CITY OF ALLEN

TRAILS & BIKEWAYS MASTER PLAN

OCTOBER 2019

HALFF

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ACKNOWLEDGMENTS

The following individuals are recognized for their significant contributions to the preparation of the City of Allen Trails & Bikeways Master Plan.

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LOCAL RESIDENTS WALKING ON THE DAM
WATER STATION WITH TOWER
LOCAL RESIDENT CANOEING ON THE DAM RESERVOIR
WING WALL OF 1912 DAM
TOP VIEW OF 1912 DAM
1912 Dam
It is thought that Cottonwood Creek is spring-fed, and provided a reliable source of water needed for steam locomotives. According to local historians, the 1874 stone dam began to fill with sediment causing a reduction in clean water. As the need for clean water for locomotives increased, the H&TC Railroad constructed a large concrete dam in 1912 at the approximate location of today's Exchange Parkway. The 1912 dam created a larger reservoir which submerged the 1874 stone dam. The reservoir created was a benefit enjoyed by the entire community who used it for boating, fishing and swimming. The installation of the larger dam, which significantly increased the water supply, is a testament to the importance of the Allen Water Station to the railroad.
With the 1874 dam being submerged, one local informant, who grew up only 1,000 feet southeast of the 1874 stone dam in the 1930's and 1940's, recalled that the 1874 stone dam was forgotten and was never sufficiently exposed to be recognized. Apparently, the 1874 stone dam had been submerged long enough that younger residents did not know it ever existed.
The 1912 dam was eventually breached in the 1960's, and this breaching lowered the remaining reservoir such that the 1874 stone dam was exposed. Additional down cutting on the west side of the 1912 dam eventually brought Cottonwood Creek's channel back to its natural elevation. As the larger reservoir drained, the long submerged 1874 stone dam rose from the floodwaters and began to function once again. Water passing over the 1874 stone dam carried away the sediment that had clogged it since the 1912 reservoir was constructed and the creek returned to its original channel sometime in the 1970's.
When Exchange Parkway was in design in the 1990's, it was originally aligned in the direct path of the 1874 stone dam. A long time resident brought their concern for Allen's historic 1874 stone dam to the City's attention. City staff realigned Exchange Parkway south of the 1874 stone dam and worked with the Texas Historical Commission to list the 1874 stone dam and water station as a State Archaeological Landmark. The remains of the 1912 concrete dam were removed with the construction of Exchange Parkway in the late 1990's.
DOWNSTREAM VIEW OF 1912 DAM

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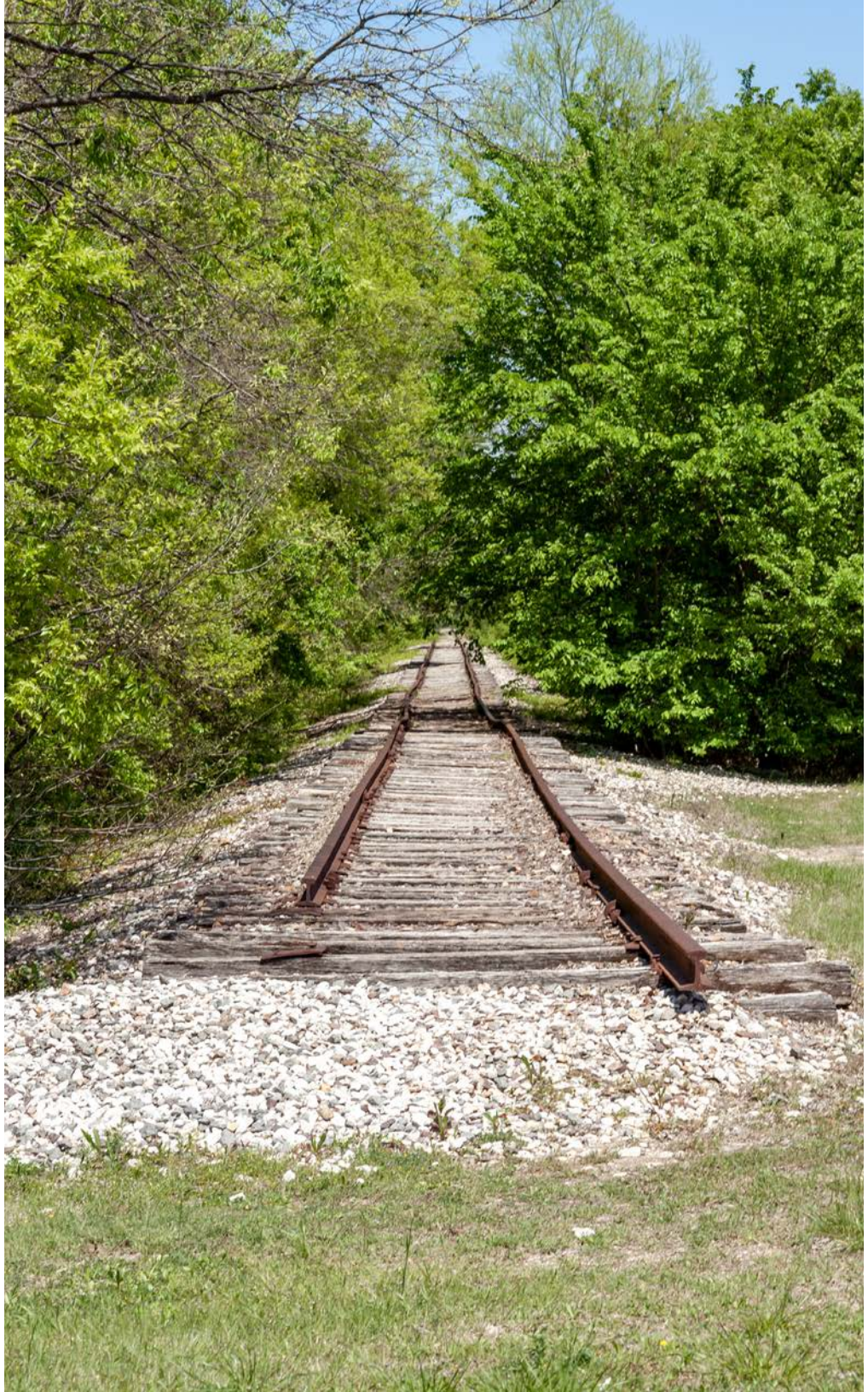
EXECUTIVE SUMMARY

- INTRODUCTION
- CITY OF ALLEN GOALS
- ALLEN TRAILS SNAPSHOT



INTRODUCTION

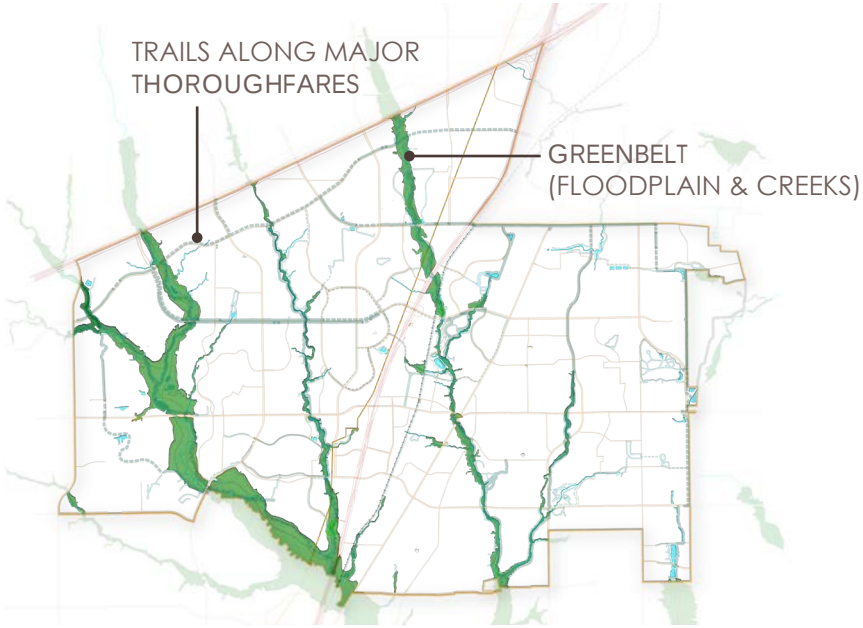
The City of Allen is a friendly suburban community located in the northeastern corner of the Dallas-Fort Worth Metroplex. The history, culture, and scenic greenbelts in this fast-growing city have resulted in national attention with several "Best of" rankings from The Dallas Morning News, Family Circle, D Magazine, WalletHub, Niche, SafeWise, Forbes, and Money Magazine. The high quality of life Allen offers to families is achieved through employment and education opportunities and a great parks and recreation system. The City of Allen's Trails and Bikeways Master Plan analyzes how the City's trail system enhances this quality of life element and serves as a blueprint for future improvements.

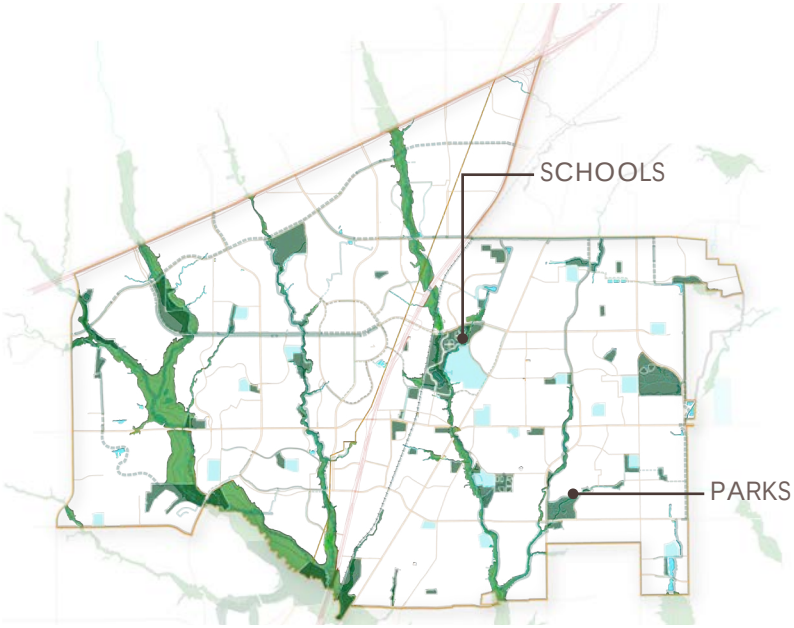
TRAIL CONNECTIONS TO PARKS AND OPEN SPACE

With major creek corridors flowing north-south, the City of Allen has taken advantage of these linear greenbelt corridors for the development of high-quality trails interconnected with parks, neighborhoods, schools, and key city destinations. Future trail recommendations for this network will serve as a catalyst for redevelopment of existing trails that are undersized and do not meet current standards in older areas. This will also address trail and bikeway opportunities in undeveloped portions of the city, strategically acquiring right-of-way for trail connections as soon as possible, making this vision a reality.

"VISION" FOR ALLEN

The concept for the City of Allen Trails and Bikeways Master Plan is ***"Brand | Recreate | Connect | Transform."*** This phrase reflects the vision of the community ***to enhance the quality of life for all residents by providing a high-quality, connected trail system that is accessible to all, serving as a catalyst for recreation, transportation and future Trail Oriented Development (TOD).*** As a whole the phrase simplifies the vision; however, each word within the phrase relates to a specific component of the vision.





BRAND

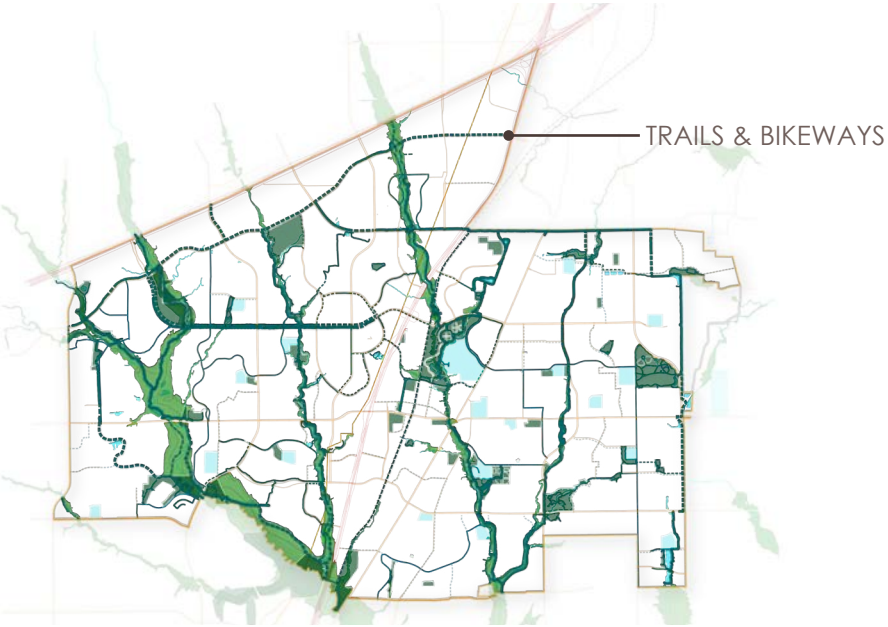
GREENBELT CORRIDORS

The City of Allen's greenbelt trails system located along major creek corridors serves as the "spine" or backbone of the system connecting to nearby neighborhoods, parks, commercial retail, and the Central Business District. These connections are created by a hierarchical network of loop and connector trails allowing for multiple access point throughout the network. Signage, improved paths, on-street connections, and signature trailheads should be implemented along these routes to help define and enhance the brand of the City's trail system.

RECREATE

PARKS + RECREATION

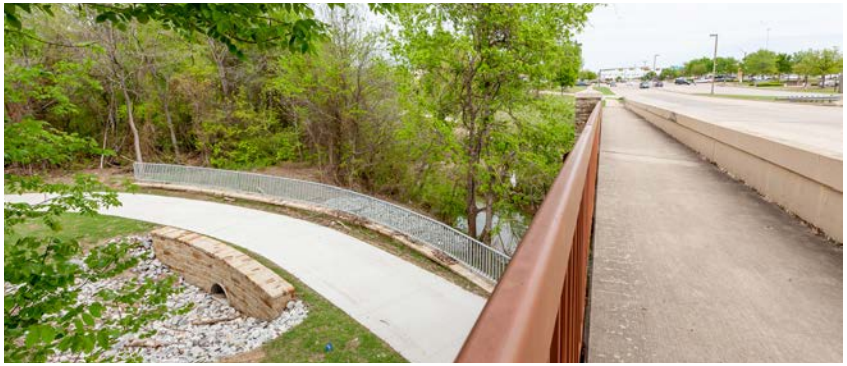
Besides being a safe, dedicated place to walk and bike, trails should be an enjoyable and scenic aspect of recreation. Using a trail system should include creative opportunities for adventure and exploration for all user groups. The trail system should provide access to nature, parks, recreation, services, and/or citywide destinations. Overall the trail network should improve the City's overall quality of life.

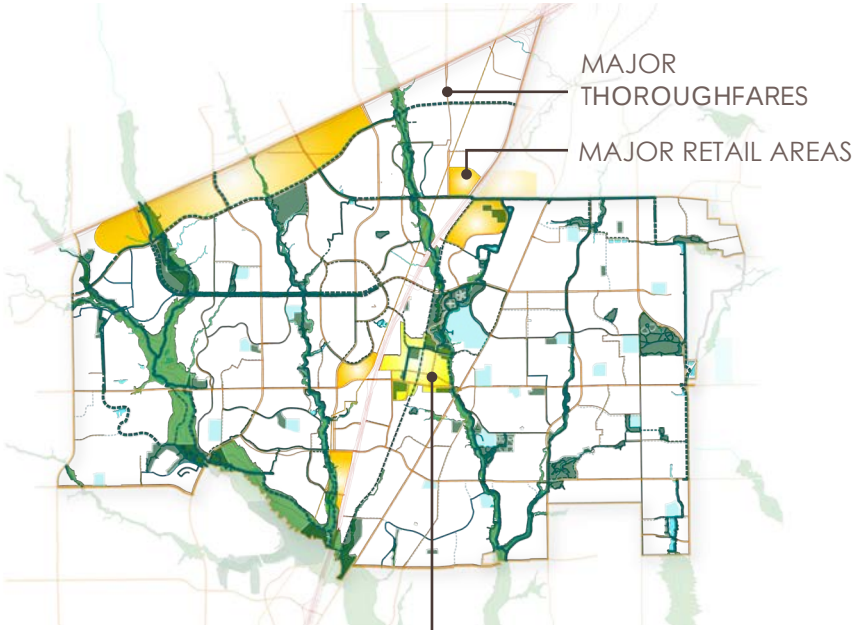


CONNECT

TRAILS + SIDEWALKS + BIKEWAYS

Meaningful trail connections between parks and neighborhoods and to various destinations and services throughout the city enhances the user experience and allows access to multiple destinations. Regardless of age and ability, trail users have the desire to utilize the trail system as a low-cost, healthy way to travel and recreate throughout the City. Continuous connections and linkages across US 75 and to fill in existing trail gaps should be implemented to improve mobility and accessibility.





TRANSFORM

DESTINATIONS

With increased traffic congestion and the growing desire for people to have more active lifestyles, it is important to consider trails, sidewalks, and bikeways in major destinations within Allen. This will encourage more active lifestyles and transform these areas into walkable centers. This plan recommends trail, sidewalk, and bikeway improvements within the Central Business District, in major retail areas, and along major thoroughfares.

CITY OF ALLEN GOALS

It is important to note that this is one of several planning efforts currently underway in Allen. To successfully realize the vision of the City there must be a unified front which embraces one common vision shaping the future. Thus, City Council has adopted 7 overarching goals to guide the development of this great city in the coming years – most of which can be strongly supported by Parks and Recreation.

The City's overarching goals (as adopted by the City Council in 2019) include:

1 | Continue to **ENHANCE** community livability & safety

2 | **CULTIVATE** regional alliances and partnerships with agencies and governmental units that affect Allen

3 | **SIGNIFY, ENHANCE** and **COMMUNICATE** Allen's identity to the region and the nation

4 | Systematically **INVEST** in public infrastructure

5 | **MAINTAIN** operational excellence in City government services

6 | **PROVIDE** economic investment that increases employment opportunity, the tax base, and provides desired goods and services for residents and contributes to the community character and identity

7 | Proactively work to **PROTECT** the environment and **CONSERVE** water resources

OVERALL RECOMMENDATIONS

The following figures quantify the overall recommendations in this Master Plan including new trails and bike routes. These recommendations are based on a planning process of public and staff input, analyzing current trends and understanding projected growth. Allen has continuously made major investments in trail development and improvements, and continues to identify and prioritize future projects in order to serve the growing population within the City while meeting current Federal and local design standards.

ALLEN EXISTING TRAILS SNAPSHOT

+/- **78** miles of **Existing Trails**

+/- **12** miles of **12'** wide Trails

+/- **20** miles of **10'** wide Trails

+/- **33** miles of **8'** wide Trails

+/- **13** miles of **6'** wide Trails

29 Existing Trailheads & Access Points

15 Trailheads

14 Access Points

CREATING AN INTERCONNECTED NETWORK OF TRAILS AND BIKEWAYS

The City of Allen strives to preserve much of their natural creek systems that traverse north and south, providing trails and trail access along several greenbelt corridors such as Watters Creek, Cottonwood Creek and Rowlett Creek. On-street connections to parks and schools are also very important. Strategically providing public easements where possible will allow these connections to occur.

OVERALL RECOMMENDATIONS SNAP SHOT

CONTINUED INVESTMENT | Over the next 10 years, continue to expand and enhance existing trails to meet current federal and regional trail safety and mobility standards.

GREENBELT SPINE TRAILS | Develop over **17** miles of paved trails along creek corridors.

ON-STREET SPINE TRAILS | Develop over **14** miles of paved trails adjacent to city streets.

BIKEWAYS | Develop over **41** miles of on-street bicycle accommodations throughout the City.

TRAILHEADS | Construct **28** trailheads and **28** access points to signify trail entrances.

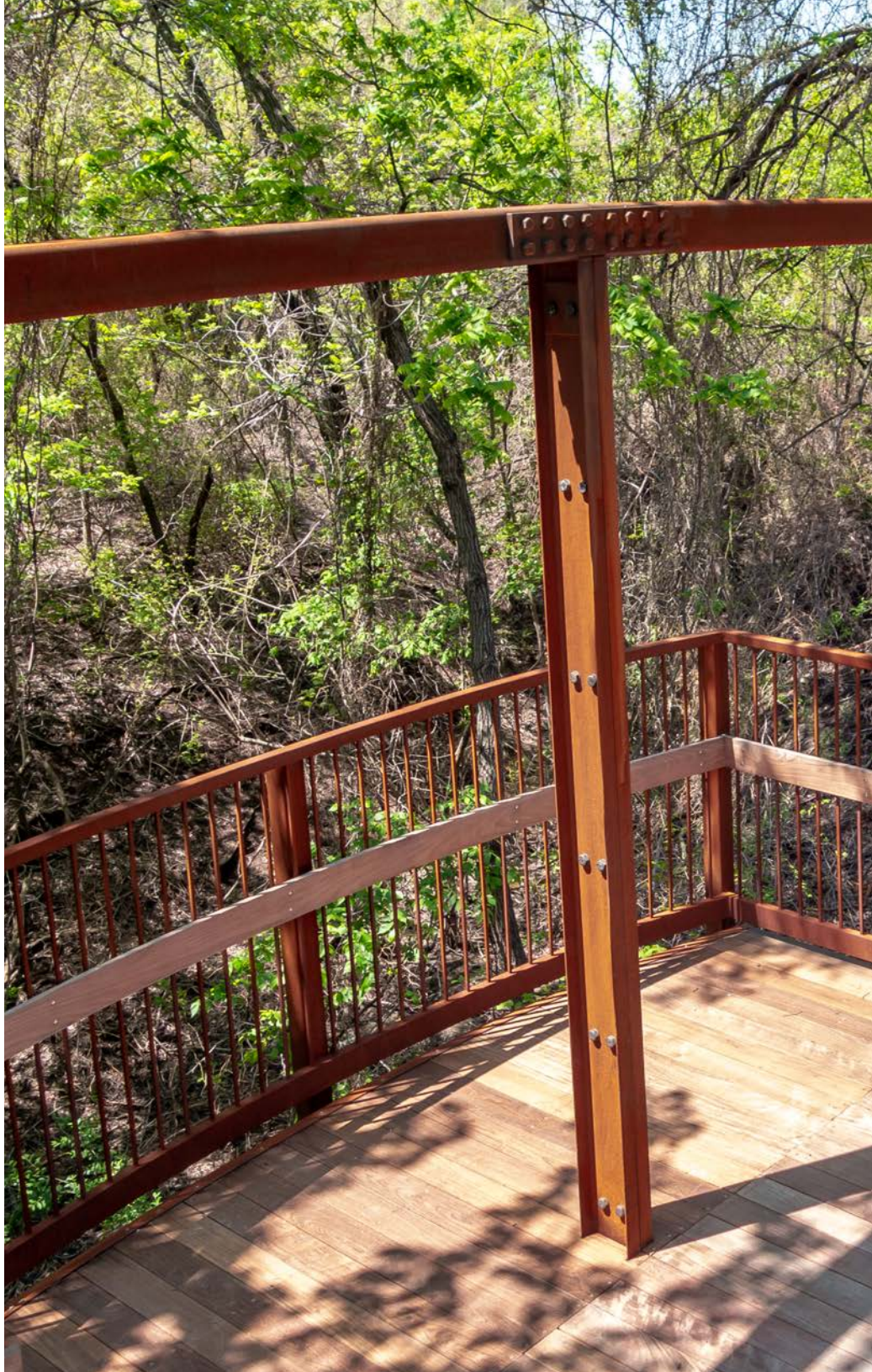
PROPOSED TRAIL & BIKE ROUTE RECOMMENDATIONS

+/- **40** miles of **Proposed Trails**

+/- **15** miles of **Enhanced Existing Trails**

+/- **23** miles of **Proposed Signed Bike Routes**

13 Proposed Trailheads & 14 Access Points



MAJOR PLAN RECOMMENDATIONS

Implementation of this plan will occur over the next two decades, therefore high (1-5 years), medium (6-10 years), and low (10+ years) priority actions are identified as a part of a phased implementation plan. High priority items include addressing ADA issues, acquiring key land for trail expansion, and making renovations to existing trails. Recommendations were developed using the following facility classifications:

GREENBELT SPINE TRAILS: Trail infrastructure developed or renovated as a part of this network should be at widths of 10' to 12' or more to meet current federal, state, and regional transportation safety standards. The regional standards for NCTCOG Regional Veloweb is a minimum of 10'-16' and 12' is the preferred width.

SPINE TRAILS: Trail infrastructure developed or renovated as a part of this network should be widths of 10' to 12' or more. Segments of spine trails connected to key destinations such as the Central Business District and Watters Creek, should be developed with paving enhancements and on-street bicycle facilities.

LOOP TRAILS: Most facilities built as a part of this network should be widths of 8'-12'. Segments of loop trails connected to the Central Business District should be developed with paving enhancements and on-street bicycle facilities. This refers to trails throughout the larger trail system and does not apply to internal trail loops.

NEIGHBORHOOD CONNECTOR BIKE ROUTES: Bike routes developed as a part of this network should be either a bike lane or shared roadway where roads have adequate widths, low speeds, and limited on-street parking.

REPORT OUTLINE

(CHAPTER 1) | INTRODUCTION

In addition to defining the purpose of this Master Plan and the process by which it has been produced, this chapter also reflects Allen's vision and goals for the development of the trails within the city and connections to adjacent cities.

(CHAPTER 2) | COMMUNITY CONTEXT

Chapter 2 examines the internal and external factors influencing Allen's trails and bikeway system including the city's history, natural resources, and other defining elements of the city. The demographics of the community are analyzed as well as the City's previous trail plan to better understand the past, present, and future of Allen.

(CHAPTER 3) | TRAIL NEEDS

Chapter 3 focuses on the community outreach and public involvement aspects that are core components of the planning process. The summary of this input directly relates to the recommendations of the Master Plan. In addition, regional benchmarks are considered and used to determine additional trail and bikeway mileage needed to accommodate Allen's growing population. Regional and local trail connections are analyzed to determine the Level of Service (LOS) and "connectedness" to Allen's trails and bikeways network.

(CHAPTER 4) | TRAIL NETWORK

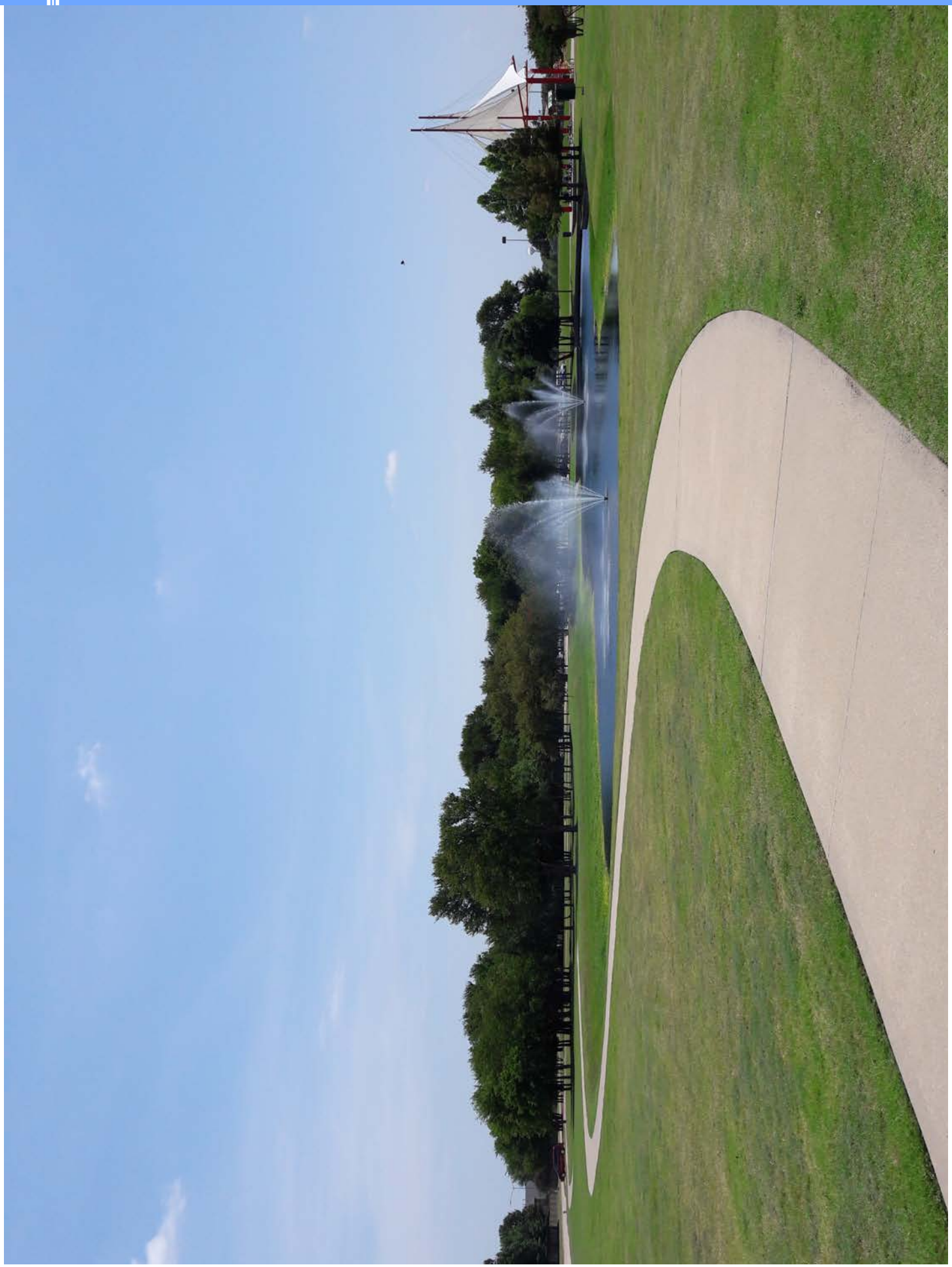
This chapter defines trail typologies and identifies where the most feasible proposed routes would occur on- and off-street. The opportunities and constraints of the existing trail network are also analyzed as are the importance of proposed trails and bikeways.

(CHAPTER 5) | TRAIL DESIGN STANDARDS

The focus of this chapter is the development of a set of design guidelines that will help the City achieve safety, access, and constructability for trails and bikeways. The chapter includes an analysis of existing and proposed trail types in the City and an overview of trail elements, destinations and features.

(CHAPTER 6) | IMPLEMENTATION

The final chapter focuses on trail implementation and strategic policy recommendations. A trails and bikeways implementation plan is presented along with prioritized trail segments and potential sources of funding. In addition, a summary of the key priorities resulting from this Master Plan and the associated costs are provided.



INTRODUCTION

- BACKGROUND & PURPOSE
- VISION
- PLANNING PROCESS

BACKGROUND & PURPOSE

BACKGROUND

The City of Allen is a fast-growing community located at the northeastern edge of the Dallas-Fort Worth Metroplex in Collin County. Part of what makes Allen unique is its rich heritage and expansive greenbelts. Allen was originally developed as a railroad town with the construction of the Houston & Texas Central Railway Line and has experienced significant population growth within the last 50 years. Since the 1980's, Allen population has grown consistently, nearly doubling in population every ten years. As this growth occurs, the demand for trails and bikeways will increase. The city continues to create a quality trails and bikeways system that attracts residents and businesses to the community. This plan numerous opportunities to improve existing trails and bikeways and construct trail amenities within the city to improve its overall quality of life.

ECONOMIC VALUE OF TRAILS

When people are looking for a new place to live, access to quality trails is often a major deciding factor. To set Allen apart from other communities in the DFW Metroplex, an enhanced trail system should be a priority as new development occurs in Allen. The obvious, tangible benefits that trails have are improvements to physical health, mental health, and social interaction, but the less tangible benefits are economic.

In the City of Dallas, for every $1 invested in trails, the city sees a return on investment of $50 and for every $1 invested in parks, the city sees a $15 return on investment.[1] A recent study done for the City of Plano by the Trust for Public Land revealed that proximity to parks and trails increase property value of nearby homes, and could potentially increase total property value of these homes to $337 million and property tax revenue to $608 million a year.

[1]Dallas Park and Recreation Department Comprehensive Plan. https://www.dallasparks.org/DocumentCenter/View/5267/Park-and-Recreation-Comprehensive-Plan-Final-20160318

PURPOSE

Communities should plan for trail facilities similar to how they plan for new housing developments or schools. This involves a comprehensive process to develop and consistently update a trails and bikeways system master plan. City leaders in Allen recognize this need and have embarked on an update to the city's original trail master plan, which was prepared in 2002.

The purpose of this report is to inventory and assess the current trail system, gather stakeholder input, and develop implementation actions for the City of Allen's trail and bikeway network. More specifically, this report serves as a blueprint for enhancing the City's trail network through identifying existing and future trail needs, areas of improvement for existing trails, and future trail phasing.

THE KEY OBJECTIVES OF THIS PLAN ARE TO:

- **Prioritize improvements to existing trails**
- **Develop concepts and implementation plans for trail and bikeway connections**
- **Update standard plan components to be eligible for grant funding**
- **Establish policies to streamline maintenance**

RECOMMENDATIONS OF THIS PLAN:

TRAIL ALIGNMENTS: Proposed trail locations should be determined based on priority, feasibility, and available access for various user groups.

TRAIL REDEVELOPMENT: Updates to existing trails should be developed to meet regional standards of a width of 10' to 12' or more.

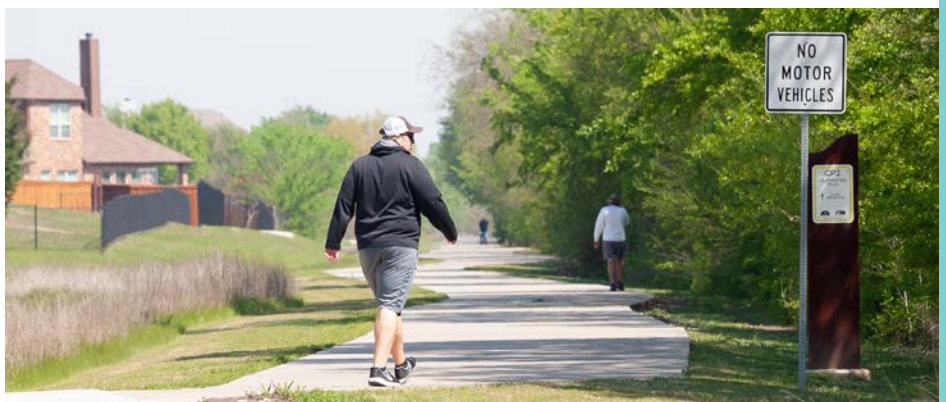
DESIGN STANDARDS: Trail design standards should be continually updated to reflect the most recent NACTO and AASHTO design standards.

MAINTENANCE GUIDELINES: Trail upkeep is essential to provide continued safety and ADA access. Trail maintenance should be scheduled to ensure longevity and durability of trail infrastructure.

POTENTIAL FUNDING SOURCES: There are a variety of funding sources available for master plan implementation. Typical funding sources and opportunities from the city, county, state and federal level should be pursued for future trail development.

SPECIAL TRAIL PROJECT IDENTIFICATION: Key trail routes and opportunities that tie into the Central Business District should be identified and developed with enhanced paving design and promote Trail Oriented Development (TOD).

ACCESS TO ADJACENT COMMUNITIES: Allen is borderd by Plano, McKinney, Parker, Lucas and Fairview. Many of these cities have existing and proposed trails that Allen should tie into to provide a regional connection across the Dallas-Fort Worth Metroplex.



VISION

The overall vision for the City of Allen's Trail Master Plan is ***to enhance the quality of life for all residents by providing a high-quality, connected trail system that is accessible to all, serving as a catalyst for recreation, transportation and future Trail Oriented Development (TOD)***. In order to achieve this overarching vision, the following goals have been developed. Each goal is supported by specific, achievable objectives that encourages Trail Oriented Development and adds value to the City of Allen.

GOALS & OBJECTIVES

GOAL 1 | ENHANCE MOBILITY

Create a multi-functional trail system that meets the needs of both recreation and transportation users, provides a multi-modal active transportation network, and enhances recreational opportunities.

OBJECTIVE 1: Provide well-designed trail and bikeway facilities that effectively serve both recreation and transportation functions.

OBJECTIVE 2: Improve user mobility and access, enable active transportation, minimize traffic congestion, and provide an intermodal transportation system.

OBJECTIVE 3: Establish a unified bicycle route and pedestrian trail system that connects to on- and off-street facilities.

OBJECTIVE 4: Use the City's rights-of-way and available crossings to build a better-connected network of pedestrian and bicycle trails.

GOAL 2 | ENHANCE TRAIL & BIKEWAY EXPERIENCES

Create an exemplary trail system that improves mobility and accessibility through continuous connections and linkages east and west across US 75, along the City's greenbelt, between parks, schools, retail, housing, and adjacent cities.

OBJECTIVE 1: Create linkages between schools, parks, neighborhoods, shopping, and employment areas.

OBJECTIVE 2: Fill in trail gaps along the existing and proposed trails in scenic locations and natural areas whenever possible for residents to explore and experience nature and open space.

OBJECTIVE 3: Connect the trail network to adjacent communities such as Plano, McKinney, Fairview, Lucas, and Parker to create long regional routes for user groups.

OBJECTIVE 4: Enhance trail and bikeway experiences by providing necessary trailhead amenities for recreation users such as benches, water fountains, bike racks, and shade at trailheads, parks and other key destinations and access points.

OBJECTIVE 5: Reflect the identity and history of the City of Allen through trail design and theming.

GOAL 3 | ENHANCE/ENSURE ACCESSIBILITY AND MAINTENANCE

Enhance/Ensure Accessibility and Maintenance

OBJECTIVE 1: Address ADA issues and concerns with existing trail facilities and provide ADA accessibility, bringing all trails to current standards.

OBJECTIVE 2: Provide maps, wayfinding signs, trail heads and trail access points evenly distributed across the City to help guide people to and along trail routes.

OBJECTIVE 3: Build upon the existing network of trail loops to included needed segments that tie into nearby neighborhoods.

OBJECTIVE 4: Develop a maintenance schedule to ensure that all trails are in superior condition.

GOAL 4 | PROMOTE SUSTAINABLE PRACTICES

Develop in a manner that is sensitive to the natural and built environment.

OBJECTIVE 1: Implement a trail system that has minimum impact on the natural environment.

OBJECTIVE 2: Develop standards for trailside maintenance that consider trail user safety and promote conservation of the city's natural resources.

GOAL 5 | ENHANCE SAFETY

Create a safe hike and bike trail environment.

OBJECTIVE 1: Prioritize improvements to existing outdated trails in an equitable manner to ensure user safety.

OBJECTIVE 2: Develop passive and active security tools for the safety of all citizens

OBJECTIVE 3: Eliminate barriers for cycling and improve existing streets through the provision of signage, striping, and surface condition improvements.

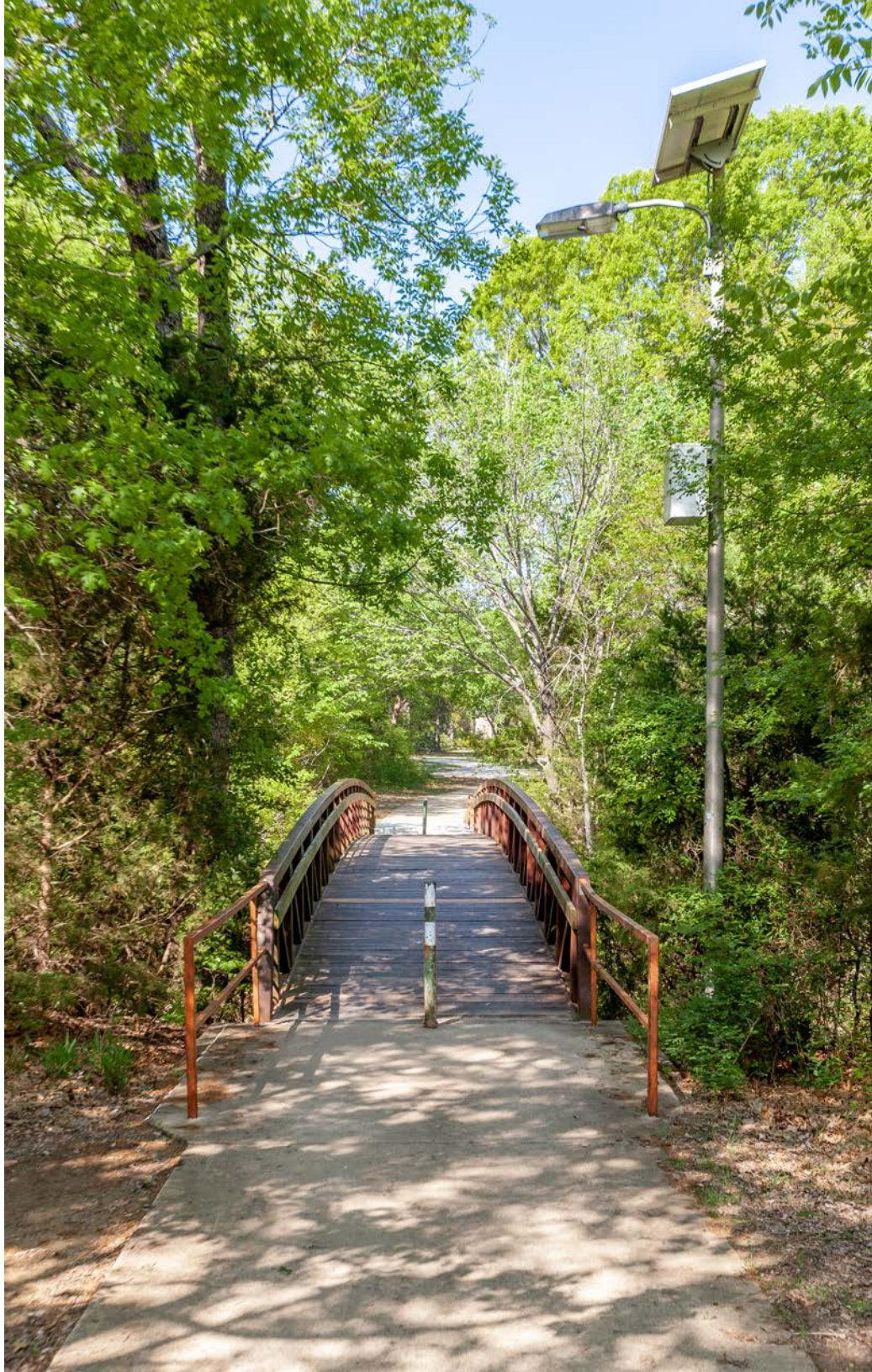
OBJECTIVE 4: Limit pedestrian/bicycle conflicts with automobiles.

OBJECTIVE 5: Adopt trail design standards that dictate facility types, widths, construction methods, signage, and other facets of trail, sidewalk, and bicycle facility development.

OBJECTIVE 6: Educate users on trail safety and bicycling etiquette, and provide easy to understand mapping tools along trails and bikeways such as signage, wayfinding signs, and accessible trailheads.

PLANNING PROCESS

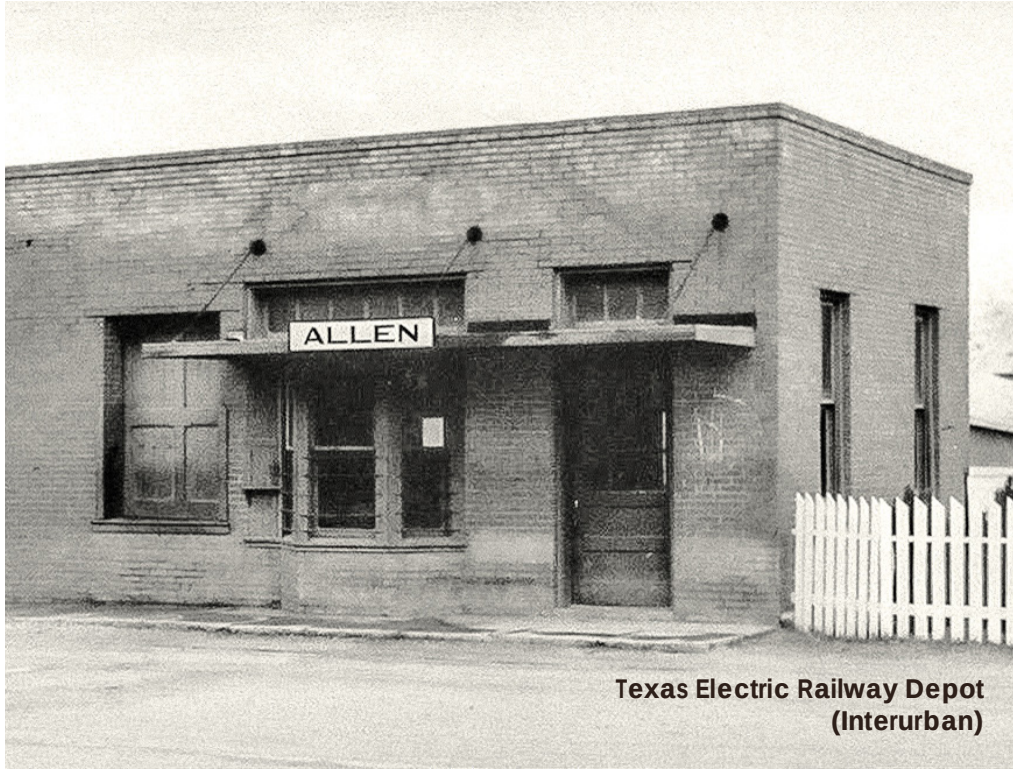
The development of the Trails and Bikeways Master Plan was guided by the Parks and Recreation Board, City Council, staff, and input from citizens of Allen. The analysis performed as part of this Master Plan and the resulting recommendations and priorities are based on the needs of the citizens as identified through a wide-reaching public involvement process. Included in this document is an implementation plan, which includes specific items to be addressed in phases with applicable costs and timeframes.



COMMUNITY CONTEXT

- DEVELOPMENT CONTEXT
- DEMOGRAPHIC PROFILE
- REGIONAL CONNECTIONS
- EXISTING TRAIL NETWORK

Houston & Texas Central Railway Depot



Texas Electric Railway Depot (Interurban)

DEVELOPMENT CONTEXT

The City of Allen is located along US 75 in the southwestern portion of Collin County. It is approximately 15 miles north of the intersection of Interstate 635 and US 75 and 20 miles north of Downtown Dallas. The city is bordered by the City of Plano to the south and west, McKinney to the north, Lucas and Parker to the southeast, and Fairview to the northeast. US 75 creates both a physical and visual east/west divide of the City but also provides key vehicular access to the rest of the Dallas-Fort Worth Metroplex.

HISTORICAL BACKGROUND

Historically, Native Americans were the original inhabitants of the City of Allen. The Caddos, Kiowas, and Comanches were the primary inhabitants. In the early 1840's, European immigrants began to travel to the area via roads constructed by the Texas Republic: Texas Road and Central National Road. By 1874 this area attracted residents with the construction of the stone dam, water tower, and pump house on Cottonwood Creek for the Houston and Central Texas Railway. The stone dam provided water for storage tanks adjacent to the railroad used to refill the steam engines every 7 to 10 miles. This railroad corridor became the center of commerce for residents and local farmers.

The area was later surveyed in 1876 for documents filed by the Houston & Texas Central Railway creating a village named after Ebenezer Allen, a former Republic Attorney General and a promoter of the Houston & Texas Central Railway. The village was later incorporated AS the City of Allen in 1953.

CONTEMPORARY SETTING

Over the last 40 years, Allen has consistently experienced significant increases in population and corresponding growth in commercial and residential development. Incoming residents are attracted to the City's reputation for its great schools which is comprised of Allen Independent School, Lovejoy Independent School District, Plano Independent School District, and McKinney Independent School District. Many schools have parks located adjacent to them.

Recent development within the City has also spurred growth and economic development such as the Stacy Green Mixed-Use project at US 75 and Stacy Road. This 73-acre project includes restaurants, retail space, urban style apartments and townhomes. Other retail destinations include the Allen Premium Outlets, Twin Creeks Village, and Watters Creek at Montgomery Farms.

Allen's Central Business District located in the core of the City encompasses the downtown area along with major civic, cultural, and historic destinations.

The following awards show the national attention the City of Allen has received for being an attractive community with a high quality of life for families, young professionals, and retirees:

MONEY's #2 Best Place to Launch a Career (March 2018)

CNBC Make It Best Suburbs in America (February 2018)

AreaVibes #1 Best Place to Live in America (November 2017)

MONEY's #1 Best Place to Live in the South (November 2017)

2017 Digital Cities Survey Winner (November 2017)

TOMA Award for Best Creative Project: Cottonwood Creek Trail Bridge (February 2017)

5 Friendly Cities for Young Families (January 2017)

NRPA Gold Medal Award for Excellence in Park and Recreation Management (October 2016)

WalletHub Allen Is the 4th Best Texas City for Families (July 2016)

Governor's Community Achievement Award (June 2016)

Niche 2016 Best Places to Live in Texas (June 2016)

ApartmentList.com Best Cities for Young Families (February 2016)

ApartmentList.com Best Cities for Young Families (December 2014)

Nerd Wallet Best Places for Young Families (October 2014)

D Magazine Best Suburbs (June 2014)

Family Circle 10 Best Towns for Families (June 2013)

Money Magazine Best Places to Live (August 2012)

Forbes.com Best Places to Move (July 2009)

DEMOGRAPHIC PROFILE

Collin County is one of the fastest growing counties in the Dallas-Fort Worth Metroplex. Located in the southwestern part of the county, Allen's trail system along the Regional Veloweb (discussed later in the chapter) and the proposed DART line, positions it as major transportation connector. As the county grows, an understanding of the demographic make-up of a city is an integral part of the trail planning process. Community characteristics can provide an idea of the potential trail and bikeway user groups in the City based on age and average commuting time. Demographic information and projected populations are provided by the 2010 decennial Census, the 2016 American Community Survey Five-Year Estimates, and the North Central Texas Council of Governments (NCTCOG).

POPULATION GROWTH

Since the 1980's, the population has grown consistently, nearly doubling in population every ten years. In 1980, the population was 8,314; in 1990, the population was 19,371; in 2000, the population was 43,576; and in 2010 the population was 84,246. That's an approximately 100% population increase on average every 10 years. Today, the population is 104,636. For purposes of this plan, the 2030 population of 138,464 will be used to assess trail and bicycle needs and future trail miles level of service. **Table 2:1** shows the historic population over time.

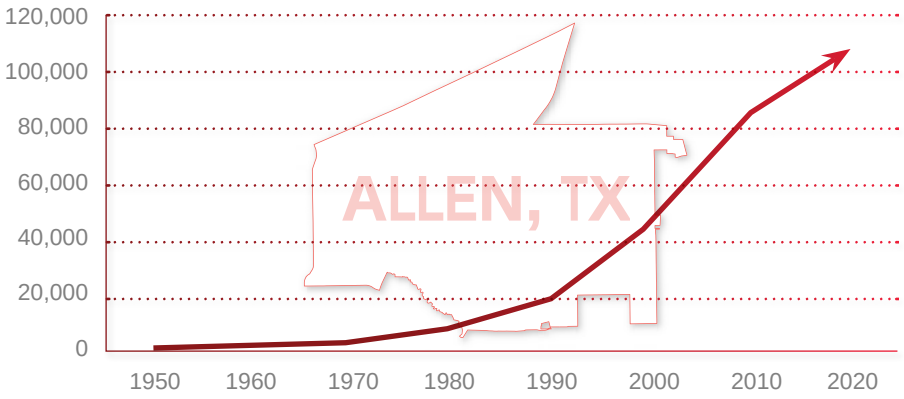
AGE AND GENDER

Evaluating age and gender is important to ensure that a community has an appropriate mix of trails and bicycle facilities. In Allen, the largest population group is individuals aged 40 to 49 years old, followed by 5 to 19 years old. A young population indicates that it is a growing community. **Figure 2:1** depicts both age and gender of the current population.

RACIAL AND ETHNIC CHARACTERISTICS

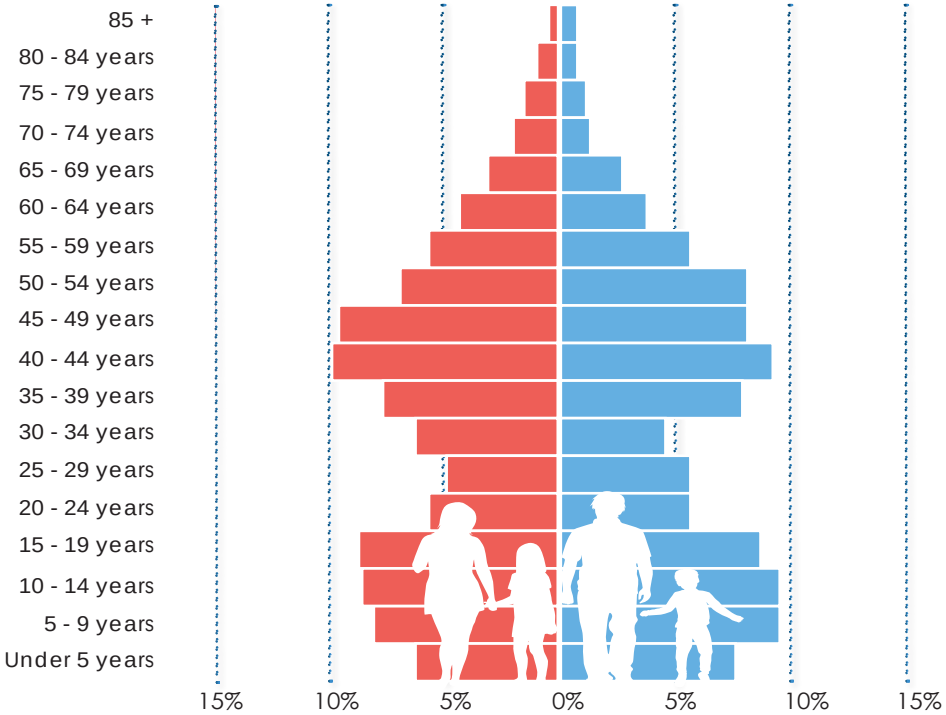
Evaluating racial and ethnic characteristics is also important to establish an existing profile of a community. **Table 2:2** shows the changes in race and ethnicity over time.

Table 2:1 – Allen Population Growth (1950-2020)



Source: U.S. Census Bureau, Population Division

Figure 2:1 – Allen Population Pyramid (2016)



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Table 2:2 – Race & Ethnicity (2013-2016)

Race	2013	2014	2015	2016
White	55,690	57,878	58,211	59,061
Asian	10,318	11,883	12,880	13,377
Latino/Hispanic Ethnicity	9,791	9,692	10,229	10,018
Black	8,272	7,088	7,994	9,198
Native American/Alaska Native	465	538	400	298
Hawaiian/Pacific Islander	140	88	55	34
Other Race	278	267	239	264
2 or More Races	2,259	2,411	2,494	2,460

Source: U.S. Census Bureau, American Community Survey

Table 2:3 – Household Characteristics (2000-2016)

	2000	2010	2016
Total Housing Units	15,227	27,176	31,028
% Occupied	93%	95%	99%
% Owner Occupied	85%	81%	75%
% Renter Occupied	15%	19%	25%
% Vacant	7%	5%	1%
Average Household Size	3.07	3.02	3.09
Single-Person Households	11.9%	15.8%	7.1%
Median Home Value	$142,400	$192,100	$234,600
Median Gross Rent	$887	$1,111	$1,299
Median Household Income	$78,924	$107,006	$102,215

Source: U.S. Census Bureau, American Community Survey

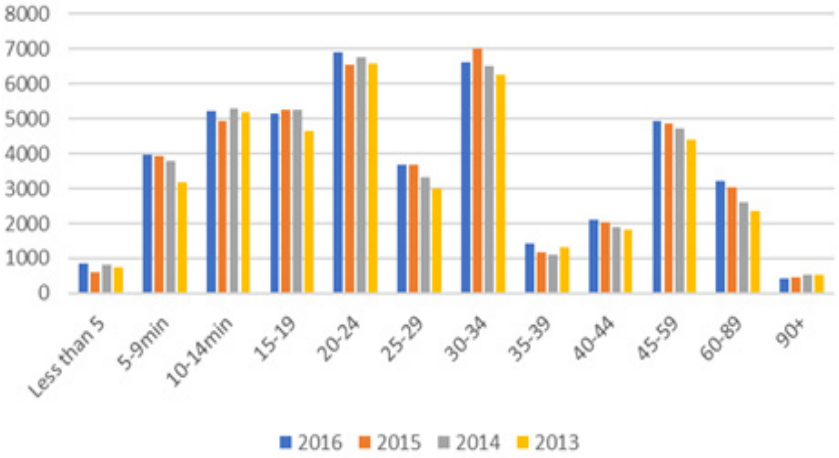
HOUSEHOLD CHARACTERISTICS

Another important component of a population profile is household characteristics which can indicate the type of trail facilities or trail amenities residents may demand. The percentage of renter-occupied homes has increased approximately 240% since 2000. Additionally, the median household income in 2016 was $102,215, which is much higher than the regional median. **Table 2:3** shows additional household characteristics over time.

COMMUTE TIME

According to the Population Division of the Census Bureau, the average commute time ranged from 20 to 24 minutes and 30 to 34 minutes for approximately 12,000 to 14,000 of Allen's residents. In 2016, the most common commute time was 20-24 minutes (15.5%) followed by 30-34 minutes (14.9%). Additionally, 23% of employed residents have a commute time of 10 to 19 minutes. These figures show that most of Allen's residents work near Allen if not within the city limits itself. Shorter commute times may indicate a potential to switch to alternative commutes like cycling. **Figure 2:2** shows the changes in commute times from 2013 to 2016.

Figure 2:2 – Commute Time (2013-2016)



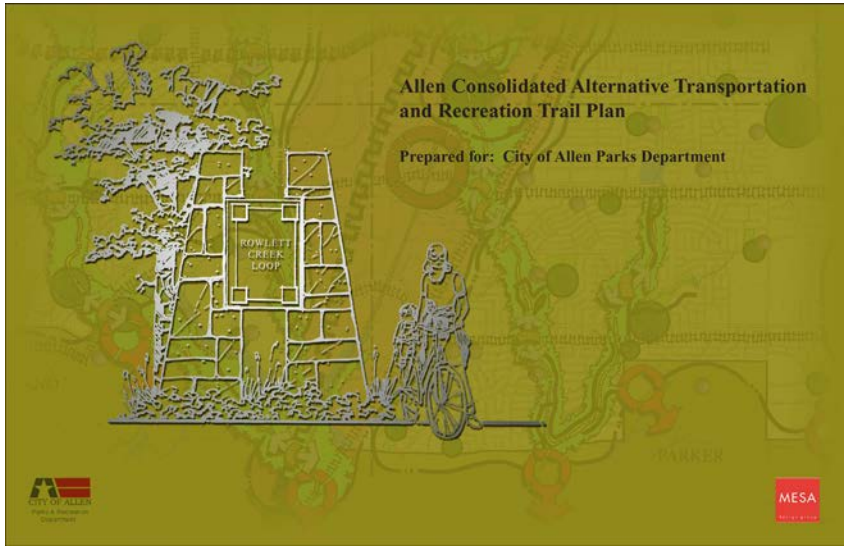
Source: U.S. Census Bureau, Population Division

PREVIOUS PLAN GOALS AND OBJECTIVES

The Allen Consolidated Alternative Transportation and Recreation Trail Plan prepared in 2002 worked as a guide for development of a citywide network of alternative transportation. It also served as a basis for design decisions regarding a Consolidated Trail Plan and its phased implementation. The master plan for the Consolidated Alternative Transportation and Recreation Plan goals were the following:

1. Establish A Continuous Loop System
2. Establish Transportation And Recreation Routes
3. Create A Legible System
4. Function As A Component Of A Larger Network
5. Integrate Consolidated Trail Plan Within City
6. Create A Trail System With Community Identity
7. Utilize Trail To Preserve And Protect Natural Amenities

The plan was structured in three phases spanning over a period of years establishing a network of trails and bike routes that responds to needs of pedestrians within the community. **Figure 2:3** on the facing page shows the trails master plan from 2002. The proposed 2018 City of Allen Trails and Bikeways Master Plan expands on and updates many of the goals of the previous master plan, yet remains consistent with the overall intent envisioned in 2002.



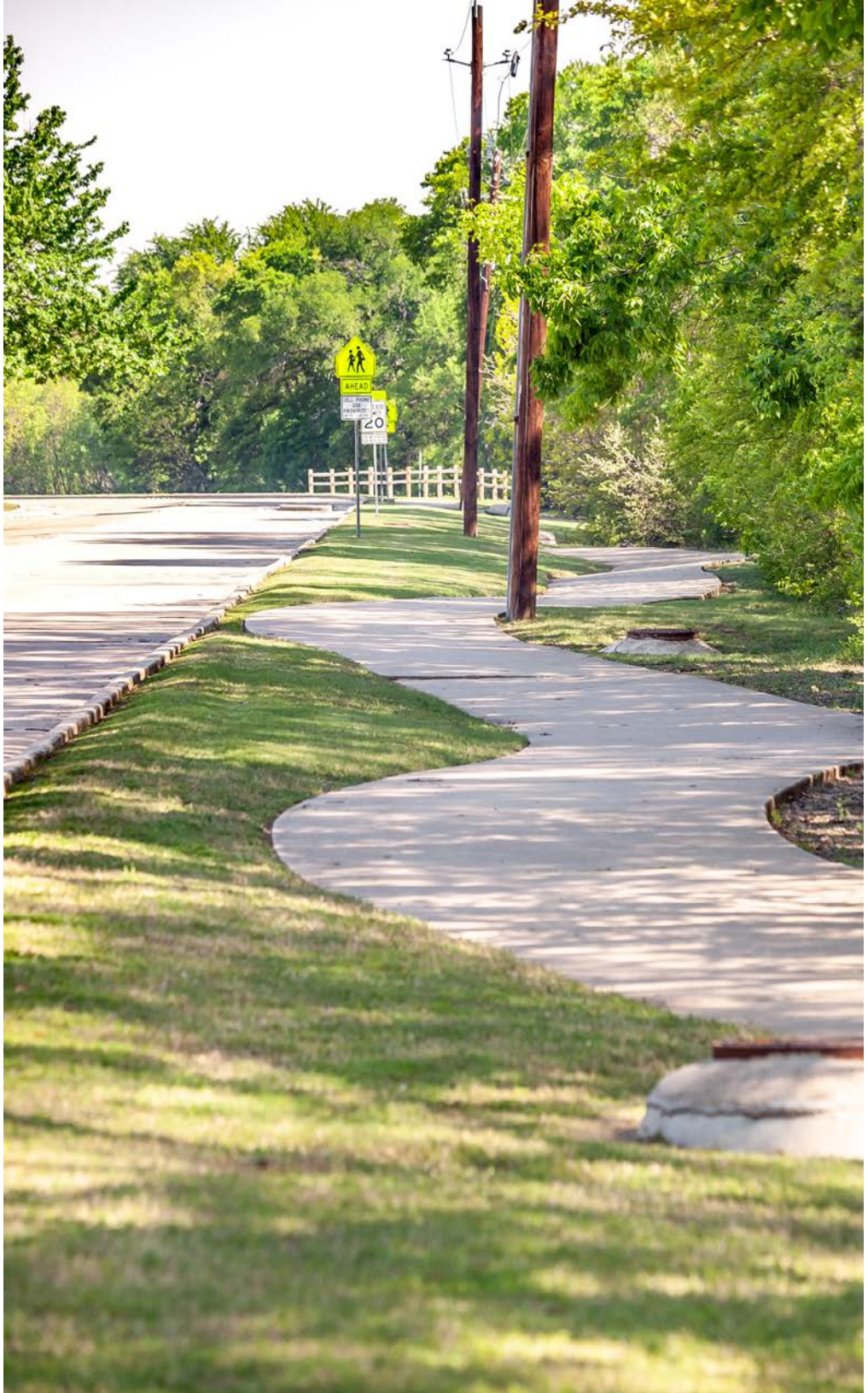


Figure 2:3 – Allen Trails Master Plan (2002)

REGIONAL CONNECTIONS

Allen's existing trail network links to neighboring communities including Plano, McKinney, Lucas, Fairview, and Parker; creating a regional system of trail and bikeway connections.

THE REGIONAL VELOWEB

The Regional Veloweb is a network of planned off-street shared-use paths designated by NCTCOG. As part of the Mobility 2045 Plan, the Veloweb includes 1,876 linear miles of planned paths stretching across 10 counties and 105 cities in North Central Texas. The identification of alignments for the Veloweb is a result of cooperative planning between NCTCOG and local jurisdictions. While NCTCOG provides varying levels of assistance in constructing Veloweb route segments, it is in effect the responsibility of each city to identify funding and construct their segment of the Veloweb.

Allen is located within the Dallas to McKinney corridor of the Regional Veloweb and has existing, funded, and planned trail segments. Cottonwood Creek Trail, Watters Branch Trail, and Rowlett Creek Trail are major segments located on the Veloweb within Allen. Furthermore, the old DART railroad system east of US 75 is also a major planned Veloweb corridor in Allen.

COLLIN COUNTY REGIONAL TRAILS MASTER PLAN

The 2011 Collin County Regional Trails Master Plan (RTMP) is a collaborative county-wide system of trails between cities and towns within Collin County. The master plan's purpose was to build upon the Regional Veloweb, the Six Cities Plan, and the individual planning efforts of cities and towns within the County. Significant components of the plan defined priority trail corridors and identified trail gaps between cities. The City of Allen Trails and Bikeways Master Plan builds upon those recommendations while providing updated trail alignments and linkages that account for recent development and growth.

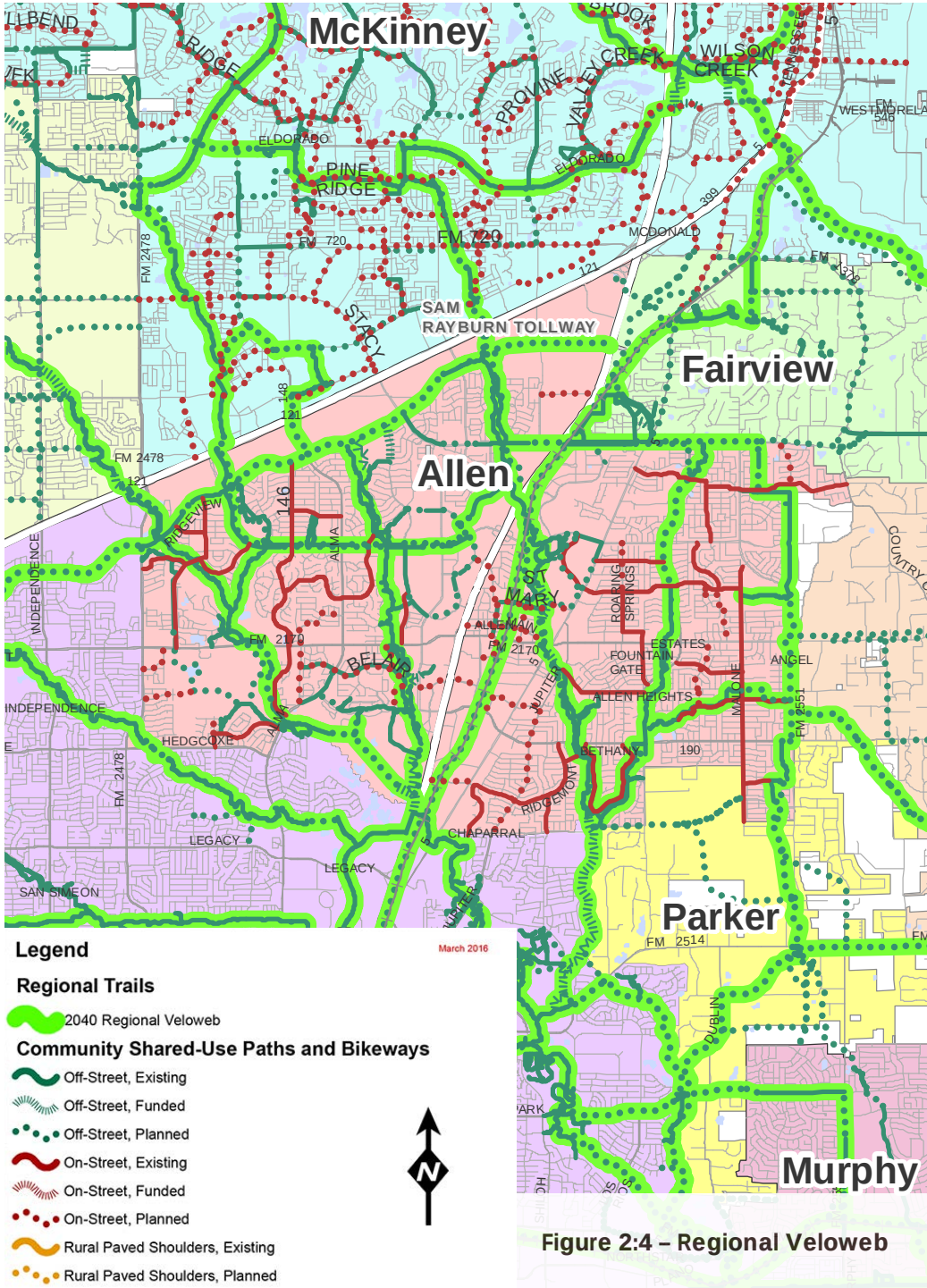


Figure 2:4 – Regional Veloweb

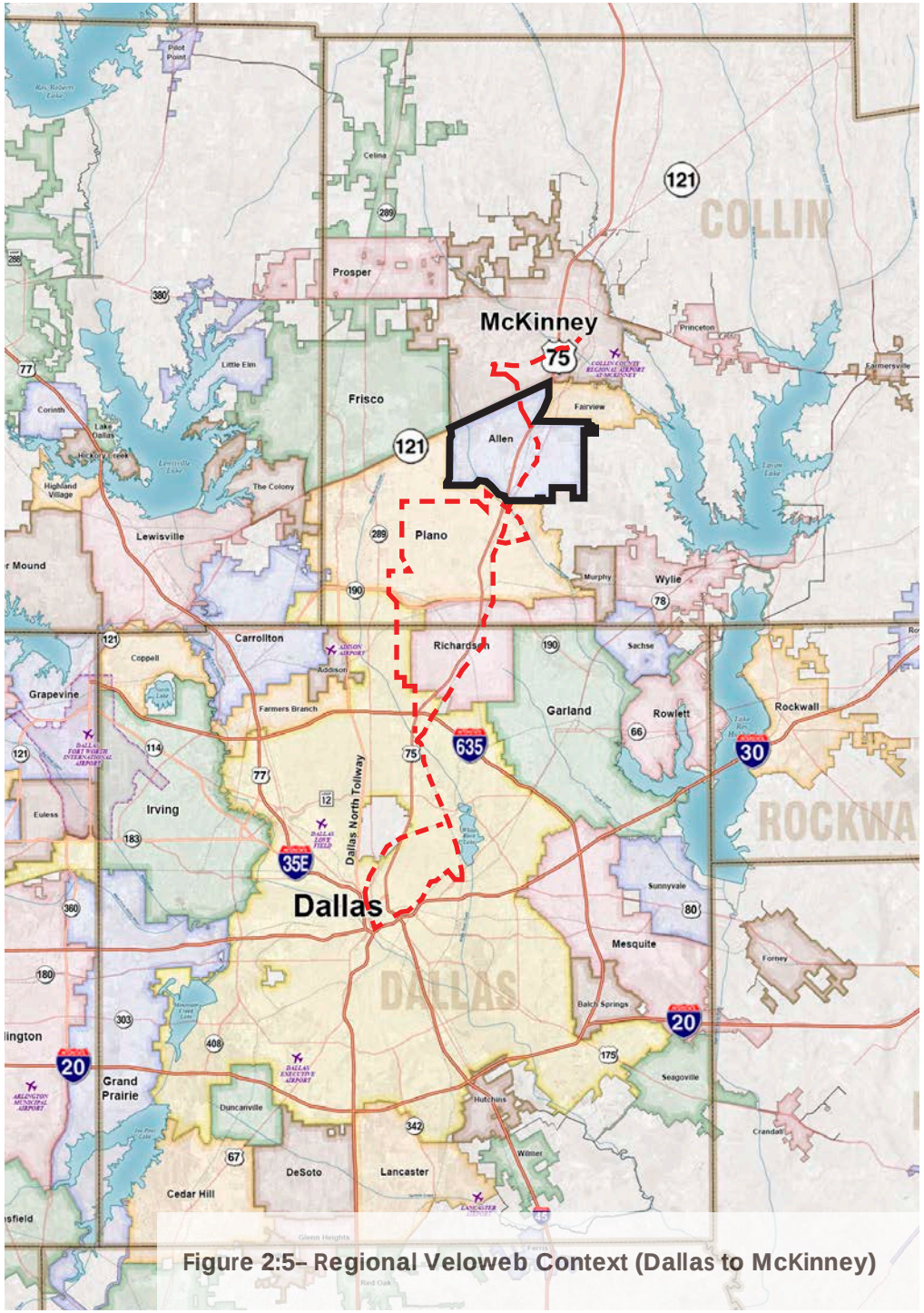


Figure 2:5– Regional Veloweb Context (Dallas to McKinney)

SIX CITIES PLAN

Used as a basis for the Collin County Regional Trail Master Plan, this plan was a collaboration between the cities of Allen, Plano, McKinney, Richardson, Frisco, and Garland. The plan was a blueprint that provided a regional trail system connecting these neighboring cities.

ADJACENT CITIES

PLANO | The City of Plano has approximately 70 miles of off-street trails, and several more miles planned for additional connectivity. Significant trail systems include Preston Ridge, Legacy, Bluebonnet, Chisholm, Breckenridge, Shady Brook, and trails within Oak Point Nature Preserve, Bob Woodruff, and Arbor Hills parks. Trail connections to other cities include Allen, The Colony, and Murphy.

MCKINNEY | The City of McKinney trail system includes approximately 59 miles of bikeways and trails that primarily consist of 8'-12' wide paved trails along roadways.

PARKER | The City of Parker has an 8' wide trail network that flows into the core of the city connecting into nearby cities such as Plano, Allen, Murphy, and Lucas.

FAIRVIEW | The City of Fairview is developing their parks and open space master plan. The City has destinations such as the Village at Fairview that is adjacent to Allen's Stacy Trail.

LUCAS | The City of Lucas located east of Allen is a smaller City with approximately four parks.

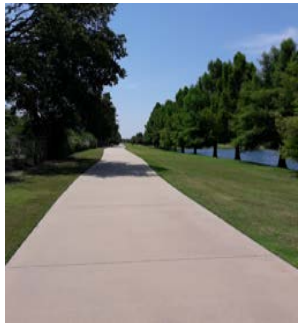
EXISTING TRAIL NETWORK

The City of Allen has a strong network of trails for a variety of users. The trails are divided between on-street and/or parallel to streets, shared-use paths along utility rights-of-way and greenbelts, signed bike routes, and a sidewalk network. Several large sections of trails were constructed recently. The following section describes the City's primary spine and loop trails.

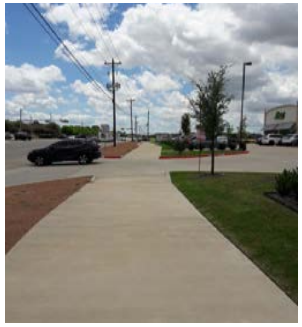
EAST ROWLETT TRAIL is a **2.14 mile** greenbelt trail that begins at Twin Creeks Golf Course along the Rowlett Creek Tributary and continues to Ridgeview Drive. The existing 8' wide segment of the trail runs within the Twins Creeks neighborhood ending at W. Exchange Pkwy. The proposed portion of the trail will begin at W. Exchange Pkwy ending at Ridgeview Drive.

ROWLETT CREEK TRAIL is a **3.55 mile** greenbelt trail that runs from Frisco/ Plano/Molsen Farm along Rowlett Creek to Custer Road in Plano. Rowlett trail's existing segments widths varies ranging from 8'-12' wide. A major proposed portion of the trail begins at McDermott Drive connecting into the existing segments within The Trails at the Woods. Other proposed segments are located near Custer Road and Ridgeview Drive.

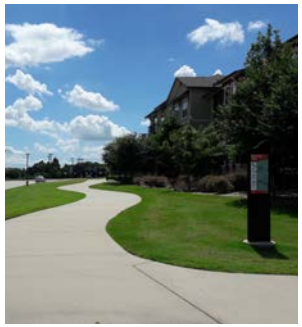
COTTONWOOD TRAIL is a **5.02 mile** greenbelt trail with segments of various widths of 8', 10', and 12'. The concrete trail runs along Cottonwood Creek from Chapparal Road to Ridgeview Drive. Cottonwood trail is a major spine trail connecting into the core of the City. It is also designated as a regional trail within the Regional Veloweb network.



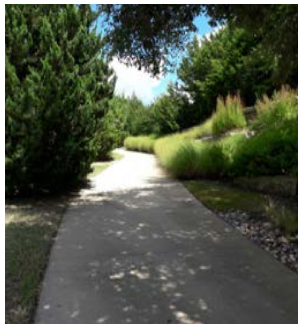
CELEBRATION PASS is a **2.70 mile** spine trail that begins at Stacy Road ending at Maxwell Creek at the City of Allen boundary adjacent to the City of Parker. Existing off-street portions of the trail segments are widths of 12' and 8'. Major proposed portions of the trail begins on-street at Celebration Park, ending at Bethany Drive. The other proposed portion connects the existing on-street portion that begins at County Brook Lane along Angel Pkwy to Stacy Road.



STACY TRAIL is a **1.92 mile** on-street spine trail from Ridgeview Drive to Goodman along Stacy Road. Stacy trail is a 10' on-street trail that begins at Ridgeview Dr ending at Angel Pkwy. Proposed portions of the trail are adjacent to Allen Premium Outlets and an undeveloped tract located on the corner of North Watters Road and Stacy Road.

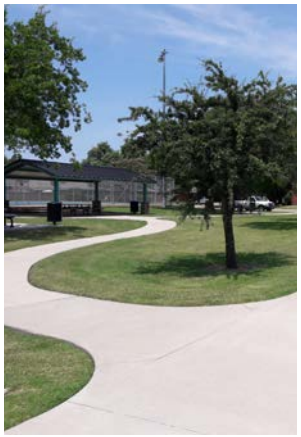


RIDGEVIEW TRAIL is a **1.68 mile** 12' wide on-street spine trail from Custer Road to Central Expressway (US75). Located on the northern side of Ridgeview Drive, the trail is mostly composed of proposed trail segments that run adjacent to undeveloped tracts of land of future development opportunities.



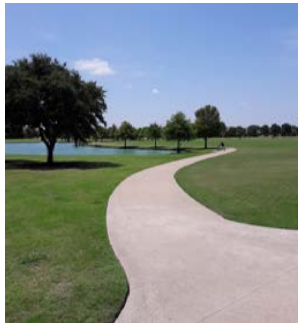
BEL AIR TRAIL is a **2.27 mile** park loop trail that travels from Fire Station 2 to Lakeway Baptist Church. The on-street trail is primarily built out and has widths that vary from 6'-12'. An access point to the trail is located within Watters Crossing Park on Bel Air Drive.

WATTERS TRAIL is a **3.94 mile** greenbelt trail that runs parallel to Watters Creek. The first segment begins at Ridgeview Drive and ends at Exchange Parkway. The second segment starts at Exchange Parkway and runs south through the Day Spring Nature Preserve and ends at W. McDermott Drive. The third segments begins under W. McDermott Drive running south towards W. Bethany Drive where the fourth segment begins, ending at the Watters Creek at Montgomery Farm shopping center.



MUSTANG CREEK TRAIL is a **2.77 mile** greenbelt trail that begins in south Allen at the intersection of Chaparral Road and Brook Ridge Avenue. The 10' wide concrete trail runs north along Mustang Creek and serves as a major recreational connector to various parks within east Allen. Mustang Trail starts with an access point at Heritage Park and connects to Bethany Ridge Park, Bethany Lakes Park, Shadow Lakes Park, Reed Park East, Greenville Heights Park, and the Bluffs at Lost Creek. There is also access to the trail facility from Gene Reed Elementary School and Marion Elementary School.

EXCHANGE TRAIL is a **2.05 mile** street side trail from Cottonwood Trail to Ridgeview Drive. The trail changes in width and gaps exist along the north and south sides of W. Exchange Parkway. Once completed, the trail could provide a connection to Rowlett Creek Trail, Glendover Park, Waterford Park, and nearby residential and commercial development.



CELEBRATION TRAIL LOOP is a **1.55 mile,** 8' wide loop trail that loops around Celebration Park. A baseball park and trailhead exist within the park connecting into the trail.

ALLEN STATION TRAIL is a **1.67 mile** greenbelt trail that begins within Allen Station Park to Stacy Road with width of 8' and 10' in various part of the trail. Allen Station trail is an staple trail within the historic Allen Old Stone Dam location.

URBAN CENTER is a **1.68 mile** 10' wide on-street spine trail beginning at Watters Trail along Bossy Boots Drive, Raintree Circle, Junction Drive, Bray Central Drive and ends back at Watters Trail.

SHALLOWATER TRAIL is a **1.91 mile** greenbelt trail the begins at the intersection of Glenmere Drive and Lufkin Drive. The initial existing segment ends at Shallowater Drive and Bent Horn Drive. Then it starts again only fronting Fire Station #5. The remaining proposed portion runs south within undeveloped tracts ending at the Rowlett Creek Trail.

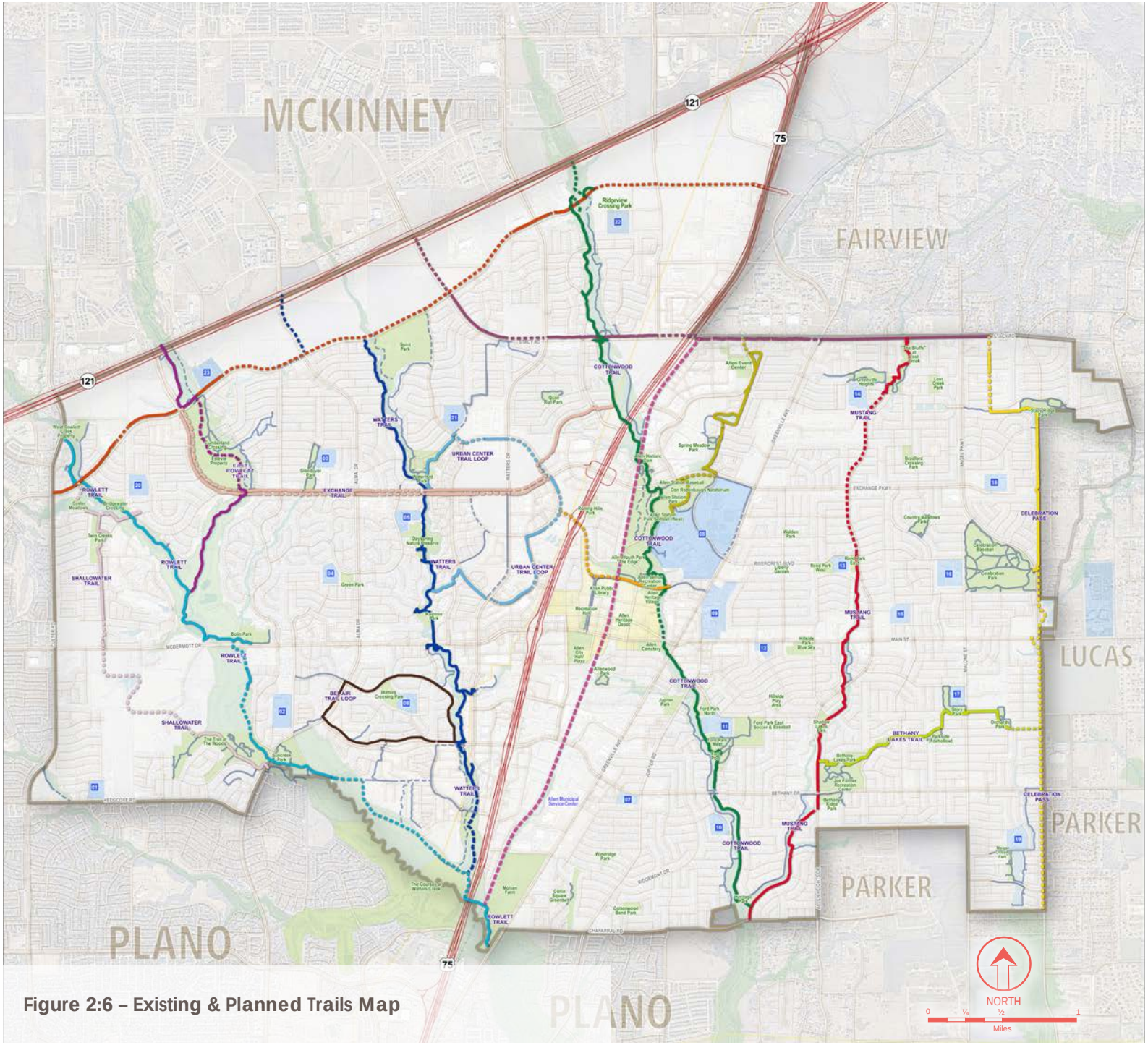


Figure 2:6 – Existing & Planned Trails Map

LEGEND

Primary Trails

- Allen Station Trail
- Allen Trail
- Bel Air Trail Loop
- Bethany Lakes Trail
- Celebration Pass
- Comet Trail
- Cottonwood Trail
- East Rowlett Trail
- Exchange Trail
- Mustang Trail
- Ridgeview Trail
- Rowlett Trail
- Shallowater Trail
- Stacy Trail
- Urban Center Loop Trail
- Watters Trail

- Supporting Trails

SCHOOLS

01 **Beverly** Elementary School
02 **Ereckson** Middle School
03 **Kerr** Elementary School
04 **Green** Elementary School
05 **Dr ET Boon** Elementary School
06 **Frances E Norton** Elem. School
07 **Boyd** Elementary School
08 **Allen** High School
09 **Lowery** Freshman Center
10 **Vaughan** Elementary School
11 **Ford** Middle School
12 **Rountree** Elementary School
13 **Gene Reed** Elementary School
14 **Marion** Elementary School
15 **Anderson** Elementary School
16 **Curtis** Middle School
17 **Story** Elementary School
18 **Olson** Elementary School
19 **Carlena Chandler** Elem. School
20 **Evan** Elementary School
21 **Beverly Cheatham** Elem. School
22 **Jenny Preston** Elem. School
23 **S.T.E.A.M.** Center

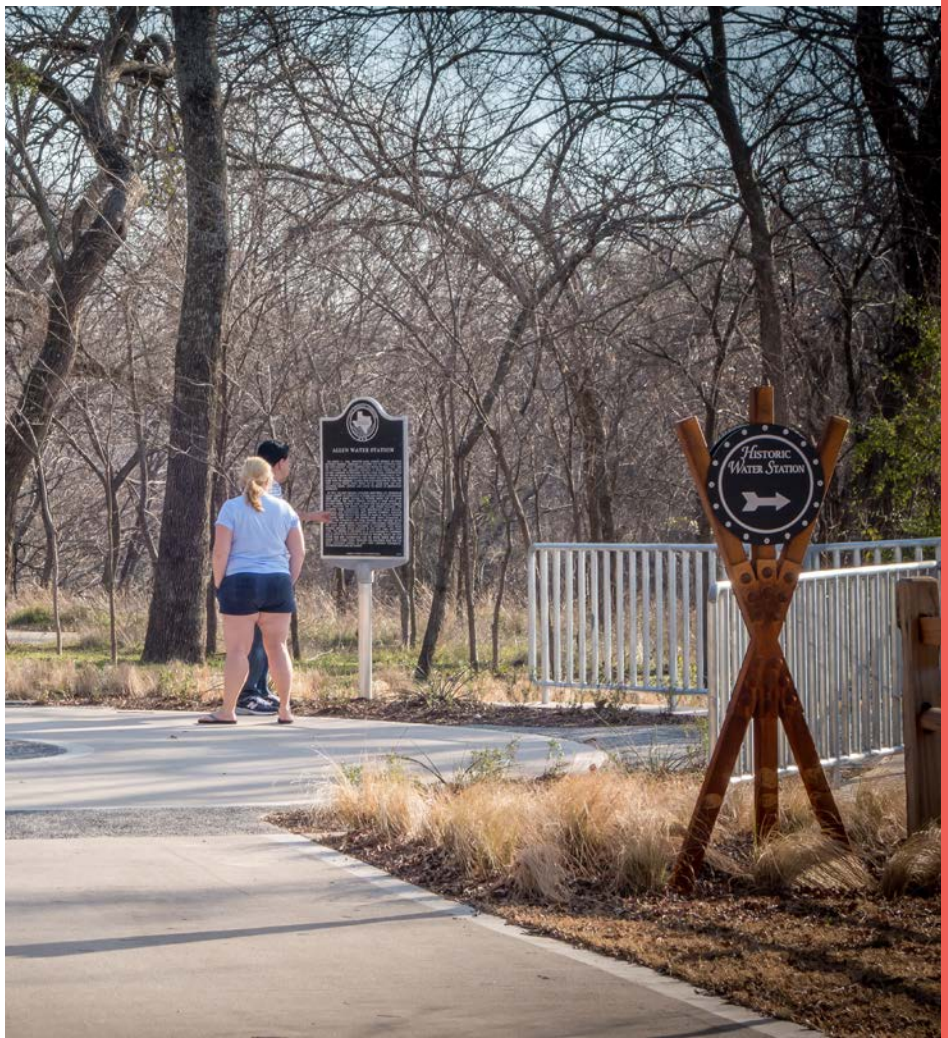
Table 2:4 – Existing Bike and Trail Lengths

BIKE AND TRAIL LENGTHS - EXISTING

	Trail Name	Length in miles	Length in Linear Feet	Width	Surface
1	**Allen Station Trail**	1.67	8,835	8', 10'	Concrete
2	**Celebration Pass**	2.37	12,502	10'	Concrete
3	**Cottonwood Trail**	5.02	26,514	8', 10', 12'	Concrete
4	**Exchange Trail**	2.05	10,836	10'	Concrete
5	**Mustang Trail**	2.77	14,600	10'	Concrete
6	**Ridgeview Trail**	1.68	8,861	12'	Concrete
7	**East Rowlett Trail**	2.14	11,301	10'	Concrete
8	**Rowlett Trail**	3.55	18,760	12'	Concrete
9	**Stacy Trail**	1.92	10,133	10', 12'	Concrete
10	**Shallowater Trail**	1.91	10,082	10'	Concrete
11	**Watters Trail**	3.1	16,305	8', 10'	Concrete
12	**Connector Trail**	31.1	164,208	8', 10'	Concrete
	SUB-TOTAL	**59.28**	**312,937**		

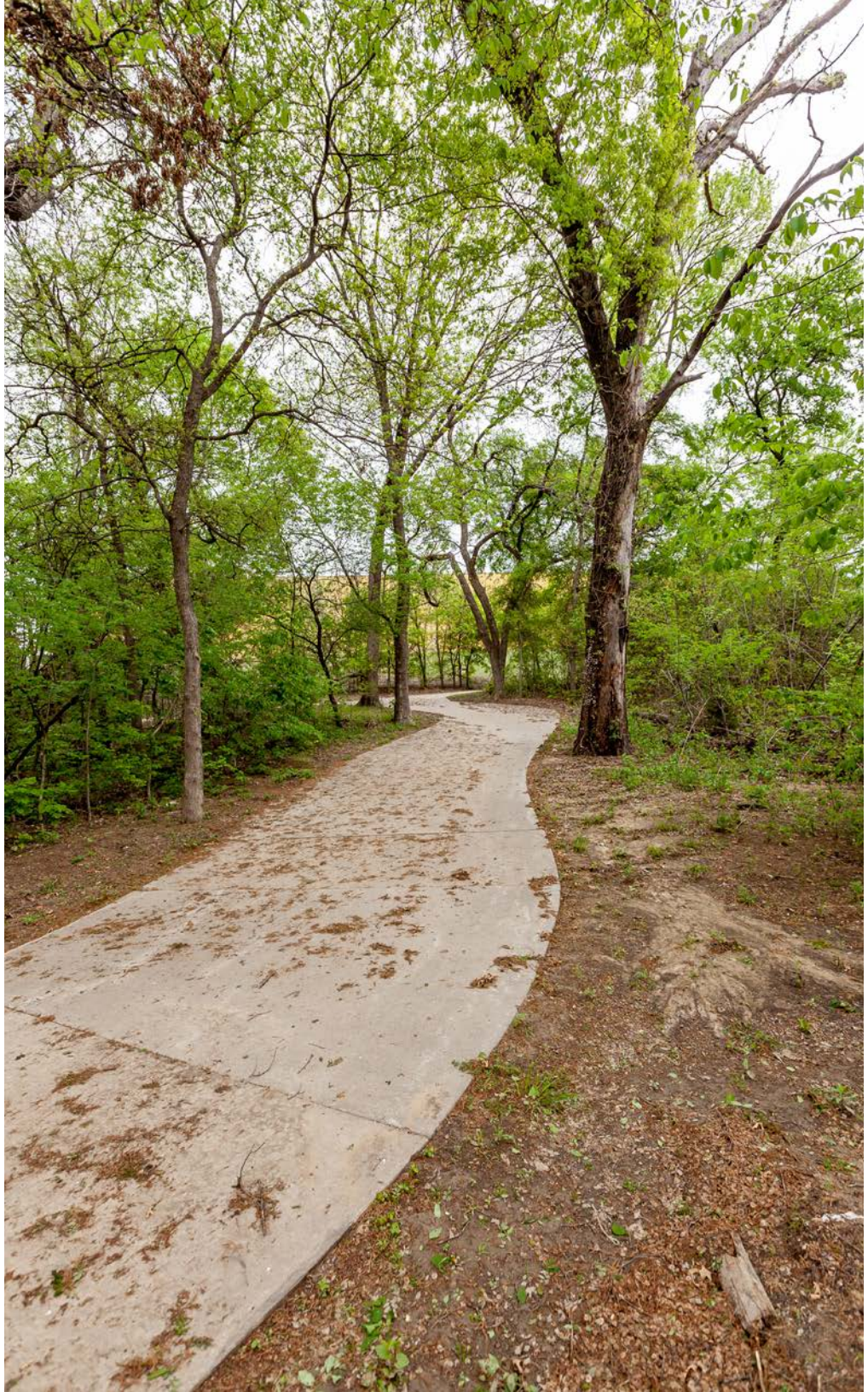
	Trail Loops	Length in miles	Length in Linear Feet	Width	Surface
1	**Urban Center**	1.68	8,867	10'	Concrete
2	**Bel Air**	2.27	11,991	8'	Concrete
3	**Celebration**	1.55	8,165	10'	Concrete
	SUB-TOTAL	**5.5**	**29,023**		
	Note: 13.86 miles of concrete trails not including 6' wide "trail"				
	GRAND TOTAL LENGTH	**64.78**	**341,960**		

Of the existing trails in Allen, the majority are concrete. There are additional soft-surface nature trails that prohibit bicycle traffic, so they are not included in this listing. The use of concrete makes these trails suitable for all weather, which increases the overall usability and lowers the impact of weather events, such as heavy rains and flooding, from interfering with accessibility. Additionally, Allen has many trails that are, or have sections that are, 10'-12', which provides enough space for walkers, joggers, bicyclists, strollers and wheelchair users to easily navigate and share the trail. A discussion of current and future level of service needs is included in the 'Trail Needs' Chapter on page 42.



TRAIL NEEDS

- DEFINING THE NEED FOR TRAILS
- PUBLIC & COMMUNITY INPUT
- REGIONAL BENCHMARKS



INTRODUCTION

Determining the need for trails is essential before trail quantities, location, and specific characteristics can be defined. Three primary methods used in this plan to assess the need for trails and bikeways are 1) public and community engagement, 2) community survey tools, and 3) benchmark analysis which compares Allen with peer cities. This qualitative and quantitative approach can help to formulate a comprehensive assessment of the need for bicycle and pedestrian facilities in Allen.

DEFINING THE NEED FOR TRAILS

To determine specific recommendations for the location and character of future trails, the overall need for trails in Allen must be understood. The Halff Planning Team utilized three primary methods to collect this critical information:

1 | **Public Meeting**

2 | **Online Survey**

3 | **Benchmark Analysis**

Each of these three methods have their inherent strengths and weaknesses, however collectively, they paint an accurate picture of trail needs in Allen.

PUBLIC AND COMMUNITY INPUT

To create a vision for the trails master plan it is important to first consider the input of those who use the trail system on a daily basis. This information was collected through a public open house held in conjunction with a Parks Board meeting as well as an online survey.

PUBLIC MEETING AND OPEN HOUSE PRESENTATION

The Halff Planning Team presented an overview and initial assessment of the Allen trails system at the May 14, 2018 Parks Board meeting. This Board meeting was open to the public and was advertised as an open house to encourage citizen involvement. Information presented included a discussion of the overall purpose of the Trails Master Plan, observed opportunities and constraints, potential special projects that could result from the Master Plan, and the general content of the document.

Over 100 people attended the meeting and provided feedback through a written questionnaire, open forum discussion, and comments on specific presentation boards during the open house session.

The goals of this Park Board meeting and open house were to:

- Understand the location of **CRUCIAL MISSING LINKAGES** throughout the trail system;
- Understand typical **USER TYPES** in Allen who commonly ride bikes or walk;
- Identify important **DESTINATIONS**, obstacles and hazards

MEETING RESULTS

Top 3 beautification enhancements chosen by residents: **Trailheads, Wayfinding/Kiosks, Lighting**

Most residents looking to FILL TRAIL GAPS for on-street facilities

SAFE TRAIL CROSSINGS needed in a number of locations

ONLINE SURVEY

Surveys performed in the past, specifically for the 2015 Parks & Recreation Master Plan, have revealed the public's strong desire for Allen to implement an accessible and usable trail system. The planning team utilized an online survey to capture additional input from a wider range of citizens. Questions were developed to better understand what issues citizens would like to see addressed in Allen. These included questions of which trails and parks were most commonly used, the desirability of on-street versus off-street bike facilities, and the overall importance of trails and bikeways. The survey was open in May 2018 and received a total of 373 responses from Allen residents.

ONLINE SURVEY RESULTS

14% of respondents COMMUTE BY BICYCLE*

86% use OTHER TRANSPORTATION methods*

Main purpose for cycling

RECREATION **49%***

FITNESS **46%***

Most popular trails

Cottonwood Trail **57%***

Watters Trail **48%***

Exchange Trail **36%***

Stacy Trail **29%***

Most popular trail access points

Celebration Park **59%***

Allen Station Park **37%***

At least **20%** respondents access trails through Ford Park, Dayspring Nature Preserve, Twin Creeks Park*

Important Priorities over the next 5-10 years

1. Focus on improvements to reduce or eliminate key existing barriers or gaps*
2. Development of one or two long-distance, major routes that have a high ease of use for the average user*
3. Provide bicycle facilities throughout the city
4. Add to current standards so that new development has superior bicycle facilities planned from the beginning*

*Percentages are based on results from survey responses

REGIONAL BENCHMARKS

When determining the overall need for trails, it is important to compare Allen's trail system with those of peer cities. The following section includes an analysis of the trail systems of several cities similar or close to Allen, an assessment of Allen's current trail system in meeting the community's needs, and a target level of service for the amount of trails in the city.

Six benchmark cities were chosen to compare to Allen's existing trail system. Each of these cities are either adjacent to Allen or are comparable to Allen in terms of the cities' development status (that is, they are close to build-out and have an above average amount of natural amenities). The following comparison considers only existing hard-surface and soft-surface trails.

In **Figure 3:1**, the number of existing miles of trail in Allen is compared to each city's current population. This results in a population-per-mile benchmark by which each city can be compared. A lower population-per-mile benchmark figure means that there are more miles of trail per capita in that city, indicating a higher level of service (LOS). In simple terms, a lower population-per-mile benchmark figure is better (note that these figures consider only the quantity of each city's trails, not the quality). For the DFW Region, a regional benchmark of 1 mile of trail for every 1,200 residents has been established; this LOS figure will serve as the goal for Allen in this analysis.

2030 LOS GOAL

1,200 (POPULATION PER TRAIL MILE)

Estimated population projection (2.36%) : 138,464

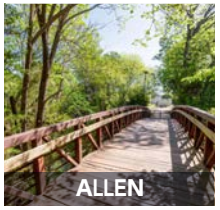
Trail Mileage needed : 115 TOTAL

(75 miles existing trails + 40 miles future trails needed to meet goal)

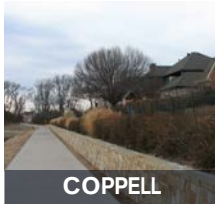
City Area : 17,344 Acres (current city acreage)

2015 LEVEL OF TRAIL SERVICE (LOS) COMPARISON

Figure 3.1 - Level of trail service comparison information compiled from the North Central Council of Governments (NCTCOG) and various city website and trail master plans based on 2010 Census Data



1 mile per
1,340 residents
Population: 100,685
Existing Trail Mile: 75
City Area: 17,344 Acres



1 mile per
5,990 residents
Population: 41,941
Existing Trail Mile: 7
City Area: 9,408 Acres

1 mile per
1,850 residents
Population: 42,721
Existing Trail Mile : 23
City Area : 10,079 Acres

1 mile per
1,800 residents
Population: 53,982
Existing Trail Mile: 30
City Area: 40,256 Acres

1 mile per
3,070 residents
Population: 181,330
Existing Trail Mile: 59
City Area: 40,256 Acres

1 mile per
2,910 residents
Population: 116,783
Existing Trail Mile: 40
City Area: 18,562 Acres

1 mile per
3,530 residents
Population: 286,143
Existing Trail Mile: 81
City Area: 46,229 Acres

This information reveals that Grapevine, The Colony, and Allen provide between one mile for every 1,340 to 1,850 people; representing a higher level of service for their citizens than the other benchmark cities. In addition, Allen stands out as having the highest level of service of the communities compared. Today, Allen needs approximately 9 additional miles of trail to meet the LOS goal of 1 mile for per every1,200 residents. In 2030, with the anticipated population growth, the deficit increases to 40 miles of trail to meet the LOS goal of 1 mile per every 1,200 residents.

Another critical trail system need in Allen is for wider trails to meet the demands of varied trail users. Many of the existing trails are 6'-8' in width, which does not meet current regional standards of 12' for shared-use trails. Moving forward, the city standard should be 12' wide trails with the exception of loop trails within parks, which can be 6'-8' in width. **Figure 3:2** identifies the existing undersized trails in Allen.

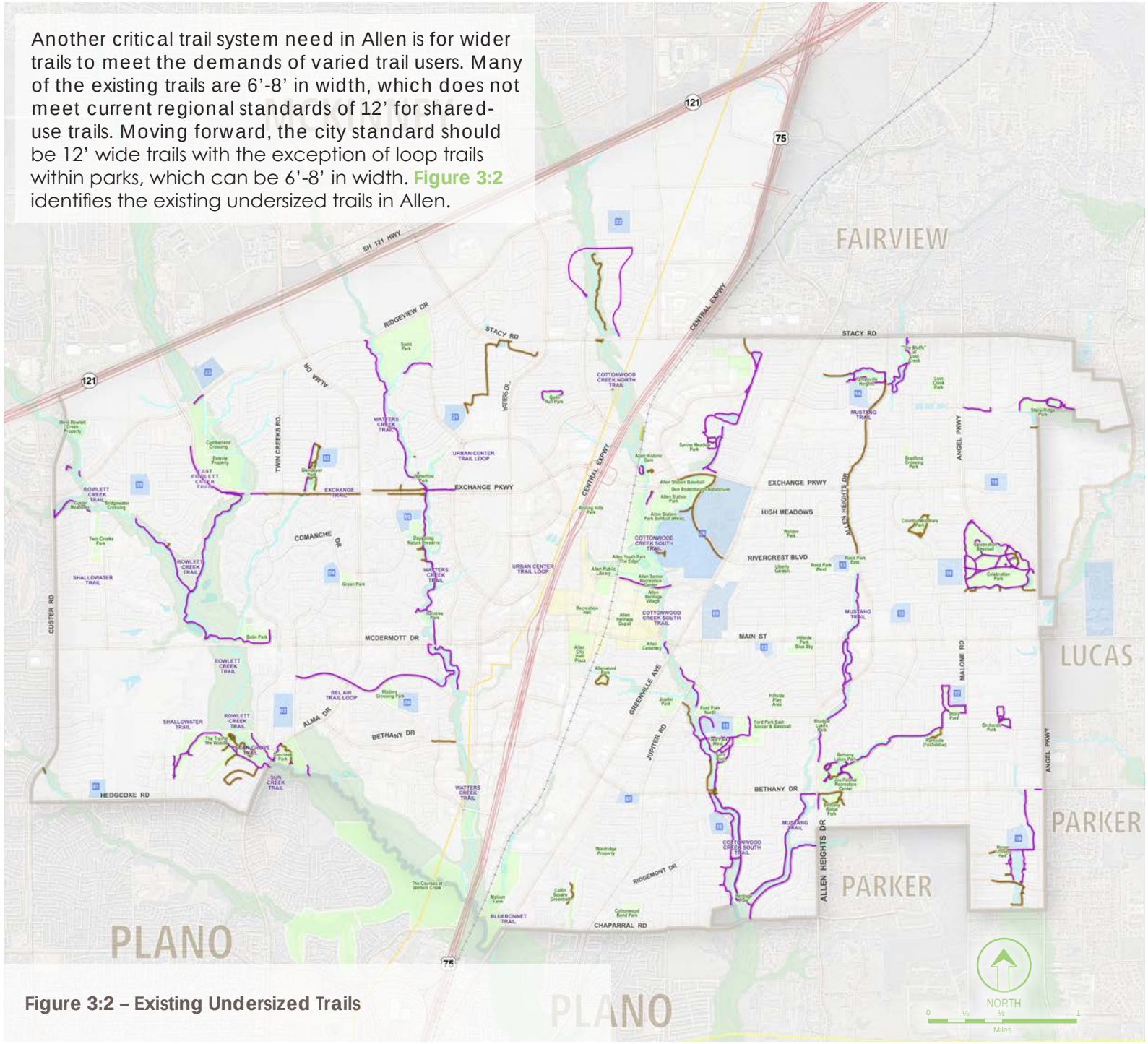


Figure 3:2 – Existing Undersized Trails

LEGEND

- **8' wide trail** (Existing)
- **6' wide trail** (Existing)

SCHOOLS

01 **Beverly** Elementary School
02 **Ereckson** Middle School
03 **Kerr** Elementary School
04 **Green** Elementary School
05 **Dr ET Boon** Elementary School
06 **Frances E Norton** Elem. School
07 **Boyd** Elementary School
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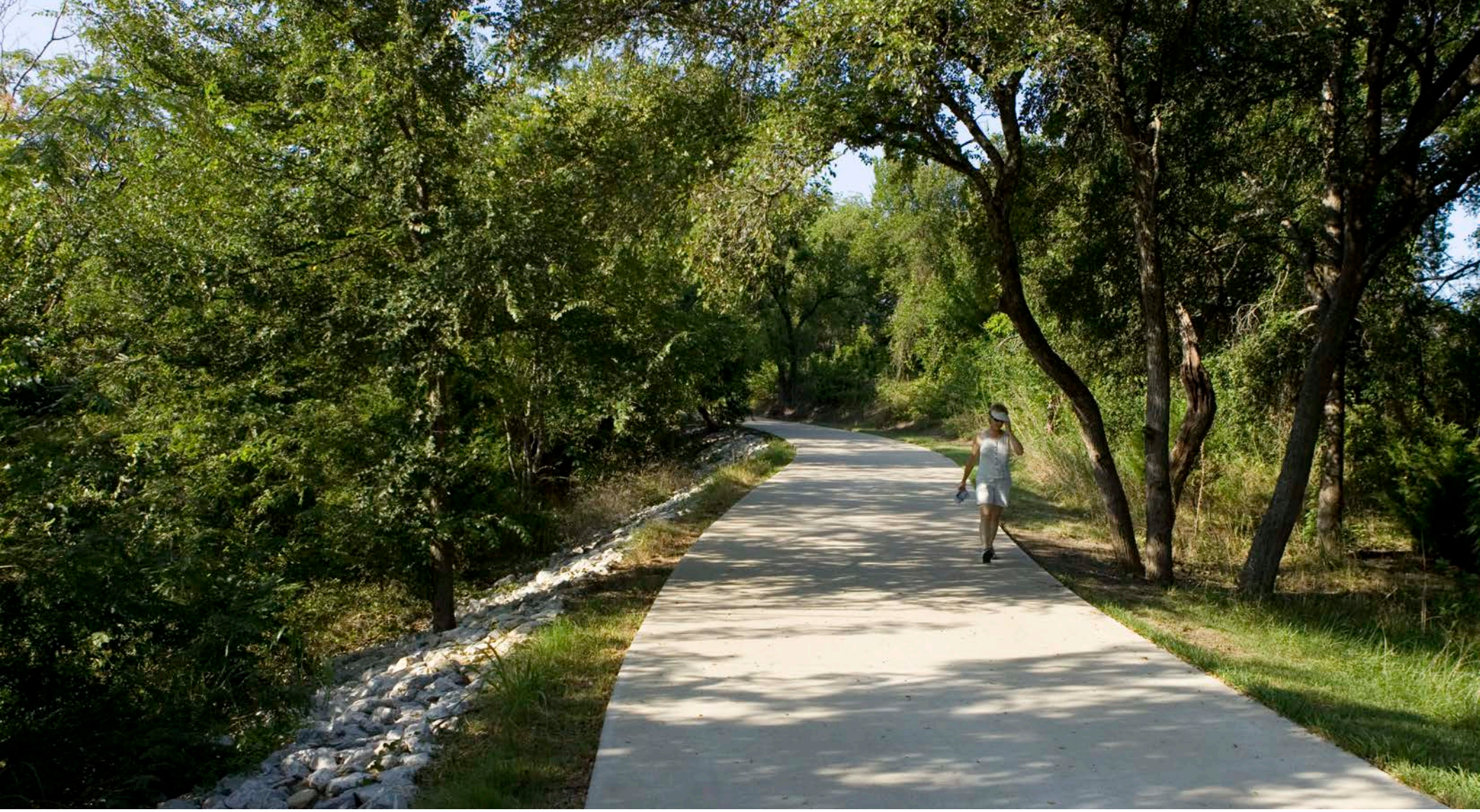
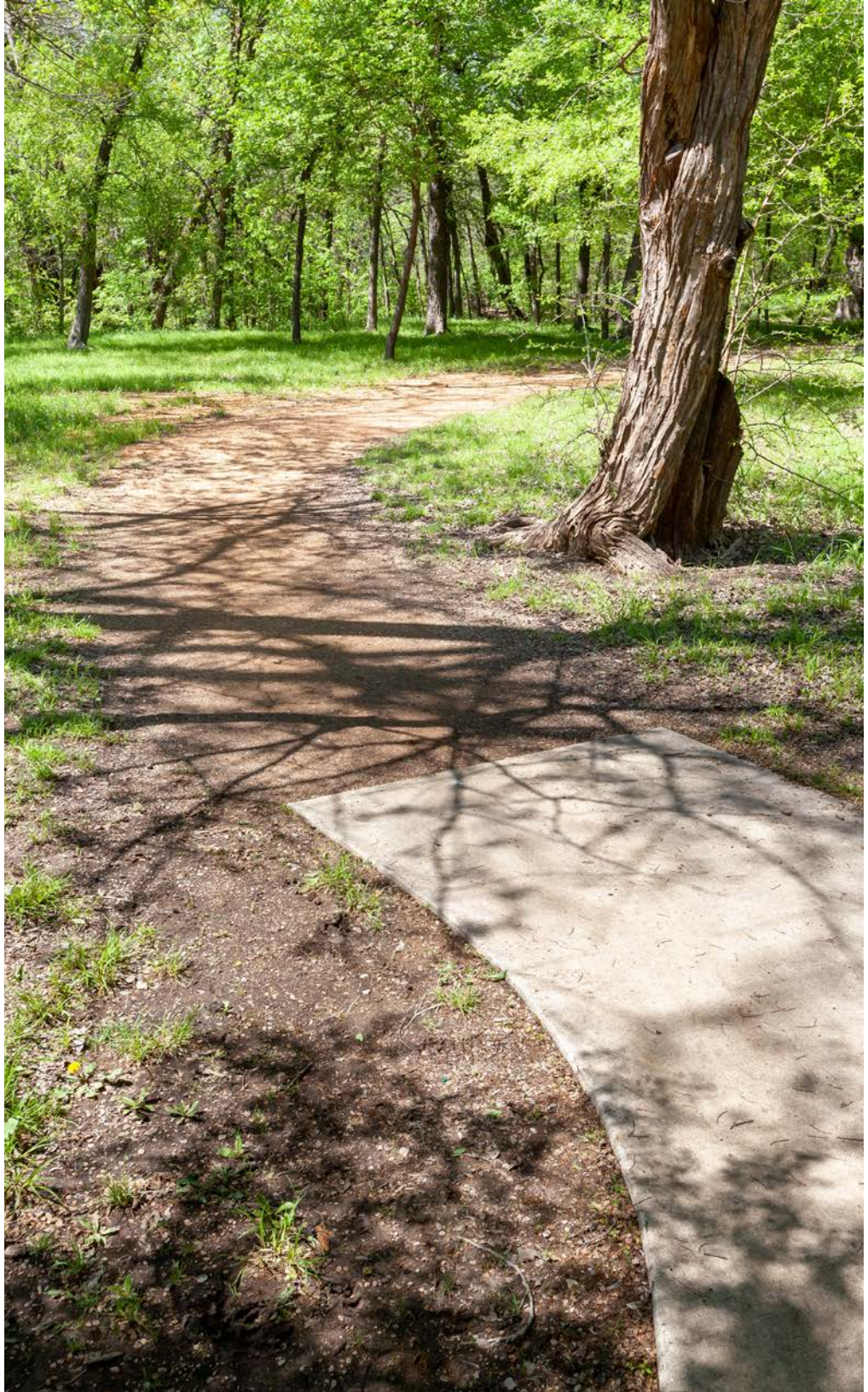


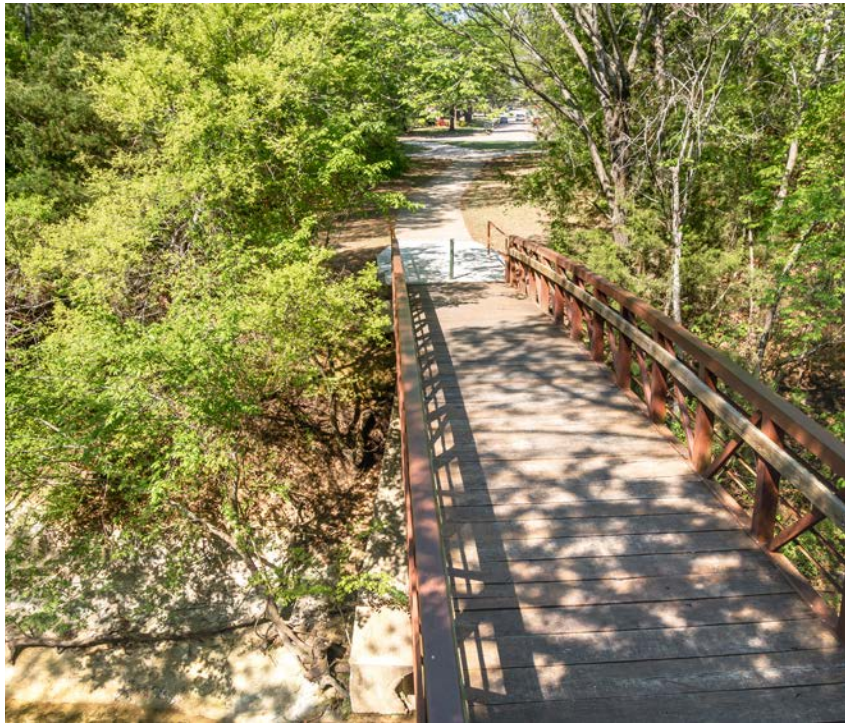
TRAIL NETWORK

- USER GROUPS
- TRAIL TYPES
- TRAIL DESTINATIONS
- TRAIL OPPORTUNITIES & CONSTRAINTS



INTRODUCTION

The City of Allen's trail network is comprised of hierarchical trail facilities that provide connectivity and access to various destinations throughout the City. Trail users have the option to travel on any facility type based on their preference and physical capabilities. Consequently, multi-use trails and bikeways utilized as alternative modes of transportation coupled with diverse recreational opportunities requires careful consideration of the diverse needs of various user groups. Accessibility, continuity, and comfort are key desires of trails users who regularly utilize them. When trail gaps are minimized and continuous on-street and off-street trails are connected into the City's core and key destinations, the trail system's framework is reinforced through a "spine" of connected trails. Users have the option to experience multiple destinations without maneuvering to unsafe conditions along their route, thereby increasing their confidence due to safe, uninterrupted connectivity within the trail network.



USER GROUPS

Dynamic trail systems that meet the needs of the entire community require an understanding of multiple user group's characteristics, preferences, challenges, and limitations. While it is important to consider and attempt to meet the unique needs of all user groups, the City's primary goal should be to identify the shared and overlapping needs of those groups and build a trail system that most efficiently meets those needs.

WALKERS

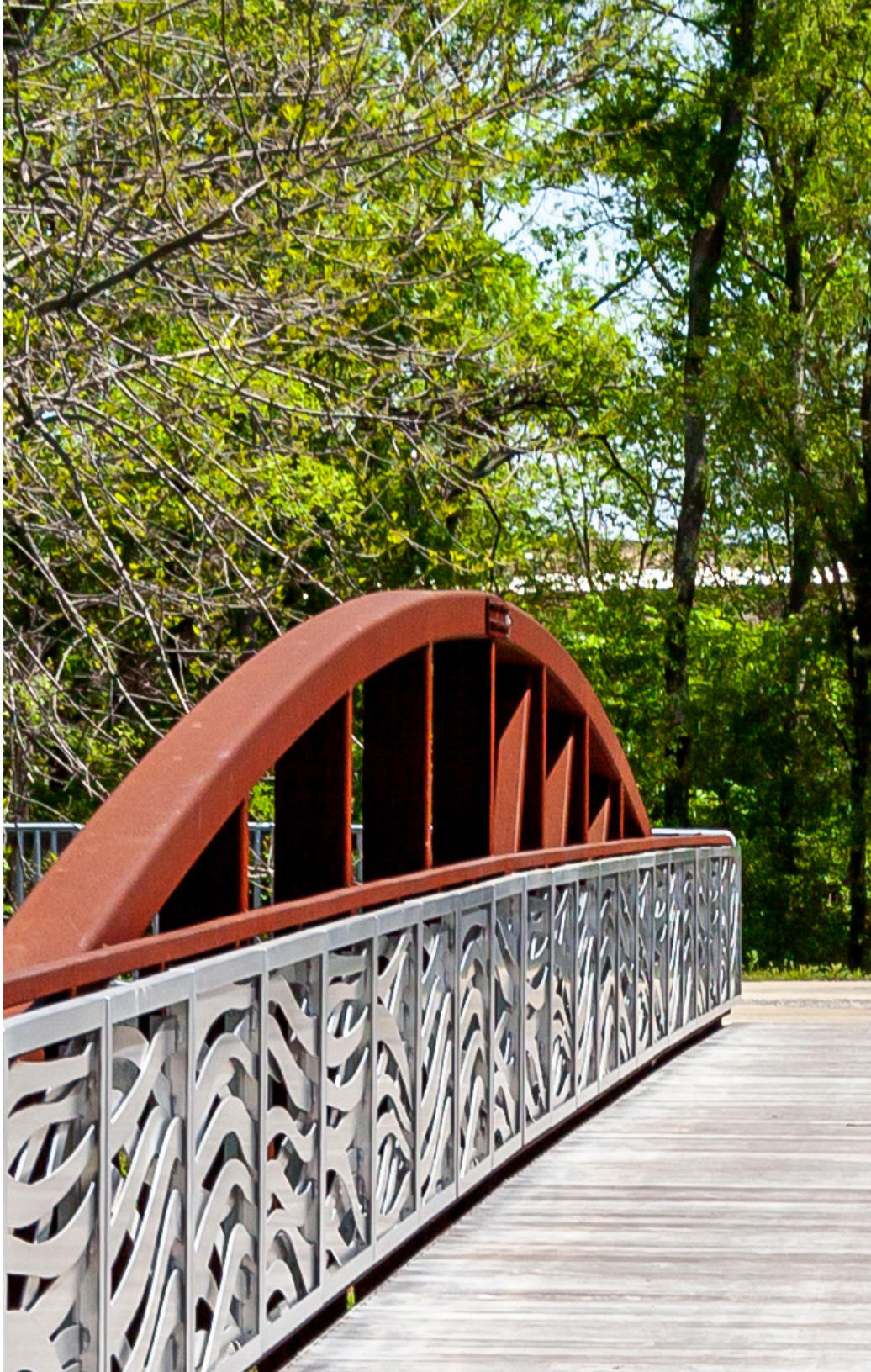
In general, trails are utilized by pedestrians for the recreational experience they provide and typically most users fall within the walkers category. Walking is a great way to enjoy passive recreation due to affordability and accessibility. Therefore, it is important that trails also provide connectivity between neighborhoods and nearby destinations. The primary consideration when developing trails for pedestrians is that they are enjoyable, attractive, safe, and comfortable.

RUNNERS/JOGGERS

Trail systems also provide opportunities in sports, leisure and fitness for both runners and joggers alike. Spine trails and multi-use trails with minimum widths of 12'-14' provide space for runners and joggers to pass walkers and space for running groups and meet-ups.

BICYCLISTS

Bicyclists consists of three groups, the occasional riders (children and seniors), the recreation rider (basic), and the more experienced on-street/off-street rider (advanced). A connected on-street and off-street trail system provides mobility for commuters and access to destinations and parks for the recreational rider.



ADVANCED
Experienced bicyclists typically see riding as a mode of transportation and are more comfortable with riding on-street with adjacent motor vehicle traffic. They are confident on the roadway and are undeterred by various roadway conditions. However, bike lane and bikeway networks are preferred and are supported by these riders. Users within this group may be a part of a cycling club or a commuter within the City of Allen. If advanced users do ride on trails, speed control is needed so as to not create a conflict with other trail users.

BASIC
Bicyclists who ride for leisure and recreation prefer off-street bike trails and shared-use paths adjacent to roadways. This user group is less likely to ride as a mode or transportation since this user group is less confident. However, they will more likely ride on-street within residential neighborhoods and within parks and open space areas.

CHILDREN & SENIORS
Both youth and seniors are the most vulnerable user groups. They require easily accessible trail routes that are simple and easy to navigate.

TRAIL TYPES

The City of Allen trail network is comprised of a hierarchal system of trail as mentioned earlier in the chapter. Three main trail types exist providing local and regional connectivity throughout the City. Existing and proposed connections established in the plan create a unified system of trails linking into parks, neighborhoods, employment centers and civic destinations.

PRIMARY TRAILS

Primary trails serve as a main linkage across the City to parks and facilities, trail loops and neighboring cities. Primary trails can be greenbelt spine trails or sidepaths adjacent to roadways. Typical trail widths would be 10' or wider. Currently, Allen has approximately 44 miles of primary trails such as Watters Trail, Cottonwood Creek Trail, Rowlett Trail, and Mustang Trail.

TRAIL LOOPS

Loop trails are generally 8' or wider closed trails within parks that provide connections to primary trails and city parks and facilities. There is approximately 6 miles of trail loops within the City. These loops are the Bel Air Loop, Urban Center Loop, and Celebration.

CONNECTOR TRAILS

Connector trails, usually 1 mile or less in length, can be accessed by sidewalks and connect to adjacent primary trails

Figure 4:1-4:5 depict opportunities for additional trails and bikeways in Allen.

TRAIL DESTINATIONS

Trails serve as a mode of travel and connection to places and spaces around the City. As a part of trail system planning, key facilities, locations, and services have been identified as destinations. These facilities and parks also act as passive trailheads serving as opportunities for parking and trail access.

PARKS AND OPEN SPACE

The City of Allen trail network serves as a point of connection between the city's park system, greenbelts, and creeks. For instance, Watters Trail connects Waterford Park and Dayspring Nature Preserve. Although gaps exist within the Cottonwood trail, it connects Allen Station Park, Ford Park, and Heritage Park. Mustang Trail provides access to Bethany Ridge Park, Bethany Lakes Park, Shadow Lakes Park, and Reed Park.

CIVIC AND RECREATIONAL FACILITIES

The city has a variety of facilities located throughout the City's Central Business District. The CBD encompasses several destinations including the Allen Public Library located west of US 75, Allen Heritage Village, Allen Senior Recreation Center, Allen Station Park, and Don Rodenbaugh Natatorium.

MAJOR RETAIL AREAS

Pedestrians and bicyclists need safe, continuous trails and bikeways connecting to and traversing major retail areas such as Watters Creek at Montgomery Farm. This is a major destination for residents, that includes a mixed-use shopping center with retail, restaurants, offices, residential lots, public art, events, and a large village green. The shopping center borders Watters Creek and the nearby Watters Creek Trail.

Twin Creek Village is a shopping center that includes shops, restaurants, and other services located near Watters Creek Trail on the northwest corner of US 75 and W. McDermott Drive. The Villages at Allen, located in close proximity to Cottonwood Creek North Trail on the southeast corner of US 75 and Stacy Road, and Allen Premium Outlets.

LEGEND

- **12' wide trail** (Existing)
- **10' wide trail** (Existing)
- **8' wide trail** (Existing)
- **6' wide trail** (Existing)
- **Proposed On-Street Trail**

SCHOOLS

01 **Beverly** Elementary School
02 **Ereckson** Middle School
03 **Kerr** Elementary School
04 **Green** Elementary School
05 **Dr ET Boon** Elementary School
06 **Frances E Norton** Elem. School
07 **Boyd** Elementary School
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20 **Evan** Elementary School
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22 **Jenny Preston** Elem. School
23 **S.T.E.A.M.** Center

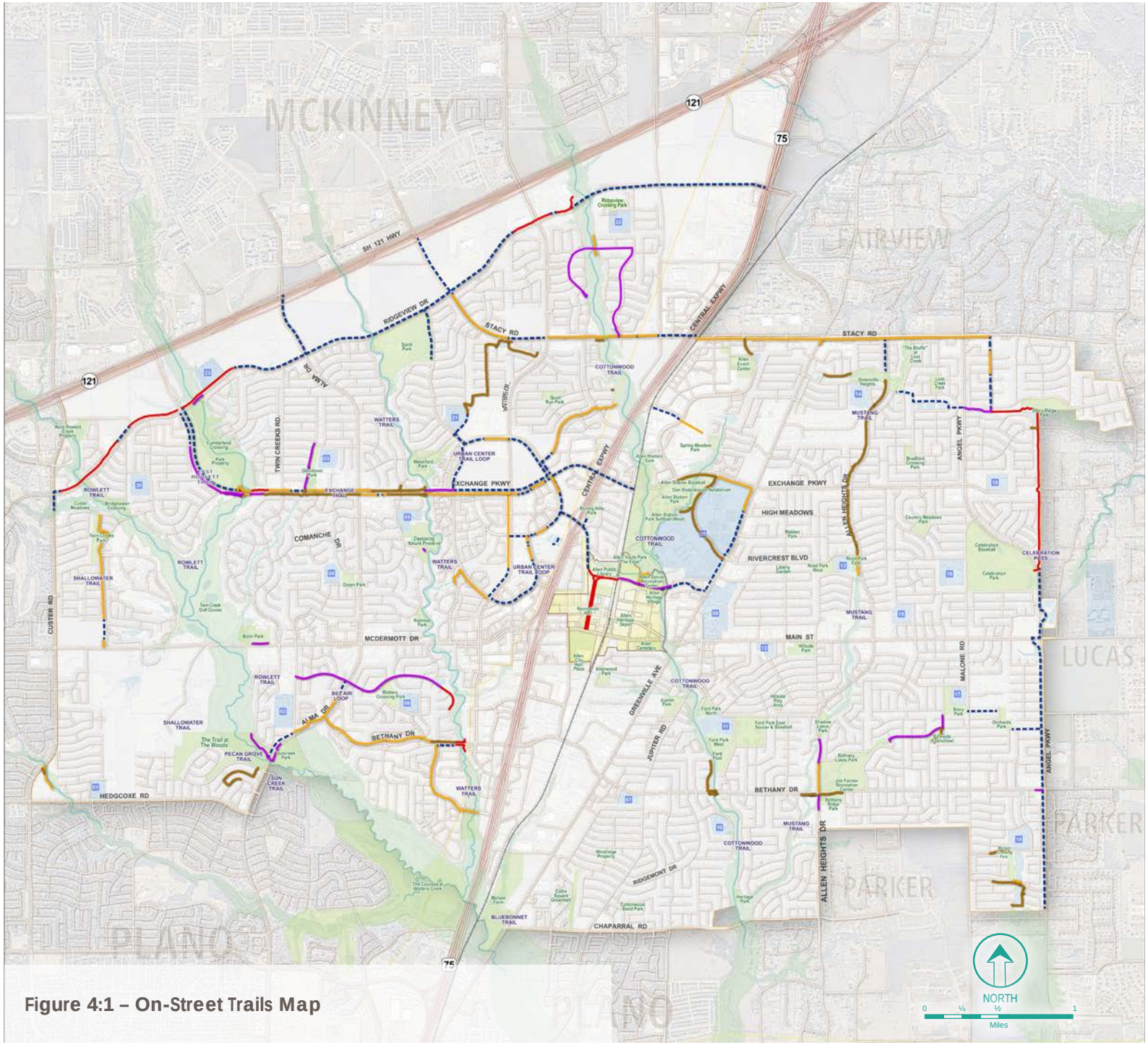

Figure 4:1 – On-Street Trails Map

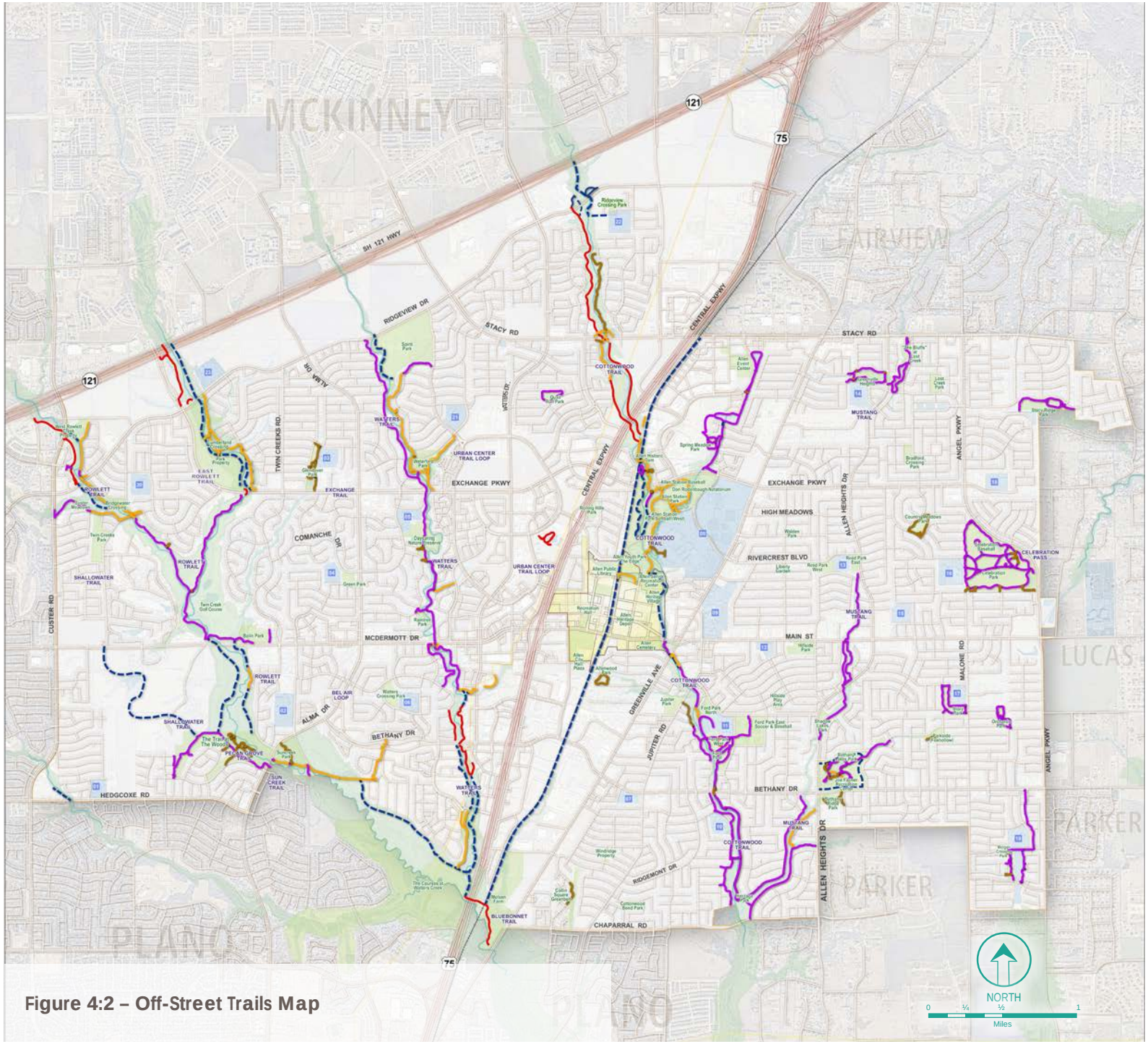

Figure 4:2 – Off-Street Trails Map

LEGEND

- **12' wide trail** (Existing)
- **10' wide trail** (Existing)
- **8' wide trail** (Existing)
- **6' wide trail** (Existing)
- **Proposed On-Street Trail**

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LEGEND

- **On-street Bikeways** (Existing)
- **On-street Bikeways** (Proposed)

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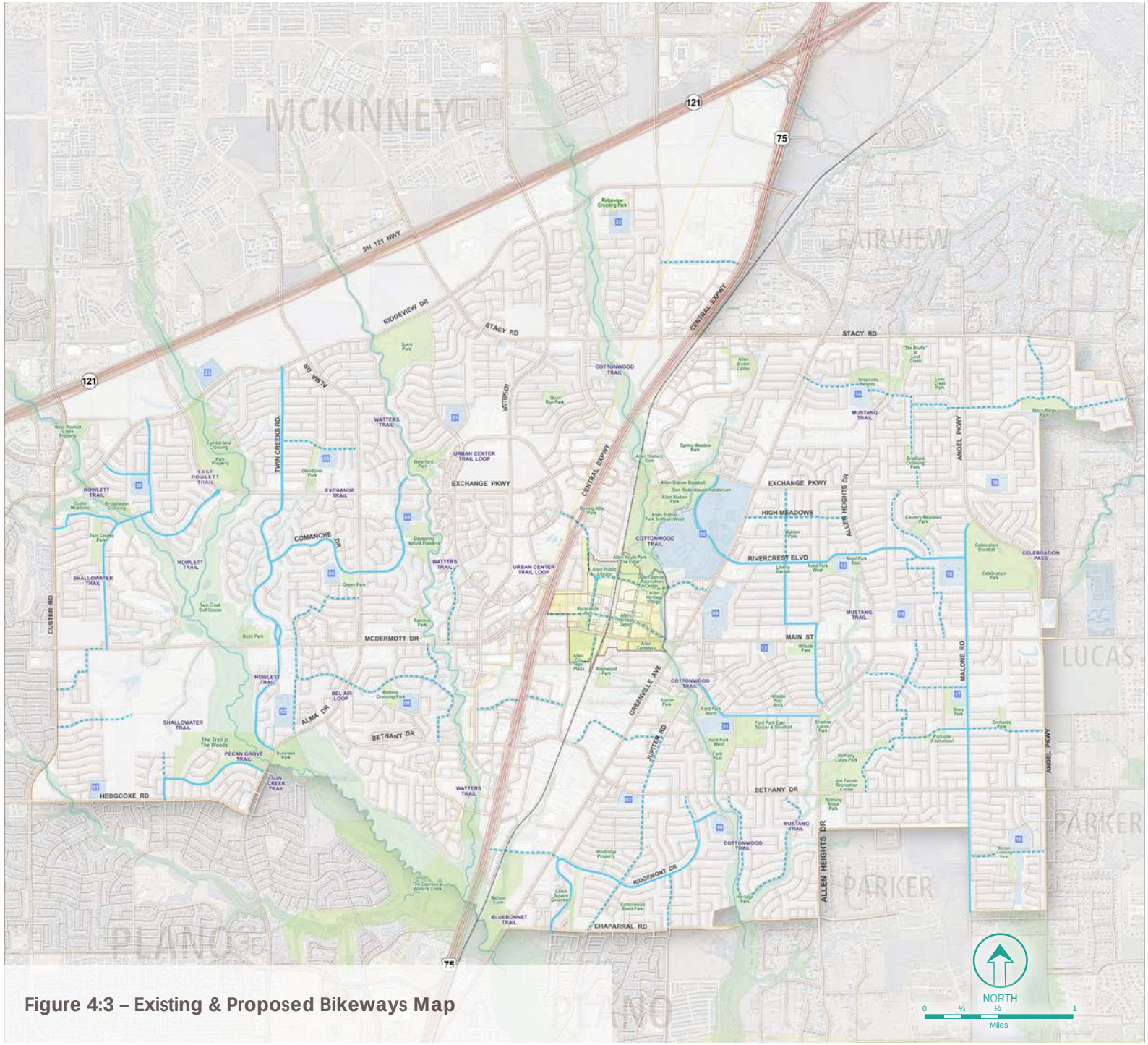

Figure 4:3 – Existing & Proposed Bikeways Map

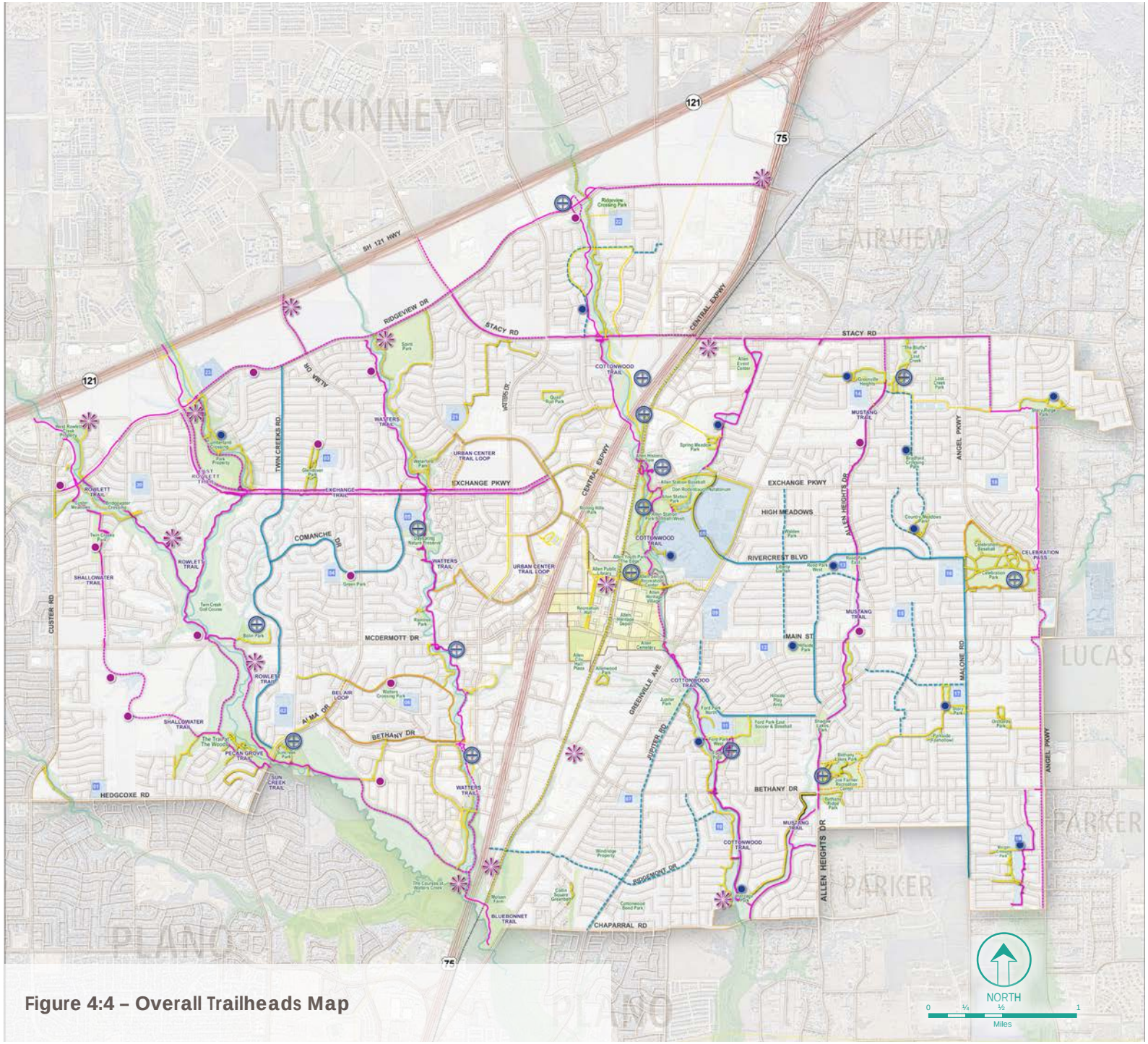

Figure 4:4 – Overall Trailheads Map

LEGEND

- **Primary Trail** (Existing)
- **Primary Trail** (Proposed)
- **Trail Loops** (Existing)
- **Trail Loops** (Proposed)
- **Connector Trails** (Existing)
- **Connector Trails** (Proposed)
- **On-street Bikeways** (Existing)
- **On-street Bikeways** (Proposed)
- **Existing** Trailheads
- **Existing** Trail Access Points
- **Proposed** Trailheads
- **Proposed** Trail Access Points

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TRAIL OPPORTUNITIES AND CONSTRAINTS

Allen has a variety of both on-street and off-street trail opportunities throughout the City. The existing greenbelt spine trails and on-street spine trails serve as the primary trail framework. The connector trails provide additional linkages and connectivity to nearby neighborhoods and destinations. To maximize this trail network, opportunities and constraints have been identified.

CONSTRAINTS

Outdated Trail Design Standards: Many of the older existing 6'-8' trails within the network are outdated and need to be converted to meet AASHTO and regional size, width, curve radius, bridge widths. and ADA requirements.

Limited East-West Connectivity: A strength of the trail network is the north/south connectivity via the major exiting trails within the City. However, there's an opportunity to provide east/west on-street connectivity via major roads such as W. Exchange Parkway, E. Main Street, W. Bethany Drive, and Stacy Road.

US 75 Barrier: Thoroughfares act as both visual and physical barriers dividing the City into corridors. US 75 for example, practically divides the city in half, east and west and limits connectivity to smaller streets and creek corridor crossings.

OPPORTUNITIES

Central Business District Trail Connections (CBD)

Trail connections into the CBD at access point locations such as Main Street at Cottonwood Creek and grade separated pedestrian crossings could improve pedestrian connectivity into the City core.

Large Undeveloped Tracts

Gaps exist where land is undeveloped; some trails require developers to partner with the City to fill in those segments. This will allow the City to provide input on required trail widths and routes.

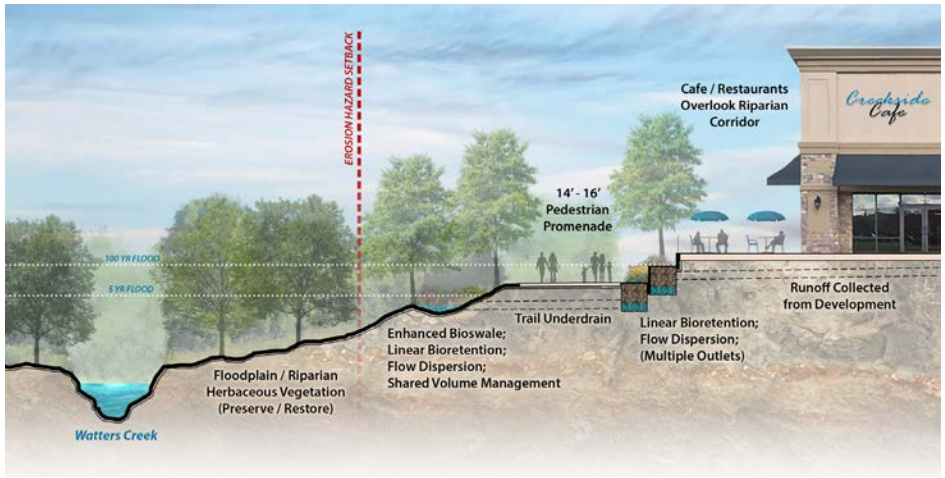
Old Railroad (DART) ROW

The existing abandoned DART rail system corridor begins at Rowlett Creek near US 75 and extends to Stacey Road. This route provides a rails-to-trails access with trail gateways along an abandoned R.O,W. that connects the shops in Allen/Fairview to Allen's downtown and to Molsen Farm.

This corridor has also been identified on the Regional Veloweb as a major transportation/mobility corridor and should be coordinated with Plano, McKinney, Richardson, Fairview, Melissa, Anna, NCTCOG, and DART.

Neighborhood Streets

Allen has an active community with a population that enjoys both on-street and off-street bikeways. Proximity of the existing trail routes presents a favorable circumstance for connection via existing on-street bikeway facilities, linking residents to local parks and trail destinations.



Continuous Creek Corridor Connections

Allen has dedicated routes for trail spine opportunities within their continuous creek corridors. These natural green spaces provide a connection to nature as well as a pedestrian promenade where the trail navigates next to pedestrian development. These corridors also offer opportunities for Trail Oriented Development that responds to retail and restaurant user demand.

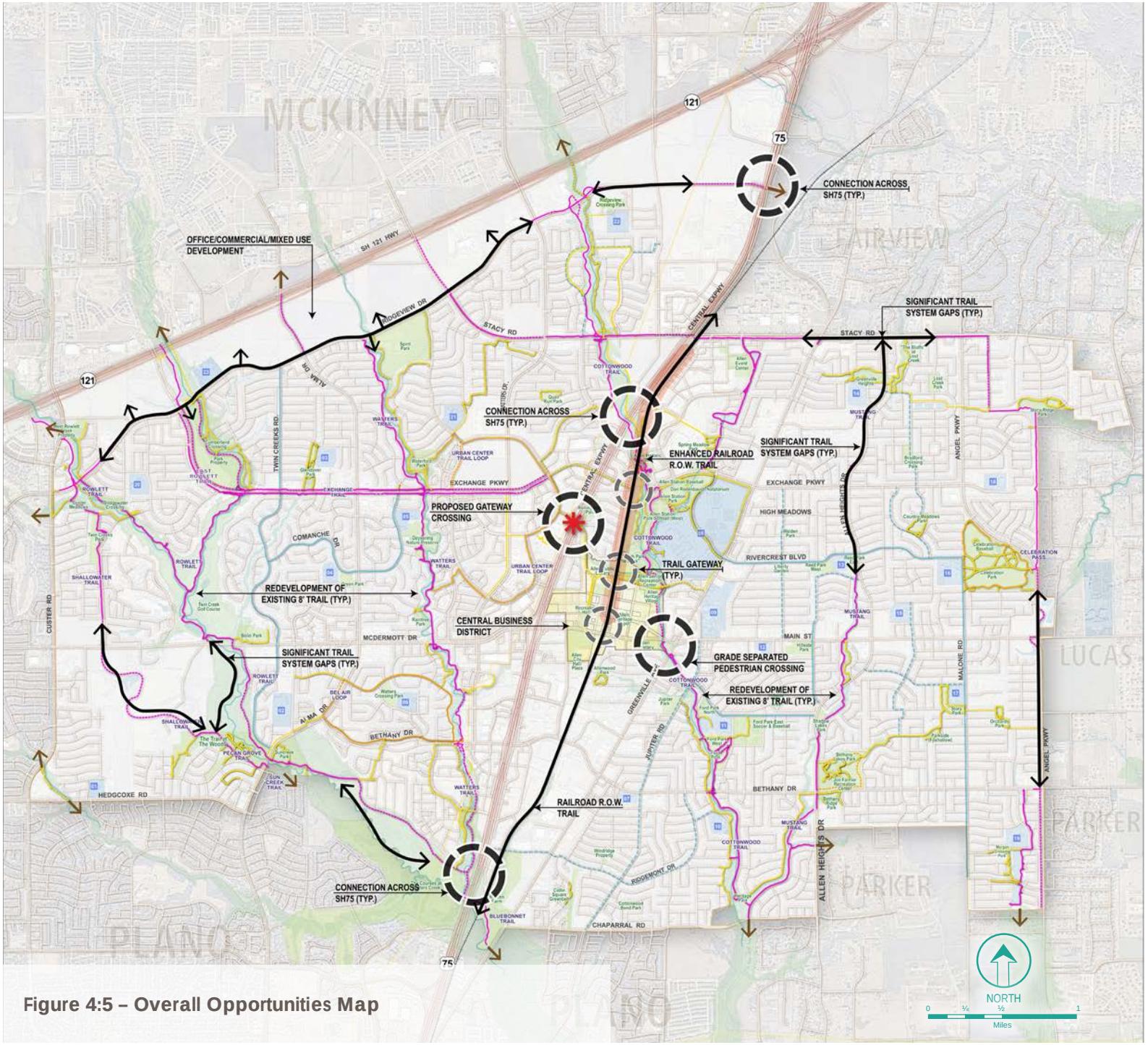


Figure 4:5 – Overall Opportunities Map

LEGEND

- **Primary Trail** (Existing)
- **Primary Trail** (Proposed)
- **Trail Loops** (Existing)
- **Trail Loops** (Proposed)
- **Connector Trails** (Existing)
- **Connector Trails** (Proposed)
- **On-street Bikeways** (Existing)
- **On-street Bikeways** (Proposed)

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Pedestrian Bridge/Gateway Opportunity Concept
The image above represents a perspective view of potential pedestrian gateway bridge opportunity.

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TRAIL DESIGN STANDARDS

- ALLEN TRAIL DESIGN RECOMMENDATIONS
- TRAIL SIGNAGE MARKINGS
- TRAIL FEATURES | AMENITIES

INTRODUCTION

The City of Allen's current trail network is comprised of varying widths, and in may instances widths vary along the same trail. Trail design standards, such as width, are an important component for a successful trail system. These standards outline the recommended minimum requirements for safety, convenience of users, and to meet regional transportation goals.

All trails, bikeways, and sidewalks should at a minimum meet the American Association of State Highway and Transportation Officials (AASHTO) standards, and should exceed those standards where possible. To facilitate future development of trails in Allen, customized design standards in written and graphic formats are included in this chapter. These standards should be made available to all applicable builders and developers. Listed below are sources for the most commonly used standards for trail design; the recommended standards in this plan complies with these sources:

- **AASHTO** (American Association of State Highway and Transportation Office)
- **ADAAG** (American with Disabilities Act Accessibility Guidelines)
- **ITE** (Institute of Transportation Engineers)
- **NACTO** (National Association of City Transportation Officials)
- **TAS** (Texas Accessibility Standards)
- **TMUTCD** (Texas Manual on Uniform Traffic Control Devices)
- **TTI** (Texas Transportation Institute)
- **TxDOT** (Texas Department of Transportation)
- **NCTCOG** (North Central Texas Council of Governments)

Upon adoption of this plan, the Allen Land Development Code should incorporate updated standards for trails and bikeways based on the design criteria outlined in this chapter.

ALLEN TRAIL DESIGN RECOMMENDATIONS

The following set of design standards has been developed to ensure that Allen's trail system is developed with a high level of safety, quality, and user comfort for all trail users and shall follow mandated city, state, and national standards (AASHTO, NACTO, ADAAG, TAS, ITE, TTI, TXDOT, and TMUTCD). **When fully implemented there shouldn't be any 8' wide trails remaining, except for internal park loops.**

OFF-STREET TRAILS (PAVED)

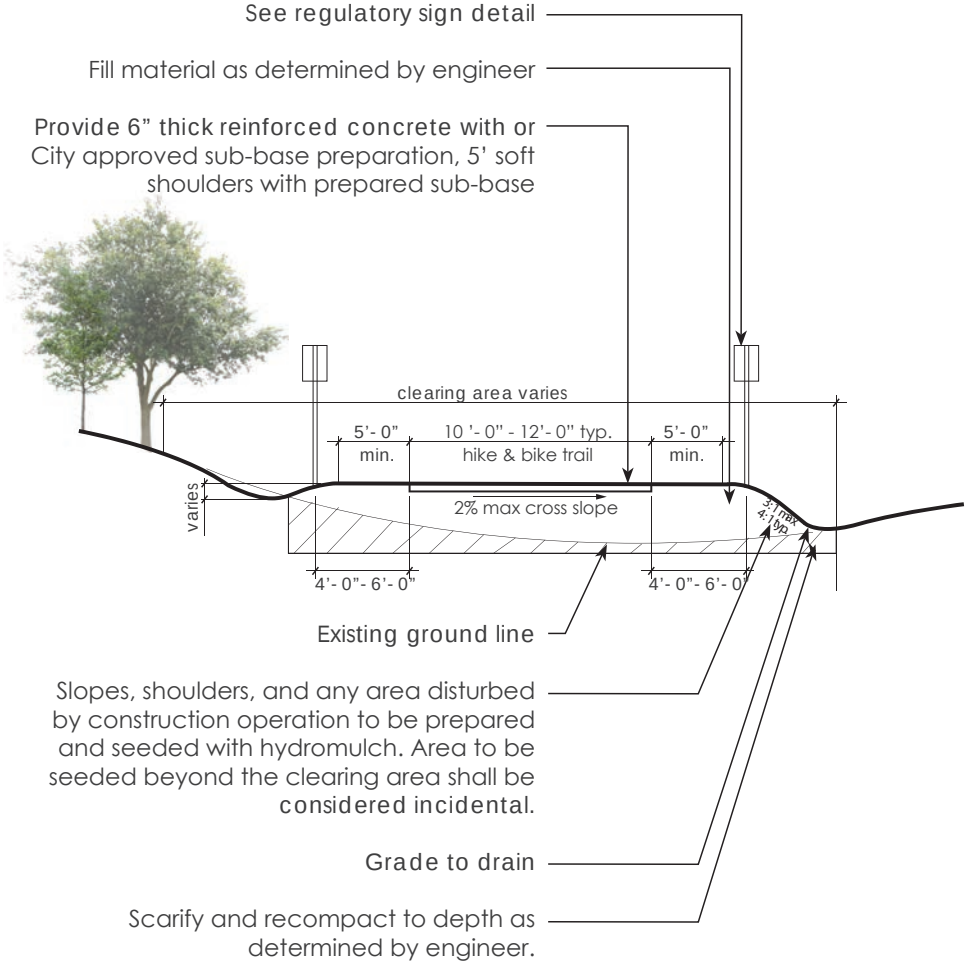
DESIGN OBJECTIVES

- Off-street trail alignments should preserve the natural terrain and vegetation to the greatest extent possible. The alignment should follow the contours of the land and its natural drainage patterns. The trail should not appear to be carved out of the terrain.
- Off-street trails can be curvilinear and may include a combination of curved and straight segments. Serpentine (extreme curves) or sinuous (straight) trail alignments are not desirable and should be limited to instances where tree preservation or other obstructions necessitate such alignments. Meanders in trails should be purposeful and should not be haphazard or irregular.
- Off-street trail intersections with other trails should be located where sightlines are not obscured at natural focal points such as scenic vistas and convenient access points.
- Where conditions apply, off-street trails should align with existing and future crosswalks at streets. These intersections must incorporate handicap accessible ramps that meet the design criteria of ADAAG and TAS.

PAVEMENT STRUCTURE

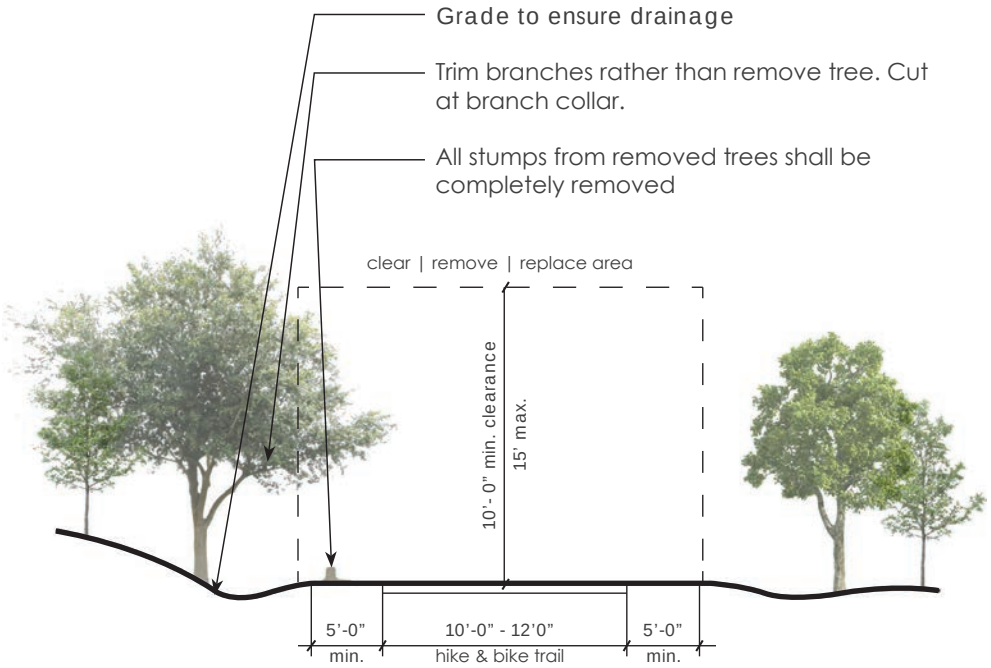
Standard off-street trail pavement should be 6" thick reinforced Portland cement concrete with a traverse light broom finish. Redwood full depth expansion joints should be placed in the trail at an interval of 40' for 10' wide trails and 50' to 60' for 12' wide trails. Expansion joints should be topped and sealed with a self-leveling elastomeric join compound and should be flush with the top surface of pavement on both sides of the joint. Control joints should be placed at intervals equal to the trail width and

Figure 5:1 Standard Trail Section



Note: Refer to current NACTO and AASHTO guidelines when developing bicycle facilities to determine required sign placement and trail design.

Figure 5:2 Standard Construction Limits of Trail Typical



Notes:

1. Trails shall be aligned in such a way that tree removal or disturbance is minimized.
2. All vegetation within limited clearing area for trail shall not be removed or damaged unless tree trimming or grading is required. Only trees directly conflicting with construction shall be removed, only at the direction of the City, and when no better alignment is feasible.
3. Contractor should enter wooded construction area from designated access points as approved by the City.
4. Contractor should limit construction equipment to working/clearing area only, to prevent damage to remaining trees.
5. The contractor shall construct temporary barricades along working area to protect existing vegetation, as required by the project manager.

Note: Refer to current NACTO and AASHTO guidelines when developing bicycle facilities to determine required sign placement and trail design.

the depth should be one-fourth of the pavement thickness. The joints should be saw-cut and ¼" wide. For optimum user comfort, the finished surface of trails should not vary more than ¼" from the lower edge of an 8' long straight edge when laid on the surface in any direction.

WIDTH & CLEARANCE

Off-street hard surface trails within the City's system should be a minimum of 10' in width and 10'-12, for greenbelt and spine trails in accordance with AASHTO standards. This applies to trails that will accommodate a mix of bicycles, pedestrians, maintenance vehicles, and other non-motorized transportation traffic. The minimum width of a shared-use trail should be 10'-12' to accommodate maintenance access and passing room for bicyclists. The optimum vertical clearance of obstructions over a trail is 10' or higher, which accommodates maintenance, patrol, and emergency vehicle access. All underpasses and tunnels should be a minimum of 8' in height. If vertical clearances under bridges and other structures are less than 10', warning signage should be clearly posted to alert approaching trail users of low clearance.

DESIGN SPEED

In general, the minimum design speed of 20 miles per hour (mph) should be used when trail grades do not exceed 5% slope. In those instances where strong prevailing tail winds exist or trail grades may exceed 5%, a design speed of 30 mph is advisable. Speed bumps are similar surface obstructions intended to slow down bicyclists that would pose a trip hazard for other trail users and should never be used. In instances where it is desirable to slow the speed of bicyclists, chicanes may be used.

DRAINAGE

The cross-slope of areas adjacent to trail shoulders should be a minimum of 2% slope to allow for adequate drainage away from the trail. Trail pavement surfaces should have a cross slope of 1% to maintain compliance with ADAAG and TAS standards.

SHARED-USE PATHS (TRAILS)

Shared-Use Paths, also referred to as multi-use trails, are intended to be used by both bicyclists and pedestrians. Shared-use paths typically occupy corridors that are completely separated from the street such as utility rights-of-ways, streams and greenbelt corridors, parks, and open space.

PEDESTRIAN FACILITIES

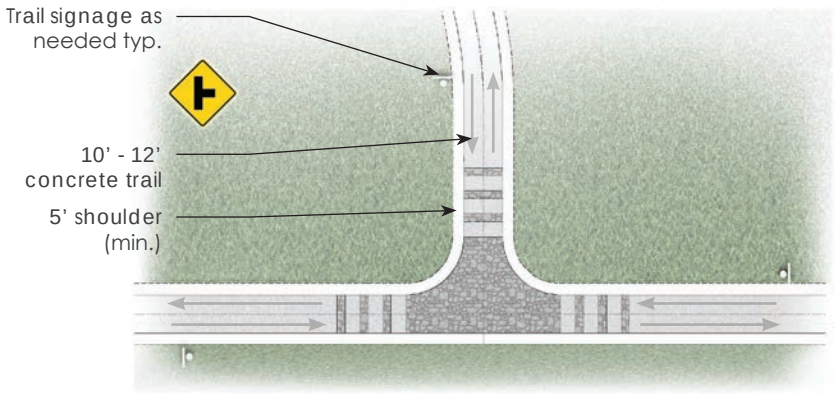
STANDARD SIDEWALKS

Although cities are increasingly implementing shared-use paths, sidewalks remain the type of facility used exclusively for pedestrian travel. A sidewalk refers to a paved route that is necessary to establish a pedestrian network. The typical sidewalk, unlike other transportation facilities, is intended to serve all people regardless of age or ability. Sidewalks generally connect residential areas to surrounding services and employment and to adjacent neighborhoods. Sidewalks are located within or parallel to a street right-of-way and are designated for pedestrian use only; since pedestrian and bicyclists travel at different speeds, sidewalks are typically too narrow to accommodate both users.

INTERSECTION TREATMENT

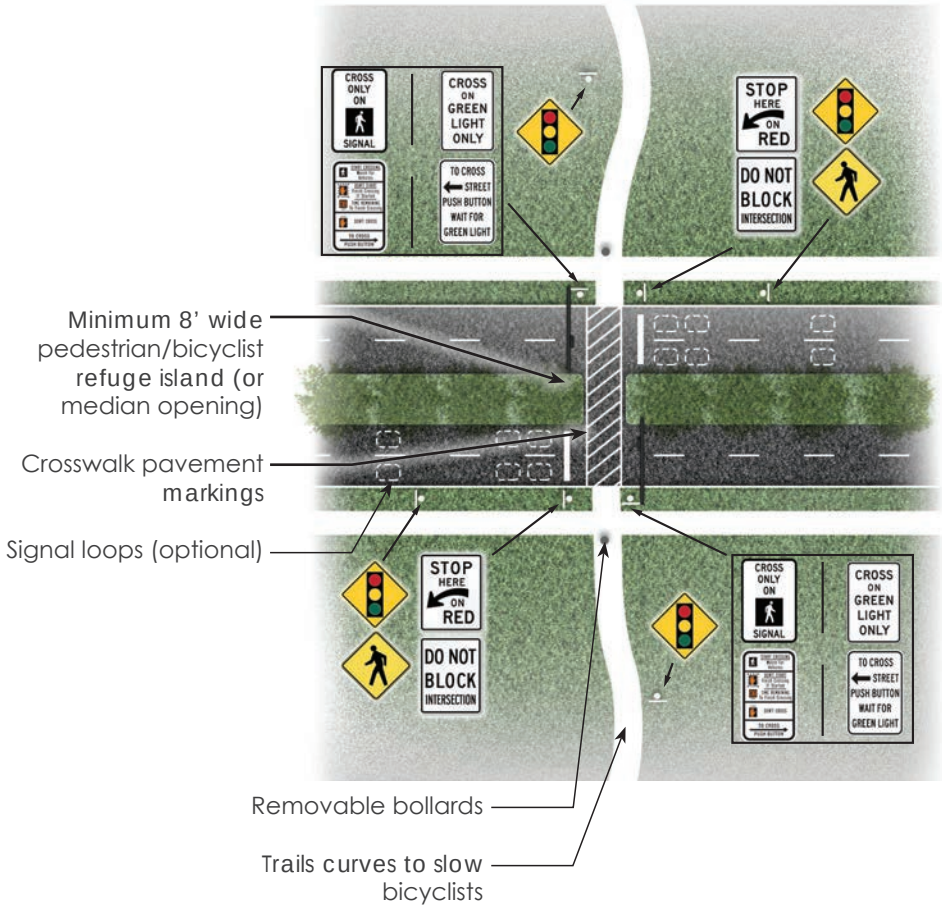
Intersections between sidewalks and roadways should consider traffic flow and aesthetics. The corner radius for 90-degree intersections should typically be 15'. Smaller radii (10' minimum) may be appropriate in special circumstances such as acute or obtuse angle intersections at which sidewalks intersect at planting beds, signage or other focal points.

Figure 5:3 Typical Intersection Treatment



Note: Refer to current NACTO and AASHTO Guidelines when developing bicycle facilities to determine required sign placement and trail design.

Figure 5:4 Fully Signalized Trail Crossing



Note: Refer to current NACTO, TMUTCD and AASHTO Guidelines when developing bicycle facilities to determine required sign placement and trail design.

SPINE TRAIL CORRIDORS

DESIGN OBJECTIVES

- Spine trails are the primary trails in the a hierarchy of trails and create a sense of place within Allen.
- Alignments should follow the landscape topography and natural drainage patterns to minimize retaining walls and steep slopes.
- Spine trails can be curvilinear and may include a combination of curving and straight segments. Serpentine (extreme curves) or sinuous (straight) trail alignments are not desirable and should be limited to instances where tree preservation or other obstructions necessitate such alignments.
- Spine trails should align with existing and future crosswalks at streets where conditions may apply. These intersections should incorporate handicap accessible ramps that meet the design criteria of ADAAG and TAS.

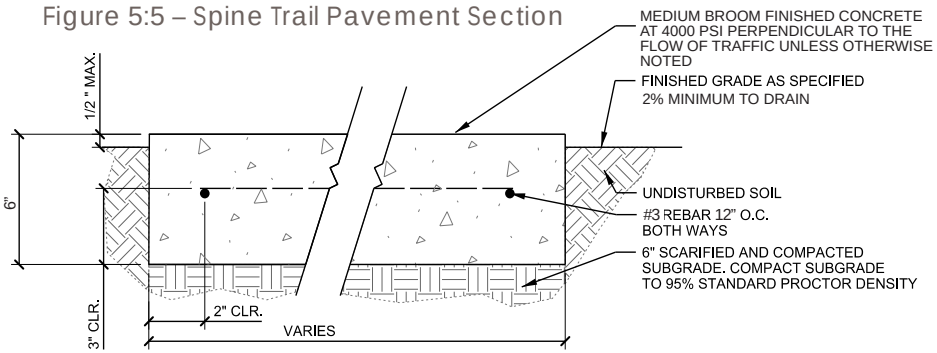
PAVEMENT STRUCTURE

The thickness of spine trail segments should be 6" minimum depth wherever heavy maintenance vehicles are expected to cross over the trail.

WIDTH & CLEARANCE

Hard surface spine trails within the City's system, which include a mix of bicycle, pedestrian, other non-motorized transportation, and maintenance vehicle traffic, should be 10'-12' in width. The optimum vertical clearance of obstruction over a trail is 10' or higher, to accommodate maintenance, patrol, and emergency vehicle access.

Figure 5:5 – Spine Trail Pavement Section



ON-STREET TRAILS & BIKEWAY FACILITIES

SHARED-USE PATHS

Shared-use paths are located adjacent to roadways, and usually within the street right-of-way. Unlike sidewalks, shared-use paths are typically wider with a minimum width of 10' and are intended for use by both pedestrians and bicyclists. When larger volume of pedestrian traffic is anticipated, the co-location of a shared-use path and sidewalk may be appropriate. Shared-use paths may be used on streets that are heavily trafficked and/or contain high vehicle travel speeds where bicycle and pedestrian interaction won't create continual conflict. They also accommodate two-way bicycle flow on one side of the street and are suitable on corridors without a high number of driveway crossings.

Benefits: Shared-use paths remove bicyclists from the roadway, while keeping them connected to the overall street network. This increases the users' sense of safety and comfort and encourages a wide variety of users.

Planning Estimated Costs (2018): Costs range from $600,000 per mile for a shared-use path without border curbs to $970,000 per mile for an asphalt surface with a separate sidewalk, $1.2 million per mile for greenbelt spine trails (not including bridges or boardwalks), and $1.5 million per mile for existing trail removal and new trail construction.

Table 5.1 On-Street Route Guidelines

Route Width	**Signed Routes:** no specific width **Shared Lanes**: 14.5' minimum outside lane (not including gutter) **Bike Lanes:** 4' minimum (not including gutter); 5' preferred Buffered Bike Lane; 4' minimum with 2' buffered striping; 5' preferred with buffer striping Cycle Tracks: 7.5' minimum
Surface	**All Routes**: pavement surfaces should be smooth, uniform in width and free of utility covers/lids, wide cracks, or longitudinal joints. Utilize bicycle-safe grates without longitudinal openings. Concrete or asphalt preferred. Brick, pavers, or stamped concrete is not recommended.
Other Facilities	Provide "No Parking" signage where appropriate. Provide directional, informational signage and pavement markings in the rights-of-way.

Note: These guidelines are in addition to AASHTO standards.

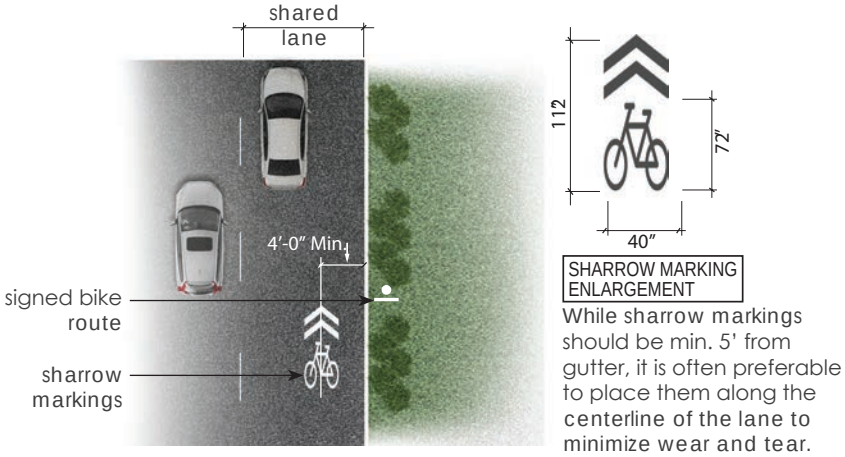
SHARED LANE

Streets where a travel lane is specifically designated to serve both bicyclists and motor vehicles are called shared lanes. The combination of modes is accompanied with pavement markings and signage. This application is usually used on streets where there is insufficient width for a bicycle lane but where bicycle travel is common. The shared lane marking suggests the general location within the lane of travel where bicycles may likely be found but does not necessarily confine the bicyclists to a rigidly defined path.

Benefits: Shared lanes are relatively inexpensive to implement. They provide guidance to bicyclists and contribute to wayfinding within the street cross-section. Motorists are also made aware of the presence of bicycles within the travel lane.

Planning Estimated Costs (2018): Costs for shared lane markings are typically $50,000 per mile for markings and signage on an existing street surface. Additional paving costs are not included in this estimate.

Figure 5:6 – Shared Bike Lane



Note: Refer to current NACTO, TMUTCD and AASHTO Guidelines when developing bicycle facilities to determine required sign placement, pavement warnings and trail design.

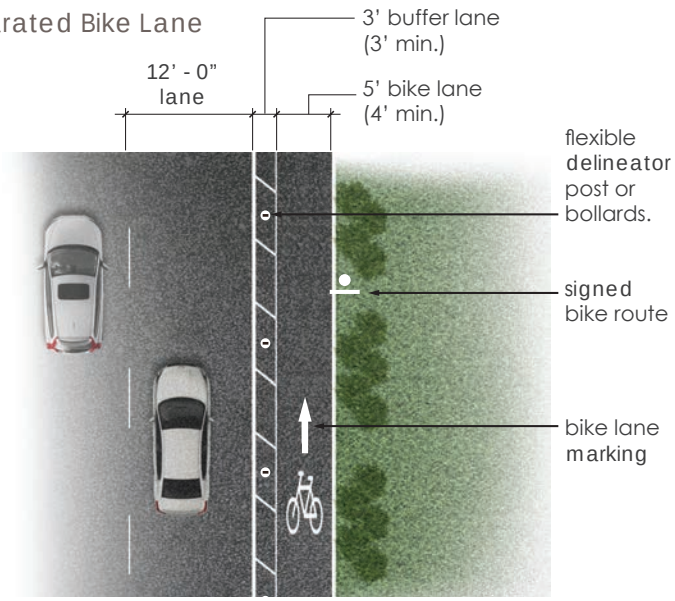
SEPARATED BICYCLE LANE

Separated bicycle lanes must be a minimum of 4' wide, (preferred width of 5') not including the curb and gutter. Bicycle lanes are for one-way travel and should be indicated as such through pavement markings in accordance with TMUTCD. Bike lane markings should be placed at the bike lane centerline and should be a reflective, non-skid material. Bike lanes should be continuous along a corridor and should not terminate or merge at major intersections. On major roads, bike lanes should terminate into off-street trails, cycle tracks, or bike lanes on intersecting streets. On minor roads, bike lanes can terminate into shared lanes or signed routes.

Benefits: The designated buffer area between the roadway and the bike lane increases distance between vehicles and bicyclists, thereby improving the perception of safety and comfort for bicyclists. The lane also increases the space available for bicyclists to maneuver to either pass other bicyclists or avoid hazards.

Planning Estimated Costs (2018): From $75,000 per mile for markings and signage on an existing street surface to $770,000 for markings, signage, and new paving as an addition to the roadway.

Figure 5:7 – Separated Bike Lane



Note: Refer to current NACTO, TMUTC and AASHTO Guidelines when developing bicycle facilities to determine required sign placement, pavement warnings and trail design.

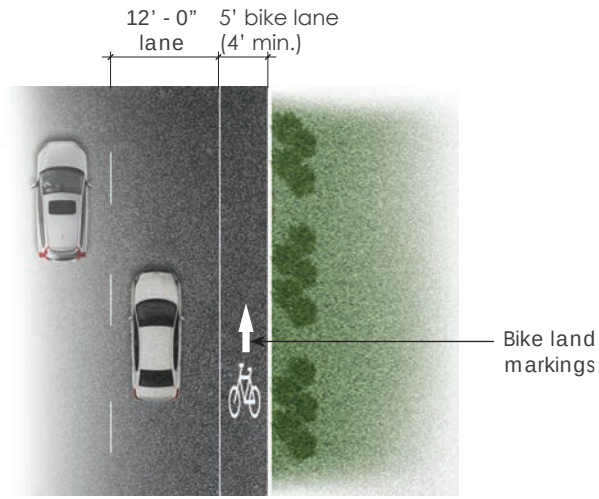
TYPICAL BICYCLE LANE

Bicycle lanes are designated by a lane stripe, pavement markings, and signage clearly defining areas of travel for bicyclists and motorists. Bicycle lanes promote the orderly flow of traffic by establishing specific lines of demarcation between lanes exclusively for bicyclists and lanes to be occupied by motor vehicles. Typically, the solid stripe of the bicycle lane is either eliminated or dashed prior to and through intersections, to allow for turning movements.

Benefits: Bicycle lanes provide separation between bicyclists and pedestrians, therefore increasing the perception of a safe space for cycling.

Planning Estimated Costs (2018): Bicycle lane costs range from $55,000 per mile for markings and signage on an existing street surface to $635,000 for markings, signage, and new paving as an addition to the roadway.

Figure 5:8 – Typical Bicycle Lane



Note: Refer to current NACTO, TMUTC and AASHTO Guidelines when developing bicycle facilities to determine required sign placement, pavement warnings and trail design.

TRAILS SIGNAGE & MARKINGS

TRAIL MARKER DESIGN STANDARDS

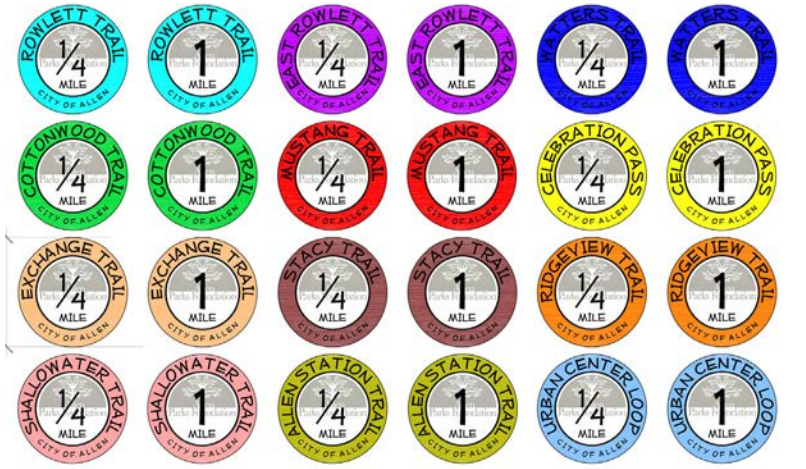
Trail markers are used to designate trail distance and a point of demarcation for safety and emergency situations. Trail markers should be installed at each trailhead, trail access point, and major trail intersection. Trail markers should also be installed along trails where they are visible from major roadways to increase the visibility of Allen's trail system.

MILEAGE MARKERS

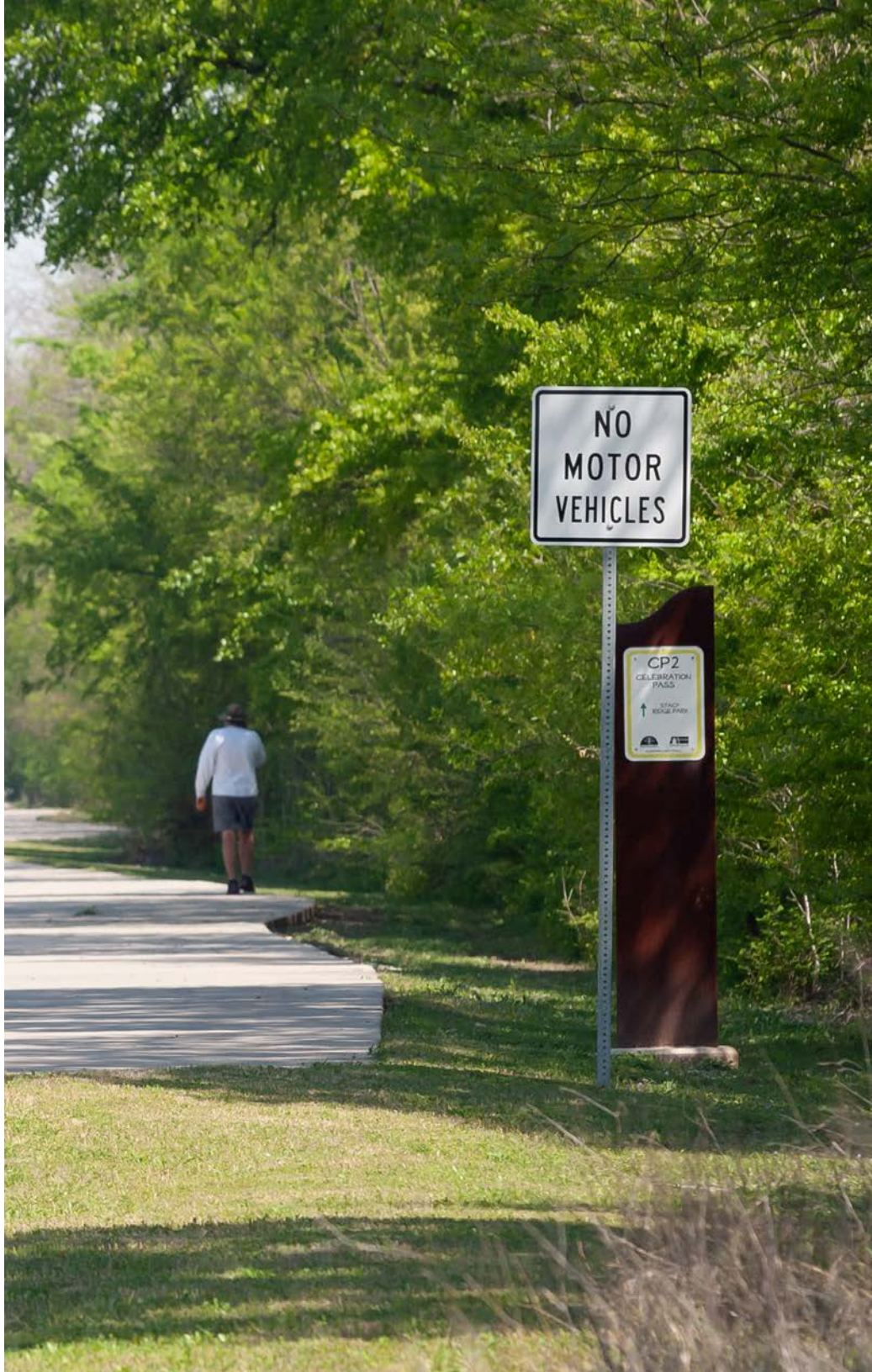
Mileage markers inform trail users of the distance traveled and allow users to determine whether their goals have been reached. They also help users identify trail locations for emergency services.

BIKE ROUTE SIGNAGE

Bike route signs should be used on roadways with shared lanes, bike lanes, and cycle tracks as well as on shared-use paths where applicable. Route signs should include the route number and destination information and be readable to bicyclists in motion. Route signs should be located at all intersections where the bike route changes direction. Additional signs should be located in accordance with AASHTO and TMUTCD standards.



COLORS FOR GRAPHIC PURPOSES ONLY AND ARE SUBJECT TO CHANGE



TRAFFIC CONTROL SIGNAGE

Crossing features for all roadways include warning signs for vehicles and trail users, based on facility type and location, and other criteria identified in the TMUTCD. Adequate warning distance is based on vehicle speeds and line of sight. Signage should be highly visible; capturing the attention of motorists accustomed to roadway signs may require additional alerting devices such as flashing warning beacons, roadway striping, or changes in pavement texture. Signage for trail users must include a standard stop sign and pavement marking; these traffic control devices are sometimes combined with other features such as bollards or bike lane markings in the trail to alert bicyclists of oncoming vehicular traffic. Care must be taken not to place too many signs or other traffic control devices at crossings as they tend to overwhelm the user and lose their impact.

Directional signage may be useful for trail users and motorists alike. For motorists, a sign reading "Bicycle Trail X-ing" along with the Allen trail emblem helps warn motorists and also can promote use of the trail. For trail users, directional signs and street names at crossings help direct people to their destinations. Various striping patterns have emerged over the years to delineate trail crossings. A median stripe on the trail approach to a crossing will help to organize and warn trail users of an approaching intersection.

COMMONLY USED BIKEWAY SIGNAGE

R9-7
THE SHARED-USE PATH RESTRICTION
Location: Installed on facilities that are to be shared by pedestrians and bicyclists

D4-3
BICYCLE PARKING AREA
Location: Installed where it is desirable to show the direction to a designated bicycle parking area. The arrow may be reversed as appropriate.

R9-5
USE PEDESTRIAN SIGNAL
Location: At crosswalk
Size: 12"x18" (min. for trails)

R9-6
BICYCLE YIELD TO PEDESTRIAN
Location: At crosswalk
Size: 12"x18" (min. for trails)

D11-1
BIKE ROUTE
Location: At the beginning of each route and at intersections
Size: 24"x18" (min. for trails)

R3-17
BIKE LANE
Location: Sign spacing should be determined by engineering judgment based on prevailing speed of bicycle and other traffic, block length, distances from adjacent intersections, and other considerations

R3-17A
AHEAD
Location: Should be mounted directly below a R3-17 sign in advance of the beginning of a marked bicycle lane

R3-17B
ENDS
Location: Should be mounted directly below a R3-17 sign at the end of a marked bicycle lane

D1-1B, D3-1
DIRECTIONAL SIGNS
Location: At intersections where access to destinations are available
Size: 24"x6" (min. for trails)

M4-11, 12, 13, M7-1,2,3,4,5,6,7
BIKE ROUTE SUPPLEMENTAL PLAQUES
Location: Where bike lanes begin, end, or change direction
Size: 12"x4", 12"x9" (min. for trails)

BIKE MAY USE FULL LANE

R5-3
NO MOTOR VEHICLE
Location: Entrance to trail
Size: 24"x24" (min. for trails)

W16-1
SHARE THE ROAD
Location: Where there is a need to warn motorists to watch for bicyclists traveling along the highway

W11-1
BICYCLE WARNING
Location: Orientated toward motorists at trail crossing
Size: 18"x18" (min. for trails)

W11-2
PEDESTRIAN WARNING
Location: Orientated toward motorists at trail crossing
Size: 18"x18" (min. for trails)

R1-1
STOP
Location: At trail intersections and crossings
Size: 18"x18" (min. for trails)

R1-2
YIELD
Location: At trail intersections and crossings
Size: 18"x18"x18" (min. for trails)

W3-1
STOP AHEAD
Location: Where stop sign visibility is obscured
Size: 18"x18" (min. for trails)

W3-2
YIELD AHEAD
Location: Where yield sign visibility is obscured
Size: 18"x18" (min. for trails)

W3-3
SIGNAL AHEAD
Location: Where traffic signal visibility is obscured
Size: 18"x18" (min. for trails)

W1-1,2,3,4,5
TURN & CURVE WARNING
Location: At turns and curves which exceed design speed criteria
Size: 18"x18" (min. for trails)

W2-1,2,3,4,5
TRAIL INTERSECTION WARNING
Location: At trail intersections where no stop or yield sign is required; locations with limited sight lines
Size: 18"x18" (min. for trails)

PLEASE STAY ON TRAIL
Location: In environmentally-sensitive areas of where the trail travels near wildlife and heavy vegetation
Size: 12" x 18" (minimum dimensions for trails)

TRAIL CLOSED: NO ENTRY UNTIL MADE ACCESSIBLE & SAFE FOR PUBLIC USE
Location: Where trail or access points are closed due to hazardous conditions or construction
Size : 18" x 18" (minimum dimensions for trails)

TRAIL REGULATIONS/RULES OF THE TRAIL
Location: Entrances to trail
Size : 18" x 18" (minimum dimensions for trails)

TRAILS FEATURES | AMENITIES

Adding appropriate trail features to a trail system enhances the user experience. As identified during the community workshop, citizens would like to see a variety of trail amenities throughout the City. The following is a summary of the trail amenities that should be considered throughout Allen's trail system. The Parks and Recreation Department will need to consider construction and maintenance costs associated with each and determine what the overall recreation and programming goals are for each trail.

BIKE RACKS

Parking for bicycles along trails and at key destinations was expressed as an important trail amenity by participants in the community workshop. As the community-wide trail system provides connections to many key city destinations, bike parking should be included to allow trail users to safely secure their bikes if they wish to stop along the way at parks and other desirable destinations. **An ordinance should be developed requiring all commercial areas and public facilities to provide bike racks.**

BIKE REPAIR STATIONS

Bike repair stations are self-service stations that are placed near bike parking where they are needed most. Repair stations generally include tools necessary to perform basic bike repairs and maintenance, from changing a flat tire to adjusting brakes and derailleurs.

FITNESS STATIONS

Fitness stations provide trail users with an opportunity to stretch, warm up, and cool down at a convenient location next to a trail. These fitness stations also provide users an opportunity to get more out of their workout with machines or static equipment that target different muscles.

DRINKING FOUNTAINS

Water fountains allow trail users and their pets to remain hydrated and fill up their water containers. Where feasible, drinking fountains should be located at all trailheads.

PET AMENITIES

Where appropriate, dog waste pickup bag dispensers should be placed at trailheads and key neighborhood access points along trails. Additionally, signs requesting dog owners to pick up after their dogs and keep them on their leash at all times should also indicate that pet waste stations are not located along the actual trails.

REST AREA / SHADE

Rest areas should be relaxing places containing shelter, shade, benches, and other places to sit. These areas may also contain enhanced landscaping, drinking fountains, trash receptacles, and informational signage. Rest areas should be strategically located to make trails more enjoyable and usable for all user groups.

TREES

Trees at or adjacent to trailheads should be provided as one (1) canopy tree per two (2) parking spaces (if the trailhead has parking) or a minimum of eight (8) total canopy trees. Three (3) ornamental trees are equivalent to one (1) canopy tree if desired.

SIGNAGE / MAPS / KIOSKS

To assist users in navigating the trail system, directional signage, maps and/or kiosks should be provided that contain important trail information. Such features can inform trail users of their location, the length of the trail, the location of trail amenities, and what to anticipate further along the trail.

WAYFINDING SIGNAGE

Wayfinding signage should be provided at each major and minor trailhead and should include a map of the City's trail system at a minimum.

INFORMATIONAL SIGNAGE

Informational signage can provide a variety of useful information to the trail user. Information displayed can range from historical and environmental features to facts about native wildlife and habitat near the trail. Informational signage enhances the user experience and provides interesting information.

PARKING

For trail access points that are not in parks, parking should be provided at trailheads when feasible. Parking at trail entrances is convenient for those living further from the trail network and provides a place to park for those that transport their bicycle to a trail entrance with their truck or car.

LIGHTING

Pedestrian-scale lighting improves safety and enables the trail to be used for longer hours year-round. It can also enhance the trail's aesthetic beauty. Considerations should be given to the time of day that the lights are used and whether they should have a motion sensor or photo-electric cell controller to reduce energy costs. Areas designated for trail lighting will be determined on a case-by-case basis.

BRIDGES & LOW WATER CROSSINGS

All bridge designs are to be sealed by a registered Texas Professional Engineer and should meet the City of Allen Engineering Guidelines. Low water crossings should not exceed 4' from path to flowline of the waterway or ravine unless approved by the City Engineer. Low water crossings should have a widened shoulder to 5' on both sides of the trail. The headwall structure under the trail should have gently sloping wing walls constructed with the headwall no steeper than 8:1. The pipe ends shall be finished at the same repose of slope as the wing walls. Any crossing exceeding this 4' vertical separation shall require construction of a bridge to permit the construction of ADAAG and TAS-compliant trail.

CULVERT OUTFALL STRUCTURES

Existing culvert pipe structures may need modification to meet trail safety and aesthetic standards. Culvert outfalls should occur on the downhill side of trails. Outfall structures should feature stone veneer or concrete form liners to provide a more aesthetically-pleasing appearance.

TRAIL SAFETY RAILING

Railings should be decorative, safe, meet AASHTO standard, and placed between the trail and embankments or other vertical displacements when such topographical features are within 5' of the trail shoulder. The top of railings, fences, or barriers on either

side of a trail structure should be 4' higher than the trail surface. Railing ends should be angled downward and flared away from the trail at both ends to prevent injury. Railing rungs should be horizontal in orientation so as not to catch bicycle handlebars. The bottom rung of a railing should be 4" from the finished trail grade. Trail safety railings should also be in accordance with the 2015 International Building Codes.

TRAIL OVERLOOKS

Overlooks should typically be placed in scenic areas such as creeks, rivers, lakes, prairie landscapes, and areas of cultural or historical importance. It is preferable to site overlooks so that the removal of existing trees is not required. Ideally, overlooks should be situated every one to three miles along major trail corridors. The design of individual overlooks can vary based on unique site conditions such as topography and drainage.

TRASH RECEPTACLES

Trash and recycling receptacles play an essential role in maintaining the cleanliness of a trail system. The receptacles allow trail users to dispose of any trash or other refuse and should be located at regular intervals along the trail, as well as trail intersections, rest areas, fitness stations, trailheads, and parking areas.

GATEWAY ENHANCEMENTS

Creating enhanced trailheads and entry gateways at key locations along trails is important as markers in the system. These gateways signify access points and can be added as the trail system grows and connects to more areas.

TRAILHEADS

Trailheads (for major trails) serve as a primary access point to the trail system. Trailhead stations should provide trail users with information such as trail rules and regulations. Trailhead amenities should also be considered such as parking areas, restrooms, drinking fountains, trash receptacles, information kiosks (maps and points of interest), and destination signage with mileage.

TRAILHEADS & ACCESS POINTS

DESIGN OBJECTIVES

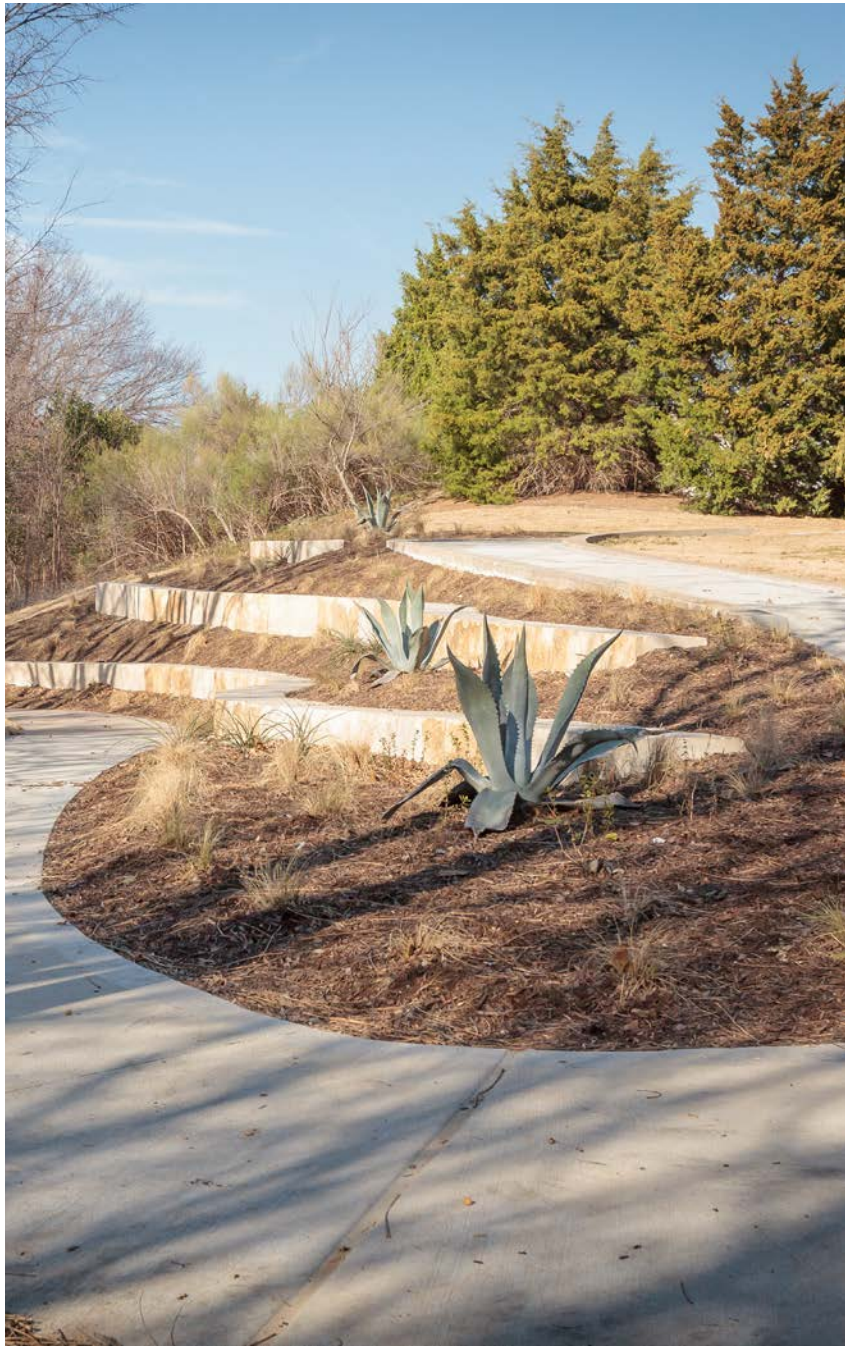
- Provide transition between motorized and non-motorized transportation and recreational systems.
- Create a unique entry to the trail system through hardscape and landscape features that support aesthetic guidelines established in these standards.
- Encourage utilization of trail and bicycle routes as alternative transportation paths within the city.
- Provide access to a variety of destinations, streets, and trails.
- Utilize existing facilities such as schools, civic facilities (library, city hall, etc.), and parks as trailheads.
- Establish a hierarchy of major trailheads, minor trailheads, and access points.
- Encourage shared use of parking when appropriate and when such shared use would not have a negative impact on the primary parking lot user.

TRAILHEAD DESIGN STANDARDS

- **TRAIL MARKERS:** A minimum of one **(1) trail marker** shall be provided at each major and minor trailhead in a location that indicates it as a primary trail access point.
- **PARKING:** A minimum of fifteen **(15) parking spaces** and one **(1) handicap space** shall be provided at major trailheads. A minimum of ten **(10) spaces** and one **(1) handicap space** shall be provided at minor trailheads. In both instances, the handicap parking space must be van accessible. Sidewalks shall connect handicap spaces to the trails and the parking lot shall be signed for trailhead usage.
- **BIKE RACKS:** Bike racks approved by the City shall be provided at a ratio of one **(1) bike space** for every two **(2) car parking spaces**. No less than five **(5) bike spaces** shall be provided in a rack at any trailhead.
- **DRINKING FOUNTAINS:** One **(1) drinking fountain** approved by the City shall be provided within 30' of benches and bike racks. Drinking fountains shall comply with City standard specifications.
- **BENCHES:** One **(1) bench** approved by the City for every three **(3) parking spaces** shall be provided, with minimum of five **(5) benches** provided at major trailheads and three **(3) benches** provided at minor trailheads.
- **LIGHTING:** Parking lots and trail intersections shall be lighted to a minimum of ½ footcandle with appropriate commercial light fixtures and no spillover to adjacent properties. Solar powered lighting is encouraged.
- **TRAIL TERMINATION:** Trails that terminate at trailheads shall be designed with landscape traffic control measures for buffering and guiding the direction of pedestrian and bicycle traffic.
- **TREES:** Trailheads shall provide one **(1) canopy tree** per two **(2) parking spaces** with a minimum of eight (8) trees required. Three **(3) ornamental trees** shall equal one **(1) canopy tree**. (See Landscape Ordinance for minimum sizes and specifications for shade and ornamental trees).
- **IDENTIFICATION:** Trailheads shall be identified by trail markers.
- **SIGNAGE:** Directional and **wayfinding signage** shall be provided at each major and minor trailhead and shall include a map of the City's trail system at a minimum.

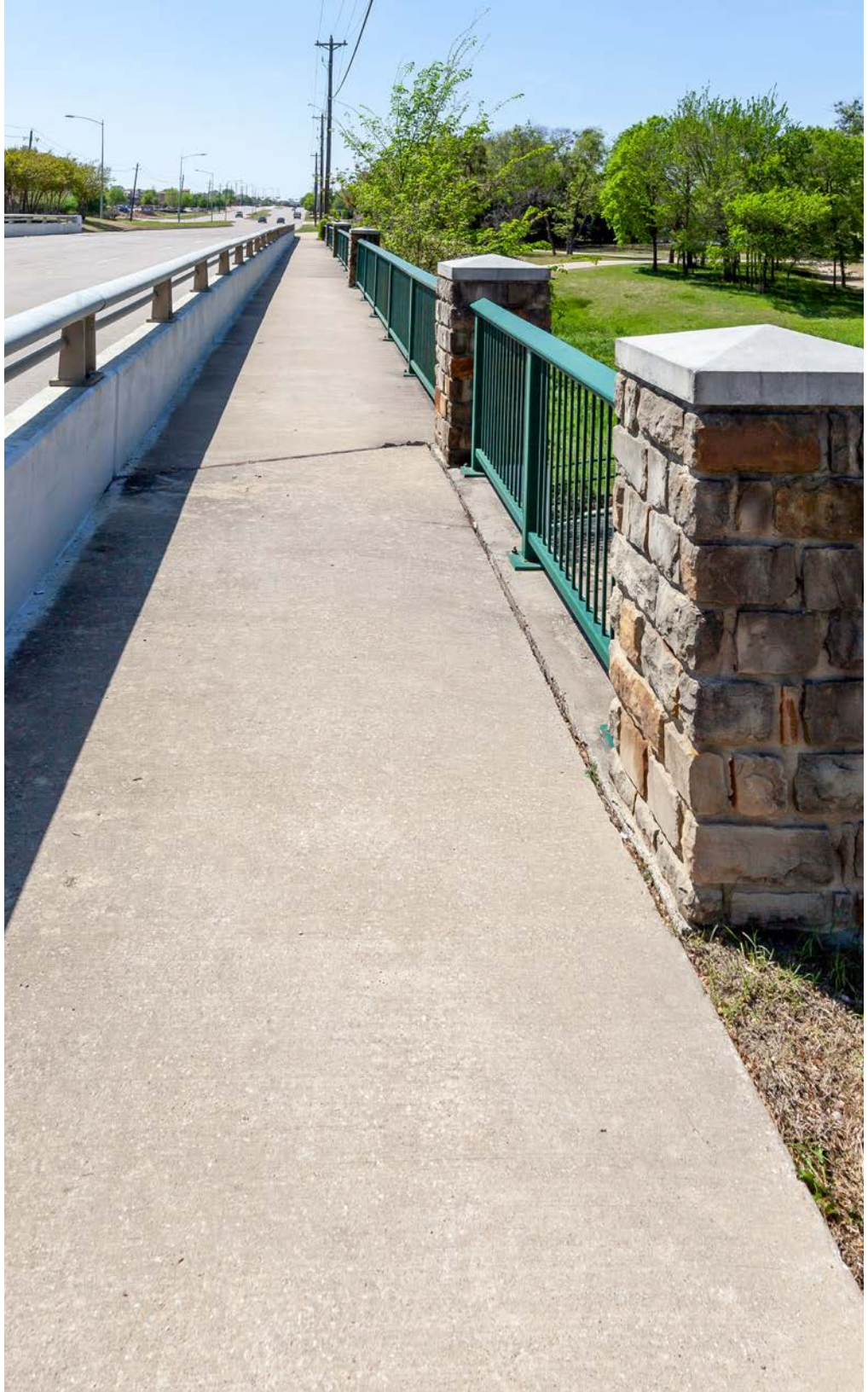
TRAIL GATEWAY ACCESS POINT DESIGN STANDARDS

- **TRAIL MARKERS:** One **(1) trail marker** shall be provided at each access point.
- **PARKING:** Off-street parking is not required at trail access points given that they are often located in neighborhoods and users will primarily arrive via bicycle or by foot.
- **BIKE RACKS:** One **(1) bike rack** (holding capacity of five bikes) shall be provided at all trail access points.
- **DRINKING FOUNTAINS:** No drinking fountains are required at access points.
- **BENCHES:** One **(1) bench** approved by the City shall be provided.
- **TRASH RECEPTACLE:** One **(1) trash receptacle** approved by the City shall be provided.
- **TRAIL TERMINATION:** Trails that terminate at trail access points shall receive landscape traffic control measures for buffering and direction of pedestrian and bicycle traffic.



IMPLEMENTATION

- SAFETY & PROPERTY VALUE IMPACTS
- INFRASTRUCTURE DEVELOPMENT
- MISCELLANEOUS PROJECTS
- FUNDING STRATEGIES



SAFETY AND PROPERTY VALUE IMPACTS

This chapter provides guidance to the city for the effective implementation of the on and off-street trails and bikeways and bike routes. The focus of this chapter is to prioritize the trail segments, establish phasing, estimate system-wide costs, and provide guidance on funding strategies, maintenance issues, safety and security concerns.

Concerns over public safety and detrimental impacts to property values are common when discussing new trail developments. These concerns include loss of privacy by residents adjacent to the trail, vandalism, litter, arson, assault and even wild animal attacks. In response to these concerns, several relevant documents were reviewed. This included the following:

1. Evaluation of the Burke-Gillman Trail's Effect on Property Value and Crime, by the Seattle, WA Engineering Department
2. The Impact of Brush Creek Trail on Property Values and Crime, by Michelle Miller Murphy of Sonoma State University
3. The Effect of Greenways on Property Values and Public Safety, by Colorado State Parks

Each of these studies was prompted by citizen concerns that trails may negatively impact adjacent properties. Each of the studies involved surveys of residents living adjacent to trails, law enforcement officers that patrol trails and real estate agents actively involved with selling of homes adjacent to trails.

Real estate agents often view trails as an amenity that helps to attract buyers and assist in shortening marketing time for homes close to trails. People who live along trails and greenways consider them lifestyle amenities. Though trails are not crime free, claims that trails are a detriment to public safety are not substantiated by these studies. The general consensus of these studies is that **trails provide numerous benefits to the neighborhoods around them, and they increase the desirability of property close to the trail and provide space for people to recreate.** Though these studies conclude that trails have an overall positive benefit to a community, this by no

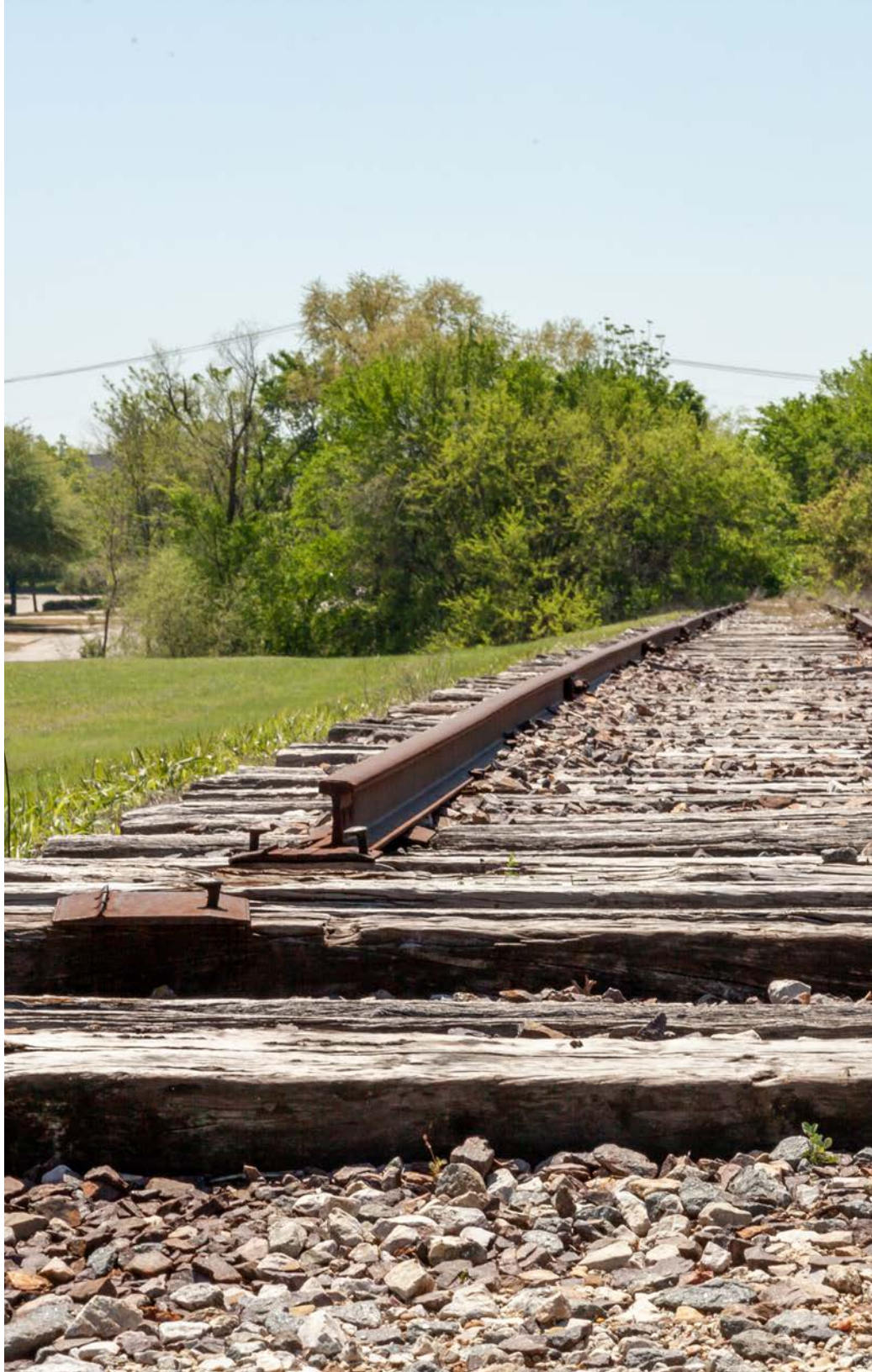
means implies that just building a trail automatically translates into a successful trail. Developing trail regulations, effective law enforcement, management, maintenance and building a strong sense of community ownership of a trail are essential to a trails success.

DEVELOPING TRAIL REGULATIONS

The purpose of trail regulations is to promote user safety and enhance the enjoyment of the trail by all users. It is imperative that before a trail is opened, it must include posted trail use regulations at trailheads and other key access points. Trail maps and informational materials should include these regulations as well. Establishing trails as a regulated traffic environments like other public rights-of-way is critical for compliance and often results in a facility requiring minimal law enforcement. The City may also desire to post penalties for violators. The City should review proposed trail regulations with their City's legal advisor for consistency with existing ordinances and enforceability. The proposed recommendations are outlined below:

- Motorized vehicles prohibited (except emergency, maintenance vehicles, and approved ADA mobility devices)
- Keep pets on a leash and pick up after them
- Stay to the right except when passing
- Give a clear, audible warning signal before passing
- As a courtesy to other trail users and neighbors, refrain from loitering near adjacent homes
- Bicyclists yield to pedestrians/slow when approaching and passing
- Help keep the trail clean
- Exercise caution and obey all traffic laws at all intersections

This set of rules, when posted at trailheads, should include a curfew (typically with a sunset to sunrise closure policy). These rules should be posted conspicuously at trailheads and other major access points along the trail. A trail brochure with a map and trail rules should be developed and updated as new trails are added. Additionally, to adapt to modern modes of transportation such as electric bikes and scooters, policies should be implemented to regulate their use on trails.



ENVIRONMENTAL IMPACTS

Trails have the capacity to change the timing, quantity, and quality of runoff by "short-circuiting" the natural hydrologic system and delivering both sediments and water directly to streams, wetlands and riparian resources. Accurately accounting for wetlands, streams and riparian areas in physical proximity to the trail is an important element of trail planning. The location of these potential "receiving resources" for trail drainage and associated sediments will affect decisions about placement of trail drainage structures, maneuvering of maintenance equipment, season of work, interception and infiltration of trail drainage and disposal of earth materials generated during maintenance activities. For this reason, care should be taken to minimize the impacts of trails on these resources. Practices to achieve this protection include:

- Identify and map water resources within 200 feet of the trail system
- Minimize channel crossings and changes to natural drainage patterns
- Minimize the hydrologic connectivity of trails with streams, wetlands and other water resources
- Avoid operating heavy equipment on trails when they are wet
- Retain a buffer between trails and water resources by establishing riparian and streamside management zones, within which the impacts of trails such as drainage and disturbance are minimized
- Post signs that explain the impact of and prohibit the use of natural surface trails by mountain bikes and horses during wet condition

INFRASTRUCTURE DEVELOPMENT

SPINE TRAIL PROJECTS

The individual spine segments identified in this section represent the primary priority trail projects for the City of Allen. Due to their prominence and regional connectivity, these spine segments have been identified. However, during the implementation of this Trails & Bikeways Master Plan, the City may identify minor facility segments in other locations that justify being given priority over certain spine segments based on their ease of implementation or degree of connectivity. Recommendations focus on building spine trails with other minor connections as the community requires. **Figure 6:1** represents all of the recommended trails and existing trails. **Figure 6:2** on page 82 represents the priority segments.

PHASING

In addition to the priority rankings discussed in the trail segment descriptions that follow, the trail segments have been assigned as priority segments for installation or reconstruction. Each set of segments, which—once fully implemented—will achieve a major milestone in the completion and enhancement of the City's trail system. As such, it is recommended that the segments in each phase be implemented in rapid succession where possible.

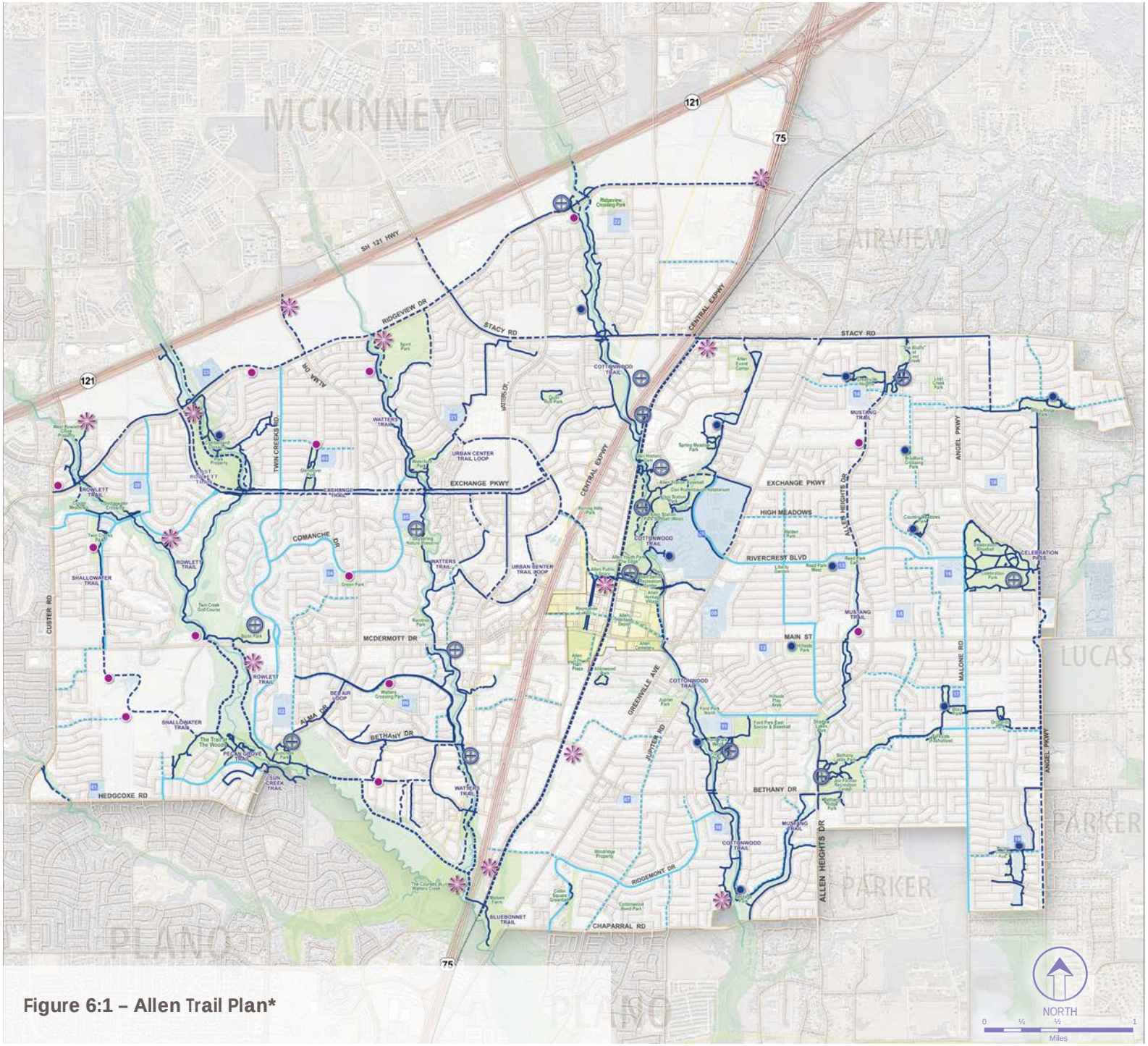


Figure 6:1 – Allen Trail Plan*

*Map includes private trails.

LEGEND

- Existing Trails
- Proposed Trails
- Existing On-Street Bikeways
- Proposed on Street Bikeways
- Existing Trailheads
- Existing Access Points
- Proposed Trailheads
- Proposed Trail Access Points

SCHOOLS

01 **Beverly** Elementary School
02 **Ereckson** Middle School
03 **Kerr** Elementary School
04 **Green** Elementary School
05 **Dr ET Boon** Elementary School
06 **Frances E Norton** Elem. School
07 **Boyd** Elementary School
08 **Allen** High School
09 **Lowery** Freshman Center
10 **Vaughan** Elementary School
11 **Ford** Middle School
12 **Rountree** Elementary School
13 **Gene Reed** Elementary School
14 **Marion** Elementary School
15 **Anderson** Elementary School
16 **Curtis** Middle School
17 **Story** Elementary School
18 **Olson** Elementary School
19 **Carlena Chandler** Elem. School
20 **Evan** Elementary School
21 **Beverly Cheatham** Elem. School
22 **Jenny Preston** Elem. School
23 **S.T.E.A.M.** Center

LEGEND

- Existing Trails
- Proposed Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Existing 12' Trails (OR Future 12' Trails)
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing Trailheads
- Existing Access Points
- Proposed Trailheads
- Proposed Trail Access Points

SCHOOLS

01 **Beverly** Elementary School
02 **Ereckson** Middle School
03 **Kerr** Elementary School
04 **Green** Elementary School
05 **Dr ET Boon** Elementary School
06 **Frances E Norton** Elem. School
07 **Boyd** Elementary School
08 **Allen** High School
09 **Lowery** Freshman Center
10 **Vaughan** Elementary School
11 **Ford** Middle School
12 **Rountree** Elementary School
13 **Gene Reed** Elementary School
14 **Marion** Elementary School
15 **Anderson** Elementary School
16 **Curtis** Middle School
17 **Story** Elementary School
18 **Olson** Elementary School
19 **Carlena Chandler** Elem. School
20 **Evan** Elementary School
21 **Beverly Cheatham** Elem. School
22 **Jenny Preston** Elem. School
23 **S.T.E.A.M.** Center

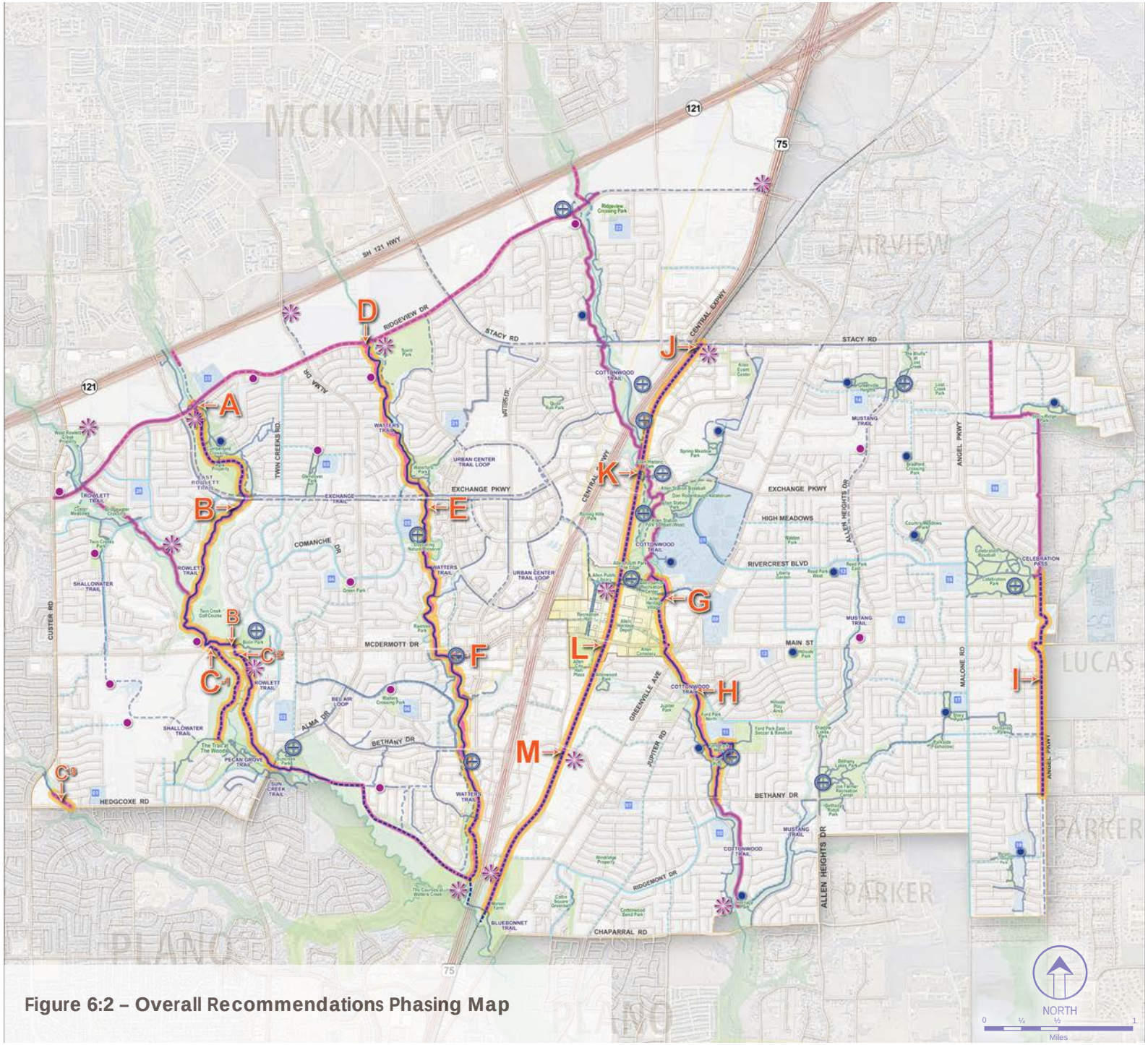


Figure 6:2 – Overall Recommendations Phasing Map

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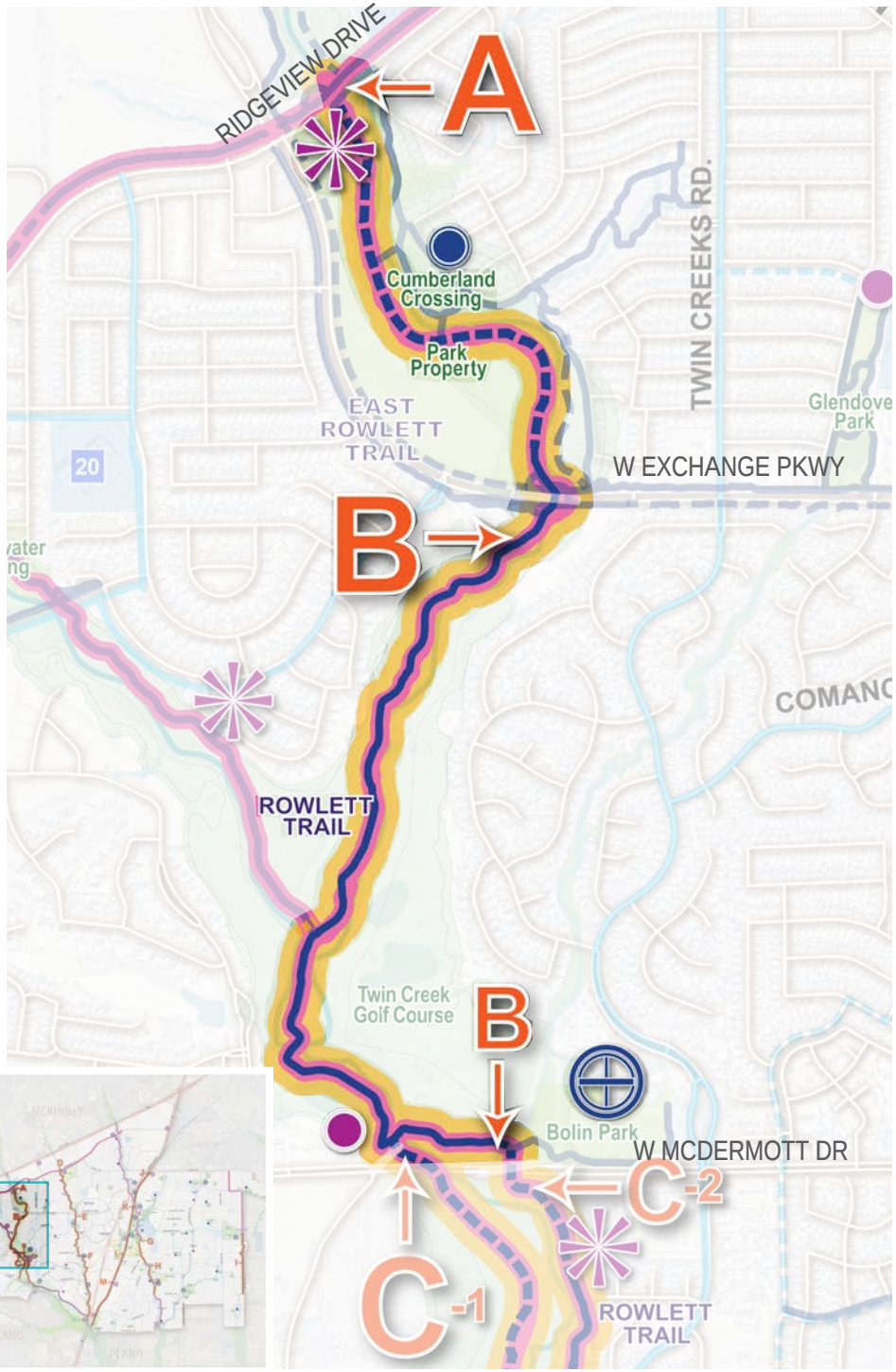
SEGMENTS A & B

Description:
Segment A is a proposed northern segment of Rowlett Trail that will begin at the south right-of-way of Ridgeview Drive west of Rowlett Creek. The proposed 12' wide off-street trail will serve as point of connection from the existing trail segment north of Ridgeview Drive to Segment B at W Exchange Parkway. East of the proposed segment location is an existing trail access point within the Cumberland Crossing neighborhood that will provide trail entry from the existing bridge crossing and trail route adjacent to the neighborhood development east of Rowlett Creek.

Segment B is an existing 8' wide trail segment of Rowlett Trail that traverses through the Twin Creeks Gold Course, beginning at W. Exchange Pkwy west of Rowlett Creek, ending at W. McDermott Drive near Bolin Park where an existing trailhead is located.

Width and Type:
Segment A - Proposed 12' width, Off-Street Trail
Segment B - Existing 8' width (future 12' wide trail), Off-Street Trail

Trail Type	Length	Estimated Cost
Segment A - Off-street Trail	+/- 3,830 LF | .72 mi	$864,000.00
Segment B - Off-street Trail (Existing)	+/- 7,831 LF | 1.48 mi	$2,220,000.00
Total	+/- **11,661 LF | 2.20 mi**	**$3,084,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

0 1/4 1/2 1
MILES

SEGMENTS C-1, C-2, C-3

Description:
Segment C-1 and Segment C-2 are proposed southern segments of Rowlett Trail that will begin at W McDermott Drive connecting into the existing 8' wide trail segments of Rowlett Trail to the south.

Segment C-3 is a proposed 12' wide trail that will connect into an existing 10' wide segment located east of Russell Creek. The segment will serve as a continuation of the Russell Creek Greenbelt trail located in Plano, ending at Hedgcoxe Rd (the City of Allen and Plano border).

Width and Type:
Segment C-1 - Proposed 12' width, Off-Street Trail
Segment C-2 - Proposed 12' width with a 10' existing segment (10' segment shall remain), Off-Street Trail
Segment C-3 - Proposed 12' width, Off-Street Trail

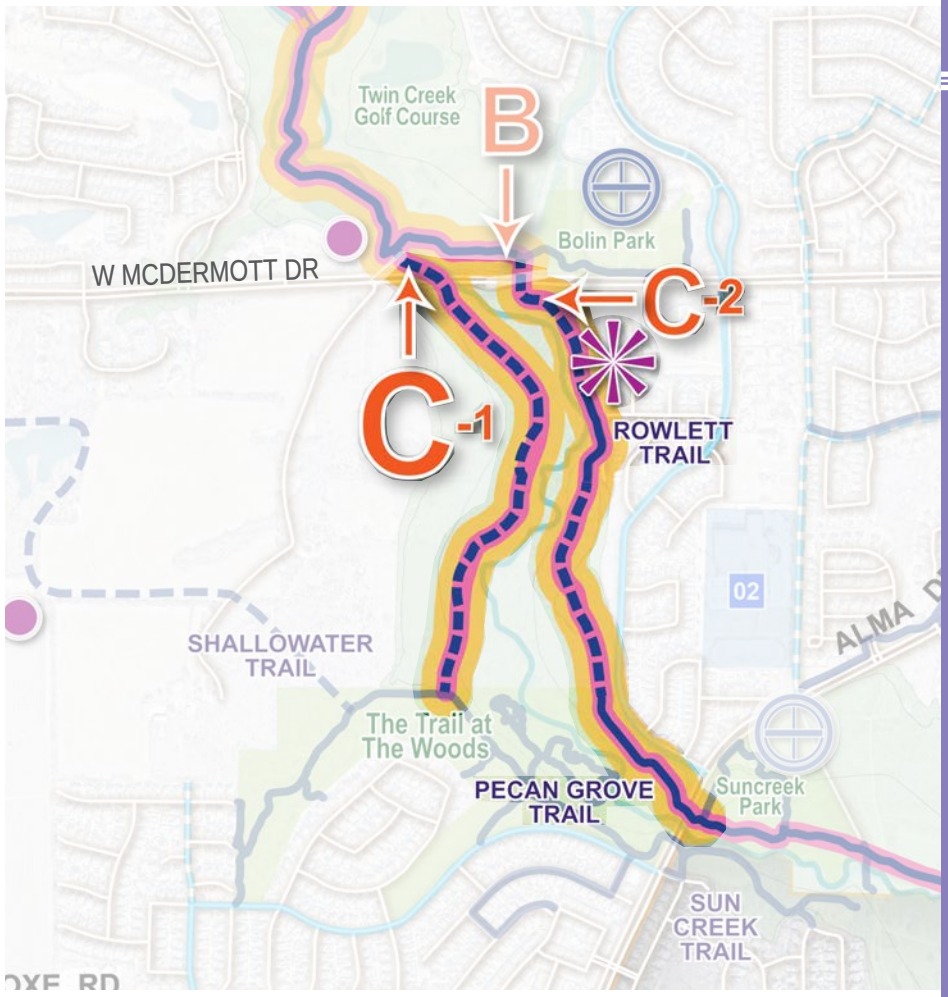
Trail Type	Length	Estimated Cost
Segment C-1 Off-street Trail	+/- 4,013 LF | .76 mi	$996,000.00
Segment C-2 - Off-street Trail	+/- 4,839 LF | .92 mi	$1,104,000.00
Segment C-3 - Off-street Trail	+/- 770 LF | .14 mi	$168,000.00
Total	**+/- 8,974 LF | 1.69 mi**	**$2,268,000.00**

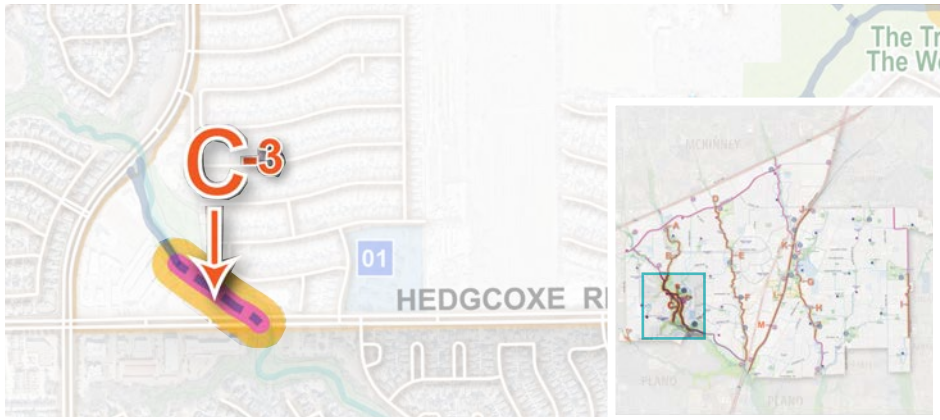
LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

0 1/4 1/2 1
MILES



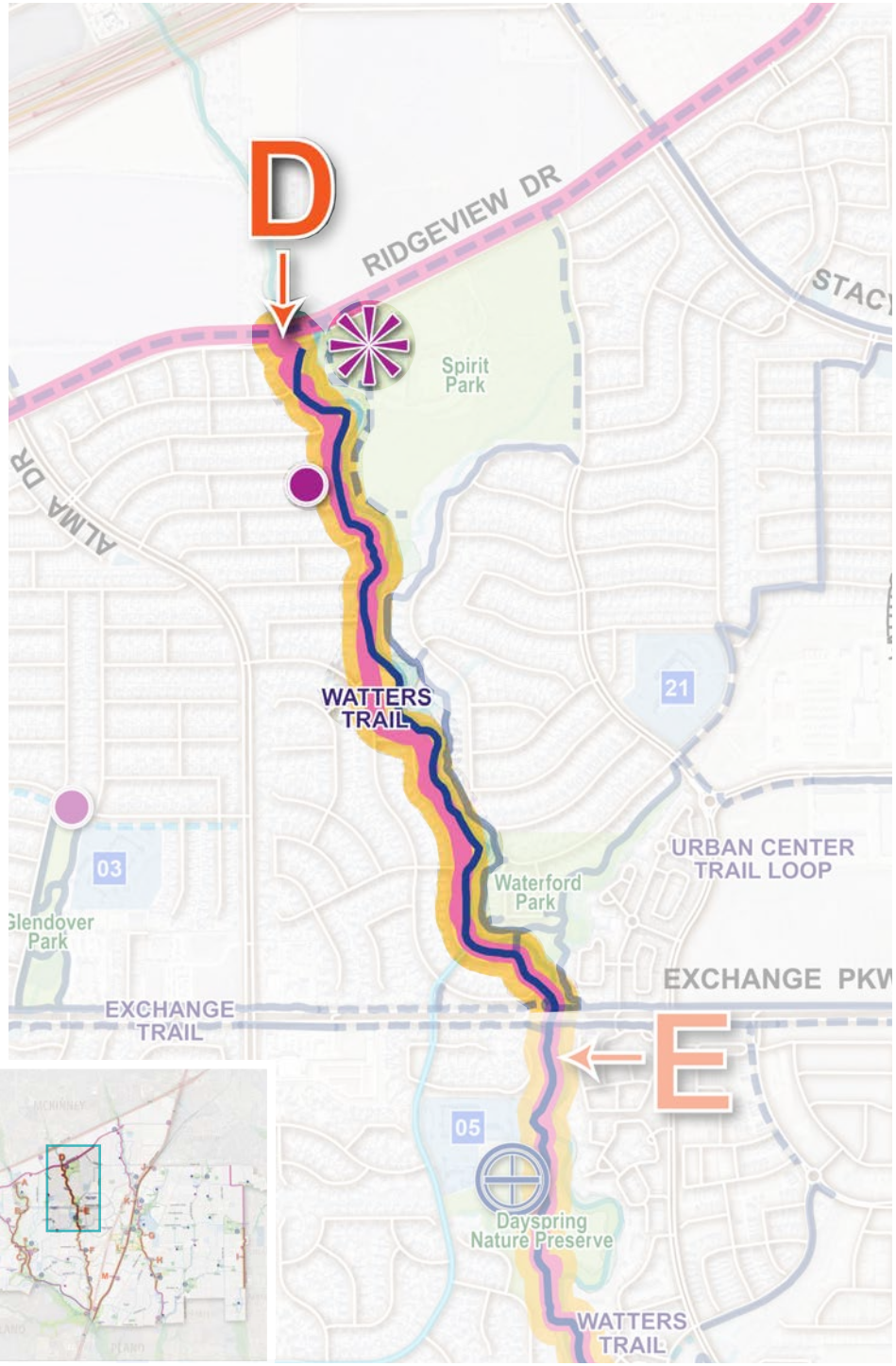


SEGMENT D

Description:
Segment D is the existing northern segment of Watters Trail that begins at Ridgeview Drive ending at Exchange Parkway. The trail runs west of Watters Creek but can be accessed of the creek via a pedestrian bridge near Waterford Park. Adjacent to the existing trail is a proposed trailhead at Spirit Park and a proposed trail access point for the neighborhood west of Segment D.

Width and Type:
Segment D - Existing 8' width (future 12' width), Off-Street Trail

Trail Type	Length	Estimated Cost
Segment D - Off-street Trail	+/- 6,672 LF | 1.26 mi	$1,890,000.00
Total	+/- **6,672 LF | 1.26 mi**	**$1,890,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

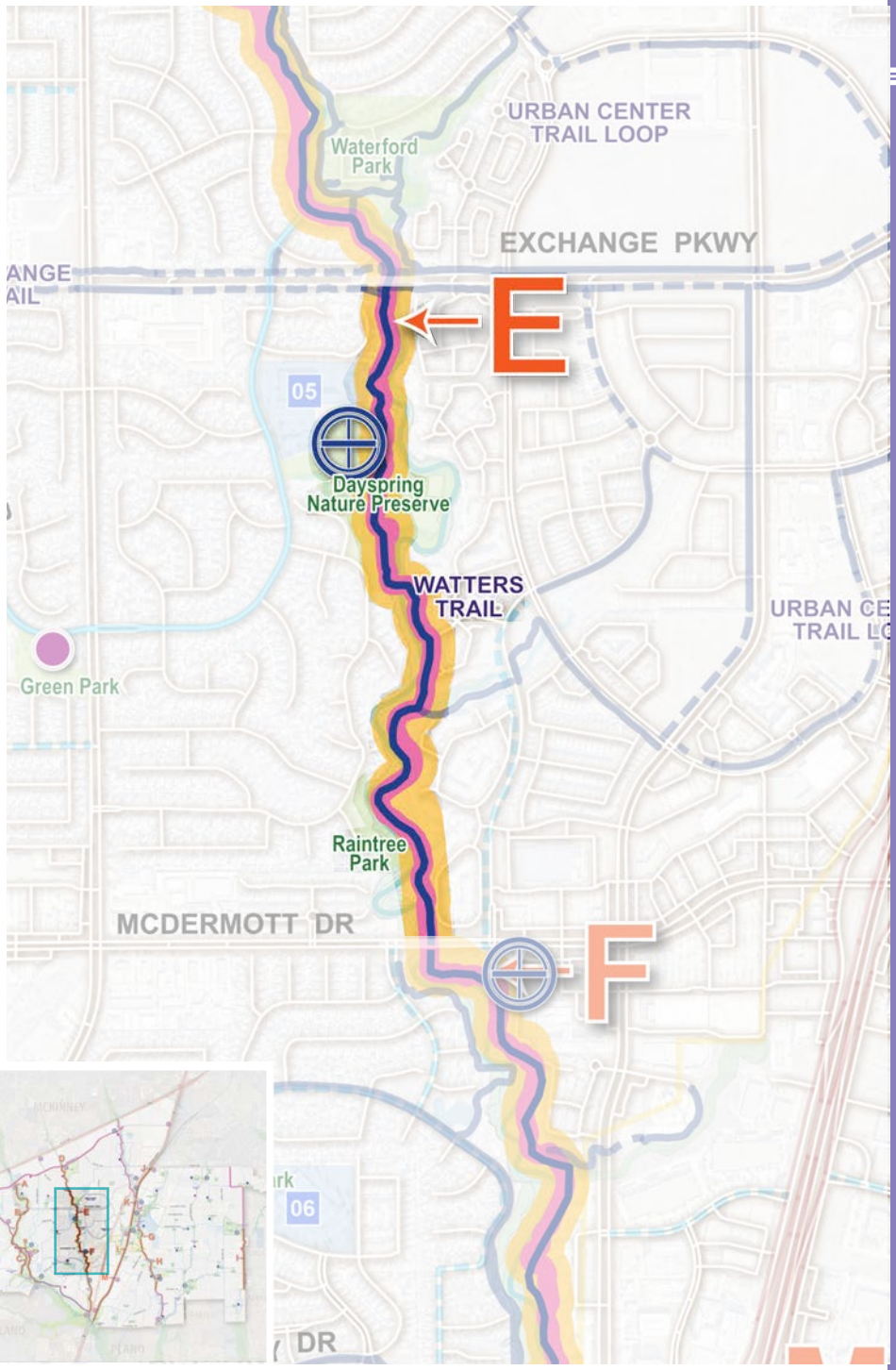
0 1/4 1/2 1
MILES

SEGMENT E

Description:
Segment E is an existing trail segment of Watters Trail that begins at W. Exchange Parkway, east of Watters Creek, eventually crossing via a pedestrian bridge to the west of Watters Creek. This segment serves as a point of connection for Dr. E.T. Boon Elementary School, Dayspring Nature Preserve, and the adjacent residential neighborhoods.

Width and Type:
Segment E - Existing 8' width (future 12' width), Off-Street Trail

Trail Type	Length	Estimated Cost
Segment E - Off-street Trail	+/- 6,144 LF | 1.16 mi	$1,740,000.00
Total	+/- **6,144 LF | 1.16 mi**	**$1,740,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

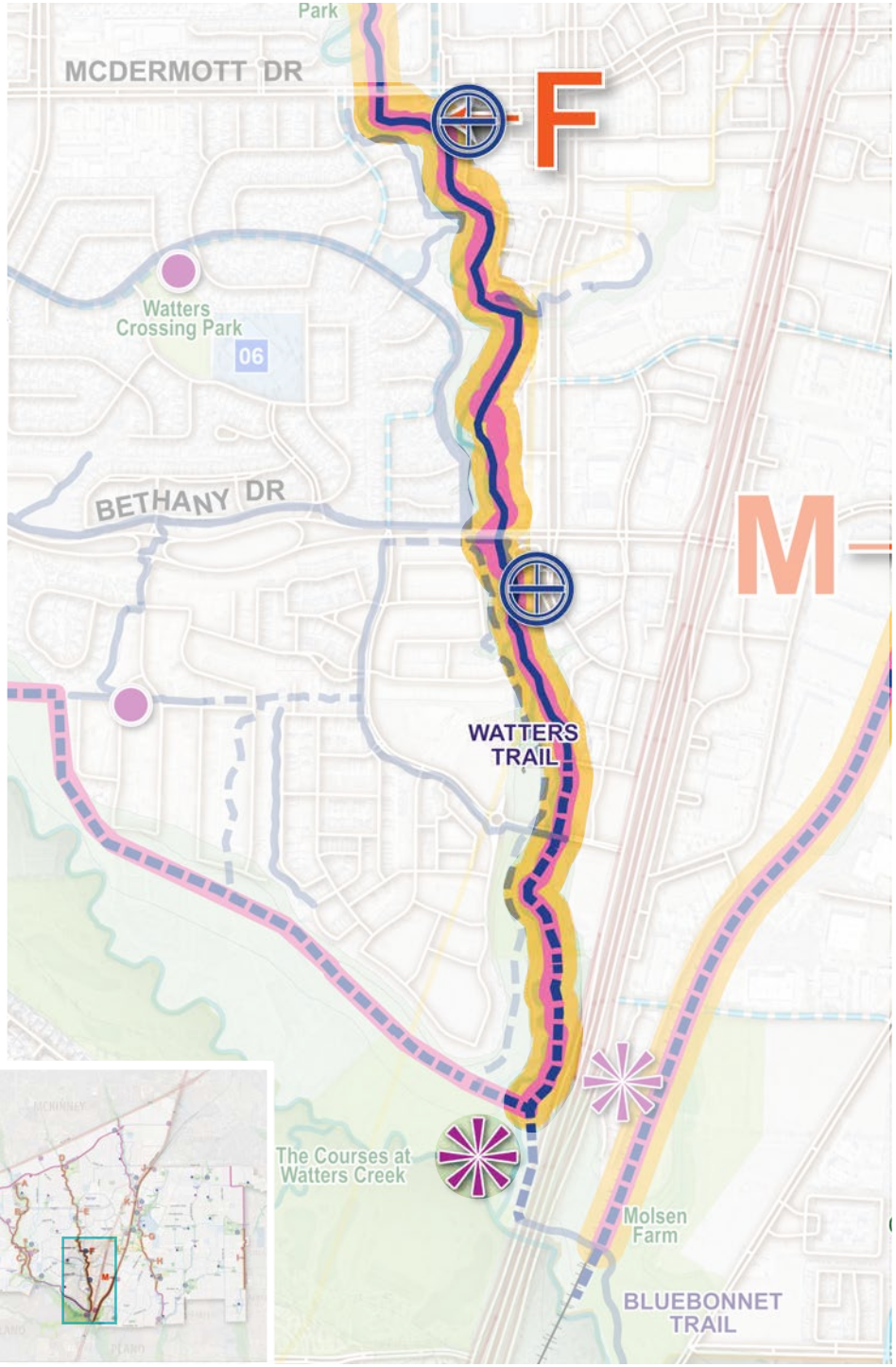
0 1/4 1/2 1
MILES

SEGMENT F

Description:
Segment F is the southern 8-12' wide portion of Watters Trail. The existing trail begins at McDermott Drive ending at Bethany Drive. The proposed portion of the trail picks up at Bethany Drive, terminating at the existing Bluebonnet Trail that connects into Plano. There are two existing trailheads providing access to the route that need to be evaluated for future improvements.

Width and Type:
Segment F - Existing 8 -12' widths (future 12' width), Off-Street Trail

Trail Type	Length	Estimated Cost
Segment F - Off-street Trail (Existing)	+/- 6,424 LF | 1.21 mi	$1,815,000.00
Segment F - Off-street Trail (Proposed)	+/- 3,003 LF | 0.56 mil	$672,000.00
Total	+/- **9,427 LF | 1.77 mi**	**$2,487,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

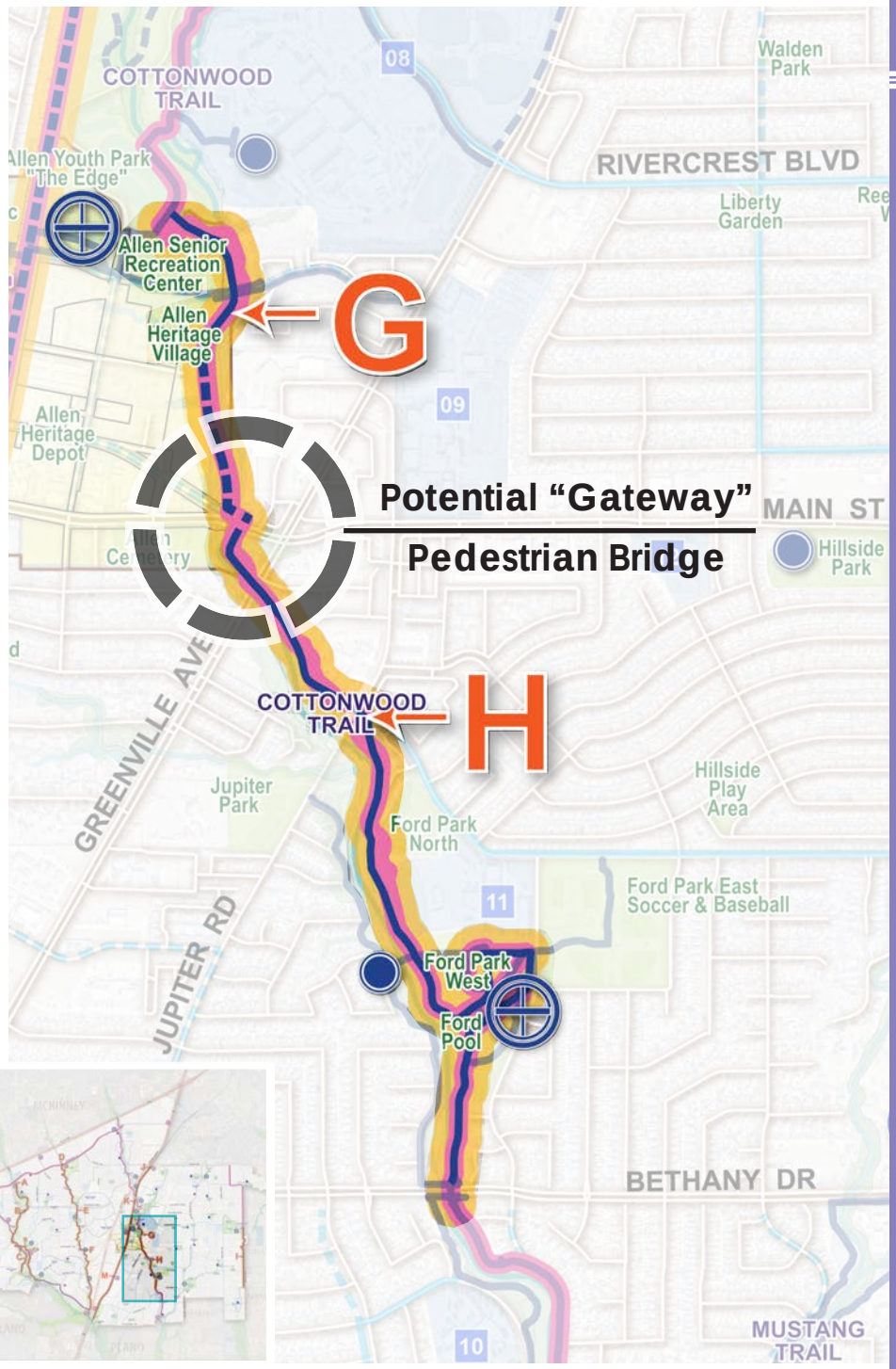
0 1/4 1/2 1
MILES

SEGMENTS G & H

Description:
Segments G and H are located within the southern portion of Cottonwood Trail that begins in Allen's Central Business District (CBD), through Ford Park to Bethany Drive. There is an existing trail gap adjacent to the CBD that the proposed part of Segment G will complete. Within this corridor, there are two segments of the trail with varying widths of 8 to 12 feet, that has been identified as a priority trail that needs to be converted to 12 feet overall.

Width and Type:
Segment G - Existing 8 - 10' width (future 12' width), Off-Street Trail
Segment H - Existing 8 - 12' width (future 12' width), Off-Street Trail

Trail Type	Length	Estimated Cost
Segment G - Off-street Trail (Existing)	+/- 1,956 LF | .37 mi	$555,000.00
Segment G - Off-street Trail (Proposed)	+/- 1,542 LF | .29 mi	$348,000.00
Segment H - Off-street Trail	+/- 7,239 LF | 1.37 mi	$2,055,000.00
Total	+/- **10,737 LF | 2.03 mi**	**$2,958,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

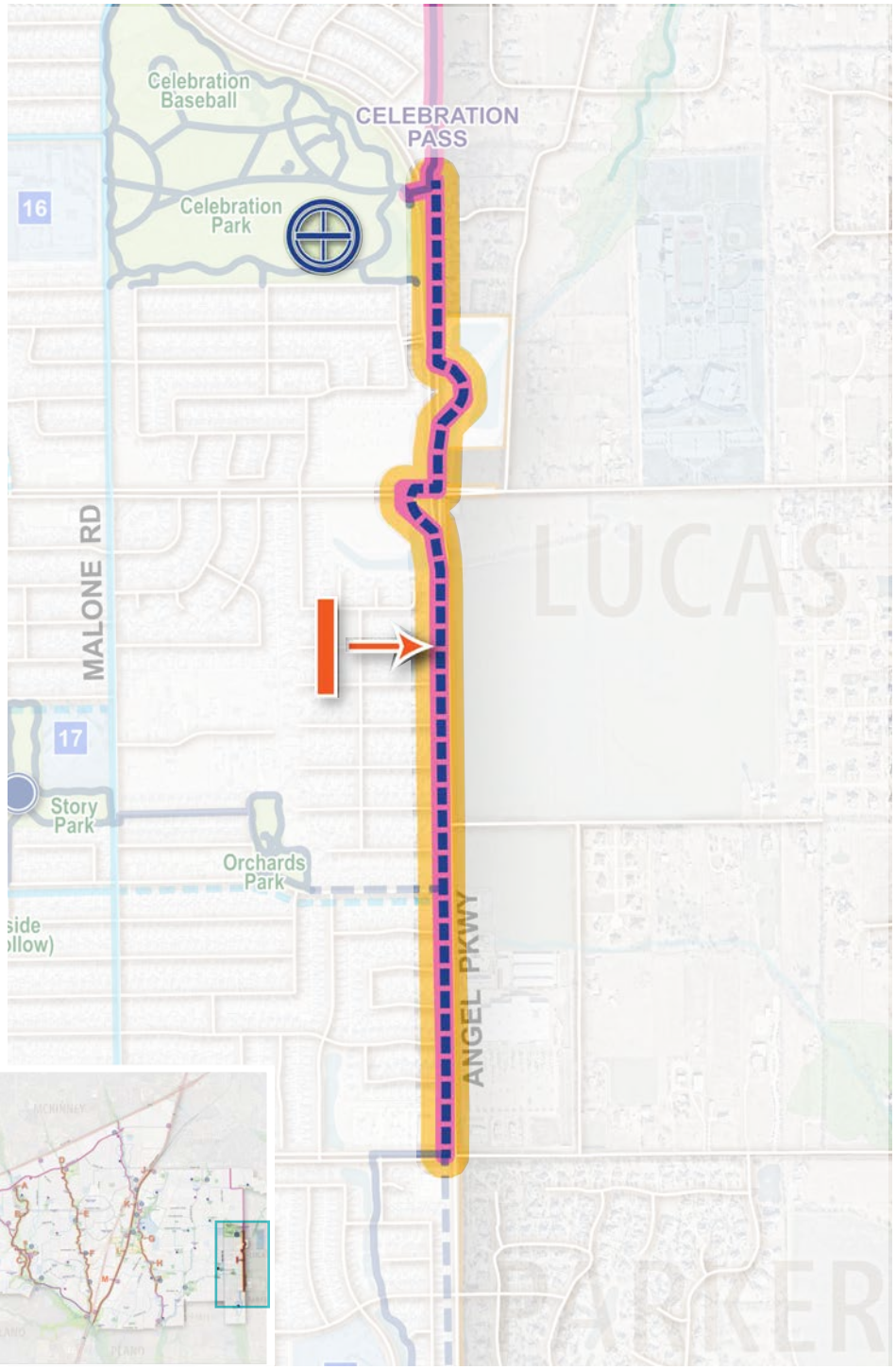
0 1/4 1/2 1
MILES

SEGMENT I

Description:
Segment I is a proposed extension of Allen's Celebration Trail. The trail segment will begin at Angel Parkway, connecting to the existing 12' wide existing trail. This segment will fill in an important trail gap while providing continuous connectivity along eastern Allen, from Celebration Park to the nearby neighborhoods to the south.

Width and Type:
Segment I - Proposed 12' width, Off-Street Trail

Trail Type	Length	Estimated Cost
Segment I - Off-street Trail	+/- 8,351 LF | 1.58 mi	$1,896,000.00
Total	**+/- 8,351 LF | 1.58 mi**	**$1,896,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

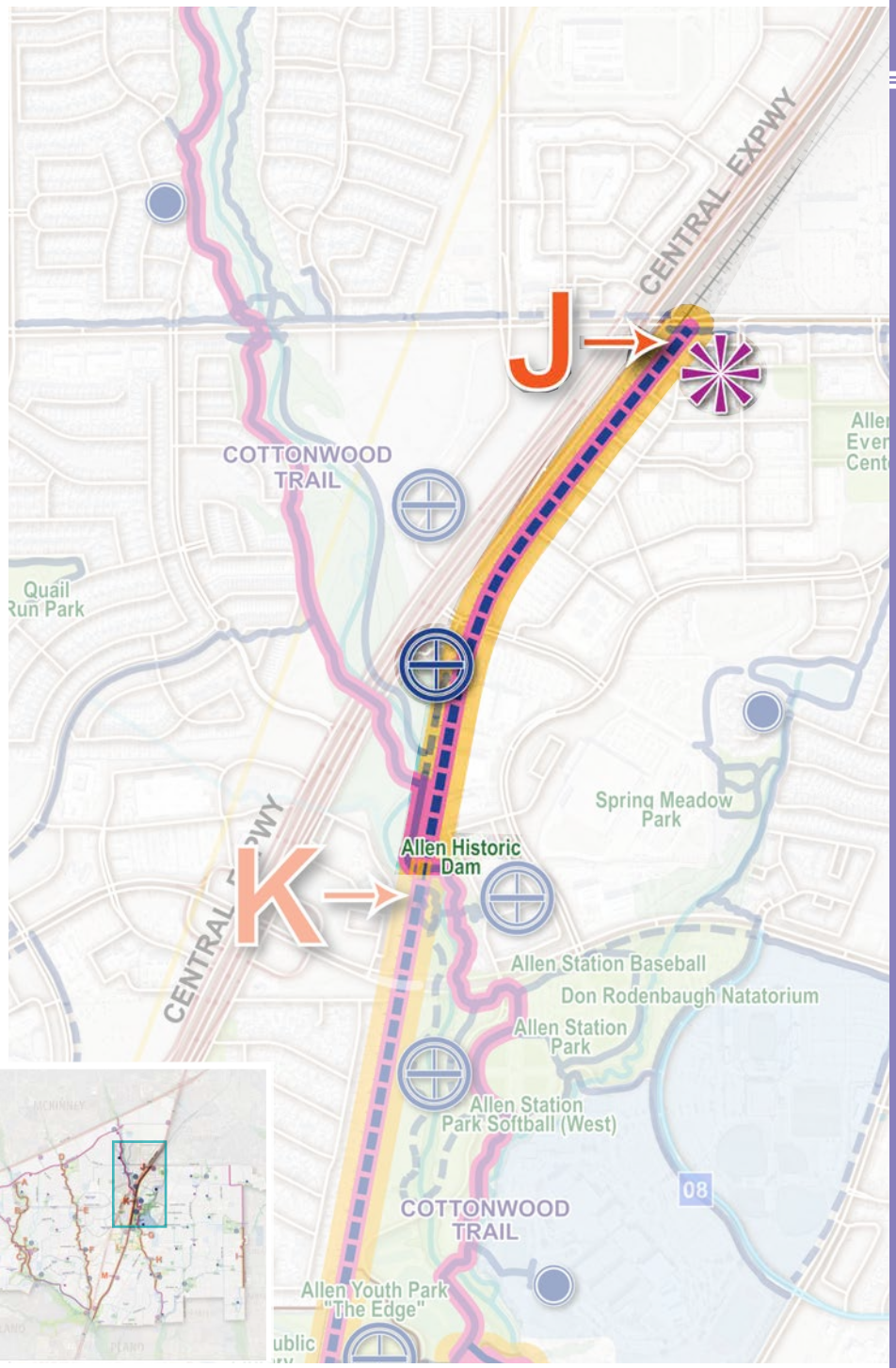
0 1/4 1/2 1
MILES

SEGMENT J

Description:
Segment J is the northern segment of a proposed temporary surface trail located along the DART ROW of the old railroad track. The rails-to-trails route will provide connectivity between Fairview, Allen's Central Business District, and the existing trails in south Allen and Plano. Segment J begins at Stacy Rd adjacent to a proposed trailhead east of the trail. The trail segment will run to Exchange Parkway near an existing trailhead at Allen's Historic Dam.

Width and Type:
Segment J - Proposed 12' width, Off-Street Trail

Trail Type	Length	Estimated Cost
Segment J - Off-street Trail	+/- 5,882 LF | 1.11 mi	$1,332,000.00
Total	**+/- 5,882 LF | 1.11 mi**	**$1,332,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

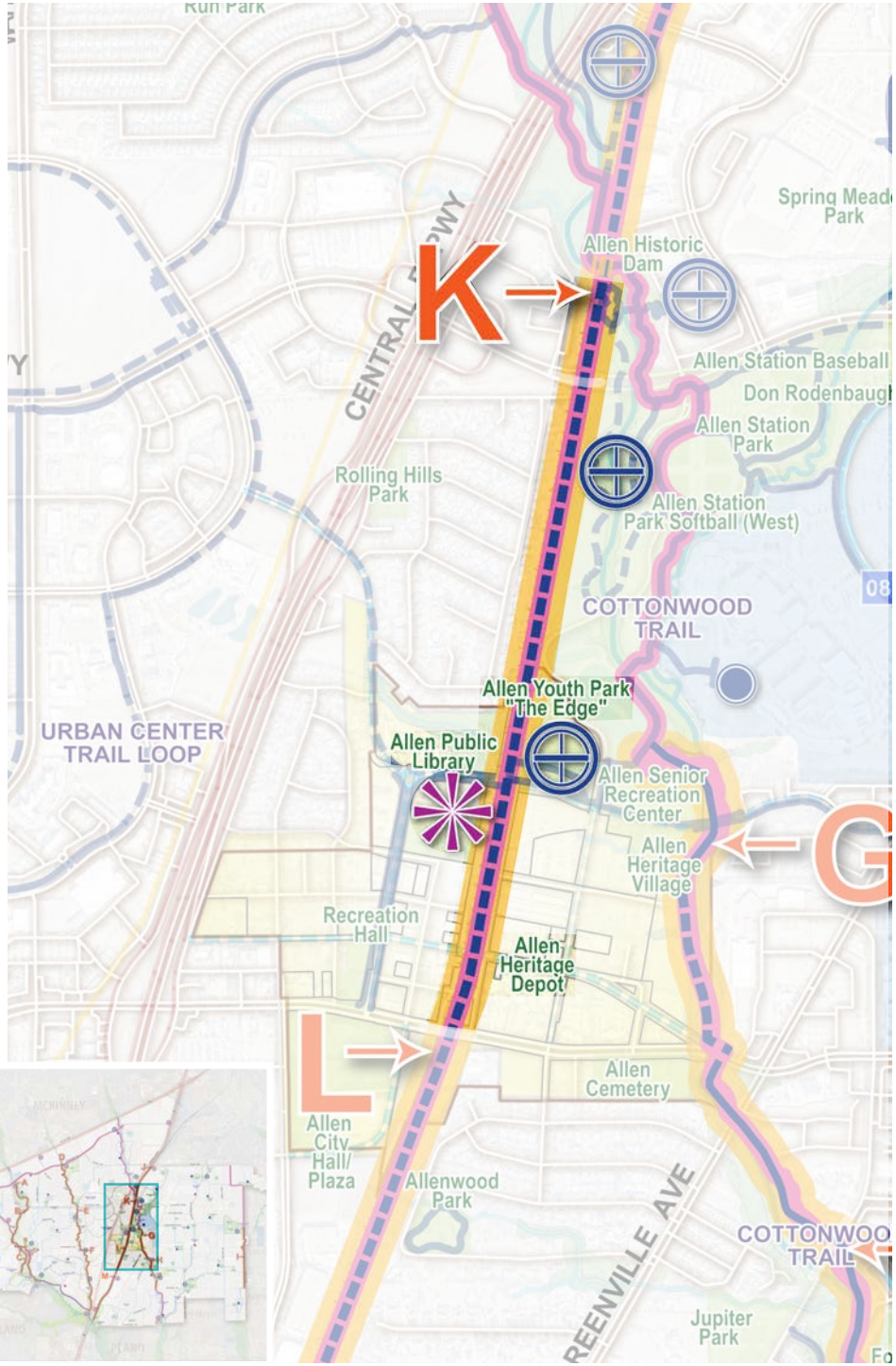
0 1/4 1/2 1
MILES

SEGMENT K

Description:
Segment K is another northern segment of a proposed temporary surface trail located on the old railroad track. The rails-to-trails route will provide connectivity between Fairview, Allen's Central Business District, and the existing trails in south Allen and Plano. Segment K begins near the existing Historic Dam trailhead and continues to multiple sports fields and destinations within the Central Business District.

Width and Type:
Segment K - Proposed 12' width, Off-Street Trail

Trail Type	Length	Estimated Cost
Segment K - Off-street Trail	+/- 5,334 LF | 1.01 mi	$1,212,000.00
Total	**+/- 5,334 LF | 1.01 mi**	**$1,212,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

0 1/4 1/2 1
MILES

SEGMENT L

Description:
Segment L is another central segment of a proposed temporary surface trail located on the old railroad track. The rails-to-trails route will provide connectivity between Fairview, Allen's Central Business District, and the existing trails in south Allen and Plano. Segment L begins in the southern Central Business District on Main Street ending at Bethany Drive.

Width and Type:
Segment L - Proposed 12' width, Off-Street Trail

Trail Type	Length	Estimated Cost
Segment L - Off-street Trail	+/- 4,006 LF | .75 mi	$900,000.00
Total	+/- **4,006 LF | .75 mi**	**$900,000.00**

LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

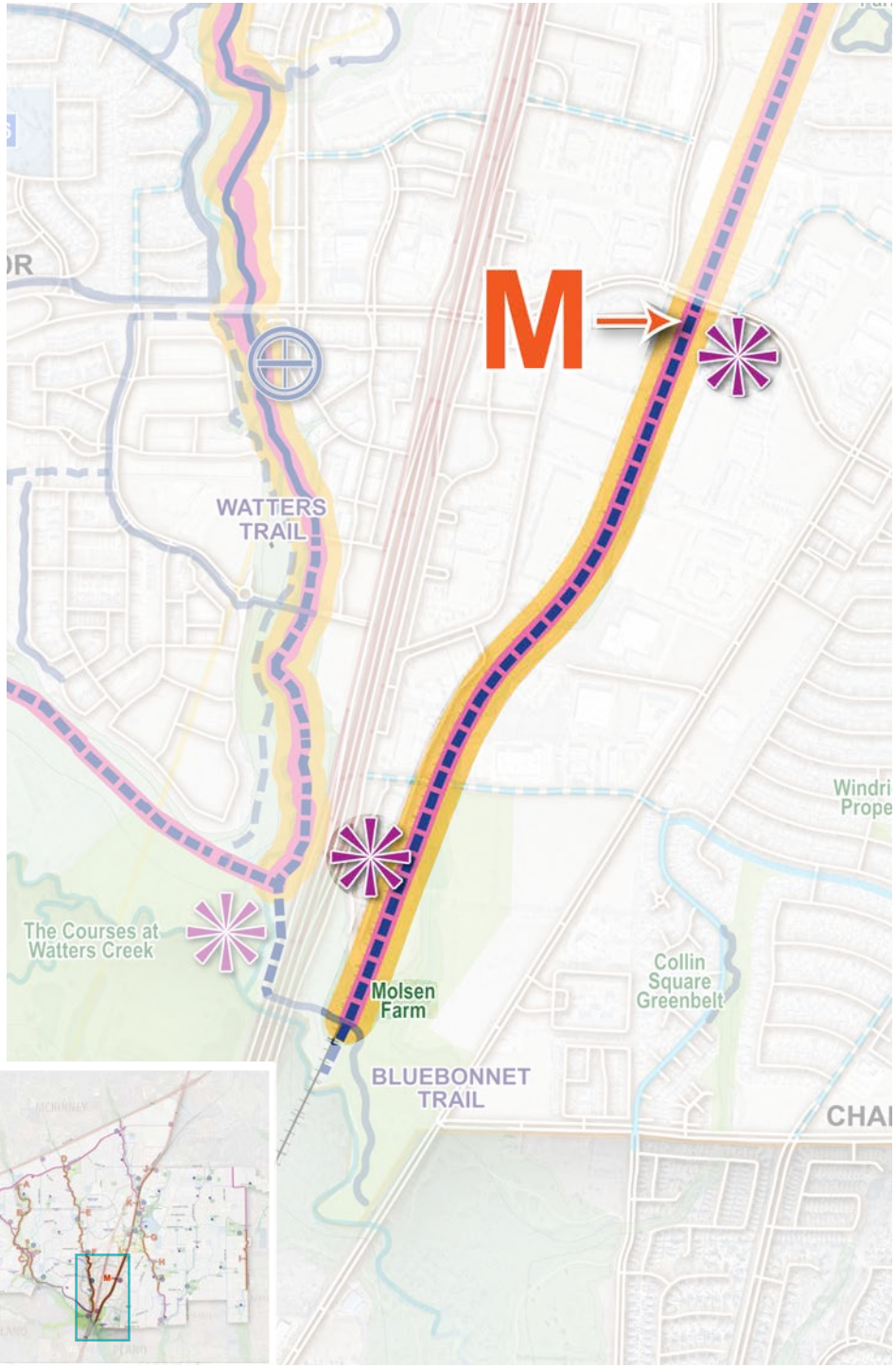
0 1/4 1/2 1
MILES

SEGMENT M

Description:
Segment M is the southern segment of a proposed temporary surface trail located on the old railroad track. The rails-to-trails route will provide connectivity between Fairview, Allen's Central Business District, and the existing trails in south Allen and Plano. Segment M will begin at Bethany Drive and end at a existing 12' trail at the Allen and Plano border.

Width and Type:
Segment M - Proposed 12' width, Off-Street Trail

Trail Type	Length	Estimated Cost
Segment M - Off-street Trail	+/- 6,872 LF | 1.30 mi	$1,560,000.00
Total	**+/- 6,872 LF | 1.30 mi**	**$1,560,000.00**



LEGEND

- Existing Trails
- Proposed Trails
- Existing 12' Trails
- Proposed 12' Trails
- Existing Priority Trails
- Proposed Priority Trails
- Existing On-Street Bikeways
- Proposed On-Street Bikeways
- Utility Easements
- Existing Trailheads
- Existing Trail Access Points
- Proposed Trailheads
- Proposed Access Points
- Park
- Schools

NORTH

0 1/4 1/2 1
MILES

SUMMARY OF COSTS

Costs are based on order-of-magnitude estimates of each of the current segments of trails.

The planning-level cost estimates shown in **Table 6:1** approximated order-of-magnitude unit costs based on typical per-unit costs for various trail amenities. These unit costs were based upon recent project bids, the current market, and engineering means and methods. Typical per-unit costs for major elements included in the summary of costs for this plan include:

- 12' wide decomposed granite trail $600,00 per mile
- 12' wide concrete trail: $1.2 million per mile
- 12' wide prefabricated pedestrian bridge: $3,000 per linear foot
- Existing roadway or railroad bridge undercrossing: $300,000 each
- 12' wide boardwalk $600 per linear foot
- Boardwalk railing (both sides): $80 per linear foot
- Neighborhood access point/trail gateway: $50,000 each
- Community-scale trailhead with parking and minor amenities: $350,000 each
- Regional trailhead with amenities: $450,000 each

Based upon these estimates, the potential costs per segment shown in **Table 6:1** were developed.

Total Cost Summary

The Spine Trail recommendations totals 15.99 miles in length (or 84,708 linear feet). The total estimated potential costs for all segments is $21,327,000, approximately $1.2 to $1.5 million per mile.

Table 6:1 – Trail Phasing Summary

TRAIL PHASING SUMMARY

Trail Name	Length in miles	Length in Linear Feet	Width	Trail Surface	Estimated Cost
Segment A	+/- 0.72	+/- 3,830	12'	Concrete	$864,000.00
Segment B	+/- 1.48	+/- 7,831	12'	Concrete	$2,220,000.00
Segment C-1	+/- 0.76	+/- 4,013	12'	Concrete	$996,000.00
Segment C-2	+/- 0.92	+/- 4,839	12'	Concrete	$1,104,000.00
Segment C-3	+/- 0.14	+/- 770	12'	Concrete	$168,000.00
Segment D	+/- 1.26	+/- 6,672	12'	Concrete	$1,890,000.00
Segment E	+/- 1.16	+/- 6,144	12'	Concrete	$1,740,000.00
Segment F	+/- 1.77	+/- 9,427	12'	Concrete	$2,487,000.00
Segment G	+/- 0.66	+/- 3,498	12'	Concrete	$903,000.00
Segment H	+/- 1.37	+/- 7,239	12'	Concrete	$2,055,000.00
Segment I	+/- 1.58	+/- 8,351	12'	Concrete	$1,896,000.00
Segment J	+/- 1.11	+/- 5,882	12'	Temporary Surface	$1,332,000.00
Segment K	+/- 1.01	+/- 5,334	12'	Temporary Surface	$1,212,000.00
Segment L	+/- 0.75	+/- 4,006	12'	Temporary Surface	$900,000.00
Segment M	+/- 1.30	+/- 6,872	12'	Temporary Surface	$1,560,000.00
TOTAL	**+/- 15.99**	**+/- 84,708**			**$21,327,000.00**

MISCELLANEOUS PROJECTS

OFF-CORRIDOR TRAILS

There are other trail projects underway in Allen that are not part of the spine trail system established in this master plan. As discussed in previous chapters, the purpose of spine trails is to serve as the primary connector for the city's overall trail system. Although off-corridor trails do not provide the same level of connectivity as spine trails they do connect segments of the city to specific and more local destinations. These trails aid in the promotion of healthy connections throughout Allen.

Examples of off-corridor trails are the Loop at Bethany Lakes and Ridgeview Drive. The Loop at Bethany Lakes is located within Bethany Lakes Park and primarily serves as a connection between the amenities within the park. These amenities include the Joe Farmer Recreation Center, Allen Veteran's Memorial, playground equipment, an open-air pavilion, 14 picnic sites, baseball/softball backstop, park clubhouse, and a fishing pier. The Loop extends beyond the parks boundaries to adjacent residential neighborhoods, providing additional trail connections to an important neighborhood destination.

There are also several private trails in Allen in which an HOA owns and maintains the trail meant for those who live in the neighborhood. Current private trails in Allen include:

- Cumberland Crossing
- Waterford Trails
- Village at Twin Creeks
- Montgomery Ridge
- Montgomery Farm
- Watters Crossing
- Connemara Crossing
- Morgan Crossing
- Allen Village
- Twin Creeks Golf Course

Loop at Bethany Lakes

Ridgeview Trail

TRAILHEAD PUBLIC ART

As discussed previously, trailheads are important access points to the trail system and serve as locations for a number of trail user amenities such as information kiosks, parking lots, water fountains, and rest areas. In Chapter 5, Trail Design Standards, it is stated that trailheads should be created as unique entries to trails and provide access to a variety of destinations, however trailheads have the capacity to further serve as destinations as well. This can be achieved through the implementation of public art at trailheads.

Public art, including sculptures, murals, and other art pieces, provide a sense of culture and celebration of community identity. Many cities have established public art programs in which pieces by local artists are rotated throughout public facilities. This is an opportunity for the city to strengthen community identity through commissioning local artists and creating destination trailheads with the implementation of public art.

FUNDING SOURCES

There are a variety of funding sources that can be utilized to realize the plan implementation actions. This section describes typical city-generated funding sources, funding opportunities from the state and federal government, and additional opportunities such as shared use agreements and partnerships.

CITY GENERATED FUNDING SOURCES

General Fund Expenditures are primarily used for improvements or repairs to existing parks and facilities. Typical general fund expenditures are for smaller repair and replacement efforts.

Community Development Corporation (4B) The Allen Community Development Corporation has approved and administered the ½-cent sales tax funding of over $115,000,000 of capital projects, programs and equipment since 1996 to raise the quality of life in Allen. The CDC has funded trail development since 2002, when upon the adoption of the city's first trail master plan, $270,000 was approved for trails. Today the annual trail funding averages $800,000 for trail development and $200,000 for trail maintenance. It is anticipated that CDC funding will be needed to continue to grow the Allen trail systems into a fully developed network.

Electric Utility Partnerships can be established for trails within utility easements, such as Oncor. This partnership typically does not involve monetary contributions. However, it does include use agreements for easements held by utility companies.

Bond Funds are primarily targeted for new facilities. The City of Allen has a strong history of successful bond programs.

Park Fee Ordinance is an ordinance a city can enact to impose a fee on developers when a new development is built to pay for developing or improving parks. Depending on the structure of the ordinance, the city can require land to be dedicated for parks, cash in lieu of land for park development, or park development fees.

STATE FUNDING SOURCES

Texas Parks and Wildlife Department (TPWD) funds the following grants:

Outdoor Recreation Grants provide 50% matching grant funds to cities, counties, Municipal Utility Districts (MUDs), and other special districts with a population less than 500,000 to acquire and develop parkland or to renovate existing public recreation areas. There are two funding cycles per year with a maximum award of $500,000. Projects must be completed within three years of approval. Application deadlines are October 1st of each year (the master plans submission deadline is 60 days prior to application deadline). Award notifications occur 6 months after deadlines.

Community Outdoor Outreach Program (CO-OP) Grants provide funding to local governments and non-profit organizations for programming that introduces under-served populations to environmental and conservation programs as well as TPWD mission-oriented outdoor activities. This is not a land acquisition or construction grant; this is only for programs. Grants are awarded to non-profit organizations, schools, municipalities, counties, cities, and other tax-exempt groups. Minimum grant requests are $5,000 and maximum grant requests are $50,000. The application deadline is February 1st.

Recreational Trail Grants are administrated by TPWD in Texas under the approval of the Federal Highway Administration (FHWA). This federally funded program receives its funding from a portion of federal gas taxes paid on fuel used in non-highway recreational vehicles. The grants can be up to 80% of project cost with a maximum of $200,000 for non-motorized trail grants and currently there is not a maximum amount for motorized trail grants. Funds can be spent on both motorized and non-motorized recreational trail projects such as the construction of new recreational trails, to improve existing trails, to develop trailheads or trailside facilities, and to acquire trail corridors. Application deadline is February 1st each year.

Land & Water Conservation Fund (LWCF) Grants are administered by TPWD through the Texas Recreation Park Account. If an entity is applying for an Indoor Grant, Outdoor Grant, or Small Community Grant, TPWD may consider the application for LWCF funding. No separate application is required.

OTHER LOCAL GOVERNMENT FUNDING SOURCES

Collin County Parks & Open Space Project Funding Assistance Program allows cities within Collin County to apply for Parks and Open Space bond funds. Such funds are allocated on a competitive basis to assist cities in implementation of parks and open space projects which are consistent with the Collin County Parks and Open Space Strategic Plan dated October 2001.

Regional Transportation Council Partnership Program
Through the Local Air Quality Program, NCTCOG's Regional Transportation Council will fund transportation projects that address the new air quality standard, including traffic signal timing, trip reduction, air quality outreach and marketing programs, vanpool programs, bicycle/pedestrian regional connections, high-emitting-vehicle programs, diesel freight programs, off-road construction vehicle emissions reduction programs, park-and-ride facilities, and other air quality strategies.

Transportation Alternatives Program & Safe Routes to School
The Transportation Alternatives Set-Aside (TA Set-Aside) Program was authorized under Section 1109 of Fixing America's Surface Transportation Act (FAST Act) and provides funding for programs and projects defined as transportation alternatives. NCTCOG is sub-allocated program funds to award to cities in the Dallas-Fort Worth region. General types of projects eligible under this program include on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, and pedestrian and bicycle infrastructure associated with Safe Routes to School (SRTS) projects that will substantially improve safety and the ability for students to walk and bicycle to school.

SRTS funds are meant to assist local municipalities in funding projects that improve connectivity and access to schools. Eligible bicycle and pedestrian projects include bicycle lanes, crosswalks, separated bicycle lanes, and signed bicycle routes, among others.

FEDERAL FUNDING SOURCES

National Park Service (NPS) Programs include the Land and Water Conservation Fund (LWCF) and Urban Park and Recreation Recovery Act (UPARR), which provide funds for parks and recreation. Congress appropriates both funds. Typically, the funding sources have supported traditional parks rather than linear systems. Funding for the State of Texas exceeded $1.2 million in 2008.

Environmental Protection Agency can provide funding for projects with money collected in pollution settlements.

BUILD Transportation Discretionary Grant Program
The BUILD grant, previously called the TIGER grant, are competitive/discretionary grants that can be utilized to fund surface transportation infrastructure capital investments. BUILD grants primarily focus on projects that provide both economic benefits and improve access to reliable, safe and affordable transportation options. BUILD grants may be used for, but not limited to, bicycle lanes, cross walks, lighting, and bridges. Capital funds provided through the BUILD program are unique in that individual municipalities, counties, and MPOs can receive them directly from the federal government, as opposed to most federal funds that are distributed at the State or transit agency level and then allocated to individual municipalities. It is important to note that many bicycle and pedestrian projects will only be competitive if they are part of a larger project with proven economic benefits.

Surface Transportation Block Grant Program (STBG)
As the most flexible federal funding program, the STBG Program - redesigned from the traditional Surface Transportation Program - provides funds that are eligible for use on nearly all projects that

include bicycle and pedestrian improvements. Typically, STBG funds are not used on local or rural minor collectors; however, bicycle/pedestrian projects are exceptions to that standard. STBG funds are sub-allocated to the local level based on a municipality's relative share of the state's population and classification as one of the following: an urbanized area with population greater than 200,000, urbanized area with population greater than 5,000 but no more than 200,000, or areas with population less than 5,000. TxDOT prioritizes projects and administers STBG funds.

Fixing America's Surface Transportation (FAST Act)

The FAST Act, enacted in late 2015 and administered by the FHWA, provides secure surface transportation program funding for 2016 through 2020. The FAST Act is meant to improve mobility, enhance economic growth, and accelerate project delivery by providing funding for roadway improvements. The FAST Act requires MPOs to consider all users when designing and constructing transportation infrastructure projects and provides flexibility to use funds for bicycling and walking improvements. Individual programs under the FAST Act have varying requirements and eligible projects.

The FAST Act authorizes funding to each State in a lump sum for all apportioned programs. Programs related to bicycle and pedestrian infrastructure include the Surface Transportation Block Grant Program (STBG), Congestion Mitigation and Air Quality Improvement Program (CMAQ), Highway Safety Improvement Program (HSIP), and National Highway Performance Program (NHPP).

Federal Transit Administration (FTA)

The FTA provides funds for bicycle and pedestrian investment as they relate to transit. FTA funds may be used to fund improvements such as bicycle lanes, bicycle parking, bus shelters/benches, sidewalks and lighting among others. To qualify for FTA funds, projects must provide or improve access to existing or planned transit facilities such as stops and stations. Multiple FTA grant programs exist that are able to assist with funding bicycle and pedestrian infrastructure.

National Highway Performance Program (NHPP)

NHPP funding availability is continued through the FAST Act and provides funding for the construction of new facilities on the National Highway System (NHS). NHPP funds can be utilized to fund bicycle lanes, bicycle parking, curb cuts and ramps, separated bicycle facilities, and shared use paths, among others. NHPP funds are administered by TxDOT.

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

CMAQ funds are lump sum, state-apportioned funds available through the FHWA as a continuing program under the FAST Act. CMAQ funding availability is a proportion of the overall apportionment for each state. CMAQ funds are meant to assist in funding projects that improve air quality and relieve congestion. Eligible projects are likely to contribute to the attainment of air quality standards and reduce air pollution, and the projects must be included in an MPO's Transportation Improvement Program (TIP). CMAQ funds may be used on, but not limited to, the following transportation improvements: bicycle lanes, separated bicycle lanes, sidewalks, shared use paths, and signage. In Texas, CMAQ funds are included within TxDOT's Category 5 funding.

Highway Safety Improvement Program (HSIP)

Continued under the recently enacted FAST Act, the HSIP aims to assist public agencies in improving safety along public roadways. HSIP funds are dedicated to projects that reduce conflicts between pedestrian/bicycles and automobiles, such as pedestrian hybrid-beacons and roadway improvements that provide separated facilities (e.g. medians or pedestrian islands). As part of the HSIP, a performance-based approach is used to determine funding projects. To be eligible for HSIP funds, projects must be consistent with state level Strategic Highway Safety Plans (SHSP) and must specifically address a hazardous location or safety concern. HSIP funds are administered within Texas by TxDOT.

OTHER FUNDING OPPORTUNITIES

Organizations and shared-use agreements are other funding opportunities that have proven successful in many communities. Organizations that could be utilized to partner on funding opportunities include:

- Adopt a Park
- Friends Groups
- Service Groups
- Business Sponsorship Opportunities
- Youth Service Providers

CONCLUSION

The master plan process is a critical exercise for city's to undergo to ensure that improvements are made on a system-wide scale. As a city assesses the level of service needs and demand for recreation options, it is pertinent to consider the role that trails and bikeways play. Revisiting and updating the trail and bikeway master plan enables a city to successfully and strategically provide for its community's recreation and mobility needs. Additionally, a current master plan increases city competitiveness during grant funding processes and with surrounding communities.

The previous master plan, adopted in 2002, provided the foundation for establishing goals, design standards, and implementation actions for this master plan. The City of Allen Trails & Bikeway Master plan reevaluates design standards, connectivity needs, and budgetary planning for the future development and expansion of the city's trail and bikeway network. An integral part of this plan is addressing the city's existing undersized trails. Many trails in the city are not wide enough to meet current regional trail width standards, and more importantly support the demands of trail user groups. Beyond improvement of trail widths, this plan outlines specifications for a connected network that supports varied user groups, legible, and provides for recreational and mobility needs.

Finally, it is crucial to understand that this plan is not intended to remain stagnant, it should continually evolve to reflect the changing needs of the city and provide new recreation and connectivity opportunities.

APPENDICES

- GLOSSARY
- SURVEY RESULTS

GLOSSARY

WALKING AND PEDESTRIAN-ORIENTED TERMS

Accessible Pedestrian Signal (APS): A device that communicates information about pedestrian signal timing in non-visual format, through the use of audible tones (or verbal messages) and vibrating surfaces.

Americans with Disabilities Act (ADA): 1990 Federal law establishing the civil rights of people with disabilities. Prohibits discrimination against people with disabilities and requires common places used by the public to provide an equal opportunity for access.

Buffer: That portion of a highway, road or street between the curb-face or edge of the pavement and the sidewalk that provides a spatial buffer between vehicular traffic and pedestrians on sidewalks. Buffers often include landscape plantings such as grass, trees or shrubs, or utility poles, and may also be referred to as the "planting strip," "landscape buffer," "tree buffer" or "tree boxes." Buffers can also include barriers such as highway guide rails (guardrails) or bollards. In rural or suburban areas the buffer may be a grassy swale or drainage ditch. In urban areas, downtowns, the buffer may also include street furniture, street signs, fire hydrants, vending boxes, lighting poles, etc.

Cross-slope: Defined as the slope measured perpendicular to the direction of travel. Cross-slope must be measured at specific points. The average cross-slope is the average of cross-slopes measured at regular intervals along the trail. Running cross-slope is defined as the average cross-slope of a contiguous section of trail. The running cross-slope can be determined by taking periodic measurements throughout a section of trail and then averaging the values.

Crosswalk: The horizontal portion of roadways, usually at intersections, reserved for pedestrian crossing; it may be marked or unmarked. Three marking patterns using white striping are most common: 1) Double Parallel lines, 2) "Zebra Stripes:" white cross hatches perpendicular to the pedestrian direction of travel, or 3) "Ladder:" perpendicular white cross hatches combined with double parallel lines on the outside edges.

Curb Ramp: A combined ramp and landing to provide access between street level and sidewalk level, usually at intersections or designated crosswalks. ADA accessible ramps must achieve particular design requirements including a running grade no steeper than 1:20. Curb ramps are intended to provide street/sidewalk access to all types of pedestrians, as well as bicyclists who may be legally using the sidewalk or crosswalk.

Detectable Warning: A standardized surface feature built in or applied to walking surfaces or other elements to warn people who are blind or visually impaired of specified hazards.

Median Refuge: An area within an island or median that is intended for pedestrians to wait safely away from travel lanes for an opportunity to continue crossing the roadway.

Midblock Crosswalk: A legally established crosswalk that is not at an intersection.

Passing Space: Passing space is defined as a section of path wide enough to allow two wheelchair users to pass one another or travel abreast. Passing space interval is defined as the distance between passing spaces. Accessible passing spaces allow two wheelchairs to pass one another, or for one wheelchair user to turn in a complete circle. Passing spaces are recommended at regular intervals when the trail is narrow for long distances.

Pedestrian: A person walking or traveling by means of a wheelchair, electric scooter, crutches or other walking devices or mobility aids. Use of the term pedestrian is meant to include all disabled individuals regardless of which equipment they may use to assist their self-directed locomotion (unless they are using a bicycle). It also includes runners, joggers, those pulling or pushing strollers, carriages, carts and wagons, and those walking bicycles.

Pedestrian Access Route: A corridor of accessible travel through the public right-of-way that has, among other properties, a specified minimum width and cross slope.

Pedestrian Crossing Interval: The combined phases of a traffic signal cycle provided for a pedestrian crossing in a crosswalk, after leaving the top of a curb ramp or flush landing, to travel to the far side of the vehicular way or to a median, usually consisting of the WALK interval plus the pedestrian clearance interval.

Pedestrian Signal Indication: The illuminated WALK/DON'T WALK message (or walking person/hand symbols) that communicates the pedestrian phase of a traffic signal, and their audible and tactile equivalents.

Sidewalk: That portion of a highway, road or street specifically constructed for the use of pedestrians on the outside edge of the vehicular travel way. Sidewalks are typically, but not always, curb-separated from the roadway and made of concrete, brick, asphalt or another hard surface materials.

Rest Area: Defined as level portions of a trail wide enough to provide wheelchair users and others a place to rest and gain relief from prevailing grade and cross-slope demands. Users can benefit from rest stops on steep or very exposed trails to pause from their exertions and enjoy the environment. Rest areas are most effective when placed at intermediate points, scenic lookouts, or near trail amenities. Rest areas located off the trail allow stopped trail users to move out of the way of continuing traffic (Figure 5-4). The most inviting rest areas have a bench, shade, a place to rest bicycles, and a trash receptacle.

Texas Accessibility Standards (TAS): Standards for developing ADA accessible public facilities in Texas. The TAS are regulated by the Texas Department of Licensing and Regulations (TDLR).

Transit-Oriented Development (TOD): Development that occurs adjacent to a transit stop. TODs are often walkable, pedestrian-oriented, and include a mixture of land uses. There are many examples of successful TOD projects in the DFW area, including Mockingbird Station in Dallas and Downtown Plano.

BICYCLING AND PATHWAY-ORIENTED TERMS

Bicycle: Every vehicle propelled solely by human power upon which any person may ride, having two tandem wheels, except scooters and similar devices. The term "bicycle" in this planning process also includes three and four-wheeled human-powered vehicles, but not tricycles for children.

Bicycle Facilities: A general term denoting a variety of improvements and provisions that are made by public agencies to accommodate or encourage bicycling, including bike lanes, shared-use pathways, signed bike routes and bicycle parking and storage facilities.

Bicycle Network: A system of public bicycle facilities that can be mapped and used by bicyclists for transportation and recreational purposes.

Bike Lane: A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bikeway: A generic term for any road, street, path, trail or way, that in some manner, is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Shared Roadway: A roadway that is open to both bicycle and motor vehicle travel. Unless bicycle travel is explicitly prohibited, all highways, roads and streets are "Shared Roadways." Some Shared Roadways may have wide curb lanes or paved shoulders, to increase comfort for bicyclists; however in most cases these roads do not have sufficient width to accommodate a Designated Bike Lane.

Shared Use Path (or Pathway): A bicycle and pedestrian path separated from motorized vehicular traffic by an open space, barrier or curb. Shared-Use Paths may be within the highway right-of-way (often termed "sidepath") or within an independent right-of-way, such as on an abandoned railroad bed or along a stream valley park. Shared use paths typically accommodate two-way travel and are open to pedestrians, in-line skaters, wheelchair users, joggers and other non-motorized path users. They are typically surfaced in asphalt or concrete, but may have hard-packed/all-weather gravel or dirt surfaces as well.

Sharrow: A pavement marking with two inverted 'V' shapes above a bicycle indicating that the entire lane is meant to be shared by motor vehicles and bicyclists. Often times sharrows will be accompanied by a 'Bicycle May Use Full Lane' sign.

Shoulder: Any portion of a roadway to the right of the right-most travel lane, but not including curbs, planting buffers and sidewalks. Shoulders can have a variety of surface treatments including pavement, gravel or grass. Depending on their width and surface, they serve a variety of purposes, including providing space for vehicles to slow and turn right, accommodation of stopped or broken-down vehicles, to allow emergency vehicles to pass, for structural support of the roadbed, or for bicycle and pedestrian travel.

Signed Shared Roadway (Signed Bike Route): A shared roadway that has been designated by signs as a preferred route for bicycle use.

Trail: The word "trail" has come to mean a wide variety of facilities types, including everything from a "marked or beaten path, as through woods or wilderness" to a paved "multi-use trail". For this reason, this planning process will not use the word "trail" to reference a facility intended for bicycle transportation. We urge use of the term Shared Use Path in place of Multi-Use Trail. Note: Several of these definitions are taken from the American Association of State Highway and Transportation Officials (AASHTO) "Guide for the Development of Bicycle Facilities," 1999 Edition.

FUNDING AND IMPLEMENTATION

Advertising Sales - This revenue source is for the sale of tasteful and appropriate advertising on park and recreation related items such as in the city's program guide, on scoreboards, dasher boards and other visible products or services that are consumable or permanent that exposes the product or service to many people.

Annual Appropriation/Leasehold Financing: This is a more complex financing structure which requires use of a third party to act as issuer of the bonds, construct the facility, and retain title until the bonds are retired. The city enters into a lease agreement with the third party, with annual lease payments equal to the debt service requirements. The bonds issued by the third party are considered less secure than general obligation bonds of the city, and therefore more costly. Since a separate corporation issues these bonds, they do not impact the city's debt limitations and do not require a vote. However, they also do not entitle the city to levy property taxes to service the debt. The annual lease payments must be appropriated from existing revenues.

Capital Improvement Fees: These fees are on top of the set user rate for accessing facilities such as golf courses, recreation centers, and pool facilities to support capital improvements that benefit the user of the facility.

Community Development Corporation (4B): The Allen Community Development Corporation has approved and administered the ½-cent sales tax funding of over $115,000,000 of capital projects, programs and equipment since 1996 to raise the quality of life in Allen. The CDC has funded trail development since 2002, when upon the adoption of the city's first trail master plan, $270,000 was approved for trails. Today the annual trail funding averages $800,000 for trail development and $200,000 for trail maintenance. It is anticipated that CDC funding will be needed to continue to grow the Allen trail systems into a fully developed network.

Corporate Sponsorships - This revenue funding source allows corporations to invest in the development or enhancement of new or existing facilities in park systems. Sponsorships are also highly used for programs and events.

Concession Management - Concession management is from retail sales or rentals of soft goods, hard goods, or consumable items. The city either contracts for the service or receives a set amount of the gross percentage or the full revenue dollars that incorporates a profit after expenses, or fund a dedicated capital improvement budget.

Easements: This revenue source is available when the city allows utility companies, businesses or individuals to develop some type of an improvement above or below ground on their property for a set period of time and a set dollar amount to be received by the city on an annual basis.

Friends Associations - These groups are formed to raise money typically for a single focus purpose that could include a park facility or program that will better the community as a whole and their special interest.

General Obligation Bonds: Bonded indebtedness issued with the approval of the electorate for capital improvements and general public improvements.

Grants - Grants for parks and recreation are typically administered through the state and are competed for by municipalities. These grants require some level of local funding. They also generally have a long lead time due to funding cycles and application requirements. Following is a list of those currently funded or anticipated to be funded:

Greenway Utility - Greenway utilities are used to finance acquisition and development of the greenways by selling the development rights underground for the fiber optic types of businesses.

Inter-local Agreements: Contractual relationships entered into between two or more local units of government and/ or between a local unit of government and a non-profit organization for the joint usage/development of sports fields, regional parks, or other facilities.

Irrevocable Remainder Trusts - These trusts are set up with individuals who typically have more than a million dollars in wealth. They will leave a portion of their wealth to the city in a trust fund that allows the fund to grow over a period of time and then is available for the city to use a portion of the interest to support specific park and recreation facilities or programs that are designated by the trustee.

Naming Rights - Many cities and counties have turned to selling the naming rights for new trails, buildings or renovation of existing buildings and parks for the development cost associated with the improvement.

Parks, Trails and Developer Dedication and Development Fees: These fees, as currently assessed by The City of Allen, are for the development of residential properties with the proceeds to be used for parks and recreation purposes, neighborhood park acquisition, and development. Ordinances should be put in place to facilitate and include trail development, right-of-way preservation and/or dedication.

Pouring Rights - Private soft drink companies that execute agreements with the city for exclusive pouring rights within park facilities. A portion of the gross sales goes back to the city to off-set debt service or fund a dedicated capital improvement budget.

Private Concessionaires - Contract with a private business to provide and operate desirable recreational activities financed, constructed, and operated by the private sector, with additional compensation paid to the city.

Private Developers - These developers lease space from city owned land through a subordinate lease that pays out a set dollar amount plus a percentage of gross dollars for recreation enhancements. These could include a golf course, marina, restaurants, driving ranges, sports complexes, equestrian facilities, recreation centers and arenas.

Private Donations - Private Donations may also be received in the form of funds, land, facilities, recreation equipment, art or in-kind services. Donations from local and regional businesses as sponsors for events or facilities should be pursued.

Public Improvement District (PID): New developments can establish a PID when authorized by the City Council and legally set up according to state law. This taxing district provides funds especially for the operation and maintenance of public amenities such as parks and major boulevards.

Public/Private Partnerships (PPP) - Partnerships are a very effective method for leveraging The City of Allen's resources to the greatest extent possible. These partnerships should be based on formal agreements and supported by a policy approved by the Parks and Recreation Board and City Council. Partnerships are joint development funding sources or operational funding sources between two separate agencies, such as two government entities, a non-profit and a city department, or a private business and a city agency. Two partners jointly develop revenue producing park and recreation facilities and share risk, operational costs, responsibilities and asset management, based on the strengths and weaknesses of each partner.

Recreation Service Fees: This is a dedicated user fee, which can be established by a local ordinance or other government procedures for the purpose of constructing and maintaining recreation facilities. The fee can apply to all organized activities, which require a reservation of some type or other purposes, as defined by the local government. Examples of such activities include adult basketball, volleyball, tennis, and softball leagues, youth baseball, soccer, football and softball leagues, and special interest classes. The fee allows participants an opportunity to contribute toward the upkeep of the facilities being used.

Revenue Bonds: Bonds used for capital projects that will generate revenue for debt service where fees can be set aside to support repayment of the bond.

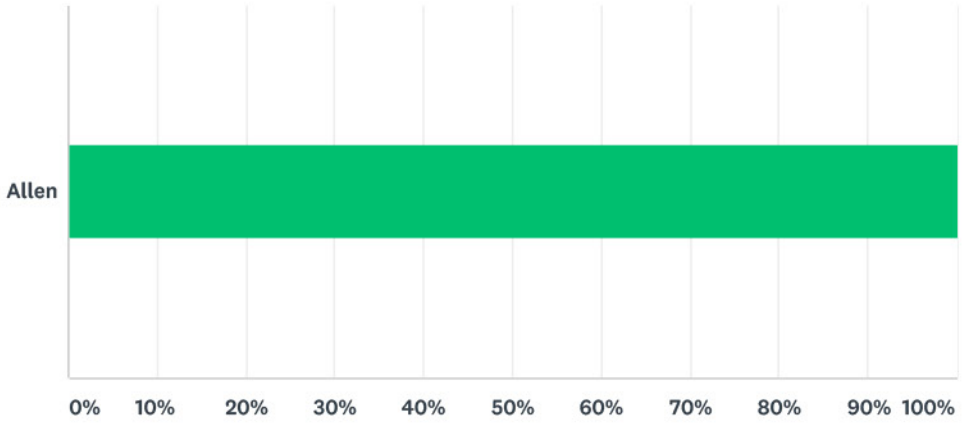
Tax Increment Finance (TIF) District: Tax Increment Finance districts (TIF's) are established to provide funds for certain types of public improvements that benefit a defined area of affected properties. Revenue is generated through the incremental increase in property tax revenue above a specified threshold being applied to accounts for use in improvements that may include most public infrastructure improvements including parks and landscaping.

User Fees/Charges: User fees are primarily established to cover operational costs, but can be used for debt service on revenue bonds.

Allen Trails Master Plan

Q1 In what city do you live?

Answered: 366 Skipped: 7

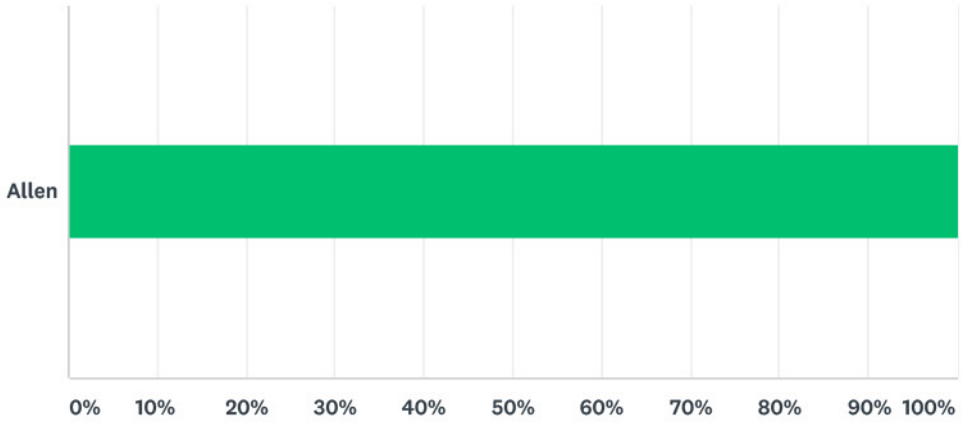


ANSWER CHOICES	RESPONSES	
Allen	100.00%	366
TOTAL		366

#	OTHER (PLEASE SPECIFY)	DATE
1	Fairview	6/5/2018 10:01 PM
2	Plano	6/3/2018 7:24 AM
3	Parker	5/24/2018 6:42 AM
4	Fairview	5/20/2018 2:46 PM
5	Parker	5/15/2018 2:03 PM
6	McKinney (formerly, Allen)	5/14/2018 9:59 PM

Q2 In what city do you work?

Answered: 152 Skipped: 221

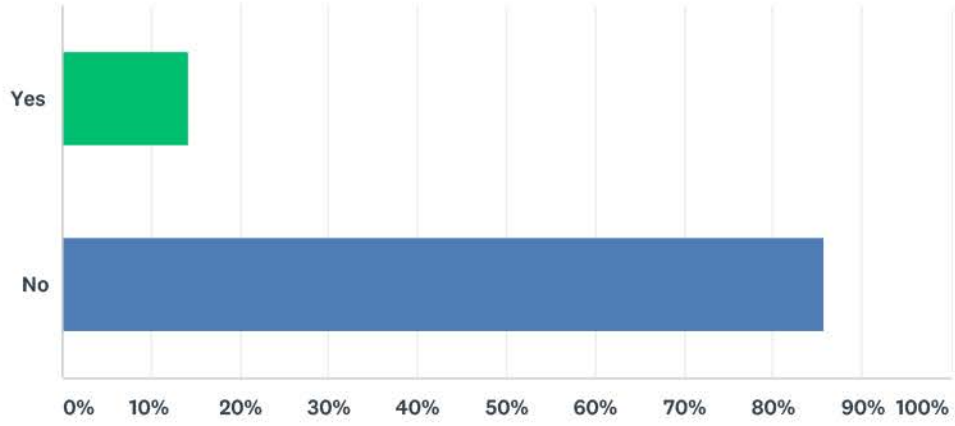


ANSWER CHOICES	RESPONSES	
Allen	100.00%	152
TOTAL		152

#	OTHER (PLEASE SPECIFY)	DATE
1	Plano	6/6/2018 4:13 PM
2	The Colony	6/6/2018 3:27 PM
3	Retired	6/6/2018 3:19 PM
4	McKinney	6/6/2018 1:50 PM
5	Dallas	6/6/2018 1:36 PM
6	retired	6/6/2018 10:19 AM
7	Lucas/Fairview	6/6/2018 7:32 AM
8	Richardson	6/6/2018 6:16 AM
9	Plano	6/6/2018 4:35 AM
10	Far North Dallas	6/5/2018 9:32 PM

Q3 Do you currently commute by foot or by bicycle?

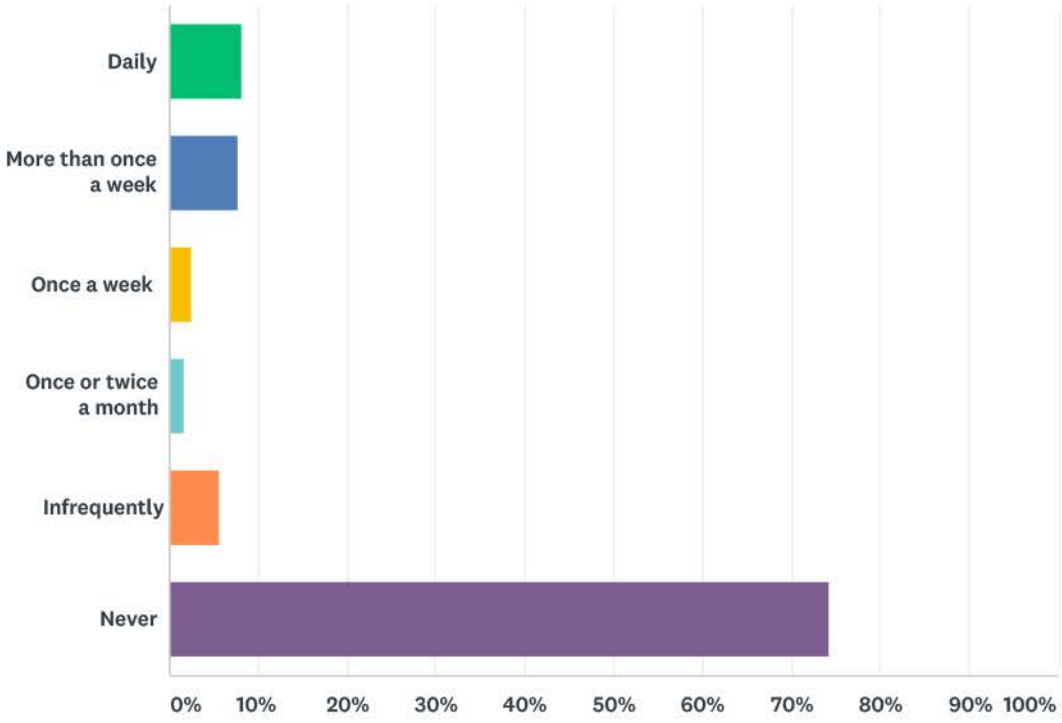
Answered: 367 Skipped: 6



ANSWER CHOICES	RESPONSES	
Yes	14.17%	52
No	85.83%	315
TOTAL		367

Q4 If yes, how frequently? (Please check one only)

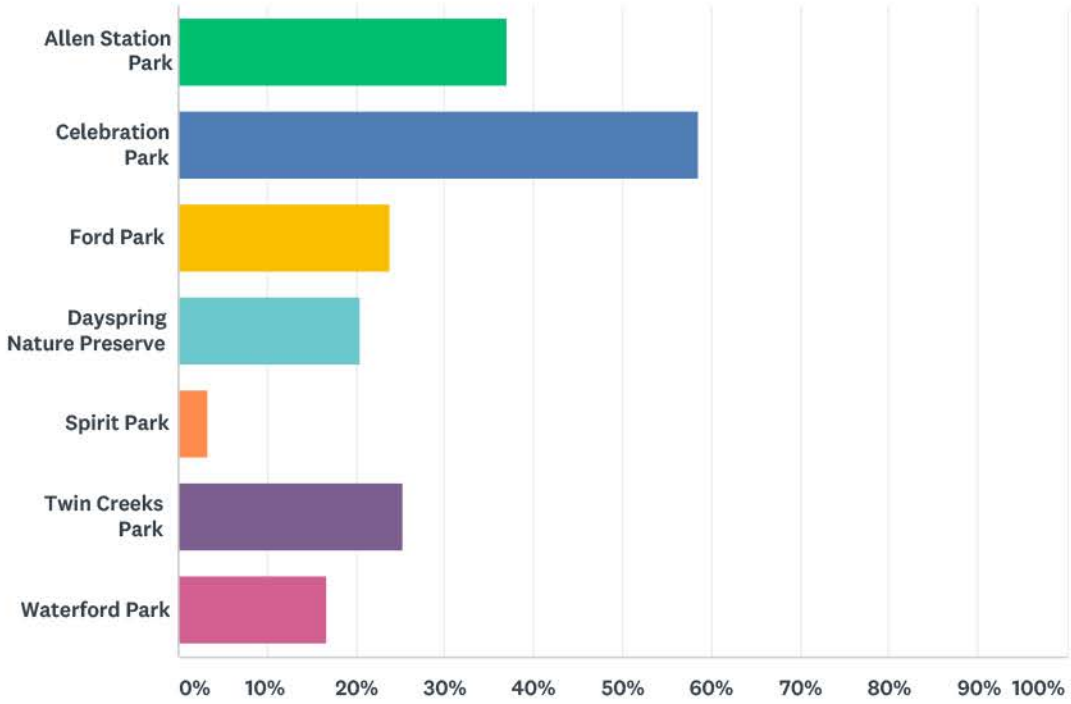
Answered: 245 Skipped: 128



ANSWER CHOICES	RESPONSES	
Daily	8.16%	20
More than once a week	7.76%	19
Once a week	2.45%	6
Once or twice a month	1.63%	4
Infrequently	5.71%	14
Never	74.29%	182
TOTAL		245

Q5 What park in Allen do you generally visit to access trails?

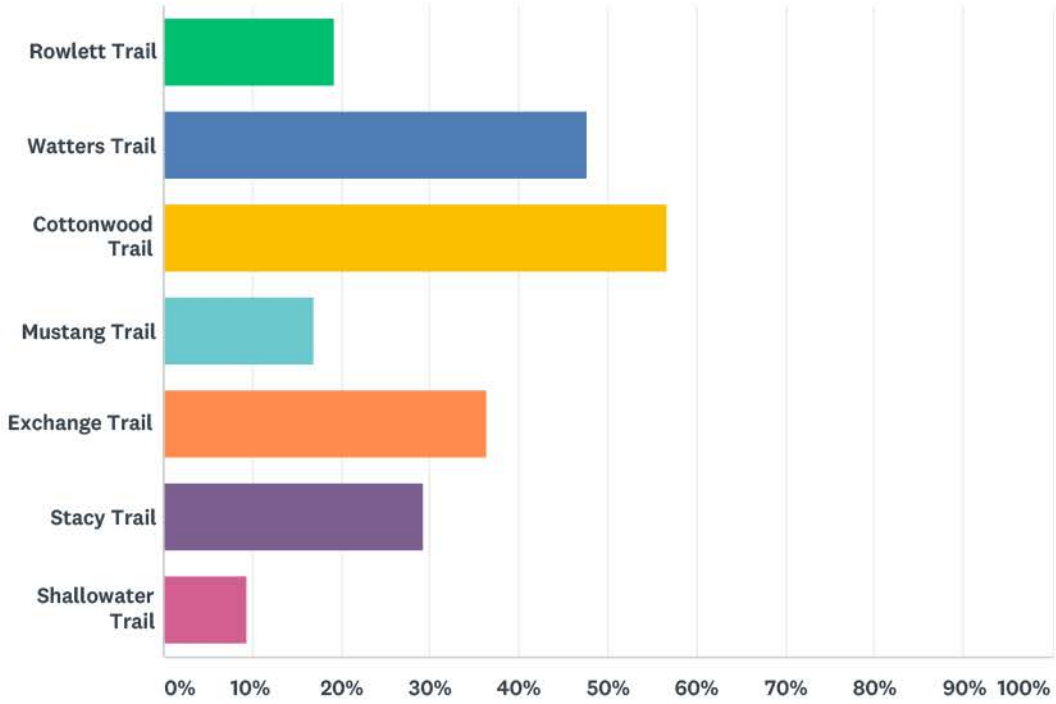
Answered: 299 Skipped: 74



ANSWER CHOICES	RESPONSES	
Allen Station Park	37.12%	111
Celebration Park	58.53%	175
Ford Park	23.75%	71
Dayspring Nature Preserve	20.40%	61
Spirit Park	3.34%	10
Twin Creeks Park	25.42%	76
Waterford Park	16.72%	50

Q6 What trails in Allen do you generally use?

Answered: 300 Skipped: 73



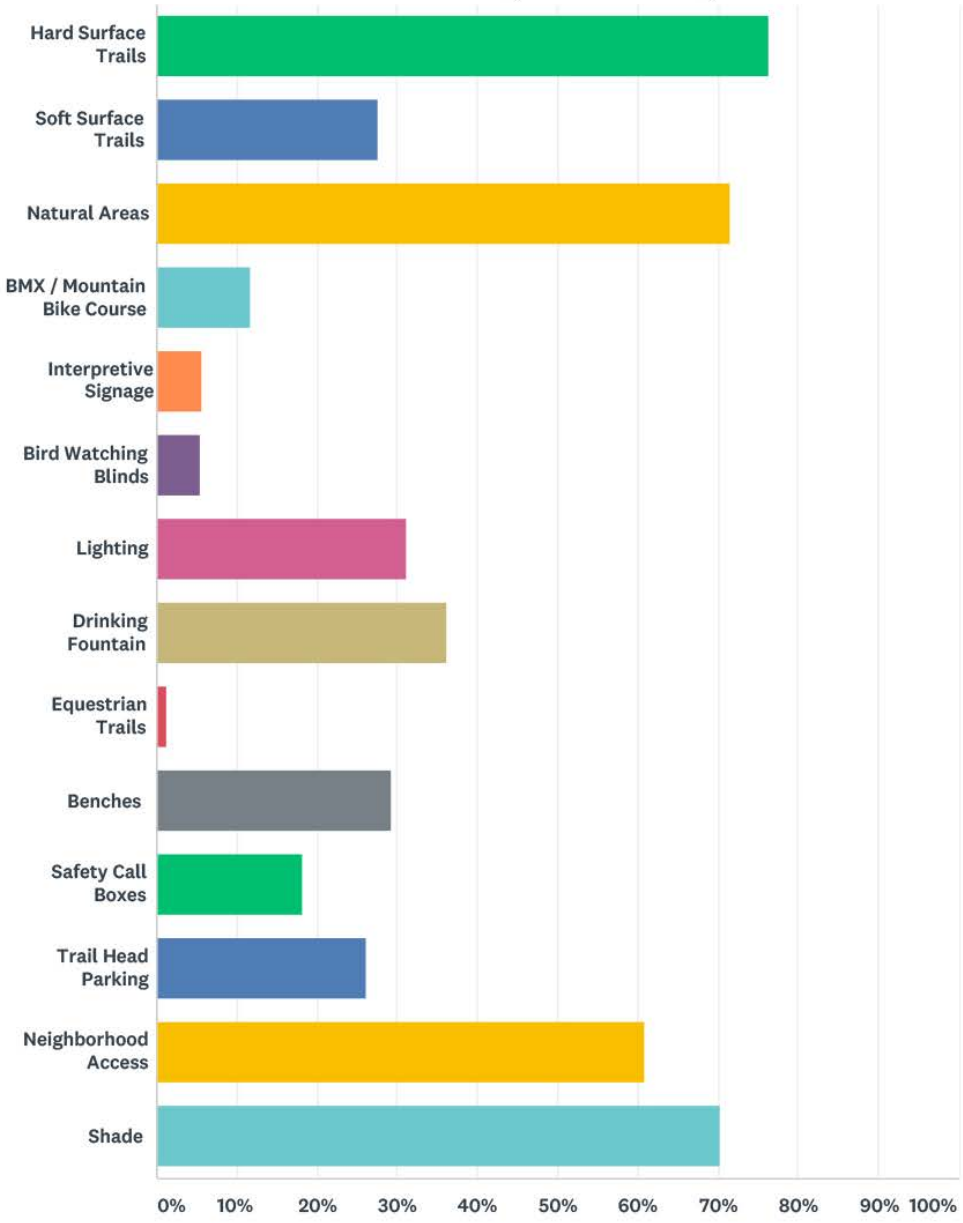
ANSWER CHOICES	RESPONSES	
Rowlett Trail	19.33%	58
Watters Trail	47.67%	143
Cottonwood Trail	56.67%	170
Mustang Trail	17.00%	51
Exchange Trail	36.33%	109
Stacy Trail	29.33%	88
Shallowater Trail	9.33%	28

Q7 What do you like about these trails you use and why?

Answered: 249 Skipped: 124

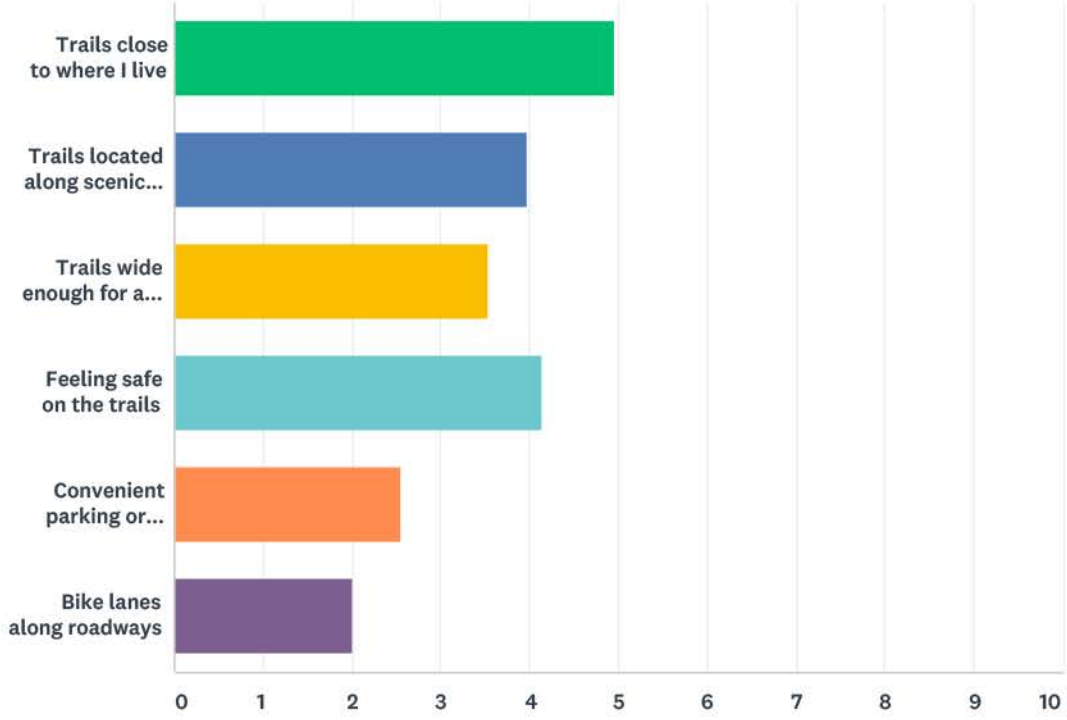
#	RESPONSES	DATE
1	Clean, feel safe.	6/6/2018 4:13 PM
2	Maintained, connected	6/6/2018 3:19 PM
3	Safe access to large green spaces.	6/6/2018 1:50 PM
4	No traffic	6/6/2018 1:36 PM
5	variety of landscape. availibility of shade rest stops with water (via some parks). Wide enough for wobbly children on bicycles to pass people walking dogs.	6/6/2018 1:01 PM
6	Close to our house, relatively shaded	6/6/2018 9:35 AM
7	I love that everything is connected. We are a walking family and even as Allen continues to grow by bringing in developments and businesses, we can still access the wonderful trail system.	6/6/2018 7:32 AM
8	Wide	6/6/2018 7:00 AM
9	Cottonwood has nature	6/6/2018 6:16 AM
10	Close to home.	6/6/2018 4:35 AM
11	The trails connect pretty well without large gaps or having to ride on busy roads.	6/5/2018 9:32 PM
12	Shade, nice pavement, long distance	6/5/2018 9:14 PM
13	Wide, scenery, safety-minimum crossing of roads and parking lots	6/5/2018 8:41 PM
14	Like that they are paved but still natural.	6/4/2018 8:11 PM
15	Large width No streets to cross	6/3/2018 7:24 AM
16	Nature, feel safe, family friendly and picturesque	5/31/2018 10:34 PM
17	Wide sidewalks so there is room for walkers/runners and bikers	5/31/2018 9:48 PM
18	Well maintained, hard surface, shaded.	5/31/2018 5:09 PM
19	shade, away from traffic and nice areas...access to parks and other things	5/31/2018 4:29 PM
20	there is shade on a lot and it keeps off busier sidewalks	5/31/2018 1:11 PM
21	Close to home, wide pathways	5/31/2018 12:43 PM
22	Trees and nature	5/31/2018 11:07 AM

Q8 Please mark the five (5) Recreational Trail Amenities that are most important to you and your family.



Q9 Please rank your choice for the following in order of priority. (1 = Most Important; 6 = Least Important)

Answered: 373 Skipped: 0



	1	2	3	4	5	6	TOTAL	SCORE
Trails close to where I live	51.69% 184	18.82% 67	12.92% 46	8.99% 32	4.21% 15	3.37% 12	356	4.95
Trails located along scenic areas	13.45% 48	27.17% 97	25.77% 92	16.25% 58	12.61% 45	4.76% 17	357	3.98
Trails wide enough for all types of users	5.90% 21	22.19% 79	23.31% 83	23.03% 82	19.66% 70	5.90% 21	356	3.54
Feeling safe on the trails	23.84% 87	20.55% 75	20.00% 73	21.64% 79	9.86% 36	4.11% 15	365	4.15

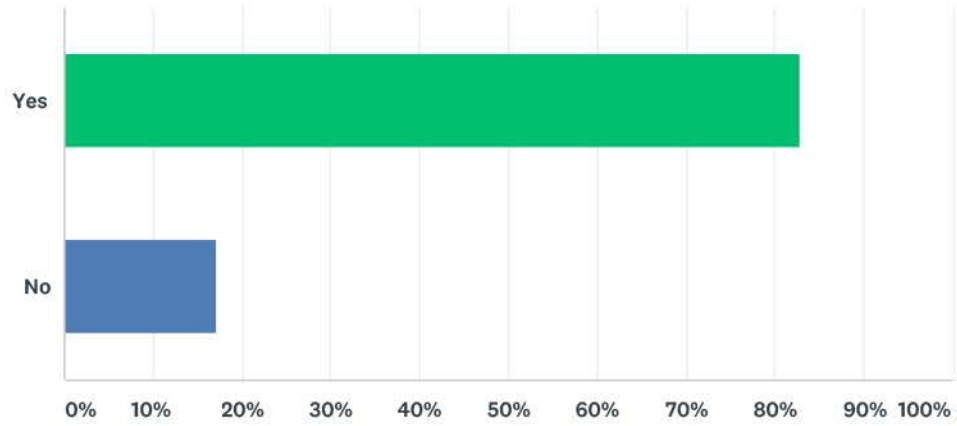
Q10 In what one part of the city, or specific area, would you like to see the City develop a trail?

Answered: 223 Skipped: 150

#	RESPONSES	DATE
1	NE.	6/6/2018 4:13 PM
2	Lovejoy area	6/6/2018 3:27 PM
3	Stacy Ridge Park and Celebration Park are not liked to other parks in the center of town. Not everyone wants to ride on the streets.	6/6/2018 1:50 PM
4	Connect them all	6/6/2018 1:36 PM
5	underpass of 75 connecting east and west in the southern portion of Allen that does not rely upon the entanglement mess of Bethany Intersecting with US 75	6/6/2018 1:01 PM
6	Follow the Six Cities Plan	6/6/2018 10:19 AM
7	We're still relatively new to Allen and learning what trails are already available	6/6/2018 9:35 AM
8	Far East Allen trails that connect the North and South from Stacey Ridge to chaparral would be a nice addition.	6/6/2018 7:32 AM
9	Far southeast side. Near Parker border	6/6/2018 7:00 AM
10	Along creeks	6/6/2018 6:16 AM
11	Prioritize finishing/connecting existing segments.	6/6/2018 4:35 AM
12	Continue trail on north side of chaparral over to cloverhaven way to hook up with Plano's bike streets. People do 50 - 70 mph on chaparral. Not safe for bikers.	6/5/2018 9:32 PM
13	Stacy	6/5/2018 9:14 PM
14	Southeast	6/5/2018 8:53 PM
15	Maxwell Creek, Bethany and Malone	6/5/2018 8:48 PM
16	We would like better trail connectivity between the trail along Ford Park and the north trails. You have to get off to cross McDermott which is unsafe. Also, just trails connecting east to west on the south side of Allen.	6/4/2018 8:11 PM
17	East side, near Angel Pkwy	5/31/2018 9:48 PM
18	I would like to see a connection between the Celebration Park Trail and Allen Station Trail.	5/31/2018 5:09 PM
19	Central Business District	5/31/2018 4:30 PM
20	Area between 121, Ridgeview, Stacey, Twin Creeks. Great location, great trees and plenty or room	5/31/2018 2:51 PM
21	connections between exsisting ones	5/31/2018 1:11 PM

Q11 If Allen had safe off-street pedestrian/bicycle trails connecting neighborhoods, schools, recreation and civic uses, would you use them instead of driving?

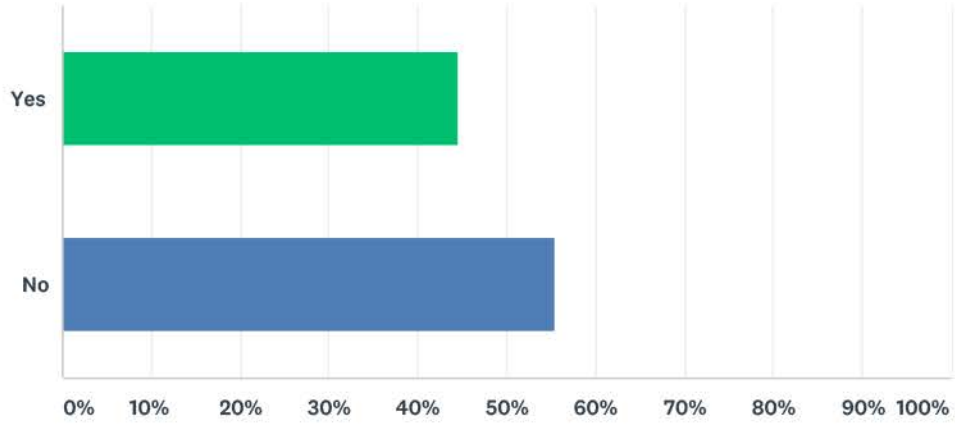
Answered: 363 Skipped: 10



ANSWER CHOICES	RESPONSES	
Yes	82.92%	301
No	17.08%	62
TOTAL		363

Q12 If Allen had safe on-street bicycle routes (such as bike lanes) connecting neighborhoods, schools, recreation and civic uses, would you use them instead of driving?

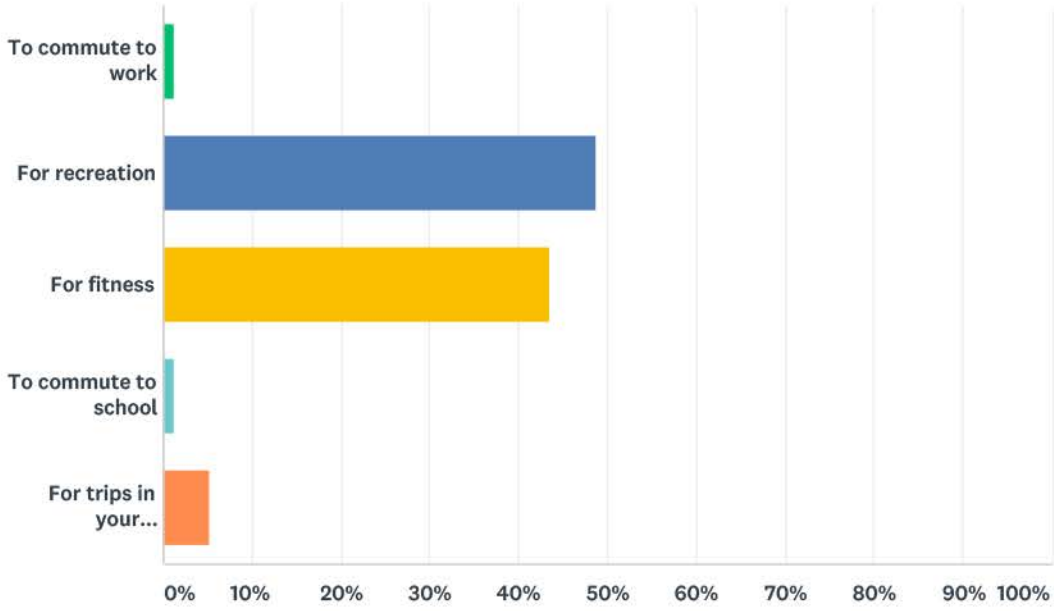
Answered: 364 Skipped: 9



ANSWER CHOICES	RESPONSES	
Yes	44.51%	162
No	55.49%	202
TOTAL		364

Q13 What is your main purpose for cycling?

Answered: 322 Skipped: 51

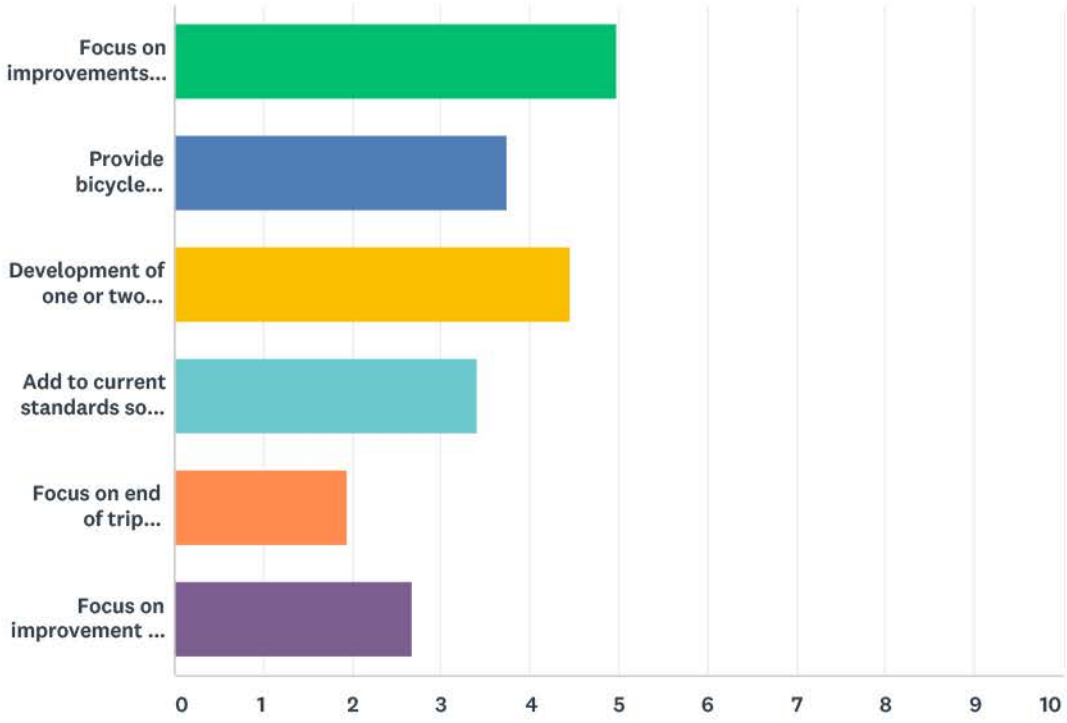


ANSWER CHOICES	RESPONSES	
To commute to work	1.24%	4
For recreation	48.76%	157
For fitness	43.48%	140
To commute to school	1.24%	4
For trips in your neighborhood	5.28%	17
TOTAL		322

#	OTHER (PLEASE SPECIFY)	DATE
1	I will use running trails more than bicycle access	5/31/2018 2:51 PM
2	Going to the grocery store/ bank/vote/...	5/24/2018 8:54 AM

Q14 What should Allen's bicycle system priorities be over the next five to ten years?

Answered: 337 Skipped: 36



	1	2	3	4	5	6	TOTAL	SCORE
Focus on improvements to reduce or eliminate key existing barriers or gaps	51.55% 166	19.88% 64	13.04% 42	8.39% 27	4.35% 14	2.80% 9	322	4.98
Provide bicycle facilities throughout the city	10.97% 35	26.02% 83	22.26% 71	16.30% 52	15.99% 51	8.46% 27	319	3.74
Development of one or two long-distance, major routes that have a high ease of use for the average user	22.15% 72	26.46% 86	34.77% 113	10.15% 33	3.38% 11	3.08% 10	325	4.45
Add to current standards so that new development has superior bicycle facilities planned into them from the beginning	7.12% 23	14.24% 46	12.69% 41	48.92% 158	12.38% 40	4.64% 15	323	3.41

Q15 Please tell us what specific off-street pedestrian/bicycle trails, areas of the city or destinations should be added to Allen's bicycle system or require improvements?

Answered: 146 Skipped: 227

#	RESPONSES	DATE
1	Mountain bike trails (see DORBA) in Allen	6/6/2018 3:27 PM
2	The tunnel under angel parkway is great and makes it safe for bikers and walker to get from one trail and park to another. more of this would be great.	6/6/2018 1:50 PM
3	Not sure	6/6/2018 1:36 PM
4	consult strava data for existing routes that conflict with automobile traffic	6/6/2018 1:01 PM
5	Follow the Six Cities Plan, get going on the McDermott Floodplain, people wander through there already	6/6/2018 10:19 AM
6	Safety for family bikes.	6/6/2018 7:32 AM
7	Na	6/6/2018 6:16 AM
8	Twin creeks golf course area is getting dangerous for bikes.	6/6/2018 4:35 AM
9	North side of chaparral. Fill in gaps on Stacey and exchange. East-west connection anywhere south of Stacy. Continue angel parkway south. Link up angel parkway way with east west trail between Bethany and main.	6/5/2018 9:32 PM
10	Connection to Plano trails	6/5/2018 9:14 PM
11	None	6/5/2018 8:53 PM
12	South to North and east to west on South sides. No good way to get over to Watter's Creek from Cottonwood Bend.	6/4/2018 8:11 PM
13	Exchange between Angel and the Greenville.	5/31/2018 5:09 PM
14	I will use running trails more than bicycle access	5/31/2018 2:51 PM
15	connection between trails more wooded more trees!	5/31/2018 1:11 PM
16	More connectivity between trails so that I can hop on in my neighborhood and not have to drive somewhere first	5/31/2018 7:56 AM
17	East of 75, McDermot/Main street to southbound	5/30/2018 11:35 PM
18	Complete the segment to Rudy's BBQ/Cabela Dr. on Cottonwood Creek Trail.	5/30/2018 11:17 PM
19	Connect Watterson trail to cottonwood and across 75.	5/30/2018 9:50 PM
20	If like to be able to ride from waters trail and connect to cottonwood without having to ride on a busy roadway.	5/30/2018 9:36 PM
21	The ways along Angel connecting to celebration park	5/30/2018 9:31 PM

Q16 Please tell us what specific on-street bicycle routes, areas of the city or destinations should be added to Allen's bicycle system or require improvements?

Answered: 109 Skipped: 264

#	RESPONSES	DATE
1	Connect all trails	6/6/2018 1:36 PM
2	consult strava data for existing routes that conflict with automobile traffic	6/6/2018 1:01 PM
3	Clear and separate bike lines in order to provide safety for all drivers and cyclists.	6/6/2018 7:32 AM
4	Main/McDermott	6/6/2018 6:16 AM
5	Consider better physical separation of on street routes. Look at what's been done in the Fayetteville/Bentonville corridor in Arkansas for examples.	6/6/2018 4:35 AM
6	Painted bike lanes would be nice. Or more bike sanctioned roads, like river crest.	6/5/2018 9:32 PM
7	None	6/5/2018 8:53 PM
8	On street ones in the area of Story Elementary and Reed Elementary have too much on-street parking for safe shares use.	6/5/2018 8:41 PM
9	South to North and east to west on South sides. No good way to get over to Watter's Creek from Cottonwood Bend.	6/4/2018 8:11 PM
10	Bike racks or secure areas to leave bikes near major shopping/restaurant areas. Bike lanes on major roads	5/31/2018 9:48 PM
11	Exchange between Angel and the Greenville.	5/31/2018 5:09 PM
12	I will use running trails more than bicycle access	5/31/2018 2:51 PM
13	na	5/31/2018 1:11 PM
14	Major streets on marked, or frequently traveled, bike paths should be widened to allow bike lanes. (Watters, McDermott, etc)	5/30/2018 11:17 PM
15	None of note	5/30/2018 9:50 PM
16	I avoid the streets. Traffic had become too busy throughout the city.	5/30/2018 9:36 PM
17	Exchange and Angel	5/30/2018 9:31 PM
18	Any that help encourage commuting by cycling.	5/30/2018 8:30 PM
19	Not sure	5/30/2018 7:45 PM
20	Safer main routes on busier street for those that want to get out of town to ride.	5/30/2018 7:36 PM
21	None. On street doesn't work. It isn't safe for riders.	5/30/2018 7:10 PM
22	North south like alma	5/30/2018 7:04 PM

Q17 Do you have any additional comments to be considered in the Trails Master Plan?

Answered: 129 Skipped: 244

#	RESPONSES	DATE
1	No	6/6/2018 1:36 PM
2	keep up the good work. Until there are dedicated bicycle lanes that be used on each and every 4 lane, 6 lane thoroughfare, job is not done. Also, ensure to leverage existing bridges so that paths may cross under them to avoid conflicts with street traffic, such as the bridge used by main that crosses cottonwood creek. Current pedestrians/cyclists need to take a convoluted path over street traffic to go north from south east corner of the intersection of Greenville and main to the north section. also, foot traffic sidewalks are attrocious in the north east corner of main and greenville - may in fact violate handicap rules	6/6/2018 1:01 PM
3	The more connected we are, the more people will use trails. The 3 wheel bicycle program rental program would really be great.	6/6/2018 10:19 AM
4	Some sort of bridge/ overpass over major streets. I would love to see something more along the lines of a green belt system similar to what Kingwood Texas has - it is a phenomenal way to commute around the city.	6/6/2018 7:00 AM
5	Keep going! A well connected trail system is asset and competitive advantage for Allen - you should market this better	6/6/2018 4:35 AM
6	Not right now	6/5/2018 9:32 PM
7	We need a pedestrian cross walk on Bethany at Joe farmer. Kids cross there all the time and it's very dangerous.	6/5/2018 8:48 PM
8	Improve connectivity between all city trails and also to Oakpoint trail.	6/4/2018 8:11 PM
9	Restroom stops along the way	5/31/2018 9:48 PM
10	Keep up the amazing work!	5/31/2018 5:09 PM
11	I will use running trails more than bicycle access. City needs to contact Clevelnad, OH on thier trail systems -- +150 miles around the city through the river system	5/31/2018 2:51 PM
12	na	5/31/2018 1:11 PM
13	No, but thank you for all the time and planning you put into providing all of the wonderful trails! My wife and I love to exercise and run errands on foot (when time allows) in order to take advantage of the amazing outdoor roadways our Parks Dept. has developed!	5/30/2018 11:17 PM
14	No	5/30/2018 9:50 PM
15	Please add benches to watters trail south of day spring! North of McDermott.	5/30/2018 8:55 PM
16	See previous two comments.	5/30/2018 8:30 PM
17	Want to connect the trails we already have.	5/30/2018 7:45 PM
18	Some drinking fountains would be nice.	5/30/2018 7:36 PM
19	We need to prioritize separating bikes from cars as much as possible.	5/30/2018 7:10 PM

Q18 Do you want to receive the Allen Parks and Recreation e-newsletter to learn about the latest news and event information? If so, please enter your email address in the form provided below. Thanks!

Answered: 149 Skipped: 224

ANSWER CHOICES	RESPONSES	
Name	0.00%	0
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	149
Phone Number	0.00%	0

#	NAME	DATE
	There are no responses.	

#	COMPANY	DATE
	There are no responses.	

#	ADDRESS	DATE
	There are no responses.	

#	ADDRESS 2	DATE
	There are no responses.	

#	CITY/TOWN	DATE
	There are no responses.	

OCTOBER 2019

HALFF

CITY OF ALLEN

TRAILS & BIKEWAYS MASTER PLAN

CITY OF ALLEN
PARKS & RECREATION