





CHAPTER 1:

WHY PLAN FOR TRAILS?

The **Waco City-wide Trails Master Plan** (the “Plan”) was initiated by the City of Waco Parks and Recreation Department (PARD) to serve as a road map for building an interconnected network of trails designed to expand recreation and transportation options for area residents.

Chapter 1, Why Plan For Trails? describes the benefits of trails and of developing a comprehensive network of hiking, biking and paddling trails throughout the Waco metropolitan area. This chapter defines various trail typologies and the different users that they serve, provides a summary of the master planning process, and introduces the Plan’s vision and guiding principles.

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WHY PLAN FOR TRAILS?

The planning, design, and development of a comprehensive trails system serves tremendous value to the broader community. Communities across the United States and throughout the world are investing in trails as a key contribution for promoting overall livability. Local, regional and national investment in trails reflects a community's commitment to promote health, safety, and welfare. Not only are trails needed for recreation, but in many communities they are utilized as essential components of the bicycle and pedestrian transportation network.

Public trails build community at a human scale and support physical, social and economic prosperity across a community, regardless of class, economic status, age or ability. **The Primary Benefits of Trails**, summarizes the positive impacts that an interconnected network of multi-use trails can have on a community. Communities across Texas recognize that outdoor recreation supports and contributes to a high quality of life, as well as, attracting and sustaining employers and families. Investing in outdoor infrastructure attracts employers and active workforces, ensuring those communities thrive economically and socially.

“TRAILS HAVE MULTIPLE VALUES AND THEIR BENEFITS REACH FAR BEYOND RECREATION. TRAILS CAN ENRICH THE QUALITY OF LIFE FOR INDIVIDUALS, MAKE COMMUNITIES MORE LIVABLE, AND PROTECT, NURTURE, AND SHOWCASE AMERICA'S GRANDEUR BY TRAVERSING AREAS OF NATURAL BEAUTY, DISTINCTIVE GEOGRAPHY, HISTORIC SIGNIFICANCE, AND ECOLOGICAL DIVERSITY. TRAILS ARE IMPORTANT FOR THE NATION'S HEALTH, ECONOMY, RESOURCE PROTECTION AND EDUCATION.”

-AMERICAN TRAILS

THE PRIMARY BENEFITS OF TRAILS

INCREASED PROPERTY VALUE

Benefits residents and landowners, as well as, local government with an increase in property tax revenue.

TRANSPORTATION OPTIONS

As citizens continue to make transportation decisions, they consider shifting to bicycle & pedestrian travel rather than vehicular travel.

IMPROVED ENVIRONMENT

“Green transportation” creates clear skies & clean rivers. Local wildlife is less impacted by the creation of trails, than by the construction of roadways.

ECONOMIC GROWTH

Communities that invest in trails experience positive economic impacts from tourism and recreation-related revenue.

HEALTH BENEFITS

Cities are striving to improve community health by providing options to spend more time with family, offer healthy food options to all & improve health conditions through active living.



An interconnected multi-use trail network within the City of Waco provides residents the ability to move from destination to destination without getting in a car. Recreation opportunities are also improved when the trail network includes diverse trail types that cater to multiple interests and are accessible for people of all abilities.

“IN TEXAS, OUTDOOR RECREATION GENERATES \$52.6 BILLION IN CONSUMER SPENDING ANNUALLY, 411,000 DIRECT JOBS, \$15.8 BILLION IN WAGES AND SALARIES, AND \$3.5 BILLION IN STATE AND LOCAL TAX REVENUE.”

-OUTDOOR INDUSTRY ASSOCIATION

OUR TRAIL USERS

Trails attract a wide variety of users. Planning and design considerations for trails in Waco must consider the needs and preferences of all types of users. A thorough understanding is developed by identifying the preferences, challenges and limitations impacting several groups within the community. Though each group has a specific set of needs, Waco strives to define shared aspects of each group in order to develop a multi-purpose trails system that most effectively meets the overlapping needs of users. Common trails users include:



WALKERS

Pedestrians typically utilize trails for recreation purposes, and many categorize themselves as “walkers.” The economic appeal generated through accessibility make walking a popular recreation activity for the general public and an important resource for the commuting public. Trail connections between neighborhoods and nearby destinations add to the feasibility and desirability of walking.



RUNNERS/JOGGERS

Trail networks provide an ideal setting for runners and joggers seeking opportunities for fitness, sport, and leisure. Trails with minimum widths of 10-12 feet ensure there is space for runners and joggers to conveniently and safely pass other users while also providing space for group recreation activities.



EQUESTRIANS

Equestrian users, or horseback riders may use trails for recreational use. Typically, equestrian users prefer loose or compacted dirt trails in order to protect horse hooves. Equestrian use is permissible on many types of recreational trails, and can sometimes be accommodated on paths parallel to hard-surface and urbanized metropolitan multi-use trails.



IN-LINE SKATERS & SKATEBOARDERS

Paved multi-use trails that accommodate pedestrians and bicyclists are likely to attract in-line skaters and skateboarders as well. The needs and preferences of skaters are typically the same as pedestrians and bicyclists.



MOTORIZED USERS

Some trails systems, especially in rural areas, also accommodate all-terrain vehicles (ATVs). Within urbanized areas, multi-use trails are seeing increasing usage by individuals using electric-assist bicycles, motorized scooters and other electric vehicles. State statutes and local ordinances can manage acceptable motorized use on a community’s trails system.



BICYCLISTS

Trails systems generally support four distinct categories of bicyclists based on age, ability, and interest and including: basic to advanced, children or seniors, and/or off-road bicycling enthusiasts. A connected trail system, either through on-street, off-street or both, provides opportunities to access a variety of destinations for all ages and abilities, and can provide recreational trails for specialized bicycling interests.

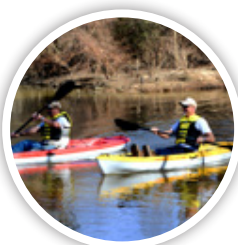
BICYCLIST DESIGN USER PROFILES

The Federal Highway Administration (FHWA) identifies three bicyclist design user profiles to describe the experience and comfort level of adults in using different types of bicycle facilities. Bicycle design user profiles include those adults who are “Interested but concerned,” “Somewhat confident” and “Highly confident” and were used to inform recommended bikeway design in the **Waco Metropolitan-Area Active Transp. Plan** (2019).

Over fifty (50) percent of the adult population interviewed to determine bicycle user design profiles was classified as “Interested but concerned” - meaning that they would prefer to ride on off-street or separated bicycle facilities. Many of the trails proposed in this Plan will encourage bicycling among those residents of Waco who may otherwise be apprehensive about the bicycling environment in the City.



See the U.S. FHWA Bikeway Selection Guide (2019) for more information on bicyclist design user profiles.



PADDLERS

Trail users, utilizing equipment such as kayaks, canoes or paddle boards, may use nearby water features for recreational use. Many paddling trails connect to on-shore multi-use trails for access to boat launches, and other trail amenities. Typically, paddling enthusiasts prefer stream and river corridors where motorized boat traffic is limited in volume to allow for a more serene natural riverine, lagoon or marshland experience.



PEOPLE/PERSONS WITH DISABILITIES

Many trail systems accomodate trail users who utilize a walker, wheelchair, stroller, or similar wheeled assistive device. Accessibility and safety are the main priorities for people/persons with disabilities. This user group may use trails for recreation and transportation but may not be equipped to utilized some specialized recreation facilities such as rugged hiking trails or single-track mountain biking trails.

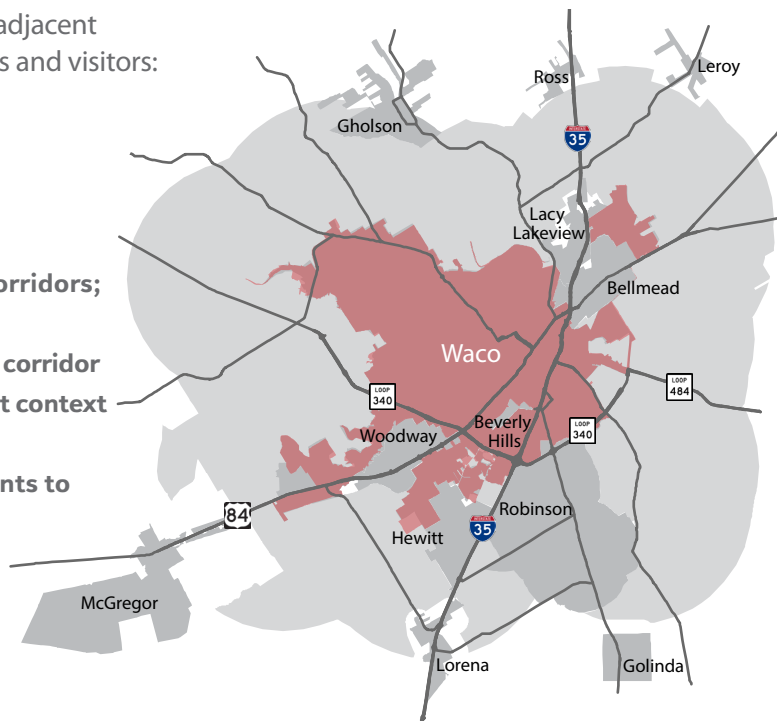
The Plan provides a framework for community-wide multi-use trail connectivity linking destinations within Waco and adjacent communities to enhance the following for residents and visitors:

- **Active transportation;**
- **Recreation; and**
- **Quality of life opportunities.**

- **Both on-street and off-street multi-use trail corridors; identify priority corridors;**
- **Define appropriate facility options for each trail corridor segment based on the surrounding development context and user needs and preferences; and**
- **Identify methods for leveraging trail investments to build local “active tourism” opportunities.**

The Plan incorporates an implementation program which recommends investment priorities, associated costs, funding options, and plan administration and monitoring.

The planning area for this initiative includes the entirety of the city limits, including the extraterritorial jurisdiction, and considers linkages to surrounding communities.



This Plan consists of five chapters:

2 YOUR TRAILS SYSTEM TODAY

This chapter provides a summary of the benefits of developing a comprehensive trail network for the Waco community. In addition, it defines key terms and describes trail typologies to be used throughout the planning document.

This chapter summarizes the existing conditions of trails throughout Waco, while providing network analysis in narrative and map formats. Demographic background information is also discussed in this chapter.

3 WACO'S FUTURE TRAILS SYSTEM

This chapter identifies proposed connections and trail enhancements within and around the Waco metropolitan area, including potential links to surrounding communities.

4 TRAILS SYSTEM DESIGN STANDARDS

This chapter provides design guidelines about developing quality trails and adequately accommodating trail users in a variety of built and natural environments.

5 IMPLEMENTING OUR VISION

This chapter provides key actions that should be taken to build a trails network in Waco. It explores management, partnerships and tools, as well as, the recommended prioritization of projects.



TRAIL TYPOLOGIES

Many distinct trail types can exist within a community - all of which are designed to serve varying purposes, interests and user groups. In fact, there is no universal definition for most types of trails and the terminology used to classify trails can be as diverse as the communities where they are located. A broad definition for 'trail' provided by American Trails accurately describes the broad network of trails that may be found in Waco today.

“A TRAIL IS A TRAVEL WAY ESTABLISHED EITHER THROUGH CONSTRUCTION OR USE AND IS PASSABLE BY AT LEAST ONE OR MORE OF THE FOLLOWING, INCLUDING BUT NOT LIMITED TO: FOOT TRAFFIC, STOCK, WATERCRAFT, BICYCLES, IN-LINE SKATES, WHEELCHAIRS, CROSS-COUNTRY SKIS, OFF-ROAD RECREATION VEHICLES SUCH AS MOTORCYCLES, SNOWMOBILES, ATVS AND 4-WHEEL DRIVE VEHICLES.”

-AMERICAN TRAILS

For planning purposes, this report distinguishes between trails that are: **A)** Designed to serve dual recreation and transportation functions versus those that are; **B)** Primarily intended to meet a recreational need. **Please note that the descriptions of each trail type referenced herein are intended to provide only a general guide to common trail characteristics.** Some of the identified facilities have formal definitions consistent with the most recent American Association of State Highway and Transportation Officials (AASHTO) Green Book; or from National Association of City Transportation Officials (NACTO). Where noted, please also reference **Appendix ##: Glossary of Terms.**

METROPOLITAN TRAILS

Metropolitan trails are designed to support general recreation and fitness activities while also providing access to important community destinations. Metropolitan trails can be linked together to create an interconnected system of bicycle and pedestrian routes and facilities that form an important component of a community's larger active transportation network.



ROADSIDE TRAILS (ROADWAY CORRIDORS)

Description. A hard-surface pathway running parallel to a roadway and primarily designed to accommodate bicyclists and pedestrians. Also referred to as a sidepath.¹

Location. Within or directly adjacent to a street right-of-way.

Primary User Groups. Bicyclists, pedestrians, and other human-powered recreation and transportation modes (e.g. in-line-skating, skateboarding, etc.).

Design²: Materials. Asphalt or concrete.

Dimensions. Common width of 10' - 12'.



GREENWAY TRAILS (NON-ROADWAY CORRIDORS)

Description. A hard or soft-surface pathway often located within or parallel to streams, drainage corridors, utility easements, railways, and environmentally sensitive lands and typically designed to accommodate bicyclists and pedestrians. Also referred to as a shared use path³.

Location. Within a designated easement, right-of-way, greenway, linear park or other public lands.

Primary User Groups. Bicyclists, pedestrians, and other human-powered recreation and transportation modes (e.g. in-line-skating, skateboarding, etc.).

Design: Materials. Asphalt, concrete, decomposed granite or other permeable surface.

Dimensions. Common width of 10' - 12'.



FEEDER PATHS

Description. A hard or soft-surface pathway of limited distance that creates direct connections between residential areas and other trip origins, and adjacent/proximate destinations or the community's primary shared-use trails, sidewalks or bicycle network.

Location. Within a designated easement, right-of-way, or other dedicated lands.

Primary User Groups. Bicyclists, pedestrians, and other human-powered recreation and transportation modes (e.g. in-line-skating, skateboarding, etc.).

Design: Materials. Asphalt, concrete, decomposed granite or other permeable surface.

Dimensions. Common width of 6' - 10' (but should vary according to anticipated levels of congestion).

¹ American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 2012 (Washington, DC), 1-4.
² General characteristics. See Chapter 4, Trails System Design Standards for recommendations specific to the Waco city-wide trails network.
³ American Association of State Highway and Transportation Officials, Guide for the Development of Bicycle Facilities, 2012 (Washington, DC), 1.

RECREATIONAL TRAILS

Recreational trails are designed to support various recreation and fitness activities including, hiking, jogging, biking, horse-back riding, paddling and more. Although some recreational trails can be shared among multiple types of users, many are custom designed to support specialized user groups. Some recreational trails may connect community destinations, but their utility as a transportation facility is often limited or incidental.

SPECIAL-USE TRAILS



Description. Purpose-built trails designed to accommodate the recreational interests of specific user groups. Although often designed and incorporating features with a principal user in mind, some secondary user groups may not be expressly excluded.

Primary User Groups. Varies. See examples below and on page 11.

SPECIAL-USE TRAIL EXAMPLES



HIKING TRAILS

Description. Natural surface trails often located in areas of open space or wilderness and designed to promote experiential pedestrian use.

Primary User Groups. Varies.



MOUNTAIN BIKING TRAILS

Description. Natural or constructed off-road trails designed to accommodate a range of mountain biking experiences. Mountain biking trails may take different forms including cross-country, downhill, flow, or skills parks depending on the interests of individual riders.

Primary User Groups. Mountain bicyclists.



EQUESTRIAN TRAILS

Description. Natural or other soft surface trails designed to accommodate horseback riding.

Primary User Groups. Horseback riders.

RECREATIONAL TRAILS (CONT.)



PADDLING TRAILS

Description. Water trails designed for paddling and floating activities including canoeing, kayaking and tubing

Primary User Groups. Canoeists, kayakers.



SITE AMENITY TRAILS

Description. Hard or soft surface pathways designed to promote fitness and recreation within a park or other activity center, but which are not necessarily configured to provide transportation linkages between community destinations.

Primary User Groups. Bicyclists, pedestrians, in-line skating, etc.

GREENWAYS

A greenway is a corridor of land, which may include natural or man-made features such as streams, drainage channels, or utility easements, and may be preserved for environmental protection or recreational use. Greenways are often left undeveloped to protect natural habitats or other sensitive environmental areas, improve flood management and water quality, and may provide open space or vegetative buffers between land uses. **The terms “greenway” and “trail” are not synonymous.** Rather, greenways may contain trails that provide access to nature within the corridor, and/or routes for bicycling and walking between community destinations. Greenways are sometimes referred to as “linear parks” when public entities accommodate recreational uses within the corridor.



Waco Creek and adjacent embankments may serve as a greenway that supports future trail infrastructure.

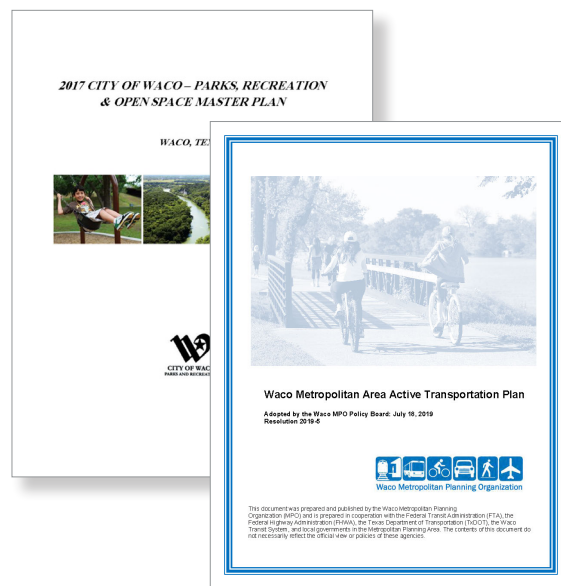
BUILDING OUR TRAILS MASTER PLAN

USING THIS PLAN

A number of planning efforts addressing active transportation and recreation in Waco have been conducted by the City and the Waco Metropolitan Planning Organization (the “MPO”). This Plan strives to fill the gap of a trail-specific plan, while drawing upon the plan goals and objectives of past studies. Primary local plans and studies referenced by this Plan include, but are not limited to:

- **2017 Parks, Recreation and Open Space Master Plan**
- **The City Plan - Waco Comprehensive Plan 2040 (2016)**
- **Connections 2045: Waco Metropolitan Transp. Plan (2020)**
- **Waco Metropolitan-Area Active Transp. Plan (2019)**
- **Waco Downtown Transportation Study (2014)**
- **Imagine Waco: A Plan for Greater Downtown (2010)**

The **Waco City-wide Trails Master Plan** does not replace Waco’s recent park, recreation or transportation planning initiatives - rather, it augments the adopted and applicable long-range master plans of the City and MPO. More specifically, this Plan serves as a framework for enhancing the City of Waco’s trail network through identifying existing and future trail needs, areas of improvement for existing trails, and future trail phasing.



THE PLANNING PROCESS

The **Waco City-wide Trails Master Plan** was conducted under the oversight of the Waco PARD and a Trails Advisory Committee appointed by the City of Waco. Plan recommendations and priority projects are derived from an inclusive stakeholder and public outreach process. The **Project Timeline** below describes the four primary phases of the planning initiative that took place in 2021.

PROJECT TIMELINE



PHASE 1 **GATHER** (JAN-MAY 2021)

Initial data compilation, research and interviews with key community stakeholders.



PHASE 2 **ENVISION** (MAY-JUNE 2021)

Public outreach activities and analysis of existing conditions, and community needs and preferences.



PHASE 3 **COMPOSE** (JUNE 2021-APRIL 2022)

Confirmation of findings and preparation of recommendations.



PHASE 4 **APPROVE** (MAY-AUG. 2022)

Development of an action plan for investing in trail development.



City staff collecting resident ideas for trail building at one of eight intercept survey “pit stops.”

PUBLIC OUTREACH AND ENGAGEMENT

The Plan included an extensive public outreach effort designed to collect feedback from a diverse and sizable group of residents living in and around Waco. In-person activities and virtual outreach tools were utilized throughout the project to provide a variety of methods in which to engage the public. Key findings from public and stakeholder outreach activities are distributed throughout **Chapter 2, Existing Conditions**. Consolidated results of all public outreach and engagement activities can be found in **Appendix ##: Public Engagement Summary**.



Public outreach advertisements were designed to be fun and encourage resident participation and feedback.

IN-PERSON OUTREACH activities included:

- **Focus Groups.** Staff facilitated four stakeholder meetings to identify important city recreation and transportation needs.
- **Intercept Survey.** City staff established eight intercept survey “pit stops” in May and June of 2021 to ask trail users about their preferences and needs related to trails.
- **Public Info Booths.** Two public info booths were set up in September of 2021 to solicit feedback on Plan recommendations.

VIRTUAL OUTREACH activities included:

- **Project Web-page.** The City of Waco created and maintained a project web-page which provided an overview of the Plan, provided access to public participation events and activities, and served as a document repository.
- **Online Public Survey.** A survey asking about public trail usage was administered from April through June of 2021.
- **Virtual Interactive Map.** An on-line map allowing participants to describe what they like about existing trails and to identify new trail corridors was administered in July and August of 2021.
- **On-line Presentations.** Posted to the project website to provide the public with ongoing updates.

TRAILS ADVISORY COMMITTEE

As a part of this Plan, an ad-hoc group of staff and citizens was formed by the City to serve as a Trails Advisory Committee (TAC). Membership was comprised of representatives of community transportation, recreation, human services, environmental and economic interests and included many individuals already serving on similar City or MPO boards (to encourage consistency with existing planning documents).

The TAC met four times during the project and served as a review body that provided guidance throughout the Plan development. The TAC confirmed the Master Plan vision, reviewed interim concepts and recommendations and provided feedback on the draft report.

“WACO WILL BUILD A NETWORK OF TRAILS THROUGHOUT THE METROPOLITAN AREA THAT WILL ESTABLISH INTERCONNECTED AND CONTINUOUS CORRIDORS TO PROMOTE OUTDOOR RECREATION, PERSONAL FITNESS AND WELLNESS, FACILITATE NON-MOTORIZED TRANSPORTATION AND HIGHLIGHT THE NATURAL AND CULTURAL RESOURCES OF OUR COMMUNITY.”

CITY OF WACO'S VISION FOR TRAILS

THE WACO CITY-WIDE TRAILS SYSTEM: OUR VISION

OUR VISION FOR TRAILS in the Waco metropolitan area blends our aspirations for improving community health, prosperity and well-being through improved access to recreational amenities and transportation options. Our vision statement (above) is supported by six (6) guiding principles that define the diverse network of recreational and metropolitan trails that we will build throughout Waco to enhance the immediate and long-term quality of life of our current and future residents. The vision statement and guiding principles were derived from public input (e.g., stakeholder meetings and online survey) and reviewed by the TAC committee.

GUIDING PRINCIPLES: OUR TRAILS WILL...

1

BE CONNECTED AND ACCESSIBLE.

We will build a trails network, in partnership with other organizations, that creates convenient local and regional connections, and is equitably distributed and accessible relative to those corridors that are financially feasible to develop.

2

BE COMFORTABLE AND EFFICIENT.

We will incorporate safe design features into our trails that incentivize their use as a feasible non-motorized transportation option and an extension of the metropolitan area's broader network of bicycle and pedestrian facilities.

3

BE RESOURCEFUL AND FEASIBLE.

We will design trails that can be operated in a cost-efficient manner and access a variety of funding sources to build trail facilities that are easy to maintain and are resilient in the face of weather events and fluctuations in the economy.

4

SUPPORT DIVERSE INTERESTS.

We will develop a trails system that caters to a wide range of user groups by developing a diverse suite of hiking, biking and paddling trails throughout the community that are appropriate for persons of varying interests and abilities.

5

BOOST OUR ECONOMY AND ENVIRONMENT.

We will leverage our trail corridors to promote and preserve our environmental, cultural and historical assets through access and awareness.

6

CREATE POSITIVE MEMORIES.

We will facilitate enjoyable experiences by our trails system users by promoting responsible and respectful trail usage and behaviors through improved education and awareness.