



The City of Princeton Parks & Trails Master Plan

November 2018

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INTRODUCTION

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The Parks & Trails Master Plan has been prepared per the request of the City of Princeton to identify the state of the city's existing parks, analyze key connections for a trail system, and prioritize future improvements. The city has opportunities to capitalize on its proximity to Lake Lavon, local drainage basins, and to connect residents with its history as a rich agricultural region and its World War II involvement. This plan outlines recommendations for future park and trail improvements in order to enhance the quality of life for the City of Princeton's growing population.

Geographic Location and Expected Growth

Princeton is located in the central portion of Collin County approximately seven miles east of US 75. Geographically, the City of Princeton is bordered by Lowry Crossing and New Hope to the west, Farmersville to the east, and unincorporated areas of Collin County to the north and south. As part of the Texas Blackland Prairies, Princeton is well known for its rich dark soils, rolling plains, and generally temperate climate. These environmental conditions make it ideally suited for agriculture which is why in the 1870's T.B. Wilson and his brother George began farming near the site of future Princeton.

Since the city's incorporation in 1912, it has grown from being a retail and commercial center for roughly 500 local farmers to a thriving and diverse economy. As of 2018, Princeton's population is estimated at 16,000 and projections based on the Water CCN Numbers anticipate the population to reach over 92,000 people by 2050.



Historic City of Princeton

Planning Process and Methodology

In 2008, the City of Princeton drafted a Parks Plan to define guidelines for how to develop future parks and trails. The planning document noted the city's future growth projections, analyzed the existing parks, and identified opportunities for the city's parks.

The 2018 Parks & Trails Master Plan focuses on the existing conditions inventory and community input gathered through city and community meetings from 2017 to 2018. The information collected from the City of Princeton's residents helped to identify the community's needs and desires for parks, trails, and open space.



Community Charrette February 2018

In addition to identifying the needs of the community, a thorough inventory of the existing conditions was conducted for the areas within the city limits and extraterritorial jurisdiction boundary (ETJ). The inventory included amenities found in parks, neighborhoods, trails, schools, and other public spaces. This inventory was used to identify the areas best suited for future parks and trails so new amenities can be strategically distributed throughout the city.



Community Charrette February 2018

Goal and Objectives

In an effort to guide the future growth of the parks and trail system in the City of Princeton, the following goal was established based on the inventory of the existing conditions and feedback from the community's needs assessment:

Modernize the parks and establish a trail system in the community to an elevated level of functionality while capitalizing on the unique features the City of Princeton has to offer.

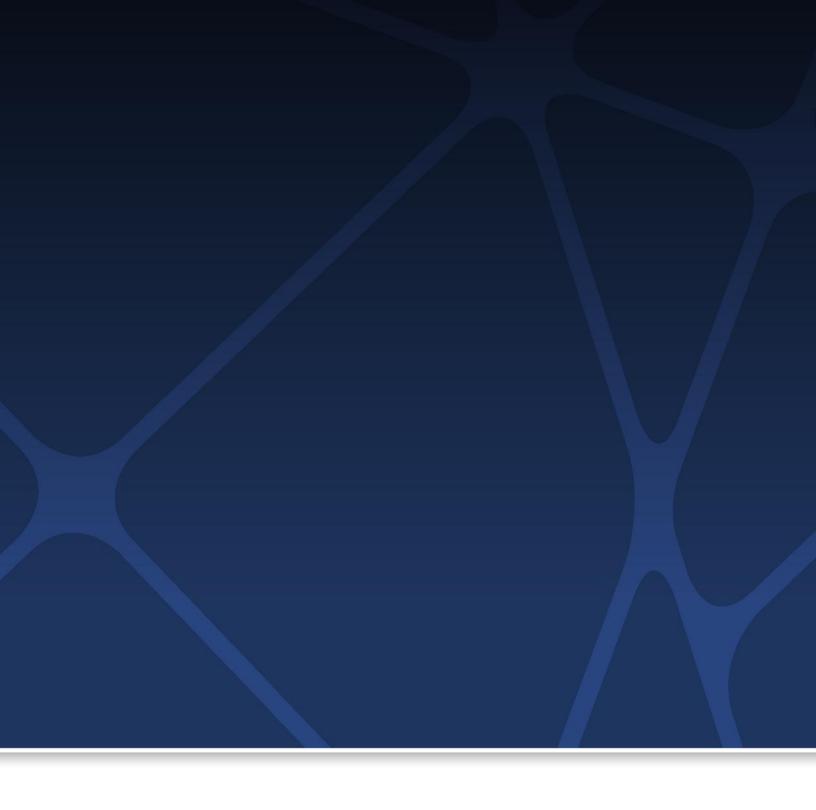
The following list of objectives has been determined as essential in achieving this goal:

- Align with the City of Princeton's branding effort when developing a theme for the future parks and trail system.
- Interconnect parks and neighborhoods through trail and sidewalk systems building a strong connection to downtown and Princeton Drive (US 380).
- Modernize park and trail amenities and create a functional system that provides recreational opportunities to citizens of all ages.
- Provide and prioritize recommendations for future parks and trails development.
- Recommend trail design guidelines.

Vision Statement

"In 2050, Princeton will be an attractive, inclusive, and vibrant community where one can live, work, play, and learn. It will have all the amenities of a modern city with the close-knit feel of a small town, rooted in its heritage, resiliency, and local business. Thriving and connected, the diverse community of Princeton will enjoy a high quality of life while embracing its bright future."

(Vision Statement: Comprehensive Plan Draft, August 2018)



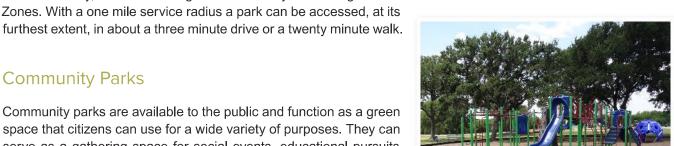
INVENTORY & ANALYSIS

INVENTORY & ANALYSIS

In order to properly analyze the existing conditions of the parks and trails located in Princeton, an inventory map and list of the available amenities was created. The parks and trails have been categorized by type to define their individual contributions to the community. This will distinguish which amenities will be the most fitting for the different park and trail developments.

Park Types: Public

Public parks are available to the general public and provide the community with a space that is beneficial for enjoying natural scenic views, social events, recreational activities and educational pursuits. Public parks are typically managed by a municipality or government agency. They are often composed of large expanses of open space but can also take the form of a small hardscape plaza. Since no two public parks are created equal, they can offer unique elements that will draw people into their environments. The greatest volume of users for these parks typically falls within a one mile radius due to its accessibility, as shown in Figure 1: Summary of Existing Parks & Service Zones. With a one mile service radius a park can be accessed, at its



Traditional Playground at J.M. Caldwell, Sr. Community Park

Community Parks

Community parks are available to the public and function as a green space that citizens can use for a wide variety of purposes. They can serve as a gathering space for social events, educational pursuits, and a place for passive or active recreation. These parks vary in size from 16-99 acres and usually offer a wider range and greater number of amenities when compared to other parks.

Neighborhood Parks

Neighborhood parks are smaller public parks usually ranging from 1-15 acres in size. These parks offer fewer amenities than community parks but their close proximity to neighborhoods is ideal for convenient access for neighboring residents. Since these parks are usually intended for people living in close proximity, parking at these locations can be limited.



WELCOME TO PRINCETON

J.M. Caldwell, Sr. Community Park

Historic Walls at Veteran's Memorial Park

U.S. Army Corps of Engineers Parks

The United States Army Corps of Engineers (USACE) provides a wide range of services to a community including designing and maintaining parks and trails. These parks are owned by the federal government and are accessible to citizens for recreational and similar park-like uses.

Park Types: Private

Private parks offer recreational facilities that are very similar to those of public parks but their use is intended for residents of a neighborhood and/or students of a school. Due to this exclusivity, they serve a smaller number of citizens localizing their service radius to 1/4 of a mile at its furthest point, as shown in Figure 1: Summary of Existing Parks & Service Zones.

Homeowners' Association Parks

These neighborhood parks are funded and maintained by the Homeowners' Associations (HOA) and are intended to be used by the residents of a subdivision. The parks are linked to surrounding sidewalks for access and are typically not enclosed by a fence. They usually contain amenities such as playgrounds, benches, shade pavilions, and sport courts.



Homeowners' Association Park

Homeowners' Association Parks (Restrictive)

These parks are also funded and maintained by the neighborhood HOA and are intended to be used by the residents of a subdivision. These spaces often contain amenities such as pools, sport courts, splash pads, playgrounds, clubhouses, and restrooms. These parks are paid for by the neighborhood's residents and the intended use is not for the general population. These parks are typically gated and require membership with the organization in order to access the amenities.



Homeowners' Association Park (Restrictive)

School Facilities

School facilities provide opportunities for students to be active and participate in a multitude of activities and social interactions. The recreational facilities at a school will vary depending on the ages of the students (elementary, middle school, junior high or high school). These facilities may include sport courts, open practice fields, playgrounds, and other recreational amenities. School parks and facilities are typically gated and have controlled access.

Trail & Sidewalk Types

Sidewalks (4'-6')

Standard sidewalks are concrete paths four to six feet in width. The purpose of these paths is to provide access to areas by means of separating pedestrian and vehicular traffic. Standard sidewalks are wide enough for singular, low-speed pedestrian or bicycle traffic.

Enhanced Sidewalks (8')

An enhanced sidewalk is a minimum of eight feet in width and is referred to as an enhanced sidewalk because the walkway is wide enough for multiple people to access the pathway at the same time. Given its width, overcrowding can occur when groups of people or bicyclists are using the path at the same time and are approaching from opposite directions.



Eight Foot Wide Enhanced Sidewalk along Monte Carlo Boulevard

Trails (10'+)

Any pathway that is ten feet in width or greater is considered a trail or shared use path and will satisfy the needs of bicyclists and pedestrians to safely pass one another in various scenarios. This size pathway is best suited in areas where either high traffic or high speeds are expected such as in parks or transportation corridors. The wider the trail the more functional it will be in transporting a high volume of people comfortably and efficiently.

Existing Conditions

Public Parks

J.M. Caldwell, Sr. Community Park

J.M. Caldwell, Sr. Community Park holds a special place in the history of Princeton. Originally, the park was home to migrant workers who came to the city during the busy crop seasons for onions and cotton. In 1940 when the camp site was erected, nearly 300-400 migrants lived on the site. The first structure built was a 30,000 gallon elevated storage tank, which currently stands today. Five years later in 1945, Princeton became one of 120 Texas towns that housed German prisoners of war during World War II. The city employed the prisoners to make improvements around the city and housed them at the migratory camp site through the end of the war. Today, the site has been converted to the city's only community park and is located just west of downtown. The 97 acre park site contains the following amenities:

- Existing
 - 3/4 Mile Walking Trail
 - 1 Concessions Building with Restrooms
 - 1 Restroom Building
 - 1 Basketball Court
 - 1 Multi-use Sports Field
 - 2 Shade Pavilions
 - 1 Historic Elevated Storage Tank
 - 1 Maintenance Facility
 - 1 Sand Volleyball Court
 - 1 Traditional Playground
 - Parking Lot
 - 1 Disc Golf Course (18-hole)
 - 3 Regulation Baseball/Softball Fields
 - Regulation Dugouts/Backstops
 - 1 Youth Baseball/Softball Field
 - Regulation Dugout/Backstop
- Planned Construction
 - 6 Multi-use Sport Fields
 - 2 Shade Pavilions
 - 4 Basketball Courts (existing court will be removed)
 - 4 Sand Volleyball Courts
 - 1 Traditional Playground
 - 1 Dog Park
 - Additional Parking
 - Extension to Trail System



Historic Elevated Storage Tank at J.M. Caldwell, Sr. Community Park



Regulation Dugouts/Backstops at J.M. Caldwell, Sr. Community Park

Veteran's Memorial Park (Neighborhood)

Veteran's Memorial Park is a neighborhood park that has deep historical roots in the City of Princeton. In 1943, a group of women called Noino Study Club (spelling the word onion backwards) came together to form a beautification committee to clean up the rubble from the railroad removal. This initiative took place during World War II and the German prisoners of war (POW) were contracted to build the park. The park, in the words of Mrs. Ammon Smith, is a 'living memorial' to all those who served during the war and a shrine to all who lost their lives in the war. The amenities located in the 3/4 acre park site are listed below:

- World War II Monuments
- Historic Walls (built by the German POW)
- 7 Benches
- 6 Picnic Tables

3rd Street Park (Neighborhood)

- 3/4 Acre Site
- Looped Trail
- 3 Picnic Tables
- Parking Lot

JJ (Book) Wilson Memorial Park (Neighborhood)

- 8 Acre Site
- · Amenities to be Decided

Public Site Park at Princeton Crossroads (Name to be Determined) (Neighborhood)

- 9.5 Acre Site
- · Amenities to be Determined

Parkview Heights Park (Neighborhood)

- 3/4 Acre Site
- 1 Traditional Playground
- 1 Shade Pavilion
- 1 Grill
- 6 Benches
- 1/2 Basketball Court

Twin Groves Park (USACE)

- 42.5 Acre Site
- 4 Lane Boat Ramp
- Restrooms
- Parking Lot
- Adjacent to Lake Lavon



Veteran's Memorial Park



Historical Monument at Veteran's Memorial Park



Parkview Heights Park

Sister Grove Park (USACE)

- 75 Acre Site
- Restrooms
- Parking Lot
- Picnic Tables
- Soft Surface Trails
- 3 Shade Pavilions
- Adjacent to Lake Lavon

Private Parks

Abbey Crossing Neighborhood (HOA)

- Park #1 (1.5 ac Park)
 - 1 Gated Pool (restricted)
 - 1 Clubhouse (restricted)
 - 1 Traditional Playground
- Park #2 (3/4 ac Park)
 - 1 Gated Pool with Splash Pad (restricted)
 - 1 Clubhouse (restricted)
- Park #3 (1/4 ac Park)
 - 1 Traditional Playground
- Park #4 (1 ac Park)
 - 1 Shade Structure
 - 1 Traditional Playground
 - 1/2 Basketball Court

De Berry Estates Neighborhood (HOA)

- Park #1 (1 ac Park)
 - 1 Gated Pool (restricted)
 - 1 Clubhouse (restricted)
 - 1 Traditional Playground

Villas of Monte Carlo Neighborhood (HOA)

- Park #1 (1/4 ac Park)
 - 1 Playground
- Park #2 (6 ac Open Space)
 - Green Space

The Trails at Riverstone Neighborhood (HOA)

- Park #1 (2.5 ac Park)
 - 1 Gated Pool with Splash Pad (restricted)
 - 1 Clubhouse (restricted)
 - 1 Traditional Playground
 - 1 Shade Structure

Princeton Crossing Neighborhood (HOA)

- Park #1
 - Amenities to be Determined



Abbey Crossing Neighborhood Entrance

Cypress Bend Neighborhood (HOA)

- Park #1 (1/3 ac Park)
 - 1 Traditional Playground
- Park #2 (1/2 ac Park)
 - 1 Traditional Playground
 - 1 Shade Structure
 - 1/2 Basketball Court

Park Trails Neighborhood (HOA)

- Park #1
 - 1 Traditional Playground
 - 1 Shade Structure
 - 1 Basketball Court
 - 2 Grills
- Park #2
 - 1 Basketball Court
 - 1 Traditional Playground
- Park #3
 - · Amenities to be Determined

Harper Springs Neighborhood (HOA)

- Park #1 (8.5 ac Open Space)
 - Amenities to be Determined

Arcadia Farms Neighborhood (HOA)

- Park #1 (1.75 ac Park)
 - 1 Amenities Center (restricted)
- Park #2 (1/5 ac Open Space)
 - Green Space
- Park #3 (5 ac Park)
 - · Amenities to be Determined

Winchester Crossing Neighborhood (HOA)

- Park #1 (3/4 ac Park)
 - · Amenities to be Determined

Brookside Neighborhood (HOA)

- Park #1 (1.5 ac Park)
 - 1 Amenities Center (restricted)
- Park #2 (45.8 ac Open Space)
 - Green Space

Collin Circle Neighborhood (HOA)

- Park #1 (1/4 ac Park)
 - 1 Gated Pool Area (restricted)
- Park #2 (1/4 ac Park)
 - 1 Traditional Playground
 - 1 Full Basketball Court

Town Park Neighborhood (HOA)

- Park #1 (13.5 ac Park)
 - · Amenities to be Determined



Park Trails Neighborhood Entrance

Princeton High (School)

- Jackie Hendricks Stadium/Panther Stadium
- 1 Baseball Field
- 1 Softball Field
- 2 Practice Fields
- 8 Tennis Courts (available to the public)

Clark Junior High (School)

- 1 Baseball Field
- 1 Softball Field
- 1 Practice Field

Southard Middle (School)

- Outdoor Track
- Sports Field

Clark Middle (School)

- 1 Practice Field
- 2 Shot Put Fields

Huddleston Intermediate (School)

• 2 Tennis Courts

Godwin Elementary (School)

- 3 Traditional Playgrounds
- 1 Basketball Court
- 1 Small Soccer Field

Harper Elementary (School)

- 2 Traditional Playgrounds
- 3 Basketball Goals

Lacy Elementary (School)

- 3 Traditional Playgrounds
- 1/2 Basketball Court
- 1 Small Soccer Field

Leta Horn Smith Elementary (School)

- 2 Basketball Courts
- 2 Traditional Playgrounds
- 1 Small Soccer Field

Lowe Elementary (School)

- 2 Basketball Courts
- 2 Traditional Playgrounds

Unnamed PISD (School)

· Amenities to be Determined



Princeton High School

Sidewalks & Trails

Neighborhood Off Harvard Drive

• 4' Sidewalks within Neighborhood

Neighborhood Off Timbercreek Court

· 4' Sidewalks within Neighborhood

Park Trails Neighborhood

- 4' Sidewalks within Neighborhood
- 8' Trail Approximately 1/10 Mile in Length

Abbey Crossing Neighborhood

- 4' Sidewalks within Neighborhood
- 8' Enhanced Sidewalks along Monte Carlo Blvd
- HOA Park #5 (1/2 ac Open Space)
 - 4' Sidewalk Loop

De Berry Estates Neighborhood

- 4' Sidewalks within Neighborhood
- 4' Sidewalk along Park Trails Blvd

Villas of Monte Carlo Neighborhood

- 4' Sidewalks within Neighborhood
- 4' Sidewalk along Monte Carlo Blvd

Parkview Heights Neighborhood

- 4' Sidewalks within Neighborhood
- 4' Sidewalk along College Ave

Cypress Bend Neighborhood

• 4' Sidewalks within Neighborhood

Princeton Crossing Neighborhood

- 4' Sidewalks within Neighborhood
- 10' Trail within Neighborhood

Harper Springs Neighborhood

• 4' Sidewalks within Neighborhood

Timineri Estates Neighborhood

· 4' Sidewalks within Neighborhood

Arcadia Farms Neighborhood

• 4' Sidewalks within Neighborhood

Winchester Crossing Neighborhood

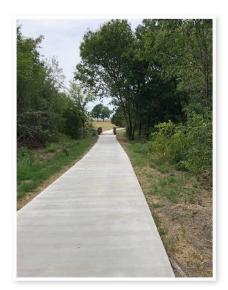
- 4' Sidewalks within Neighborhood
- 6' Sidewalks within Park Areas
- 8' Enhanced Sidewalks along South Beauchamp Boulevard
- 8' Enhanced Sidewalks along Myrick Lane



Four Foot Wide Sidewalk in Residential Neighborhood



Eight Foot Wide Enhanced Sidewalk at Parkview Heights Park



Eight Foot Wide Trail at J.M. Caldwell, Sr. Community Park

Brookside Neighborhood

- 4' Sidewalks within Neighborhood
- 8' Enhanced Sidewalk within Neighborhood

Town Park Neighborhood

- 5' Sidewalks within Neighborhood
- 10' Trail within Park

Creekview Neighborhood

- · 4' Sidewalks within Neighborhood
- 6' Perimeter Sidewalk Approximately 1/3 Mile in Length

Princeton Meadows South Neighborhood

- 4' Sidewalks within Neighborhood
- 8' Enhanced Sidewalk along Tickey Creek

Suncrest Neighborhood

• 4' Sidewalks within Neighborhood

The Trails at Riverstone Neighborhood

- 4' Sidewalks within Neighborhood
- 6' Sidewalk within Neighborhood
- 8' Enhanced Sidewalk along Monte Carlo Blvd
- 8' Trail Approximately 1 Mile in Length
- Pedestrian Bridges

Parkview Heights Park

- 3' Sidewalks within Park
- 8' Enhanced Sidewalk within Park
- 4' Sidewalk along College Ave

3rd Street Park

• 5' Sidewalk within Park

Veteran's Memorial Park

• 5' Sidewalk within Park

J.M. Caldwell Sr. Community Park Trail

- 8' Trail Approximately 3/4 Mile in Length
- 4 Pedestrian Bridges

Safe Route To Schools Program (SRTS)

- Princeton Drive
 - 10' Trail Approximately 1/2 Mile in Length
- 4th Street
 - 5' Sidewalk
- 6th Street
 - 5' Sidewalk
- College Street
 - 5' Sidewalk



Five Foot Wide Sidewalk at 3rd Street Park



Pedestrian Bridge at J.M. Caldwell, Sr. Community Park



Five Foot Wide Sidewalk at Veteran's Memorial Park

Parks Analysis Overview

Public Parks

The city's public parks, though varied in size and amenities, all serve the community by providing green space to residents that can be utilized for a wide range of activities. However, since the only community park is strategically placed toward the center of the city, this limits access to residents who live toward the outer edges of the city.

J.M. Caldwell, Sr. Community Park is a 97-acre site offering a variety of features such as sports, leisure, events and recreational activities. Its location is central to the city making it ideal for holding city-wide gatherings and local sporting events. The park has unique features not offered in the other park sites around the city including restrooms, large group shade pavilions, a concessions building, multi-use sport fields, the historic elevated storage tank, and disc golf course. The park also contains the only non-ISD maintained open grass sport field in the city; however, additional fields are planned in future park expansions.

There are five existing public neighborhood parks available to the general public, three of the park sites are developed and two of the park sites are undeveloped. The two undeveloped park sites, JJ (Book) Wilson Memorial Park and Public Site Park at Princeton Crossroads, are planned to be developed with new park amenities for the City of Princeton.

Veteran's Memorial Park is an established neighborhood park that was built in memory of those who served in the armed forces during World War II. This passive recreational space provides seating, open space, and monuments. Similar to J.M. Caldwell, Sr. Community Park, Veteran's Memorial Park is also centrally located to the city but lacks sufficient parking and sidewalk connectivity that would improve its accessibility to the surrounding downtown.

3rd Street Park is located across the street from Veteran's Memorial Park. The parks are adjacent to one another; however, they are bisected by 3rd Street which limits accessibility between the two parks.

Parkview Heights Park is located in a neighborhood near Godwin Elementary. This park provides a variety of amenities including a half basketball court, shade pavilion, and playground.

There are two USACE park sites located within Princeton's Extraterritorial Jurisdiction (ETJ) boundary. Twin Grove Park, is a forty-two acre site containing a parking lot, restrooms, and four boat ramps giving users access to Lake Lavon. The boat ramps are the closest public access ramp for residents to access to fish and kayak on Lake Lavon. Sister Grove Park is the second USACE park which is a seventy-five acre site offering a network of hiking and biking trails for off-road bicycling along with shade pavilions, picnic tables and restroom. This park provides soft surface trails that are not available within Princeton's community today.



3rd Street Intersection of Veteran's Memorial Park & 3rd Street Park

Private Parks

There are thirty-five private parks located throughout the City of Princeton. These parks are either located at school facilities or newly developed neighborhoods and are primarily accessible to those students or residents in the neighborhood. Though exclusive in nature, these parks provide the closest and most convenient park access when compared to the public parks. They do not contain the expanse of open space or the facilities like community parks, but they do offer recreational space for citizens. Since the HOA parks are primarily located in newer developments, a lack of park space exists within some of the older neighborhoods.

Much like the HOA parks, the school parks are not intended to meet the recreational needs of the general public and their facilities are specialized for the intended users. However, there are some school facilities that allow access. For example, Princeton High School has eight tennis courts that are available to the public when they are not occupied by students and faculty.

As the City of Princeton reaches its projected population, additional neighborhood parks will need to be developed. The City of Princeton Parkland Dedication Ordinance defines the requirements for parks and open space. New developments will need to include parks, open space, and trail systems in order to meet the ordinance requirement. Locating these park areas within or near the existing floodplain where applicable will assist in expanding the parks and trail network throughout the city.

Sidewalks & Trails Analysis Overview

Sidewalks

Newly developed neighborhoods and some residential streets along 4th Street and 6th Street provide four to six foot sidewalks that allow residents to access neighborhood park amenities and school properties. However, these sidewalks tend to be intermittent and end at major intersections or at the furthest extents of the neighborhoods. A sidewalk continuation or trail connection at these locations would be ideal to allow pedestrians to travel safely around the city with less vehicular interaction.

Eight foot wide enhanced sidewalks are located along Monte Carlo Boulevard and in Parkview Heights Park. These enhanced sidewalks best serve the community by providing a connection between the residential sidewalks, roadway corridors, and recreational trails.



Four Foot Wide Sidewalk along College Avenue

Trails

Along the north side of Princeton Drive is a ten foot wide trail segment that was installed as part of the Safe Routes to School program. This trail is capable of being extended to create pedestrian routes to future destinations along Princeton Drive. Additional ten foot wide trail segments can be found within neighborhood developments.

Typically trails are a ten to fourteen foot standard width per published guidelines issued by the American Association of State Highway and Transportation Officials (AASHTO). Two of the existing trails in the City of Princeton are eight foot wide; however, they still appear to meet the intent of AASHTO guidelines, because pedestrian and bicycle traffic are expected to be low. All future trails in the city will



Eight Foot Wide Trail Construction at J.M. Caldwell, Sr. Community Park

be a minimum width of ten feet and the existing eight foot trails should be replaced with larger trails, if the population growth results in increased bicycle and pedestrian traffic along these trail segments.

The first existing eight foot wide trail is located within the Trails at Riverstone neighborhood adjacent to Tickey Creek and connects to the enhanced sidewalk at Monte Carlo Boulevard. The second eight foot trail segment is a large loop located on the eastern section of J.M. Caldwell, Sr. Community Park. These two trail segments are independent of one another and do not create a destination point for users. However, the J.M. Caldwell, Sr. Community Park Master Plan proposes a connection between these two trails which will link the park to surrounding neighborhoods. If additional trails were to extend from the J.M. Caldwell, Sr. Community Park trail loop, the combined trails would become the cornerstone of Princeton's overall trail system. A map outlining the location of the existing sidewalks and trails within the City of Princeton boundary can be found in Figure 2: Summary of Existing Sidewalks & Trails.

Key Corridors for the Trail System

Natural

Tickey Creek is a natural land feature that traverses north and south through the center of Princeton. The creek is protected by its surrounding floodplain making it one of the more lush, green, forested areas of the city. These forested areas give the city an opportunity to build trails adjacent to features such as shade trees, scenic spaces, and wildlife. Strategically placed trails along the creek will provide multiple opportunities to connect to roadway corridors and sidewalks that cross the creek creating an opportunity to unify the roadway network and trail system. Additional trails can be provided along Sister Grove Creek in order to further expand the trail network to existing parks.

Roadway

The roadway network in Princeton is relatively established toward the central part of the city providing an opportunity to improve its functionality in regards to pedestrian movement. Monte Carlo Boulevard, Princeton Drive, 4th Street and Beauchamp Boulevard have been identified as primary roadways and potential functional pedestrian routes. These primary roadways connect several neighborhoods and commercial areas within the city. These existing corridors can be utilized for pedestrian and bicycle transit providing connections throughout the city creating a more pedestrian friendly environment. Secondary roadways were also identified to enhance the functionality of the primary roadway corridors. These secondary corridors include Longneck Road, College Street, and Yorkshire Drive. Providing bicycle facilities or trails along these secondary streets will reinforce the accessibility to key connection points around the city. Establishing connections along the roadway corridors listed above will provide convenience and freedom for pedestrians to travel safely throughout the city while minimizing vehicle conflict.

Neighboring Cities and Collin County

The Collin County Regional Trails Master Plan (May 2012) is a regional trails plan that identifies a collaborative multi-jurisdictional trail system throughout the county. The Collin County trail planning effort uses natural corridors and roadway corridors to link surrounding parks and open space for recreational purposes. The main trail corridors identified in the Regional Trails Master Plan are located along Tickey Creek, Princeton Drive, and Sister Grove Creek. The regional trail map has been reviewed and can be feasibly implemented throughout Princeton.

Key Connection Points within The City of Princeton

Parks

Over thirty five parks have been identified throughout the city each providing various levels of amenities. Whether the park is private or public, access and connectivity should be provided with the use of sidewalk, trails, or combination of the two. Parks are an anchor to the trail system by providing a starting point or destination for the user.

Neighborhood & Schools

During the inventory process, schools and neighborhoods were identified and found to be the most prominent connection points throughout the city. These areas tend to include sidewalks but only within their immediate vicinity. In an effort to make the city a more walkable and accessible space, these existing pedestrian friendly environments should link to roadway corridors and other city centers through the use of enhanced sidewalks or trails.

Public City Centers

Multi-use developments such as municipal sites, commercial areas, and downtown districts are destinations offered to the general public providing citizens with a place for social gatherings, retail, or employment opportunities. Public city centers are ideally located where accessible through multiple pedestrian and roadway corridors. Having these public city centers connect into the trail system allows for higher volumes of pedestrian access and reduces the need for parking in these areas.

Summary of Existing Parks & Service Zones

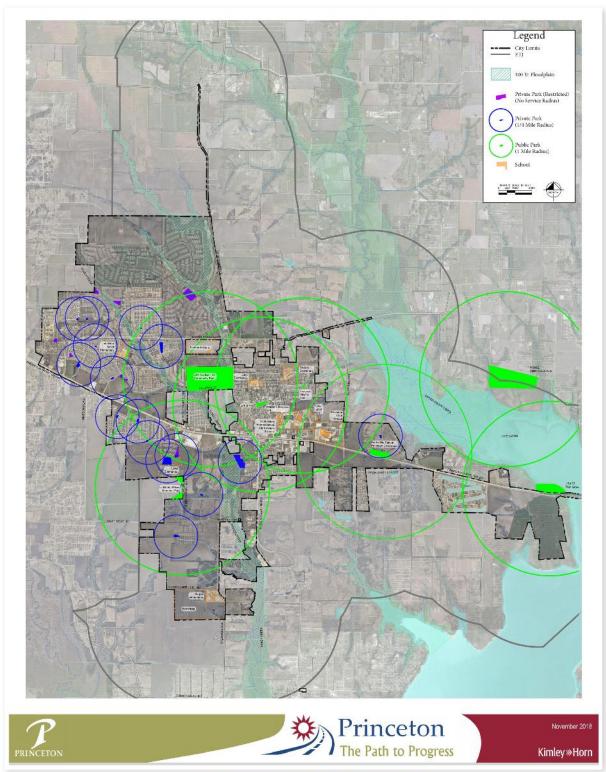


Figure 1: Summary of Existing Parks & Service Zones Reference Appendix A for Full Size Document

Summary of Existing Sidewalks & Trails

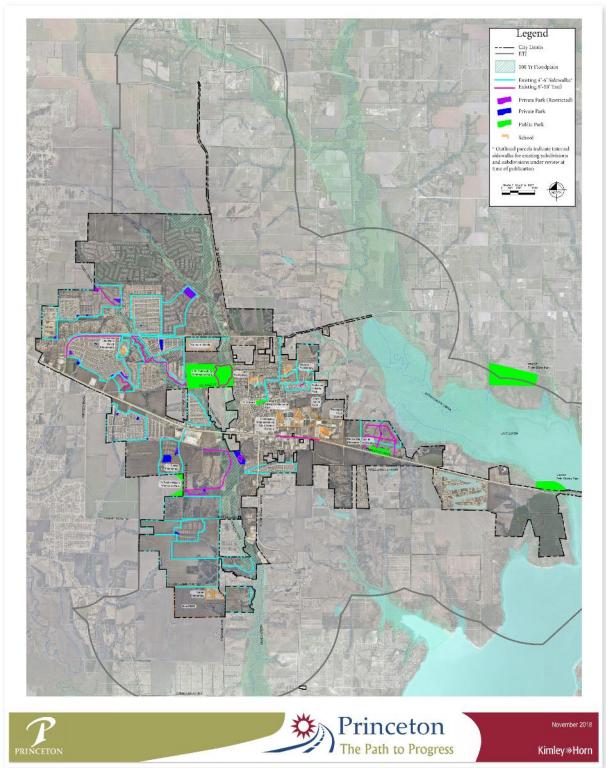
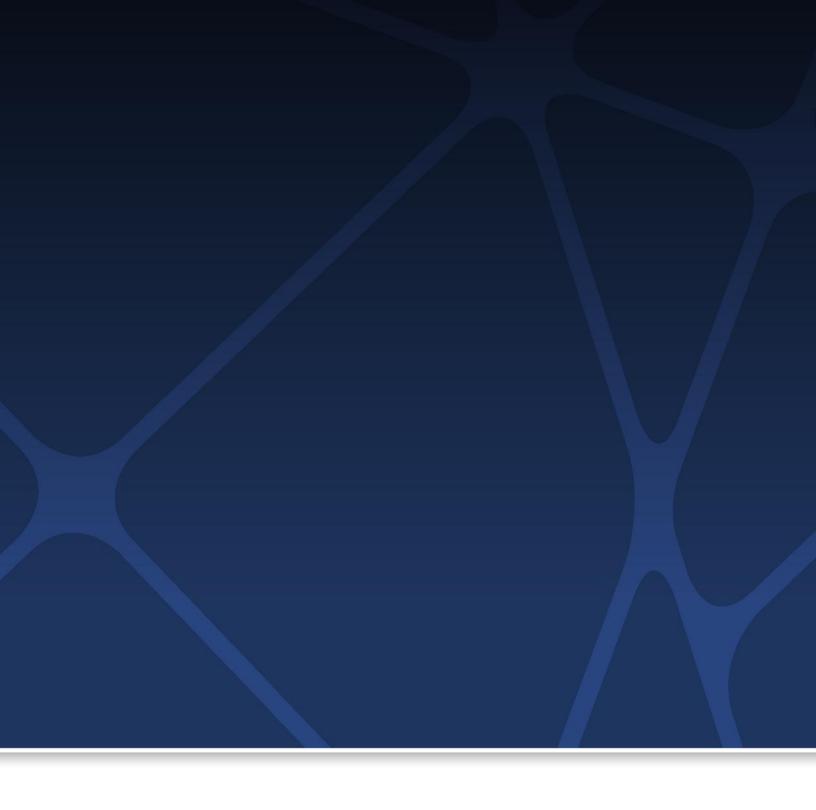


Figure 2: Summary of Existing Sidewalks & Trails Reference Appendix B for Full Size Document



NEEDS ASSESSMENT

NEEDS ASSESSMENT

From 2017-2018, input was collected from city staff and residents as a part of the Comprehensive Plan to identify which elements of the city's parks and trails will be the most desired as future development occurs in the community. Multiple development topics were discussed at the meetings; however, for the purpose of this needs assessment, the attention is directed toward recreational activities, existing conditions, and trail and park needs.

Initial City Meeting

The focus during the initial city meeting in May 2017 was to discuss possible park and trail locations and necessary steps for developing a park and trail system that would interconnect the city. At the meeting, city members identified the need for future parks and trail developments to align with the city's branding efforts in order to create a cohesive community environment. To achieve this, the city wanted to capitalize on historical areas contributing to the culture of the city, such as the World War II involvement and thriving agricultural background.

Due to the city's substantial population growth since the development of the previous Park Plan, collecting an updated inventory of existing trails, parks and park amenities within the city's boundary and ETJ was determined as the required first step. City staff wanted to identify available amenities throughout the city in order to determine where partnerships with future developments needed to occur. These partnerships provide an opportunity to augment existing parks and construct new amenities throughout the city.



Veteran's Memorial Park

The motivating factor behind designing the trail system was to tie together the primary corridors of the city to link residential areas to school facilities, retail spaces, parks, and other attractions. The city also discussed connecting the future trail system to the existing parks and trails located outside of the city limits. Two parks outside the city limits are owned and operated by the USACE and offer citizens unique amenities that are otherwise not available within the city's community parks, such as boat docks and equestrian trails.

When discussing ways to connect the trail system to the community, a variety of potential usable corridors were examined. The first corridor was the existing overhead utility corridors. Though these corridors would not be the most aesthetic paths, they do offer a wide grassy expanse that is already required to be maintained. The second corridor was Tickey Creek which is the most natural, shaded, and aesthetic option. The third was to utilize the roadways and develop them to be a shared use corridor that could safely move vehicular, bicyclist, and pedestrian traffic.

Community Input

One of the best resources in developing this document came from the community's input. As part of the plan to collect the opinions of the community, multiple community outreach events were held as well as an online survey during 2018.

Princeton Community Charrette - February 2018

As a part of the Comprehensive Plan updates, a Community Charrette was held to engage Princeton residents. During the meeting, a series of questions were asked to nearly sixty residents to collect ideas for how they would like to see their city grow.

In regards to trail improvements, the citizens expressed a need for more running paths, sidewalks along major corridors, and trail connections between schools and parks. Citizens also mentioned a desire for marker stations, distance guides, workout stations (push-ups, pull ups, etc.), and rest stops to be located along the trail system.

Citizens requested additional facilities such as tennis courts, indoor and outdoor gathering spaces, drinking fountains, covered play areas, dog parks but also requested more specialized public spaces such as a golf course or an amphitheater. Program elements such as an improved recycling system, better planning and subdivision requirements for park land, and after-school programming events were also discussed as desired city enhancements.



Community Charrette February 2018

Citizens discussed an interest in adding aquatics facilities such as family aquatics centers and splash pads. However, it was noted that some participants preferred the idea of splash pads within park playground spaces in lieu of building a singular family aquatics center.

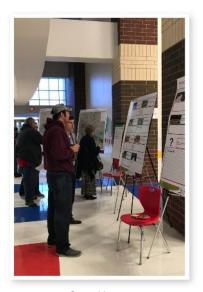
At the Community Charrette, a wide range of park amenities were put to a vote and the responses from the community have been listed in order of highly favored to least favored. The favored amenities included public restrooms, shade pavilion/structures, family aquatics center, splash pad, concrete trails, soft surface trails, trail lighting, themed playground, multi-use courts, open space fields, site furnishings, sand volleyball courts, amphitheater, baseball/softball fields, soccer/football multi-use fields, picnic tables and grills, traditional playgrounds, fitness equipment, disc golf, and skate parks.

(reference Table 1: Amenities Needed in the City of Princeton, Figure 3: Open House Dot Voting Board One, Figure 4: Open House Dot Voting Board Two, and Figure 5: Open House Dot Voting Board Three)

Open House - June 2018

For the Open House, community members were invited to come and share their opinions by reviewing and commenting on presentation boards that showcased the city's plans for future development. During this meeting, guiding principles for parks and trails were discussed as well as the beginnings of a city wide 'Vision Statement' (reference page 3). Community members expressed a desire for inclusive parks accessible to community members of all ages as well as the incorporation of new elements such as food trucks, small boutiques, restaurants and themed playgrounds. Citizens also mentioned they wanted the public spaces to have a character unique to Princeton and not be an imitation of adjacent communities.

Mobility between parks and trails to the neighborhoods and schools posed great concern to the residents. The issue of how vehicular and pedestrian paths would interact as more infrastructure and congestion develops along Monte Carlo Blvd was discussed.



Open House June 2018

Another topic discussed at the meeting was the development of the proposed municipal site found within the Princeton Crossroads development. The proposed location is along the north side of Princeton Drive east of

Princeton High School and is intended for a municipal building. The nine and a half acres adjacent to the municipal building site will be dedicated as park land and will include sidewalks, two scenic ponds, and seating areas. The site is expected to connect to neighboring developments that may include mixed retail and dining, commercial, medical offices, and residential neighborhoods.

Residents were asked to provide feedback regarding their preferences for parks and open space. Comments were similar to those gathered at the Community Charrette which included the addition of more accessible public parks, playgrounds, splash pads, dog parks, and interconnected trails that are bicycle and pedestrian friendly.



Existing City of Princeton City Hall

Comprehensive Plan Survey Results - August 2018

A public survey was conducted in order to receive feedback from citizens who were unable to attend the community meetings. The survey was available between June 2018 and July of 2018 and had nearly 500 participants. Most of the questions revolved around the general growth of the city, including downtown development, community spaces,

and new street infrastructure. Though the focus was not parks and trails, a few questions relating to these items were asked and a summary of the community's responses are below.

The survey asked residents if they agreed or disagreed with the following statement, "Additional opportunities to create infrastructure for pedestrians and bicyclist should be explored." The majority of people strongly agreed or somewhat agreed with this statement. With this feedback, future development will explore ways to create more bicycle friendly roadways and on street bicycle facilities options that include connections to the trail network.

The survey also requested feedback for a future development located at the northeast corner of Monte Carlo Boulevard and North



Representative On Street Bicycle Facility

Beauchamp Boulevard. The residential development, located at this corner, is dedicating five to ten acres to the City of Princeton and the survey asked residents to provide feedback regarding their preference for the development of this space. The responses indicated the preferred use is a community center and the second preference is to provide a fire station.

Park and Trail Needs

After completing the site inventory and reviewing the city's parks, trails, development trends, and natural features, the following minimum standards for recreational amenities was developed. The basis for these calculations was collected from the findings in the 2008 Park Plan, Comprehensive Plan, and the National Recreation and Park Association (NRPA). The NRPA is the most widely accepted and used standard for parks developments across the United States. For this section, the NRPA standards are used as a guide to determine park acreage per population as well as recreational amenities per population. The chart below lists the suggested park and trail amenities per capita to account for the needs of the projected 2020 population of 23,000 people and the 2050 projected population of 92,000 people.

	Recommended	Existing In	Existing In	Needs	Needs
		Public Parks	Private Parks	(2020)	(2050)
Total Park Land	10 ac / 1,000 population	235 ac	70 ac	230 ac	920 ac
Community Parks		97 ac	N/A		7
Neighborhood Parks		20 ac	70 ac		
USACE Parks		117 ac	N/A		
Trails	1 mile / 3,000 population	1.25 miles	1.75 miles	8 miles	31 miles
High Priority					
Multi-Use Grass Fields (Soccer, Lacrosse, Youth)	1 / 3,000 population	1	1	8	31
Restroom Facilities	1 / 7,000 population	4	5	3	13
Shade Structures	1 / 3,000 population	3	4	8	31
Swimming Pools	1 / 50,000 population	0	4	1	2
Baseball/Softball Fields	1 / 4,000 population	4	0	6	23
Splash Pads	1 / 10,000 population	0	2	3	10
Themed Playgrounds	1 / 4,000 population	0	0	6	23
Medium Priority					
Basketball Courts	1 / 5,000 population	1.5	5	5	18
Tennis Courts	1 / 4,000 population	0	8	6	23
Passive Sport Facilities (Pickleball, Shuffle Board, Horseshoe Pits, Shot Put)	1 / 5,000 population	0	0	5	18
Beach Volleyball	1 / 5,000 population	1	0	5	18
Dog Parks	1 / 30,000 population	1	0	1	3
Community Centers	1 / 50,000 population	0	N/A	1	2
Low Priority		((4
Amphitheater	1 / 50,000 population	0	0	1	2
Traditional Playgrounds	1 / 4,000 population	2	11	6	23
Disc Golf Course	1 / 75,000 population	1	0	1	2
Skate Parks	1 / 75,000 population	0	0	1	2

Recommendations based on community input, and NRPA guidelines
Table 1: Amenities Needed in the City of Princeton

Summary of Needs Assessment

The following list summarizes the needs assessment.

Parks

- Align the City of Princeton's branding effort with all parks, public spaces, and trail system installations.
- Develop parks to include modern aspects in hopes of drawing in younger users.
- Develop specialized public spaces that engage citizens of all ages and include facilities such as a family aquatics center, splash pads, amphitheater, rentable pavilions and picnic areas, food truck areas, and golf courses.
- Incorporate more site furnishings in parks and trails such as benches, drinking fountains, shade pavilions, trash and recycling receptacles, and picnic stations.
- · Develop additional fields for recreational sports.

Trails

- Develop sidewalks throughout the city to serve the growing population of Princeton and fulfill the desires for increased pedestrian access and connectivity.
- Develop accessible routes that are safer for pedestrians to travel between homes, schools, parks, and commercial areas.
- Develop interconnected recreational trails that include distance marking, signage, trail heads, and site furnishings.
- Connect the city's trail system to surrounding parks and trails within the ETJ and surrounding communities.

Open House Dot Voting Board One



Figure 3: Open House Dot Voting Board One

Open House Dot Voting Board Two



Figure 4: Open House Dot Voting Board One

Open House Dot Voting Board Three

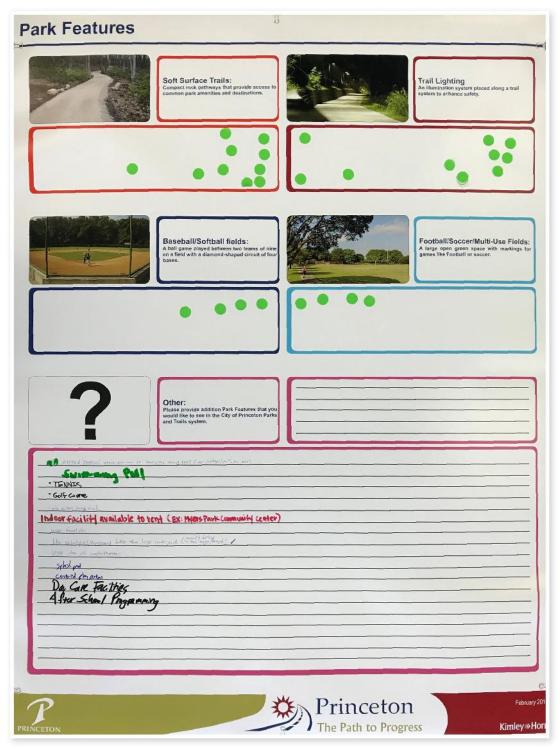
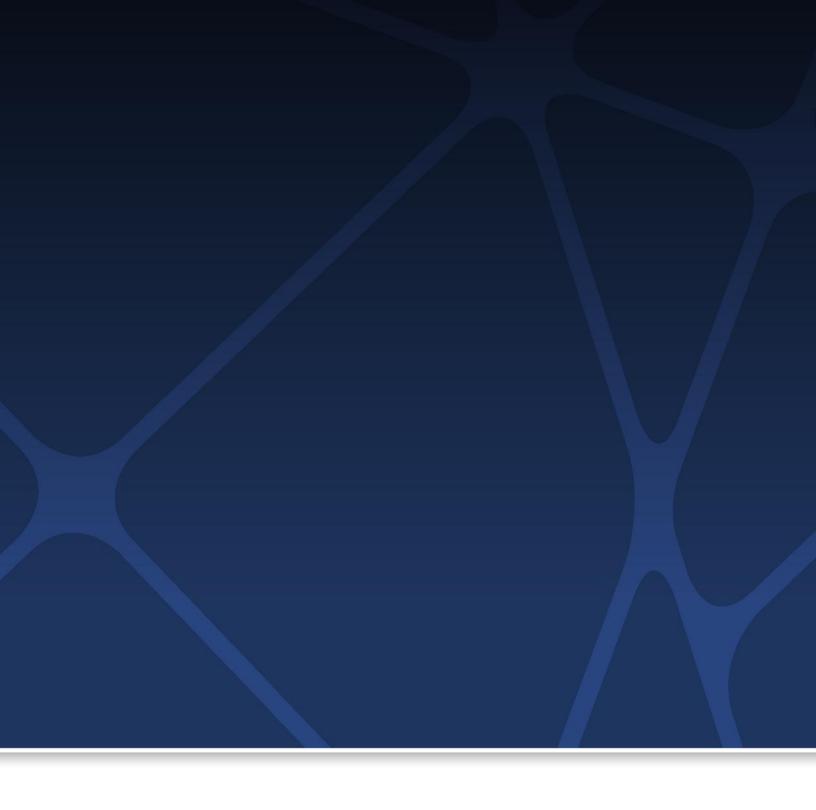


Figure 5: Open House Dot Voting Board One



PRIORITIES & BUDGET REQUIREMENTS

PRIORITIES & BUDGET REQUIREMENTS

Park Recommendations

After reviewing the existing conditions and analyzing available land, potential sites were selected as future parks. These future parks are located on the map shown in Figure 6: Proposed Parks & Service Zones.

Existing Park Recommendations

As of 2018, the city is making improvements in J.M. Caldwell, Sr. Community Park to update its site features and amenities. The future improvements that are expected to be completed in the next five years include additional parking, a new playground, additional sport courts, new shade pavilions, and additional multi-use sports fields. To complete all the designed master plan elements in the park, additional funds will need to be obtained. These new features will help meet many recreational needs of the community shown on Table 1: Amenities Needed in the City of Princeton and should be considered a high priority.

Veteran's Memorial Park is a successful passive recreational space because of the historical context at the site. However, there are opportunities to improve and update the functionality of the site. During the inventory process, 3rd Street Park was identified as a neighboring park but direct access is limited due to the location of 3rd Street. The existing 3rd Street between the park sites should be converted to park land in order to unify the two park sites. Additionally,



Representative Pavilion Structure with Restrooms
Bedford, TX
Courtesy of Kimley-Horn and Steve Uzzell



Representative Playground Structure Bedford, TX Courtesy of Kimley-Horn and Steve Uzzell

sidewalk accessibility to the park can be improved by connecting the sidewalks along the eastern portion of the site as well as including crosswalks and curb ramps at the mid block crossing.

The JJ (Book) Wilson Memorial Park is an eight acre park where the city is looking to provide amenities such as a skate park and splash pad, which are not currently provided within Princeton's public parks. The park will also include shade structures, restroom facilities, trails, and site furnishings. These park features meet many of the needs indicated in Table 1: Amenities Needed in the City of Princeton.

Public Site Park at Princeton Crossroads is a nine acre site located along Princeton Drive east of the Princeton High School. The park will be adjacent to the new municipal site and will include a loop trail, two ponds, and an amphitheater. This site is apart of the Princeton Crossroads development and is intending to be surrounded by mixed-use developments including restaurants, retail, and office space. Since this park location will provide a centralized open space to the surrounding public infrastructure, it is recommended that it include a large pavilion capable of housing live music events and provide space for food trucks and local vendors.

1-5 Year Park Recommendations

One of the highest priorities in developing the city's park system is to focus on land acquisition for additional park expansions. An additional 615 acres should be obtained in order to meet the required park land calculations illustrated in Table 1: Amenities Needed in the City of Princeton. Approximately six or more community parks 70 to 100 acres in size and approximately six or more neighborhood parks five to fifteen acres in size should be located along the Northern, Western and Southern portions of the City of Princeton. These parcels shall be utilized for community parks and shall contain amenities outlined in Table 1: Amenities Needed in the City of Princeton.

Another priority is to develop additional neighborhood park sites. Below are two additional park sites that can be developed within the next five years.

The first future park will be a five to ten acre site located at the northeast corner of North Beauchamp Boulevard and Monte Carlo Boulevard. This site will be located along Monte Carlo Boulevard with a residential development located directly north. The exact amenities for this site have not been determined, however it was identified in the public survey that either a community center or a fire station is desired for this location. After reviewing the amenities needed for the city, this site would be suitable for a community center containing a splash pad and themed playground, pavilion structures, and enhanced sidewalks with trail connections.

The second future park location is a twenty-two acre site located along Princeton Drive near the intersection of Calm Water Cove. This site is a city owned facility but it is currently being considered for alternative uses. This site would be an ideal location to include multi-use sports fields, restroom and concessions building, seating and a looped trail with connection to the trail system.

5+ Year Park Recommendations

Beginning in 2024, and upon completion of the items noted in the 1 to 5 year park recommendations, the City of Princeton should continue with park land acquisition and park development in an effort to expand the park network and better serve the growing population. Table 1: Amenities Needed in the City of Princeton outlines the park facilities needed by 2050 and shall be used as a guide to prioritize new park development.

The City of Princeton should develop the newly acquired park land into community parks and neighborhood parks with a focus on providing multi-use sports fields, playgrounds, sport courts, and additional park amenities as noted in the recommendations and priorities listed below. A map indicating potential locations for these future community and neighborhood parks can be found in Figure 6: Proposed Parks and Service Zones.

In planning for the development of the 1 to 5 year and 5+ year recommendations, the City of Princeton should incorporate park development costs into the annual budget and identify additional grants and funding opportunities in order to achieve the recommendations included in this document.

Park Priorities

In order to effectively plan and construct future parks and amenities, an outline of prioritized recommendations is listed below:

1-5 Years:

- **Priority #1** Construct remaining amenities shown in the J.M. Caldwell, Sr. Community Park Master Plan
- Priority #2 Implement park branding that is consistent with the city's overall branding effort
- **Priority #3** Acquisition of public park land (415 acres)
- **Priority #4** Develop a park site to include multi use sport fields (6 Baseball/Softball, 2 Lacrosse or Soccer fields)
- **Priority #5** Develop a park site to include unique amenities that are suitable for the community's youth such as splash pads, skate parks and themed playgrounds
- Priority #6 Develop a park site that includes a food truck parking area and event space
- **Priority #7** Develop a park site to include dog park and rentable structures
- **Priority #8** Develop a park site to include a community center or municipal facility

5+ Years

- **Priority #9** Acquisition of park land and open space in developing neighborhood parks (200 acres)
- Priority #10 Develop multi-use sport fields (13 Baseball/Softball fields, 27 Lacrosse or Soccer fields)
- **Priority #11** Develop additional restroom facilities and shade structures in parks (4 Restrooms and 24 Shade structures)
- **Priority #12** Develop additional youth recreational activities (8 Splash pads, 23 Themed playgrounds, and 10 Traditional playgrounds)
- **Priority #13** Develop additional sports courts (14 Basketball courts, 15 Tennis courts, and 17 Volleyball Courts)
- Priority #14 Develop additional facilities (18 Passive sport courts, 2 Dog parks, and 1 Amphitheater)

Trail Recommendations

After reviewing the existing trails and sidewalks throughout the city, the need for greater pedestrian connectivity was identified. The recommended trail and sidewalks noted below and illustrated in Figure 7: Proposed Trails & Trail Heads, propose an expanded pedestrian network that will connect the community to parks, schools, and city amenities.

Sidewalk & Trail Recommendations

The first recommendation for the trail and sidewalk system is to connect neighborhoods, schools and parks, with additional sidewalks. Currently, the newer neighborhoods included sidewalks within their boundaries; however, the sidewalks typically end at the neighborhood entrances. Figure 7: Proposed Trails & Trail Heads illustrates the recommended expansion of four foot to six foot sidewalks to connect the existing neighborhoods to adjacent schools, parks and main roadway corridors. Additionally, there are eight foot wide enhanced sidewalks recommended for higher pedestrian traffic areas such as along Monte Carlo Boulevard and College Street, which will connect to the four to six foot sidewalks.



Eight Foot Wide Trail along The Trails at Riverstone



Pedestrian Bridge Crossing J.M. Caldwell, Sr. Community Park

The next recommendation is to develop trails along Tickey Creek that would connect to the community parks and surrounding neighborhoods. Many neighborhoods and single-family lots border the creek creating an opportunity to connect the community on a strong central trail. The largest constraint in developing this trail system will be acquiring the land. This could be done through land acquisition or by obtaining a hiking/biking trail easement within the 100-yr floodplain of the creek. Once the land is obtained, the trail system could be expanded to provide community connections, convenient routes to recreational trails, and access to the other amenities in the city.

Another opportunity for the trail system is adding rest stops, workout stations, and trail heads. The rest stops could include benches, trash/recycling bins, lighting, or a combination of amenities. The workout

stations could include mile markers, fitness equipment, misting stations, and seating. The trail heads, located in Figure 7: Proposed Trails & Trail Heads, identifies main entry points for the Tickey Creek trail system and would provide parking, shaded seating, signage, and site furnishings.

In 2017, a Master Thoroughfare Plan was created for the City of Princeton in order to identify the location and types of roadway corridors that are appropriate as the city grows. As these future roadways are developed, on street bike lanes should be considered and included in the roadway designs where feasible. The Comprehensive Plan identifies options for how to incorporate bike lanes into roadways as outlined in the document's Mobility Guiding Principles.

The final recommendation for the trail system is to expand and connect to the existing parks and trails surrounding the city. The trail network could be expanded to existing parks by connecting the trail system into Sister Grove Park and Twin Groves Park. These two USACE sites offer amenities which are unavailable within the city. Efforts should also be focused on utilizing the Collin County Regional Trails Master Plan to connect Princeton's trail system into neighboring communities trail network.

Trail Priorities

In order to effectively plan and construct future trails, an outline of prioritized recommendations is listed below:

- **Priority #1** Build a trail connection between Trails at Riverstone and J.M. Caldwell, Sr. Community Park (1/4 mile)
- Priority #2 Build an enhanced sidewalk along College Street (1 mile)
- **Priority #3** Strengthen sidewalk connections within the downtown residential neighborhoods by connecting to adjacent schools, parks, and main corridors (3 miles)
- Priority #4 Extend enhanced sidewalks along Monte Carlo Blvd (1.5 miles)
- Priority #5 Build trails along Tickey Creek from College Street to Princeton Drive (1/3 mile)
- Priority #6 Connect neighborhoods to Monte Carlo Boulevard using sidewalks (1.5 miles)
- **Priority #7** Build sidewalks, trails, and bicycle facilities along Princeton Drive (3.5 miles)
- Priority #8 Connect the Tickey Creek trail to the Princeton Drive bicycle and pedestrian facilities
- Priority #9 Build trail system along secondary roadway corridors (3 miles)
- Priority #10 Extend trail system south of Princeton Drive along Tickey Creek (1.5 miles)
- **Priority #11** Connect future park locations to the Tickey Creek trail system (1 mile)
- **Priority #12** Connect Princeton Drive bicycle and pedestrian facilities to the Public Site Park at Princeton Crossroads (1/3 mile)
- Priority #13 Extend Tickey Creek trail system north of Monte Carlo Blvd and connect to the Collin County Regional Trails Master Plan (5 miles)
- **Priority #14** Build enhanced sidewalks to connect neighborhoods into secondary roadway corridors south of Princeton Drive (1/2 mile)
- **Priority #15** Extend trail system along 2nd street south of Princeton Drive and connect to new roadway thoroughfares and future park site (2.5 miles)
- Priority #16 Build trail connections to the adjacent Sister Grove Park and Twin Groves Park (6 miles)
- **Priority #17** Build trail systems along new roadway thoroughfares with combination of on street bike lanes street trails and off street trails (3.5+ miles)
- **Priority #18** Connect future parks to the thoroughfare trail system (5.5 miles)

Budget Requirements

Estimating Cost of Implementation

The costs below represent typical costs for general park improvements and are intended to provide a guide for planning the development of future parks. As part of the park development plan, the City should obtain a site specific conceptual plan and estimated project budget based on the current market conditions.

Parks

Sports Court Area Budget: • 4 Sport Courts • Site Furnishings • Group Shade Pavilion with Picnic Tables • Concrete Trail Connections • Drinking Fountains • Lighting	\$1,500,000
Regulation Multi-Use Sports Field: Natural Turf Grass Sports Field Lighting Irrigation Access paths Bleachers	\$1,750,000
 Splash Pad and Themed Playground: Splash Pad Themed Playground Site Furnishings Shade Structure Group Shade Pavilion with Picnic Tables 	\$2,000,000
Parking Lots with Lighting: • Small (10-20 Stalls) • Medium (21-100 Stalls) • Large (101-300+ Stalls)	\$200,000 \$800,000 \$1,500,000
Passive Recreation Areas: Concrete Trail Connections Site Furnishings 4 Passive Multi-Use Sport Courts Group Shade Structure with Picnic Tables Lighting Drinking Fountains with Utility Connections	\$1,500,000
Dog Parks: • 4' Fencing • Site Amenities • Drinking Fountains with Utility Connections	\$200,000
Community Center:	\$30,000,000

\$8,000,000 Family Aquatics Center: · Lazy River · Lap Lanes Slides Group Pavilion with Picnic Tables Concessions and Restrooms Building Open Space Enhancements: \$400,000 • Native Grass & Wildflower Seeding Soft Surface Trails Seating Signage **Trails** Typical One Mile Trails Section Along Roadway Corridor \$1,000,000 Concrete Trails Trail Furnishings \$1,750,000 Typical One Mile Trail Section Along Tickey Creek Corridor Concrete Trails Trail Furnishings • Bridges/ Roadway Crossings Floodplain Mitigation Trail Heads \$1,500,000 Group Shade Pavilion Signage Site Furnishings Drinking Fountain Parking Lighting Rest Stops/ Workout Stations \$350,000 Site Furnishings Drinking Fountain Lighting **Additional Amenities** \$ Varies Park Land Acquisition **Tennis Courts** \$125,000 Softball/ Baseball Field \$500,000 Basketball Court \$100,000 Themed Playground \$500,000

Amphitheater

\$650,000

420

Passive Sport Courts	\$100,000
Multi-use Natural Turf Sports Field	\$450,000
Security Lighting along Typical One Mile Trail Section	\$150,000

Integrated Planning Efforts

The planning efforts for this Parks & Trails Master Plan were performed concurrently with the Princeton Comprehensive Plan. Both plans were reviewed with city staff and presented at community workshops. As the City of Princeton develops parks and trails throughout the city, the Comprehensive Plan should be reviewed in conjunction with Parks & Trails Master Plan to ensure they remain cohesive. Any future on street bike lanes and trails located along roadway corridors shall be implemented, as outlined in the Mobility Guiding Principles included in the Comprehensive Plan, as future growth expands the city's roadway network.

In addition, the Collin County Regional Trails Master Plan and park/trail master plans for any adjacent communities should be reviewed in conjunction with the City of Princeton Parks & Trails Master Plan in an effort to effectively implement a region wide trail system.

Funding Sources

In order to fund these various improvements, the City of Princeton has an opportunity to reach out to a number of supporting grant sources and programs. Possible sources for funding opportunities are listed below:

Collin County Project Funding Assistance Program

NCTCOG's Mobility 2035

Texas Parks and Wildlife Grants

Texas Department of Transportation

Texas Bicycle Tourism Trails Act

Federally Funded Programs

Federal Transportation Funding Sources

Community Redevelopment Block Grants (CDBG)

Private Donation Partnerships

Proposed Parks & Service Zones

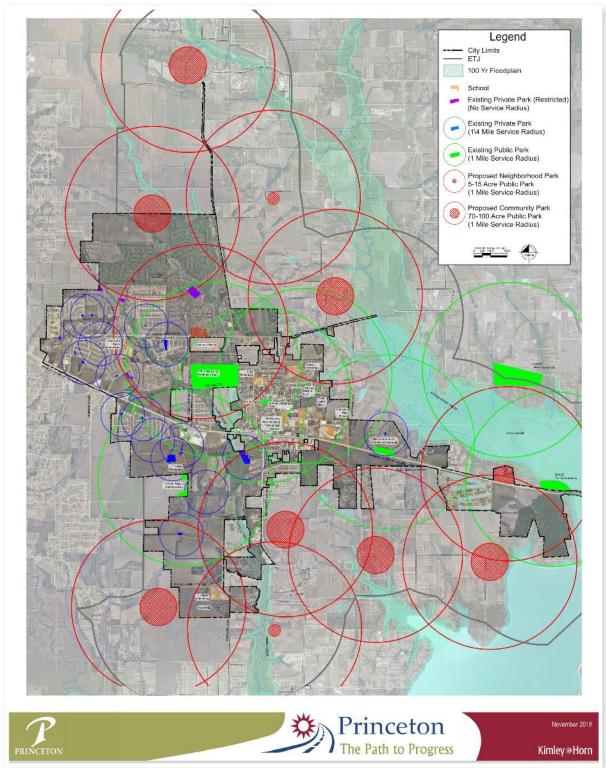


Figure 6: Proposed Parks & Service Zones Reference Appendix C for Full Size Document

Proposed Trails & Trail Heads

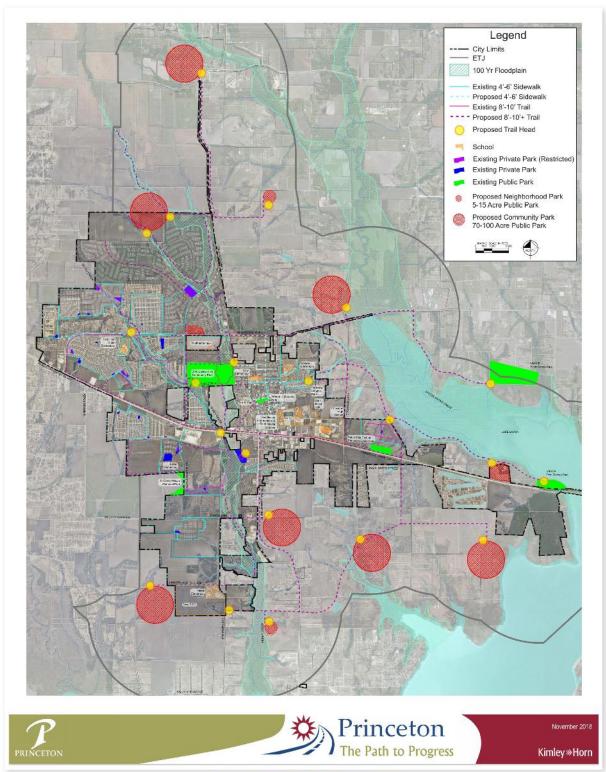
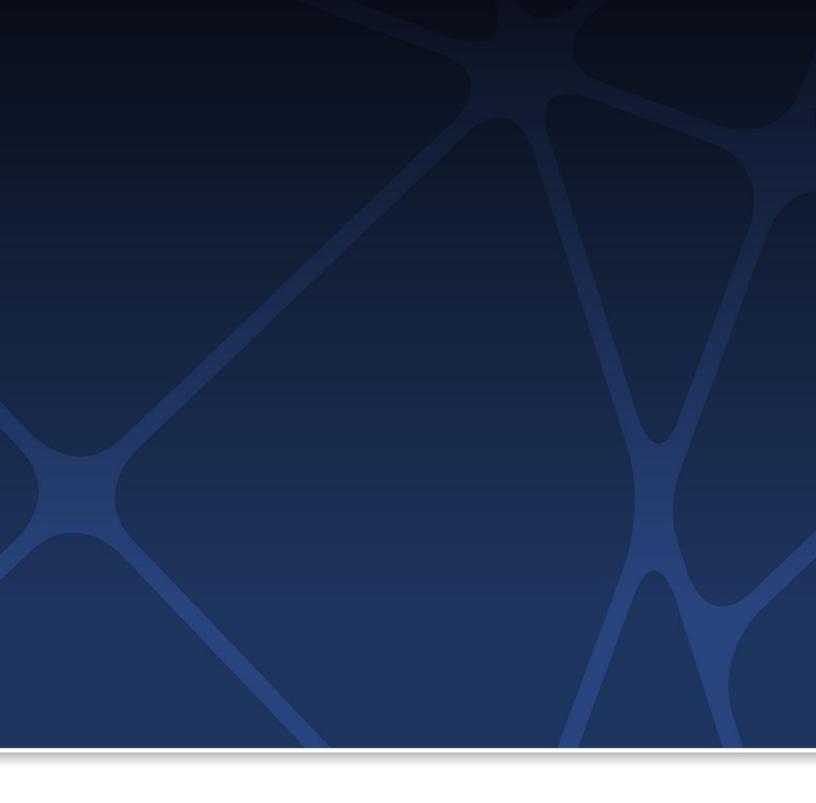


Figure 7: Proposed Trails & Trail Heads Reference Appendix D for Full Size Document



SUMMARY OF TRAIL STANDARDS & CONNECTION CONCEPTS

SUMMARY OF TRAIL STANDARDS & CONNECTION CONCEPTS

Trail Standards

The American Association of State Highway and Transportation Officials (AASHTO) has published multiple documents identifying specifications, protocols, and guidelines to be used in park and trail design throughout the United States. The AASHTO guidelines and other listed sources in this section are to be implemented in all parks and trails construction in the City of Princeton.

Sidewalks

Sidewalks are necessary in four circumstances: (1) new construction for heightened or anticipated growth of pedestrian use, (2) preemptive construction with no immediate pedestrian presence, (3) existing sidewalk reconstruction for unaccommodated users and usages, (4) sidewalk extension projects to meet developing needs in areas of pedestrian growth. While the need for new sidewalks differs, all sidewalks must be accessible to people with disabilities and meet all requirements of the Americans with Disabilities Act (ADA).

Sidewalks should be considered when roadway drainage methods are modified from open channels to an underground drainage system. This advancement commonly takes place when an area's growth has reached a level where open channels become unsuitable. Consideration of an area's residents and their needs should also be made before locating sidewalks.

Sidewalk Widths

All sidewalks require a minimum four feet unobstructed width, excluding an attached curb and must include a five foot wide designated passing areas for wheelchair accessibility, at intervals not exceding 200 feet. Often, six to eight foot sidewalks are preferred along arterial roads with a planting strip along the back of curb. A ten foot sidewalk is preferred in a central business district to maintain an unobstructed path for pedestrians. For example, additional width along a storefront is valuable for shoppers, swinging doors, and pedestrian movement to surrounding buildings. Where possible, utilities, signage, and furniture should be located outside of the pedestrian walkway.

The space provided for a sidewalk dictates its performance, which is based on how many people are using it and at what flow rate. It may be appropriate for a sidewalk with a high pedestrian use to have a width of ten to fifteen feet or more. Alternatively, an oversized sidewalk will appear empty and uninviting. The use of sidewalks for street vendors and restaurant seating should be monitored by municipal permits to ensure pedestrian access is not impeded.

Shared Use Paths

A shared use path is a bike path physically separated from vehicular traffic by either an open space or barrier. Similar to roadways, these paths are commonly designed for two-way travel and vary in design criteria depending on the expected speed of the users. This Parks & Trails Master Plan document refers to shared use paths as 'trail or trails'. Shared use paths are primarily designed for bicycle use but will also accommodate pedestrians and meet all ADA accessibility requirements.

Shared Use Path Width

The appropriate width for a shared use path is based on the context, volume, and mix of users. Typical paved widths range from ten to fourteen feet with the larger widths being utilized in high use spaces. An eight foot paved width is discouraged but can be necessary in circumstances when bicycle and pedestrian use is expected to be occasional or where physical constraints exist. Wider pathways, from ten to fourteen feet in width, are recommended in areas where they intend to serve a higher volume of users. These widths allow for one user to pass another while a third user is approaching from the opposite direction.

Shared Use Path Shoulder

Shoulders shall be provided on either side of the pathway, and provided at widths and slopes that meet the current AASTHO recommednations. Narrower shoulders shall also be provided at pathway pinch points or vertical obstructions such as fences, signage, bridge abutments, and landscaping. In circumstances where a pathway abuts a steep edge or body of water, a wider shoulder is recommedned. Refer to the current and published AASHTO Guide for the Development of Bicycle Facilities for recommended shoulder widths and slopes.

Additional Design Considerations

Sight distances, horizontal alignment, grade, design speed, and pathway radius should be incorporated when designing a path for functionality and safety. Sight distance consideration eliminates blind turns and makes stopping distances easily identified along pathways. Although there are a variety of factors that define a design speed, a pathway should always be designed to account for the highest speed expected along the path. Refer to the AASHTO Guide for the Development of Bicycle Facilities for tables and graphics defining acceptable pathway radius, grade, and horizontal alignments for the different design speeds.

Roadways

Rural Roadways

Rural roadways tend to have a low pedestrian presence. Along these routes, a paved or unpaved shoulder may be utilized for bicycle traffic where a sidewalk or shared use path may be impractical. On rural roads with shoulder access, space must be provided at transit stops to allow for pedestrians waiting at the roadside. Soft surface or stabilized crushed granite paths are often established in residential neighborhoods of suburban or exurban areas to create safe places to walk addressing accessibility needs while maintaining the 'rural' atmosphere without traditional sidewalks.

Local Urban and Suburban Streets

A local urban or suburban street generally serves individual residences and distributes traffic within a localized urban or suburban area. The methods vary in which these streets receive and handle pedestrian activity but at a minimum these areas should include a six foot wide sidewalk where feasible and increased width to enhanced sidewalks or shared use paths where heavier bicycle and pedestrian traffic are anticipated.

Urban Collectors and Arterials

Urban Collector and arterial streets typically serve the largest number of vehicles and pedestrians and serves as the primary location for businesses and other attractions. Due to a large pedestrian presence, sidewalks should be provided on each side of the street where frontage is developed. Even when these roads serve industrial areas with low pedestrian volumes, enhanced eight foot wide sidewalks are recommended on at least one side of the street. For areas where higher bicycle and pedestrian traffic is anticipated a shared use path is ideal.

Shared Roadway

Shared roadways are roadways designed to accommodate bicycle and vehicular traffic. The width of the road is the most crucial factor in designing a shared use roadway because it doesn't compromise safety or function. The best method to add or improve a roadway for bicycle use is to provide separation from adjacent vehicular traffic through the use of marked buffers or physical separation. These methods should be used along all roadway corridors when feasible. Other aspects to consider are pavement surface quality, on-street parking, drainage inlets, intersections, and signage. Reference the Comprehensive Plan's Mobility Guiding Principles and the AASHTO Guide for the Development of Bicycle Facilities and the NACTO Urban Bikeway Design Guide for further details on bike lanes along roadways and within intersections and turning lanes in roadways.

Signage

Signage along routes is essential to clarify the functionality of a pathway to its intended users. It is equally important to provide adequate signage along both roadways and sidewalks because of the difference in speed people are moving via vehicle, bicycle, or walking. Reference the AASHTO Guide for the Development of Bicycle Facilities and TMUTCD for additional details on acceptable shared use path signage methods and symbols.

Wayfinding signage is also beneficial when directing bicyclist or pedestrians on a safe route to reach a desired destination, such as downtown or municipal site. This style of signage should be coordinated with the overall branding effort of the city so its distinctive style can be easily identified.

Buffer Widths

Providing a buffer between the sidewalk and adjacent road can improve pedestrian safety. Buffers can be landscaped or areas for utilities or pedestrian splash protection. Landscape buffers can contribute to an area's character and create a welcoming environment.

The ideal planting buffer is six foot, however the width can be reduced on local or collector streets. The buffer may also be reduced along an arterial or major street, in areas where a bike lane can be used as a buffer. When a buffer is located near a bus stop, paved loading areas must be provided to maintain a clear accessible path for all users. Refer to the current and published AASHTO Guide for the Development of Bicycle Facilities and the NACTO Urban Bikeway Design Guide for further details and recommednations for buffers.

Roadway Crossings

Mid-block crossings are installed when a pedestrian route intersects a roadway between two intersections. These crossings should clearly be separate from bicycle activity happening at the roadway intersections (reference Figure 8: Typical Mid-Block Crossing). Traffic control devices, access control, pavement markings, and sight distance are just a few of the variables that should be considered when implementing any roadway crossing.

Roadway intersections should be designed to incorporate bicycle and pedestrian crossings since they can be used as entry and exit points for the trail network. The necessary TMUTCD signals and signage shall be provided as warranted and each intersection should be reviewed in detail to incorporate the bicycle and pedestrian crossing into the overall design.

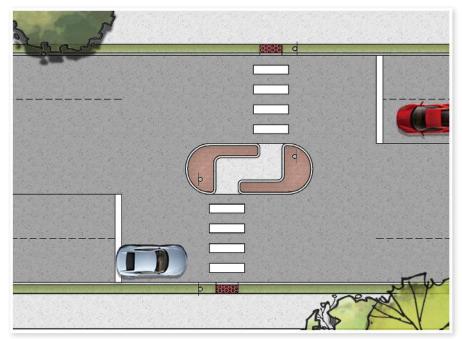


Figure 8: Typical Mid-Block Crossing

Driveway Design

The greatest danger to pedestrians is the high volume of vehicular traffic using commercial driveways. Risk can be eliminated by consolidating driveways in commercial areas to improve the pedestrian experience and limit the quantity of driveways and pavement. Cross slope, width, and grade are taken into consideration when designing driveways in order to maintain accessibility to all users. Curb ramps must not exceed he maximum longitudinal slopes and cross slopes, per ADA requirements. Signage must be provided where driveways cross sidewalks to alert drivers they must yield to pedestrians.

Grade and Cross Slope

Steep sidewalks present complications for all users. Refer to the current and published Texas Accessibility Standards (TAS) and Public Rights-of-Way Accessibility Guidelines (PROWAG) for maximum running slope and cross slopes along pedestrian routes. All sidewalks must meet the maximum running slope requuirement, or be equal to or less than the grade of the adjacent roadway.

Sidewalks for Highway Bridges, Underpasses, and Tunnels

Vehicular bridges, tunnels, and underpasses should consider and include pedestrian access routes. Sidewalks and trails at these facilities shall have the standard sidewalk width, trail width, or two feet additional width where feasible in order to provide a comfortable walking environment. Railings are required to ensure pedestrian safety where adjacent to a vertical drop (reference Figure 10: Typical Trail Underpass). Culverts, underpasses, and tunnels shall have a minimum vertical clearance as recommended by AASHTO. (reference Figure 9: Typical Trail Culvert Underpass). Refer to the current and published AASHTO Guide for the Development of Bicycle Facilities for minimum vertical and horizontal clearances.





Figure 9: Typical Trail Culvert Underpass

Figure 10: Typical Trail Underpass

Handrails and Guardrails

Guardrails shall be provided along trails when a vertical drop or slope is adjacent to the edge of the trail. Guardrails shall be provided for areas where bicycle use is anticipated. The current and published International Building Code (IBC) requirements and AASHTO Guide for Development of Bicycle Facilities should be referenced for guardrails or safety rails requirements.

Handrails shall be provided along trails and sidewalks where the longitudinal slope of the walking surface exceeds maximum slopes for walking paths. The current and published Texas Accessibility Standards (TAS) and Public Rights-of-Way Accessibility Guidelines (PROWAG) should be referenced for handrail requirements.

Surface Treatments

In public areas it is required to provide a smooth, continuous surface that maintains stability, firmness, and slip resistance. The four recommended surface treatments for public areas include concrete, asphaltic concrete, stabilized crushed aggregate, and brick pavers. Portland cement concrete is long-lasting and is typically found in urban areas. Asphaltic concrete is a short-term solution for urban areas or can be found in trail and park settings. In park areas where soft surface trails are desired, stabilized crushed aggregate can be used as a permeable path material. Brick pavers are easy to construct but require more maintenance to maintain a stable and non-slip surface. Additionally, concrete surfaces can also be dyed and stamped to provide the look of bricks without the higher cost and maintenance.

Trail Heads

Trail heads provide connection points for the public to access the trail system throughout the city. Trail heads can be included at neighborhood and community parks or they can be placed along the trail network at key locations, as shown in Figure 7: Proposed Trails & Trail Heads. At a minimum, the trail heads should typically include vehicular parking, security lighting, wayfinding signage, trash receptacles, paved connection to trail system, and paved connection to adjacent on-street sidewalks and trails. Additional site amenities should be considered where feasible and may include drinking fountains, shade pavilions, workout stations, picnic tables, enhanced landscaping, and city branded wayfinding signage. The size and scope of trail heads will vary based on location and preference, but a typical trail head will include the items listed previously and shown in Figure 11: Typical Trail Head Connection). Placement of trail heads along the proposed trail network will provide access to the public and encourage the use of the trail system for access to parks, schools, retail developments, and city facilities.

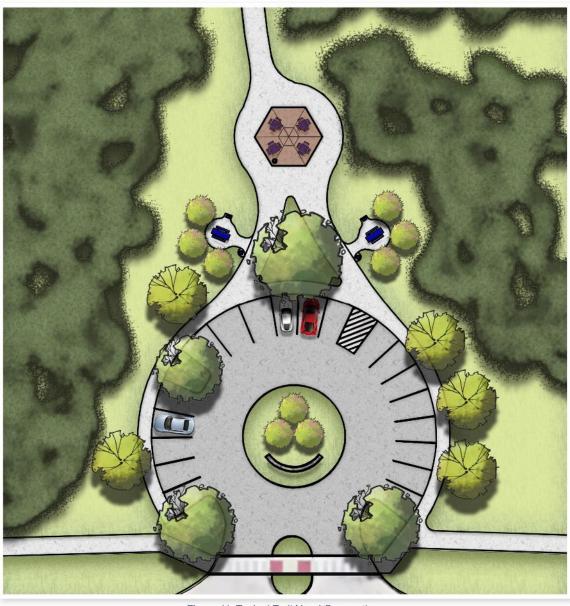


Figure 11: Typical Trail Head Connection

Bridges

Pedestrian bridges should be provided across creeks and drainage channels at key locations found in Figure 7: Proposed Trails & Trail Heads in order to expand the trail system. Bridge spans will vary at each location but are typically between 85 feet and 150 feet in length (reference Figure 12: Typical Creek Crossing - Elevation). Custom bridge spans and boardwalks can be constructed for longer spans and can provide opportunities for the city to create a signature or branded bridge structure. Clear width of the bridge span should be the same width as the trail, however, they may be reduced at the discretion of the city, but should maintain the minimum AASHTO recommended widths. Railing should be provided on each side of the bridge. The current and published International Building Code (IBC) requirements and AASHTO Guide for Development of Bicycle Facilities should be referenced for required and recommended guardrail height. (reference Figure 13: Typical Creek Crossing - Section). Bridge abutments can be designed with stone veneer and branded with city logos and signage in order to tie the bridge structure into the overall design of the trail and parks system. Bridge structures will typically be located within or near the 100-yr floodplain and should be designed and constructed with the necessary floodplain mitigation in order to offset any impacts. Reference the City of Princeton Master Drainage Plan for hydraulic analysis of Tickey Creek and its major tributaries.



Figure 12: Typical Creek Crossing - Elevation



Figure 13: Typical Creek Crossing - Section

Conclusion

The City of Princeton has completed an important and necessary first step in the development of an outstanding park and trail system with the completion of this Parks & Trails Master Plan. This document should be used as a guide to develop the parks and trails throughout the city but should also remain flexible to accommodate the evergrowing population and available funding for park development.

By completing the current plans for park and trail improvements and implementing the parks and trail recommendations included in this document, the City will make tremendous strides in creating a community that facilitates healthy lifestyles through outdoor recreation.

References

2008 Park Plan, City of Princeton and Maurice Schwakne & Company, 2008.

2010 ADA Standards for Accessible Design, Department of Justice, 2010.

Texas Accessibility Standards (TAS), 2012

Public Rights-of-Way Accessibility Guidelines (PROWAG), 2012

2017 NRPA Agency Performance Review: Park and Recreation Agency Performance Benchmarks, National Recreation and Park Association. 2017.

Code of Ordinance City of Princeton, Texas, Municipal Code Corporation and the City of Princeton, Texas, 2005, Chapter 35 - Subdivision Regulations, 2015.

Collin County Regional Trails Master Plan: A Collaborative Multi-Jurisdictional Planning Effort, Collin County, Halff Associates and Bowman-Melton Associates, Inc., May 2012.

Comprehensive Plan Update to 2050, the City of Princeton and Kimley-Horn and Associates Inc., 2018.

Guide to Bicycle Facilities, 4th Edition, American Association of State Highway and Transportation Officials, Chapter 5: Design of Shared Use Paths.

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials, 1999.

Guide for the Planning, Design, and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials, Chapter 3: Pedestrian Facility Design.

Master Drainage Plan, the City of Princeton Texas and Kimley-Horn and Associates, Inc., 2018.

National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide

Texas Manual on Uniform Traffic Control Devices (TMUTCD), The Texas Department of Transportation and The Texas Transportation Commission, 2014.



APPENDICES

CITY OF PRINCETON

RESOLUTION

NO. 2019-04-08-R-01

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PRINCETON, TEXAS ADOPTING A PARKS & TRAILS MASTER PLAN; PROVIDING FOR SEVERABILITY; PROVIDING AN EFFECTIVE DATE.

- WHEREAS, the City of Princeton, Texas (the "City") is a Type A, general law municipality; and
- WHEREAS, Chapter 331 of the Texas Local Government Code provides the authority for the City to acquire, establish, control and maintain public parks, trails, and related facilities; and
- WHEREAS, in 2008 the City of Princeton drafted a Parks Plan to define guidelines for how to develop future parks and trails; and
- WHEREAS, the City's governing body (the "City Council") desired an updated master plan to assist and provide guidance with respect to the acquisition, establishment, control and/or maintenance of the City's existing parks and trails and the City's future parks and trails system; and
- WHEREAS, the City requested that City staff and the City's professional consultants create and present for the City Council's consideration the City of Princeton Parks & Trails Master Plan (the "Master Plan"), a copy of which is attached to this resolution as **Exhibit A**, said exhibit being incorporated herein by reference as if fully set forth herein; and
- WHEREAS, the Master Plan identifies the state of the City's existing parks, analyzes key connections for a trail system, assesses the City's park and trail needs, estimates the cost of plan implementation, identifies funding sources, and prioritizes future improvements; and
- WHEREAS, the Master Plan outlines recommendations for future park and trail improvements in order to enhance the quality of life for the City's growing population; and
- WHEREAS, the focus of the Master Plan is on the existing conditions inventory and community input gathered through city and community meetings from 2017 to 2018; and

- WHEREAS, the primary goal of the Master Plan is to assist in the process of modernizing the City's parks and establishing a trail system in the community to an elevated level of functionality while capitalizing on the unique features the City of Princeton has to offer; and
- WHEREAS, the Master Plan is designed to accomplish said primary goal through the following objectives: align with the City's branding effort when developing a theme for the future parks and trail system; interconnect parks and neighborhoods through trail and sidewalk systems building a strong connection to downtown and Princeton Drive (US 380); modernize park and trail amenities and create a functional system that provides recreational opportunities to citizens of all ages; provide and prioritize recommendations for future parks and trails development; and recommend trail design guidelines; and
- WHEREAS, the City Council finds that the Master Plan is an important and necessary first step in the development of an outstanding park and trail system and should be used as a guide to develop the parks and trails throughout the City but should also remain flexible to accommodate the ever-growing population and available funding for park development; and
- WHEREAS, the City Council further finds that implementing the parks and trail recommendations in the Master Plan will result in tremendous strides in creating a community that facilitates healthy lifestyles through outdoor recreation and will promote the health, safety and welfare of the citizens of the City and the general public; and

WHEREAS, the Master Plan is intended to supersede and replace the 2008 Parks Plan;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PRINCETON, TEXAS:

Section 1. Incorporation of Premises.

All of the above premises are found to be true and correct and are incorporated into the body of this resolution as if copied in their entirety.

Section 2. Adoption of the City of Princeton Parks & Trails Master Plan.

The City Council hereby adopts the Master Plan as set forth on the attached **Exhibit A** and directs the City's staff and professional consultants to begin implementation of the Master Plan as necessary and appropriate.

Section 3. Severability.

If any section, article, paragraph, sentence, clause, phrase or word in this resolution, or application to any person or circumstance is held invalid or unconstitutional by a court of competent jurisdiction, such holding shall not affect the validity of the remaining portions of this resolution; and the City Council hereby declares it would have passed such remaining portions of this resolution despite such invalidity, which remaining portions shall remain in full force and effect.

Section 4. Effective Date.

This	resolution	shall	become	effective	immediatel	v upon its	passage.

PASSED AND APPROVED ON TI	HIS 8 TH DAY OF APRIL 2019.
	John-Mark Caldwell, Mayor
ATTEST:	
Tabatha Monk, City Secretary	