open to using the urban trails if they knew about nearby routes. Currently trail entrances are hidden or unmarked. Better wayfinding and signage will attract users and inform them of their off-street options.

Creating Whimsy

In recent years, ideas have changed about the role of public space. Discussions on how to enhance the public realm have spurred a movement involving a wide variety of interested parties trying to solve problematic urban situations. This fervor and reinvention of great public spaces was even showcased at the American Pavilion of the 2012 Architecture Biennale in Venice. The theme, Spontaneous Interventions, displayed 124 cases of public space being redesigned, ranging from Yarnbombing, in which signposts, bicycle racks and public benches all over the country were adorned with knitted covers, to Better Block, where a group of citizens took to the streets of their beloved neighborhood to paint bicycle lanes, crosswalks and install outdoor café seating.

A solar-powered light along the Lance Armstrong Bikeway installed by the AIPP program. This yellow, water-jet cut metal design can be found along the whole path, providing art and wayfinding.

Cities all over the world have taken part in these design actions and the leaders range from local governments to non-profit art collectives to groups of organized citizens. San Francisco and New York City have spearheaded the municipal initiatives with programs like the Parklet Program and the Plaza Program, wherein under utilized public space is transformed into vibrant, social public places.

Austin is no stranger to this movement, having participated in the 2012 Biennale, and bringing art non-profits, academics and City staff to the table to discuss public art as a way of revitalizing urban areas. The adoption of Austin's Great Streets Program uses the same approach to turn transportation corridors into enjoyable, engaging public spaces. One may think of streets as a way to get to a destination rather than as a destination itself, but with this new mentality of utilizing open space to engage the community, transportation corridors can become celebrated spaces.

The Urban Trail Network presents beautiful open space weaving in and around the City. Already an oasis of greenery and nature, the trails system offers more than a way to get around the City by creating unique open spaces for passage, respite and social gathering. The City can collaborate with local non-profits, schools and universities, volunteer groups, neighborhood associations and businesses to

enhance the space the trails inhabit and foster a social, vibrant, even whimsical environment.

Actions

In 1985 the City of Austin established the Art in Public Places (AIPP) program to include works of art in construction projects. The ordinance, which is included in Appendix D, mandates 2% of eligible Capital Improvement Project funds to be allocated to commission or purchase art for that site. AIPP teams with local and nationally-recognized artists to enhance the public realm with historical and cultural landmarks.

The Urban Trails program and the Art in Public Places program will collaborate during the stakeholder process to engage the community and understand the best type of art for each site. Art projects can provide functional amenities like benches or wayfinding. A great example is the AIPP project for the Lance Armstrong Bikeway which incorporates wayfinding along the path.

The Urban Trails program also encourages other opportunities to collaborate with area stakeholders to create fun, community-driven amenities installed along the Urban Trails. Many opportunities exist for collaboration, including the exhibition of student work from the University of Texas School of Architecture.

Photo source: Nathaniel Schneider

University of Texas School of Architecture student work at Boggy Creek Park. Structure is located at 900 Nile St.

Urban Trail Maintenance

Effective trail maintenance is critical to the overall success and safety of Urban Trails in Austin. Maintenance activities typically include pavement stabilization, landscape maintenance, facility upkeep, sign replacement, mowing and litter removal. A successful maintenance program requires continuity. Routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. The benefits of regular trail maintenance include:

- Promotion of Austin's Urban Trail system,
- Deterrent to vandalism, litter and encroachments,
- Preservation of positive public relations between the adjacent land owners and managing agency,
- Efficient enforcement of regulations on the trail. Local clubs and interest groups will take pride in "their" trail and will be more apt to assist in helping with conservation of the trail, and
- Improved safety along the trail.

Ongoing maintenance activities typically include some, if not all, of the following activities:

- **Vegetation** - Plantings should follow local species lists provided by the Watershed Protection Department and the Environmental Criteria Manual. They should be placed far enough apart to maintain good visibility and give trail users good, clear views of their surroundings. Under-story vegetation within most trail rights-of-way should not be allowed to grow higher than 36" for visibility purposes, except in cases where the under-story vegetation is natural, desirable, and part of the habitat required for wildlife. Tree species selection and placement should minimize vegetative litter on the trail and root uplifting of pavement. Vertical clearance along the trail should be periodically checked, and any overhanging branches should be pruned by a certified arborist.
- **Mowing** - The shoulder zone adjacent to an Urban Trail should be mowed as minimally as possible and will be maintained for safety, security and comfort purposes.
- **Surfacing** - Where concrete is the recommended surface material, cracks, ruts, and water damage will need to be repaired periodically. Where drainage problems exist along the Urban Trail, rain gardens, vegetation filter strips, ditches and drainage structures will need to be kept clear of debris to prevent washouts and maintain positive drainage flow. Checks for erosion along the Urban Trail should be made during the wet season, and immediately after any storm that brings flooding to the local area.
- **Removal of Debris** - The Urban Trail surface should be kept free of debris, especially broken glass and other sharp objects, loose gravel, leaves, and stray branches. Trail surfaces should be swept periodically. Soft shoulders should be well maintained to maximize their usability.
- **Litter Removal** - Litter receptacles should be placed at access points such as trailheads. Neighborhood volunteers, friends groups, and community service groups should be considered in addition to maintenance staff to help pick up litter. Illegal dumping should be controlled by vehicle barriers, regulatory signage, and fines as much as possible. When it does occur, it should be removed as soon as possible in order to prevent further dumping.
- **Sign Inspection and Replacement** - Signage should be replaced

along Urban Trails on an as-needed basis.

- **Graffiti Abatement** - Graffiti abatement plans should be developed amidst trail design and graffiti removal should be a part of routine maintenance.

Clarifying Inter-Departmental Maintenance Duties

The Parks and Recreation Department (PARD) retains the approval authority on trails within parkland as well as corresponding maintenance responsibilities. PARD and the Public Works Department (PWD) have created written agreements regarding operation and maintenance responsibilities for trails to clarify duties and ensure adequate trail maintenance. The Boardwalk Trail at Lady Bird Lake Inter-Departmental Agreement, Austin to Manor Trail Memorandum of Understanding, and the Southern Walnut Creek Trail Memorandum of Understanding are included in Appendix D of the Urban Trails Master Plan as references for such agreements.

Upon adoption of the Urban Trails Master Plan staff will found an Interdepartmental Agreement (IDA) between the Parks and Recreation Department, Watershed Protection Department, Health and Human Services Department and other internal City departments as needed to create an over arching agreement regarding maintenance of Urban Trails. This IDA will address levels of responsibility and will define expectations, contacts and jurisdictions for maintenance.

Maintenance will include:

- Pavement sweeping
- Debris removal
- Shoulder and grass mowing/ weed control
- Trash disposal
- Plant trimming
- Drainage feature cleaning (excluding watershed maintenance areas)
- Lighting repair (replacement)
- Furnishing repair
- Irrigation repair

- Sign replacement
- Inspection and monitoring of trees/pruning
- Pavement repairs
- Special maintenance: mud removal, fallen trees, debris, graffiti removal, minor bridge repair
- Trail replacement (anticipated)

APPENDIX B: PUBLIC INPUT

APPENDIX B
PUBLIC INPUT

Open House held at St. Davids in November 2013. This open house was held in conjuction with an Imagine Austin Speaker Series sponsored by the National Association of City Transportation Officials.

The citizen outreach process was designed to engage all members of the Austin community in developing a plan for Urban Trails. The purpose of citizen input is to learn about how the community uses urban trails, hear feedback on current trails, and gather feedback about the recommendations for the future. After analyzing the input, the community's ideas, recommendations, and preferences for existing and future trails were incorporated into the master plan.

Several tools for engagement were employed to gain a wide perspective on behavior and ideas about bicycling, walking and Urban Trails use in Austin.

PUBLIC INPUT METHODS:

The following tools were used to inform and engage the public about the Austin Urban Trails Master Plan and Bicycle Master Plan update. Because both plans were occuring simultaneously, and both plans work together to create the overall Active Transportation Network, the public input process for both plans also occurred at the same time. The wide variety of methods employed to gain public input provided many outlets for the community to be involved and for the City to achieve broad consensus.

Telephone Survey – A statistically valid telephone survey was conducted of adults 18 years and older within the Austin city limits on bicycle riding behavior. The study was modeled in part after the work of Roger Geller of the Portland, Oregon Bureau of Transportation (2006) and a subsequent study by Professor Jennifer Dill, PhD and Research Associate Nathan McNeil of the Nohad A. Toulan School of Urban Studies and Planning, Portland State University. The design of this research went beyond measuring behaviors and characteristics among cyclists alone to better understand the extent to which the total population of adults in Austin feel about riding a bicycle.

Online Survey – The online survey, which tallied approximately 2,400 responses, aimed to gather information on trail and bicycle use and behavior in Austin to help guide future City of Austin plans and projects that affect users of the Active Transportation Network. This survey was available to anyone who lives in the City of Austin.

Trail Intercept Survey – The intercept survey provided insight into current urban trail use and behavior by surveying trail users around Austin. The intercept survey tool is particularly helpful because it provides specific feedback about the current urban trail network, including potential

improvements and recommendations from trail users.

CAG and TAG – Stakeholders were identified and invited to be a part of the Citizen Advisory Group (CAG). The CAG was involved in the planning process and offered feedback and recommendations. The Technical Advisory Group (TAG) was made up of various employees from City of Austin, Capital Metro, CAMPO and other jurisdictions. The City held special input meetings for the CAG and the TAG to gain feedback on current and proposed trail routes, prioritization and issues of interest or concern.

Public Meetings – The City held public meetings throughout the planning process to inform and engage communities all over the Austin area. The meetings included presentations and informational posters, with City staff members available for questions and comments. The kickoff meeting on November 12, 2013 also featured distinguished speakers from across the U.S. as part of the National Association of City Transportation Officials (NACTO) Cities for Cycling Road Show. In order to reach out to traditionally under-represented communities, the City participated in three events in the spring of 2014 including hosting a Bike Rodeo.

Online Open House – For those who could not attend a public meeting, the content was posted online and included the survey that was distributed at all of the public meetings.

Each component of the public input process provides unique insight for the City and serves to inform the Urban Trails Master Plan. The Telephone Survey explored the opinions of all Austin residents. The results from this study help us understand general perceptions and attitudes about bicycling in Austin. The Intercept and Online surveys represent current users in Austin. Comments from the CAG and TAG provide more detailed, technical feedback. The input from public meetings helped identify specific routes, and overall feedback on the Urban Trail Network.

In total, 6 public meetings were held during the planning process in central, north, south and east Austin.

Public Input Findings:

The Telephone survey provides information concerning bicycling preferences and opinions for the whole community of Austin. By surveying a statistically valid sample size, we learned about general bicycle riding behavior including average distance per bicycle ride, frequency of riding, level of interest in riding more, age and gender of

41% of adults and over
75% of kids ride bicycles in Austin

23% of adults ride a bicycle often
3% ride daily

54% of people in Austin want to ride more

current bicyclists, and people's comfort levels on riding a bicycle in Austin. We found that 41% of adults in Austin currently ride a bicycle and over 75% of kids ride bicycles. This means that almost half of the population in Austin 18 years and up own a bicycle and ride it anywhere from a few days a year to every day. About 23% of adults in Austin ride a bicycle often and 3% ride daily. While the majority of adults in Austin are not riding a bicycle, 54% expressed they want to ride more. The majority of Austinites are interested in riding a bicycle yet only a quarter of the population ride a bicycle often.

The Four Types of Bicyclists

The Telephone Survey used a method of classification popularized in Portland, OR to describe the types of bicyclists in the Austin community. The "Four Types" tool reveals that most people in Austin do not feel comfortable riding in a traditional striped bicycle lane. However, the majority of the population would feel comfortable riding on an Urban Trail. Understanding how Austinites feel about bicycle infrastructure is the key to a successful Active Transportation Network. The majority of the population in Austin is interested in riding a bicycle yet less than 20% are comfortable riding in on-street bicycle lanes. Over 55% of people in Austin want some form of separation between their bicycle facilities and on-street traffic.

Table B.1 Summary of Bicyclists in Austin

Strong & Fearless	Very comfortable without bike lanes	2%
Enthused & Confident	Very comfortable with bike lanes	15%
Interested but Concerned	Not very comfortable, interested in bicycling more/ Not very comfortable, currently bicycling, not interested in bicycling more	39%
No Way No How	Physically unable/ Very uncomfortable on paths/ Not very comfortable, not interested in bicycling more, not currently bicycling	44%

We asked about the main barriers preventing Austinites from riding a bicycle. The deterrents differed between the general population and those that are already enthused and confident bicycle riders. However, both groups identified lack adequate infrastructure and feeling uncomfortable on the road as barriers to riding more often.

Top 7 barriers preventing all people from riding a bicycle are:

- Weather is too hot (75%)
- Destinations too far (52%)
- You do not feel safe (46%)
- Bicycle lanes, trails are not connected (44%)
- Lack of shade (40%)
- Bicycle lanes, trails are not available (40%)
- Takes too long (38%)

Top 7 barriers preventing current bicyclists from riding more:

- Bicycle lanes, trails or paths are not connected (82%)
- Bicycle lanes, trails or paths are not available (68%)
- You do not feel safe (61%)
- Existing bikeways are in poor condition (47%)
- No showers or place to freshen up at your destination (46%)
- Weather is too hot (44%)
- Lack of secure bicycle parking (44%)

While there may not be much to do about the weather being too hot, adding shade along the routes and places for users to rest along the way could encourage more people to brave the heat. While we cannot directly address the problem of destinations being too far away, expanding and connecting the urban trails network and providing seamless access to trainsit may address issues of distance and time. Perhaps the most addressable barriers for all residents, current cyclists or not, are those concerning safety, connectivity and accessibility.

The statistically valid telephone survey revealed that the majority of Austinites feel unsafe riding in a traditional striped bicycle lane but would ride on a separated path. The bicycle community shares this sentiment, with the majority feeling somewhat uncomfortable riding in a striped bicycle lane and nearly 100% consensus on feeling very safe riding on a separated path. People in Austin are interested in riding a bicycle or riding more often but they are concerned for their safety. Investing in bicycle infrastructure that provides a physical barrier between users and on-street motor vehicle traffic provides a sense of security that encourages more residents to get on a bicycle.

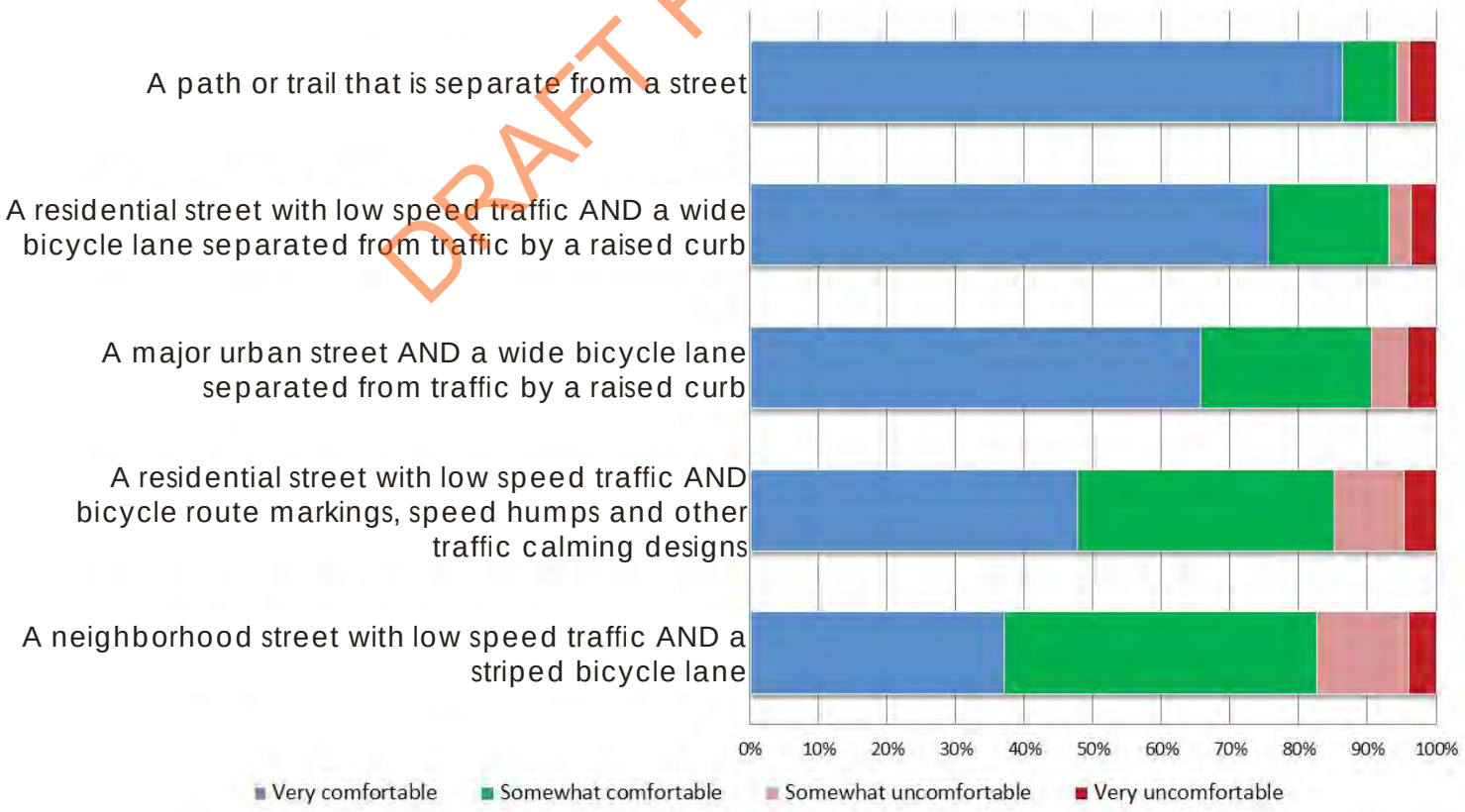
41% of bicyclists in Austin are female and 59% are male. This represents a very even gender ratio compared to other cities in the U.S., including Portland where only 31% of bicyclists are female. Many researchers in the U.S. declare women as good “indicator species” for the success of bicycle policies (Szczepanski, 2013). In countries with more developed bicycle infrastructure, like Germany or the Netherlands, the ratio of men and women bicyclists is about even (Baker, 2009).

The Online survey was available to all residents in Austin and gathered the opinions and preferences of current bicycling and trail use behavior. The goal of this 24 question survey was to learn about general use, demographics, preferences, and opinions regarding trail features and potential improvements.

The Online survey revealed that 96% of survey participants want to travel by bicycle more than they currently do. The main issues holding them back are a lack of adequate infrastructure and safety. As discussed previously, the barriers preventing people from riding a bicycle or riding more often can be largely addressed through better connectivity and safer bicycle infrastructure. Mirroring the results of the Telephone survey, the vast majority of the bicycle community in Austin would feel the safest riding on a separated path than any other type of bicycle facility. Their top three responses were nearly the same as those from the Telephone Survey. This means that the general public in Austin and the local bicycling community both regard an Urban Trail as the safest, most comfortable type of bicycle infrastructure.

TOP SCENARIO PREFERENCES FOR RIDING A BICYCLE

As identified by the Online Survey

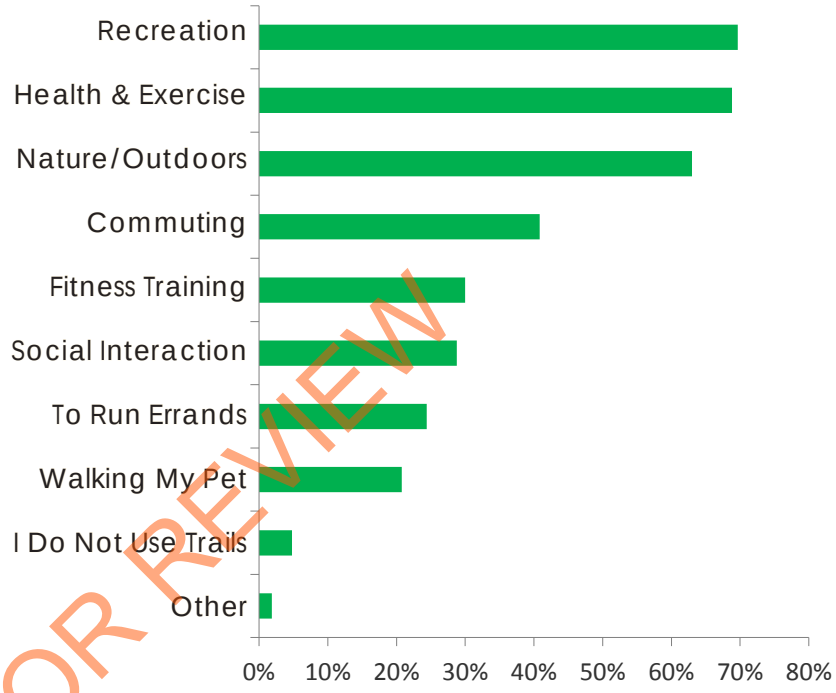


61% of Online respondents use the trails during the week and weekends, 21% typically use the trails only during the weekends and 6% generally use the trails only during the week. The number one reason users get on the trail is for recreation and 41% report they use the trails for commuting. The two peak periods of use throughout the day are mornings and evenings: 62% report using the trails from 6:00 AM to noon, and 54% report using the trails between 5:00 PM to 10:00 PM.

Participants provided feedback about the on-street and off-street network. They were asked to rank a list of potential improvements to the Urban Trails in terms of importance. The top five are listed below.

GENERAL USE OF TRAILS

As identified by the Online Survey



TOP 5 MOST IMPORTANT ACTIONS TO IMPROVE URBAN TRAILS

As identified by the Online Survey

1. Improve access to the trails from nearby neighborhoods or businesses
2. Add lighting for evening use along some sections of trails
3. Trim landscaping and obstructions to improve sight lines
4. Create separate areas for walkers and bicycle riders
5. Improve the smoothness of trails

Intercept survey along Shoal Creek Trail near 3rd Street

The Intercept survey explored behavior and habits of current trail users. Most people use the trails on both weekdays and weekends to run/jog or ride a bicycle. The top three reasons for using the trails are health and exercise, enjoying nature/being outdoors, and recreation. The most popular time of day is in the morning (6:00 AM to noon), though 44% of the surveyed trail users report they use the trails in the evenings (5:00 PM to 10:00 PM). The top two ways users access the trails are by bicycle and by car (single occupancy vehicle). They typically use the trails a few times per week and about a third say they get on a trail every day.

Trail users were asked to give feedback about trail features including trail width, surface quality, cleanliness, amenities such as drinking fountains, adequate signage for safety or information, ease of access from nearby neighborhoods and overall trail maintenance. They ranked the trails from best aspects to features that need improvement. The top three choices are shown in the chart below. Intercept survey respondents also ranked potential trail improvements from most important to least important.

Respondents' top three choices for most and least important are shown in order in the chart to the left. For most important potential trail improvements "Provide more shade" tied with "Provide more drinking fountains" for third most important.

This feedback is very helpful for understanding how people use the trails, what they like about them and what they would like to see changed. The results of the intercept survey were used to inform the recommendations for the Urban Trails Master Plan.

BEST TRAIL FEATURES	NEEDS IMPROVEMENT
Feels safe, sense of security	Has adequate amenities such as drinking fountains
Ease of access to the trail from nearby neighborhoods or businesses	Has adequate information and directional signs
Quality of the trail surface	Is adequately signed for safety

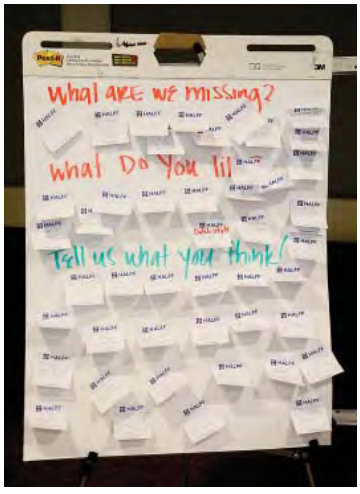
MOST IMPORTANT POTENTIAL TRAIL IMPROVEMENTS	LEAST IMPORTANT POTENTIAL TRAIL IMPROVEMENTS
Create separate areas for walkers and bicycle riders	Provide more benches and resting areas
Add lighting for evening use along some sections of the trail	Trim landscaping and obstructions to improve sight lines
Provide more shade *and* Provide more drinking fountains	Add more information and directional signs

The **CAG** and the **TAG** helped modify proposed trail corridors and made recommendations for trail standards. A major interest of the CAG was preserving the environment in particularly sensitive or underdeveloped areas. Future trails should be built close to developed land and when traveling along watersheds or creeks should use minimal, low-level lighting so as not to disturb the wildlife. The TAG provided insight on feasibility of certain route segments. Members from other transportation organizations like CAMPO contributed information about projects and developments that may affect the trail system or potential corridors. These meetings were held in the early phase of the planning process. The input from the CAG and TAG informed the maps and recommendations that were presented at the public meetings weeks later.

The first **public meeting** was held on November 12, 2013 and included three presentations from bicycle transportation leaders from Portland, Chicago, and New York City. The City of Austin teamed with the National Association of City Transportation Officials (NACTO) to present a Cities for Cycling Road Show and Open House. Guest speakers presented on their city's progress in bicycle infrastructure and the City of Austin presented on our progress, describing the impact of the Green Lanes Project, the Dutch Cycling Embassy Think Bicycle Workshop, and plans to improve local active transportation infrastructure.

All the public meetings included informational posters, brief presentations and City staff on hand for questions and comments. The posters included descriptions about the various types of bicycle and urban trail facilities, maps of facilities including proposed routes and interactive boards. Using sticker dots participants could identify where they go in the City, vote on the facility they liked the best, mark on the maps, and leave comments.

Participants were encouraged to leave sticky notes with recommendations and feedback about the trails. With over 100 sticky note comments, the feedback ranged from general points like "More off street trails/ paths for families with young kids" to specific ones like "Redevelopment of Oltorf between Burleson and Pleasant."



Comments received during one of the public meetings in November 2013.

Open House participants at St. David's give feedback on bicycle and urban trail recommendations

Young participants learn about safety at the bicycle rodeo on Saturday, February 22, 2014

The visual preference poster invited people to place a dot next to a picture of the bicycle facility they would be most comfortable riding on (shown to the left). This exercise revealed that most people want some sort of separation between themselves and on-street traffic. When asked about the most important actions to improve Urban Trails the top three responses were 1. Improve access to trails from nearby neighborhoods or businesses, 2. Improve smoothness of trail, and 3. Widen trail surface.

Additional public meetings were held in East Austin to encourage traditionally under-represented communities to learn about the Urban Trails Master Plan and provide input. East Austin is a historically low-income, minority area of Austin. The same information was presented at these three targeted public meetings. One of the meetings also included a bicycle rodeo, where the local non-profit Ghisallo Foundation taught kids the basics of urban riding while the Yellow Bike Project provided free bicycle repair. At these targeted meetings, the top three responses for improving the Urban Trails were similar to the other meetings and surveys, comprising of: 1. Improve access to trails from nearby neighborhoods or businesses, 2. Create separate areas for walkers and bicycle riders, and 3. Widen trail surface.

The **Online Open House** provided all the informational posters and survey questions for interested citizens who could not attend the public meetings. Their top three recommendations for improving Urban Trails were different, comprising of 1. Create separate areas for walkers and bicycle riders, 2. Improve access to trails from nearby neighborhoods or businesses, and 3. Add lighting as appropriate.

Summary of Public Input:

We learned that:

- 41% of adults and 75% of kids ride bicycles in Austin
- The majority of people in Austin want to ride more than they currently do
- The majority of residents and current bicyclists do not feel comfortable in a traditional bicycle lane but would feel very comfortable riding on a separated path
- People in Austin are much more willing to ride a bicycle if there is some sort of separation between themselves and on-street traffic
- The main barriers preventing people from riding a bicycle are:
  - Weather is too hot
  - Destinations are too far
  - Do not feel safe
  - Bicycle lanes or trails are not connected
  - Bicycle lanes or trails are not available
  - Existing bikeways are in poor condition
  - No showers or place to freshen up at destination
- Most people use the trails to jog/run or ride a bicycle
- The two peak time periods for trail use is in the mornings between 6:00 AM and 12:00 noon and in the evenings between 5:00 PM and 10:00 PM
- The majority of trail users get on a trail throughout the week and weekends, though the weekends are more popular
- The most important actions to improve Urban Trails are:
  - Improve access to trails from nearby neighborhoods or businesses
  - Improve smoothness of trail
  - Widen trail surface
  - Create separate areas for walkers and bicycle riders
  - Add lighting as appropriate
  - Provide more shade
  - Provide more drinking fountains
  - Trim landscaping and obstructions to improve sight lines

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APPENDIX D: RELATED CITY OF AUSTIN POLICIES

2008 City Council Resolution to create an Urban Trails Master Plan

RESOLUTION NO. 20080424-064

WHEREAS, the Envision Central Texas planning process encouraged the City of Austin to develop a dense, vibrant, urban infill to meet our regional population growth and as the City of Austin is implementing this vision; and

WHEREAS, the increased density redevelopment of in our urban core increases the utilization of our existing parks, trails, and other recreational facilities; and

WHEREAS, this redevelopment also creates opportunities to build new parks, trails, sidewalks, paseos, and other elements of an active transportation network through on-site parkland dedication and parkland dedication fees; and

WHEREAS, both these urban open space and transportation demands could be satisfied through connections built into to the urban fabric through linear parks or trails; and

WHEREAS, the City of Austin has already begun a Parks Master Planning process to develop priorities for parkland and facilities acquisition, enhancement, and management; and

WHEREAS, the use of linear parks are becoming an increasingly important asset to multi-modal transportation systems throughout the nation and world in urban areas; and

WHEREAS, the City of Austin is also updating its Bicycle Master Plan to incorporate the recommendations of the Street Smarts Task Force to include a

stronger emphasis on off-street facilities that serve both recreational and transportation purposes; and

WHEREAS, connecting parks with other elements of an active transportation system, such as trails, bike lanes, and sidewalks, enhances the quality and utilization of all such facilities; and

WHEREAS, the ability to fully utilize our trails system for both purposes increases the overall quality of life in Austin; **NOW, THEREFORE,**

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

The City Manager is directed to:

1. Direct the Public Works Department and Parks and Recreation Department to collaborate to adopt a comprehensive and unified interdepartmental vision and coordinated plan to optimize City efforts toward an enhanced and interconnected bicycling, pedestrian and trails network.

2. Direct other City departments with related assets and management responsibilities – including Austin Water Utility, Austin Energy, Solid Waste Services and Watershed Protection & Development Review – to participate and lend necessary resources to the creation of the coordinated plan.

3. Direct the Public Works Department and Parks and Recreation Department to develop implementation strategies as a part of the plan, including but not limited to:

a) Interdepartmental consultation and coordination in the ongoing updates of the Bicycle Master Plan and the Parks and Recreation Long Range Plan.

b) Development of a map to guide the implementation of the coordinated plan, and incorporation of the map into the updated Bicycle Master Plan, Parks and Recreation Long Range Plan and Sidewalk Master Plan.

c) Identification of any additional City departmental plans or processes into which the map and coordinated plan should be incorporated.

d) Identification of any organizational changes, process improvements and staff resources necessary to facilitate and implement the interdepartmental vision and coordinated plan.

4. Provide a report to the City Council on completion of the tasks outlined above, and present the plan to Council for approval, prior to presentation of the Bicycle Master Plan and Parks and Recreation Long Range Plan updates.

ADOPTED: April 24, 2008 **ATTEST:** Shirley A. Gentry

Shirley A. Gentry
City Clerk

PEDESTRIAN ADVISORY COUNCIL Memorandum of Support for the Urban Trails Master Plan

April 10, 2014

Nadia Barrera and Nathan Wilkes
City of Austin Public Works Department
One Texas Center
505 Barton Springs Road
Austin, Texas 78704

Re: Urban Trails Master Plan and Bicycle Master Plan Amendment

Dear Nadia and Nathan:

Whereas the Pedestrian Advisory Council (PAC) is in nascent form, without official members or a chair to submit a recommendation on the group's behalf, I submit this letter to you as PAC staff reflecting the group's recommendation regarding the Urban Trails Master Plan and Bicycle Master Plan Amendment. An official vote count is included of all members of the public in the audience.

The PAC was formed in summer 2013 in order to advise City of Austin and other entities on pedestrian planning, design, funding, and enforcement efforts regarding the creation, maintenance and operation of pedestrian facilities in order to ensure a safe and enjoyable circulation for both commuting and recreation within the City of Austin. The PAC's goal is to ensure sensitivity to pedestrian issues in the design and implementation of all public and private projects impacting pedestrians.

At the April 7, 2014 regular meeting the PAC received a presentation on the vision of the Urban Trails Master Plan and the Bicycle Master Plan update. The group made several observations and made several recommendations, including:

- The plans are consistent with the vision of the *Imagine Austin Comprehensive Plan*;
- Implementation efforts should ensure trails are ADA accessible from on-street sidewalks;
- Urban trails should incorporate ADA signage along routes;
- Urban trails should incorporate mile markers along the urban trails;
- The bike-pedestrian program should enhance education to residents to increase walking and bicycling, particularly given the rapid growth of Austin's population;
- The bike-pedestrian program should make use of the extensive data collected through the performance of surveys as part of the Urban Trails and Bike Master Plan process;
- Staff should coordinate the plans' implementation efforts with sidewalk construction to ensure seamless transition for on-street facilities to urban trails; and
- The Urban Trails Master Plan and the Bicycle Master Plan should consider the full geography of the city – not just central Austin.

After consideration of the above points, the group voted 17-0 in favor (with 7 staff abstaining) to support the vision and principles of the Urban Trails Master Plan and Bicycle Master Plan update.

Please let me know if you have any questions regarding the recommendations of the Pedestrian Advisory Council.

Sincerely,

Robert Anderson
Community Transformation Grant Planner and Pedestrian Advisory Council Staff
City of Austin Planning and Development Review Department

cc: Pedestrian Advisory Council

Austin to Manor Trail and Southern Walnut Creek Trail Memorandums of Understanding between PARD and PWD

Memorandum of Understanding
Austin to Manor Rail with Trail Project

This Memorandum of Understanding (MOU) is entered into by and between the City of Austin Parks and Recreation Department (PARD) and the City of Austin Public Works Department (PWD), for construction of a multi-use trail through Walter E. Long Park.

Purpose

This MOU outlines the understanding between PARD and PWD regarding the placement of a multi-use trail on the Walter E. Long property. PARD operates the Walter E. Long property for recreational purposes. The proposed multi-use trail will be compatible with the purposes of the Walter E. Long Park and will be constructed by PWD. The general location of the Trail will be as shown on Exhibit A.

Description of Project

The Austin to Manor Trail is planned to be an off-street concrete path constructed in Travis County, City of Austin, and Capital Metropolitan Transit Authority's (CMTA) right-of-way. The trail will be approximately 5.4 miles in length and will provide connection to the City of Austin Parks and Recreation Department's Southern Walnut Creek Trail at the Walnut Creek Sports Complex, Walter E. Long Metropolitan Park, Texas State Highway 130 and the City of Manor. Funding will be from a variety of sources including Texas Department of Transportation (TxDOT) funds and City Transportation bond funds. The remainder of the trail will be constructed as funds become available. CMTA's long range plans call for this rail line to become part of a commuter rail system that will incorporate the bike and pedestrian trail.

The trail will be located in Walter E. Long Park for a length of approximately 0.9 miles. It will generally follow the path of an abandoned railroad spur and will run roughly parallel to Decker Lane (see Exhibit A).

PWD Responsibilities

PWD will provide overall project management for the design and construction of the proposed Austin to Manor Rail with Trail Project, including the section to be located on the Walter E. Long property. Preliminary engineering of the trail across the park property indicates that the trail will have minimal impact on the park property, enhancing access to the park and will not trigger a Title 26.

The alignment of the trail was designed to minimize the impacts to trees and other natural features of the park while still meeting all ADA and AASHTO design guidelines. Use of the previously abandoned railroad spur will provide an aesthetic alignment with natural grades and views of the lake.

The trail will be designed in accordance with all applicable design criteria and the entrances and exits to the Walter E. Long property will be designed to prevent vehicles other than bicycles from entering the park property. The trail will be a nominal 10-foot wide concrete

path with 2-foot shoulders. It will generally consist of a minimum of 5-inches of concrete pavement on 8-inches of lime stabilized sub-grade. Lands disturbed by construction activities will be restored in accordance with standard city specifications.

PWD will be responsible for funding all aspects of the project including the design, and construction of the trail and any trail surface and structural maintenance associated with the Trail.

PARD Responsibilities

PARD has reviewed the preliminary engineering report regarding construction of the trail on the Walter E. Long Property, and agrees that the trail will have negligible negative impacts on the park and agrees that the trail is compatible with the recreational uses of the park property. PARD will provide a staff member to oversee the construction activities as related to the park property. This staff member will only be responsible to represent PARD and to provide input to the PWD Project Manager on behalf of PARD.

PARD will be responsible for vegetation control, drainage and maintenance of existing culverts including clearing of debris three times a year or as needed, litter abatement, and trash pick-up on parkland. All maintenance is subject to staffing and the appropriate funds allocation through the general fund.

Beneficial Aspects of the Trail

Construction of the Trail is recognized as a park use and is compatible with other recreational uses of Walther E. Long Park. Because of the beneficial aspects of the trail, a Chapter 26 hearing is not required. PARD staff is supportive of the trail construction and perceives it as a beneficial use of the parkland for the enjoyment of the citizens, park patrons and trail users. PARD also appreciates the efforts and cooperation of the PWD for performing the design and construction of these betterments on parkland.

AGREEMENT

Agreed, this the day of October, 2012, and will remain in effect until such time as either party desires to cancel the agreement by submitting written notification to the other stating of such desired action after a ninety (90) days period from the date received by the second party.

for _____ 11/20/12
Howard Lazarus, P.E. Date
Department Director,
Public Works Department

_____ 9/27/12
Sara L. Hensley, CPRP Date
Department Director,
Parks and Recreation Department

Memorandum of Understanding
Southern Walnut Creek Trail Project

This Memorandum of Understanding (MOU) is entered into by and between the City of Austin Parks and Recreation Department (PARD) and the City of Austin Public Works Department (PWD), to memorialize the agreement of maintenance responsibilities for the Southern Walnut Creek multi-use trail (SWCT).

Purpose

To outline the understanding between PARD and PWD regarding the agreed upon maintenance responsibilities for the SWCT system located within dedicated parkland, greenbelts and public use or hike and bike easements and agreements. PARD operates these properties for recreational purposes and acknowledges that the trail will have a significant transportation function. The general location of the Trail is as shown on Exhibit A.

Description of Project

The Southern Walnut Creek Trail is a significant portion of the City of Austin's planned Walnut Creek Trail System proposed to connect northwest Austin to north and south east Austin. This portion of the trail system is approximately 7.3 miles long. It is a 10 foot wide concrete trail that includes 5 bridges, 3 boardwalk/elevated sections, retaining walls, drainage culverts and two parking lots with trailhead amenities. The trail will provide neighborhood connections from Govalle Park at 5200 Bolm Road to the Walnut Creek Sports Park at 7800 Johnny Morris Road and will be a multi-use alternative transportation and recreation corridor for cyclist, walkers and runners. Funding has been provided through a Texas Department of Transportation (TxDOT) grant and City of Austin Parkland bond funds.

PWD Responsibilities

PWD will be responsible for maintaining the trail surface, hardscape elements and structures to ADA requirements and ASHTO guidelines including all bridges, parking lots provided in this project and non-moveable improvements including retaining walls, any future light fixtures and associated utilities, railing, signage and surface striping. Maintenance shall include but not be limited to structural and aesthetic repairs, removal of mud, gravel and vegetative debris and graffiti removal. PWD will also be responsible for vegetation control for the 10' trail and 14' bridge widths and within a 5' buffer from the trail edge for height clearance and obstructions per ADA requirements and ASHTO guidelines. Current agreements with regard to maintenance of parking areas within parks shall remain in place.

PARD Responsibilities

PARD will be responsible for litter abatement, trash pick-up and furniture maintenance (benches, trash receptacles etc…) on parkland, at trailheads and parking lots. All maintenance is subject to staffing and the appropriate funds allocation through the general fund.

Any amenities PWD or PARD elects to provide in the future to the trail system will be the sole responsibility of that department unless otherwise agreed to by both departments.

AGREEMENT

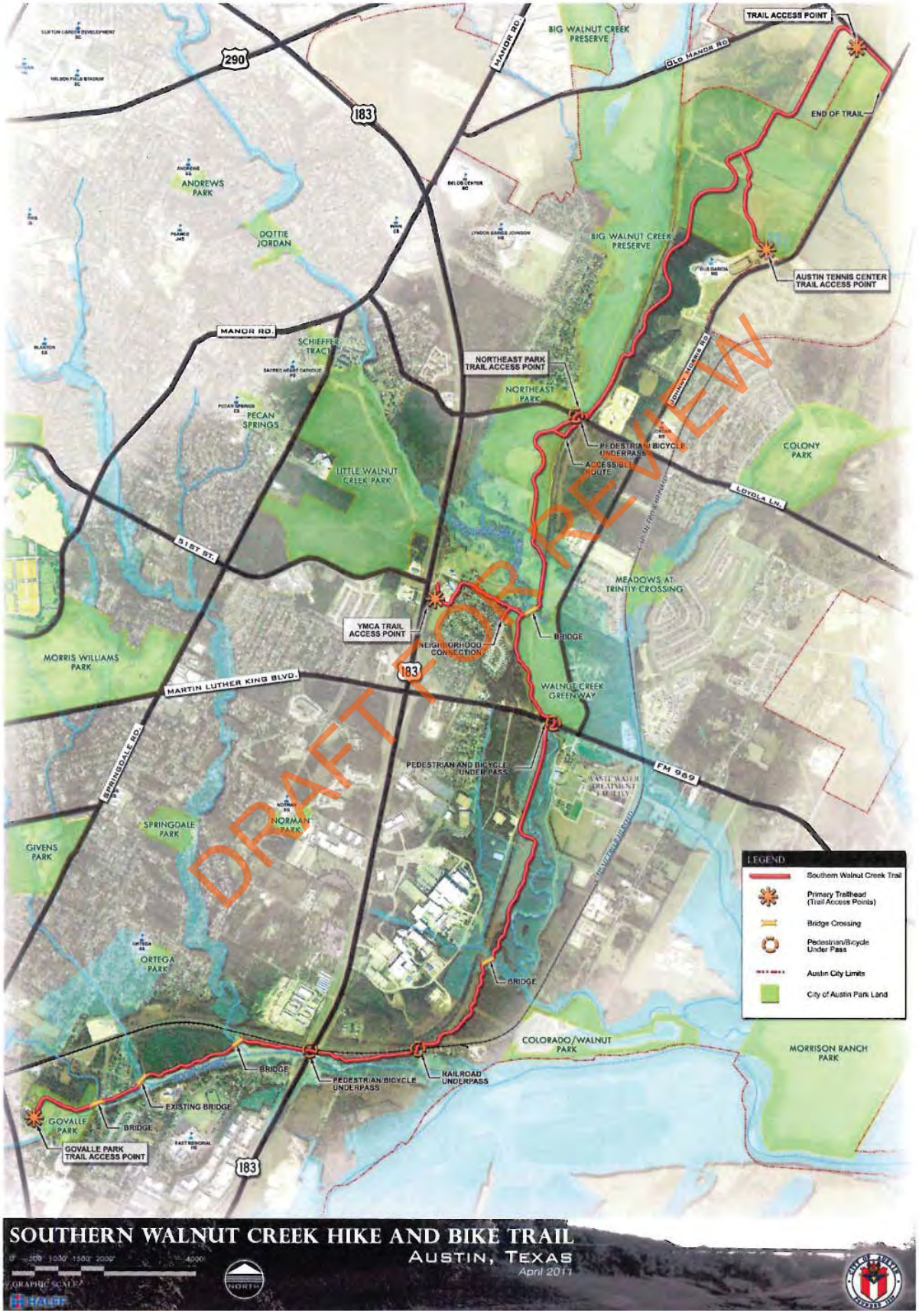
Agreed, this the 13th day of November, 2013, and will remain in effect until such time as either party desires to cancel the agreement by submitting written notification to the other stating of such desired action after a ninety (90) days period from the date received by the second party.

Howard Lazarus, P.E.
Department Director,
Public Works Department

11/18/13
Date

Sara L. Hensley, CPRP
Department Director,
Parks and Recreation Department

11/15/13
Date



Boardwalk Trail at Lady Bird Lake Inter-Departmental Agreement between PARD, WPD and PWD

INTER-DEPARTMENTAL AGREEMENT

Boardwalk Trail at Lady Bird Lake SPC-2011-0327C

This Inter-Department Agreement (IDA) is entered into by and between the City of Austin Parks and Recreation Department, Public Works Department and Watershed Protection Department to memorialize the agreement of operation and maintenance responsibilities for the Boardwalk Trail at Lady Bird Lake as permitted through case number SPC-2011-0327C incorporated by reference herein and as required by Planning Commission approval, prior to the issuance of final acceptance of the project.

Project Description

The Boardwalk Trail is approximately 1.3 miles of hike and bike trail with associated amenities, partially on land crossing through public use easements on private property and City-owned lands and partially within Lady Bird Lake. The Boardwalk trail eliminates a gap in the Ann and Roy Butler Trail system within Town Lake Metropolitan Park, providing new neighborhood connections and completing the ten (10) mile hike and bike trail loop around Lady Bird Lake.

This memorandum applies to the limits of the project as described in approved site plan SPC-2011-0327C and is applicable to all development and associated amenities constructed under this permit and all adversely effected drainage systems that may be damaged and/or altered through this development.

Responsibilities

Watershed Protection Department

The Watershed Protection Department (WPD) shall be responsible for trash and debris removal and disposal in the waters of Lady Bird Lake including materials in front of, under and between the shoreline and the structure.

WPD will monitor the rehabilitated/mitigated wetland area for five (5) years of survival begging at substantial completeness acceptance, per Federal requirements.

Public Works Department

The Public Works Department (PWD) shall be responsible for the structural maintenance and repairs of the boardwalk surfaces, including the concrete sections and connections, the boardwalk support structures, retaining walls, railings, rail and outboard lights, including associated electrical systems and installations, shade structures and signage required to be in compliance with all applicable City, County, State and/or Federal Law, ordinances, regulations and policies. Responsibilities shall include any repairs needed to drainage facilities and corresponding improvements (such as the retaining wall added through the Boardwalk permit) damaged within the limits of construction due to effects of the boardwalk improvements and/or any structural failures of boardwalk improvements included in this agreement. PWD will be responsible for the electricity cost of lighting and replacement of all lighting components and

fixtures on the boardwalk and on-land as needed excluding the lighting and meter associated with the restroom facility and fishing pier near or at the Lakeshore trailhead.

Parks and Recreation Department

The Parks and Recreation Department (PARD) shall program and operate the Boardwalk Trail according to City of Austin and Parks and Recreation Department codes and policies. After large flooding events, the boardwalk may be closed for a period of time to facilitate the removal of debris and safety assessments.

PARD shall be responsible for trash, graffiti and debris removal on the boardwalk and on-land trail sections and the day to day maintenance of associated railings, rail lights, furniture, shade structures, signage, Art in Public Places (AIPP) installation and retaining walls. Trash and debris removed will not be disposed of into Lady Bird Lake. Responsibilities shall include the structural and daily maintenance of the on-land, decomposed granite trail portions of the boardwalk project, the trailhead restroom, the water fountains, landscaping and boardwalk furniture to be in compliance with all applicable City, County, State and/or Federal Law, ordinances, regulations and policies. PARD shall be responsible for the cost of water associated with the water fountains, restroom and irrigation systems and the maintenance and replacement of plumbing and irrigation components as needed. PARD will be responsible for the controlling/resetting of handrail light timers and high water cut-off switches. Maintenance of trees is the responsibility of the Urban Forestry Division of the PARD.

Exclusions

This agreement does not include drainage facilities constructed after issuance of final acceptance of the Boardwalk Trail project unless otherwise stated through the permitting process and incorporated herein in writing as an amendment to this agreement.

Term/Modification/Termination

This agreement is effective as of the last execution date below and will remain in effect until such time as any Department Director, party to this agreement submits their desires to modify or cancel the agreement by submitting written notification to the other assigned Directors. Modifications, repairs, and/or additions done to the area of interest does not terminate nor changes the responsibilities of the departments as stated herein.

_____ _____

Sara L. Hensley, CPRP, Date
Director, Parks and Recreation Department

_____ _____

Howard Lazarus, P.E. Date
Director, Public Works Department

_____ _____

Victoria J. Li, P.E. Date
Director, Watershed Protection Department

Art in Public Places Ordinance

City of Austin Art in Public Places Ordinance

7-2-1 DEFINITIONS.

(1) ART means a work of art or an artistically designed art feature that enhances the aesthetics of a building, bridge, streetscape, park, or other project for which funds are appropriated as described in this chapter and includes a mural, sculpture, garden, water feature, or other feature that appeals to the senses or the intellect.

(2) PROJECT means a capital project funded in whole or in part by the City:

(a) to construct or remodel a building, decorative or commemorative structure, or parking facility;

(b) to acquire parkland or to develop a park;

(c) for a street improvement project, other than street repair or reconstruction;

(d) for an improvement to a streetscape;

(e) for a bridge including the incorporation of an artistic feature into the structural design;

(f) for a water or wastewater treatment facility; or

(g) that is an appropriate project for art as recommended by the Art in Public Places Panel and Arts Commission and approved by the city council.

(3) CONSTRUCTION COST means the cost of a project to the City as determined in accordance with Section 7-2-4 (*Construction Cost Calculation*).

(4) STREETSCAPE means an improvement to a public right-of-way, including a sidewalk, tree, light fixture, sign, and furniture.

Source: 1992 Code Section 9-2-1; Ord. 031009-10; Ord. 031211-11.

7-2-2 ART IN PUBLIC PLACES ADMINISTRATOR.

The director of the Economic Growth and Redevelopment Services Office shall designate an art in public places administrator to perform the functions described in this chapter.

Source: 1992 Code Section 9-2-2; Ord. 031009-10; Ord. 031211-11.

7-2-3 ART IN PUBLIC PLACES PANEL.

The Arts Commission shall appoint an Art in Public Places Panel to perform the functions described in this chapter.

Source: 1992 Code Section 9-2-3(A); Ord. 031009-10; Ord. 031211-11.

7-2-4 CONSTRUCTION COST CALCULATION.

(A) In this section:

(1) DEBT ISSUANCE COST means the cost to the City to issue bonds for a project.

(2) DEMOLITION COST means the cost to remove a building or other existing structure from a project site.

(3) EQUIPMENT COST means the cost of equipment or furnishings that are portable or of standard manufacture and used in a project. The term excludes equipment or furnishings:

(a) that are custom designed; or

(b) that create a new use for a project.

(4) PERMIT AND FEE COST means the cost of the permits and fees associated with a project.

(5) REAL PROPERTY ACQUISITION COST means the cost to acquire land, including an existing building or structure, for a project, including appraisal and negotiation costs.

(B) Except as provided in Subsections (C) and (D), construction cost is the cost of a project to the City after deducting:

(1) debt issuance cost;

(2) demolition cost;

(3) equipment cost;

(4) permit and fee cost; and

(5) real property acquisition cost.

(C) In calculating the construction cost of a project to acquire or develop parkland, the real property acquisition cost is not deducted.

(D) If the source of funding or the law governing a project does not permit an expenditure for art, the affected funds are excluded from the calculation of construction cost.

Source: 1992 Code Section 9-2-1 and 9-2-2(A); Ord. 031009-10; Ord. 031211-11.

7-2-5 FUNDING FOR ART.

(A) Except as otherwise provided in this section, the council shall appropriate an amount equal to at least two percent of the construction cost of a project to select, acquire, and display art. The appropriation shall be a separate item in the project budget. This limitation does not apply if the council determines, after receiving a recommendation from the Arts Commission, that the project merits or requires a greater appropriation.

(B) Subsection (A) does not apply to a project with a construction cost of less than $100,000.

(C) An appropriation under this section may not exceed $300,000 for a water and wastewater treatment facility.

(D) If the council determines that a project is inappropriate for a display of art, the council shall transfer to the Public Art Fund for use at other appropriate public sites the amount of money required by this section. This does not authorize the transfer of money from one project to another if a legal restriction on the source of money prohibits the transfer.

Source: 1992 Code Section 9-2-2; Ord. 031009-10; Ord. 031211-11.

7-2-6 BUDGET ESTIMATES.

A City department head who prepares a budget, authorization request, or appropriation request for a project shall:

(1) consult with the art in public places administrator; and

(2) include in the budget or request the funding for art required by Section 7-2-5 (*Funding For Art*).

Source: 1992 Code Section 9-2-2(A); Ord. 031009-10; Ord. 031211-11.

7-2-7 PROJECT REVIEW AND ART RECOMMENDATIONS.

(A) Subject to the limitation of Subsection (B), the Art in Public Places Panel shall, with the advice of the art in public places administrator, review a project and make recommendations to the Arts Commission regarding appropriations for art and placement of the art.

(B) The Art in Public Places Panel may not recommend proposed art that requires extraordinary operation or maintenance expenses without the prior approval of the director of the department responsible for the art after installation.

(C) The Arts Commission shall review the recommendations of the Art in Public Places Panel and make recommendations to the city manager or the council, as appropriate.

Source: 1992 Code Section 9-2-3(B) - (E); Ord. 031009-10; Ord. 031211-11.

7-2-8 GUIDELINES.

(A) The Arts Commission shall establish guidelines for the implementation of this chapter. The commission shall consult with the Art in Public Places Panel and the art in public places administrator before establishing the guidelines.

(B) The guidelines shall include methods to:

(1) determine whether a project is inappropriate for the display of art;

(2) integrate art into a project;

(3) identify suitable art objects for a project;

(4) competitively select art;

(5) select and commission artists;

(6) encourage the preservation of ethnic cultural arts and crafts;

(7) facilitate the preservation of art objects and artifacts that may be displaced by a project; and

(8) administer this chapter.

Source: 1992 Code Section 9-2-3(F); Ord. 031009-10; Ord. 031211-11.

7-2-9 ART PLACEMENT.

The art funded by this chapter shall be an integral part of the project or be placed in, at, or near the project.

Source: 1992 Code Section 9-2-2(C) and 9-2-4; Ord. 031009-10; Ord. 031211-11.

7-2-10 ART MAINTENANCE.

(A) The City department at which art is displayed is responsible for maintenance of the art.

(B) The responsible City department shall obtain the approval of the art in public places administrator before performing art maintenance.

(C) The responsible City department shall perform art maintenance in accordance with the City's contractual obligations relating to the art, if any.

Source: 1992 Code Section 9-2-3(G); Ord. 031009-10; Ord. 031211-11.

7-2-11 FEE WAIVERS.

The following fees, as set by the City's annual fee ordinance, for a City-sponsored art project are waived:

(1) Temporary Use of Right-of-Way Fee;

(2) Excavation Fee;

(3) Special Events Fee;

(4) License Agreement Fee;

(5) Site Plan Review Fee;

(6) Site Exemption Review Fee;

(7) General Permit Fee;

(8) Building Permit Fee;

(9) Electrical Permit Fee;

(10) Plumbing Permit Fee;

(11) Historic Review for Building Permit Fee;

(12) Tree Permit Fee.

Source: Ord. 20111103-010.

7-2-12 TITLE TO ART.

Title to art required by this chapter shall vest in the City.

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