A Community of Trails

The City of Mesquite Trails Master Plan

April 2008

Raymond Turco & Associates

HALFF

MESQUITE
TEXAS
Real. Texas. Service.

City of Mesquite
2008 Trails Master Plan

"A Community of Trails"

April 2008

HALFF

Acknowledgements

The following are recognized for their significant contributions to the preparation of the City of Mesquite Trails Master Plan.

Mesquite City Council

Mesquite Parks and Recreation Advisory Board

Mesquite Quality of Life Corporation Board (4b)

Mesquite Planning and Zoning Commission

Mesquite City Staff

Special thanks to the many other interested citizens who participated in the public meetings held throughout the master planning process.

Table of Contents

Maps

Appendixes

Trail Prioritization Criteria

Additional Maps

References

*This Trails Plan is intended to hold value for the next 25 to 30 years. The Trails Plan urges Mesquite to take measurable steps toward the goal of improving every Mesquite resident's **"Quality of Life"**, creating a more sustainable green environment, promoting economic development, improving health, limiting the amount of vehicle exhaust emissions, noise, and reducing energy consumption. This long view sets forth the vision, the implementation and the framework which will lead the City of Mesquite to become **"A Community of Trails."***

1. Introduction

The concrete trail in Debusk Park winds its way along the edge of a wooded area.

1.1 Plan Overview

Trails will offer numerous aesthetic and recreational opportunities to and from destinations in Mesquite. Residents who desire to bicycle or walk to work, go for a family bicycle ride to the park, library, or experience an undeveloped natural area will benefit from safe, connecting trails.

Trails often help raise property values, provide common space for social interactions, improve overall community safety, and encourage healthy lifestyles. They can also improve over-used conditions in sensitive environmental areas when designed properly.

A high-quality trail system is a marker of a community where it is pleasant to live, work and play. The City of Mesquite Trails Master Plan (referred to as *The Trails Plan*) uses the term 'trail' to describe shared use paths, multi-use trails, hiking pedestrian trails and an extensive sidewalk system designed for non-motorized usage. Trails in this document are typically off-street within their own trail corridor. The priority in this plan is to provide a trail system that is separated from roadways as much as possible. Sidewalks[1] are considered a trail where it is a minimum of 6' wide (10-12' recommended) and provides key connections between off-street trails. Trail users may include but are not limited to: novice or expert bicyclists, non-motorized scooters, in-line skaters, roller skaters, Segways, wheelchair users (both non-motorized and motorized), walkers and runners.

The Trails Plan provides a framework for a new trails system that will connect to significant environmental features, schools, public facilities, local neighborhoods and business/retail districts in Mesquite and throughout the region while providing a total trail network of 195 miles. The following is a breakdown of trail type recommendations: 45 miles of 12' wide Regional/Spine Trail equates to 1 mile per 3,500 residents, 60 miles of 10' wide Connector Trail equates to 1 mile per 2,650 residents and 90 miles of 6' to 8' wide Secondary Trail equates to 1 mile per 1,750 residents.

Mesquite has many opportunities to develop a quality trail system. A limited number of the city's parks and green spaces have their own internal trails. Some of them have been formally developed while others have been created by user demand where people have simply walked and formed a new path.

Many streets in newer developments and the older historic core have sidewalks. There are a number of opportunities to create a unique trail system along the North and South Mesquite Creeks' drainage corridors. There are also opportunities to develop trails

[1] Typically, sidewalks are not a good substitute for trails, in that two-way bicycle traffic on one side of a road increases conflicts, particularly at intersections. However, this design may be appropriate in certain circumstances. In any case, sidewalks are important for walking along roadways and should be a standard component of every roadway project.

along TXU easements, alongside proposed road improvements and along designated creek corridors and greenways. Trail development shall be integrated with the development of larger plots of land.

The Trails Plan shall be incorporated as an amendment to the city's Comprehensive Plan and Subdivision Ordinance.

Joint planning efforts by city staff and the developer help provide a system of walkways in a new residential subdivision.

1.2 Plan Vision

The Trails Plan proposes the development of a core system of regional and community trails supported by complementary systems of secondary neighborhood trails, street enhancements and natural surface trails (*Figure 1*). This system of trails is explained in more detail in *Chapter 5. Trail Design Elements.* The trail system gives community members a wide variety of trail options throughout the city and to other parts of the metropolitan region.

Figure 1. Mesquite Trails System

The recommended trail network complements Mesquite's rich history of its indigenous people, its pioneers, its commerce and its ecology. Trails will connect schools, parks, public facilities, commercial/retail districts, open spaces and natural areas and community centers to richly enhance Mesquite's quality of life. Additionally, the proposed trail system provides a series of loops so that residents can use trails to travel to work, shop, and recreate.

> ***"Make big plans; aim high in hope and work, remembering that a noble, logical plan once recorded will never die."***
> *Daniel Burnham; US Architect*

Creating Community

The network of proposed trails combined with historical signage will help deepen residents' understanding of Mesquite's history and culture, promote and offer healthy recreation, transportation, provide community-gathering options, boost regional economic growth and improve community safety.

2. Existing Conditions

Before and after sketch of potential trail connection located under US80.

2.1 Survey Findings

As part of the overall Trails Plan, an extensive public process occurred. The public process consisted of a major 2006 Trails Attitudinal Survey, a series of public meetings and staff workshops. The 2006 Trails Attitudinal Survey was conducted to capture Mesquite residents' attitude on trails and recreational issues from respondents randomly selected from households. The telephone survey included the responses of 400 individuals using a comprehensive questionnaire that collected data on a variety of trail issues including quality ratings of facilities, need for construction of additional amenities and satisfaction with recreational characteristics. In addition to the survey, an extensive public outreach process occurred involving public meetings and workshops. The survey results revealed that:

- 90% of residents surveyed said they supported a citywide trails network throughout Mesquite.
- 88% of residents surveyed said that Mesquite should provide additional walking and bicycling trails for its residents.
- 86% of residents surveyed said that a citywide trail network in Mesquite will improve the "quality of life" in our city.
- 85% of residents surveyed said that as part of the trail system, they would support widening sidewalks where necessary to provide trail connections.
- 65% of the residents supported a bond election, and 70% would support redirecting sales towards capital projects which involved the development of trails within Mesquite.

The Trails Planning Team interviewed young and old residents at the City of Mesquite's annual 'Christmas in the Park' program. Even youngsters filled out the questionnaires. People mentioned, for example, that they would enjoy the opportunity for expanded sidewalks in the Heritage Square area.

Survey participants consistently mentioned trails are lacking in the city. Specifically, having existing trails conveniently located for people in all areas ranked high (i.e. existing trails are not conveniently located) which indicates a strong need for people to be close to trails. In examining ways to improve recreation in Mesquite, the construction of walking / biking trails rated as most important. In many public opinion polls across the nation, "Trails are the most widely requested recreation element."

The group listens intensely as proposed trail routes are explained.

The most popular location choices among residents for where they would like to see trails constructed in Mesquite are: greenbelts, creeks and drainage (87%), local neighborhoods (83%) and along utility corridors (67%). A majority of residents would also like trails that connect to parks, schools and major desitnations. Futhermore, respondents agreed that improved sidewalks integrated with the trail system will increase their use of trails within the city. Although the idea of conncetivity to other cities did not rank as being most important to the residents, it is essential for the trails to provide connectivity and to provide trail markers or signage that announces and informs you are entering or leaving Mesquite.

Additionally, hike and bike trails were identified as one of the primary amenities in which respondents voiced the highest likelihood of utilization if available in Mesquite. Furthermore, the expansion of the city's trail system rated as one of the top three capital park and recreation improvements supported by residents.

> ***"Walking is by far the most popular activity of this group, followed by looking at flowers, bird watching, and playing with grandchildren."***
> As quoted from an elderly gentleman

These findings are consistent with the comments heard at the public meetings, focus groups and individual interviews. In a short questionnaire distributed at the Christmas in the Park program, 85% of respondents indicated they would walk or bike more frequently to parks, stores and key destination points if given the amenities and opportunities. The discussion of trails at the public meetings received an overwhelmingly positive reaction for the creation of additional trails, echoing the results of the Trails Attitudinal Survey.

Public and Stakeholder Input

Public input is a critical component of any planning process. A long range plan must represent the long range goals of the citizens and residents who are going to fund, support and ultimately use the planned facilities. The consulting team presented a Power Point presentation to the public during public meetings, the Parks and Recreation Advisory Board and the Mesquite Quality of Life Corporation meetings. The presentation gave a general description of the findings in Mesquite. The consulting team expressed to the residents the possibility of using TXU R.O.W.'s and easements and the drainage corridors in their city, and that they provide an excellent connection for hike and bike trails. They stated that the TXU corridors are an underutilized tool for the city's trail system, and that the consulting team should plan to explore the option of using them.

The public input process included two public meetings and two Parks and Recreation Advisory Board meetings which were open to the public. Key comments and input received include:

- The vast majority of the participants that attended the meetings were in favor of the city developing additional trails throughout the city.
- A few residents were concerned about any potential impacts from increased crime or a decrease in security.
- A few residents expressed concern over the impact of a potential increase in activity along the proposed trail corridors resulting in a potential reduction of privacy.
- It was noted that access roads on highways are important corridors for bikers because there is usually a long straight section of road for continuous biking.
- The service road along Hwy 80 has been reduced down to one lane which has been detrimental to the biking population.
- Signage is an important aspect to bikers' safety. Signage should note that there is a bike lane and that there are bikers along the road. It is important not to adapt bike lanes to existing roads without first widening the roads.
- It is important to establish a system of hierarchical trails. For example a primary trail will have a width of 10' while the secondary trails may be 8'. Internal trails may be 6' in width, where feasible. All new trails and renovated facilities will have accessible ramps.

- It is an important consideration when designing a trail system that the bridges and trail widths are adequate in size and have the capacity to handle the users. There was also a suggestion to have a separate trail system for high-speed users and everyday walkers.

Input from Staff

The City of Mesquite has always had a high commitment to include residents' feedback in its planning and design processes. In light of the widespread interest in trails in all parts of the city, city staff undertook an intensive process to provide their input and to combine future and current planning efforts. Input was also received from city departments including Engineering, Historic Mesquite Incorporated, Parks and Recreation, Planning, Police, Fire and Transportation. Key comments and suggestions that were received include:

- Generally, existing parks and trails in Mesquite are very safe. The only source of complaints is from small gatherings and activities at the malls and very minor graffiti.
- Consideration should be given to integrating citywide police and fire response units to be available to respond to emergencies along trail corridors. To aide trail identification, trails should be a named.
- The need for call boxes had arisen at several meetings. With the rise and usage of cell phones, it is believed that trail users will be self monitoring and policing.
- Lighting may not be required along trail corridors, but should be placed at the trail heads and points of access.
- Traffic calming infrastructure should be considered in some locations to help slow traffic in the vicinity of key at-grade crossings.
- Sidewalk and trail development requirements should be planned with the development and replacement of new infrastructure such as water and sewer replacements, future road widening and in some instances roadway lane reductions. By reducing the number of lanes, staff felt that the removed roadway lane could be converted to a future bikeway.

2.2 Related Plans and Background Documents

A few adopted planning processes have helped guide the vision and development of The Trails Plan for Mesquite. Below are summaries of the relevant plans and documents:

City of Mesquite Development Guide - 2003

The overall objective of the Mesquite Development Guide is to encourage and accommodate growth to make Mesquite a major suburban city, create a sound economic base and offer diverse opportunities for a wide variety of living, working, shopping and leisure activities. The second objective is to encourage, protect and maintain the predominance of low density residential neighborhoods, stressing privacy and family oriented lifestyles as a major feature of the city. In order to obtain the best of both worlds, the plan was molded to accommodate high intensity nonresidential development while still maintaining a low density oriented residential lifestyle. The urbanization of Mesquite would occur in high intensity public spaces, offering diverse venues and uses while still maintaining a hometown feel. The development areas would center on the network of major freeways and highways creating regional retail and entertainment centers, create a second tier of business and development corridors, which are multi-faceted and diverse. The central core of Mesquite would rest in its Heritage Square area which is planned to evolve into a traditional urban center accommodating businesses, services and public activities commonly found in a central business district of a small town. The intent of this area is to serve the surrounding neighborhoods and the broader community by a series of simple street patterns and walkways creating pedestrian friendly corridors.

City of Mesquite Parks, Recreation and Open Space Master Plan 2000

This plan is intended to provide guidance and specific recommendations for park development in Mesquite from the year 2000 to 2010. Residents' responses from the 2000 Parks Master Plan Public Opinion Poll recommended as their number one priority that new park development include multi-use trails. In another question from a comprehensive listing of recreational facilities, residents rated playgrounds (88%), picnic areas (87%), senior centers (84%), multi-use trails (83%) and picnic pavilions (82%) as the most important facilities to construct. The public opinion telephone survey collected 402 individual responses which were incorporated into the Parks, Recreation and Open Space Master Plan. The plan also recommended that open space areas should be included within all parks, particularly large parks and greenbelt trails wherever possible. Acquisition and preservation of drainage ways and floodplains is one method of acquiring open space within any municipality and helps to ensure the preservation of this open space.

The Dallas County Trail Plan: *Trails for the 21st Century* - 1997

This plan provides a vision for the future of trail development throughout Dallas County. It provides an inventory and evaluation of potential trail corridors and devises a plan for implementing a countywide trail network. The plan recommends a network of over 335 linear miles of hard surface trails and over 145 miles of soft surface trails. The hard surface trails are intended to serve both recreation and transportation functions, while the soft surface trails are intended to serve areas where the focus is to enjoy natural resources over the need for mobility. The Duck Creek/White Rock Creek Trail runs from east to west through a TXU utility corridor and connects Dallas via Mesquite to Garland. It is identified as a Priority 2 Hard Surface Trail. The South Mesquite Creek Trail provides north to south connectivity and traverses northward along the South Mesquite Creek Corridor, and it has been identified as a Priority 1 Soft Surface Trail. An additional trail corridor is the Rodeo Trail which runs along Military Parkway providing connectivity from the Mesquite Rodeo to the Heritage Square Area.

While understanding that environmental issues and constraints may ultimately require a soft surface trail along the southern edge of South Mesquite Creek and the East Fork of the Trinity River, the opportunity for a hard surface trail in this corridor should be fully explored. The Trinity River corridor provides an excellent north-south and east-west connector to adjacent cities and southern Dallas County.

2.3 Existing Trails Review

Typically narrow sidewalk in use.

There are several types of trails in Mesquite: sidewalks, paved park trails, unpaved creek trails, and informal or “demand” pedestrian trails.

Sidewalks are pedestrian areas generally defined by a curb and are physically elevated from the roadway. Sidewalks can be built without a curb but separated from the roadway. Sidewalk connections for pedestrians are fairly comprehensive in downtown Mesquite and throughout many of the newer neighborhoods. Sidewalks are largely absent in many of the older neighborhoods and on the fringe of the community. The existing sidewalks are generally 4’ to 5’ feet in width, which is inadequate in most parts of Mesquite. Sidewalks should be a minimum of 5’, with larger widths (8’ or greater) appropriate for high-use pedestrian areas, such as Heritage Square, the Town East Mall and locations where the sidewalk is serving as a trail connection.

Paved city trail found in DeBusk Park.

Paved city trails and **earthen trails** are found in a number of Mesquite's parks, including DeBusk Park, Town East Park, Williams Athletic Complex, Valley Creek Park, Clay Mathis Greenbelt Park, Cayman Estates Park, Beasley Park and Palos Verdes Park, just to name a few. These trails provide short to medium circulation routes within the parks themselves providing no connections to other local destinations or the opportunity for longer recreational routes. A non-city sponsored, unpaved trail exists in the lower South Mesquite Creek at the East Fork of the Trinity River region. This area is overgrown, inaccessible during the growing season and in poor condition.

The following page *Table 1 – Existing Trail Facilities*, is a listing of current trails and descriptions of amenities located within the city limits of Mesquite:

Table 1

Existing Trail Facilities - 2007

Park Id. Num.	Name	Address	Acres	Sector	Hike/Bike Trails (miles)	Bike Racks	Fishing Pier	Water Feature	Pool	Recreation/Sr. Center	Picnic Units/Tables	Pavilions	Playgrounds	Shelters	Restrooms
Internal Park Trails					Trail Features		Aquatics			Trail Amenities					
1	**Austin School Park**	405 Americana Ln.	6.89	1	0.13	1					2		1		
2	**Beasley School Park**	915 Green Canyon	16.80	1	0.49	1		1		1	2		1		
3	**Blackwood Park**	2321 Baker St.	6.50	1	0.66						6		1		
4	**Bruton Park**	1407 Majors Dr.	24.97	1	0.34			1			1				
6	**Cannaday School Park**	1615 Chisholm Tr.	4.90	1	0.29	1					2		1		
7	**Cayman Estates Park**	900 Parkwood Tr.	26.74	3	0.55								1		
8	**City Lake Park**	403 S. Galloway Ave.	11.80	2	0.48		3	1	1		14		1	1	
9	**Clay Mathis Greenbelt Park**	2181 Clay Mathis Blvd.	20.88	3	0.25						5	1	1		
10	**Brandy Station Park**	1919 Brandy Station	17.57	3	0.54						8	1	1		1
14	**DeBusk Park / Kids Quest Playground**	1625 Gross Road	42.52	2	1.76	1					19	2	1		1
15	**Eastfield Soccer Complex**	3731 Motley Rd.	30.00	1	1.00										
22	**Gentry School Park**	1903 Twin Oaks Dr.	8.35	3	0.56	1					2		1		
26	**Hodges Park**	230 W. Cartwright Rd.	10.00	2	0.11						10		1	1	
34	**McWhorter School Park**	1703 Spring Lake	17.00	2	0.31	1					6		1	1	
42	**Palos Verdes Lake Park**	4800 Olympia St.	16.11	1	0.58		2	1							
43	**Paschall Park**	1001 New Market Rd.	64.70	2	0.38						40	1	1		1
45	**Porter School Park**	617 Via Avenida	8.10	1	0.24	1					6		1		
46	**Pritchett Property**	Short Court	10.34	2	0.28										
58	**Town East Park Town East Pavillion**	2851 Gus Thomasson Rd.	29.14	1	1.20				1		21		1		
60	**Valley Creek Park**	2482 Pioneer Rd.	88.21	3	1.22		1	2			6	1	1		1
62	**Westlake Park**	601 Gross Rd.	43.25	2	0.18			1			9				
63	**Westover Greenbelt**	1850 N. Parkway	33.72	2	0.93						18			1	
64	**Westover Greenbelt Park**	3520 Forney Rd.	15.80	2	0.16						4		1	1	
66	**Williams Athletic Complex**	1200 New Market Rd.	45.72	2	0.44								1		1
			600.01		**13.08**	**7**	**6**	**7**	**2**	**1**	**181**	**6**	**18**	**5**	**5**

2.4 Challenges and Opportunities

Major freeways and highways create large physical barriers for trail users.

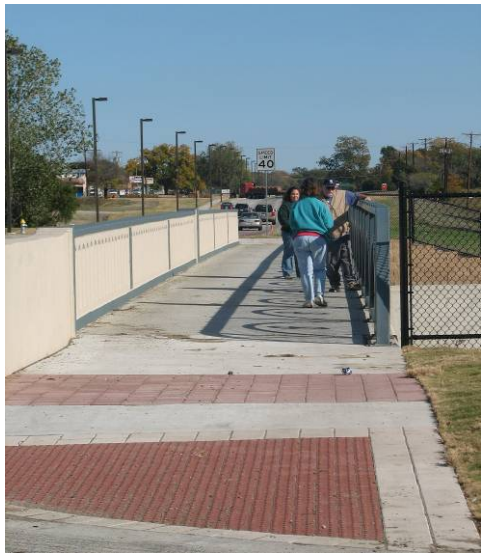
Physical Barriers

The City of Mesquite has four major transportation corridors, IH635, IH30, IH20 and US80, making it an extreme challenge for bicycle users. These roadways pose a physical and visual barrier, making it almost impossible to provide trail linkages within these corridors. Careful study and evaluation of existing drainage, utility and street corridors will be required to ensure that proper access and connectivity can be provided in these areas.

Fragmented, incomplete trail section affects access.

Access

There are a few small trail systems located in the parks in Mesquite. However, a fragmented sidewalk and bicycle lane network that is missing or in disrepair makes it difficult to walk or bicycle from one place to another. Many of the existing trails lack amenities such as lighting, signage and benches that make trails inviting to users. Widened arterials and numerous highways, make crossings a challenging prospect for many potential trail users.



Planned pedestrian crossing of creeks provides viewing platform for users.

Facility Design

Many times where bicycle and pedestrian facilities are provided, the facilities are often designed in a very utilitarian fashion with little thought given to the ultimate number and type of users that will be accessing the facility. The results are little used facilities that do not provide the necessary comfort or safety to many bicyclists and pedestrians. In newly planned and constructed areas, intra-department planning efforts result in widened pedestrian crossings at bridges and provide an opportunity for aesthetic treatments. These crossings now provide a sense of arrival, entry and interest to users and passing motorists.

Widened pedestrian crossing provides access over IH 635.

Ornate railing and stone cladding are examples of collaborative efforts between city departments to provide enhancements to proposed infrastructure improvements.

Remnants of Old Lucas Farm, "Entrance Markers" located in South Mesquite.

Maintaining Rural Feel

Mesquite has a large amount of undeveloped land located in the southern sector. In fact the rural character of the city is loved and cherished. Agricultural activity and landscapes characterize Mesquite from the southern most edge of the South and North Mesquite Creek corridors down to the southern border of the city.

"Mesquite has a quaint country atmosphere. It is quiet and you can see the stars, hear the birds, and occasionally still see wildlife."
Public meeting participant; 2006

Limited rights-of-way in many parts of Mesquite make trail development difficult.

Limited Public Rights-of-Way and Encroachment

Mesquite, like many well-established communities, has the challenge of accommodating and balancing the needs of different roadway users within limited public rights-of-way. Pedestrians and bicyclists are often left without proper facilities. Even more problematic is the issue of private property encroachment into the public right-of-way, such as a property owner placing trees, shrubs, fences, or walls in the public right-of-way. This is particularly true in older residential areas where there are no sidewalks and where there is no visual delineation between private property and the public right-of-way. Although it is within the city's right to reclaim this space, it can be politically challenging to do so, particularly if the residents perceive that a trail or improved facility will bring more people through the area.

Development up to the creek bank eliminates potential greenway corridors.

Florence Ranch Homestead is located along potential trail route.

Palos Verdes Park is a destination with an existing internal trail but no external connections.

Development Allowed to Stream Edge

Developments have been built to the edge of many of Mesquite's streams, resulting in the loss of the riparian zone. The opportunity to develop trails through most of these neighborhoods has been lost, and future trails will rely heavily on undeveloped parcels of land that are slated for development.

Rapid Growth

Much of Mesquite is developed, but areas in south Mesquite still remain undeveloped. These areas are quickly being subdivided and developed, continuing a trend from the last 30 years. The character of the development has been suburban in nature with minimal dedicated public open space and parks. Building trails through these areas as they develop improves connectivity, safety, and often increases property values. Trails should connect through these developments to adjacent developments, schools, parks, commercial and future retail areas and major roadways.

Existing Parks and Open Space

There are many opportunities to make trail connections to, as well as through the existing parks and open spaces in Mesquite. The schools in Mesquite also provide a wonderful opportunity for enhancing the trail system. Schools and trails are a natural combination when they safely connect neighborhoods and parks. Because of existing infrastructure such as available parking and in many cases, adjacent to existing parks, the schools offer an opportunity to place trail heads within these areas. The trails network will utilize the existing facilities while providing an expanded trail system and points of connection. This will help serve the recreational needs of students and residents alike.

Available Corridors

Mesquite has several natural corridors along creeks and streams that provide an opportunity for trail, greenway and open space development. The creek corridors also provide opportunities for stream corridor preservation to reduce flooding and erosion impacts to adjacent homes.

Mesquite also has several utility and greenbelt corridors that connect a number of schools, parks and neighborhoods throughout the city. They represent a potential to integrate easements into a trail system, including the TXU power line, the Union Pacific railroad, gas line corridors and an extensive greenbelt system.

TXU power line corridor

Storm sewer and drainage corridor

Railway corridor

3. Trail Needs Assessment

This trail location in City Lake Park is extremely popular as demonstrated by its users.

Why does Mesquite need a Trails Plan? One reason is its continuing growth and popularity as a residential community with close proximity to Dallas and surrounding Dallas County. Visitors and residents desire to get out of their cars and walk or bicycle on trails, quiet streets and around Heritage Square.

Secondly, residents continually remarked on the need for more and better trails and trail connections in public meetings and in the Trails Attitude Survey. Having a planning document that identifies trail priorities will enable the city to create a safe, accessible, attractive and usable trail system.

The needs identified for a Mesquite Trails System were based on:

(a) An extensive public process including several public meetings;

(b) The findings of the Trail Attitude Survey;

(c) The Parks, Recreation and Open Space Master Plan has identified the potential location and need for an expanded trails system and;

From these three sources, safety, access, improved quality of life and preservation of the rural feel are all important elements for Mesquite's success as a bicycle and pedestrian friendly community with a high-class trail system.

It is the desire of Mesquite to provide better mobility and quality of life for its citizens.

This user stated that the city is lacking adequate pedestrian facilities that provide connectivity.

Narrow sidewalks are located in newly developed subdivisions.

Safety is a concern of many residents, whether they are avid or casual recreational cyclists, walkers or pedestrian / bicycle commuters. In many instances historic design decisions have been made to increase vehicular traffic and/or parking capacity and speeds at the expense of cyclists and pedestrians. The lack of a continuous sidewalk system in Mesquite, especially along busy streets and in older areas of town, forces pedestrians and less experienced cyclists to walk or ride in the street. Studies show that the presence of trails leads to a decrease in crime in the surrounding area due to improved community support, connection, and use of previously neglected corridors.

Access for cyclists and pedestrians to shopping, work, recreation, school and other destinations is hampered by major freeways such as IH 635, IH30, IH20 and US80. The lack of continuous and connected bikeways, walkways and trails into the city's historic downtown and to the Mesquite's schools, parks, employment and shopping areas has decreased the potential for bicycling and walking as well.

The Trails Plan urges Mesquite to take measurable steps toward the goal of improving every Mesquite resident's "Quality of Life", creating a more sustainable green environment, promoting economic development, improving health, limiting the amount of vehicle exhaust emissions, noise, and reducing energy consumption. The importance of developing a trail system that is attractive and inviting is a key element in preserving Mesquite as a place where people want to live, work and visit. The attractiveness of the environment not only invites residents to explore Mesquite, but more importantly, a beautiful environment helps to improve everyone's positive feelings about the "Quality of Life" in Mesquite.

"There is nothing like walking to get the feel of a country. A fine landscape is like a piece of music; it must be taken at the right tempo. Even a bicycle goes too fast."
Paul Scott Mowrer

Trail Types for Mesquite

Trails appeal to everyone. Whether young or old, active or wanting no more than a few minutes out in a beautiful area, all of us can find something to do on a trail. This plan recommends a variety of trail types in all areas of the city, so that everyone can easily access and use a trail that appeals to them. This section lays the foundation for trail types to be built in Mesquite. By adding a layer of consistency to trail development, a clear picture of what the entire system will be like in the future can be created, and everyone can work towards putting the pieces to that picture in place.

Trail Users

Trails should be designed to accommodate a variety of users. Activity on a trail provides a sense of safety and comfort to a trail, and encourages others who are not as active to use the trail. Users of trails will include:

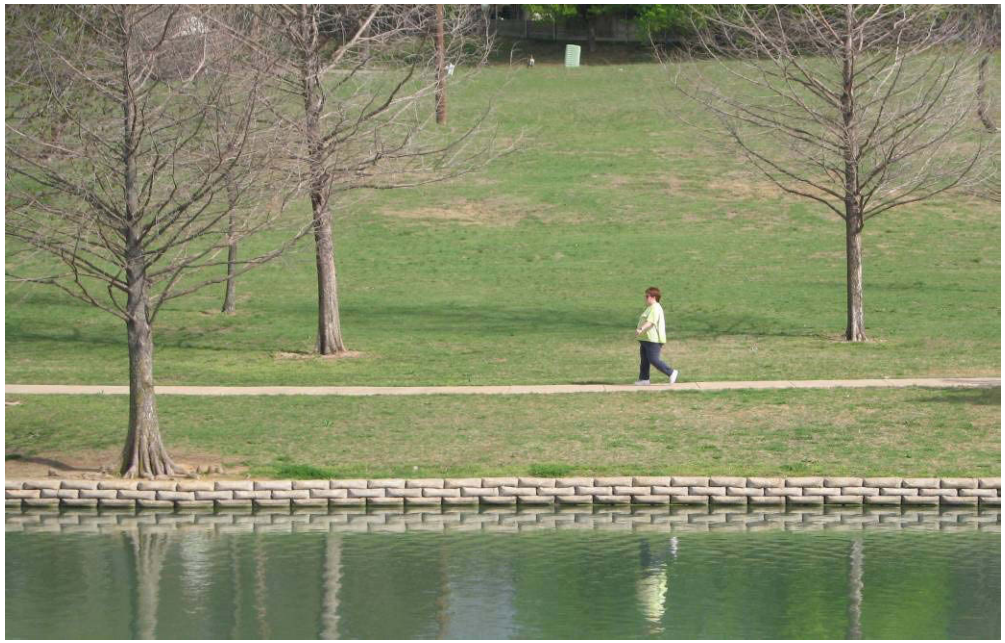
- Walkers seeking exercise and recreation – Typically relaxed walking along a pleasant corridor may include senior citizens, mothers with children or families. Users may occupy a significant portion of the trail due to walking side by side.

- Joggers and runners – Use trail corridors for exercise and activity. Higher speed may conflict with slower users of the trails. Softer trail surfaces such as decomposed granite are preferred.

- Recreational and inexperienced cyclists – Use trails for exercise and activity. Users are interested in scenic appeal and connectivity of the trail system, and prefer more interesting trail alignments rather than trails that favor higher speeds. This group may also include children going to school.

- Higher speed cyclists and commuters – More experienced riders are typically more interested in higher speeds. These riders often favor roadways over off-street trails. For off-street trails, alignments with shallower curves are favored by these users. Because of the higher speeds, increased trail widths are recommended to reduce conflicts with other trail users.

4. Proposed Trail Network



Scenic walkways are located alongside the water's edge at Palos Verdes Park.

Introduction

Reflective of the city's vision and desired physical, social and economic environment, the goals and objectives serve as a policy and philosophical framework for the Trails Plan. These goals and objectives guide the planning, design and continual improvement of the city's trail system even as councils and staff change over the years. Once established the goals should be followed diligently and consistently.

4.1 Goals and Objectives

The Mesquite Trails Master Plan provides a framework for a comprehensive network of trails that link important pedestrian destinations, environmental features, historic landmarks, public facilities and business districts. As the Dallas County Trails Plan notes, "Trails serve many functions in our urban and suburban communities. They provide many opportunities for recreation, transportation, access to neighborhood schools and businesses." Trails also enhance environmental awareness, protection of biodiversity, storm water management, awareness of cultural and historic resources and promote **"A Community of Trails."**

The purposes of the Trails Plan are to:

- Provide a framework for coordinated and consistent planning, development and improvement of trails throughout the city
- Establish priorities based on researched and documented facts and a community needs analysis
- Provide for the development and enhancement of sidewalks, trails and bikeways along major thoroughfares
- Provide for preservation of the city's green space, natural areas and drainage corridors
- Provide for a dedicated network of hike and bike trails throughout the city, linking key destinations

Trails Plan Goals

1. **Foster coordination regarding trail development with other city departments as well as utility providers.**

- Ensure continuing coordination between the various city projects to ensure optimization, streamlining and support of the common goal to provide a superior transportation system for all modes of transportation and all age groups.
- Coordinate between city entities i.e., Planning, Engineering, Transportation and Parks and Recreation to recognize and maximize trail opportunities and funding dollars.
- Coordinate with utility providers to recognize and maximize trail opportunities along all utility corridors where feasible.

2. **Develop a tool to coordinate multi-jurisdictional efforts with NCTCOG, TxDOT, Dallas County, adjacent cities and MISD with respect to issues that affect trail opportunities in the community.**

- Emphasize a multi-jurisdictional approach to providing a comprehensive trail system along natural and man-made corridors including roads, utility easements, creeks and drainage ways by incorporating all adjacent cities that are connected through these corridors, namely Dallas County, Kaufman County and the Cities of Dallas, Forney, Garland, Seagoville and Sunnyvale.

- Create an Inter-Cities Trail System incorporating all cities that border Mesquite.
- Continue to foster the current relationship between the City of Mesquite and the Mesquite Independent School District that supports "facility sharing".

3. Provide a trail system which provides for recreation and alternative modes of transportation that links various destinations throughout the city.

- Create a trail system throughout the city that will provide opportunity for recreation as well as alternative modes of transportation e.g. bicycling, skating, jogging and hiking.
- Provide linkage to parks, schools, libraries, places of worship, business areas, greenbelts, natural areas and open spaces through a system of hike and bike trails.
- Provide linkage to key destinations within the city such as Town East Mall, restaurant and retail areas, Eastfield College, Mesquite Rodeo and Convention Center, Heritage Square, Mesquite Metro Airport, AMC Theater and Memorial and Hanby Stadiums.
- Research the use of park land, utility easements, on-street connections (enhanced sidewalks within the street right-of-way) and drainage ways as potential trail connections.

4. Promote bicycle use as a viable personal transportation mode within a balanced transportation system.

- Design a safe and efficient routing system to encourage commuter travel to the existing and future major activity nodes within Mesquite, and *future* mass transportation stations.
- Allow for the temporary storage of bicycles at *future* mass transit stations and major destinations.
- Provide bicycle access across physical barriers such as creeks, railroads and major highways.
- Provide bicycle racks at all major trail destinations and trail heads.

5. Encourage the recreational use of the bicycle.

- Destinations such as parks, libraries, neighborhood shopping areas and schools have significant potential recreational attraction for cyclists.
- Off street facilities are best suited for recreational bicycling and as a result, the Trails Plan should maximize the opportunity to utilize dedicated bikeways to form the nucleus of the bike system plan for the city.
- Provide a uniform, understandable and recognizable mapping system.

6. Promote walking and jogging as a recreational activity.

- Provide easy and convenient access to the city's trails system from every residence and business within the city.
- Provide for a maximum one-half mile walk to connect each residence to the trail system via a safe and convenient sidewalk connection.
- Provide loops of walking and jogging trails that vary in length throughout the city.
- Provide a naming/theming or logo for trail system loops. (i.e., Heritage, Blue Bonnet or Cotton Belt Trails)

7. Maintain safety as a prime consideration.

- Implement a carefully designed system of safe hike and bike routes and trails.
- Design programs to educate and inform the pedestrians, joggers, cyclists and motorists about safety and trail routes.
- Implement appropriate bicycling, jogging and pedestrian trail widths, alignments, materials and design solutions to handle joint use between cyclists, joggers and other related activities.

8. Establish an aggressive incentive for private land dedication and/or Rights-of-Way, easements for the implementation of a citywide trail system.

- Develop and implement mechanisms to encourage private donations of corridor connections to expand and/or enhance the trail system into undeveloped areas of the city.

9. Develop other funding mechanisms to help supplement the city's limited funding resources for trail development.

- Develop a Trail Dedication and Trail Development Ordinance to acquire appropriate rights-of-way land and ensure effective trail development.
- Continue to foster a close working relationship between the City of Mesquite and the Mesquite Independent School District to share funding of joint projects and to actively and aggressively pursue grant funding from local, State and Federal sources. (i.e., Safe-Routes to School Program and RTC/TxDOT calls for projects)
- Encourage private investor/developer cooperation through donations of land, labor and financial contributions.
- Establish a program where community, business, civic and PTA groups and neighborhood associations can help improve and maintain trails and associated open space areas.

- Encourage the establishment of "Friends of the …" or "Adopt a Trail" organizations to participate in the upkeep and maintenance of various trail sections.

10. Include a citizen participation process in all ongoing trail planning and design.

- Encourage and provide multiple opportunities for citizens to provide input in the development, maintenance and operation of the city's trail system.
- Utilize citizen surveys, meetings with key user groups, public meetings, workshops and regular meetings of the Parks and Recreation Advisory Board, the Planning and Zoning Commission, Mesquite Quality of Life Corporation (MQOLC) and the City Council to achieve this goal.

4.2 Planning / Trail Criteria

In developing a trail network for Mesquite, two major questions came up:

(1) Where to locate trails?

(2) What type of trail to build?

The criteria described below were developed and utilized in answering question number 1 above. In general, the strongest factors in determining trail location were the connectivity of the trail system to local and regional destinations, the ability to attract a high number of users and a connection to natural resources. These were deemed the most important as these factors met the most goals outlined above in the Goals and Objectives section while creating the most comprehensive trail system for Mesquite.

Trail Location Criteria

- Connectivity to parks, schools, downtown and other land uses

  One function of trails is to provide connections to desirable destinations. Such destinations include existing and proposed parks, schools, downtown, residential developments such as the newly developed Falcons Lair subdivision and natural scenic areas. Providing strong non-motorized connections to desirable locations increases transportation options for all residents. Trails should connect with other trails in the city and region to provide loops and corridors of various lengths for recreational purposes.

- Segment that will attract a high use

  Locating trails and trail corridors in areas likely to attract a high number of users provides the greatest benefit to the highest number of users, while creating a positive image of trails within Mesquite and the region.

- Current availability and/or suitability of rights-of-way

  Acquiring the necessary land to provide a trail and trail corridor can be expensive. Corridors, such as utility, rail and stream corridors, are excellent opportunities. Additionally, where space is available, enhanced pedestrian and bicycle facilities alongside roads and thoroughfares can be an option.

- Service throughout the city

  An equitable, comprehensive trail system should serve all parts of Mesquite. Projects should be evenly dispersed throughout the city, serving all Mesquite residents.

- Integration into the existing regional bikeway and trail system

  Providing good connections to regional systems enhances the trail experience while providing countless more destinations for trail users. Opportunities to connect and integrate with the existing and planned regional bikeway and trail system must not be missed. As the Dallas County Trails Plan notes, "…few trails cross jurisdictional boundaries, resulting in less than optimal trail system potential. The opportunity to enhance both the County's transportation and recreation system by creating a trail network coincides with the growing demand for linear forms of recreation."

- Interface with other modes

  Creating a multi-modal transportation system is an objective of Goal 9 in the Mesquite Comprehensive Plan. A comprehensive trails system should aim to provide connections not only to desirable destinations such as shopping and employment, but strive to make connections with other modes of transportation as well. For example, connecting with the Dallas Area Rapid Transit (DART) system bus service at Eastfield College allows trail users to utilize the full extent of the DART without driving.

- Local political and community support

  Local political and community support for a trail provides additional impetus and energy to pursue funding for design and construction. Additionally, trail corridors with initial support lead to higher usage of the trail along with a respect for the trail.

- Natural features and resources

  One function of trails is to provide access to natural features and resources. Trails provide a community benefit by providing environmentally friendly techniques to view precious natural resources. Connecting to and through these natural resources, such as the East Fork of the Trinity River, wherever possible is a facet of a comprehensive trail system.

- Improvement or program that serves an immediate need

  In some locations throughout the city, the existing bicycle and pedestrian infrastructure is substandard. Improving the infrastructure in these locations, particularly where children or older adults are present, increases the safety and reliability of the overall non-motorized system in Mesquite.

> ***"Walking is the best possible exercise. Habituate yourself to walk very fast."***
> Thomas Jefferson

Citywide Trail System

The Trail Plan is based upon a network of almost 195 miles of paved, shared use and community trails and walkways suitable for cyclists, joggers, in-line skaters, walkers, and other non-motorized users. Almost 60 miles are designated as trails running parallel along roadways and within the TXU easements. Over 45 miles are designated along creek/drainage and major utility corridors, as well as 90 miles of wider sidewalks that provide important connections in areas where it is not possible to provide a fully separated trail corridor.

Trail "Spine" System

- As noted in the Introduction, the Trails Plan vision calls for a "spine" system of regional trails, a system of community trails supported by a complementary system of neighborhood trails and street / sidewalk enhancements. In creating this system, a number of trails stood out in terms of desirability and feasibility. The trails that form the "spine" of the Mesquite trails system function as the backbone of The Trails Plan. This "spine" consists of five major trail corridors separated by name, location and

points of connection. Defined as Community or Regional Trails, these distinct trails provide a series of loops for recreating, commuting and connecting the entire city. In addition, the "spine" concept is easily understood.

The trails that make up the "spine" may be described as follows:

1. **Northern Loop Trail** – a segment of an external loop that connects major destinations such as Eastfield College, North Mesquite High School, Mesquite Golf Course and Town East Mall.

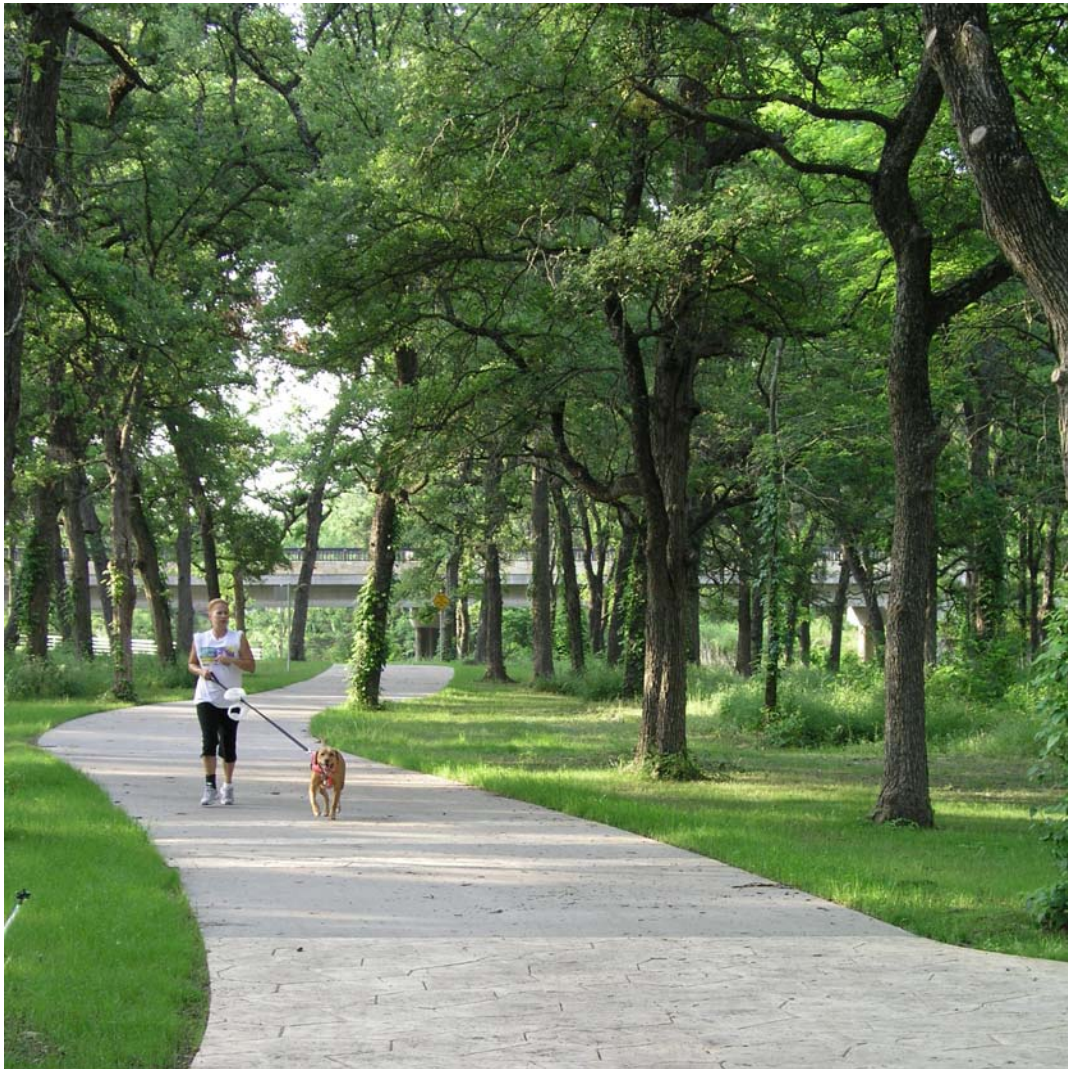
2. **Heritage Trail** – located along Main Street in the Heritage Square area provides linkage from west to east, the Mesquite Rodeo, historical destinations associated with Main Street, including the Brickyard Cemetery, the historic downtown community, numerous historic sites, a planned future mixed development and North and South Mesquite Creeks.

3. **South Mesquite Creek Trail** – stretches along South Mesquite Creek greenbelt and drainage corridor.

4. **North Mesquite Creek Trail** – stretches along North Mesquite Creek greenbelt and drainage corridor.
   The combination of the North and South Mesquite Creeks provide an extended loop connection around the city. This loop runs for a short distance through the cities of Dallas, Sunnyvale and a small segment of Garland. A multi-jurisdictional agreement is required to complete the loop connections.

5. **Main Connectors** - provide interlinking connections between the main elements of the trail "spine."

These trails create two loops; the North Loop and the Outer Ring which connect the North and South Mesquite Creeks' Corridors. These loops are connected by an important east-west corridor (Heritage Trail), located along Military Parkway, as well as other significant connectors along Pioneer Road, Lucas Road and Lawson Road. The Planned Regional Trail systems such as the **Dallas Regional Veloweb** and the **Six Cites Trails Plan** on the next page provide an overview of how they tie into the overall **Trail Spine System.** (See following pages)



This is an example of a 12' wide concrete trail spine system located along West Rowlett Creek in Frisco, TX. This is the northern trail spine segment of the Six Cities Trails Plan.

PROSPER
LITTLE ELM
McKINNEY
FRISCO
ALLEN
THE COLONY
PLANO
CARROLLTON
RICHARDSON
GARLAND
ROWLETT
SUNNYVALE
MESQUITE
DALLAS
BALCH SPRINGS
DUNCANVILLE
IRVING
Lavon Lake
Lake Ray Hubbard
White Rock Lake

Six Cities Trails Plan Study Area

TRAILS LEGEND

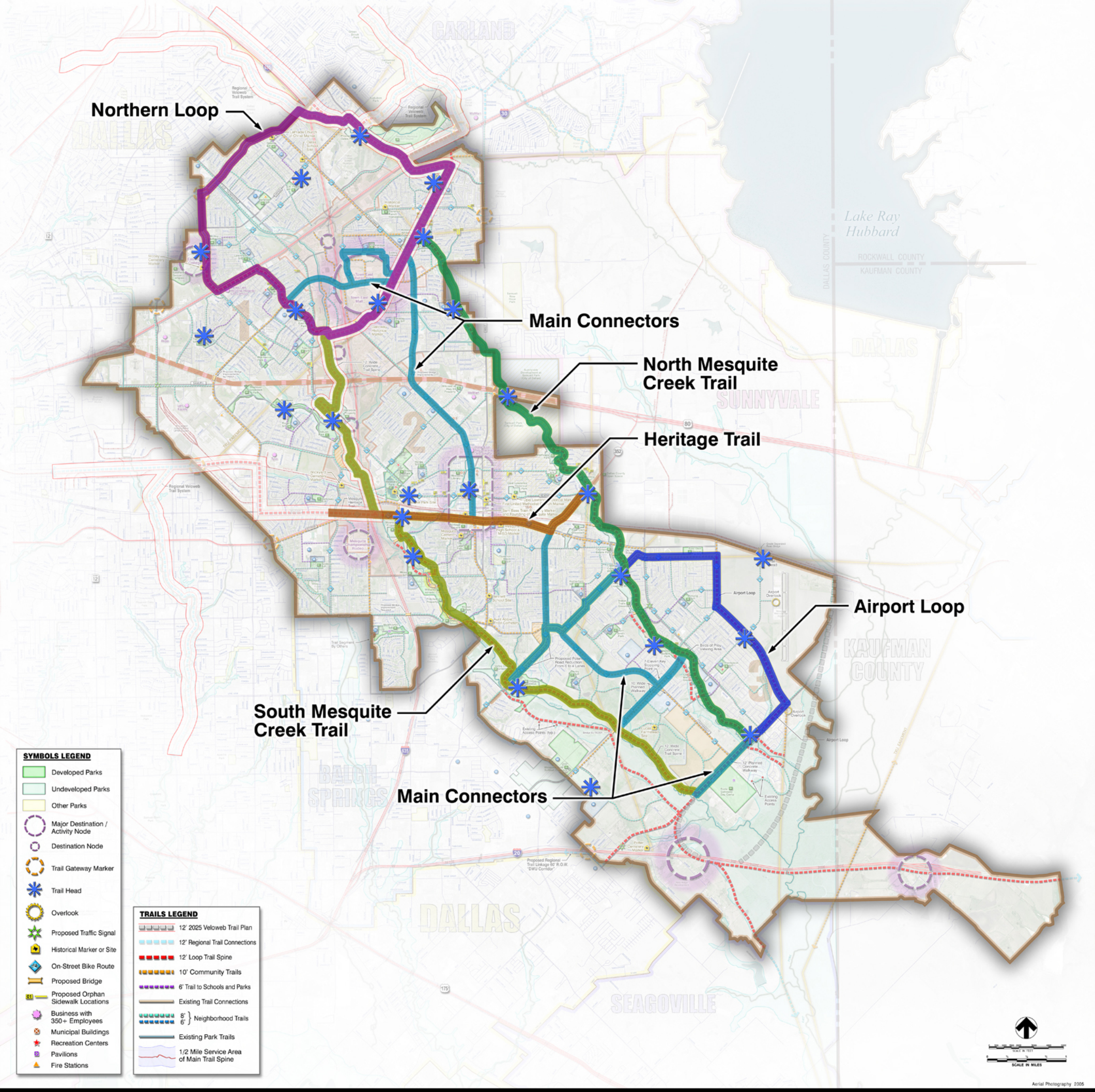
- 2025 Veloweb Trail Plan (recommended)
- 2025 Veloweb Trail Plan (candidate)
- 12' Mesquite Trail Spine
- Six Cities Main Trails
- Trail Gateway

January 17, 2008

Dallas Regional Veloweb Trail System & Six Cities Trails Plan Study Area

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.



February 2008

Trail Spine / Loop System

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.

Trail Type Criteria

The criteria described below were developed and utilized in answering the second question – What type of trail to build? The Map: **Trails Master Plan** on the next page shows the trail design types that were determined to be the most suitable, based on the established criteria. The designs are explored further in the following chapters. In determining trail type, key factors were explored: desired activity for that corridor, the suitability / availability of rights-of-way, cost effectiveness of the trail corridor and local political and community support. A further discussion of the various types of trails occurs below.

- Desired activity in corridor

  The design of the trail greatly influences the activities that occur along that trail. Creating a 12' wide, paved community trail encourages cyclists, roller bladers and other wheeled users to use the trail. This is desired in long recreational corridors, although it may not be appropriate for narrow stretches of trails, where walking and hiking are the desired activities.

- Environmental suitability of trail corridor

  A 12' wide paved trail may be appropriate along a power line easement, while such a trail may be inappropriate along an environmentally fragile waterway. Identifying the environmental constraints of a potential trail corridor – is it in the riparian zone? will runoff from the trail be an issue? etc – influences the choice of trail type.

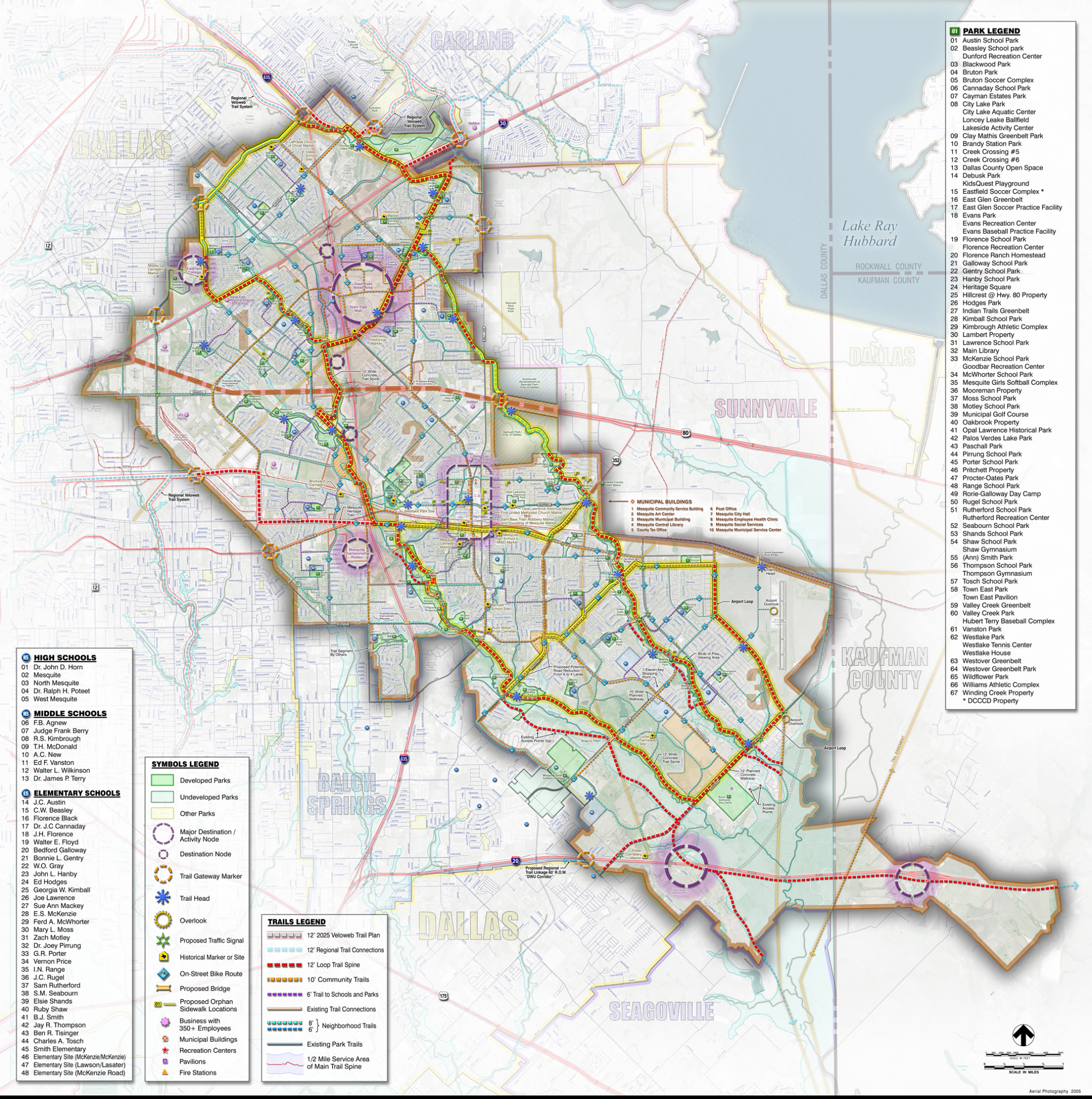
- Current availability and/or suitability of rights-of-way

  Building a wide, paved, multi-use trail may not be feasible in every trail corridor based on the availability and suitability of the right-of-way. Every trail corridor should be analyzed to determine the maximum width available for the trail and trail buffer. Wider trail corridors lend themselves to wider community trails together but separate from equestrian trails, while narrower community trails or recreational trails are most appropriate for constrained corridors.

- Local political and community support

  Local political and community members may support one specific type of trail design for a particular corridor over another based on aesthetics, privacy, cost and other concerns.

This is an example of a newly developed 12' wide concrete trail located along a utility easement in North Richland Hills, TX.



PARK LEGEND

01 Austin School Park
02 Beasley School park
Dunford Recreation Center
03 Blackwood Park
04 Bruton Park
05 Bruton Soccer Complex
06 Cannaday School Park
07 Cayman Estates Park
08 City Lake Park
City Lake Aquatic Center
Loncey Leake Ballfield
Lakeside Activity Center
09 Clay Mathis Greenbelt Park
10 Brandy Station Park
11 Creek Crossing #5
12 Creek Crossing #6
13 Dallas County Open Space
14 Debusk Park
KidsQuest Playground
15 Eastfield Soccer Complex *
16 East Glen Greenbelt
17 East Glen Soccer Practice Facility
18 Evans Park
Evans Recreation Center
Evans Baseball Practice Facility
19 Florence School Park
Florence Recreation Center
20 Florence Ranch Homestead
21 Galloway School Park
22 Gentry School Park
23 Hanby School Park
24 Heritage Square
25 Hillcrest @ Hwy. 80 Property
26 Hodges Park
27 Indian Trails Greenbelt
28 Kimball School Park
29 Kimbrough Athletic Complex
30 Lambert Property
31 Lawrence School Park
32 Main Library
33 McKenzie School Park
Goodbar Recreation Center
34 McWhorter School Park
35 Mesquite Girls Softball Complex
36 Mooreman Property
37 Moss School Park
38 Motley School Park
39 Municipal Golf Course
40 Oakbrook Property
41 Opal Lawrence Historical Park
42 Palos Verdes Lake Park
43 Paschall Park
44 Pirrung School Park
45 Porter School Park
46 Pritchett Property
47 Procter-Oates Park
48 Range School Park
49 Rorie-Galloway Day Camp
50 Rugel School Park
51 Rutherford School Park
Rutherford Recreation Center
52 Seabourn School Park
53 Shands School Park
54 Shaw School Park
Shaw Gymnasium
55 (Ann) Smith Park
56 Thompson School Park
Thompson Gymnasium
57 Tosch School Park
58 Town East Park
Town East Pavilion
59 Valley Creek Greenbelt
60 Valley Creek Park
Hubert Terry Baseball Complex
61 Vanston Park
62 Westlake Park
Westlake Tennis Center
Westlake House
63 Westover Greenbelt
64 Westover Greenbelt Park
65 Wildflower Park
66 Williams Athletic Complex
67 Winding Creek Property
* DCCCD Property

HIGH SCHOOLS

01 Dr. John D. Horn
02 Mesquite
03 North Mesquite
04 Dr. Ralph H. Poteet
05 West Mesquite

MIDDLE SCHOOLS

06 F.B. Agnew
07 Judge Frank Berry
08 R.S. Kimbrough
09 T.H. McDonald
10 A.C. New
11 Ed F. Vanston
12 Walter L. Wilkinson
13 Dr. James P. Terry

ELEMENTARY SCHOOLS

14 J.C. Austin
15 C.W. Beasley
16 Florence Black
17 Dr. J.C Cannaday
18 J.H. Florence
19 Walter E. Floyd
20 Bedford Galloway
21 Bonnie L. Gentry
22 W.O. Gray
23 John L. Hanby
24 Ed Hodges
25 Georgia W. Kimball
26 Joe Lawrence
27 Sue Ann Mackey
28 E.S. McKenzie
29 Ferd A. McWhorter
30 Mary L. Moss
31 Zach Motley
32 Dr. Joey Pirrung
33 G.R. Porter
34 Vernon Price
35 I.N. Range
36 J.C. Rugel
37 Sam Rutherford
38 S.M. Seabourn
39 Elsie Shands
40 Ruby Shaw
41 B.J. Smith
42 Jay R. Thompson
43 Ben R. Tisinger
44 Charles A. Tosch
45 Smith Elementary
46 Elementary Site (McKenzie/McKenzie)
47 Elementary Site (Lawson/Lasater)
48 Elementary Site (McKenzie Road)

SYMBOLS LEGEND

- Developed Parks
- Undeveloped Parks
- Other Parks
- Major Destination / Activity Node
- Destination Node
- Trail Gateway Marker
- Trail Head
- Overlook
- Proposed Traffic Signal
- Historical Marker or Site
- On-Street Bike Route
- Proposed Bridge
- 01 Proposed Orphan Sidewalk Locations
- Business with 350+ Employees
- Municipal Buildings
- Recreation Centers
- Pavilions
- Fire Stations

TRAILS LEGEND

- 12' 2025 Veloweb Trail Plan
- 12' Regional Trail Connections
- 12' Loop Trail Spine
- 10' Community Trails
- 6' Trail to Schools and Parks
- Existing Trail Connections
- 8' / 6' Neighborhood Trails
- Existing Park Trails
- 1/2 Mile Service Area of Main Trail Spine

Aerial Photography 2005

March 24, 2008

TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.

5. Trail Design Elements

This is an example of a trail with a pedestrian seating area.

5.1 Plan Concept

The City of Mesquite Trails Master Plan is based on a core system of regional and community trails, supported by neighborhood trails and street enhancements. This trail system will link community destinations with an integrated network of trails designed for users of all ages, skill levels and environments. Design standards are an important component for a working trail system because they outline the recommended minimum requirements and additional support items for all types of trails.

The most well known trail standards or guidelines are published by the American Association of State Highway and Transportation Officials (AASHTO). All trails, bike lanes and sidewalks should meet minimum AASHTO standards but where, possible, those standards should be exceeded. This is especially true for multi-use trails, signage, lighting, traffic signals and detectors.

Many necessary trail-related improvements can be incorporated into the regular maintenance schedule of the existing road system, such as the upgrade of traffic lights, widening of roads and shoulders or addition of lighting with needed repairs.

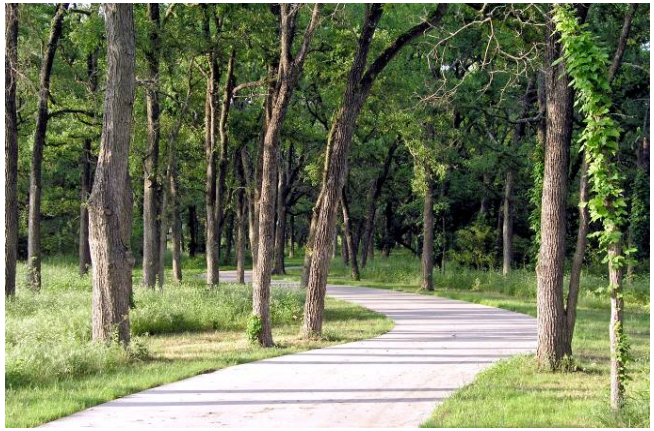
To facilitate the future development of Mesquite, it is recommended to develop customized design standards in written and graphic format and make these accessible to all applicable builders and developers.

Listed below are some sources for the most commonly used standards for trail design. This plan shall comply with current and up to date standards:

- AASHTO (American Association of State Highway and Transportation Officials)
- ADAAG (Americans with Disabilities Act Accessibility Guidelines)
- TTI (Texas Transportation Institute)
- TMUTCD (Texas Manual on Uniform Traffic Control Devices)
- TxDOT (Texas Department of Transportation)
- TAS (Texas Accessibility Standards)
- ITE (Institution of Transportation Engineers)

Regional Trail (Loop Spine Trail)

Regional Trails form the spine of the Mesquite Trails system (See Figure 2). Regional trails generally have their own rights-of-way or easements (See Table 2). Users should have minimal conflict with automobile traffic. Trails are 12 feet wide, 5 inch thick, reinforced concrete with 3 feet wide soft surface shoulders. These are shared facilities for walking, hiking, jogging, biking and in-line skating, but no motorized activities. This trail is designed to accommodate two-way bicycle and pedestrian traffic, typically has its own rights-of-way, and can accommodate maintenance and emergency vehicles. These trails must be designed to meet the ADAAG standards, AASHTO standards, TMUTCD standards, TxDOT standards and other State and Federal guidelines. Regional trails serve cyclists, pedestrians, wheelchair users, skaters and other non-motorized users. While vegetation is encouraged to enhance the trail experience, complete blocking out of the trail by vegetation from neighborhood view is discouraged.



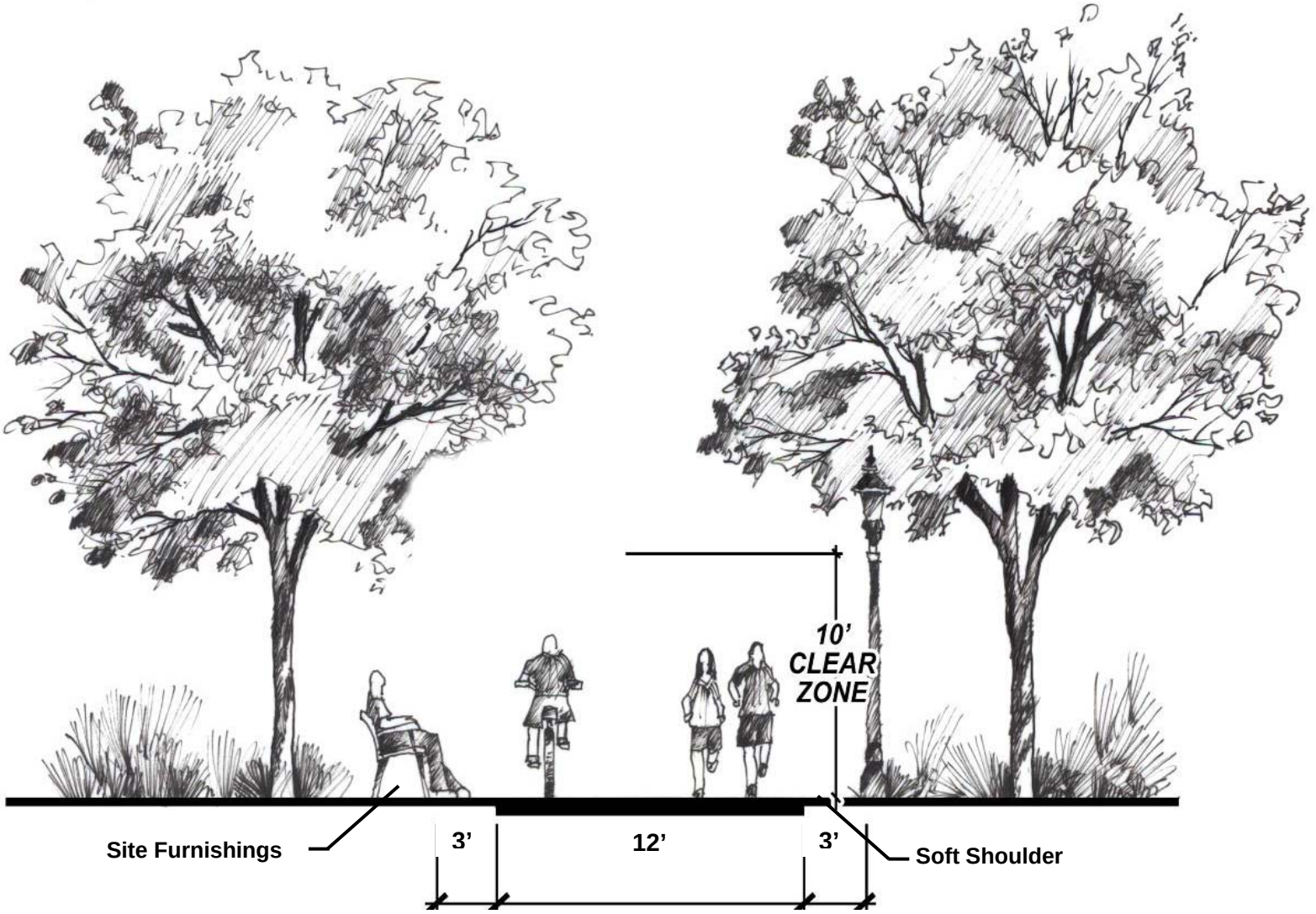


Figure 2. ***Regional Trail***
N.T.S. **Section View**

Table 2. Minimum Corridor Widths for Trails		
Width of the Concrete Trail	**Minimum Corridor Width for Residential Street Rights-of-Way**	**Minimum Corridor Width for Areas Other Than Residential**
12' Wide Regional Trail/Loop Spine Trail	N/A	25’
10' Wide Community Trail	N/A	21’
8' Neighborhood Trail	12’	18’
6' Neighborhood Trail	10’	15’

Regional Trail Standards

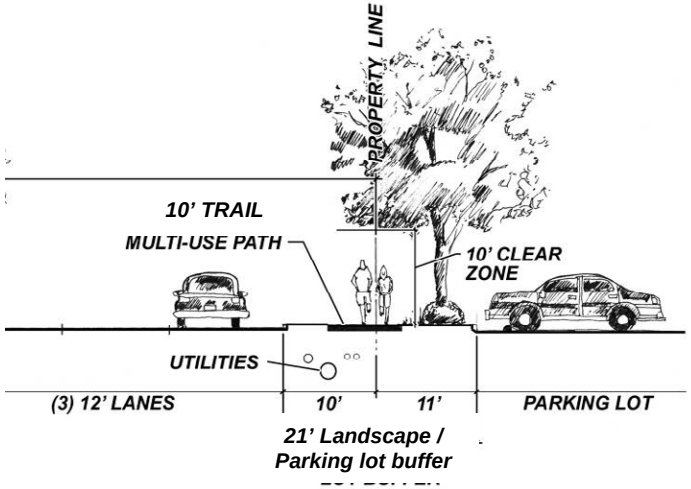
- Recommended Minimum Width — 12’ width
- Surface — Provide 5” thick reinforced concrete with 3’ soft shoulders with prepared sub-base. Increase trail thickness to 6” where heavy maintenance vehicles are expected to cross the trail.
- Access Points — Shall be no greater than one mile apart, no more than ½ mile walk or ride to an access point.
- Minimum Corridor Width — Provide 25’ wide landscape and parking buffer easement.
- Other Facilities — Provide parking, locator maps, directional and informational signage, mile markers, emergency markers every 500’, water fountains, shade shelters, benches, litter receptacles, picnic tables, BBQ grills, bicycle racks and interpretive/historic signage. It is recommended that electrical conduit for lighting be installed at key access points, trail heads and along heavily visited retail / restaurant / entertainment areas for potential future lighting. Provide access to a public restroom every 3 miles. Key access points and trail heads shall be located in accordance to The Trails Plan.

Community Trails

Community Trails – Typically hard surface concrete trails are designed to accommodate a variety of users. These are typically used for jogging, walking and relaxation. Unlike sidewalks, these trails are wider, at a width of 10', are constructed with concrete, and may include amenities such as decorative light fixtures, landscaping, ground cover and varying surface treatments at intersections and crosswalks. The overall corridor width should be 21', to allow for at least 3' of clearance between the street curb and the walkway (See Figure 3). In many cases additional width may be required to accommodate drainage or other utilities. These commonly follow secondary or major arterials and connect to major employment and recreational/entertainment districts and other key destination points.

Community Trail Standards

- Require Width In Accordance To Plan — 10’ width
- Surface — Provide 5” thick reinforced concrete and/or brick with city approved sub-base preparation, 3’ soft shoulders with prepared sub-base. Increase concrete depth to 6” where heavy maintenance vehicles are expected to cross the trail.
- Access Points — Access shall be no greater than one mile apart, no more than ½ mile walk or ride to an access point.
- Minimum Corridor Width — Provide 21’ wide landscape and parking buffer easement.
- Other Facilities — Provide parking, banners, lighting, directional and informational signage, kiosks, locator maps, mile and ½ mile markers, water fountains, bicycle racks, benches, litter receptacles and interpretive /historic signage. It is recommended that electrical conduit for lighting be installed at key access points, trail heads and along heavily visited retail / restaurant / entertainment areas for potential future lighting. Key access points and trail heads shall be located in accordance to the Trails Plan.



N.T.S. Section View

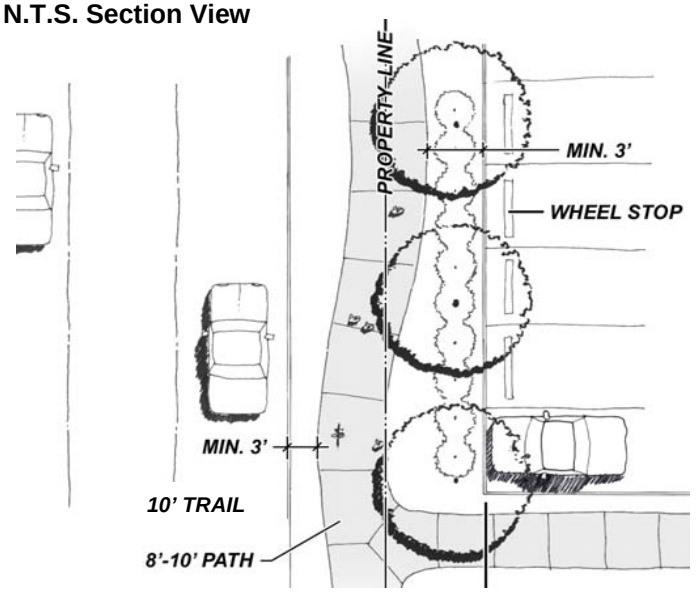


Figure 3. ***Community Trail***

N.T.S. **Plan View**

Neighborhood Trail

Dedicated neighborhood trail facilities provide the opportunity for Mesquite residents to explore their community in a comfortable and pleasant environment. Neighborhood trails mimic the system of local neighborhood streets which ultimately connect to larger boulevards. The neighborhood trails provide access from each neighborhood to the larger "arterial" trails. Typically used for walking and relaxation, a trail lends itself to a variety of users ranging from the elderly to young mothers with children. Typically these walkways are internal to the neighborhood and provide access to schools, parks, churches, shopping centers and places of employment.

Neighborhood Trail Standards

- Required Width In Accordance To Plan — 6' or 8' width
- Surface — Provide 5" thick reinforced concrete and/or brick with city approved sub-base preparation, 2' soft shoulders with prepared sub-base. Increase concrete depth to 6" where heavy maintenance vehicles are expected to cross the trail.
- Access Points — Access shall be no greater than a ½ mile apart, no more than a ¼ mile walk or ride to an access point.
- Minimum Corridor Width — Provide 10' corridor width for a 6' wide concrete trail in residential development, 12' corridor width for an 8' wide concrete trail in residential development and a 15' to 18' corridor width depending on trail width in commercial development in accordance to the Trails Plan.
- Other Facilities — Provide lighting where appropriate, directional and informational signage, kiosks, locator maps, mile and ½ mile markers, water fountains, bicycle racks, interpretive/historic signage to be placed at key access points and trail heads. Key access points shall be located in accordance to the Trails Plan.

Street Enhancements/ Signed Shared Roadways (Bike Routes)

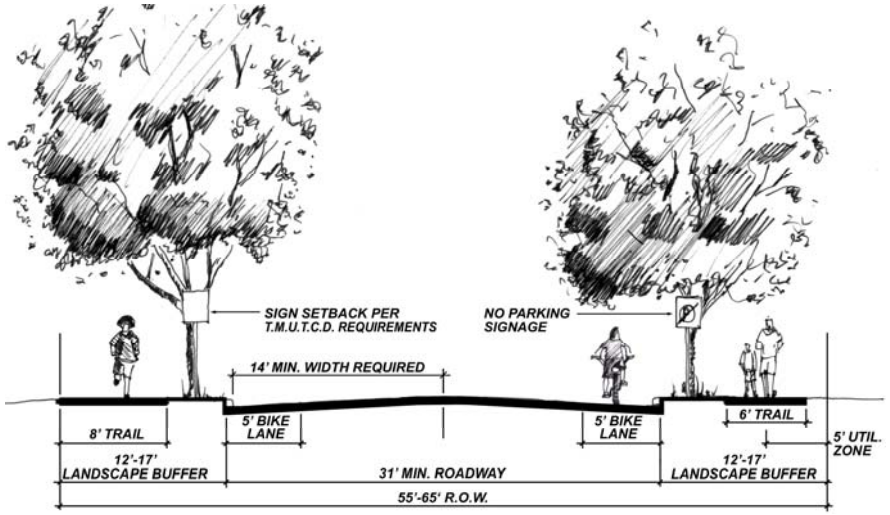
Street enhancements are enhanced sidewalks widened to a maximum of 8', serving as street-aligned connections between regional trails, community trails, and community destinations such as Town East Mall, Eastfield College, Heritage Square, Mesquite Rodeo and the numerous parks and schools located within Mesquite. Street enhancements are also identified in locations where insufficient width exists to provide a separated trail corridor. Street enhancements can also include the provision of striped bicycle lanes on the roadway.

Signed Shared Roadways (Bike Routes): The minimum standard width for striped bike lanes is four feet from the face of the curb, but the desired width is usually five feet from the face of the curb; it should therefore be attempted to exceed the minimum width wherever possible. Wherever possible, place the bike routes on secondary streets and avoid arterial roadways. Parking alongside an on-street bicycle lane is strongly discouraged; however, if parking has to be added, it should preferably be located on the opposite side of the road from the bike lane to minimize potential conflicts between cars and bicycles. Intersections need to be laid out in a way that makes motorists aware of the cyclists' intentions well in advance. This means that specific markings on the road will have to be installed in addition to warning signs whenever motorists will have to cross over an on-street bike lane, e.g. to enter a right-turn lane.

- Recommended Bike Lane Width — 5' bike lane width - Corridor width 14' face of curb to stripe of the outside lane.
- Surface — Pavement surfaces should be smooth, uniform in width and free of utility covers/lids, wide cracks, joints or drop offs at the edge.
- Access Points — Access shall be no greater than ½ mile apart.
- Other Facilities — Provide "No Parking" signage where appropriate. Provide directional, informational signage and bike lane symbols posted in the rights-of-way, no greater than 1,500' apart. Provide locator maps, mile and ½ mile markers, bicycle safe grates, bike racks at trail heads and interpretive/historic signage.

Figure 4 illustrates a typical design for street enhancements that is appropriate for trails along roadways and thoroughfares in Mesquite.

Street enhancements should be avoided on roadways with multiple intersections or driveways, as each intersection or driveway creates a conflict point between trail users and motor vehicles. Street enhancements are designed to create connections between neighborhood trails and community trails, as well as to connect popular destinations throughout Mesquite. Sidewalks less than 4' wide by themselves should be avoided as designated walkways wherever possible.



Section View — N.T.S.

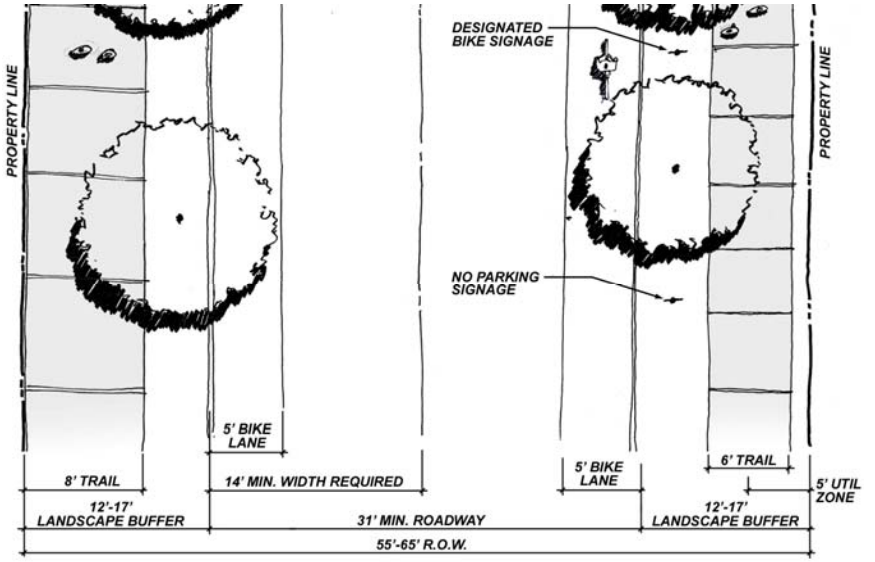
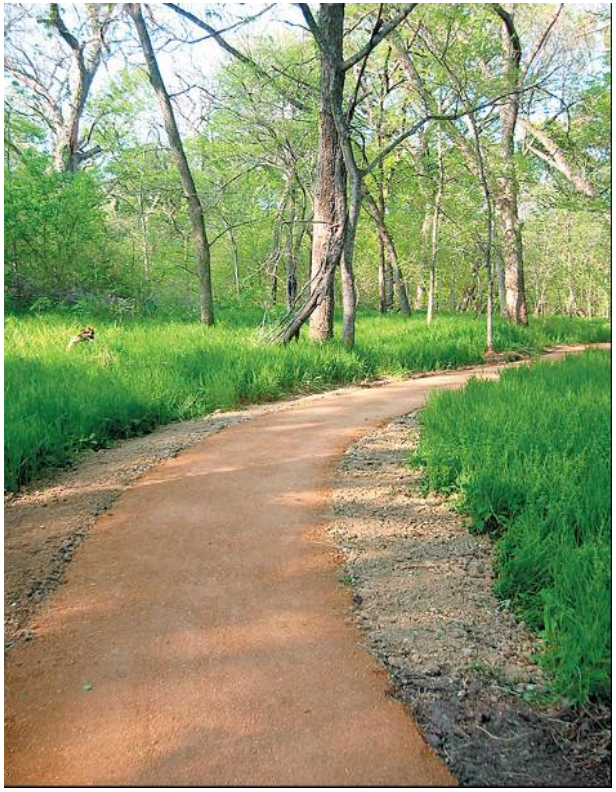


Figure 4.
Plan View — N.T.S.

Natural Surface or Foot Trails

Foot trails primarily serve hikers, walkers and runners. These trails may not meet ADAAG standards. Some of the trails may be appropriate for mountain bikers and/or equestrians as well. Foot trails generally have their own rights-of-way, with minimal conflict with automobile traffic. Foot trails will be soft surface trails generally composed of decomposed granite, recycled concrete flexible base, rock/crusher fines, wood shavings, earth, etc. These types of materials are appropriate for use in environmentally sensitive areas, such as North and South Mesquite Creeks and on slopes greater than 3% to minimize erosion.



- Recommended Width — Varies - 3’ to 6’ width
- Surface — Provide 4” minimum depth, 5” maximum depth of decomposed granite or recycled concrete flexible base, compacted to 95% density with geo-textile filter fabric, other surfaces such as 4” of mulch/wood shavings free of thorns and stickers, rock/crusher fines at a depth of 4” with geo-textile filter fabric.
- Access Points — Provide linkage to environmentally sensitive areas by natural surface or foot trails that connect to regional or community trails every ½ mile walk or ride where appropriate.
- Corridor Width — Varies - 10’ to 20’ width
- Other Facilities — Provide directional and informational signage, kiosks, locator maps, mile and ½ mile markers and interpretive signage.

For natural surface trails that will be located in environmentally sensitive areas, as shown in Figure 5, several measures are recommended to lessen the impact of the trail and trail users on the area:

- The riparian setback should be as wide as possible: 20’ - 30’ recommended.
- Slope the trail away from the waterway or pre-treat trail run-off with a trailside swale.
- Limit vegetation removal.
- Remove invasive plant species.
- Use the trail as an opportunity to restore and enhance the waterway or environmentally sensitive area.

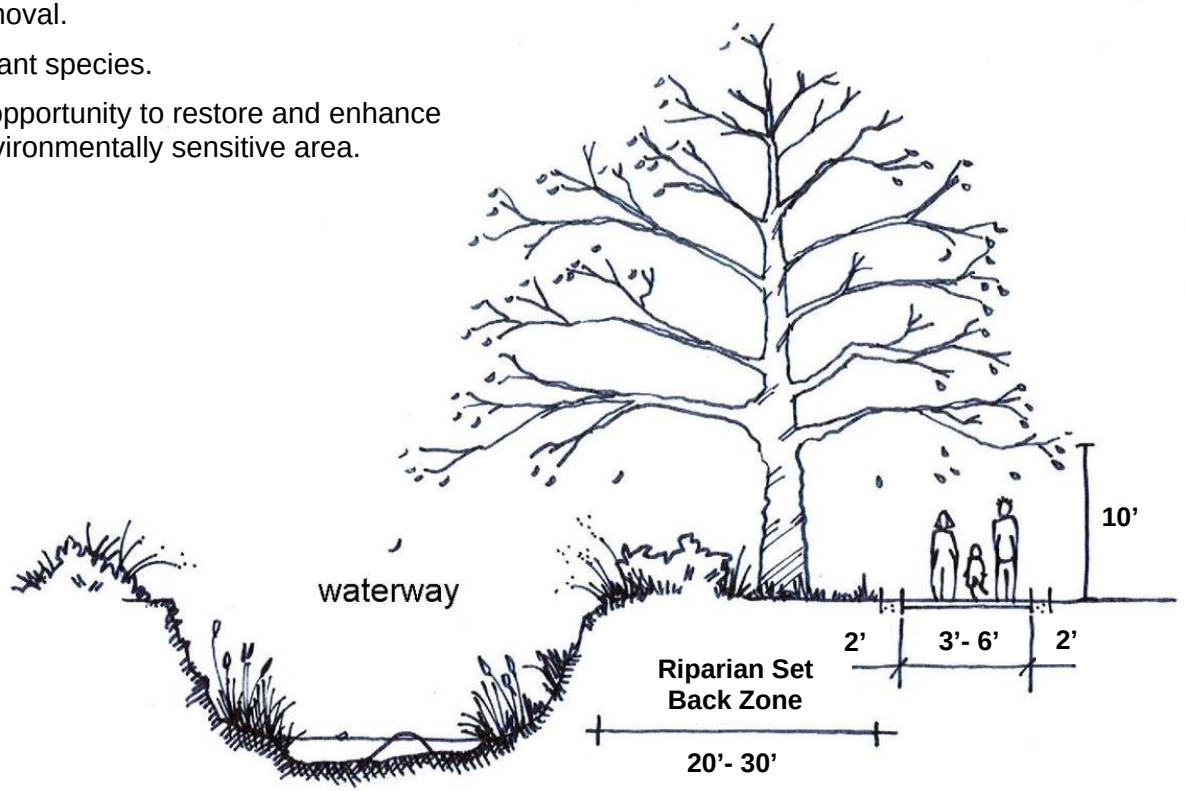


Figure 5. ***Natural Surface Trail Adjacent to Stream Corridor***
N.T.S. **Section View**

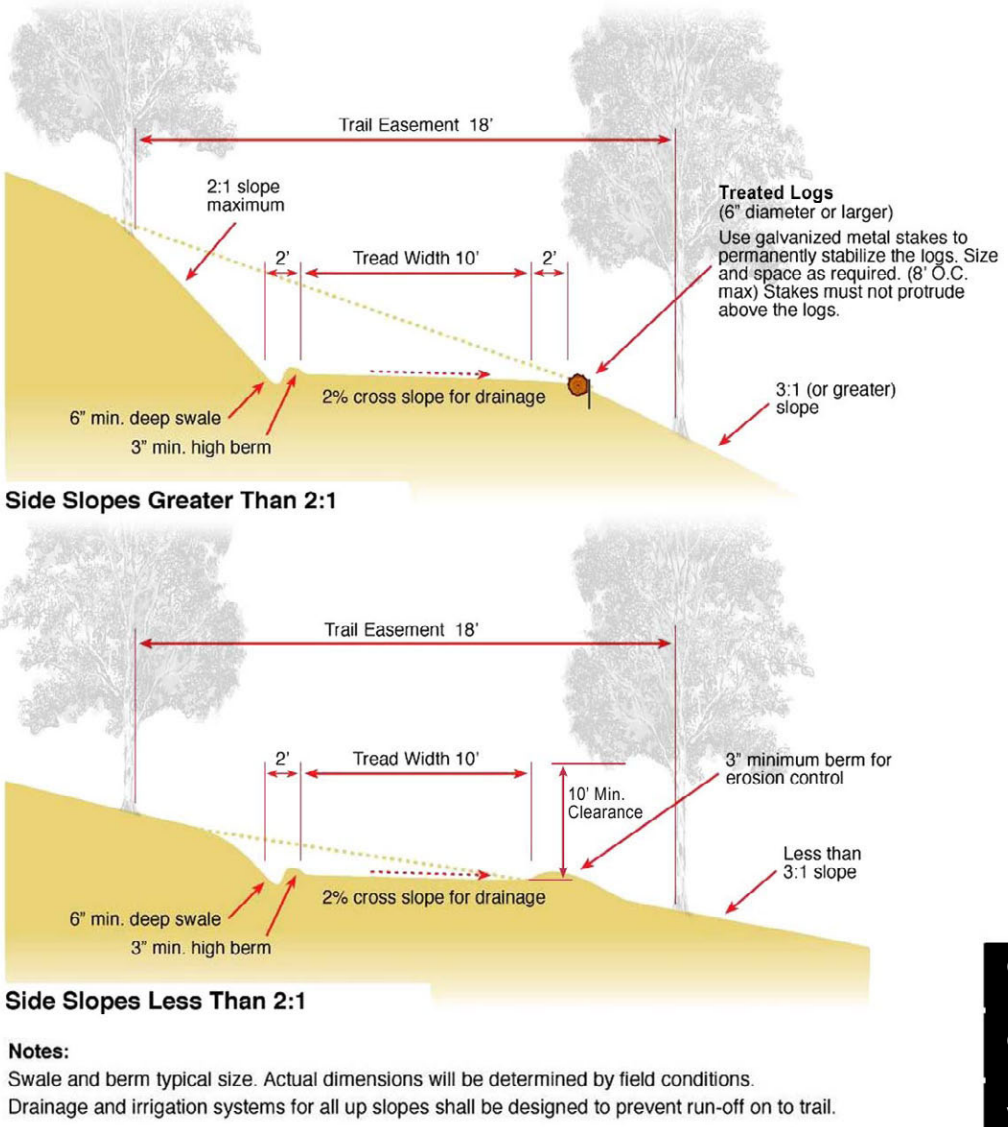


Figure 6. ***Trails on Steep Slopes***
N.T.S. **Section View**

Trails on Steep Slopes

Trails can vary in width and type depending on the existing topographic and environmental constraints. They should take into account issues like drainage, erosion, slope/grade, presence of waterways, vegetation, riparian and habitat areas, environmental requirements and regulations. In some cases the proposed trails will have to address slope concerns during the design and construction. Areas with earthen walking trails (i.e., parks and natural areas) should have a complimentary accessible route that meets or exceeds ADAAG standards in addition to the earthen walking trails.

Grade of trail	12% average. Slopes less than 20% are allowable for short distances (less than 500 feet)
Cross slope	2% Maximum
Vertical Clearance	12 feet beneath structures or tree limbs

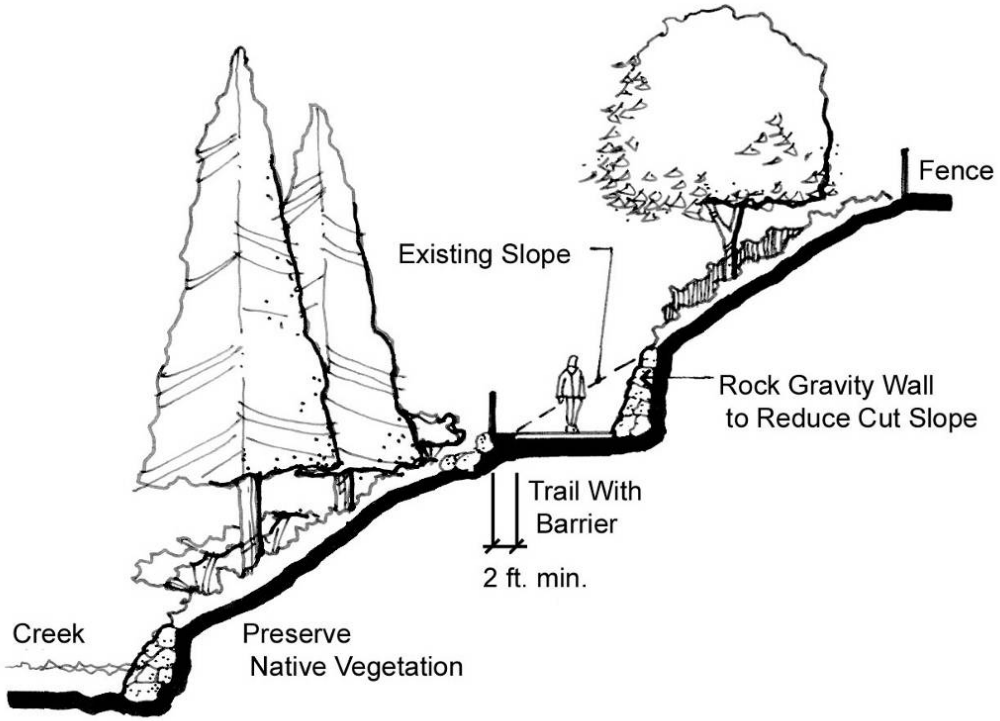


Figure 7. ***Foot Trail along Slope***
N.T.S. **Section View**

Figure 7 illustrates a typical soft surface trail design that is appropriate for foot trails in steep and inclined areas. This type of trail with a typical width of 3'-6' is designed to accommodate walkers, hikers and runners, depending on available space. The foot trail will be an earthen or other "soft" surface, so it is not appropriate for most bicyclists, nor will it meet ADAAG requirements. The trails should be designed with adequate drainage to prevent channeling and erosion.

5.2 Trail Design Standards

A. Hard Surface Trails

1. Design Objectives
   - The alignment should follow the contours of the land and the natural drainage patterns. The trail should not appear to be carved out of the terrain.
   - Trails should be gentle, curvilinear, and may include a combination of radii and straight segments. Serpentine or sinuous trail alignments are not desirable and should be limited to instances where tree preservation necessitates such alignments.
   - Meanders in trails should appear to have a purpose, and should not be haphazard or regular.
   - Create functional, efficient, circulation patterns that present and preserve the natural terrain and vegetation to the greatest extent possible.
   - Locate intersections at natural focal points such as scenic vistas and convenient access points. Design 90° trail intersections with turn radii at a minimum of 10'-0". Larger turn radii may be acceptable when trails intersect at planting beds, signage or other focal points.
   - Where conditions apply, trails shall align with existing or future crosswalks at streets. These intersections shall incorporate handicap accessible ramps that meet the design criteria of the Americans with Disabilities Act Accessibilities Guidelines.

2. Design Standards

   a. Prepared Sub-grade: Over excavate unstable subgrade soils where encountered and replace with city approved fill material. Compact all fill to 95% standard proctor @ -0% to +6% optimum. Remove all topsoil prior to subgrade preparation and use in finish grading work along trail edges after concrete has cured. Import additional soil backfill as needed for trail edges to provide a minimum 3-foot wide trail shoulder (AASHTO standard) and an embankment blended with existing grade on both sides of the trail. All embankments must be constructed at mowable slopes, 4:1 grade or less.

   b. Pavement Structure: The standard pavement is reinforced 5" to 6" Portland cement concrete (SEE CITY GENERAL DESIGN STANDARD for PAVING) with a transverse medium broom finish. Redwood or pressure treated board expansion joints shall be placed in the trail at an interval of 40 feet in 8-foot and 10' wide trails and 100' feet in 12 trails. Expansion joints shall be topped and sealed with a self-leveling elastomeric joint compound, flush with the top

surface of pavement on both sides of the joint. Contraction joints shall be placed at intervals equal to the trail width and shall be of a depth of one fourth the pavement thickness. The joints shall be saw-cut one-fourth inch wide. For optimum user comfort, the finished surface of trails should not vary more than .02 feet from the lower edge of an 8-foot long straight edge when laid on the surface in any direction. The trail concrete thickness shall be 5 inch minimum depth for 12' regional and 10' community trails and 6 inch minimum depth where heavy maintenance vehicles are expected to cross over the trail. Five inch thick reinforced concrete shall be used for all other concrete trail and sidewalk types. The reinforcement shall be #3 (minimum) deformed steel bar at a maximum of 12 inches on center, both ways and supported on plastic chairs placed 24 inches on center both ways. Welded wire mesh is not acceptable.

c. Width & Clearance: Trails on which a mix of bicycle, pedestrian, other non-motorized transportation and large maintenance vehicles that are required to navigate steep grades, shall be 12 feet in width. Otherwise 10 foot width is adequate where space is limited due to terrain and available R.O.W. The minimum width of a bicycle trail is 10 feet for maintenance access and passing room for cyclists.

The optimum vertical clearance of obstructions over a trail is 10 feet or higher, which accommodates maintenance, patrol, and emergency vehicle access. All underpasses and tunnels should be a minimum of 10 feet in height. If vertical clearances under bridges and other structures are less than 10 feet, the clearance shall be clearly posted with warning signage to alert approaching trail users.

A 3-foot minimum wide graded shoulder should be constructed and maintained adjacent to both sides of the trail surface. Two feet is the minimum width in addition to the adjacent graded area for steep inclines. A 3-foot width clearance should be provided from trees, poles, walls, fences, guardrails, etc. or their lateral obstructions whenever possible. In instances where trees or other obstacles may encroach within this space, warning signage should be provided. A 5-foot lateral separation is desirable from any embankment that the cyclist would have difficulty encountering. If this is not possible, a positive barrier such as dense shrubbery, safety railing, walls or fencing shall be provided. All barrier material shall conform to City of Mesquite standards.

d. Design Speed: In general, a minimum design speed of 20 mph should be used when trail grades do not exceed 5%. It is the intent of the plan to design accessible routes linking all destinations and nodes within the city. It is at the discretion of the city to allow for the creation of alternate routes to destinations that may exceed those standards established by ADAAG. 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 or similar surface obstructions intended to slow down cyclists would pose a trip hazard for other trail users and should never be used.

e. Soft surface paths and trails are not to be used by cyclists except for designated mountain biking trails because of the damage due to the erosion of soil from cycling wear.

f. Horizontal Alignment & Super-elevation: The use of super-elevated trails shall be limited to help alleviate drainage or to alleviate extreme conditions. Trails shall not exceed a 2% cross-slope. The city may allow for the construction of additional and alternate routes that exceed the standards established within ADAAG, provided however, the super-elevation does not exceed a 5% slope. Minimum radius varies depending on cross slope.

When curves of lesser radii than those recommended must be used on bicycle trails because of limited right-of-way, topographical or other considerations, standard curve warning signs and supplemental pavement markings should be installed in accordance with the TMUTCD. It is advisable to widen the trail in order to increase the lateral space available to cyclists as they lean to the inside of the turn. The amount of widening should be limited to a maximum of 4 feet.

g. Grade: Longitudinal gradients on trails shall not exceed 5% except in unusual circumstances. In cases where the minimum grade must be exceeded, an alternate trail route must be constructed providing ADAAG standards. The absolute maximum gradient for a trail intended for bike usage is 8%.

Grades of up to 5% are acceptable for bridges with 10 ft shoulders or paths where a leveling off at the base of the incline permits adequate recovery before an intersection or other conflict point. Bridges constructed with a wood surface shall not exceed a 2% slope with the exception of the camber on pre-fabricated bridges. Concrete surfaces on bridges can exceed 2% to a maximum of 5% if the exit off of the bridge has an adequate deceleration area prior to encountering an intersection of any kind or to decelerate prior to a curve in the alignment of the trail.

Cyclists frequently ride abreast of each other on trails. On narrow trails cyclists have a tendency to ride near the middle of the path. For these reasons and because of the serious consequences of a head-on bicycle crash, lateral clearances on horizontal curves should be widened through the curve, installing a non-skid yellow center stripe, installing a “curve ahead” warning sign in accordance with the TMUTCD or a combination of these alternatives.

h. Drainage: The cross slope of areas adjacent to trails should be a minimum of 2% to provide for drainage. Trail pavement surfaces shall not exceed a cross slope of 2% in order to maintain compliance with ADAAG standards.

Sloping in one direction instead of crowning is preferred, simplifies drainage, surface construction and maintenance. An even surface is essential to prevent water ponding and ice formation. Culverts and other drainage and piping should be extended laterally at least 10 feet from the downhill side of a trail or path.

While not preferred, many trails will be located in floodplains. In floodplains, trail rights-of-way or easement shall be located on the highest elevation within the designated floodplain, while maintaining a 3' soft shoulder on both sides.

Where a trail is constructed on the side of a hill, a ditch or sizable swale of dimensions suitable for the safety of cyclists and for the volume of water expected shall be constructed on the uphill side to intercept the hillside drainage (See Figure 6). Where necessary, catch basins with cross culverts (pipe structures built underneath the trail) shall be provided to convey the intercepted water under the path. The length of cross culverts should be extended to include the clear zone as well as the trail width and should be backfilled to provide an uninterrupted clear zone. Drainage grates and manhole covers should be located outside of the travel path of bicyclists and wheelchair users. To assist in draining the area adjacent to the trail, the design should include considerations for preserving the natural ground cover. Seeding, mulching and sodding of adjacent slopes, swales and other erosion-prone areas shall accompany trail construction and shall be implemented by the trail builder. Where trails pass underneath highway bridges, existing deck drain discharges must be routed or reconstructed so that deck runoff will not discharge upon or flow across the bike path. Deck drainage can create ice and algae on the pavement as well as erode the pavement surface.

B. Soft Surface Trails

1. Design Objectives
   - Materials should provide a stable surface and remain relatively dry.
   - Color should be earth tone to blend with the natural environment and to minimize visual impact.
   - Design for wheelchair accessibility wherever practical, with trail widths no less than 48 inches. In cases where a 48-inch wide trail is designed, ensure that the adequate wheelchair passing areas are provided per ADAAG standards.
   - Minimize erosion of surface material at side drainage locations to limit washing, i.e., provide concrete pans or other erosion mitigating devices as approved by the city.
2. Design Standards
   a. Prepared Sub-grade – Compact on-site material where approved by the City Engineer. Over-excavate if unstable sub-soils are encountered and replace with city-approved fill material. Compact all fill areas to 95% standard proctor @ 0% to +6% optimum moisture content. Remove all topsoil prior to subgrade preparation. The use of a geotextile fabric under the aggregate fines where installed in wet or unstable areas is recommended.

b. Trail Surface – 3/8 inch diameter crushed and compacted aggregate fines, such as crushed or decomposed granite with adequate binder, minimum 4 inch depth.

c. Width & Clearance – Standard width for two-way trails is 6 feet with a minimum width of 4 feet.

d. Grade, Sight Distance, Drainage – Refer to above;

C. Pedestrian Bridges and Low Water Crossings

1. Design Objectives

- Trail crossings over creeks and drainage ways generally shall be by bridge.
- Prefabricated bridges require approval by the city. Bridges shall be of an arched truss design if in compliance with ADAAG longitudinal slope criteria. The minimum width of clear deck shall be 2' wider than the approaching trail. All bridge foundation and abutment designs shall be sealed by a Texas professional engineer and approved by the city.
- Design bridges that are sturdy, safe, vandal-resistant, and easily maintained.
- Deck surface shall have good skid resistance.
- Stabilize deck to minimize vibrations.
- Railing should be free of splinters and provide a smooth, clean surface to the touch.
- Railing design should allow views to creeks for persons of all heights, yet prevent anyone from falling through.
- Scale of bridge should be in keeping with its surroundings.
- Bridge color should blend with the natural environment or tie into the color scheme of adjacent development.
- Integrate design with other elements throughout the corridor.
- Low water crossings may be used at small stream crossings with the approval of the Parks and Recreation Department.

2. Design Standards

a. All bridge designs to be sealed by a registered Texas professional engineer and approved by the city. Low water crossings shall not exceed 4'-0" from path to flowline of the waterway or ravine unless approved by the City Engineer. Low water crossings shall have a widened shoulder to 5' on both sides of the trail. The headwall structure under the trail shall have gently sloping wingwalls constructed with the headwall no steeper than 8:1. The pipe ends shall be finished at the same repose of slope as the wingwalls. Any crossing exceeding this 4'-0" separation to permit the construction of ADAAG-compliant trail approaches to the crossing shall require a bridge.

D. Culvert Outfall Structures

1. Design Objectives
   - Many existing culvert pipe structures may need modification to meet trail safety and aesthetic standards. Culvert outfalls shall occur on the downhill side of trails.
   - Outfall structures shall have an aesthetic appearance by adding stone veneer or concrete form liners to provide a more aesthetically pleasing appearance.
2. Design Standards
   a. A Texas registered professional engineer shall design and size all outfall pipes.

E. Underpass Structures

1. Design Objectives
   - Underpasses provide safety and continuity by eliminating the need for users to interact and/or cross-busy streets.

2. Design Standards
   a. Underpasses shall be constructed according to minimum vertical and horizontal clearances. All modified underpasses should meet these requirements. In situations where the underpass is straight (allowing clear visibility), two-way traffic can be accommodated.

F. Trail Safety Railing

1. Design Objectives
   - Railings are required in situations where bicyclists or pedestrians may fall down an embankment or other vertical displacement.

2. Design Standards
   a. Railings, fences or barriers on either side of a trail structure should extend 4 feet higher than the trail surface and should have smooth rub rails attached at handlebar height (3.5 feet) made of smooth metal or similar material. Railing ends shall be angled downwards and flared away from the trail at both ends of the railing to prevent cyclists and pedestrians from catching on the railing.

G. Signed Shared Roadways (Bike Routes)

1. Design Objectives
   - Provide through and direct travel in bicycle demand corridors.
   - Connect discontinuous segments of shared-use trails, bike lanes and or routes.
   - Provide a common route for cyclists through a high demand corridor.
   - Provide extensions along local neighborhood streets and collectors that lead to commercial areas, places of employment, educational facilities, parks and other community facilities.

2. Design Standards
   a. Bike route signs may be used on streets with bike lanes, as well as on shared-use trails.
   b. Route signs should include destination information, yet be legible to moving cyclists.
   c. Minor trail signs shall be located at all intersections where the bike route changes direction.
   d. Additional route signs should be located in accordance with AASHTO and TMUTCD standards.
   e. Adjust utility covers to grade, install bicycle safe drainage grates, and fill potholes to provide a smooth surface.
   f. Curb lane widths shall generally meet or exceed a width of 14 feet.

H. Trail heads; Major, Secondary and Minor

1. Design Objectives
   - Provide transition between motorized and non-motorized transportation and recreational systems.
   - Create a unique entry to the consolidated trail system through hardscape and landscape aesthetics that support themes established by the Trails Plan.
   - Encourage utilization of trail and bicycle routes as alternative transportation paths within the city.
   - Provide access to a variety of nodes, streets, and trails.
   - Utilize existing facilities such as schools, civic facilities (library, city hall, etc.) and parks as trail heads.
   - Establish a hierarchy of trail heads ranging from major, secondary and minor.

2. Major Trail head Design Standards
   a. Trail heads shall provide a minimum 12 parking spaces and 1 handicap space. The handicapped parking space must be van accessible. Sidewalks shall connect handicap spaces to the trails, and the parking lot shall be signed for trail head usage.

b. Bike racks approved by the city shall be provided at a ratio of one bike space for every two parking spaces. No less than five bike spaces shall be provided in a rack at any major trail head.
c. One drinking fountain approved by the city shall be provided within 30' of benches and bike racks. Drinking fountains shall be (SEE CITY STANDARD), or approved equal. Drinking fountains must be plumbed to drain to the nearest sanitary sewer and shall comply with city standard specifications.
d. One bench approved by the city for every three parking spaces shall be provided, with minimum four benches provided.
e. Parking lots and trail intersections shall be lighted to a minimum of ½ footcandle with appropriate commercial light fixture and no spillover to adjacent property.
f. Trails which terminate at major trail heads shall receive landscape traffic control measures for buffering and direction of pedestrian and bicycle traffic.
g. Trail heads shall provide one canopy tree per two parking spaces with a minimum of five trees required. Three ornamental trees shall equal one canopy tree. See Landscape Ordinance for minimum sizes and specifications for shade and ornamental trees.
h. Major trail heads shall be identified by major trail markers.

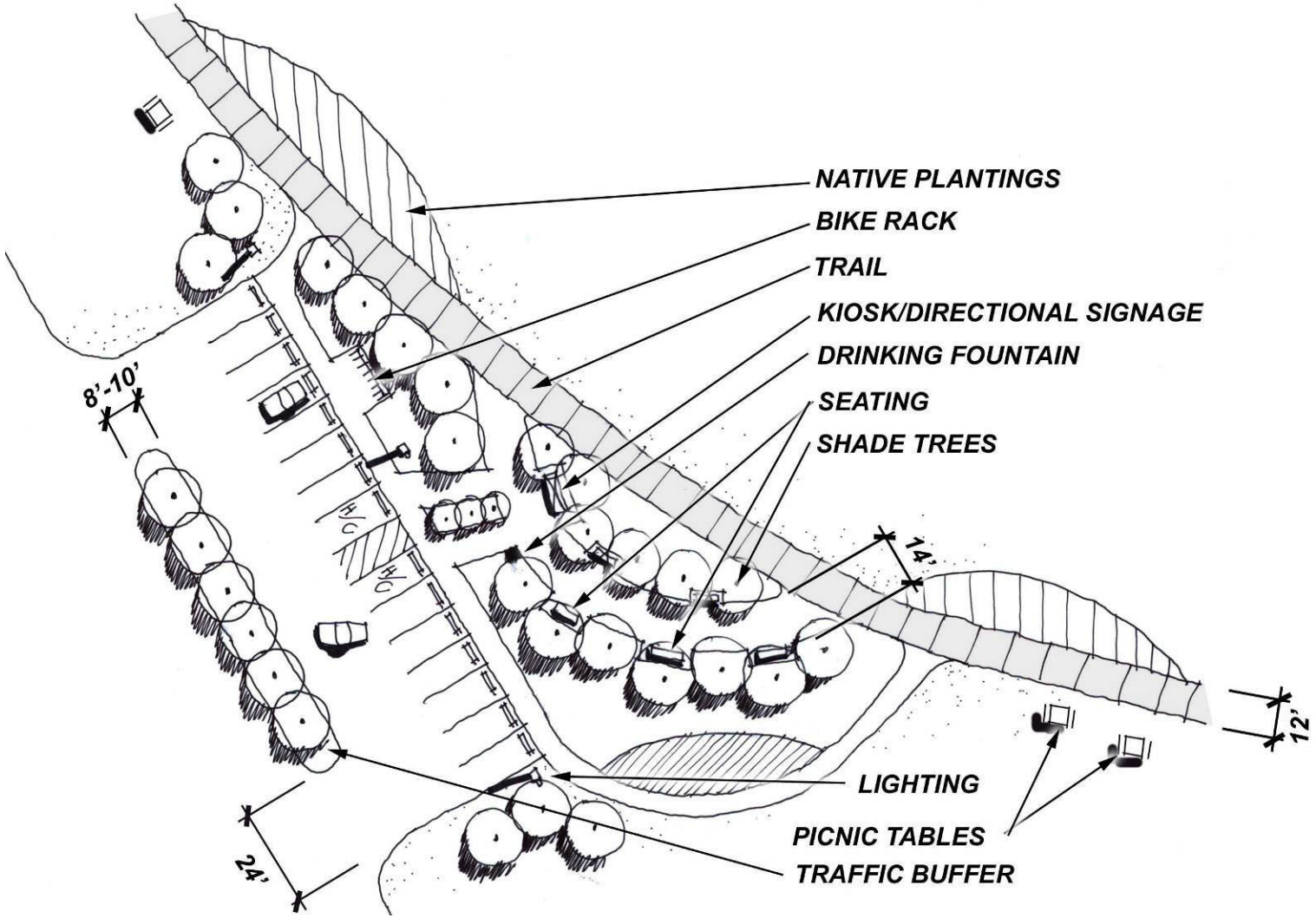


Figure 8. ***Typical Trail Head – Option 1, Park Environment***
N.T.S. **Plan View**

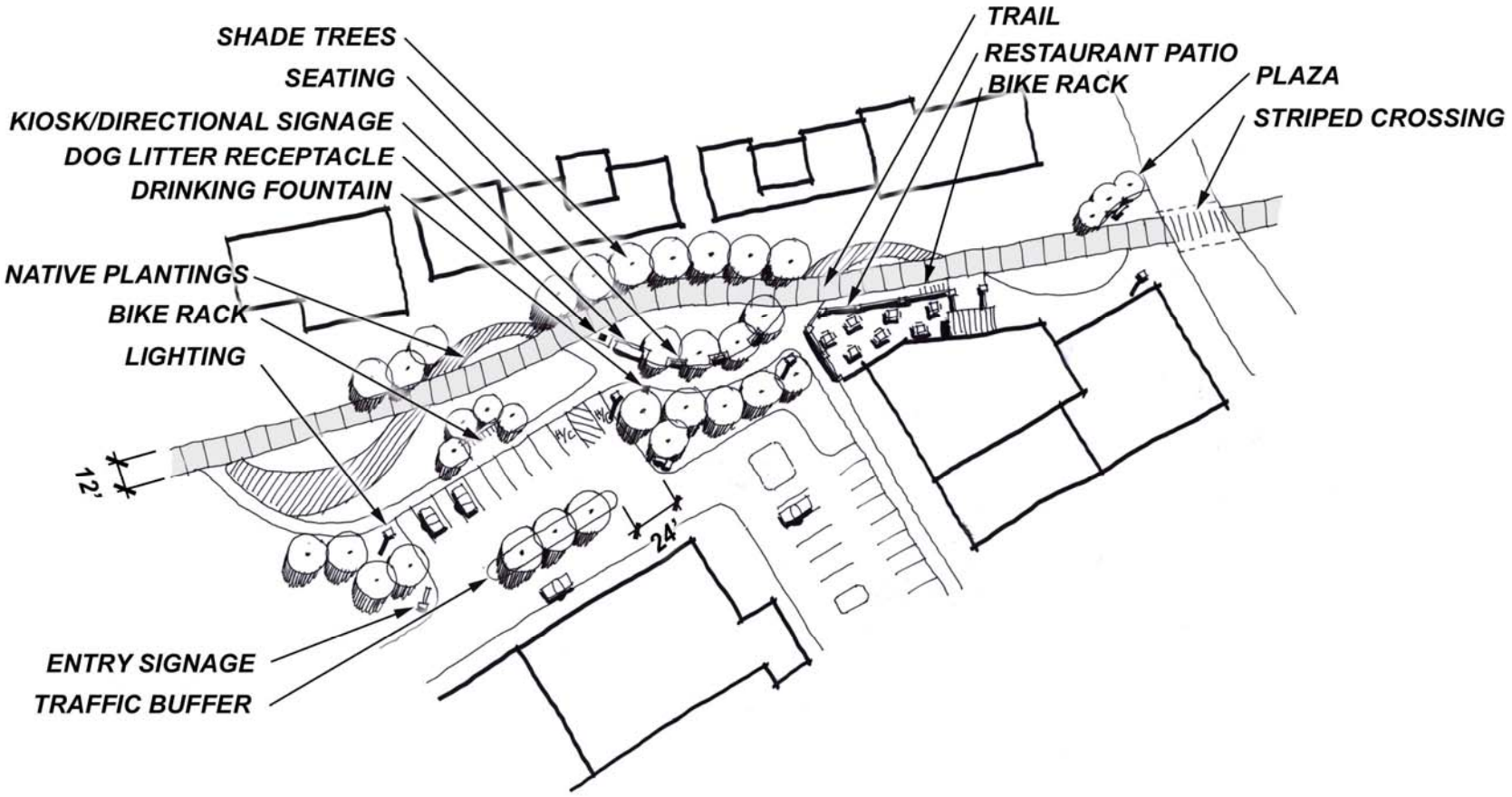


Figure 9. ***Typical Trail Head – Option 2, Built Urban Environment***
N.T.S. **Plan View**

3. Secondary Trail head Design Standards

   a. Trail heads shall provide a minimum 5 spaces and 1 handicapped space, one of which must be van accessible. Sidewalks must connect handicap spaces to trail. Parking spaces shall be signed for trail head usage.

b. Bike racks approved by the city must be provided at a ratio of one bike space for every two parking spaces, with not less than five bike spaces at any secondary trail head.
c. One drinking fountain approved by the city shall be provided within 30' of benches and bike racks. Drinking fountains shall be (SEE CITY STANDARD), or approved equal. Drinking fountains must be plumbed to drain to the nearest sanitary sewer and shall comply with city standard specifications.
d. One bench approved by the city for every three parking spaces shall be required with a minimum of two benches.
e. Parking lots and trail intersections shall be lighted to a minimum of ½ footcandle with appropriate commercial light fixture and no spillover to adjacent property.
f. Trails that terminate at secondary trail heads shall include landscape traffic control measures.
g. Trail heads shall provide one canopy tree per two parking spaces with a minimum of three trees required. Three ornamental trees shall equal one canopy tree. See Landscape Ordinance for minimum sizes and specifications for shade and ornamental trees. Secondary trail heads shall be identified by major or minor trail markers.

4. Minor Trail head Design Standards

a. Parking is not required at minor trail heads.
b. One bike rack (5 holding capacity) shall be provided at any minor trail head.
c. No drinking fountains need to be provided.
d. One bench approved by the city shall be provided.
e. Parking lots and trail intersections shall be lighted to a minimum of ½ footcandle with appropriate commercial light fixture and no spillover to adjacent property.
f. Trails which terminate at minor trail heads shall receive landscape traffic control measures for buffering and direction of pedestrian and bicycle traffic.
g. Minor trail heads shall not have less than three canopy trees and be identified by minor trail markers.

5.3 Trail-Roadway Crossings

Like most trails built in urban areas, Mesquite's trails must cross roadways at certain points. These roadway crossings may be designed at, below or above-grade. At-grade crossings create a potentially high level of conflict between trail users and motorists. However, well-designed crossings have not historically posed a safety problem, as evidenced by the thousands of successful trails around the United States with at-grade crossings. Designing safe grade crossings is a key to safe implementation of this Trails Plan. Trail-roadway crossings should comply with the AASHTO, TxDOT and TMUTCD standards.

In some cases, a required trail crossing may be so dangerous or expensive (e.g., to build an undercrossing or overcrossing) that they affect the feasibility of the entire alignment. However, in most cases, trail crossings can be properly designed at-grade to a reasonable degree of safety and to meet existing traffic and safety standards.

Evaluation of trail crossings involves analysis of vehicular and trail user traffic patterns including speeds, street width, traffic volumes (average daily traffic, peak hour traffic), line of sight and trail user profile (age distribution, destinations). The most appropriate trail-roadway crossing option should be based on the best available information and must be verified and/or refined through the actual engineering and construction document stages. Engineering studies should be done to determine the appropriate level of traffic control and design.

Basic Trail Crossing Prototypes

The proposed intersection approach in this plan is based on established standards and published technical reports. The trail crossings fit into one of four basic categories:

- Type 1: Unprotected / Marked

  Unprotected / marked crossings include trail crossings of residential, collector, and sometimes major arterial streets or railroad tracks.
- Type 2: Route Users to Existing Intersection

  Trails that emerge near existing intersections may be routed to these locations, provided that sufficient protection is provided at the existing intersection.
- Type 3: Signalized / Controlled

  Trail crossings require signals or other control measures due to traffic volumes, speeds and trail usage.

- Type 4: Grade-separated

  Bridges or under-crossings provide the maximum level of safety but also generally are the most expensive and have rights-of-way, maintenance and other public safety considerations. There are a number of bridges recommended for crossing creeks in Mesquite.

Type 1: Unprotected / Marked Crossings

An unprotected crossing (Type 1) consists only of a crosswalk and signing. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, trail traffic, use patterns, vehicle speed, road type and width and other safety issues such as the proximity of schools. The following thresholds outlined below recommend where unprotected crossings may be acceptable:

- Install crosswalks at all trail-roadway crossings
- Maximum traffic volumes:

  Up to 15,000 Average Daily Traffic (ADT) on two-lane roads, preferably with a median

  Up to 12,000 ADT on four-lane roads with median
- Maximum travel speed

  35 mph
- Minimum line of sight:

  25 mph zone: 155 feet

  35 mph zone: 250 feet

  45 mph zone: 360 feet

Type 1 Crossing

On two lane residential and collector roads below 15,000 ADT with average vehicle speeds of 35 mph or less, crosswalks and warning signs ("Bike Xing") should be provided to warn motorists. Stop signs and slowing techniques (bollards / geometry) should be used on the trail approach. Care should be taken to keep vegetation and other obstacles out of the sight line for motorists and trail users. Engineering studies should be done to determine the appropriate level of traffic control and design.

The top of the crosswalk is flat and typically made of asphalt, patterned concrete, or brick pavers. Brick or unit pavers should be discouraged because of potential problems related to pedestrians, bicycles and ADAAG requirements for a continuous, smooth, vibration-free surface. Tactile treatments are needed at the sidewalk / street boundary so that visually impaired pedestrians can identify the edge of the street. Costs can range from $5,000 to $20,000 per crosswalk, depending on the width of the street, the drainage improvements affected and the materials used for construction.

A flashing yellow beacon costing between $15,000 and $30,000, may be used, preferably one that is activated by the trail user rather than operating continuously. Some jurisdictions have successfully used a flashing beacon activated by motion detectors on the trail, triggering the beacon as trail users approach the intersection. This equipment, while slightly more expensive, helps keep motorists alert.

Crossings of higher volume arterials over 15,000 ADT may be unprotected in some circumstances. For example, if they have 85th percentile speeds of 30 mph or less and have only two lanes of traffic, such crossings would not be appropriate if a significant number of school children used the trail.

Katy Trail, Dallas, TX

Example of an enhanced paver crosswalk – Military Pkwy.

Type 2: Route Users to Existing Intersection

Crossings within 500 feet of an existing signalized intersection with pedestrian crosswalks, (See Figure 10) are typically diverted to the signalized intersection for safety purposes. For this option to be effective, barriers and signing are needed to direct trail users to the signalized crossings. In most cases, signal modifications would be made to add pedestrian detection and to comply with the ADAAG. In many cases, such as on most community trails parallel to roadways, crossings are simply part of the existing intersection and are not a significant problem for trail users.

Signage for Type 2 Crossing

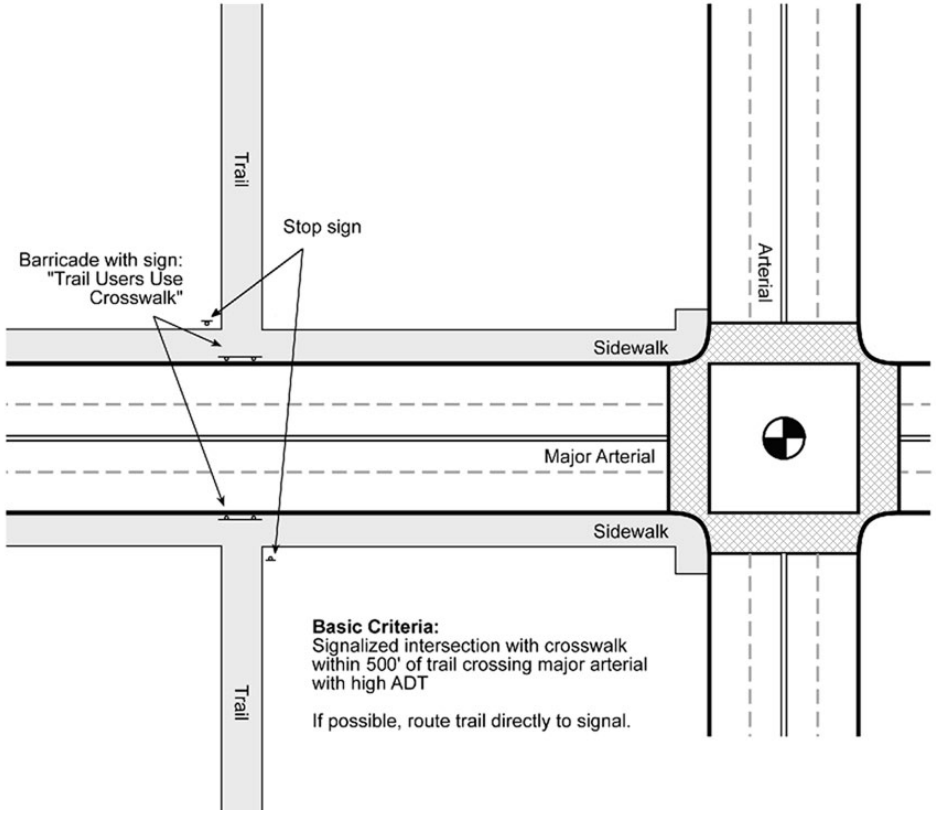


Figure 10. ***Type 2 Crossing***
N.T.S. **Plan View**

Type 3: Signalized/Controlled Crossings

New signalized crossings (See Figure 11) are recommended for crossings more than 500 feet from an existing signalized intersection and where 85th percentile travel speeds are 40 mph and above and/or ADT exceeds 15,000 vehicles. Each crossing, regardless of traffic speed or volume, requires additional review by a Texas Registered Engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity and safety.

Trail signals are normally activated by push buttons, but also may be triggered by motion detectors. The maximum delay for activation of the signal should be one minute, with minimum crossing times determined by the width of the street. The signals may rest on flashing yellow or green for motorists when not activated, and should be supplemented by standard advanced warning signs. Typical costs for a signalized crossing range from $150,000 to $250,000.

Type 3 Crossing

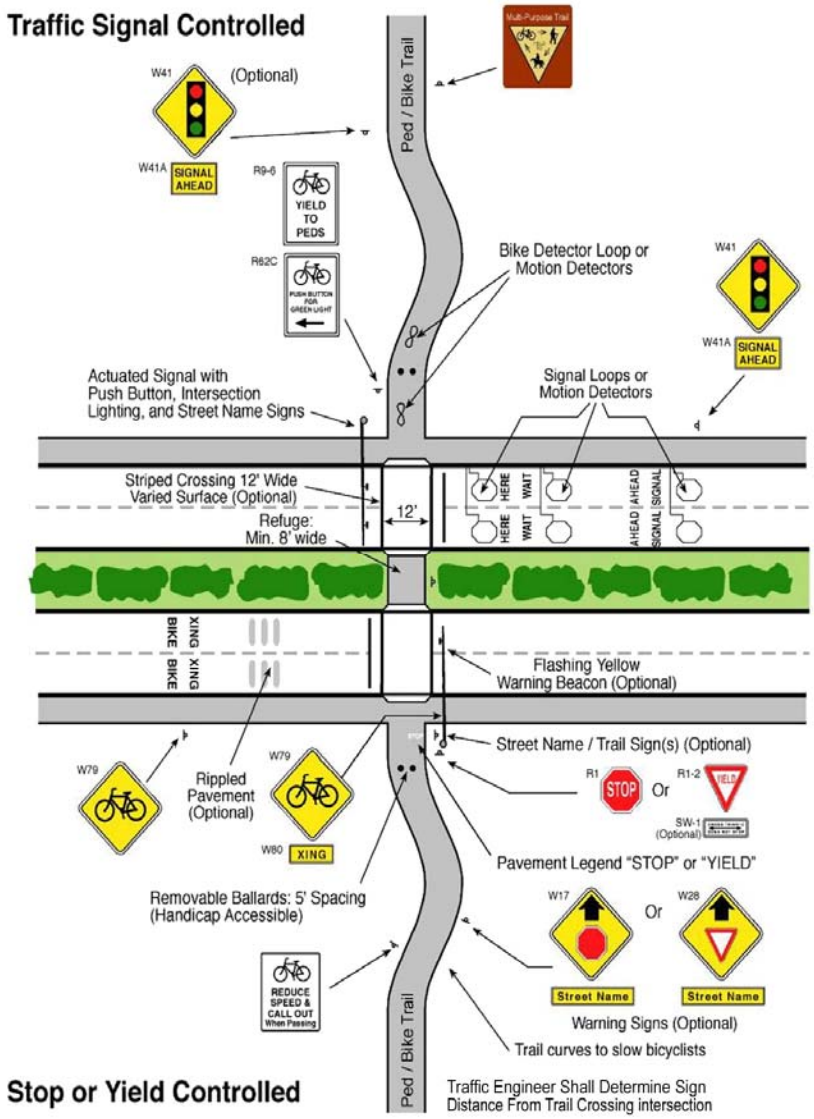


Figure 11. ***Type 3 Crossing***
N.T.S. **Plan View**

Type 4: Grade-separated Crossings

Grade-separated crossings may be needed where ADT exceeds 25,000 vehicles, and 85th percentile speeds exceed 45 mph. Safety is a major concern with both over-crossings and under-crossings. In both cases, trail users may be temporarily out of sight from public view and may have poor visibility themselves. Under-crossings, like parking garages, have the reputation of being places where crimes occur. Most crime on trails, however, appears to have more in common with the general crime rate of the community and the overall usage of the trail than any specific design feature.

Design and operation measures are available which can address trail user concerns. For example, an under-crossing can be designed to be spacious, well lit, equipped with emergency cell phones at each end and completely visible for its entire length prior to entering.

Other potential problems with under-crossings include conflicts with utilities, drainage, flood control and maintenance requirements. Over-crossings pose potential concerns about visual impact and functional appeal.

Type 4 Grade-separated Under-crossing

Type 4 Grade-separated Over-crossing

5.4 Signing and Striping at Roadway Crossings

Crossing features for all roadways include warning signs both for vehicles and trail users. The type, location and other criteria are identified in the Texas Manual for Uniform Traffic Control Devices (TMUTCD). Adequate warning distance is based on vehicle speeds and line of sight. Signage should be highly visible; catching the attention of motorists accustomed to roadway signs may require additional alerting devices such as a flashing light, roadway striping or changes in pavement texture. Signing for trail users must include a standard stop sign and pavement marking, sometimes combined with other features such as bollards or a kink in the trail to slow bicyclists. Care must be taken to not place too many signs at crossings lest they overwhelm the user and lose their impact.

Directional signing may be useful for trail users and motorists alike. For motorists, a sign reading “Bicycle Trail Xing” along with a Mesquite trail emblem or logo helps both warn and promote use of the trail itself. For trail users, directional signs and street names at crossings help direct people to their destinations.

A number of striping patterns have emerged over the years to delineate trail crossings. A median stripe on the trail approach will help to organize and warn trail users. The actual crosswalk striping is a matter of local and State preference, and may be accompanied by pavement treatments to help warn and slow motorists. The effectiveness of crosswalk striping is highly related to local customs and regulations. In communities where motorists do not typically yield to pedestrians in crosswalks, additional measures may be required. Table 3 notes some of the most common signs that may be required on the Mesquite Trails system.

Table 3. Commonly Used Trail Signage

Item	Location	Color	AASHTO Designation	TMUTCD Designation
No Motor Vehicles	Entrances to trail	B on W	R44A	R5-3
Use Ped Signal/Yield to Peds	At crosswalks; where sidewalks are being used	B on W	N/A	R9-5 , R9-6
Bike Lane Ahead: Right Lane Bikes Only	At beginning of bike lanes	B on W	N/A	R3-16, R3-17
STOP, YIELD	At trail intersections with roads	W on R	R1-2	R1-1, R1-2
Bicycle Crossing	For motorists at trail crossings	B on Y	W79	W11-1
Turns and Curves	At turns and curves which exceed 20 mph design specifications	B on Y	W1,2,3; W4,5,6,14 W56,57	W1-1,2 W1-4,5 W1-6
Trail Intersections	At trail intersections where no STOP or YIELD required, or sight lines limited	B on Y	W7,8,9	W2-1, W2-2 W2-3, W2-3 W2-4, W2-5
STOP Ahead	Where STOP sign is obscured	B,R on Y	W17	W3-1
Signal Ahead	Where signal is obscured	B,R,G on Y	YW41	W3-3
Pedestrian Crossing	Where pedestrian walkway crosses trail	B on Y	W54	W11A-2
Directional Signs	At intersections where access to major destinations is available	W on G	G7, G8	D1-1b(r/l), D1-1c
Trail Regulations / Bikes Reduce Speed & Call Out Before Passing	All trail entrances	B on W	n/a	n/a
Multi-purpose Trail: Bikes Yield to Pedestrians	All trail entrances	n/a	n/a	n/a
Please Stay On Trail	In environmentally-sensitive areas or where the trail travels on private property	n/a	n/a	n/a
Trail Closed: No Entry Until Made Accessible & Safe for Public Use	Where trail or access points closed due to hazardous conditions	n/a	n/a	n/a

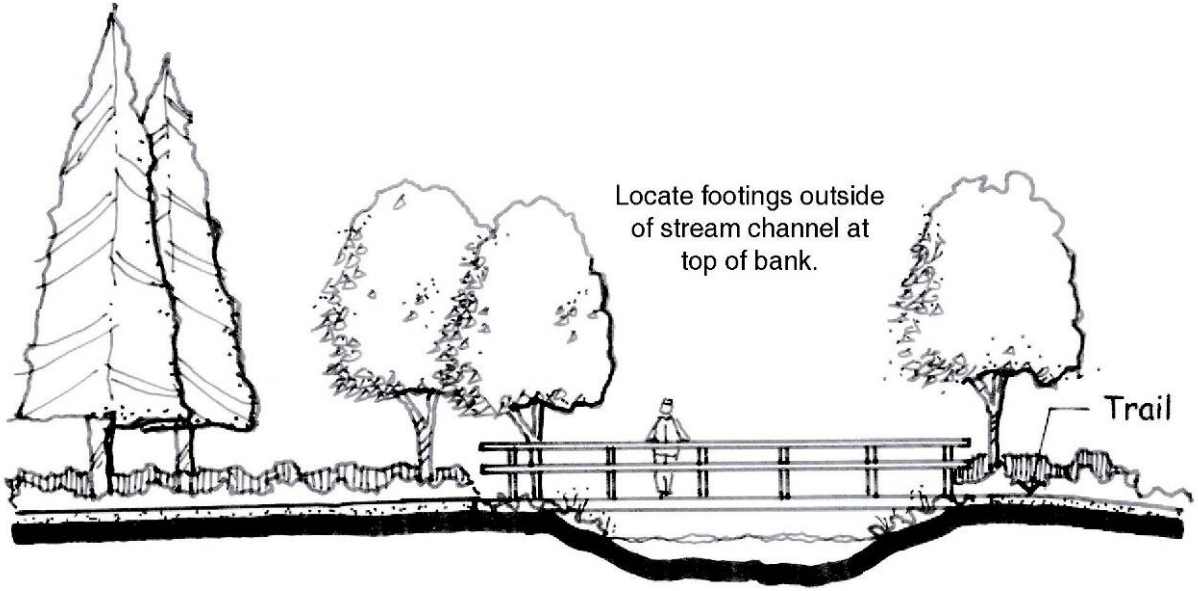
5.5 Bridges

Bridges should be at least as wide as the trail; preferably one to two feet wider on each side. This is so pedestrians can stop and view the creek without obstructing the trail. Any bridge that is specifically designated for bicycle traffic must have appropriate railing for cyclists. Texas has adopted the AASHTO Bridge Design Specifications requirement that railing of bridges that are designated for bicycle traffic should be a minimum of 54 inches high with the same restrictions on openings as for pedestrian railing.[2] Pedestrian railing openings between horizontal or vertical members must be small enough that a 6-inch sphere cannot pass through them in the lower 27 inches. For the portion of pedestrian railing that is higher than 27 inches, openings may be spaced such that an 8-inch sphere cannot pass through them. Decking material should be firm and stable. Bridge approaches and span should not exceed 5% slope for ADAAG access.

Bridges should accommodate maintenance vehicles if necessary. Bridge structures should be located out of the 100-year floodplain where possible. Footings should be located on the outside of the stream channel at the top of the stream bank (See Figure 13). The bridge should not impede fish passage or constrict the floodway. All bridges and footings in the stream corridor will need to be designed by a Texas Registered Geotechnical or Structural Engineer. Cost, design and environmental compatibility will dictate which structure is best for the trail corridor.



[2] Texas Department of Transportation, 2003-1 Revision of the *Bridge Railing Manual*, Chapter 5. Pedestrian, Bicycle, and ADA Requirements for Bridge Railing (2003)



Locate bridges out of 100-year floodplain where possible

Figure 12. ***Crossing of Major Stream or Drainage***
N.T.S. **Section View**

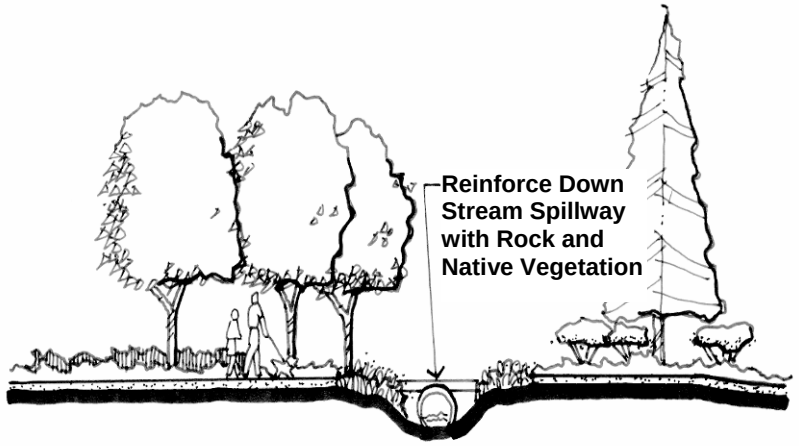


Figure 13. ***Low Water Crossing of Minor Stream or Drainage***
N.T.S. **Section View**

5.6 Trail Features

In order for the Mesquite trails system to be a successful community amenity, the trails should appeal to a wide variety of users. To achieve this, the trails should be designed to provide a high level of user conveniences. The demographics of the community include a high percentage of both elderly and young. These groups will use the trail more often if amenities are provided. Recommended trail amenities include:

- **Benches**: Utilize powder coated metal or recycled plastic composites for benches.
- **Bike Racks**: Bicycle parking should be located in a visible station, close to the building entrance and in parks adjacent to parking. Bicycle parking should not be located in remote areas.
- **Milepost Markers**: Milepost markers shall occur at ½ mile intervals. Milepost markers greatly increase the use of the trail by walkers, joggers and cyclists looking for set workout distances. It is recommended to incorporate milepost markers onto fixed concrete bollards well outside the travel path. Signage should be consistent with other trail signage.
- **Litter Receptacles**: Litter receptacles shall be provided at trail heads, access points and rest areas where benches are provided. The trail should establish the National Park Service ethic of "pack it in, pack it out."
- **Dog Waste Pickup Stations**: Dog waste bag dispensers should be placed at trail heads and key neighborhood access points along the route. Signs should be placed along the trail notifying dog owners to pick up after their dogs.
- **Information Kiosks**: Trail head stations should provide trail users with information along with the rules and regulations of the trail. Involving school children, university students and civic organizations in the research, design and construction of these kiosks would be an excellent community activity.

- **Directional Signage**: The directional signage should impart a unique theme so trail users know which trail they are following and where it goes. The theme can be conveyed in a variety of ways: engraved stone, medallions, bollards and mile markers. A central information installation at trail heads and major crossroads also helps users find their way and acknowledge the rules of the trail. They are also useful for interpretive education about plant and animal life, ecosystems and local history.
- **Restrooms**: Should be placed where appropriate at major trail heads.

Materials used for amenities should receive approval from the City of Mesquite Parks and Recreation Department.

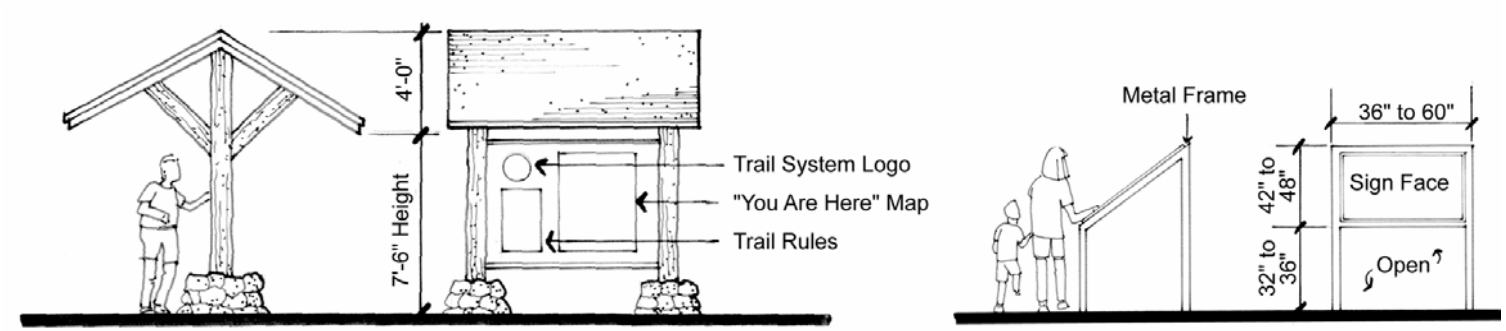


Figure 14. ***Trail head Information Installation Examples***
N.T.S. **Elevation / Section View**

Some of the amenities listed above are described further on the following page:

Interpretive Installations

Interpretive installations and signs can enhance the trail experience by providing information about the history of Mesquite. Installations can also discuss local ecology, environmental concerns, and other educational information.

Water Fountains and Bicycle Parking

Water fountains provide water for people (and pets, in some cases) and bicycle racks allow trail users to safely park their bikes if they wish to stop along the way, particularly at parks and other desirable destinations.

Pedestrian-scale Lighting and Furniture

Pedestrian-scale lighting improves safety and enables the trail to be used year-round. It also enhances the aesthetics of the trail. Light fixtures should emulate a historic theme.

Providing benches at key rest areas and viewpoints encourage people of all ages to use the trail by ensuring that they have a place to rest along the way.

Maps and Signage

A comprehensive signing system makes a trail system stand out. Informational kiosks with maps at trail heads and other pedestrian generators can provide enough information for someone to use the trail system with little introduction – perfect for areas with high out-of-area visitation rates as well as for the local citizens.

Art Installations

Local artists can be commissioned to provide art for the trail system, making it uniquely distinct. Many trail art installations are functional as well as aesthetic, as they may provide places to sit and play on.

Trail Gateway & Directional Information

Trail gateway and information signage is an important aspect in the flow of information and rules for the city's trails. This is an example of a trail gateway for the Trail in the Woods in Allen, Texas.

Soft Surface Trail

It is desirable in natural settings to use decomposed granite surface with crushed recycled concrete. This is less intrusive to the natural environment.

Stone Mileage Marker

Mile markers allow runners and walkers to gauge themselves during their activities. Creative use of materials such as stone, rock, wood and metal are good examples to use.

The following images are examples of trail features and amenities designed by Halff Associates.

Information Signage and Neighborhood Gateway

West Rowlett Creek Trail, Frisco, Texas

Bridge Ornamentation and Seating

Big Bear Creek Trail, Grapevine, Texas

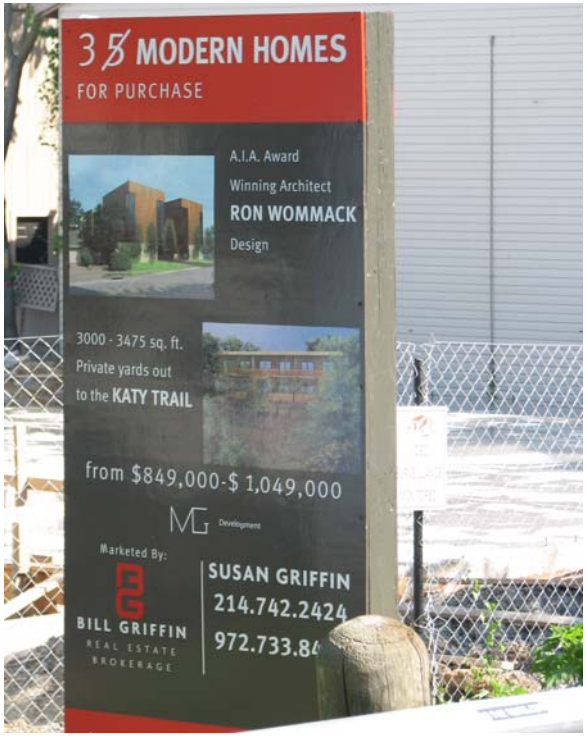
Mile Markers

West Rowlett Creek Trail, Frisco, Texas

6. Trail Development Strategies

6.1 Safety and Property Value Impacts

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 documents were reviewed. This included the *Evaluation of the Burke-Gillman Trail's Effect on Property Value and Crime*, produced by the Seattle, WA Engineering Department; *The Impact of Brush Creek Trail on Property Values and Crime*, produced by Michelle Miller Murphy of Sonoma State University; and *The Effect of Greenways on Property Values and Public Safety*, produced 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 the trail and real estate agents actively involved with selling of homes adjacent to the trail. The following is a summary of the general findings of these studies:



Real estate owners and developers place advertisement for high-end homes along this urban trail.

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 will automatically mean a successful trail. Developing trail regulations, effective law enforcement, management, maintenance and building a strong sense of community ownership of a trail are essential.

***"A walkway system can be a showcase of existing features in a landscape— an abandoned railroad right-of-way, utility corridors and city sidewalks, can be thoughtfully adapted to form a unified and useful outdoor space. It creates a public environment where people want to gather, explore and learn. This promotes conservation at its most basic level— knowing our World." – CRAIG EVANS**, *President, WalkWays Center in Washington, DC, 1989*

6.2 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 trail heads and other key access points. Trail maps and informational materials should include these regulations as well. Establishing that the trail facility is a regulated traffic environment like other public rights-of-way is critical for compliance and often results in a facility requiring minimal 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. It may be desirable to pass additional ordinances to implement trail regulations. In general, the initial set of rules proposed for the trail should stress courtesy and cooperation with others rather than an overly restrictive set of regulations. The proposed rules are outlined below:

- Motorized vehicles prohibited except emergency and maintenance vehicles.
- 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.
- Cyclists yield to pedestrians and equestrians; and pedestrians yield to equestrians.
- When entering or crossing the trail, yield to those on the trail.
- Help keep the trail clean.
- Exercise caution and obey all traffic laws at all intersections.

This set of rules is based upon successful projects in other areas. Trail heads should be designed with the ability to close them, typically with a sunset to sunrise closure policy. These rules should be posted conspicuously at trail heads and other major access points along the trail. Development of a trail brochure with a map and trail rules should be pursued.

6.3 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 locating wetlands, streams and riparian areas relative to the trail is an important element of the 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. Use alternate routes for heavy equipment when trails are wet.
- Where trails traverse wet areas, structures should be provided to avoid trail widening and damage at "go-around" spots. Crossing structures also help protect water quality, wetlands and riparian areas.
- Retain a buffer between trails and water resources by establishing riparian and streamside management zones, within which trail influences such as drainage, disturbance and trail width are minimized.
- Post signs that explain and prohibit the use of natural surface trails by mountain bikes and horses during wet conditions.

SEGMENT `J'
3.50 MILES

SEGMENT `I'
2.50 MILES

SEGMENT `H'
2.50 MILES

SEGMENT `A'
2.00 MILES

SEGMENT `B'
2.25 MILES

SEGMENT `K'
2.75 MILES

SEGMENT `G'
3.25 MILES

SEGMENT `C'
2.25 MILES

AIRPORT LOOP
2.85 MILES

SEGMENT `F'
2.75 MILES

SEGMENT `D'
2.50 MILES

SEGMENT `E'
3.75 MILES

CARLAND
DALLAS
SUNNYVALE
BALCH SPRINGS
SEAGOVILLE
KAUFMAN COUNTY
ROCKWALL COUNTY
DALLAS COUNTY
Lake Ray Hubbard

MUNICIPAL BUILDINGS
1 Mesquite Community Service Building
2 Mesquite Art Center
3 Mesquite Municipal Building
4 Mesquite Central Library
5 County Tax Office
6 Post Office
7 Mesquite City Hall
8 Mesquite Employee Health Clinic
9 Mesquite Social Services
10 Mesquite Municipal Service Center

01 PARK LEGEND
01 Austin School Park
02 Beasley School park
Dunford Recreation Center
03 Blackwood Park
04 Bruton Park
05 Bruton Soccer Complex
06 Cannaday School Park
07 Cayman Estates Park
08 City Lake Park
City Lake Aquatic Center
Loncey Leake Ballfield
Lakeside Activity Center
09 Clay Mathis Greenbelt Park
10 Brandy Station Park
11 Creek Crossing #5
12 Creek Crossing #6
13 Dallas County Open Space
14 Debusk Park
KidsQuest Playground
15 Eastfield Soccer Complex *
16 East Glen Greenbelt
17 East Glen Soccer Practice Facility
18 Evans Park
Evans Recreation Center
Evans Baseball Practice Facility
19 Florence School Park
Florence Recreation Center
20 Florence Ranch Homestead
21 Galloway School Park
22 Gentry School Park
23 Hanby School Park
24 Heritage Square
25 Hillcrest @ Hwy. 80 Property
26 Hodges Park
27 Indian Trails Greenbelt
28 Kimball School Park
29 Kimbrough Athletic Complex
30 Lambert Property
31 Lawrence School Park
32 Main Library
33 McKenzie School Park
Goodbar Recreation Center
34 McWhorter School Park
35 Mesquite Girls Softball Complex
36 Mooreman Property
37 Moss School Park
38 Motley School Park
39 Municipal Golf Course
40 Oakbrook Property
41 Opal Lawrence Historical Park
42 Palos Verdes Lake Park
43 Paschall Park
44 Pirrung School Park
45 Porter School Park
46 Pritchett Property
47 Procter-Oates Park
48 Range School Park
49 Rorie-Galloway Day Camp
50 Rugel School Park
51 Rutherford School Park
Rutherford Recreation Center
52 Seabourn School Park
53 Shands School Park
54 Shaw School Park
Shaw Gymnasium
55 (Ann) Smith Park
56 Thompson School Park
Thompson Gymnasium
57 Tosch School Park
58 Town East Park
Town East Pavilion
59 Valley Creek Greenbelt
60 Valley Creek Park
Hubert Terry Baseball Complex
61 Vanston Park
62 Westlake Park
Westlake Tennis Center
Westlake House
63 Westover Greenbelt
64 Westover Greenbelt Park
65 Wildflower Park
66 Williams Athletic Complex
67 Winding Creek Property
* DCCCD Property

HS HIGH SCHOOLS
01 Dr. John D. Horn
02 Mesquite
03 North Mesquite
04 Dr. Ralph H. Poteet
05 West Mesquite

MS MIDDLE SCHOOLS
06 F.B. Agnew
07 Judge Frank Berry
08 R.S. Kimbrough
09 T.H. McDonald
10 A.C. New
11 Ed F. Vanston
12 Walter L. Wilkinson
13 Dr. James P. Terry

ES ELEMENTARY SCHOOLS
14 J.C. Austin
15 C.W. Beasley
16 Florence Black
17 Dr. J.C Cannaday
18 J.H. Florence
19 Walter E. Floyd
20 Bedford Galloway
21 Bonnie L. Gentry
22 W.O. Gray
23 John L. Hanby
24 Ed Hodges
25 Georgia W. Kimball
26 Joe Lawrence
27 Sue Ann Mackey
28 E.S. McKenzie
29 Ferd A. McWhorter
30 Mary L. Moss
31 Zach Motley
32 Dr. Joey Pirrung
33 G.R. Porter
34 Vernon Price
35 I.N. Range
36 J.C. Rugel
37 Sam Rutherford
38 S.M. Seabourn
39 Elsie Shands
40 Ruby Shaw
41 B.J. Smith
42 Jay R. Thompson
43 Ben R. Tisinger
44 Charles A. Tosch
45 Smith Elementary
46 Elementary Site (McKenzie/McKenzie)
47 Elementary Site (Lawson/Lasater)
48 Elementary Site (McKenzie Road)

SYMBOLS LEGEND
Developed Parks
Undeveloped Parks
Other Parks
Major Destination / Activity Node
Destination Node
Trail Gateway Marker
Trail Head
Overlook
Proposed Traffic Signal
Historical Marker or Site
On-Street Bike Route
Proposed Bridge
01 Proposed Orphan Sidewalk Locations
Business with 350+ Employees
Municipal Buildings
Recreation Centers
Pavilions
Fire Stations

TRAILS LEGEND
12' 2025 Veloweb Trail Plan
12' Regional Trail Connections
12' Loop Trail Spine
10' Community Trails
6' Trail to Schools and Parks
Existing Trail Connections
8' / 6' Neighborhood Trails
Existing Park Trails
1/2 Mile Service Area of Main Trail Spine

Aerial Photography 2005

March 24, 2008

TRAIL SEGMENT PRIORITY PROJECTS

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.

7. Priority Projects

Proposed trail alignment provides for potential trail grant opportunities along TXU easement.

The previous Map: **Trail Segment Priority Projects Overall** and subsequent pages highlight eleven top priority projects based on their ease of implementation, previous work done by the city, ability to attract trail users, connectivity of trail project, likelihood of receiving grant funding and other criteria. For each priority project there is a detailed map (*See pages 7-2 thru 7-12*) and project sheets (*See Appendices – Trail Prioritization Criteria, Segment A thru K*), highlighting the opportunities and constraints, estimated

7.1 Loop Segment 'A': Eastfield College / Town East Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary & School Trails
6' }

Description

Segment A is a main spine trail from Eastfield College running south along Motley Dr. and east along IH 30, then southward down along the drainage way west of Edgbrook, ending at Town East Park. A trail head would be placed at Town East Park utilizing existing parking and tying into the existing trail. Future enhancements would include the widening of the existing walkway, trail head improvements, a kiosk and seating.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.0 mi trail

Ownership

TxDOT, private property and City of Mesquite

Key Land Uses / Destinations

Access to Eastfield College, Motley, McKenzie and Lawrence Elementary School/Parks, and T.H. McDonald Middle School

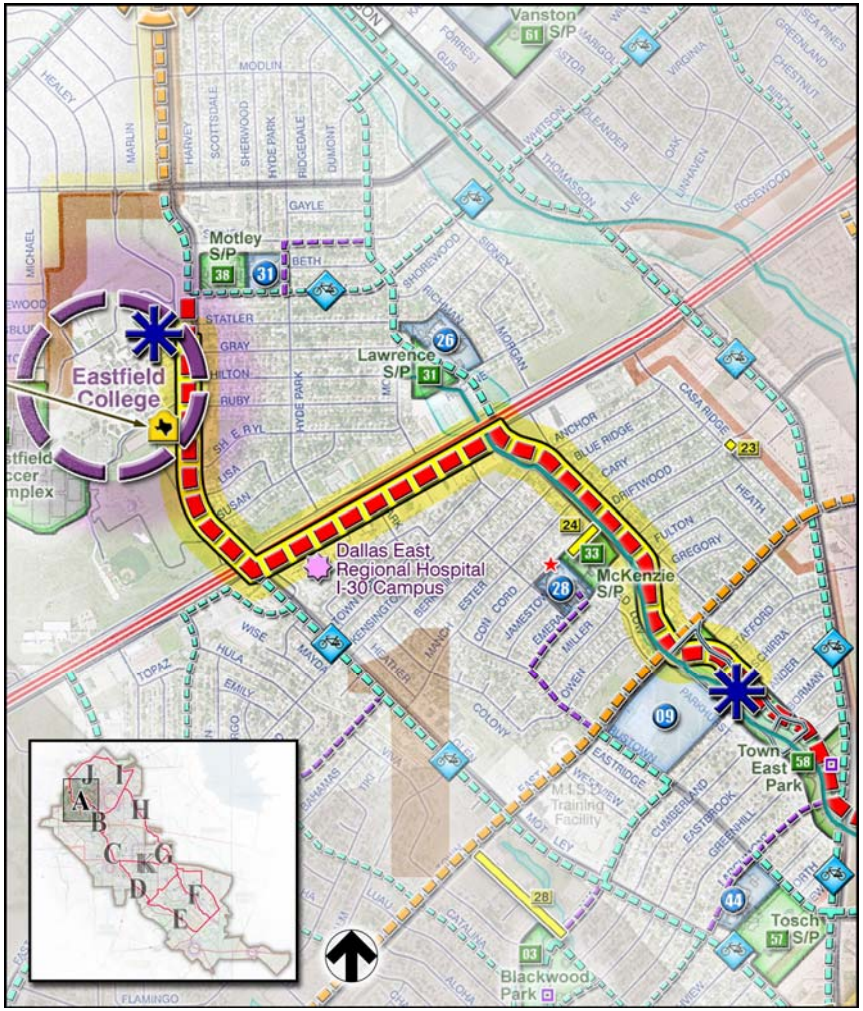
Provides access to Dallas Regional Hospital and Town East Park

Issues

- The city will have to negotiate future bridge improvements and R.O.W. with TxDOT as the trail segment crosses IH 30 and runs alongside TxDOT R.O.W.
- Acquiring ample rights-of-way for a separated trail along the road alignment

Planning-Level Cost Estimate

$1,836,000 for trail, trail crossings and trail head.



7.2 Loop Segment 'B': Town East Park / Debusk Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary & 6' } School Trails

Description

Segment B, begins at the Town East Park trail head, crossing Gus Thomasson, where it ties into the South Mesquite Creek (SMC). The trail would be integrated with planned drainage enhancements for SMC and extend south under US80, to link into planned trail improvements by Dallas County. The trail segment would end at DeBusk Park, utilizing existing infrastructure and trails.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.25 mi trail

Ownership

TxDOT, private property and City of Mesquite

Key Land Uses / Destinations

Access to Town East Park, North Mesquite High School, J.C. Rugel and Tosch Elementary School/Parks, DeBusk Park and Westover Greenbelt Park and Oakbrook and Lambert Properties

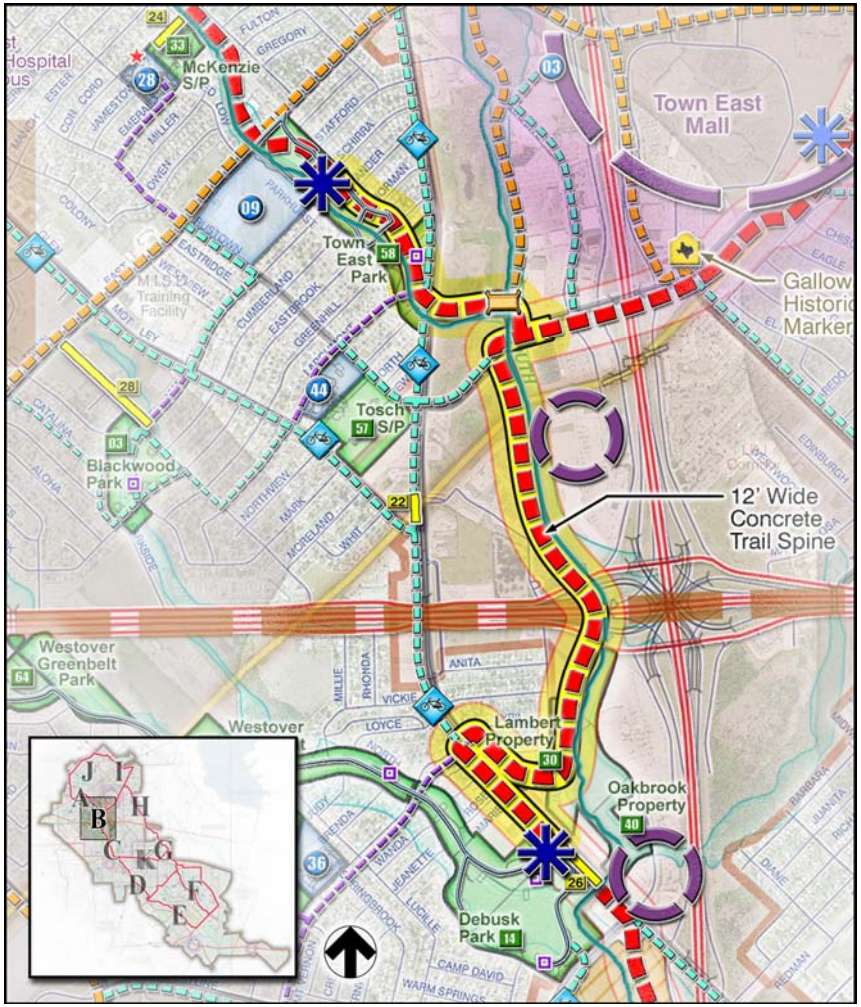
Access to movie theater, Restaurant Row, Town East Mall and Galloway Historical Marker

Issues

- Requires bridge/low water crossing at SMC and possible mid-block crossing at Gus Thomasson and signalization at Gross Road
- The city will need to negotiate with a private property owner where the TXU easement crosses their property
- Coordination with Dallas County for trail extension and connections under US 80

Planning-Level Cost Estimate

$2,791,125 for trail, trail crossings, bridge and trail head.



7.3 Loop Segment 'C': Debusk Park / Paschall Park (Heritage Trail)

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary &
6' } School Trails

Description

Segment C begins at DeBusk Park travels under Peachtree Rd. and along the TXU R.O.W. to IH 635. There is the potential to collaborate with the current landowner to further enhance the minimum standards of this segment of trail. The trail segment then crosses under IH 635 and the railroad and links into planned walkway improvements for Military Pkwy. A trail head is planned for this area as it will serve as major destination boasted by current city planning efforts for a mixed-use development. The segment will end at Paschall Park, where a trail head is planned.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.25 mi trail

Ownership

TXU, TxDOT, private property and City of Mesquite

Key Land Uses / Destinations

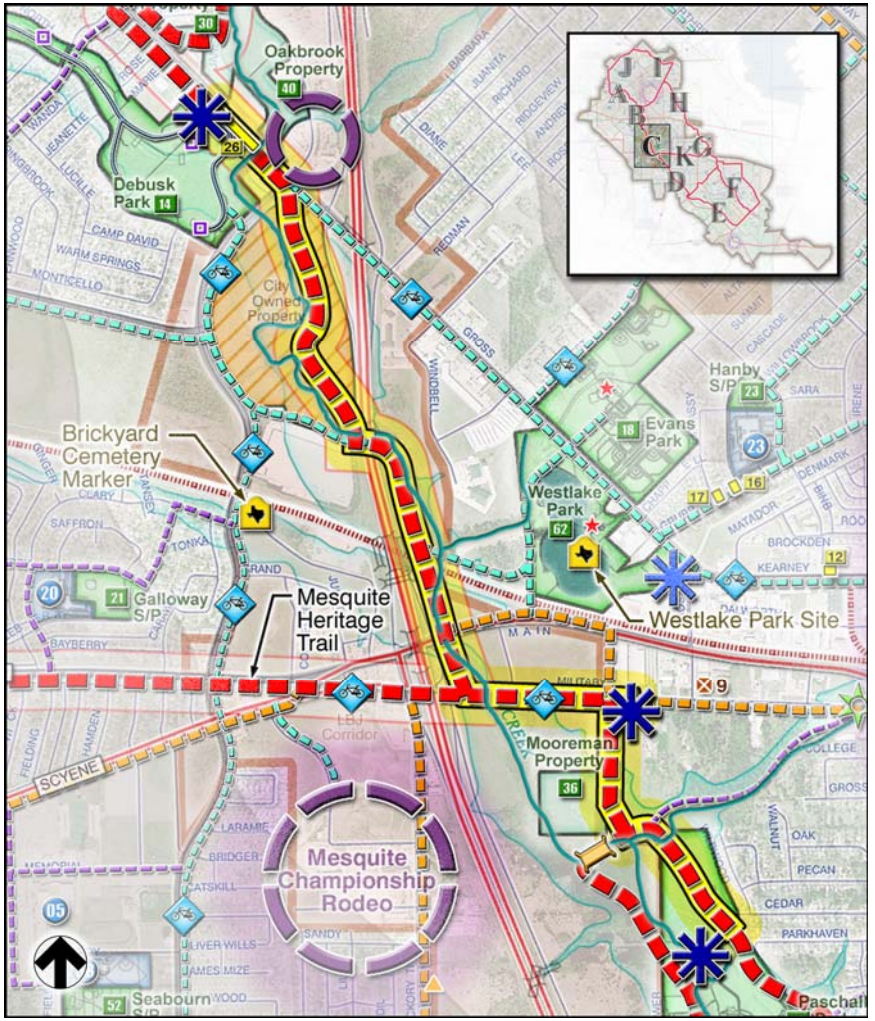
- Access to Evans Park, Westlake Park, Mesquite Rodeo, Mooreman Property Park and Paschall Park
- This segment has nearby access to current historical sites (the Brickyard Cemetery and Jerk Water Stop Filling Station in Westlake Park)

Issues

- Trail crossings under IH 635, RR, Scyene and Military Pkwy. are significant and will require careful study and design
- The city will need to negotiate with a private property owner where the TXU easement crosses their property (1 bridge)
- Access will have to be provided up to and across or under Scyene and Military Pkwy

Planning-Level Cost Estimate

$2,419,875 for trail, trail crossings, bridge and trail head.



7.4 Loop Segment 'D': Paschall Park / Valley Creek Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' / 6' Secondary & School Trails

Description

This trail segment follows approximately 1.25 miles of existing 8' concrete trail beginning at Paschall Park, connecting to Travis Williams Athletic Complex, Bruton Soccer Complex and ending at Hodges Park. The proposed trail would pick up and continue 1.15 miles along SMC ending at Valley Creek Park. It is planned to utilize the existing 8' trail and expand to 12' width when money becomes available.

Type/Width	Length
12-foot wide concrete trail 8-foot existing concrete trail	Planned: 2.50 total miles trail

Ownership

Private property and City of Mesquite

Key Land Uses / Destinations

Access to Mary L. Moss Elementary School/Park, Paschall Park, Travis Williams Athletic Complex, Bruton Soccer Complex and Park, Hodges Park and Valley Creek Greenbelt and Park

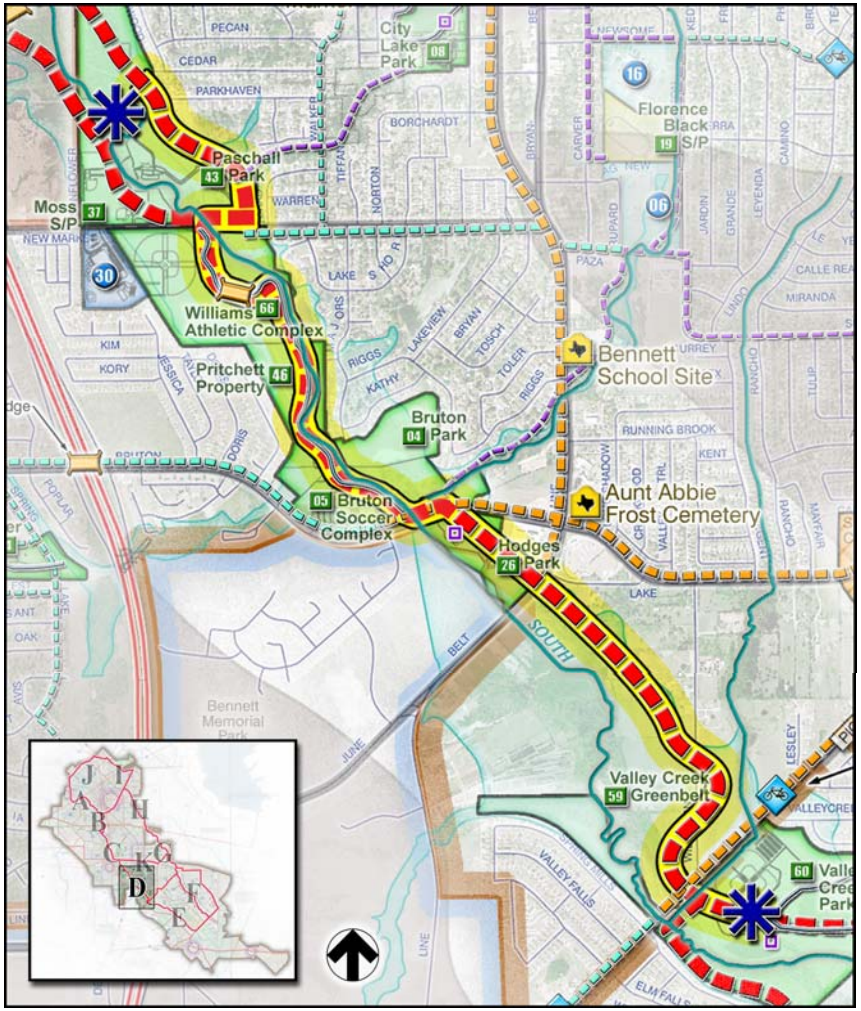
The trail also provides access to several (3) historical sites

Issues

- Existing trail to be widened to 12 feet as money becomes available
- Replace existing low water crossing and bridges (2) to accommodate proposed trail width
- Provide trail under crossings under Beltline and Pioneer Pkwy.

Planning-Level Cost Estimate

$2,943,000 for trail, (2) bridges and trail head.



7.5 Loop Segment 'E': Valley Creek Park / North Mesquite Creek

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary & 6' } School Trails

Description

The trail segment begins at Valley Creek Park utilizing existing infrastructure and trails and continue southward along SMC for approximately 2.50 miles to Lawson Rd. Future city planning efforts include road widening and trail along Lawson Rd. and N. Mesquite Creek. An alternate trail alignment is planned on the west side of SMC providing neighborhood access for the nearby residents.

Type/Width	Length
12-foot wide concrete trail	Planned: 3.75 mi trail

Ownership

Private property and City of Mesquite

Key Land Uses / Destinations

Access to Bonnie L. Gentry Elementary School, John D. Horn High School and Rorie-Galloway Day Camp

The trail also provides access to the Lucas Farm historical marker

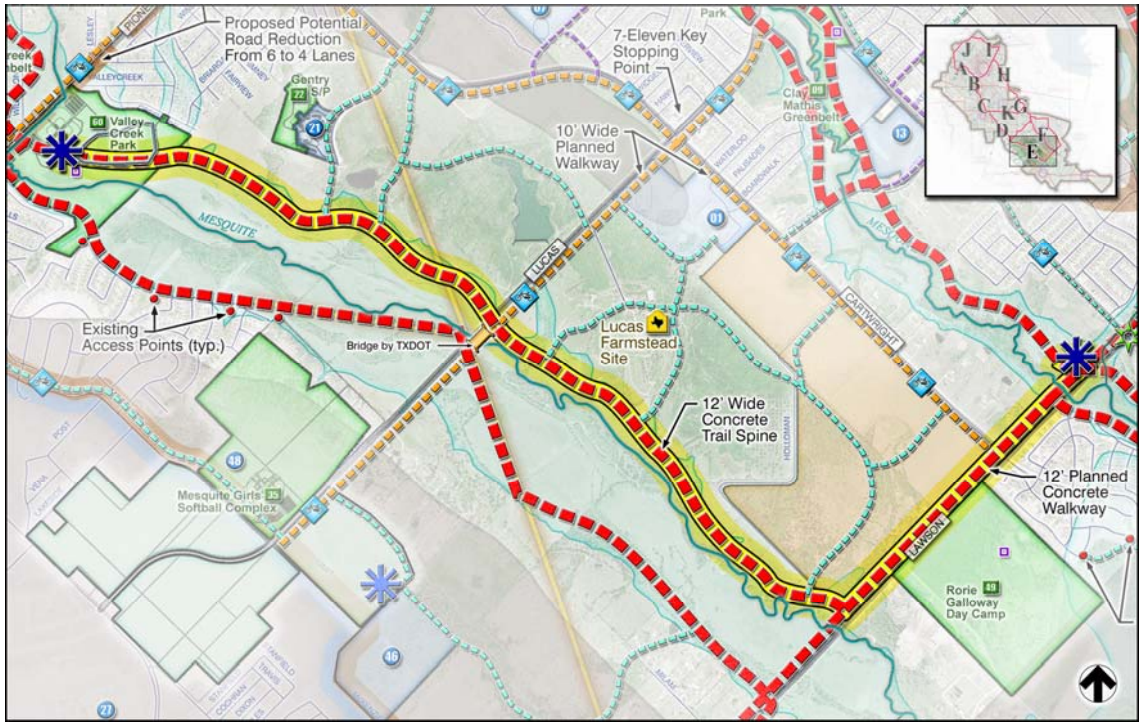
Issues

Several low water crossings and culverts will have to be designed to help alleviate the potential drainage issues associated with the trail being located in the floodplain

- Provide ADA access from the trail to Lawson Rd./Coordination with NTTA future 190

Planning-Level Cost Estimate

$3,027,375 for trail, trail crossings, bridge and trail head.



7.6 Loop Segment 'F': North Mesquite Creek / Creek Crossing #6

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' / 6' } Secondary & School Trails

Description

The trail traverses along the east bank of North Mesquite Creek (NMC) where it crosses Edwards Church Road and links into the Clay Mathis Greenbelt Park trail segment for .5 miles. The trail then extends northward, providing pedestrian access to the neighborhood via Buckeye Dr. The planned trail segment will end at Creek Crossing #6 parking lot. A trail head will be placed at the parking lot to provide access for the neighborhood and trail users.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.75 mi trail / 0.50 mi existing 8' trail

Ownership

Private property, MISD and City of Mesquite

Key Land Uses / Destinations

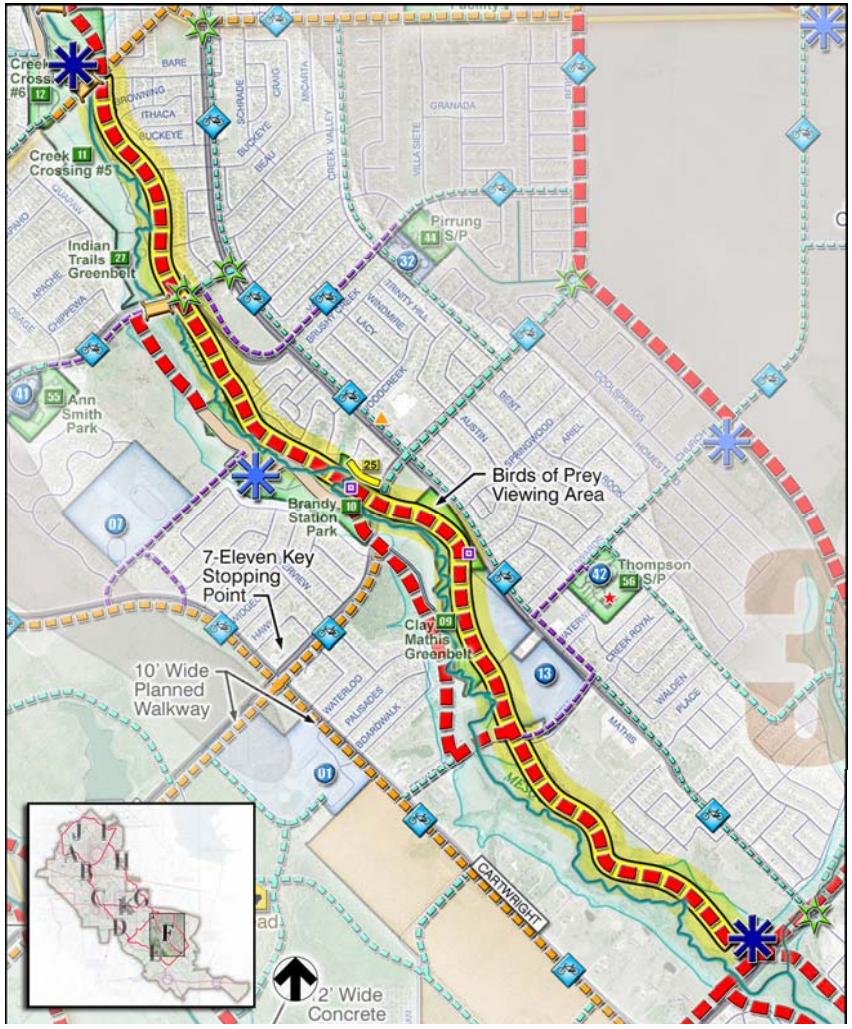
The trail provides access to John D. Horn High School, James Terry and Frank Berry Middle Schools, Joey Pirrung and Jay R. Thompson Elem. Schools / Parks. The trail itself will serve as a linear park connecting Clay Mathis and Indian Trails Greenbelts, Brandy Station Park, Birds of Prey Viewing Area and Creek Crossing #5 and #6, benefiting all users and nearby residents.

Issues

- Potential issues are with at grade crossing and pedestrian light at Mesquite Valley Road and Edwards Church Road. This segment of trail will require extensive drainage improvements, bridges and retaining walls due to steep banks and proximity to the creek.
- Trail plan will require input from nearby residents.

Planning-Level Cost Estimate

$2,892,375 for trail, trail crossings, bridge and trail head.



7.7 Loop Segment 'G': Creek Crossing #6 / Samuell Park South

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' / 6' } Secondary & School Trails

Description

The trail traverses north along NMC where it will have to cross under Scyene Rd. and the UPRR. Currently this area is constrained by height, width and dense vegetation and will require significant improvements. The trail will then extend north along the greenbelt passing through Wildflower Park and ending in the southern section of Samuell Park, where a trailhead would be established.

Type/Width	Length
12-foot wide concrete trail	Planned: 3.25 mi trail

Ownership

UPRR, City of Dallas, private property and City of Mesquite

Key Land Uses / Destinations

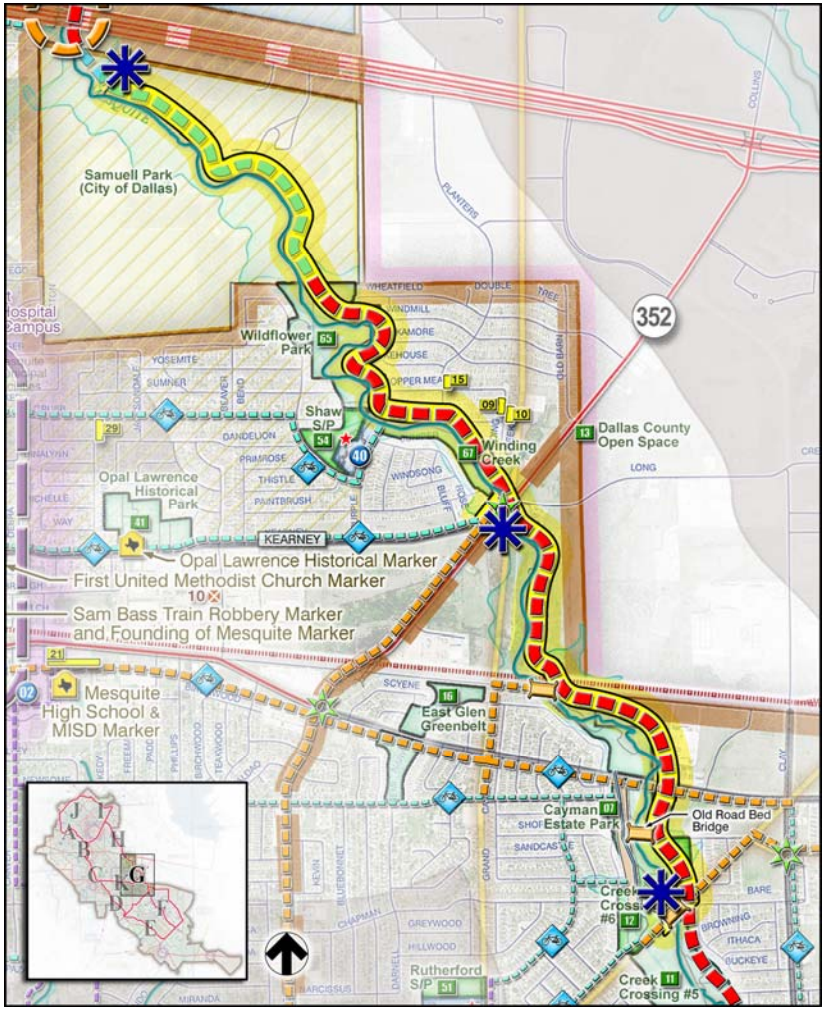
The trail provides access to Cayman Estates Park, East Glen Greenbelt, Shaw Elem. School/Park, Wildflower Park and Samuell Park.

Issues

- Very difficult area to develop due to drainage and slopes. Extensive retaining walls and drainage will be required for trail development.
- The city will need to negotiate with a private property owner, City of Dallas and TxDOT where the trail crosses their property.

Planning-Level Cost Estimate

$2,656,125 for trail, trail crossings and trail head.



7.8 Loop Segment 'H': Samuell Park South / Beasley Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary &
6' } School Trails

Description

The trail begins at Samuell Park and passes underneath US80 along NMC where it will cross into the northern section of Samuell Park. This portion of the park is currently being planned for residential development and coordination will need to occur with the developer. During this stretch of trail, it will pass in and out of Mesquite city limits into Sunnyvale. The trail will run along Tripp Road for approx. 1,000', then enter back into the NMC greenbelt and connect into Beasley Park. A trail head will be placed here utilizing the existing infrastructure.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.50 mi trail

Ownership

TXU, City of Sunnyvale, private property and City of Mesquite

Key Land Uses / Destinations

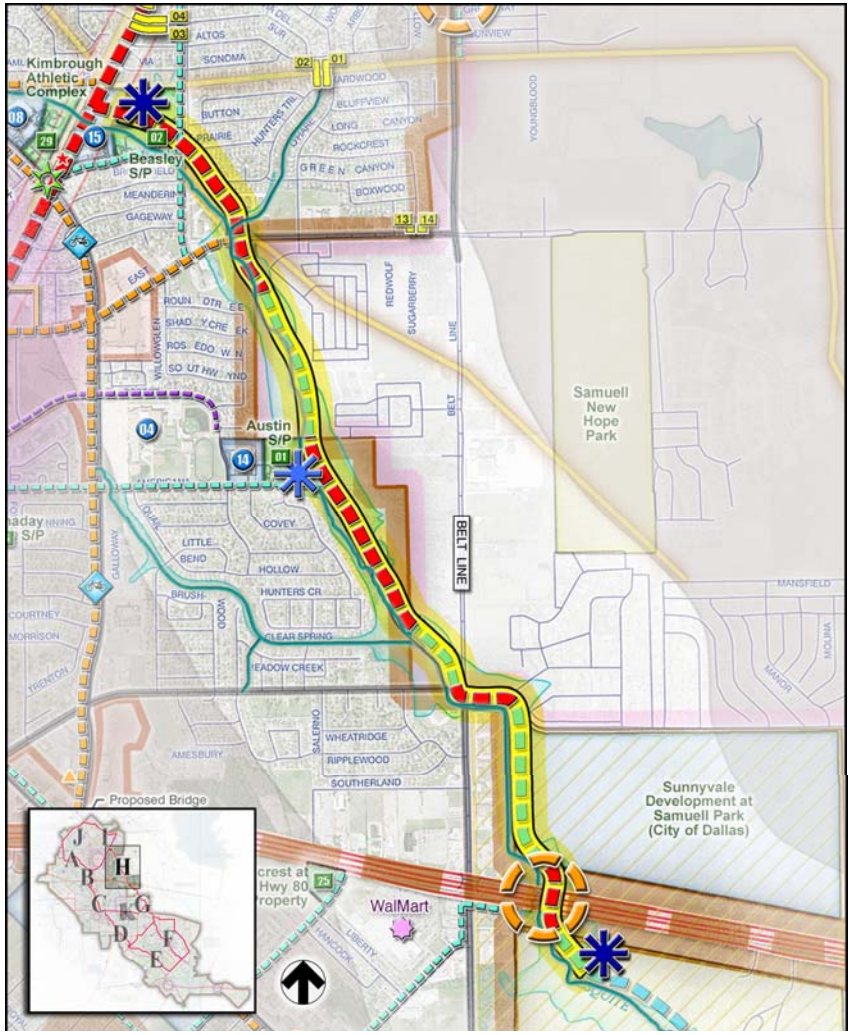
The trail provides access to Austin Elem. School/Park, Poteet High School, Wal-Mart and Beasley School Park.

Issues

- Some areas are very difficult to develop due to drainage and slopes. Extensive retaining walls and drainage will be required for trail development.
- Provide at grade crossing at Via Del Norte. The city will need to negotiate with a private property owner, City of Sunnyvale and TxDOT where the trail crosses their property.

Planning-Level Cost Estimate

$1,815,750 for trail, trail crossings and trail head.



7.9 Loop Segment 'I': Beasley Park / Proctor Oates Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary & 6' } School Trails

Description

The trail segment begins at Beasley Park and continues along the TXU easement to Palos Verdes Park where it will link into the existing trail system. The trail will be on-street for 1.1 miles passing by the golf course, finally ending at Proctor Oates Park. Currently the segment of trail that extends along the TXU easement has been submitted for NCTCOG Grant. This trail will link Garland DART Transit Station to Town East Mall.

Type/Width	Length
12-foot wide concrete trail	Planned: 2.50 mi trail

Ownership

TXU, TxDOT, private property and City of Mesquite

Key Land Uses / Destinations

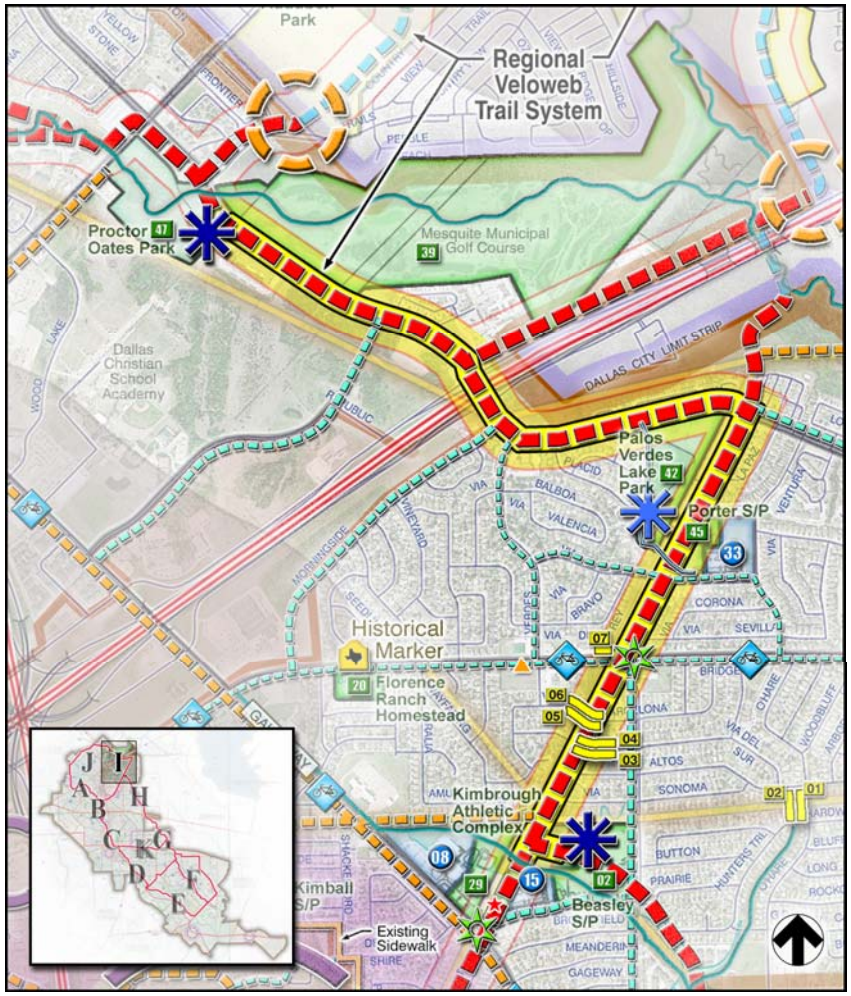
The trail provides access to Kimbrough Athletic Complex, Florence Ranch Homestead, Kimbrough Elem. School, Porter Elem. School /Park, Palos Verdes Park, Mesquite Golf Course, Regional Veloweb and Garland's DART Station.

Issues

- Five mid-block crossings requiring warning signals for pedestrian crossing.
- Requires coordination with TxDOT for future bridge widening over IH 635.
- Requires coordination with TXU and other private property owners

Planning-Level Cost Estimate

$2,126,250 for trail, trail crossings and trail head.



7.10 Loop Segment 'J': Proctor Oates Park / Eastfield College

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary &
6' } School Trails

Description

The trail begins at Proctor Oates Park, passing by the Oates Historical Marker. The trail then traverses north under IH635, then westward along La Prada for 1.8 miles where it becomes an 8' wide walkway extending to Motley Dr. Here the trail takes a southward turn and ends at Eastfield College. The trail will serve 11,900 + college students while providing trail users access to the campus.

Type/Width	Length
Width varies, concrete trail	Planned: 3.50 mi trail

Ownership

Private property and City of Mesquite

Key Land Uses / Destinations

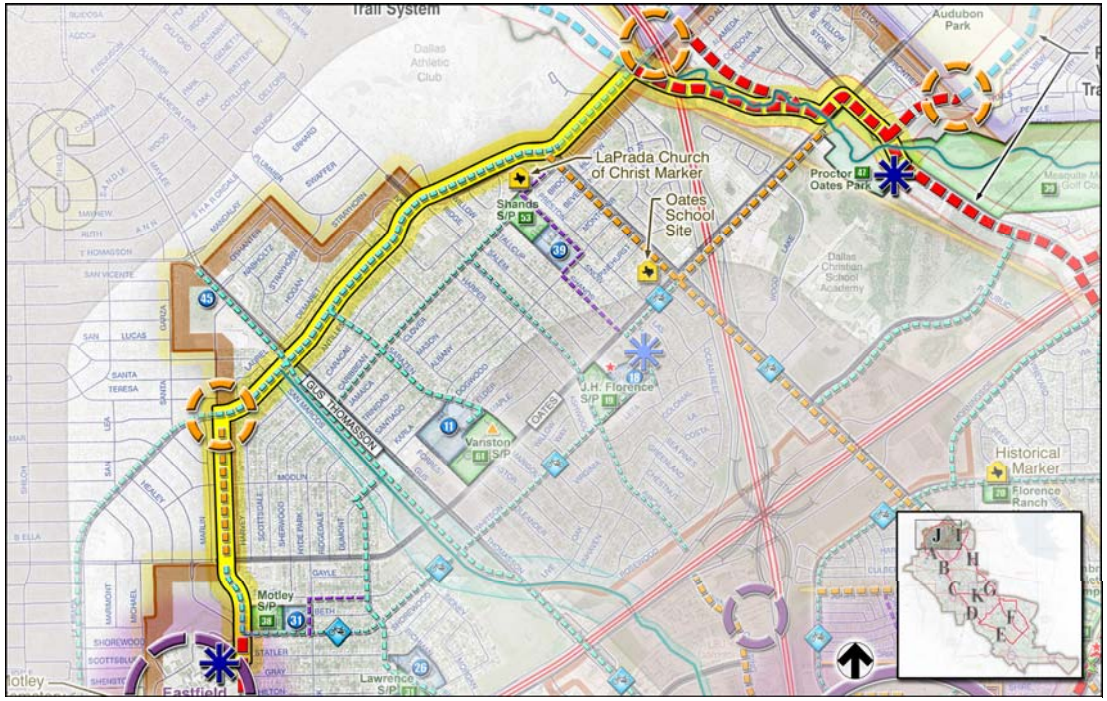
The trail provides access to Shands Elem. School / Park, J.H. Florence Elem. School / Park, Vanston Middle School / Park, Motley Elem. School / Park and Eastfield College, and to three historical sites.

Issues

- Five street crossings requiring signalization for pedestrian crossing.
- The city will need to negotiate with private property owners for trail widening.
- The city will need to negotiate with DCCCD to gain rights for the trail around the perimeter of the college campus.

Planning-Level Cost Estimate

$2,673,000 for trail, trail crossings and trail head.



7.11 Loop Segment 'K': Military Pkwy Trail head / Winding Creek Park

Trail Head
Destination Node
On-Street Bike Route
12' Loop Spine Trails
10' Connector Trails
8' } Secondary &
6' } School Trails

Description

Segment K extends from the Mooreman Property east along Military Pkwy. through the historic downtown area of Mesquite. This trail segment has been unofficially named "Heritage Trail" as it relates to several historical points of interest within the corridor. The trail segment also serves as link to the Mesquite Rodeo and Heritage Square. The trail would be integrated with a new urbanism planned development. The trail will travel eastward along Military Pkwy. until it reaches SH352 where it turns northward and links into the 12' regional spine trail.

Type/Width	Length
10-foot wide concrete trail	Planned: 2.75 mi trail

Ownership

UPRR, City of Dallas, private property and City of Mesquite

Key Land Uses / Destinations

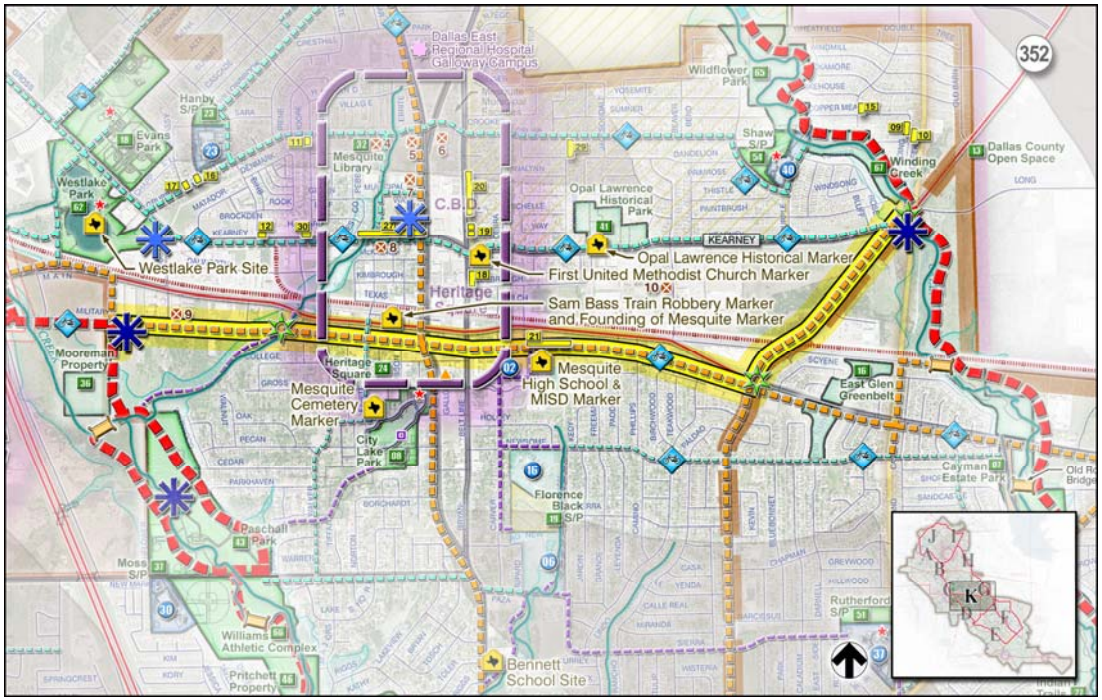
The trail provides access to planned new urbanism development, Mesquite Rodeo, Heritage Square, five historical sites and seven municipal facilities, Mesquite High School, Florence Black and Opal Lawrence Historical Park, East Glen Greenbelt and City Lake Park

Issues

- The city will need to negotiate with several private property owners.

Planning-Level Cost Estimate

$3,017,250 for trail and trail crossings.



8. Maintenance and Safety

Trails are appropriate for all age groups, including the young.

8.1 Trail Maintenance

Effective trail maintenance is critical to the overall success and safety of trails in Mesquite. Maintenance activities typically include pavement stabilization, landscape maintenance, facility upkeep, sign replacement, mowing, litter removal and painting. A successful maintenance program requires vigilance and continuity, as well as involving a high level of resident participation. Routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. Good trail maintenance continually attracts trail users. The benefits of a good trail maintenance program include:

- A high standard of maintenance is an effective advertisement to promote the trail as a city, regional and state recreational resource.
- Good maintenance deters vandalism, litter and encroachments.
- Good maintenance promotes positive public relations between the adjacent land owners and managing agency.
- Good maintenance makes enforcement of regulations on the trail more efficient. Local clubs and interest groups will take pride in "their" trail and will be more apt to assist in protection of the trail.
- A proactive maintenance policy improves safety along the trail.
- Good maintenance protects the tax payer's investments.

Doggie litter receptacles located along trails provide for a clean and friendly environment.

Ongoing trail maintenance includes the following activities:

Quality Control

Quality control of the trail maintenance is the responsibility of the city. The city shall provide appropriate equipment, material and labor to achieve good maintenance on a reoccurring basis.

Trail and Soil Stabilization

Protect trail stability by maintaining proper levels of backfill, profile and contours of the subgrade. Maintain soil surfaces suitable for turf establishment. Repair and re-establish grades in settled, eroded and damaged areas. The grade of the soil adjacent to the edge of the trail shall be maintained no higher than flush to the surface of the trail and no lower than a half inch from the surface of the trail. Soil levels and grades adjacent to trail surfaces shall comply with ADAAG standards. Maintenance shall be performed periodically and often enough to assure safety of the trail user and to maximize the life of the trail.

Vegetation

In general, plantings should be placed far enough apart to maintain good visibility and avoid creating the feeling of an enclosed space while still providing shade. This will also give trail users good, clear views of their surroundings, which enhances the aesthetic experience of the trail. Under-story vegetation within most trail rights-of-way located in natural areas and greenbelts should not be allowed to grow higher than 12 inches to lessen the possibility of obscurity and reduce hiding places close to the ground, except in cases where the under-story vegetation is natural, desirable, and part of the habitat required for wildlife. Understory vegetation in urban and inner-city trails in high visibility areas should not be allowed to grow higher than 4 inches to maintain a well kept appearance. Tree species selection and placement should be made that minimizes vegetative litter on the trail and root uplifting of pavement. Vertical clearance along the trail should be checked on a reoccurring schedule, and any overhanging branches shall be pruned to a minimum vertical clearance of 10 feet.

Basic measures shall be taken to protect the trail investment. This includes mowing along both sides of the trail to prevent invasion of plants into the pavement area. The standards for mowing shall be the same for like areas of similar public spaces.

Vegetation control should be accomplished by mechanical means or hand labor. Some species may require spot application of state-approved herbicide.

Surfacing

Concrete is the recommended surface material. Cracks, ruts and water damage to the concrete surface shall be repaired periodically and often enough to maintain barrier-free access established by the Americans with Disability Act.

Where drainage problems exist along the trail, ditches and drainage structures shall be kept clear of debris to prevent washouts along the trail and maintain positive drainage flow. Checks for erosion along the trail shall be made on a reoccurring schedule and immediately after any storm that brings flooding to the local area. The use of trails with natural soft surfaces, such as decomposed granite and earthen trails, should be minimized and/or prohibited during wet conditions.

The trail surface shall be kept free of debris, broken glass and other sharp objects, loose gravel, leaves and stray branches. Trail surfaces shall be swept on a routine basis and as soon as practical after a storm event. Soft shoulders should be well maintained to assure safety and maximize their usability.

Litter and Illegal Dumping

Staff or volunteers should remove litter along the trail. Litter receptacles should be placed at access points such as trail heads, rest areas and picnic areas.

Illegal dumping should be controlled by vehicle barriers, regulatory signage and fines as much as possible. When it does occur, it shall be removed as soon as possible in order to prevent further dumping. Neighborhood volunteers, friends groups, i.e. "Friends of ____ Trail", or "Adopt a Trail", alternative community service crews and inmate labor should be considered in addition to maintenance staff.

Signage

Directional, informational and safety signage shall be replaced along the trail as signs become damaged or are missing. The following table summarizes a recommended maintenance schedule for the proposed trails in Mesquite. These guidelines address maintenance for off-street trails. On-street facilities, such as sidewalks and bike lanes, should be maintained per the standards of the City of Mesquite.

Table 4. Maintenance Schedule

Item	Frequency
Inspections	Scheduled on a routine basis
Signage Replacement	Immediately upon damage, deterioration, or are missing
Pavement Markings Replacement	Immediately upon damage, deterioration, or are missing
Major damage response (fallen trees, washouts, flooding)	Schedule as soon as practical
Pavement Sealing, Potholes	As needed to maintain ADA accessibility standards
Introduced tree and shrub plantings, trimming	Scheduled on a routine basis
Culvert Inspection	Scheduled on a routine basis and after major storms
Cleaning Ditches	As needed
Trash/Litter Pick-up	Weekly during high use; twice monthly during low use
Lighting Luminary Repair	Immediately upon damage, deterioration or are missing
Pavement Sweeping/Blowing	Scheduled on a routine basis and after major storms
Maintaining culvert inlets	Scheduled on a routine basis and after major storms
Shoulder plant trimming (weeds, trees, brambles)	Scheduled on a routine basis
Water barrier maintenance (earthen trails)	Annually
Site furnishings, replace damaged components	Immediately upon damage, deterioration or are missing
Graffiti Removal	Immediately or as soon as practical
Fencing Repair	Immediately upon damage, deterioration or are missing
Shrub/Tree Irrigation for introduced planting areas	Weekly during summer months until plants are established
Trail and Soil Stabilization	Scheduled on a routine basis.

8.2 Safety

Law Enforcement

A primary concern of law enforcement is good access to trail routes for police patrols and emergency service vehicles. The trails will accommodate this need by providing controlled access points and a continuous trail with sufficient width to accommodate emergency service vehicles. Additional law enforcement measures appropriate for trail facilities include:

- Provide fire and police departments with a map of the trail, along with access points and keys or combinations to locked gates and/or bollards.
- Locate mileposts every one half mile and identify markers on maps.
- Promote 'Cells on Trails' program through the Police Department
- Provide an easily identifiable numbering system occurring on 500' intervals and embedded on the trail surface which is identified through GPS mapping and utilized through the Police Dispatch system.
- Provide bicycle racks at key destinations and at trail heads. Bicycle racks shall allow for both frame and wheels to be locked.
- Post "Trail-User Ethics" signs at trail heads and in unobtrusive areas.

Police officers provide an added security presence on trails.

Volunteer citizen patrols can provide a valuable interface and support function to law enforcement officers.

Community Involvement with Safety on the Trail

The most effective and most visible deterrent to illegal activity in a trail corridor will be the presence of legitimate trail users. As a general pattern, introducing legitimate use into an area tends to drive out illegitimate use. Effective enforcement goes beyond law enforcement officers and should involve the entire community. There are several components to accomplishing this as outlined on the following page:

- Good Access To The Trail – Wherever feasible, public access to the trail system should be provided. Access ranges from providing conveniently located trail heads along trails, to building sidewalks to accommodate access from private developments adjacent to trails. Access points shall be inviting and signed so as to welcome the public onto the trails.

- Good Visibility From Adjacent Neighbors – Neighbors adjacent to trails potentially provide 24-hour surveillance of the trails and can become the city's biggest ally. Though some screening and setback of any trail is needed for privacy of adjacent neighbors, completely blocking out visual access of a trail from neighborhood view should be discouraged. Good visual access allows the neighbor's "eyes on the trail," and avoids a visual barrier on the trail.

- High Level Of Maintenance - A well maintained trail system communicates an image that expresses the community's pride and that the citizens care about the city where they live. This message by itself will discourage undesirable activity along the trails.

- Programmed Events – Events along trails will increase public awareness of the trail system and thereby bring more people to the trails. A friends group in support of the development of the trail system should be formed. This group can help initiate numerous public events along the trails in an effort to raise public awareness and increase support for the trails. Events might include a daylong trail clean up or a series of short interpretive walks led by the friends group. Friends groups can also assist the city with public support of future funding applications.

- Community Projects – The support generated through the friends group could be further capitalized on by involving neighbors and friends of the trails in a community project along the trails. Ideas for community projects that have been successful on other trail projects include volunteer planting events, art projects (often associated with adjacent schools), interpretive research projects, or even bridge building events. These community projects are the strongest means of creating a sense of ownership along the trails that are perhaps the strongest single deterrent to undesirable activity along a trail.

- Infrastructure For Public Safety – As a general rule, infrastructure, such as emergency call boxes, lighting, and in some cases, remote video monitoring, may be considered as a final line of defense against safety issues on a trail. Generally, infrastructure is expensive and may involve 24-hour remote monitoring. In the few instances where remote video monitoring equipment has been installed, vandalism has not been a problem. More importantly, these features may represent an additional liability hazard if they are not properly maintained and monitored.

- Adopt-a-Trail Program – Businesses, educational institutions and residential communities will abut the trails. As neighbors to the trails, they often see the benefit of their involvement in trail development and maintenance. Developers view trails as an

integral piece of their campus. Property owners adjacent to trails often become willing to take on some level of responsibility for the trail. Creation of an Adopt-A-Trail program should be explored to capitalize on this opportunity and help build civic pride.

Children playing along trail at Westlake Park.

9. Policy and Code Recommendations

Scenic walkway at City Lake Park

9.1 Development Recommendations

Successful implementation of the Trails Plan will require the protection of existing trail connections and the preservation of planned trail corridors throughout the city. Although many of the trail corridors are intended to utilize public lands consistent with the goals and policies of the Trails Plan, acquisition of trail corridors on private lands will be necessary to successfully implement the Trails Plan.

The City of Mesquite's goal is to build the trail system with the cooperation of private developers and landowners where possible.

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

New Development – Preservations & Dedications

The preservation of trail corridors in conjunction with or independent of the open space areas required to be created with new residential development should be required in the City Code. Rights-of-way preservation for pedestrian paths, bikeways and multiple use trails could be required of new residential development consistent with the Engineering Standards and/or this Trails Plan. An offer of dedication is required when a reasonable relationship is demonstrated between the need for the dedication and the characteristics and impacts of the proposed development.

The City Code could also provide incentives to new development to encourage implementation of the Trails Plan. Reductions in fee waivers are specific incentives for public trail reservations and dedications beyond that required of any new development. Additional flexibility could be provided for new development, promoting the highest quality development in concert with the public need and benefit derived from creative and innovative development proposals. This flexibility might come by allowing reductions in required off-street parking and flexibility in internal project circulation layout, which is justified with the reservation / dedication of lands in support of the planned recreational trail network. For example, general office use requires 1 parking space for every 300 square feet, so a 15,000 square foot development requires a minimum of 50 parking spaces. However, if the developer dedicates a 20-40 foot wide easement for trail development, the city might reduce the required parking to 1 space for every 400 square feet yielding a minimum of 38 parking spaces.

Existing Development

In cases where trail corridors shown on the Trails Plan intersect with existing developed areas, the acquisition of lands will be necessary to create connectivity with adjoining trail corridors. Acquisition can be accomplished through a variety of forms – outright purchase of property, purchase of easements, donations or condemnation. All varieties of acquisition will be employed, while always seeking the most cost effective method to secure appropriate public interest when necessary and warranted. Public – private negotiations for outright purchase of private lands will be necessary in some instances; however, the purchase of easements or partial / restricted property rights at less cost to the public will be encouraged.

Greenway and Trail Setback Recommendations

The City of Mesquite's Zoning Ordinance currently has no language or provisions addressing protection and preservation of greenways, trails and easements for future trail corridors. A new subchapter is recommended for addition to the City of Mesquite Zoning Ordinance, creating a Mesquite Greenway and Trail Overlay District. The purpose of such a chapter is to ease the implementation of the Trails Plan by protecting, conserving, and maintaining the abundant qualities of the lands along the creeks, drainage areas and utility corridors within Mesquite while increasing transportation and recreation opportunities.

10. Project Priorities, Phasing & Cost Estimates

Winding concrete trail in McWhorter Park

10.1 Prioritization Criteria

Once a trail corridor and trail type have been chosen based on the criteria discussed earlier in *Chapter 4, Proposed Trail Network,* the relative priority of the various projects must be identified. For each priority project there is a detailed map (*See Chapter 7, Project Priorities, pages 7-2 through 7-12*) and project sheets (*See Appendices section - Segment A through K*), highlighting the opportunities, constraints and other issues. The prioritization criteria chosen to evaluate the trail corridors include:

- **Ease of Implementation:** How difficult will it be to implement this project? This criterion takes into account topography, vegetation density, number of creek and traffic conflicts and crossings, etc., as well as political and economic constraints. The general support of trails help make the planning and implementation phase easier and with minimal conflict or opposition.
- **Connectivity and User Generators:** How many user generators does the project connect to within 0.25 - .5 miles of the project, such as schools, parks, employment and commercial districts, Town Centers, etc.? Also, to what degree does this project fill in a missing gap in the trail and pathway system?
- **Proximity and Population Served:** Relative to the alignment of the trail, does the trail have negative or positive impacts for the trail user or the homeowner? How close is the trail located to existing single family and multi-family homes? (Are there protective barriers/screens such as fences or berms? Is the trail located within the 100 year floodplain?
- **Availability of Rights-Of-Way:** Relative to the proposed trail corridor is it located within public rights-of-way or private ownership? Are there other potential players that own land within the trail corridor? How easily can this land be acquired?
- **Current Usage:** To what degree are the current trails or pathways being utilized? Many times the beaten path or cattle trails are the best indicators of travel patterns. This in turn will help establish current and future trail development.

Using these selection criteria, the projects identified as either community trails or recreational trails were grouped into a trail classification system. The street enhancements should be developed and improved during scheduled roadway upgrade projects such as the proposed Lawson Road improvements.

10.2 Project Phasing

The trail projects are grouped into three phases and shown as follows:

- **Phase 1** projects are the top priority pathway and trail projects for short-term project implementation and are targeted for completion in the next five years. These projects are normally lower cost and easy to implement as part of other existing or planned projects or developments.
- **Phase 2** projects are mid-term projects planned for implementation between 5 and 10 years. These projects comprise the bulk of the trails and pathways system. These projects require significant funding, planning and coordination.
- **Phase 3** projects are long-term projects for implementation in the 10+ year timeframe after Trails Plan adoption. These are projects that generally supplement the trail and pathway system or may provide potential pathways over a longer period of time as land uses and regional planning boundaries change.

The project phases may change according to available funds, changing priorities, other roadway projects that coincide with new development and redevelopment opportunities or other factors. Timing of projects is difficult to pinpoint exactly, due to dependence on competitive funding sources, timing of roadway and development projects and the overall economy.

It should be noted that the purpose of this exercise is to understand the relative priority of projects so that the city may appropriate available funding to the highest priority projects. Phase 1 and 2 projects also are important and may be implemented at any point in time as part of a development or city project. The project-phase rankings should be considered a "living document" and frequently reviewed every 3 to 5 years to ensure they reflect current city priorities.

The Action Plan on the next few pages provides a summary of the cost and phasing of trail implementation for the Trails Plan.

10.3 Action Plan

The Action Plan recommends a phasing of the Trails Plan together with a dollar amount attached. A large amount of funding is required to accomplish the goal of a truly integrated and well connected trail system, but with vision, commitment and a concerted effort to secure funding from available sources, the network of trails will be accomplished over time.

Each trail type is divided into functional trail sections (Segments A through K), which helps to guide the implementation of the trails plan over time. These trail sections are presented in Chapter 7 (page 7-2 through 7-12).

An approximate cost and phasing for each regional trail segment are presented on the following pages.

Based on the implementation strategy, the short term (1 to 5 years), medium term (6 to 10 years), and long term (11 years and beyond) implementation trail segments are summarized as follows:

Action Plan: Years 2008 to 2020 and beyond

Phase 1 – Years 2008 to 2013

Regional Trails	Trail Length (in miles)	Cost
• Segment "B"	2.25	$2,791,125
• Segment "I"	2.50	$2,126,250

• Segment "K"	2.75	$2,561,625
• Segment "C"	2.25	$2,419,875
TOTAL	**9.75**	**$9,898,875**

Phase 2 - Years 2014 to 2019

Regional Trails	Trail Length (in miles)	Cost
• Segment "A"	2.00	$1,836,000
• Segment "E"	3.75	$3,027,375
• Segment "F"	2.75	$2,892,375
• Segment "D"	2.50	$2,943,000
• Segment "J"	3.50	$2,673,000
TOTAL	**14.50**	**$13,371,750**

Phase 3 - Years 2020 and beyond

Regional Trails	Trail Length (in miles)	Cost
• Segment "H"	2.50	$1,815,750
• Segment "G"	3.25	$2,656,125
• Airport Loop	2.85	$1,913,625
• Other Regional Trails	14.00	$8,505,000
TOTAL	**22.60**	**$14,890,500**

10.4 Estimated Long-Term Costs

The candidate projects are recommended to be implemented over the next 20 years or as funding becomes available. Some of the more expensive projects may take longer to implement.

The total implementation cost is estimated at $93.1 million. Approximately $38.1 million is for regional trails, $30 million for community trails and $25 million for neighborhood trails. Many trails and street improvements may be implemented as part of the trail development projects over time. Many of the projects can be funded with Federal, State, and regional transportation, safety, and/or air quality grants. Trails provide additional benefits for the region and local employers by serving as commuter corridors, making the projects eligible for funding programs for secondary trails (see Chapter 11: Funding Strategies). However, some of the trails are purely recreational in nature, thereby limiting their qualification for federally designated money and must be supplemented or wholly funded by local or private sources.

It is important to note that many of the funding sources are highly competitive, and therefore it is impossible to determine exactly which projects will be funded by which funding sources. Timing of projects is also difficult to pinpoint exactly, due to dependence on competitive funding sources, timing of roadway and development projects and the overall economy.

Maintenance guidelines are found in *Chapter 8. Maintenance and Safety*. Table 5. summarizes estimated maintenance costs for a fully realized Mesquite Trail system.

Maintenance Cost
The table below summarizes estimated maintenance costs for a fully realized Mesquite Trail system.

Table 5: Annual Maintenance Costs

Trail Type	Miles*	Cost/mile	Total
Regional Trails	45	$6,000	$270,000
Community Trails	60	$4,000	$240,000
Neighborhood Trails	90	$1,000	$90,000
TOTAL	**195**		**$600,000**
	*Approximate estimation. Actual miles will be determined after detailed planning process and engineering analysis.		

11. Funding Strategies

A sketch illustrating potential sidewalk and beautification enhancements along Town East Blvd.

11.1 Funding Sources

A variety of potential funding sources are available to construct the proposed trail improvements. These include local, State, Regional, Federal and private programs. Most funding programs are competitive and involve the completion of extensive applications with clear documentation of the project's needs, costs and benefits.

Local funding for these projects would typically come from the City of Mesquite, Dallas County, potential future bond programs or other local revenues. The primary Federal funding source is the U.S. Department of Transportation (USDOT), through the Safe, Accountable, Flexible, and Efficient Transportation Equity Act (SAFETEA). Private funding may be found through foundations, advocacy organizations and businesses.

Federal-Aid Funding

Safe, Accountable, Flexible and Efficient Transportation Equity Act (SAFETEA)

Several categories of Federal transportation funding may be expended for pedestrian and bicycle projects. This section summarizes the Federal funding sources available for non-motorized transportation projects and estimates the fiscal impact of these sources. This act is the successor to TEA –21 (The Transportation Equity Act for the 21st Century), the previous Federal transportation bill.

Transportation Enhancement Activities Program

Ten percent of each state's annual Surface Transportation Program (STP) funding must be set aside for Transportation Enhancement (TE) activities. Three of the twelve defined SAFETEA categories are pedestrian and bicycle related:

- Provision of Facilities for Pedestrians and Bicyclists
- Provision of Safety and Educational Activities for Pedestrians and Bicyclists
- Preservation of Abandoned Railway Corridors

TE funds may be used for the construction of pedestrian walkways and bicycle transportation facilities or non-construction projects such as training, brochures and route maps related to safe bicycle use.

In Texas, these funds are distributed by the Texas Department of Transportation under the Statewide Transportation Enhancement Program (STEP). Additional information about STEP and the program requirements may be found at http://www.dot.state.tx.us/des/step/introduction.htm.

Congestion Mitigation and Air Quality (CMAQ) Improvement Program / Regional Surface Transportation Program

The CMAQ Improvement Program directs funds to transportation projects in Clean Air Act non-attainment areas for ozone and carbon monoxide. These projects should contribute to meeting the attainment of national ambient area air quality standards (NAAQS). CMAQ funds may be used for construction of pedestrian walkways and bicycle transportation facilities or non-construction projects such as brochures and route maps related to safe bicycle use. Bicycle projects must be primarily for transportation rather than recreation, and be included in a plan developed by each Metropolitan Planning Organization and the State. TEA-21 made projects that bring sidewalks into compliance with the Americans with Disabilities Act Accessibilities Guidelines (ADAAG) eligible for these funds. Additional information about CMAQ programs may be found at http://nctcog.org/.

Regional Surface Transportation Program (RSTP)

The Regional Surface Transportation Program (RSTP) is a block grant program that makes money available statewide for roads, bridges, transit capital and bicycle and pedestrian projects. Metropolitan Planning Organizations (MPOs) can transfer monies from other federal transportation funding sources to the RSTP program if they want more flexibility in how they allocate their funds. SAFETEA requires states to set aside 10% of their RSTP funds for safety construction activities and another 10% for the Transportation Enhancement Activities (TEA) Program.

Applicants eligible for RSTP funds include cities, counties, metropolitan planning organizations (MPOs), transit operators and the Texas Department of Transportation. Non-profit organizations and special districts also may apply for funds, but they must have a city, county or transit operator sponsor and, in some cases, administer the project.

Safe Routes to School Program (SR2S)

The Safe Routes to School (SR2S) Program resulted from the enactment of House Bill 2204, 77th Legislature, 2001. HB 2204 added Transportation Code, §201.614, directing the Texas Department of Transportation (TxDOT) to establish the Safe Routes to School Program. The overall purpose of this program is to improve safety in and around school areas. While Safe Routes to School is an overall concept that includes education, enforcement and safety construction improvements, TxDOT's Safe Routes to School Program implemented by HB 2204 will only address safety construction improvements. The rules that established the SR2S Program were adopted by the TXDOT Commission and became effective on July 18, 2002.

The Federal program is very similar to the Texas SR2S Program with three notable differences:

- The new program is 100% federally funded which means there will be no required match from the local government.
- The new program is limited to schools serving grades K – 8. Under the Federal program, high school level schools will no longer be eligible for funding.
- A minimum of 10% and a maximum of 30% of the State's allocation must be used for non-infrastructure related activities such as education and enforcement.

The amount of Texas' allocation has not yet been determined. The amount will be based on the ratio of Texas' total student enrollment in grades K – 8 to the total student enrollment in grades K – 8 in all states.

The following guidelines determine what projects can be submitted:

- Projects may be located on or off the State highway system, but must be located on public property
- Must be located within a two mile radius of a school
- Federal funds requested will be limited to $500,000
- Projects can cover multiple school sites if similar work is performed at each site
- Local project funding match of 20% is required unless the project is located on the State highway system in which case TxDOT will provide the match
- A project on the State highway system will not be eligible if the district finds that the project interferes with or disrupts any planned improvements or existing infrastructure

There are six categories of work eligible for funding:

- Sidewalk improvements
- Pedestrian / Bicycle crossing improvements
- On-Street bicycle facilities
- Traffic diversion improvements
- Off-Street bicycle and pedestrian facilities
- Traffic calming measures for off-system roads

Additional information may be found at http://www.dot.state.tx.us/trafficsafety/srs/.

When a call for projects is issued, the Texas Safe Routes to School website (http://www.dot.state.tx.us/trafficsafety/srs/default.htm) will be updated with the most recent information.

Hazard Elimination Safety (HES) Program

The Hazard Elimination Safety (HES) Program is a Federal safety program that provides funds for safety improvements on all public roads and highways. These funds serve to eliminate or reduce the number and/or severity of traffic accidents at locations selected for improvement. The amount of funds allocated to the local HES Program each (Federal Financial Year) FFY may range from $10 million to $16 million.

Each year, local agencies compete for HES funds by submitting candidate safety projects to TxDOT for review and analysis. TxDOT prioritizes these projects, statewide, and releases an annual HES Program Plan that identifies the projects that are approved for funding.

Federal Funding - other programs

Federal resources other than SAFETEA are available through programs concerned with conservation, community development and public health. The following is a partial list of potential grants and their federal sources:

- *Land and Water Conservation Fund Grants, US Forest Service*
- *Community Development Block Grants, US Department of Housing and Urban Development*
- *Conservation Reserve Program, US Department of Agriculture*
- *Wetlands Reserve Program, US Department of Agriculture*
- *Watershed Protection and Flood Prevention Grants, US Department of Agriculture*
- *Urban And Community Forestry Assistance Program, US Department of Agriculture*
- *Small Business Tree-Planting Program, Small Business Administration*
- *Public Works and Facilities Development Economic Development Grants, US Department of Commerce*
- *Design Arts Program, National Endowment for the Arts*

State, County and Local Funding

Texas Parks and Wildlife Department Grant Programs

Texas Recreation and Parks Account

The Texas Recreation and Parks Account Program (TRPA) was created in 1993 by the Texas Legislature to provide financial assistance to local governments in the acquisition of land and development of both outdoor and indoor recreation facilities. The TRPA is funded through a portion of Texas sales tax received on select sporting good items. TRPA is administered by Texas Parks and Wildlife Department's Recreation Branch and funds five grant programs. These grant programs include:

a) *The Outdoor Recreation Grant Program,*
b) *Indoor Recreation Grant Program,*
c) *Small Community Grant Program,*
d) *Regional Park Grant Program,*
e) *Community Outdoor Outreach Program.*

The guidelines for each program have been approved by the Texas Parks and Wildlife Commission after a series of public hearings and publication in the Texas Register. TPWD Recreation Grants Branch sends out an electronic newsletter to announce grants, deadlines, and other related information. Additional information about the TRPA may be found at http://www.tpwd.state.tx.us/business/grants/trpa/.

Outdoor Recreation Grants

This program provides 50% matching grant funds to acquire and develop parkland or to renovate existing public recreation areas. The maximum grant awarded is $500,000. Eligible sponsors include cities, counties, MUDs, and other special districts. Projects must be completed within three years of approval. Application deadlines are January 31st and July 31st each year.

Regional Park Grants

This program provides 50% matching fund grants to local governments in order to create large, intensive-use recreation areas, regional systems of parks, and conservation areas with trail linkages, as well as linear greenways between parks and other

community amenities in Texas' urban areas. Another important element of these grants is to encourage partnerships and leverage development between the private sector, non-profit organizations, and among local governments. Matching funds are variable.

Recreational Trails Grants

The Texas Parks and Wildlife Department (TPWD) administers the National Recreational Trails Fund 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. Funds can be spent on both motorized and non-motorized recreational trail projects, such as the construction of new recreational trails, improvement of existing trails, development of trail heads or trailside facilities and acquisition of trail corridors

The deadline for this program is June 1st of each year. Grant funding for this program is on a cost reimbursement basis.

Eligible projects include:

- Construction of new recreation trails on public or private lands
- Trail restoration or rehabilitation
- Americans with Disabilities Act upgrades
- Acquisition of easements, acquisition of property
- Maintenance of existing trails
- Environmental mitigation
- Development of trail-side and trail-head facilities (signs, restrooms, parking areas, water fountains, horse-watering, corrals, hitching posts, tool storage, bike racks, benches, picnic tables and fencing).

Dallas County

Dallas County provides funding for trails and open spaces through the Dallas County Parks & Open Space Program. Currently, the City of Mesquite and the County have an inter-local agreement for the development of a portion of the South Mesquite Trail. It is inconclusive as to the timing and start date of the trail.

Local Funding Programs

A variety of other creative funding options should also be considered for funding trail development. Grant funding can be a component of a larger comprehensive funding strategy that includes:

- Local bond programs referenda
- Annual appropriations through a capital improvement plan
- MQOLC 4-B sales tax revenue
- Construction of trails as developer requirement
- Impact fees
- Project Improvement Districts (PID)
- Tax Increment Financing District (TIF)
- Creation of a trust fund for land acquisition and facility development
- Private-public partnerships – creating relationships with businesses and developers that would benefit from trail construction
- Private sponsorship programs ("Adopt-A-Trail", "Buy-A-Foot")
- Provide encouragement and support of a "Friends of…" group – such a volunteer organization could help raise funds from the private sector.

Other Funding Opportunities

A funding strategy for trail development should seek resources nationally as well as locally, and from private bodies as well as government agencies.

Many foundations and corporations offer grant programs targeting such general areas as conservation, recreation and transportation alternatives, and such specific areas as bicycling, habitat preservation and trail development. Some valuable sources for researching such funding include:

- Urban Parks Institute (Project for Public Spaces) http://urbanparks.pps.org/topics/funding/greenway_sources
- Trails and Greenways Clearinghouse (Rails-to-Trails Conservancy) http://www.trailsandgreenways.org
- The Washington Foundation Data Book http://www.foundationdatabook.com/walinks.html

- C&D Publishing , 1017 SW Morrison #500, Portland, Oregon 97205
  (503) 274-8780, info@foundationdatabook.com
- The Foundation Center
  http://www.fdncenter.org/

As some funders will not accept unsolicited grant requests, or will only give grants to other non-governmental organizations, a fundraising strategy should attempt to identify and make use of intra-organizational relationships and partnerships, in addition to simply identifying potential funders.

Appendices

Trail Prioritization Criteria

Additional Maps

References

Trail Prioritization Criteria

Trail Prioritization Criteria

CITY of MESQUITE - HIKE & BIKE CORRIDOR SUMMARIES
PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT
1/21/2008

Grade	Name	Trail Length	Development Cost
1			
72	Segment B: Town East Park to DeBusk Park	2.25	$2,791,125
72	Segment I: Beasley Park to Proctor Oates Park	2.50	$2,126,250
71	Segment K: Military Pkway to Winding Creek Park	2.75	$3,017,250
70	Segment C: DeBusk Park to Paschall Park	2.25	$2,419,875
2			
65	Segment A: Eastfield College to Town East Park	2.00	$1,836,000
63	Segment E: Valley Creek Park to N. Mesquite Creek	3.75	$3,027,375
60	Segment F: N. Mesquite Creek to Creek Crossing 6	2.75	$2,892,375
3			
58	Segment D: Paschall Park to Valley Creek Park	2.50	$2,943,000
58	Segment J: Proctor Oates Park to Eastfield College	3.50	$2,673,000
4			
49	Segment H: Samuell Park to Beasley Park	2.50	$1,815,750
43	Segment G: Creek Crossing 6 to Samuell Park	3.25	$2,656,125
	*Airport Loop	2.85	$1,913,625
	*Other Regional Trail Segments	14.00	$8,505,000

RANKING SCALE: >70='1', >60='2', >50='3', >40='4',

**12' Regional trail segments that provide community or regional connectivity to the Regional Trail Spine System as identified by the Trail Segment Priority Projects Map. (Note: These segments have not been indentified in the following tables due their not being part of the overall loop or main trail spine system.)*

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment A — Evaluation Score: 2

From: Eastfield College to Town East Park — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **N**

Segment Length: 2.00 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
General public support	0		0	0
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	28
To Schools (EL=1, MS=2, HS=3, CO=4)	9		8	8
Parks & Other Amenities	5		8	8
Key Destinations/Retail/Commercial District	1		8	1
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	1		3	3
Major Employers	1		3	1
Critical Connection (Y=1), (N=0)	0		4	0
Conflict - Ease of Traffic Crossing	2		5	3
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	14
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				2
- Vegetation	0		2	0
- Solid Fencing (i.e. wood privacy fence)	1		2	2
- Berms/Creek Bank	0		1	0
Availability (score each category)	# of Elements*	20%	20	11
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	50.00%		10	5
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	2
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	0		3	0
Total		100%	100	65

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment B

From: Town East Park to DeBusk Park

Segment Length: 2.25 miles

Evaluation Score: 1

Meeting Held with Homeowner Group or Representatives (Y/N): N

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	30
To Schools (EL=1, MS=2, HS=3, CO=4)	5		8	8
Parks & Other Amenities	6		8	8
Key Destinations/Retail/Commercial District	2		8	2
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	1		3	1
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	2		5	3
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	15
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				3
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	14
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	75.00%		10	8
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	3
No Trail or Sidewalk, but Used	0		2	0
Usable w/out Improvement	1		3	3
Total		100%	100	72

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment C — Evaluation Score: 2

From: DeBusk Park to Paschall Park — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **N**

Segment Length: 2.25 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	32
To Schools (EL=1, MS=2, HS=3, CO=4)	0		8	0
Parks & Other Amenities	7		8	8
Key Destinations/Retail/Commercial District	7		8	8
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	1		3	3
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	0		5	5
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	15
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				3
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	11
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	50.00%		10	5
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	2
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	0		3	0
Total		100%	100	70

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment D — Evaluation Score: 3

From: Paschall Park to Valley Creek Park — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **N**

Segment Length: 2.50 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	7
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	1		3	0
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	22
To Schools (EL=1, MS=2, HS=3, CO=4)	1		8	1
Parks & Other Amenities	6		8	8
Key Destinations/Retail/Commercial District	0		8	0
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	0		5	5
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	15
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				3
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	14
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	90.00%		10	8
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	0
No Trail or Sidewalk, but Used	0		2	0
Usable w/out Improvement	0		3	0
Total		100%	100	58

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name:Segment E — Evaluation Score: 2

From: Valley Creek Park to N. Mesquite Creek — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **N**

Segment Length: 3.75 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	27
To Schools (EL=1, MS=2, HS=3, CO=4)	4		8	6
Parks & Other Amenities	5		8	8
Key Destinations/Retail/Commercial District	0		8	0
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	0		5	5
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	15
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				3
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	9
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	40.00%		10	3
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	2
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	0		3	0
Total		100%	100	63

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment F — Evaluation Score: 3

From: N. Mesquite Creek to Creek Crossing 6 — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **N**

Segment Length: 2.75 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	7
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	1		3	0
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	26
To Schools (EL=1, MS=2, HS=3, CO=4)	9		8	8
Parks & Other Amenities	8		8	8
Key Destinations/Retail/Commercial District	0		8	0
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	3		5	2
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	8
Alignment Separation from Homes				2
- Greater than 50' separation	0		8	0
- Between 30' and 50' separation	1		2	2
- Less than 20' separation	0		1	0
Views above fence line into backyards**				1
- Significant number of backyards visible from trail corridor	1		1	0
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	0		2	0
Existing Visual Buffers				5
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	1		2	2
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	14
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	75.00%		10	8
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	5
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	1		3	3
Total		100%	100	60

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment G | Evaluation Score | 4

From: Creek Crossing # 6 to Samuell Park | **Meeting Held with Homeowner Group or Representatives (Y/N)** | **N**

Segment Length: 3.25 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	0
Relatively flat, open area with no obstructions	0		7	0
Heavy, Dense Vegetation and/or multiple creek crossings	1		3	0
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	19
To Schools (EL=1, MS=2, HS=3, CO=4)	1		8	1
Parks & Other Amenities	7		8	8
Key Destinations/Retail/Commercial District	1		8	1
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	4		5	1
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	8
Alignment Separation from Homes				2
- Greater than 50' separation	0		8	0
- Between 30' and 50' separation	1		2	2
- Less than 20' separation	0		1	0
Views above fence line into backyards**				1
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	1		1	0
- No significant views above adjacent fences	0		2	0
Existing Visual Buffers				5
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	1		2	2
- Berms/Creek Bank	1		1	1
Availability (score each category)	# of Elements*	20%	20	11
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	50.00%		10	5
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	5
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	1		3	3
Total		100%	100	43

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment H

From: Samuell Park to Beasley Park

Segment Length: 2.50 miles

Evaluation Score: 4

Meeting Held with Homeowner Group or Representatives (Y/N): **N**

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	22
To Schools (EL=1, MS=2, HS=3, CO=4)	5		8	8
Parks & Other Amenities	4		8	6
Key Destinations/Retail/Commercial District	1		8	1
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	0		6	0
Mass Transit (Y=1), (N=0)	0		3	0
Major Employers	1		3	1
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	3		5	2
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	13
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				1
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	1		1	0
- No significant views above adjacent fences	0		2	0
Existing Visual Buffers				4
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	1		2	2
- Berms/Creek Bank	0		1	0
Availability (score each category)	# of Elements*	20%	20	4
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	10.00%		10	2
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	5		10	2
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	0
No Trail or Sidewalk, but Used	0		2	0
Usable w/out Improvement	0		3	0
Total		100%	100	49

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment I | Evaluation Score | 1

From: Beasley Park to Proctor Oates Park | **Meeting Held with Homeowner Group or Representatives (Y/N)** | **N**

Segment Length: 2.50 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, dense vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	27
To Schools (EL=1, MS=2, HS=3, CO=4)	2		8	2
Parks & Other Amenities	8		8	8
Key Destinations/Retail/Commercial District	3		8	4
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	2		6	6
Mass Transit (Y=1), (N=0)	1		3	3
Major Employers	0		3	0
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	6		5	0
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	16
Alignment Separation from Homes				8
- Greater than 50' separation	1		8	8
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				4
- Vegetation	1		2	2
- Solid Fencing (i.e. wood privacy fence)	1		2	2
- Berms/Creek Bank	0		1	0
Availability (score each category)	# of Elements*	20%	20	14
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	75.00%		10	8
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	5
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	1		3	3
Total		100%	100	72

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment J — Evaluation Score: 3

From: Proctor Oates Park to Eastfield College — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **Y**

Segment Length: 3.50 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	30
To Schools (EL=1, MS=2, HS=3, CO=4)	8		8	8
Parks & Other Amenities	4		8	6
Key Destinations/Retail/Commercial District	2		8	2
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	2		6	6
Mass Transit (Y=1), (N=0)	1		3	3
Major Employers	1		3	1
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	5		5	0
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	2
Alignment Separation from Homes				1
- Greater than 50' separation	0		8	0
- Between 30' and 50' separation	0		2	0
- Less than 20' separation	1		1	1
Views above fence line into backyards**				1
- Significant number of backyards visible from trail corridor	1		1	0
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	0		2	0
Existing Visual Buffers				0
- Vegetation	0		2	0
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	0		1	0
Availability (score each category)	# of Elements*	20%	20	11
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	50.00%		10	5
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	5
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	1		3	3
Total		100%	100	58

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Trail Prioritization Criteria

CITY of MESQUITE - PRIORITIZATION CRITERIA for HIKE & BIKE TRAIL CORRIDOR DEVELOPMENT

1/21/2008

Corridor Name: Segment K — Evaluation Score: 1

From: Military Pkwy. to Winding Creek Park — **Meeting Held with Homeowner Group or Representatives (Y/N)**: **Y**

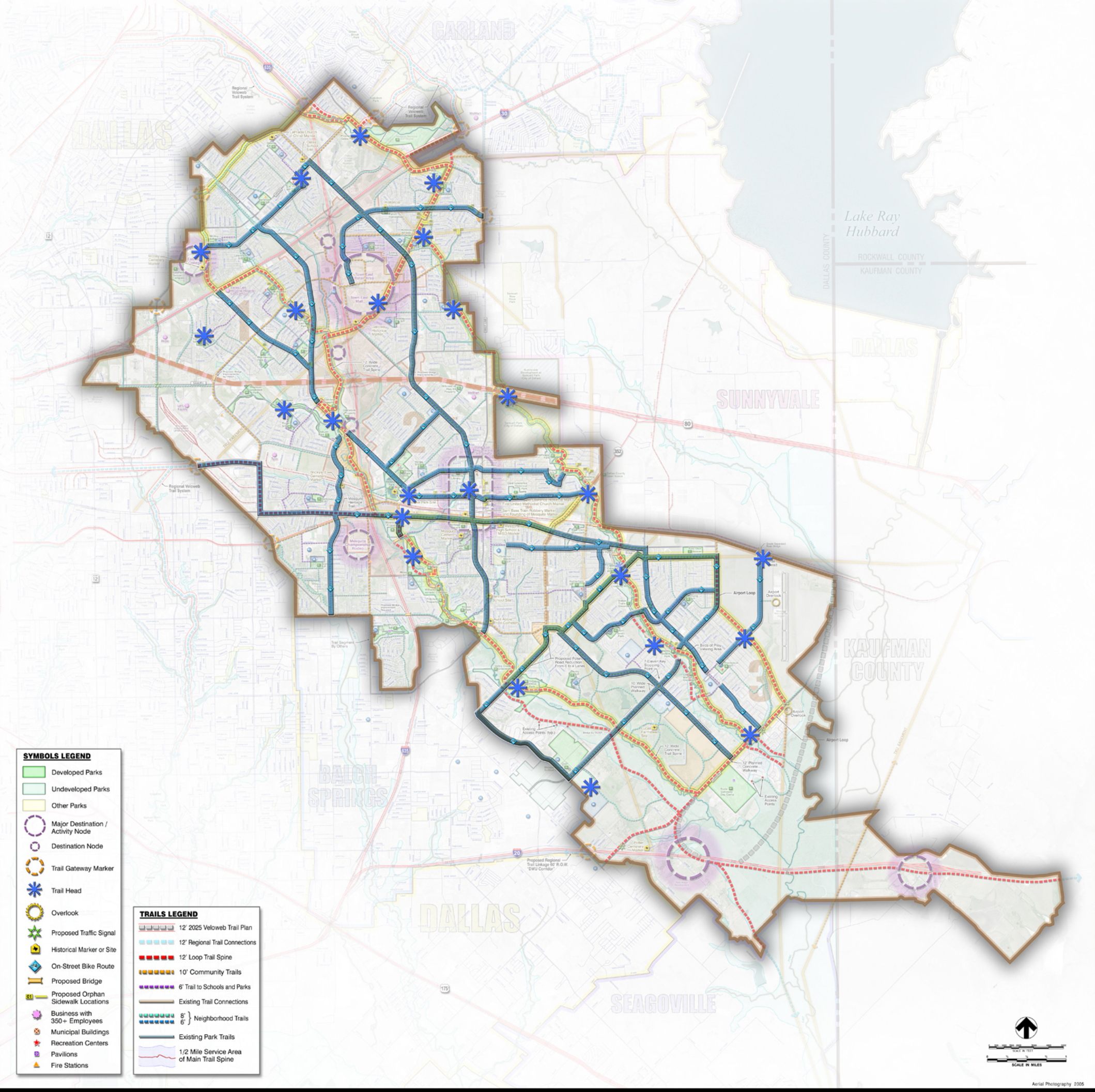
Segment Length: 2.75 miles

Selection Criterion	Evaluation	Importance	Total Available Points	Allocated Points
Ease of Implementation (select one) (Y=1), (N=0)	(Y=1), (N=0)	10%	10	10
Relatively flat, open area with no obstructions	1		7	7
Heavy, Dense Vegetation and/or multiple creek crossings	0		3	3
Connectivity (score for each based on number of connections)	# of Elements*	45%	45	36
To Schools (EL=1, MS=2, HS=3, CO=4)	5		8	8
Parks & Other Amenities	8		8	8
Key Destinations/Retail/Commercial District	5		8	8
Connection to Existing Trail (Regional Y=2), (Y=1), (N=0)	1		6	4
Mass Transit (Y=1), (N=0) (Future Potential)	1		3	3
Major Employers	1		3	1
Critical Connection (Y=1), (N=0)	1		4	4
Conflict - Ease of Traffic Crossing	5		5	0
Proximity to Single Family Residential (score each category) (Y=1), (N=0)	(Y=1), (N=0)	20%	20	6
Alignment Separation from Homes				2
- Greater than 50' separation	0		8	0
- Between 30' and 50' separation	1		2	2
- Less than 20' separation	0		1	0
Views above fence line into backyards**				4
- Significant number of backyards visible from trail corridor	0		1	1
- Less than 10% of backyards visible from proposed alignment	0		1	1
- No significant views above adjacent fences	1		2	2
Existing Visual Buffers				0
- Vegetation	0		2	0
- Solid Fencing (i.e. wood privacy fence)	0		2	0
- Berms/Creek Bank	0		1	0
Availability (score each category)	# of Elements*	20%	20	14
Public Ownership - Available for use as a potential trail corridor (percentage of overall availability)	75.00%		10	8
Private Ownership - Number of Owners (1 for single owner, 2 for two to three owners, 5 for four to five owners, 6 for more than 6 owners)	2		10	6
Current Usage (Y=1), (N=0)	(Y=1), (N=0)	5%	5	5
No Trail or Sidewalk, but Used	1		2	2
Usable w/out Improvement	1		3	3
Total		100%	100	71

*# of Elements within 1/4 - 1/2 mile radius **from 5'-6" viewpoint over 6' privacy fence

RANKING SCALE: >70='1', >60='2', >50='3', >40='4'

Additional Maps



February 2008

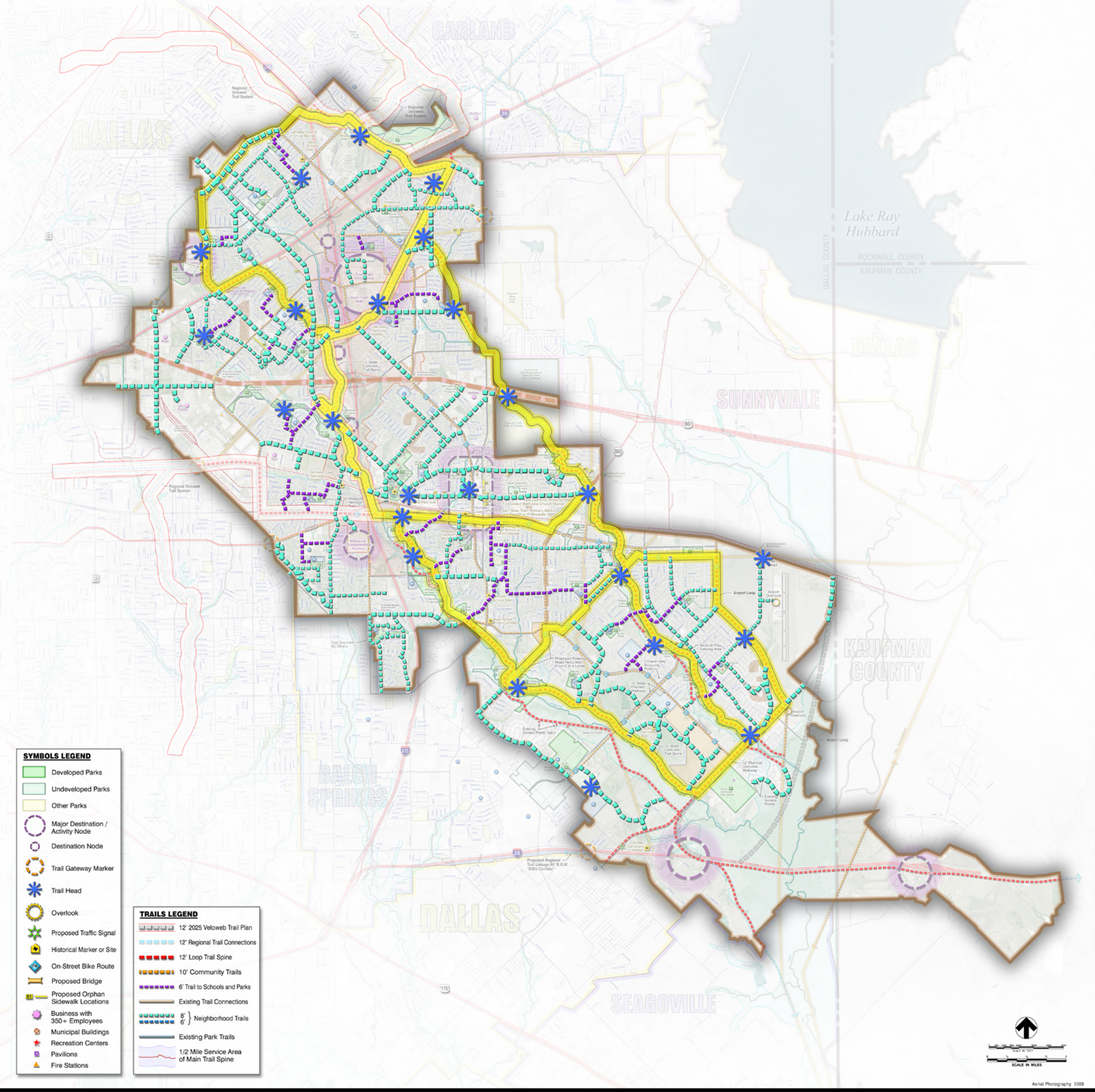
On-Street Bike Routes

City of Mesquite, Texas

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



February 2008

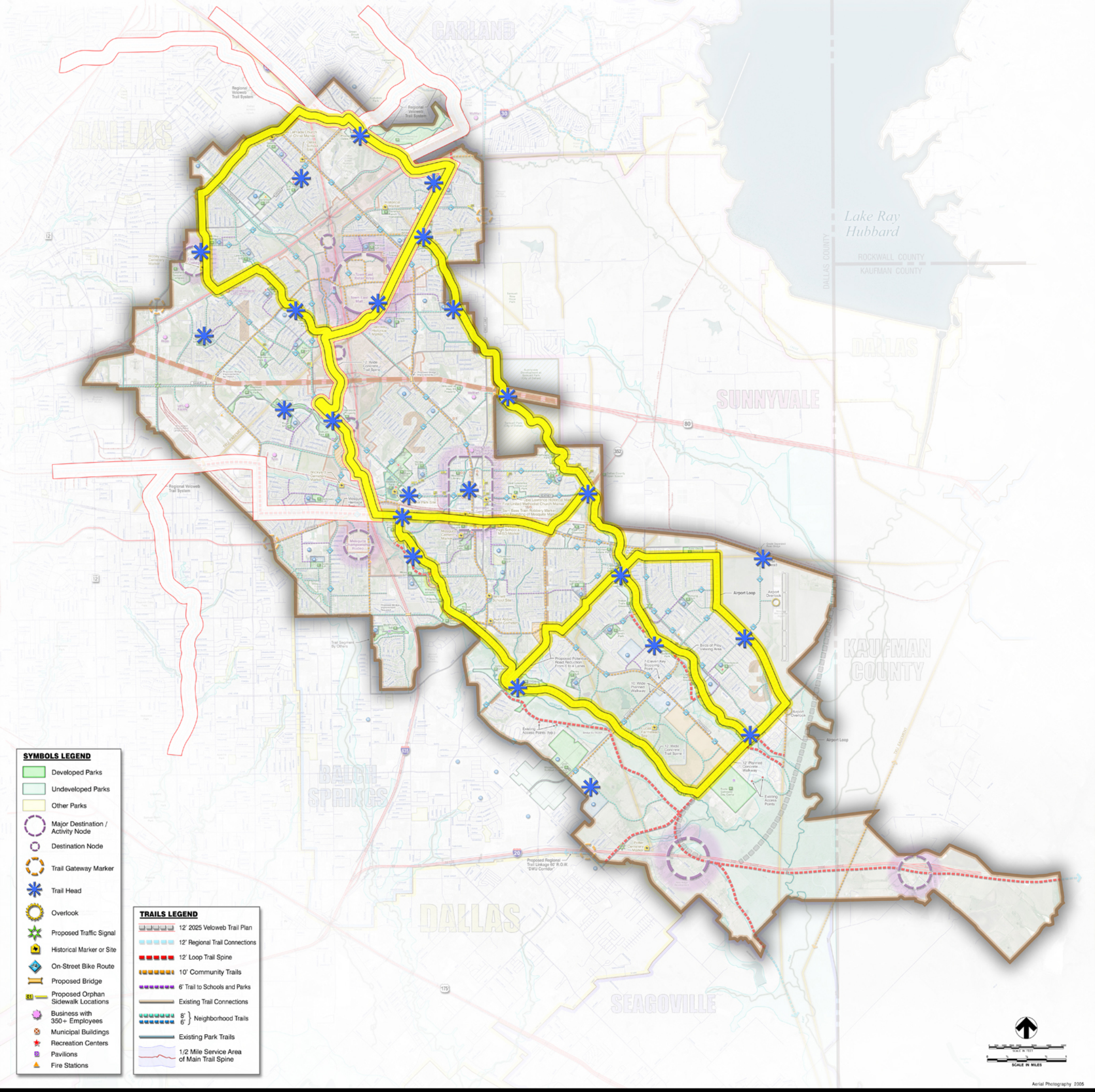
6' & 8' Neighborhood Trails

City of Mesquite, Texas

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.



February 2008

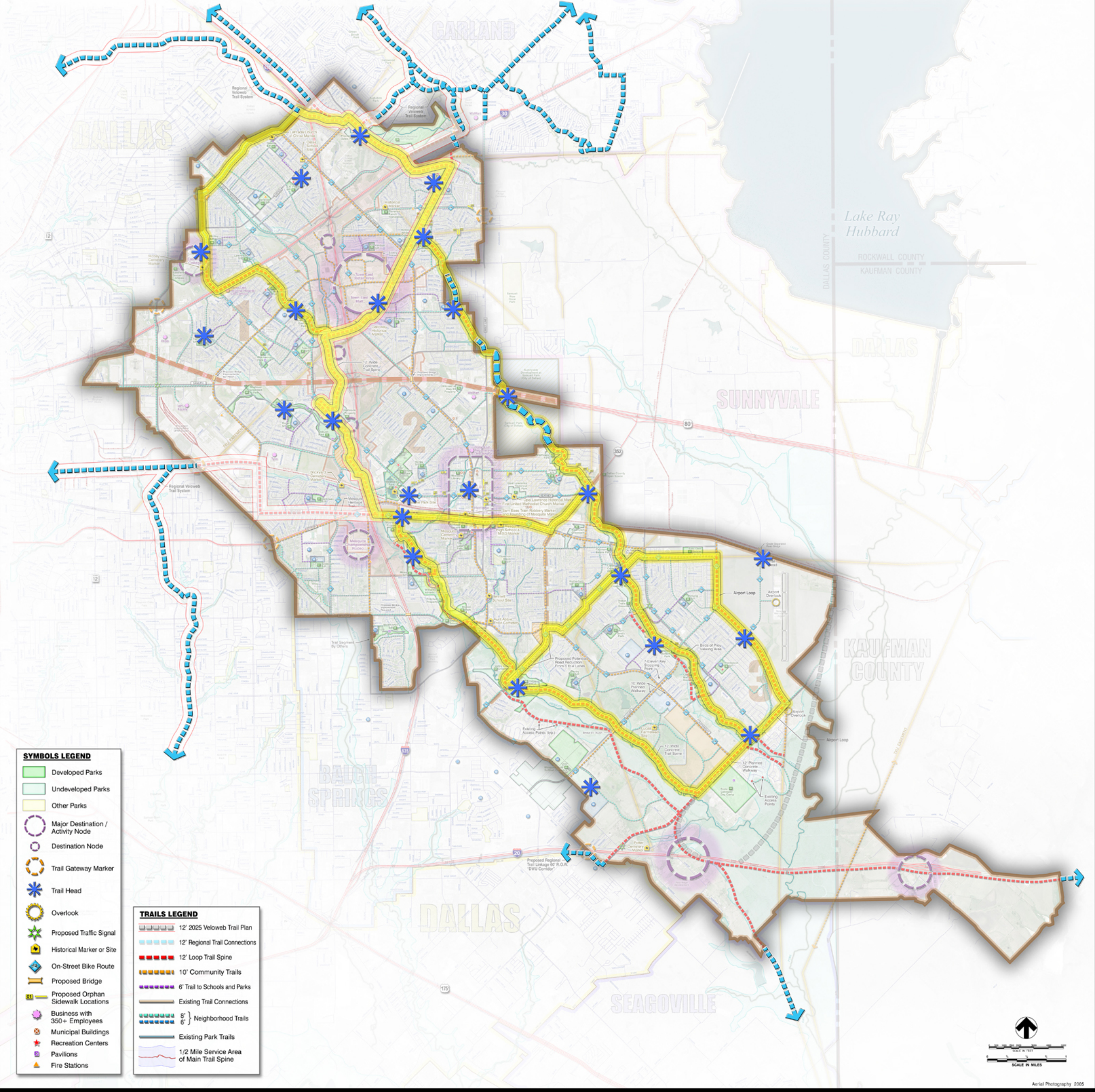
MESQUITE TRAIL LOOP & VELOWEB SYSTEM

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



February 2008

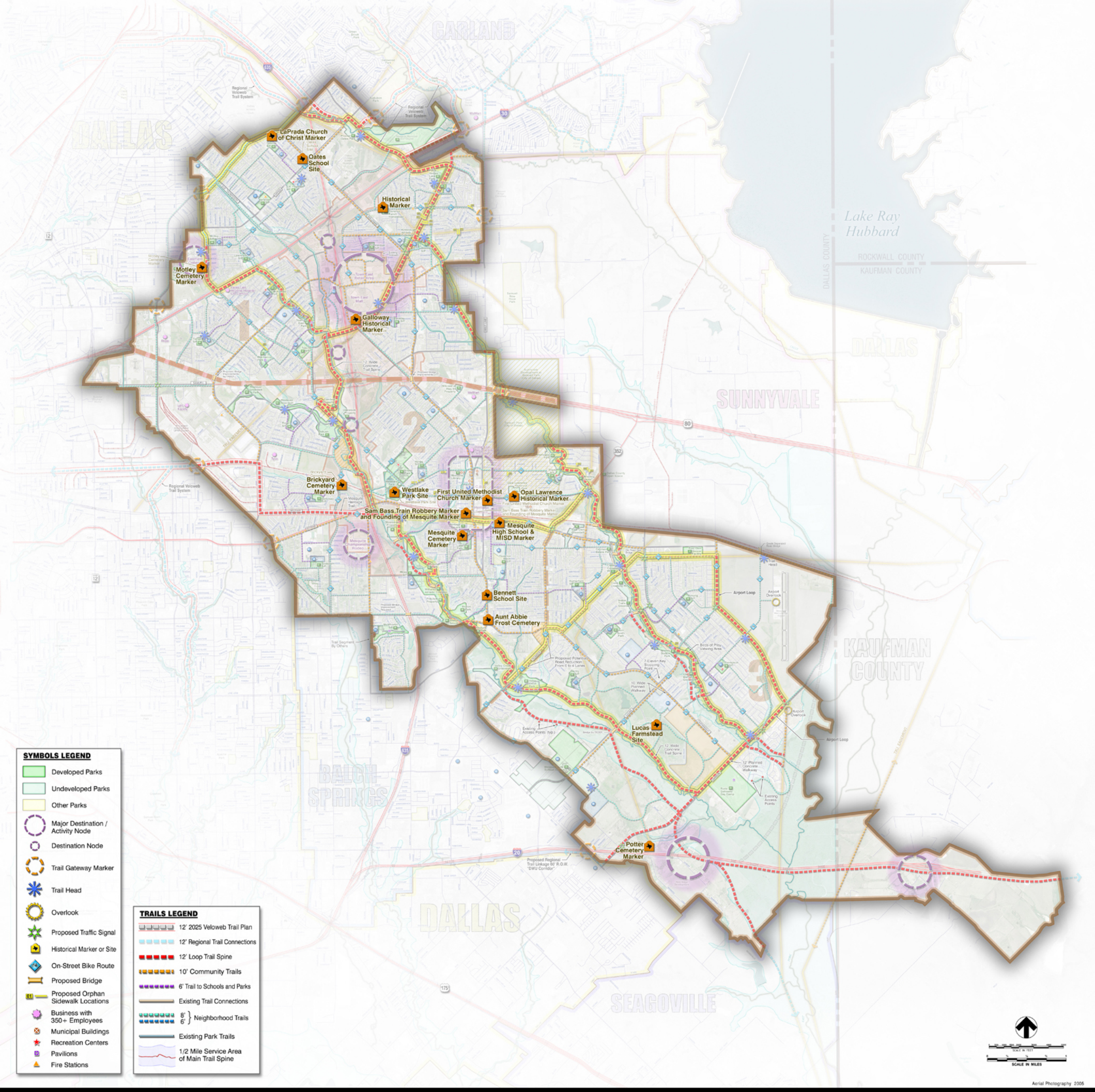
REGIONAL TRAIL CONNECTIONS

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



February 2008

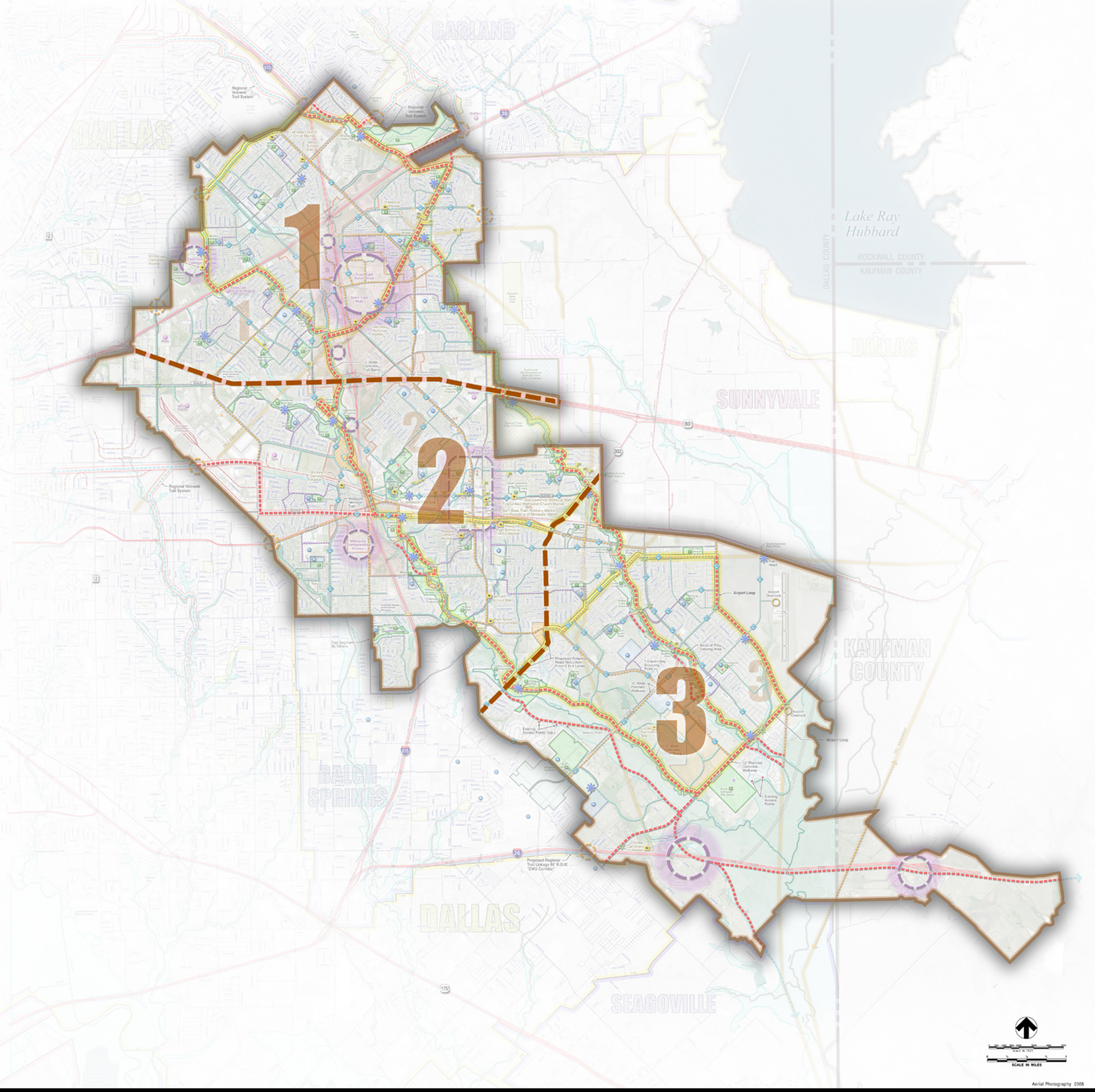
HISTORICAL SITES

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



February 2008

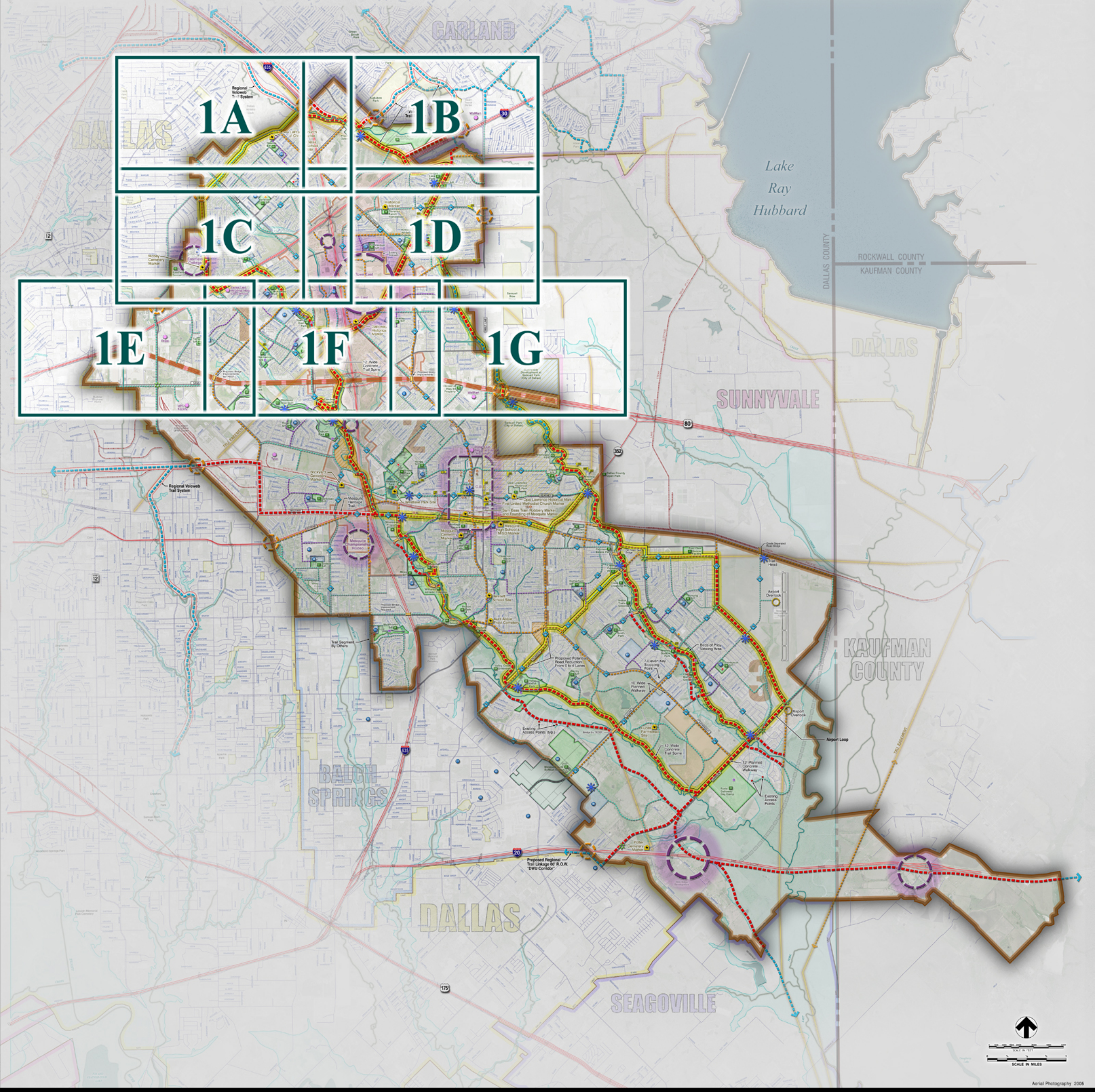
Sector Map

CITY OF MESQUITE, TEXAS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.



January 2008

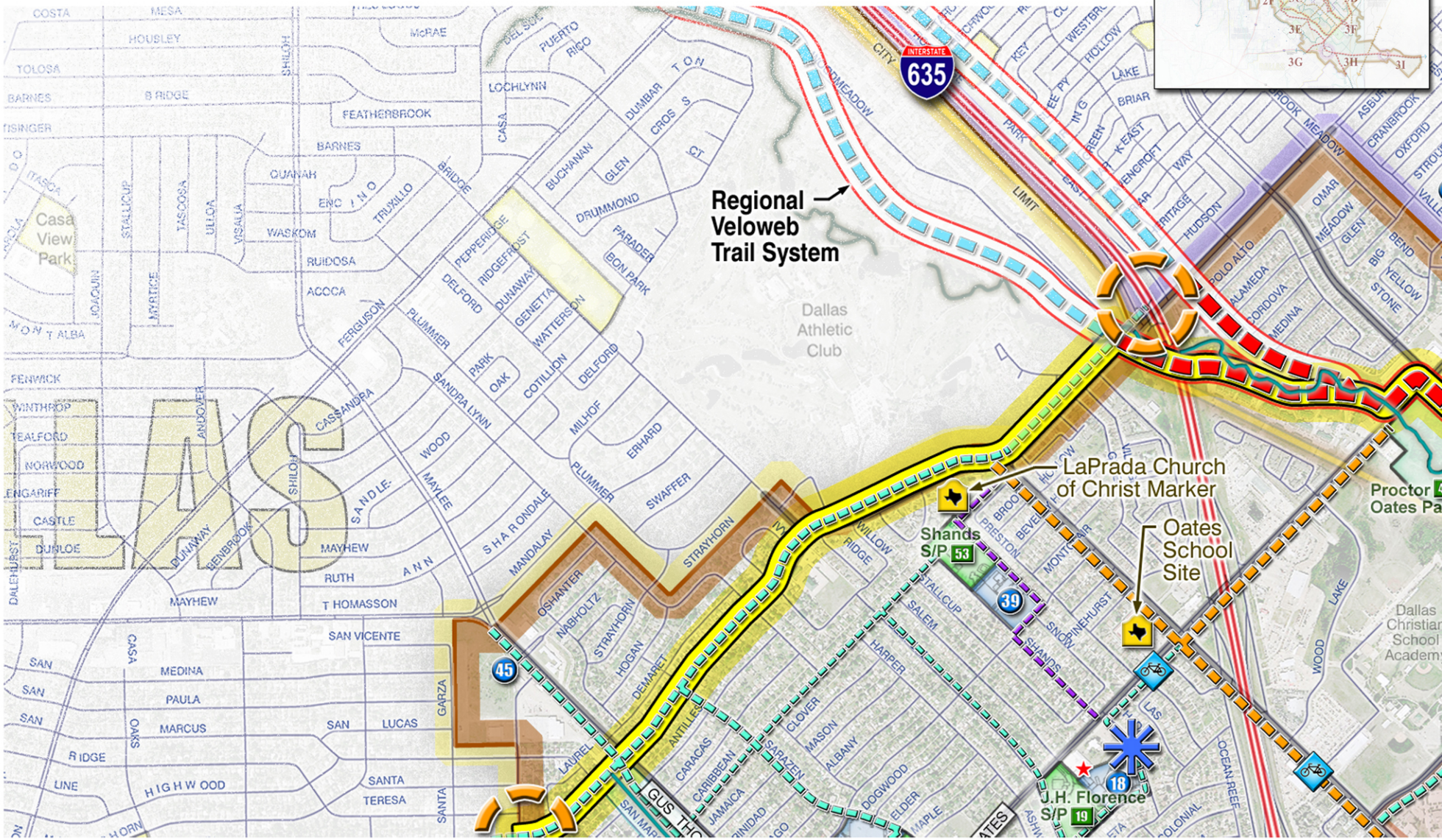
Area 1 Locator Map

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

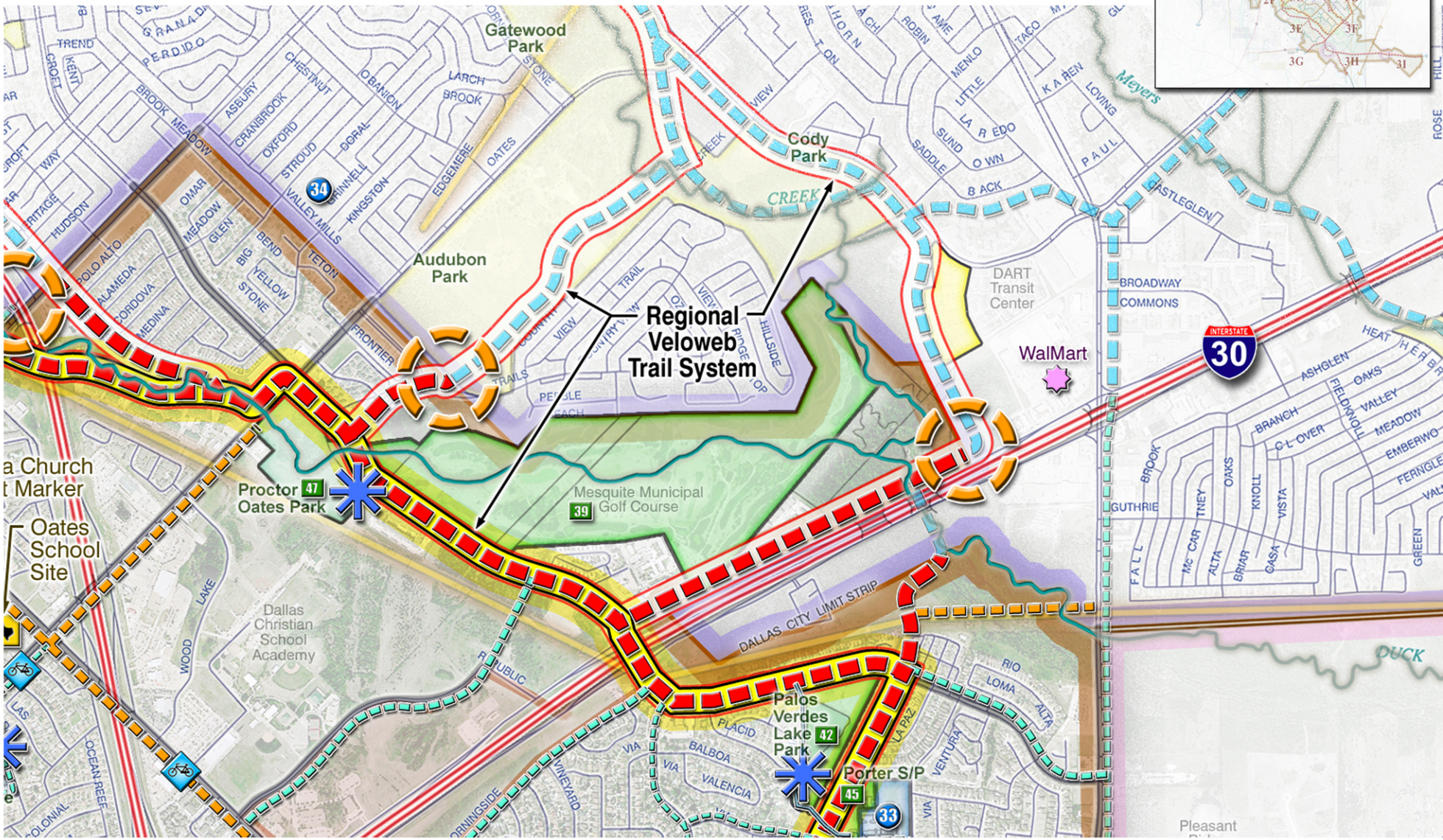
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
1A



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

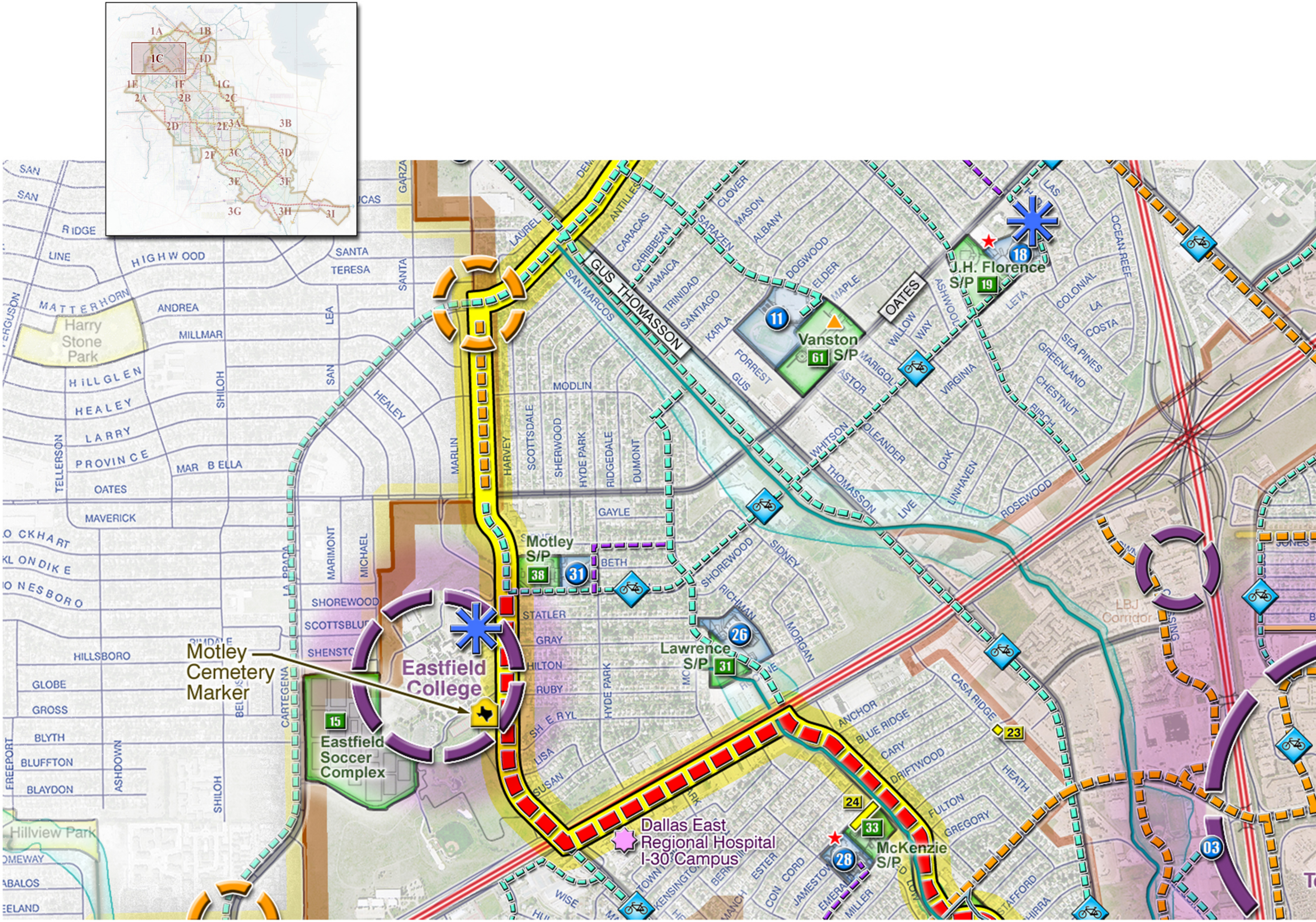
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS Real. Texas. Service.

MAP AREA 1B



0 200 400 600 800 1000 1200 1600 2000
SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

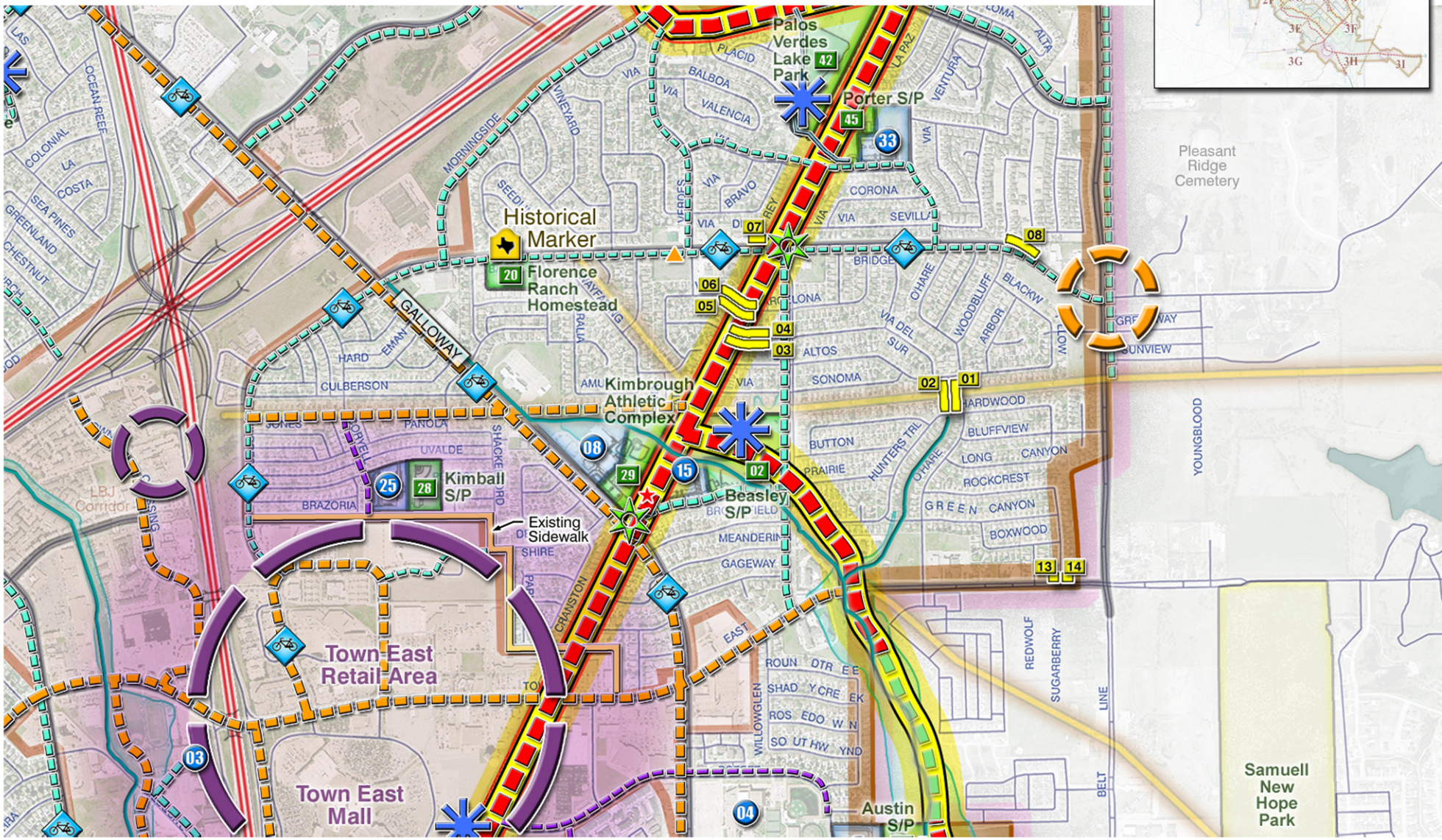
TRAILS MASTER PLAN

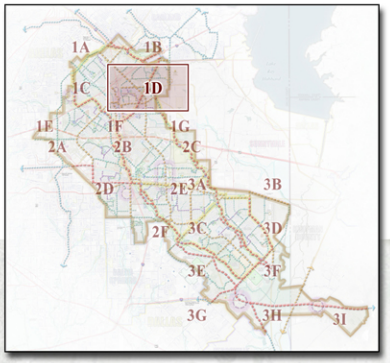
CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS Real. Texas. Service.

MAP AREA
1C





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

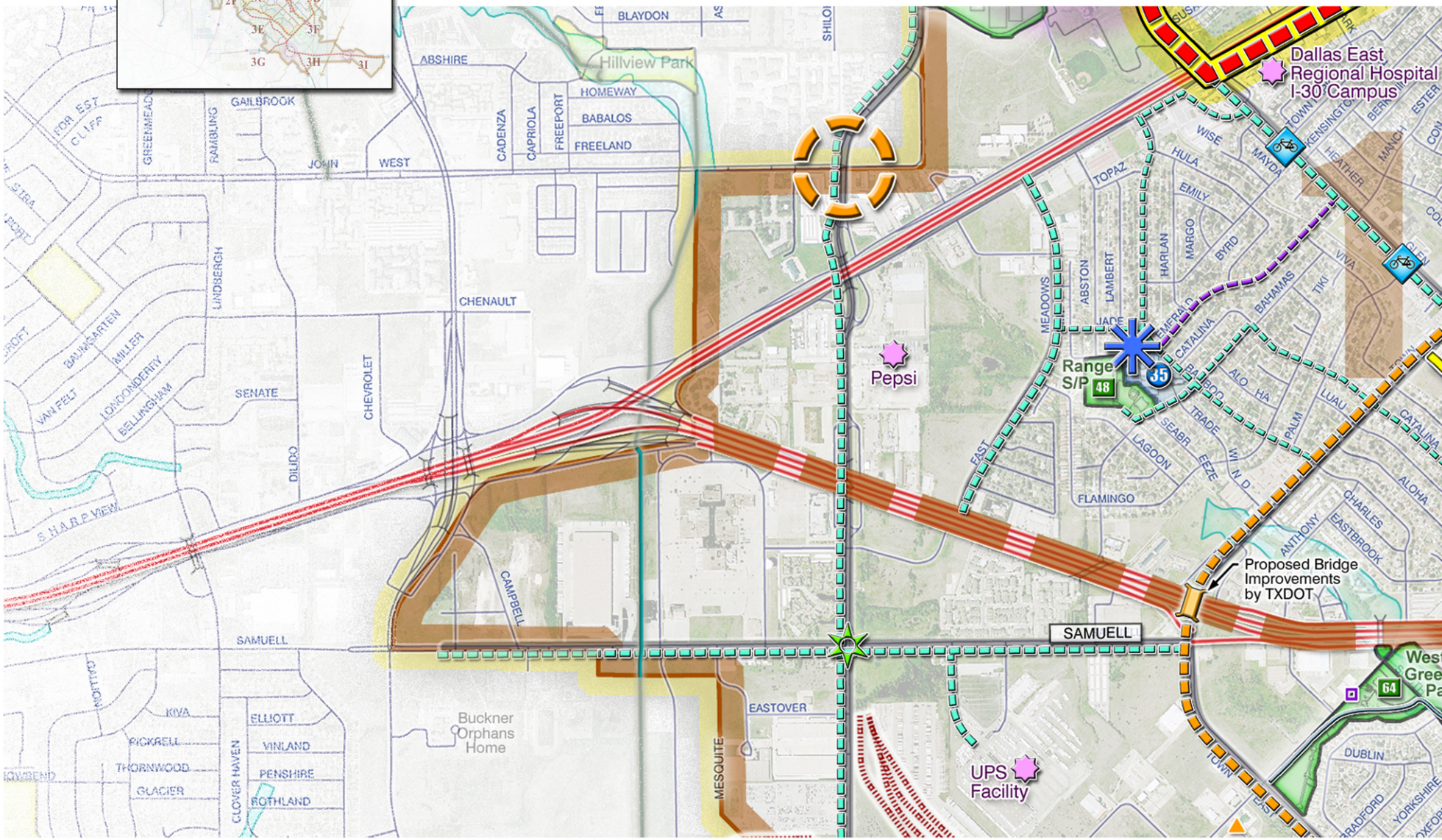
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
1D



0 200 400 600 800 1000 1200 1600 2000
SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

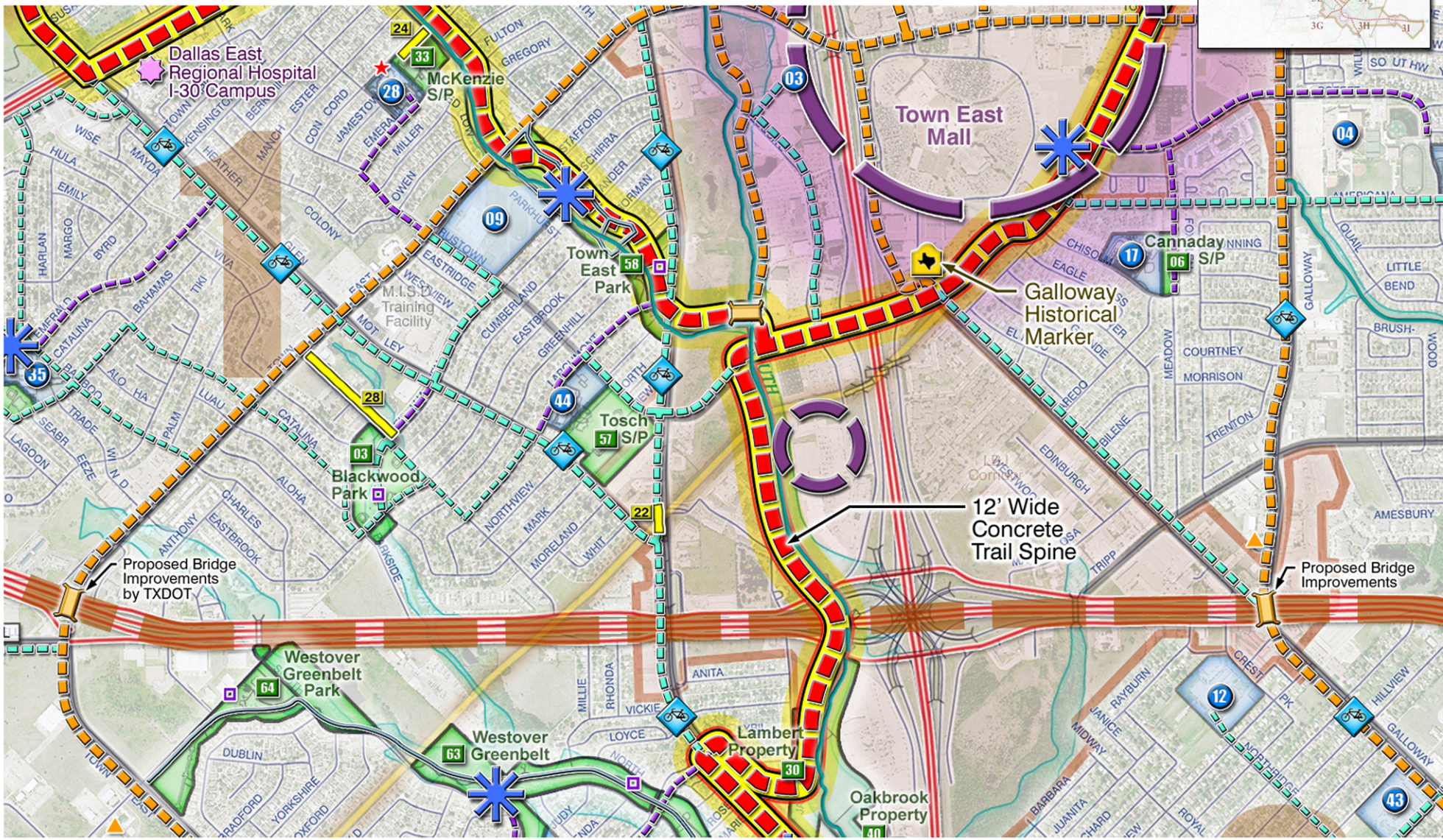
TRAILS MASTER PLAN

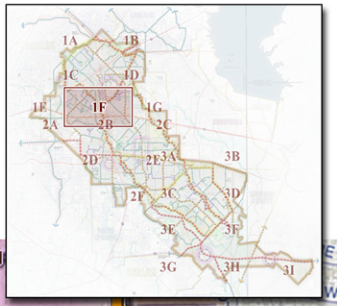
CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
1E





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

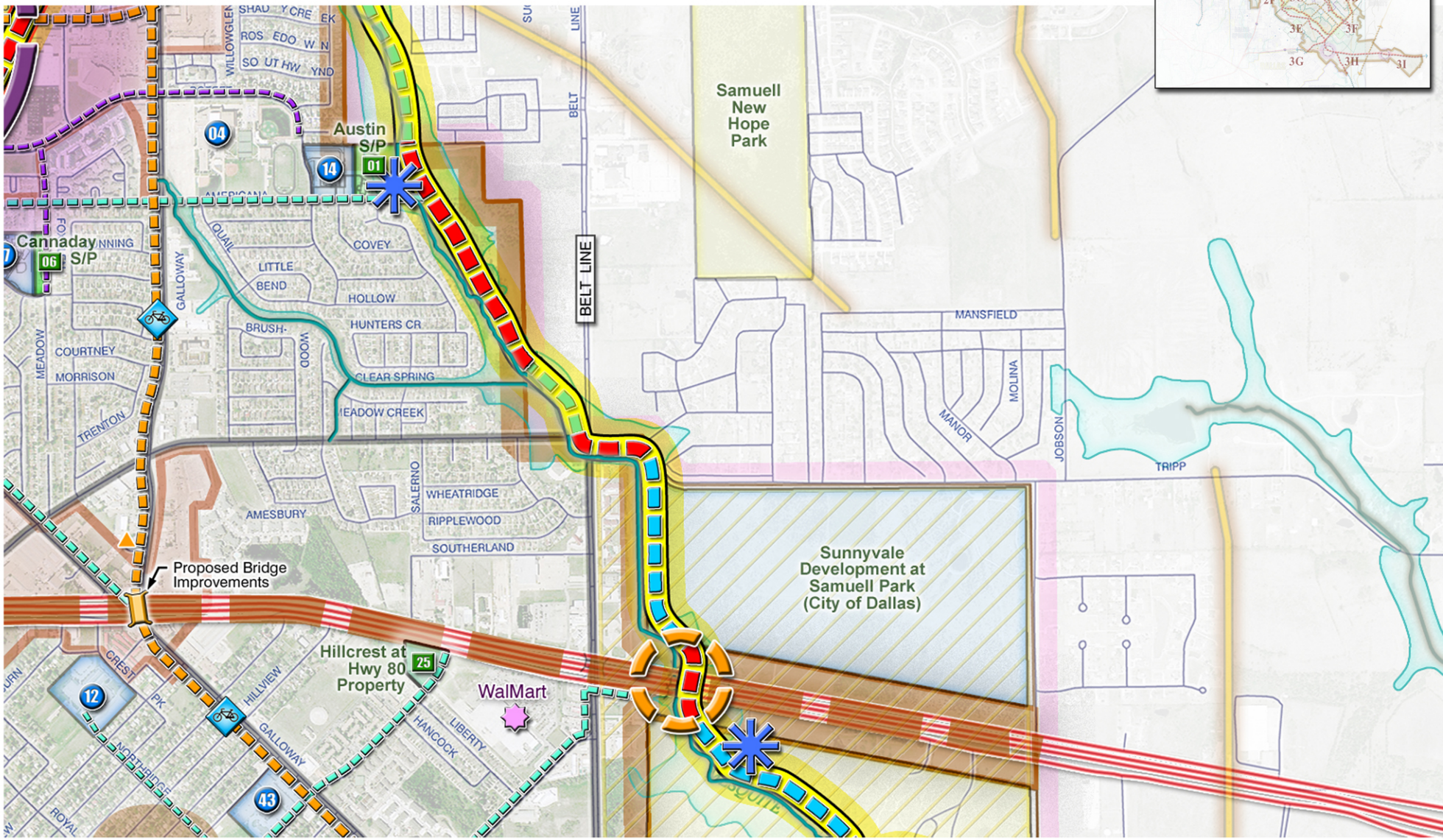
TRAILS MASTER PLAN

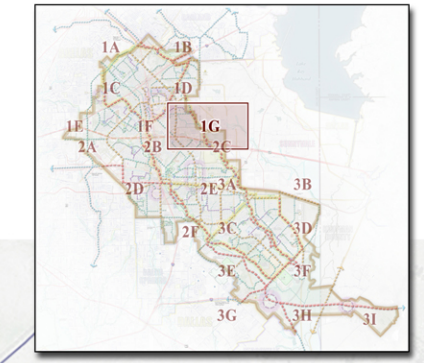
CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS Real. Texas. Service.

MAP AREA 1F





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

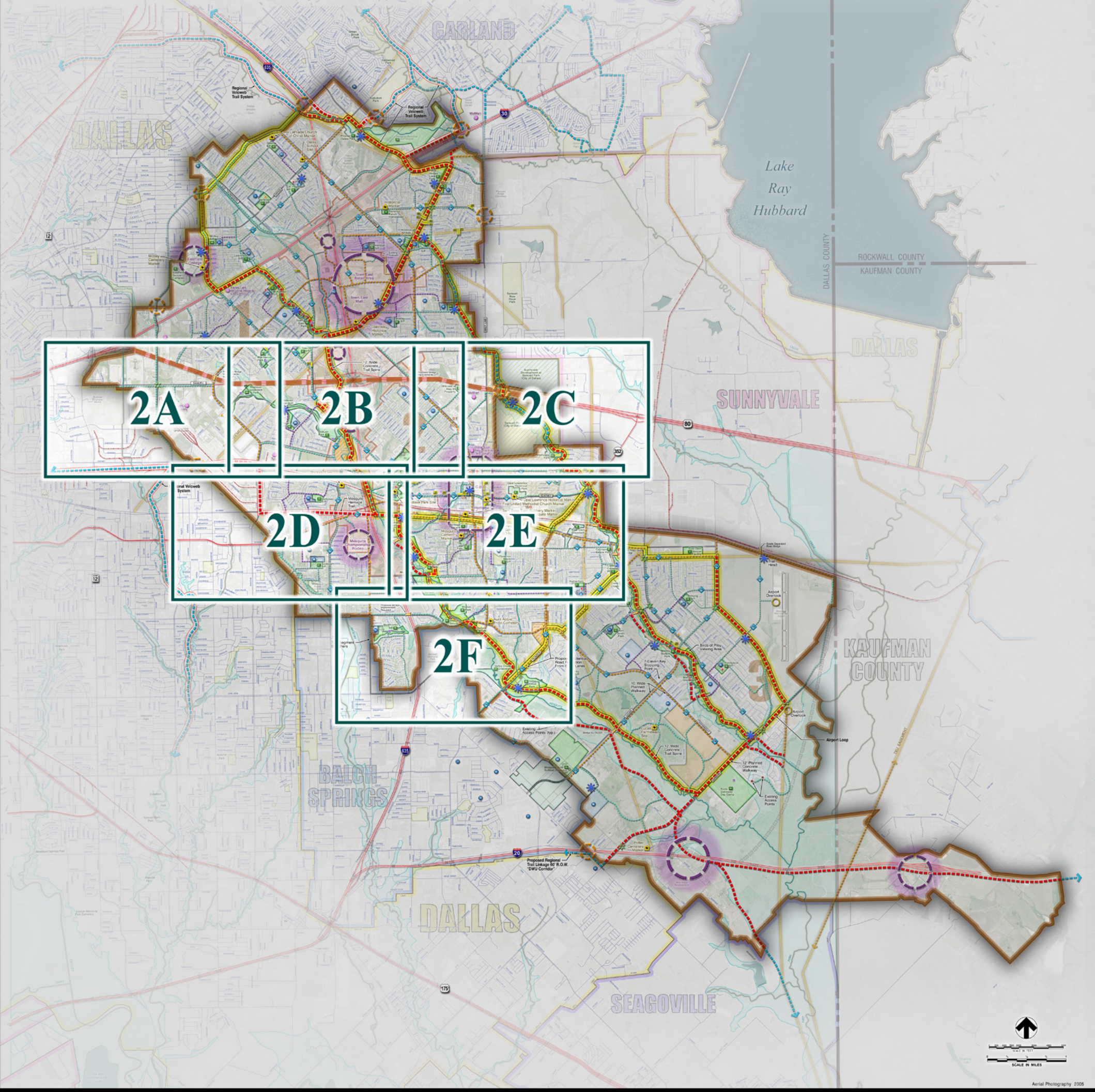
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
1G



January 2008

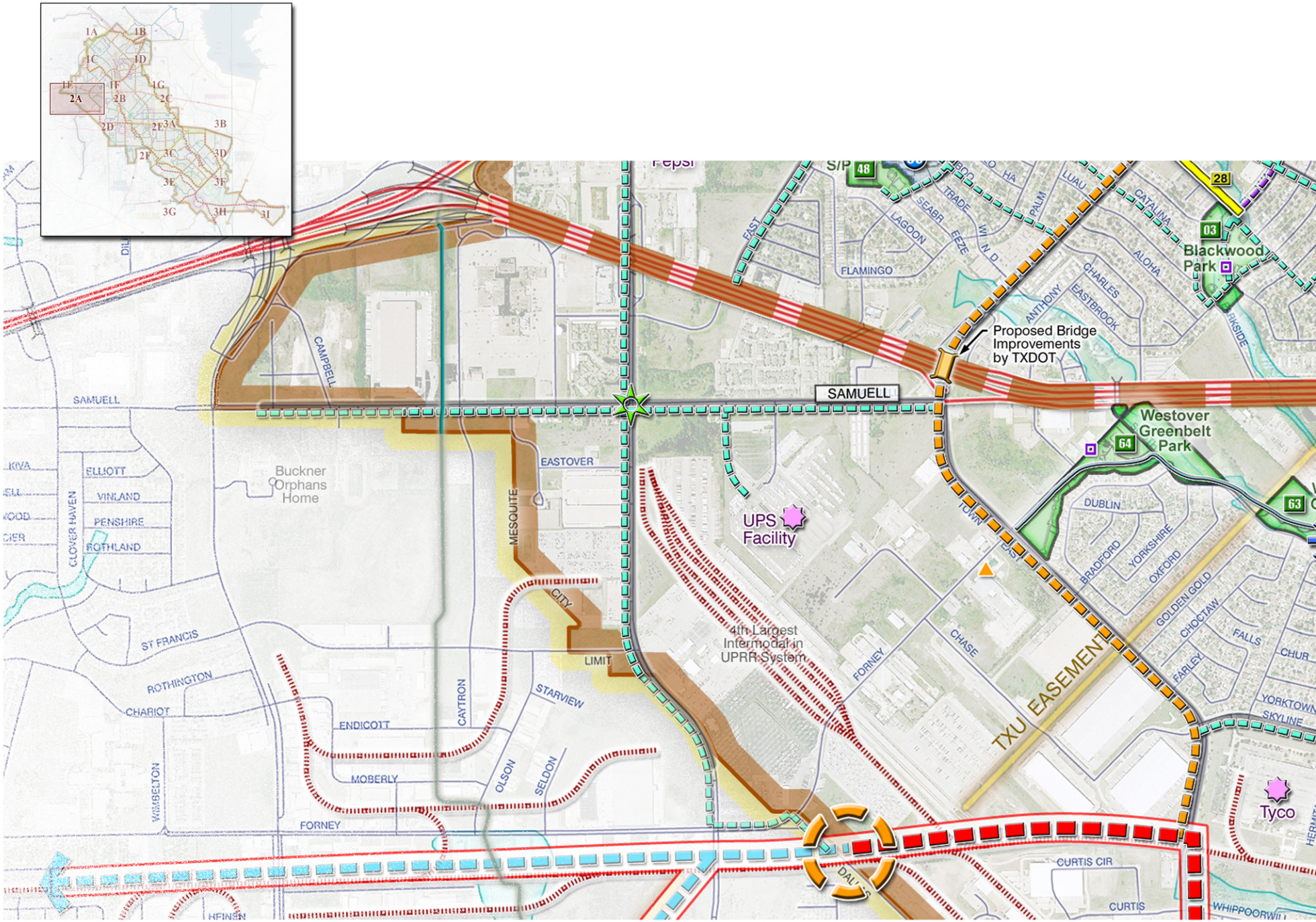
Area 2 Locator Map

City of Mesquite, Texas

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.



TRAILS MASTER PLAN

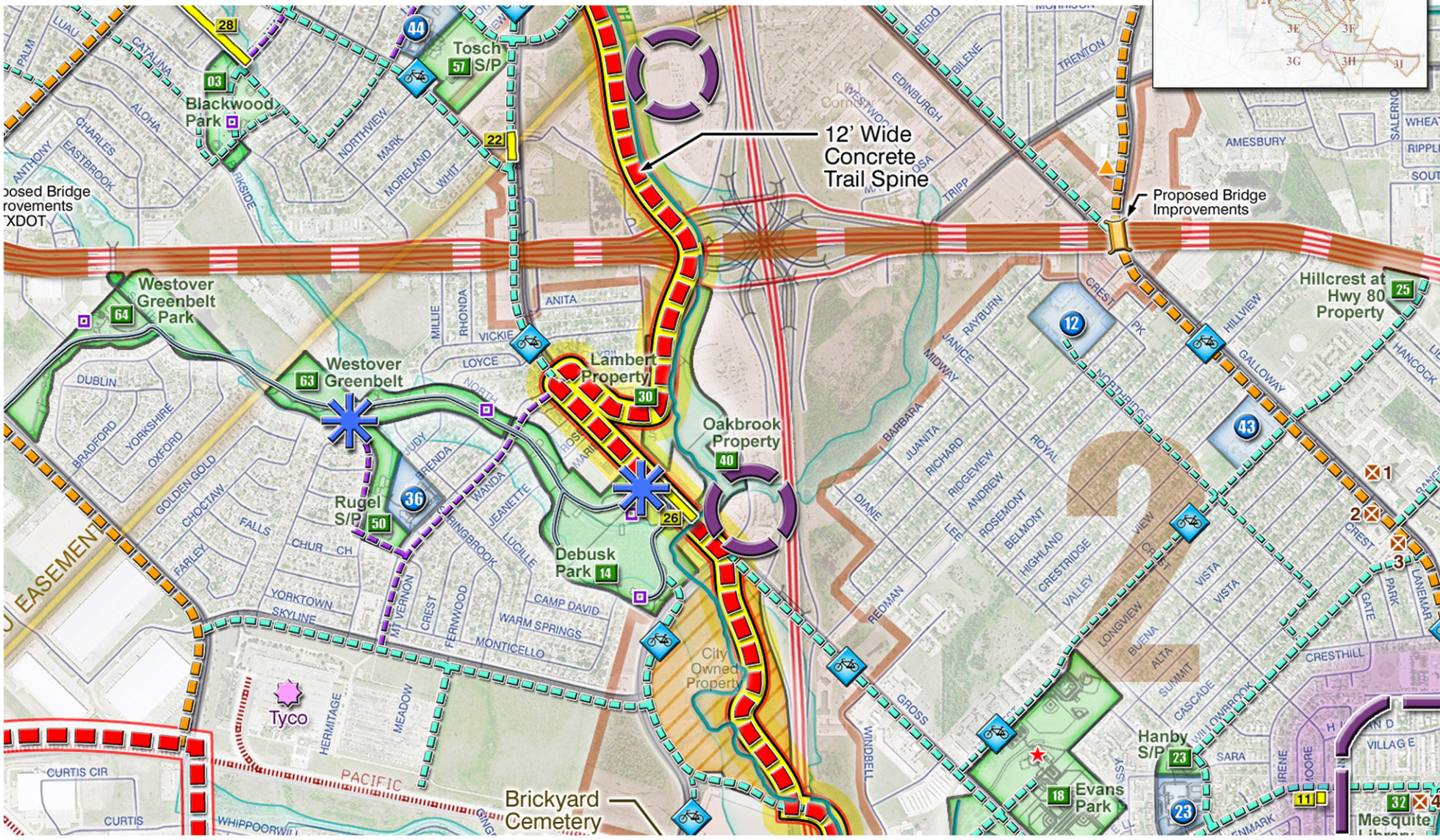
CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.

January 17, 2008

MAP AREA 2A



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

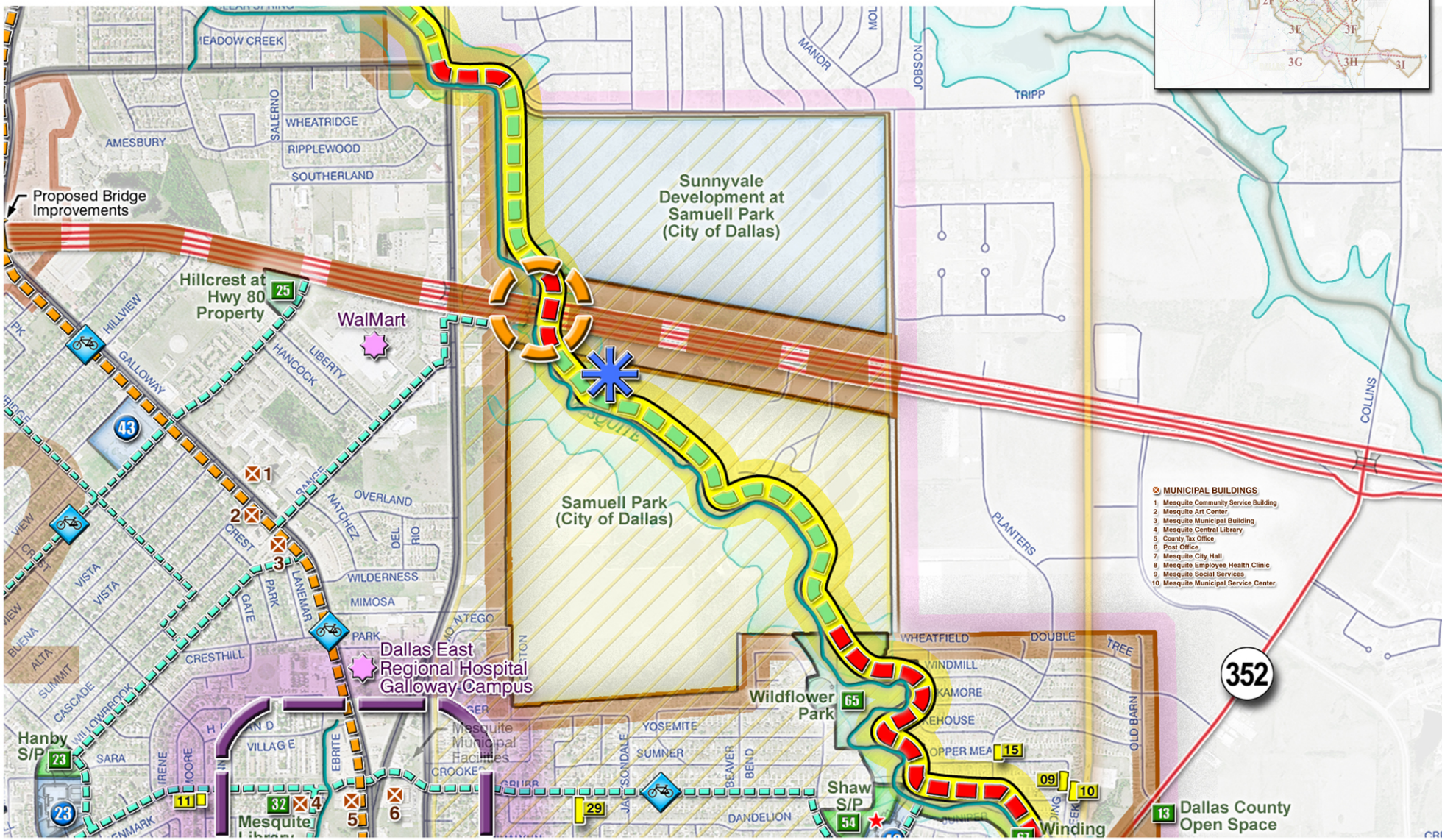
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

February 21, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA 2B



TRAILS MASTER PLAN

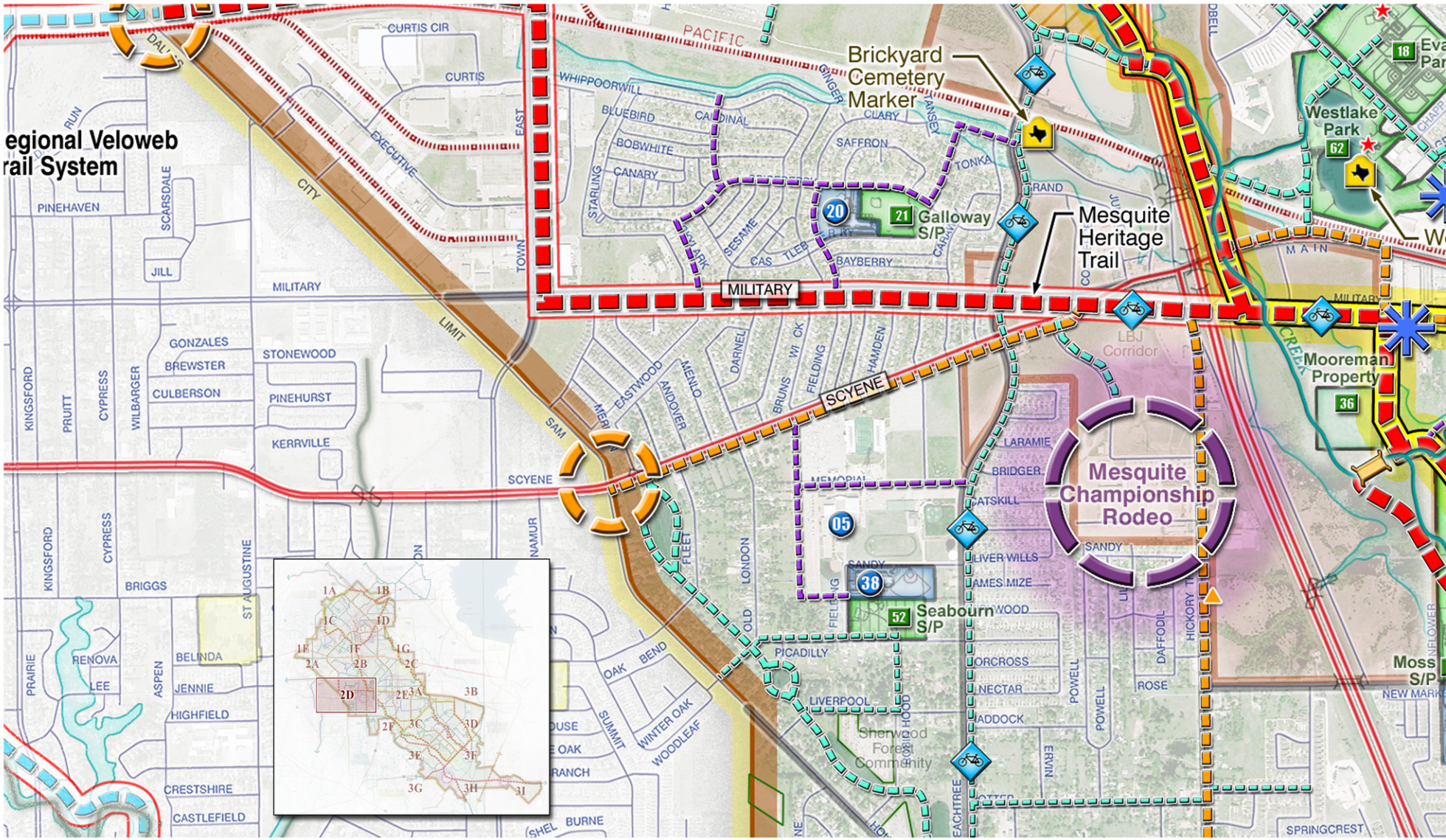
CITY OF MESQUITE, TEXAS

February 21, 2008

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA 2C



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

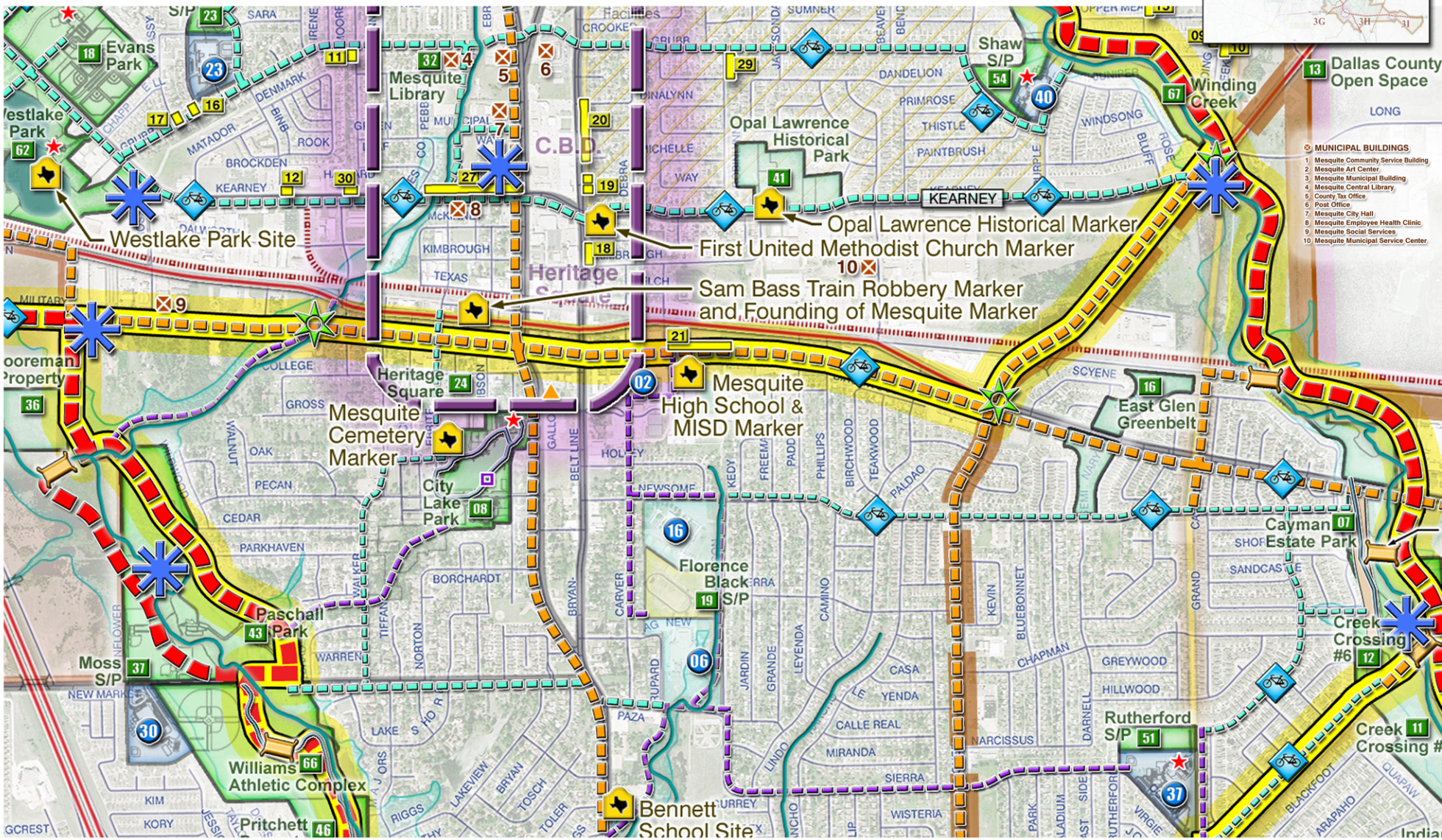
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA 2D



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

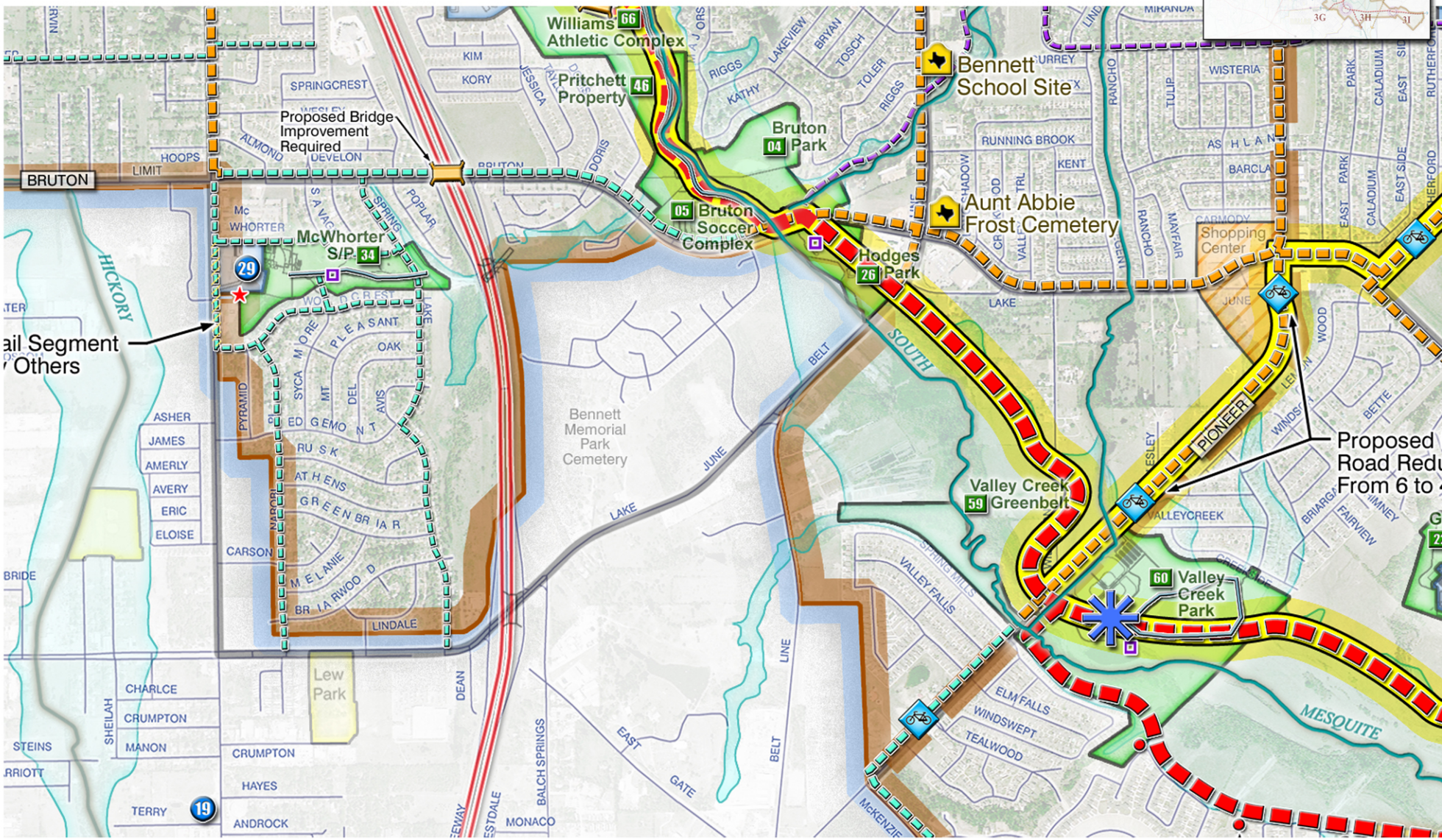
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

February 21, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA 2E



TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

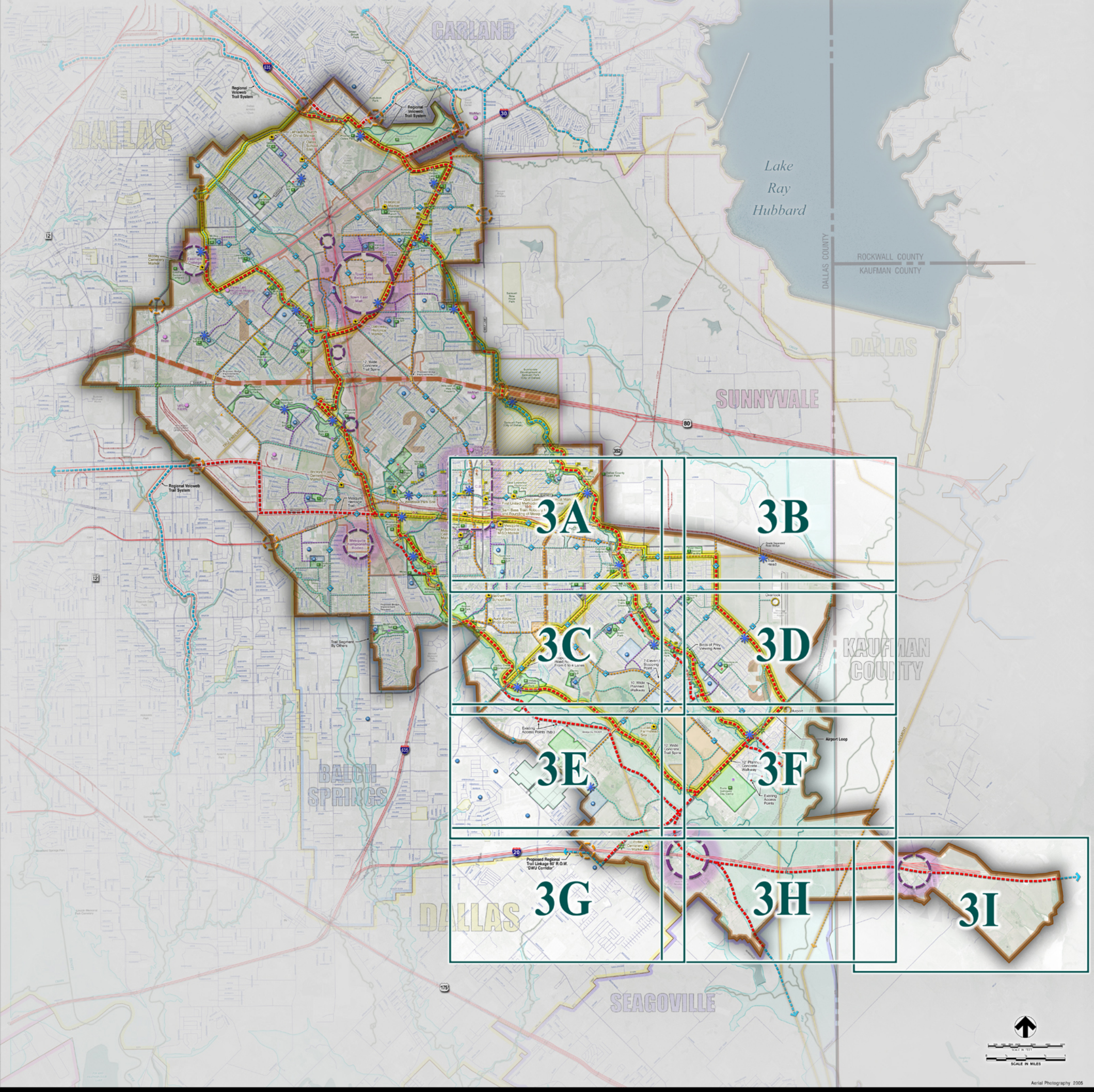
SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

February 21, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA 2F



January 2008

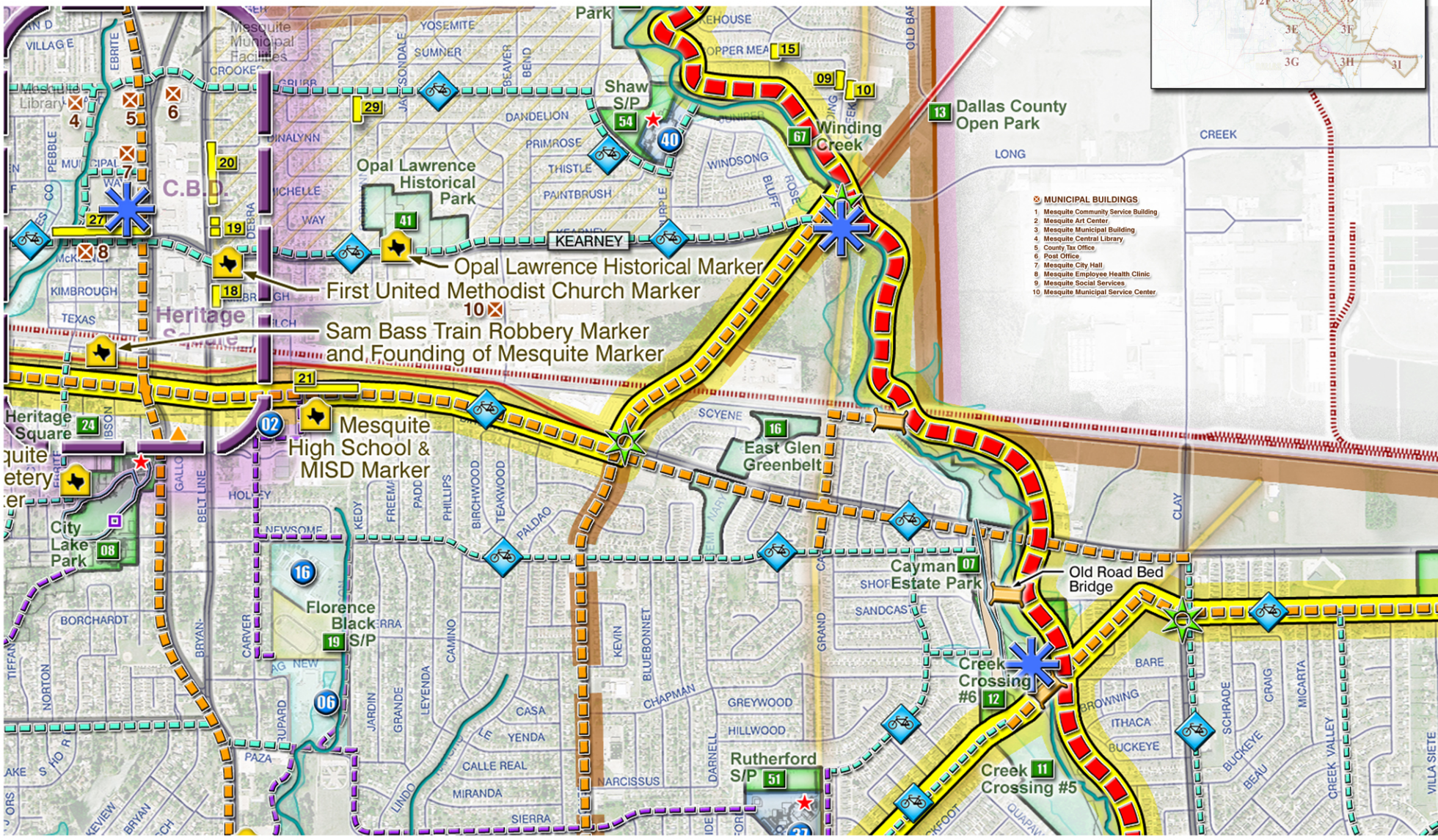
Area 3 Locator Map

CITY OF MESQUITE, TEXAS

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

Concept plan only. Subject to change. Land use locations and configurations are approximate and may be altered to respond to changing development conditions and requirements. Plan subject to governmental approval.

MESQUITE TEXAS
Real. Texas. Service.



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

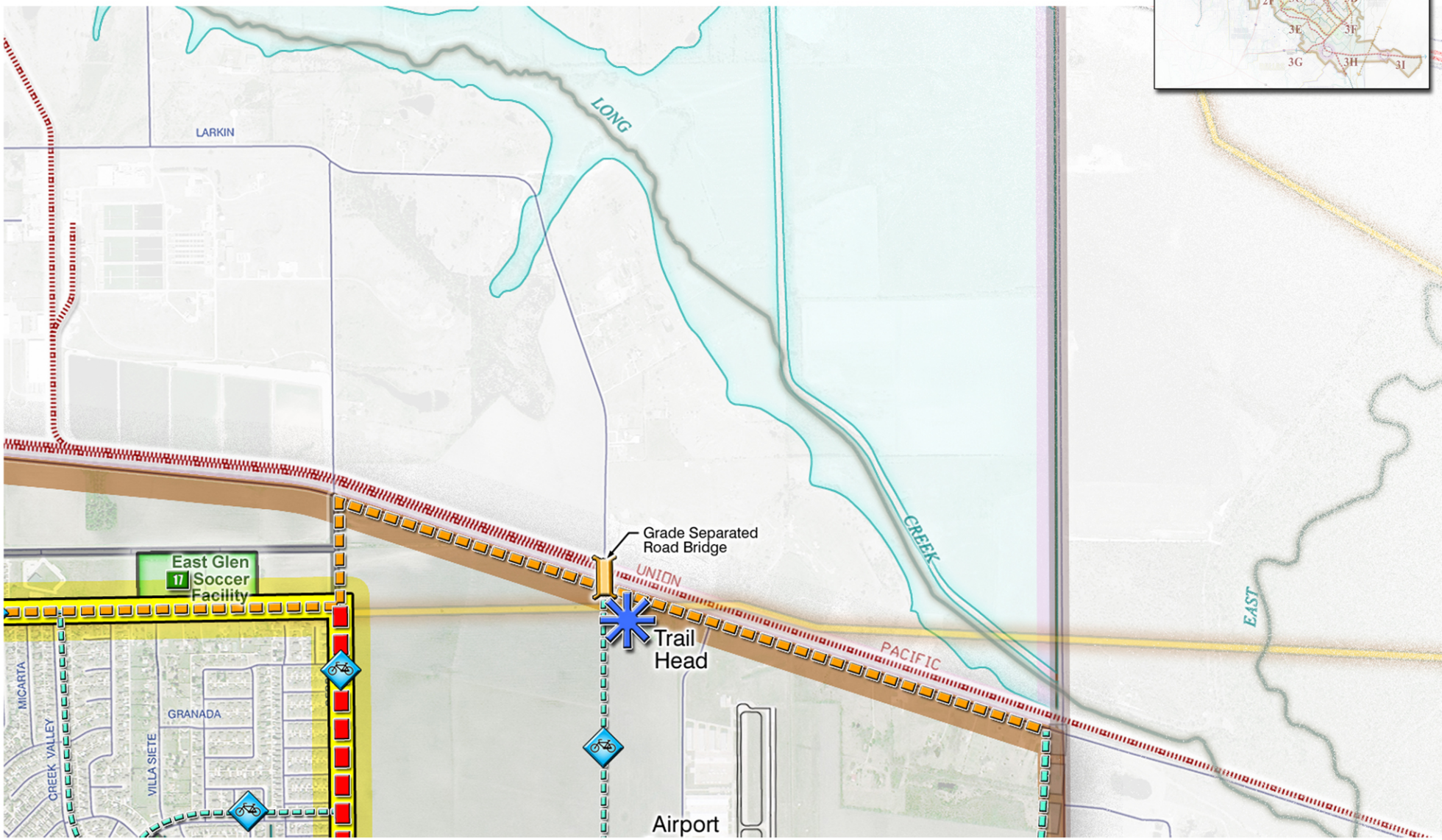
TRAILS MASTER PLAN

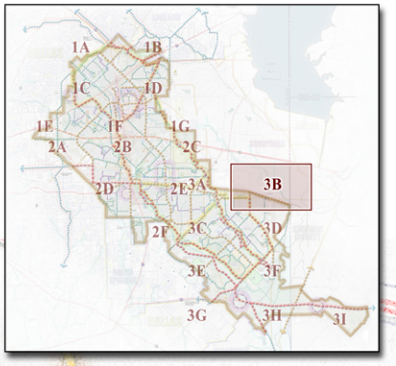
CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
3A





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

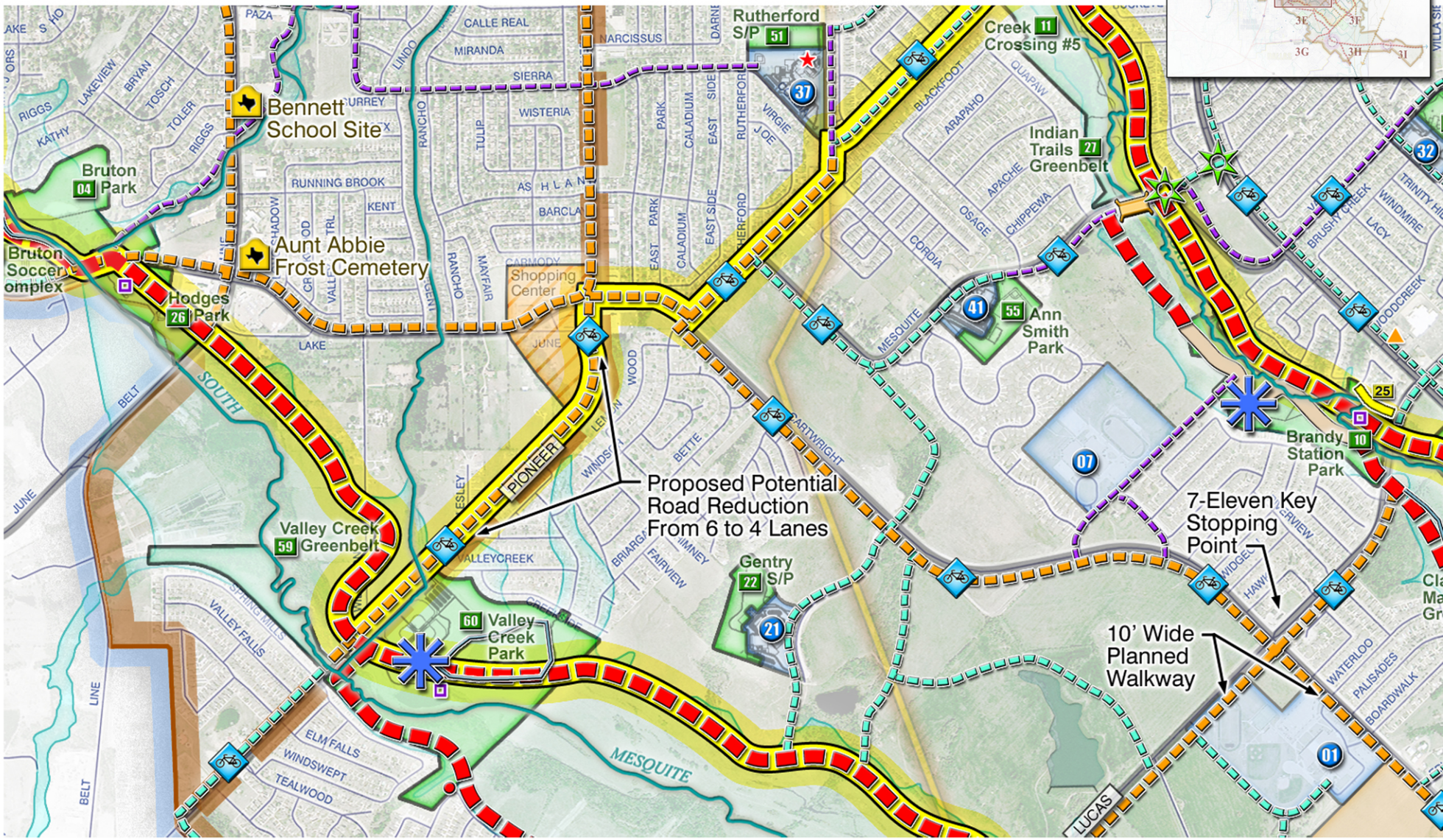
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
3B



TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

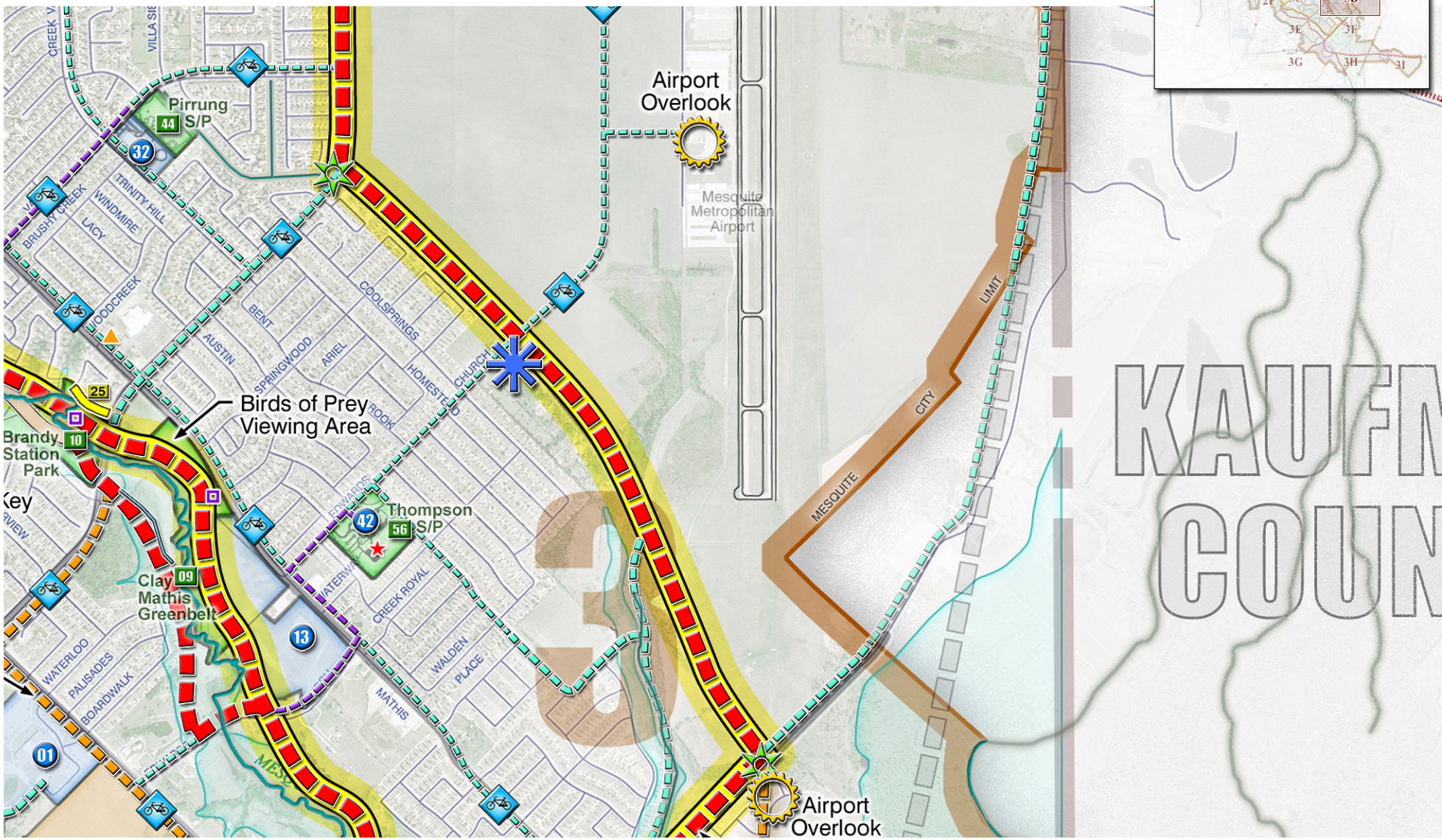
SCALE IN FEET

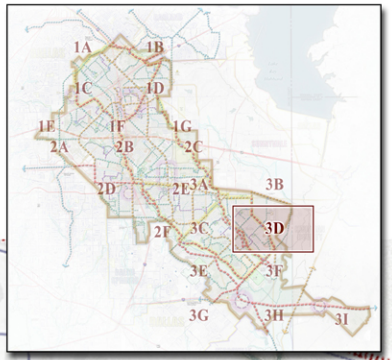
Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

January 17, 2008

MESQUITE TEXAS Real. Texas. Service.

MAP AREA 3C





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

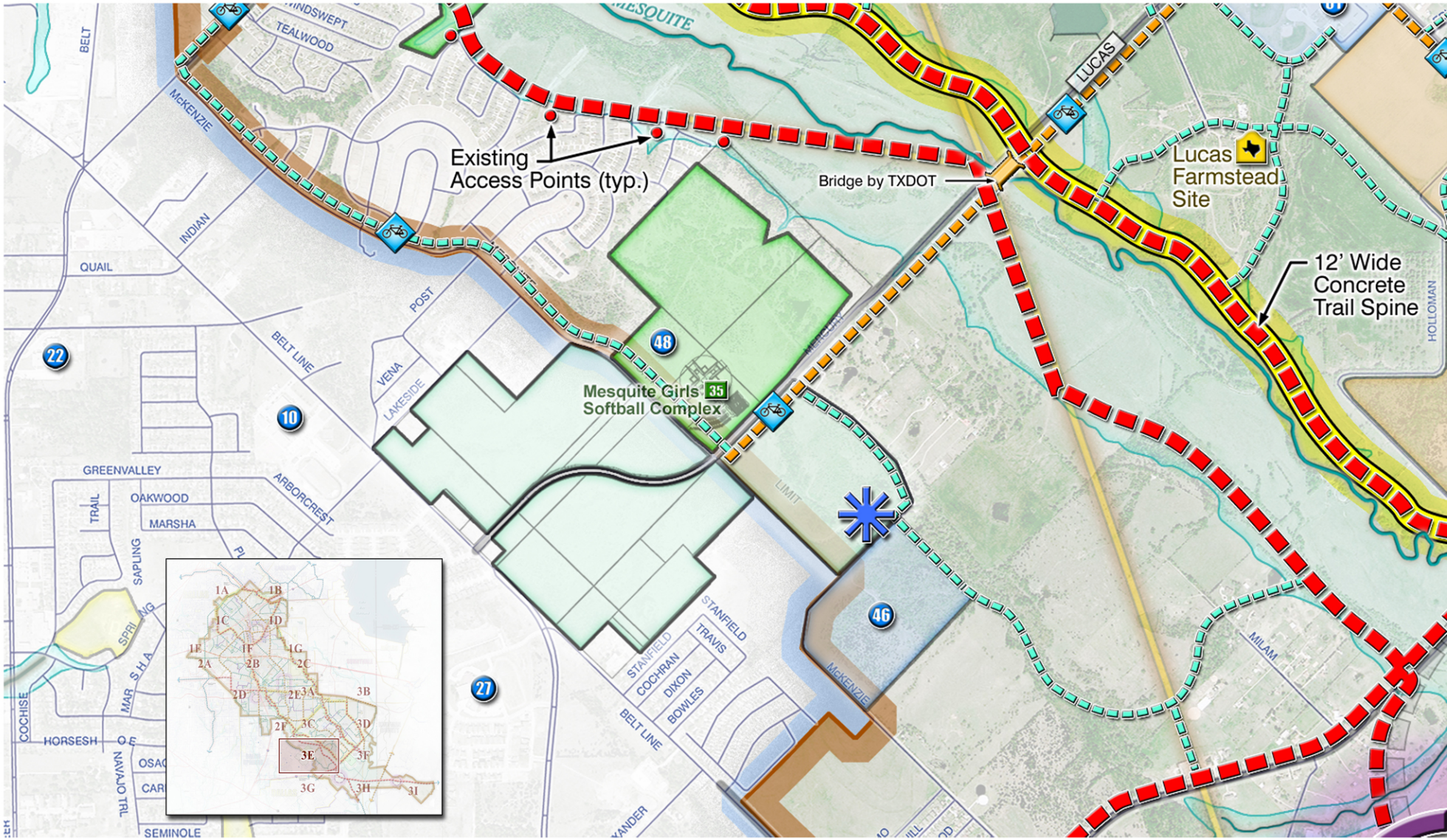
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
3D



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

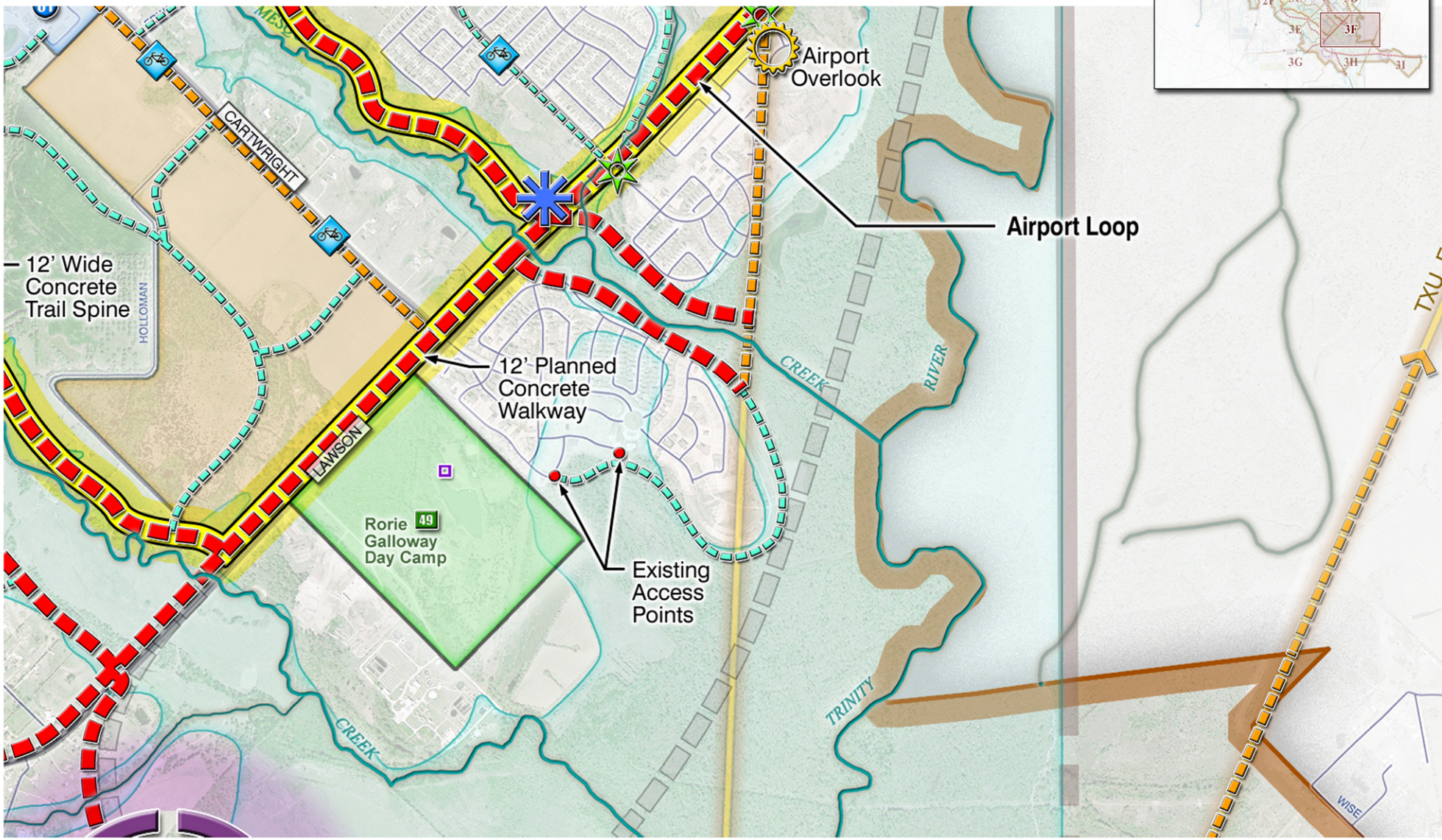
TRAILS MASTER PLAN

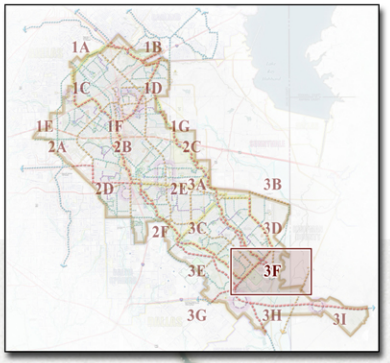
CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
3E





SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

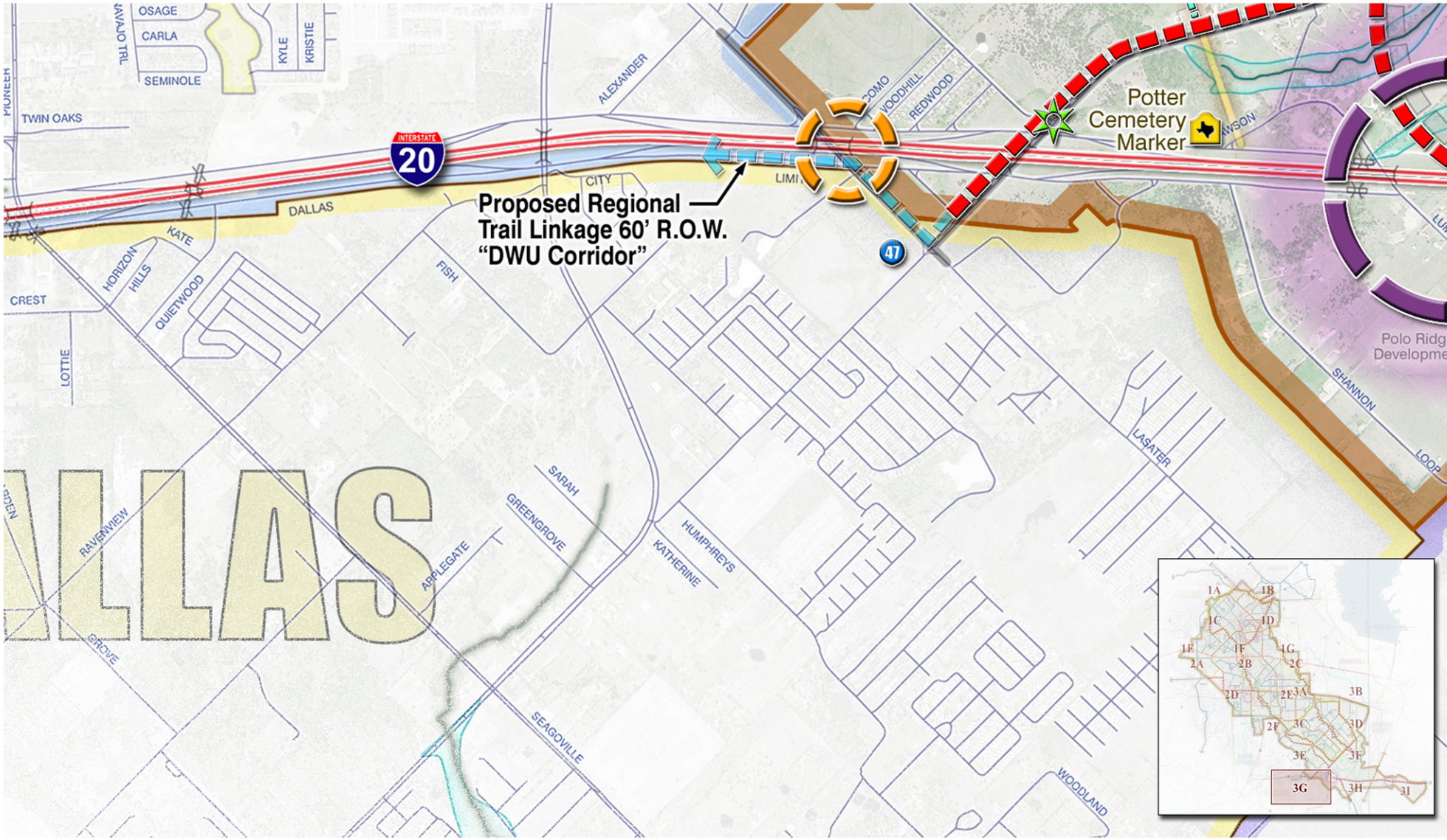
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS Real. Texas. Service.

MAP AREA 3F



0 200 400 600 800 1000 1200 1600 2000
SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

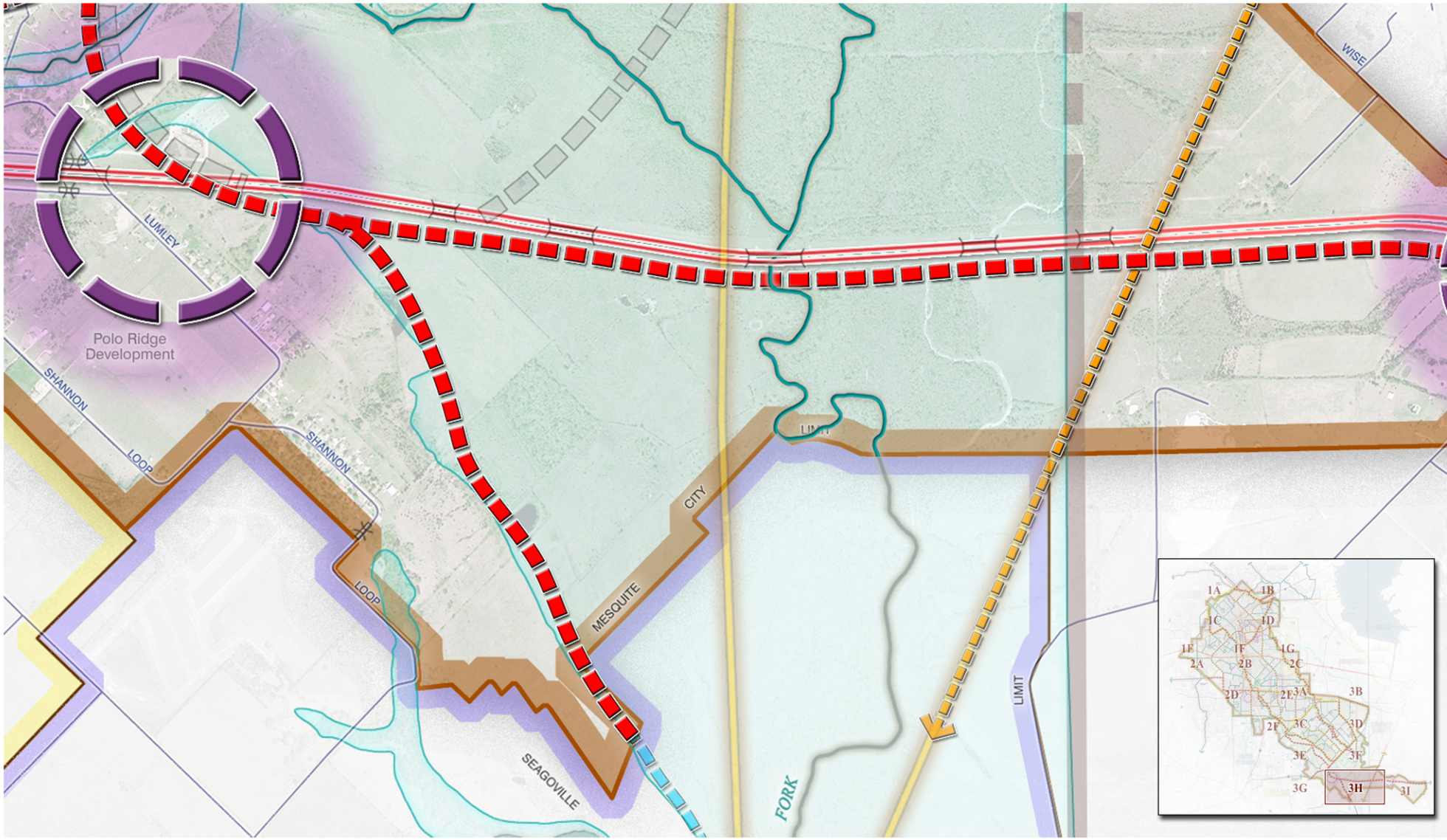
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE
TEXAS
Real. Texas. Service.

MAP AREA
3G



0 200 400 600 800 1000 1200 1600 2000
SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

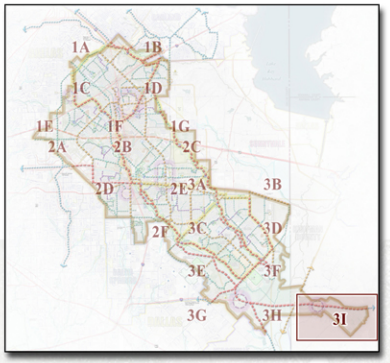
TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE
TEXAS
Real. Texas. Service.

MAP AREA
3H



SCALE IN FEET

Halff Associates
ENGINEERS · ARCHITECTS · SCIENTISTS · PLANNERS · SURVEYORS

TRAILS MASTER PLAN

CITY OF MESQUITE, TEXAS

January 17, 2008

MESQUITE TEXAS
Real. Texas. Service.

MAP AREA
3I

References

Alexander, L.; The Effect of Greenways on Property Values and Public Safety. Denver, CO: Colorado State Trails Program; 1994

American Association of State Highway and Transportation Officials (AASHTO); Guide for Development of Bicycle Facilities; Washington, D.C., 1999

Dunkin Sims Stoffels Inc.; Mesquite Parks, Recreation & Open Space Master Plan; Mesquite, TX, 2000

The Conservation Fund and Colorado State Parks State Trails Program; The Effect of Greenways on Property Values and Public Safety. Available from the Colorado State Trails Program, (303) 866-3203 ext. 306; March 1995

City of Mesquite; Comprehensive Plan – City of Mesquite; Mesquite, TX, 2003

Federal Highway Administration, U.S. Department of Transportation; Manual on Uniform Traffic Control Devices (MUTCD); Washington D.C., 2003

Halff Associates with Bowman-Melton Associates; Dallas County Trails Plan – Trails for the Twenty-First Century; Dallas County, TX, 1997

Puncochar, B. & Lagerwey, P.; Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime; Seattle, WA: City of Seattle Engineering Department, Bicycle Program; 1987

Raymond Turco & Associates; Mesquite Recreation Needs Assessment and Attitude Survey; Mesquite, TX, 2006


MESQUITE
TEXAS
Real. Texas. Service.