

Ellis County/ Midlothian to Waxahachie Regional Trail Corridor Research



Prepared by:

The University of Texas at Arlington

Program in Landscape Architecture, School of Architecture and
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for

The University Partnership
North Central Texas Council of Governments



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The Ellis County-Midlothian to Waxahachie Trail Corridor Research project is a product of the North Central Texas Council of Governments (NCTCOG) and the University of Texas' University Partnership Program. Commissioned (funded) by NCTCOG, this research project is a collaborative activity led by the Program in Landscape Architecture in the School of Architecture at the University of Texas at Arlington (UT Arlington). The other major project partners include Ellis County, the City of Midlothian, the City of Waxahachie and research support by the Institute of Urban Studies in the School of Urban and Public Affairs (SUPA) at UT Arlington. The research project examines the alignment options and feasibility of constructing a regional shared-use path (trail) facility in Ellis County, Texas, linking the cities of Midlothian and Waxahachie and connecting to the larger Regional Veloweb (Dallas-Fort Worth's regional trail network) adopted by the Regional Transportation Council as part of the Metropolitan transportation plan. The project includes coordination with key stakeholders, examining existing conditions, community outreach, and preparation of alternative alignment options for public feedback. This report

details the preliminary alternative alignments and the final recommended trail alignment for the regional shared-use path, a diagrammatic plan, and the extent and character of the recommended facility design and amenities. It also outlines an opinion of probable costs associated with the project, and recommends strategies for the implementation.

Based on the study of existing conditions, follow-up reconnaissance, and documentation in the field, two alternative alignments were drafted. One (yellow route) generally followed Waxahachie Creek wherever possible, maximizing scenic value. The second (orange route) took advantage of the adjacency to the Union Pacific Railroad right-of-way where possible, thereby crossing fewer individual properties and resulting in a more linear (and arguably less scenic) route. The preliminary alternative routes were presented to the key client group (NCTCOG, City of Midlothian, City of Waxahachie, and Ellis County) for feedback, resulting in minor adjustments. The alternative alignments were then presented in a public meeting on October 13, 2014 attended by citizens and community leaders from Midlothian, Waxahachie, and the community of

Sardis.

Based on the public meeting feedback and subsequent review by the client group representatives and Union Pacific railroad, a recommended trail alignment was drafted. This recommended alignment takes advantage of a combination of public lands, large property holdings, existing railroad crossings and railroad right-of-ways, and adjacencies to maximize recreational and scenic value while minimizing the number of private properties crossed.

The length of the recommended trail route is 9.6 miles. It includes two major "gateway" park acquisitions, 8 trailheads, 25 trail bridges, and 6 railroad crossings. A concept-level budget forecasts overall costs for the trail to be \$1.5 million per mile, or \$14.4 million for the entire project. Recommended implementation strategies for the project, prepared by SUPA, are detailed in Chapter 8 and include funding strategies as well as recommended steps to accomplishing a completed trail.

INTRODUCTION

Ellis County is located in the north Texas region just south of Dallas County, Johnson County to the west, Kaufman County to the east, and Navarro County to the south. It was established in December 20, 1849 and currently has 149,610 residents stretched across its 952 square miles, (2010 US Census, 2014). The county seat is the City of Waxahachie which is located in the northwest quadrant of Ellis County. Bordering Waxahachie to its northwest is the City of Midlothian. Midlothian and Waxahachie offer their residents intricate park systems and trail networks with Midlothian having over 10 parks and Waxahachie boasting 18, (City of Midlothian Parks and Recreation 2013; City of Waxahachie Parks and Recreation Department 2014). Connecting these two major cities and their current trail systems to each other through a shared-use trail (pedestrian and bicycle) would not only provide an alternate mode of transportation between the two but would also improve the air quality, promote healthy lifestyle choices, and encourage cooperation between the two cities and Ellis County.

A diagrammatic alignment for the Regional Veloweb linking Midlothian to Waxahachie had been prepared by

NCTCOG using cooperative efforts through the local governments as part of the overall Veloweb plan adopted as part of the Metropolitan transportation plan. The UT Arlington team recognized the overarching aims of the Veloweb routing, and created two more detailed but still highly conceptual alignments, based on up-to-date aerial photography, GIS data and field reconnaissance. These two alignments were then critiqued and revised to create a final concept alignment. The final conceptual trail alignment was defined by the parallel alignments of the Union Pacific railroad, US 287 and Waxahachie Creek. Highway US 287 provides access to local businesses and ever growing residential and commercial developments while Waxahachie Creek concurrently enhances the rural and scenic experience with its multiple tributaries and wooded floodplain. All of these elements and more were taken into consideration when detailing the final recommended alignment. The following section details key aspects of the corridor's resources relative to feasibility of the proposed trail system.

INTRODUCTION

Research Process Summary

The research process explores alignment options and the feasibility of a regional shared-use path (trail) corridor study in Ellis County linking the cities of Midlothian and Waxahachie.

An initial briefing was held on February 7, 2014, with representatives from NCTCOG, Ellis County, the City of Midlothian and the City of Waxahachie, to identify each group's goals for the project, as well as their insights into the corridor's key features, opportunities, and constraints. This included identification of all public lands and easements, community facilities, cultural resources, and in-process planning for new developments in the corridor in various stages of study or completion.

In the months following the initial meeting, the team from UT Arlington analyzed existing conditions through previously prepared reports and studies as well as through existing mapping, aerial photography, and GIS files provided by NCTCOG, both cities, and the county. From these briefings and analysis, the team identified two alternative trail systems linking the two cities. The routes were then further studied through on-the-ground observation and photo

documentation of existing conditions in the proposed trail corridor.

The team then prepared diagrammatic, concept-level plans for each route based on key opportunities and constraints relative to trail system feasibility. The findings were then reviewed by the client group and key stakeholders with the feedback gained factored into the identification of the recommended trail route. A public meeting was held on October 13, 2014 to gain the valuable and necessary feedback from the residents of Ellis County, Midlothian, and Waxahachie. Moving forward with the information gathered from the public meeting, the UT Arlington team and NCTCOG reviewed the alternative trail system alignments with a representative from the Union Pacific railroad to determine how feasible the usage of their right of ways would be. Based on input from both public meeting and railroad consultation, a preliminary concept plan for the trail system was prepared and briefing held with representatives from NCTCOG, Ellis County, the City of Midlothian, and the City of Waxahachie. The trail alignment was adjusted and refined based on this final feedback.

Concept-level plans and illustrations of the extent, key features and character of the recommended route were prepared as well as opinions on probable costs and short and long term implementation strategies. This report, along with a presentation, documents the existing conditions, explains and analyzes the current conditions, provides key findings and final recommendations for the shared-use path (trail) corridor study in Ellis County.



INVENTORY AND ANALYSIS

INVENTORY AND ANALYSIS

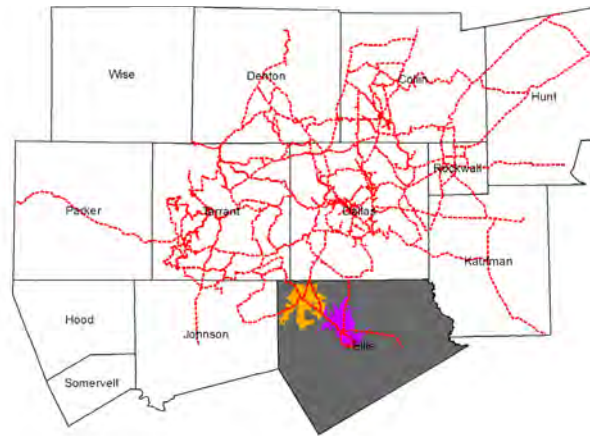
The Regional Veloweb

A regional shared-use path in Ellis County has long been a topic of discussion for the Cities of Midlothian and Waxahachie, as well as for Ellis County. It appears as a planned facility on NCTCOG's Regional Veloweb, the 12 county interconnected trail system concept that guides trail corridor planning and design in the region. Currently, the Regional Veloweb is a 1,728 mile network of existing and planned off-street, shared-use paths (trails) designed for use by bicyclists, pedestrians, and other non-motorized forms of active transportation in the Dallas-Fort Worth metropolitan area. The Regional Veloweb plans to connect more than 117 cities in North Texas. This study seeks to finalize a recommended alignment between Midlothian and Waxahachie in the Regional Veloweb, expand on the region's shared-use path system, and provide current documentation for future funding, and preliminary design and engineering by the cities of Midlothian and Waxahachie.

This research process references the Regional Veloweb when considering possible trail routes, and reflects NCTCOG's primary design criteria and considerations of the established regional shared-use paths (trails), which include:

- Easy access to neighborhoods, schools, parks, transit stops, employment centers, shopping, and other common trip destinations.
- Minimum 12-foot width for heavily traveled shared-use paths.
- 16- to 24-foot sections or separated facilities for pedestrians and bicyclists in areas with high peak-volumes of users.
- Long-lasting, impervious surfaces.

- Grade-separated crossings of roadways with significant traffic flow.
- Few, if any, signalized or stop sign intersections, (North Central Texas Council of Governments, 2014).
- Consistency with the guide for the development of Bicycle facilities, 2012 Fourth Edition by the American Association of State Highway and Transportation Officials (AASHTO).



This study examined the planned Regional Veloweb route and considered this conceptual alignment when determining the alternative and final recommended trail routes.

The North Central Texas Council of Governments Regional Veloweb Network is shown in red. Ellis County is highlighted, as are the cities of Midlothian (orange) and Waxahachie (magenta).

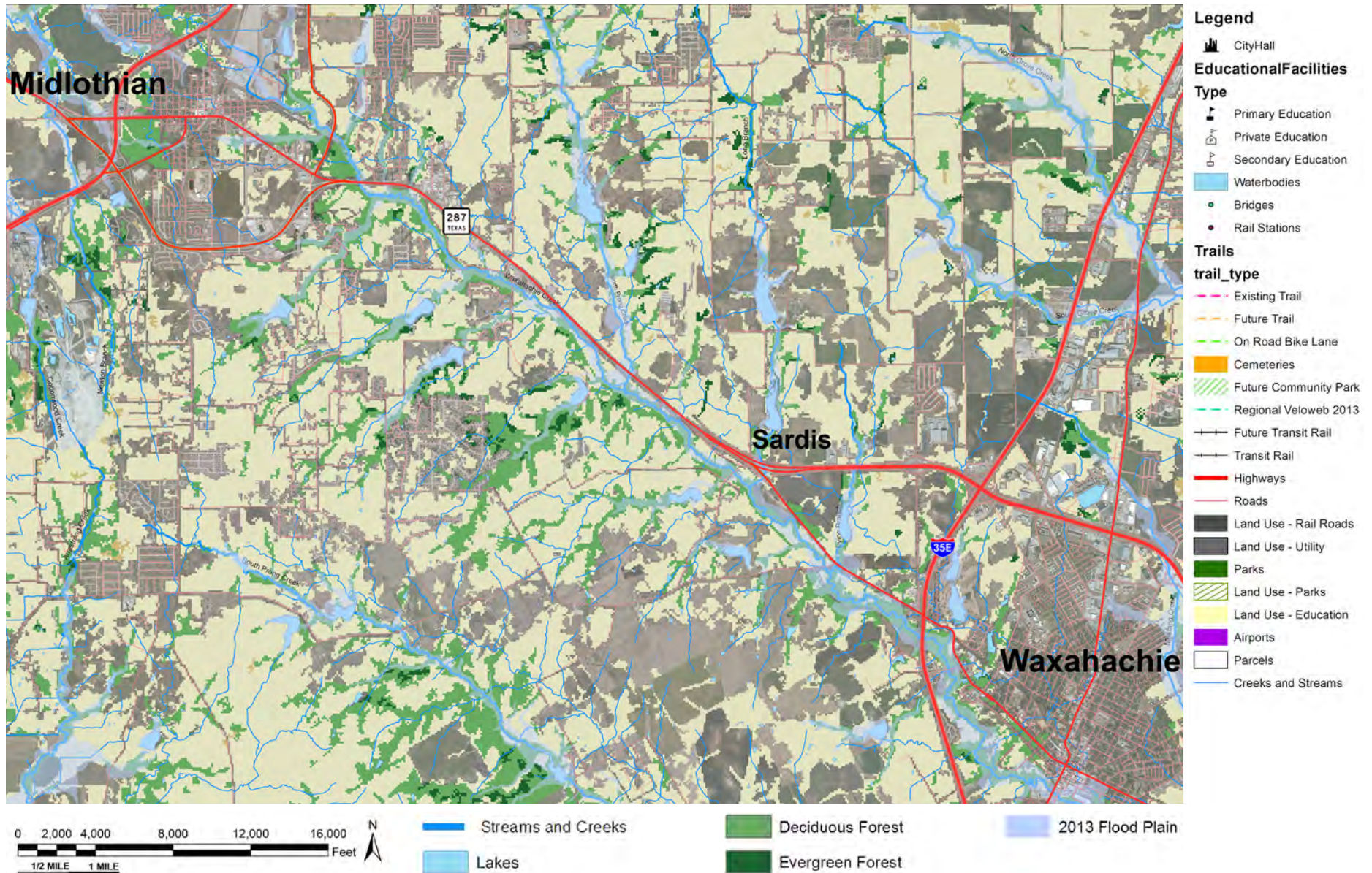
INVENTORY AND ANALYSIS

Natural Features Inventory

Data collection on natural features details the existing natural features of the land such as water, ground cover, topography, and vegetation. Natural features are important to consider when creating a trail route because understanding the lay of the land and the opportunities and constraints it presents helps determine the safest and most cost efficient way to build on it. Mapping the natural features also provides insights into the overall scenic quality and aesthetics of the corridor, which can be considered in planning a trail corridor. For this project, the Waxahachie Creek was a key component in the consideration of natural features relative to possible trail alignments. Other major features examined included tributary creeks and streams, lakes, topography, and its 100-Year Flood Plain has implications for trail materials and construction in that zone that must be addressed in later detailed design phases.

INVENTORY AND ANALYSIS

Natural Features Inventory



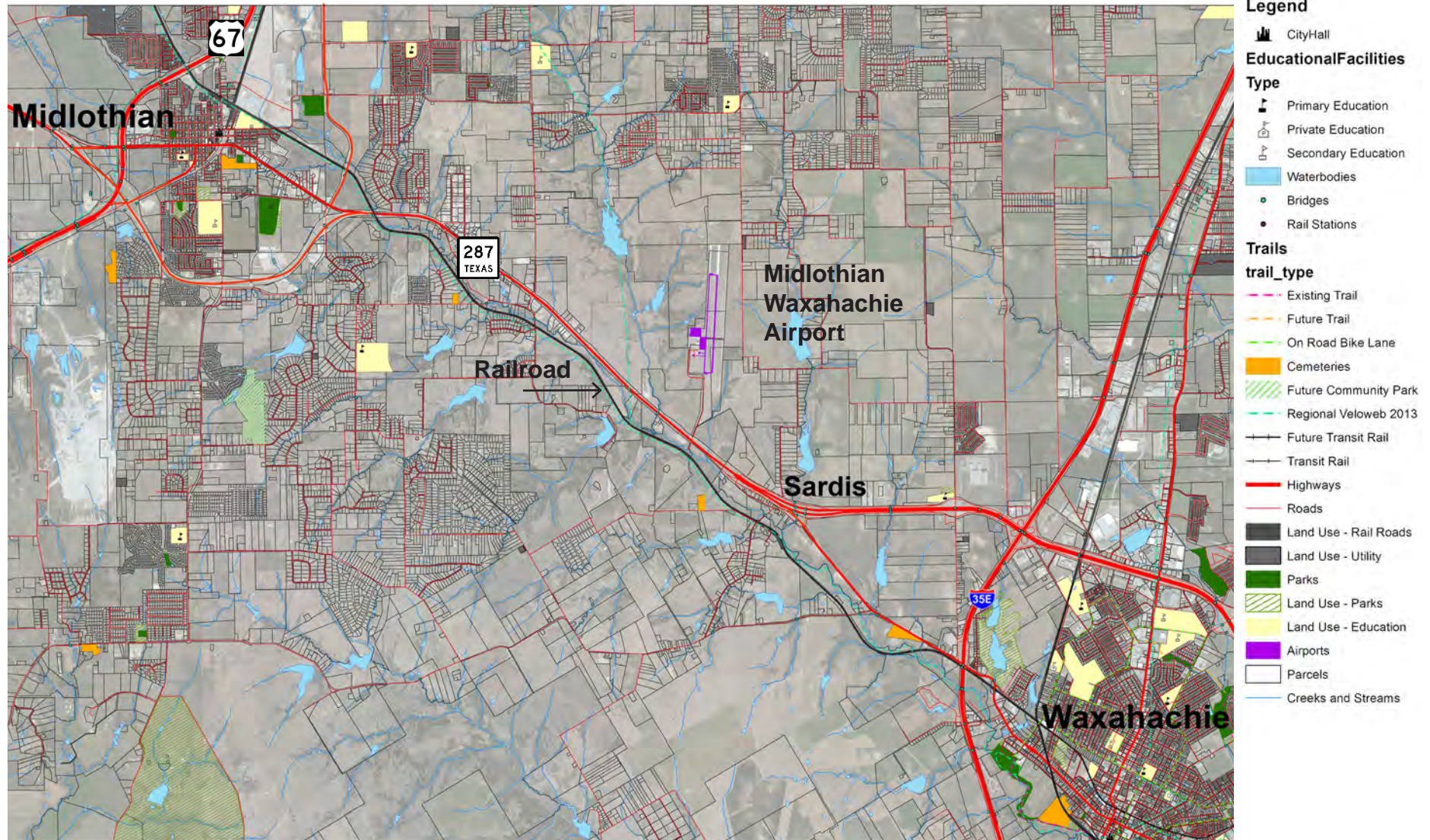
INVENTORY AND ANALYSIS

Human Features Inventory

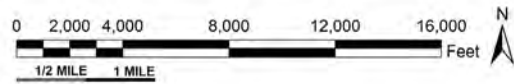
Human landscape and development features were analyzed in this research to help determine feasible preliminary trails routes as well. Human features are important to consider when providing access to residences, recreation, and work places. Along with the importance of accessibility is connectivity. Trail routes linking existing developments and populations provide another means of reaching destinations and connecting them to cultural resources such as parks, historic areas, and cemeteries. The locations of public lands and easements were important in order to minimize private land acquisitions. This research primarily looked at education facilities, parks, future transit plans, future development plans, and existing highways and roadways. U.S. Highway 287 and the Union Pacific railroad also played a crucial role in determining the trail alignment since both run relatively parallel to Waxahachie Creek, and the highway provides the primary means of access to many residences and businesses within the larger corridor. Alternative and final recommended trail alignments reflect the importance of providing trail access and connectivity for as many of these features along this corridor as feasible.

INVENTORY AND ANALYSIS

Human Features Inventory



- Legend**
- City Hall
 - Educational Facilities**
 - Type**
 - Primary Education
 - Private Education
 - Secondary Education
 - Waterbodies
 - Bridges
 - Rail Stations
 - Trails**
 - trail_type**
 - Existing Trail
 - Future Trail
 - On Road Bike Lane
 - Cemeteries
 - Future Community Park
 - Regional Veloweb 2013
 - Future Transit Rail
 - Transit Rail
 - Highways
 - Roads
 - Land Use - Rail Roads
 - Land Use - Utility
 - Parks
 - Land Use - Parks
 - Land Use - Education
 - Airports
 - Parcels
 - Creeks and Streams



- Existing Parks
- Highways
- Roads
- Primary Education
- Private Education
- Secondary Education
- Rail/Future Transit

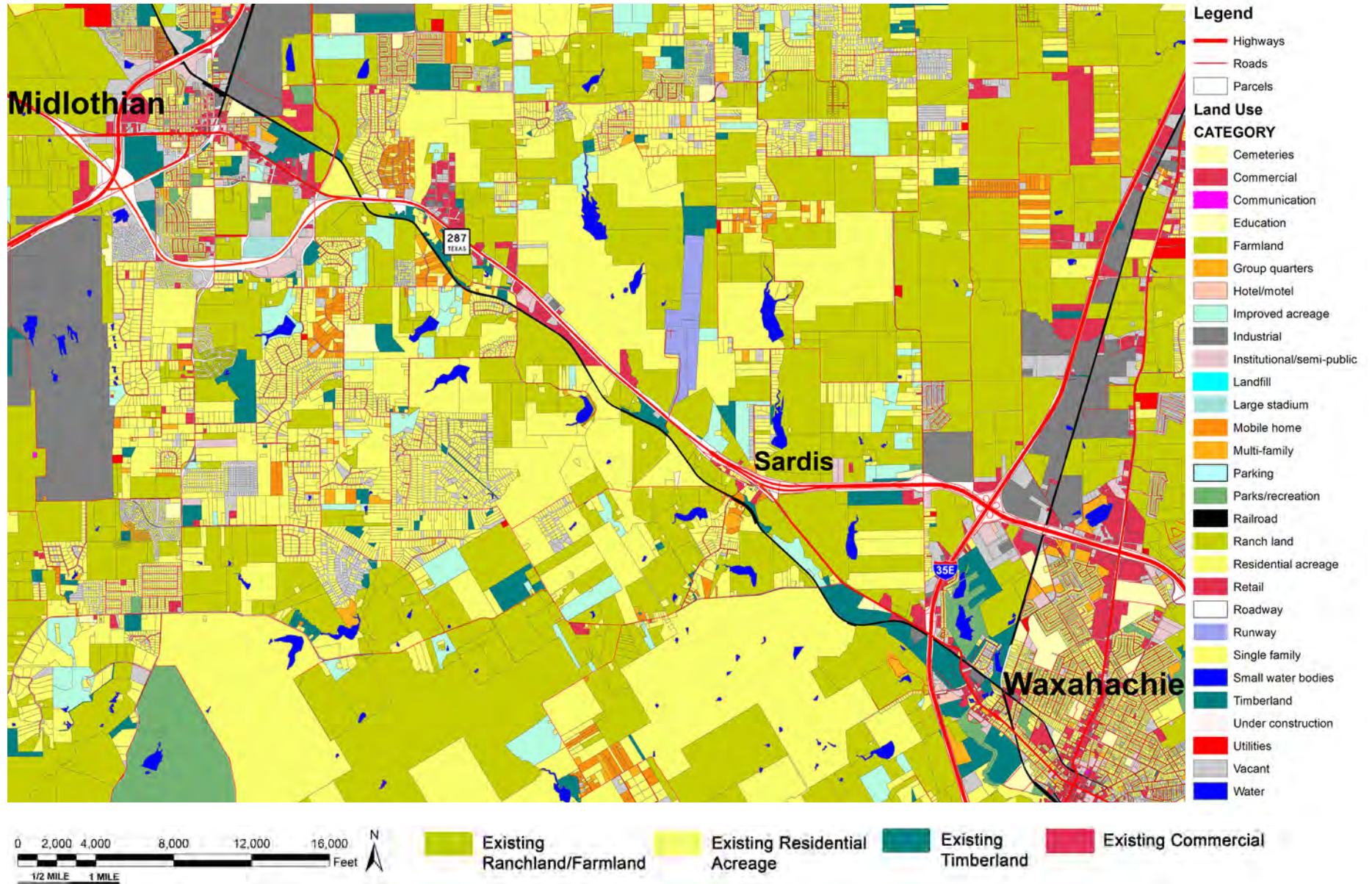
INVENTORY AND ANALYSIS

Land Use

As part of the human features analysis, land use was examined to gain an understanding of the opportunities and constraints posed by existing land use patterns and their implications for future growth for these two cities. Notable land use was residential, ranchland, commercial, and timberland. The team was particularly interested in taking advantage of public lands wherever possible, and in linking to future developments and populated areas while still trying to capitalize on the rural character and experiences offered by the corridor. Where possible, master plans for future developments in the corridor were examined to take advantage of planned trail and open space systems within those developments.

INVENTORY AND ANALYSIS

Land Use Map



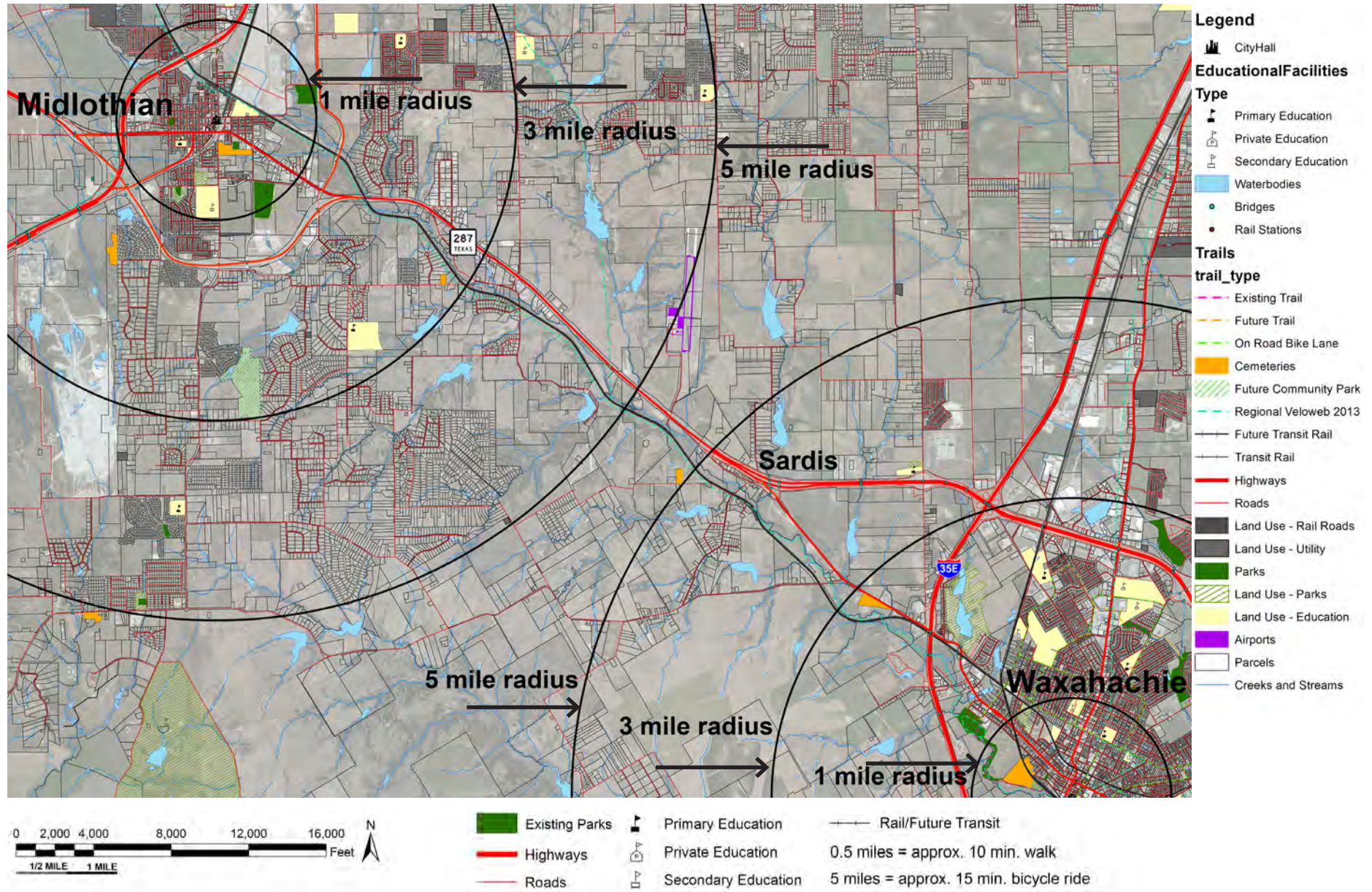
INVENTORY AND ANALYSIS

Distances, Proximity and Travel Time

The UT Arlington team utilized GIS to generate distance radii for one mile, three miles, and five miles from the downtowns of both Midlothian and Waxahachie in order to understand—and to easily communicate to others—the relative scale of the corridor, the approximate length of the proposed trail system, and approximate distances between key features that might be linked by the trail. These distances are important to aid the researchers in understanding and planning for both pedestrians and bicyclists, which experience the trail at different paces and have different criteria for a satisfactory trail experience.

INVENTORY AND ANALYSIS

Distance Relationship Map



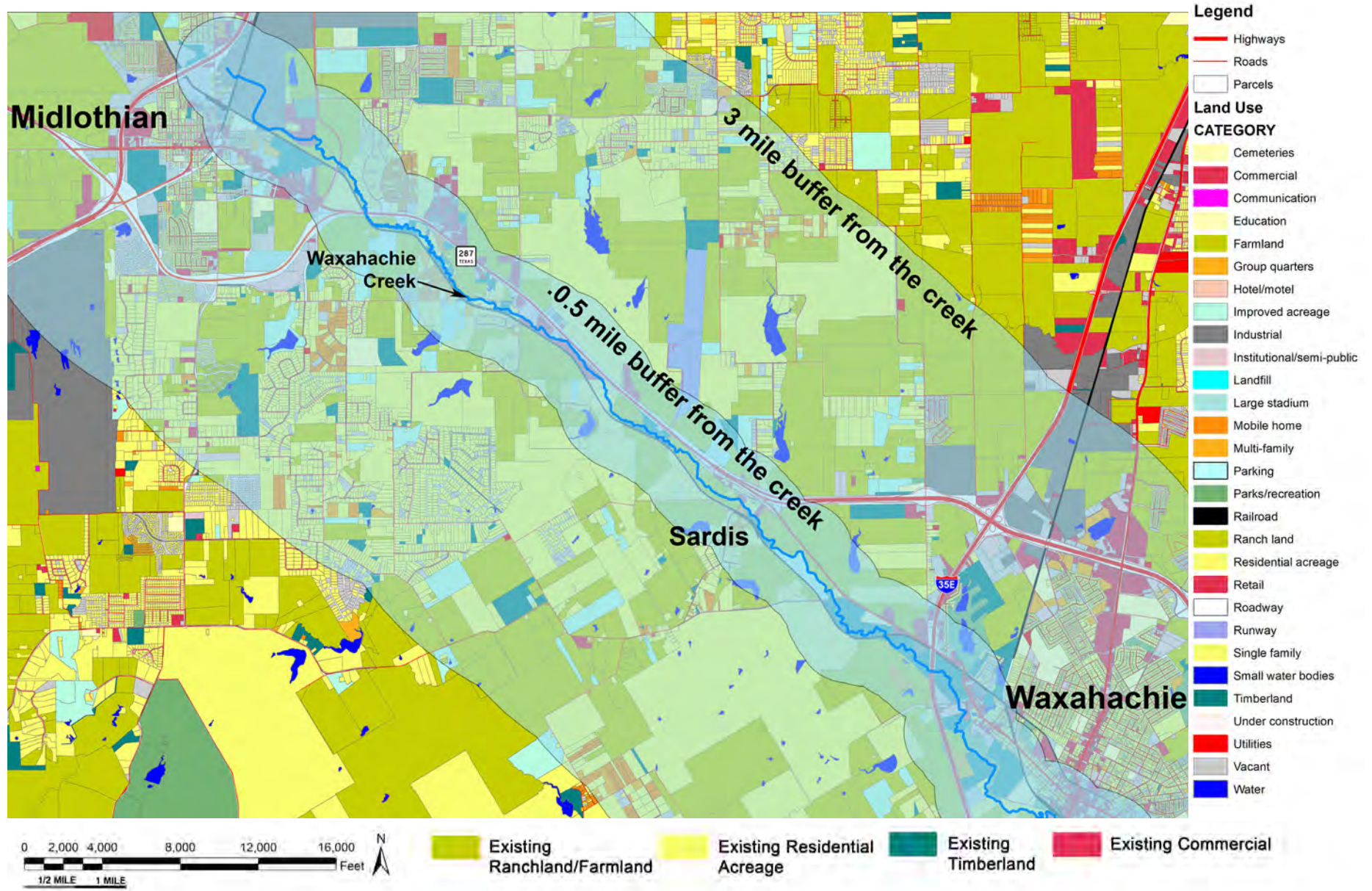
INVENTORY AND ANALYSIS

Distances, Proximity and Travel Time

Consideration was also given to the distance proximity to Waxahachie Creek and associated travel times by walking and by bicycle. A half mile buffer was drawn from the creek to determine a reasonable walking distance from it. Travel time for someone leisurely walking a half mile is roughly a 10 minute walk. The UT Arlington team was also interested in the 3 mile distance from the creek, as the average time to bike 3 miles is 15 minutes. These distances and associated travel times help determine which key features in the corridor, such as residential areas, parks, schools and cultural resources—might reasonably be linked to the main trail by secondary trails. The distance and proximity maps also reveal that it's roughly 10.5 miles between the two cities' downtowns, and therefore it would take someone roughly 3.5 hours to walk and approximately 1 hour to bike that distance.

INVENTORY AND ANALYSIS

Proximity to Trail Corridor Map



INVENTORY AND ANALYSIS

Recent and Future Developments

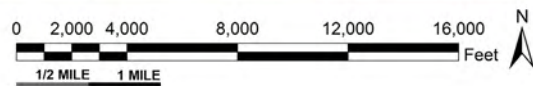
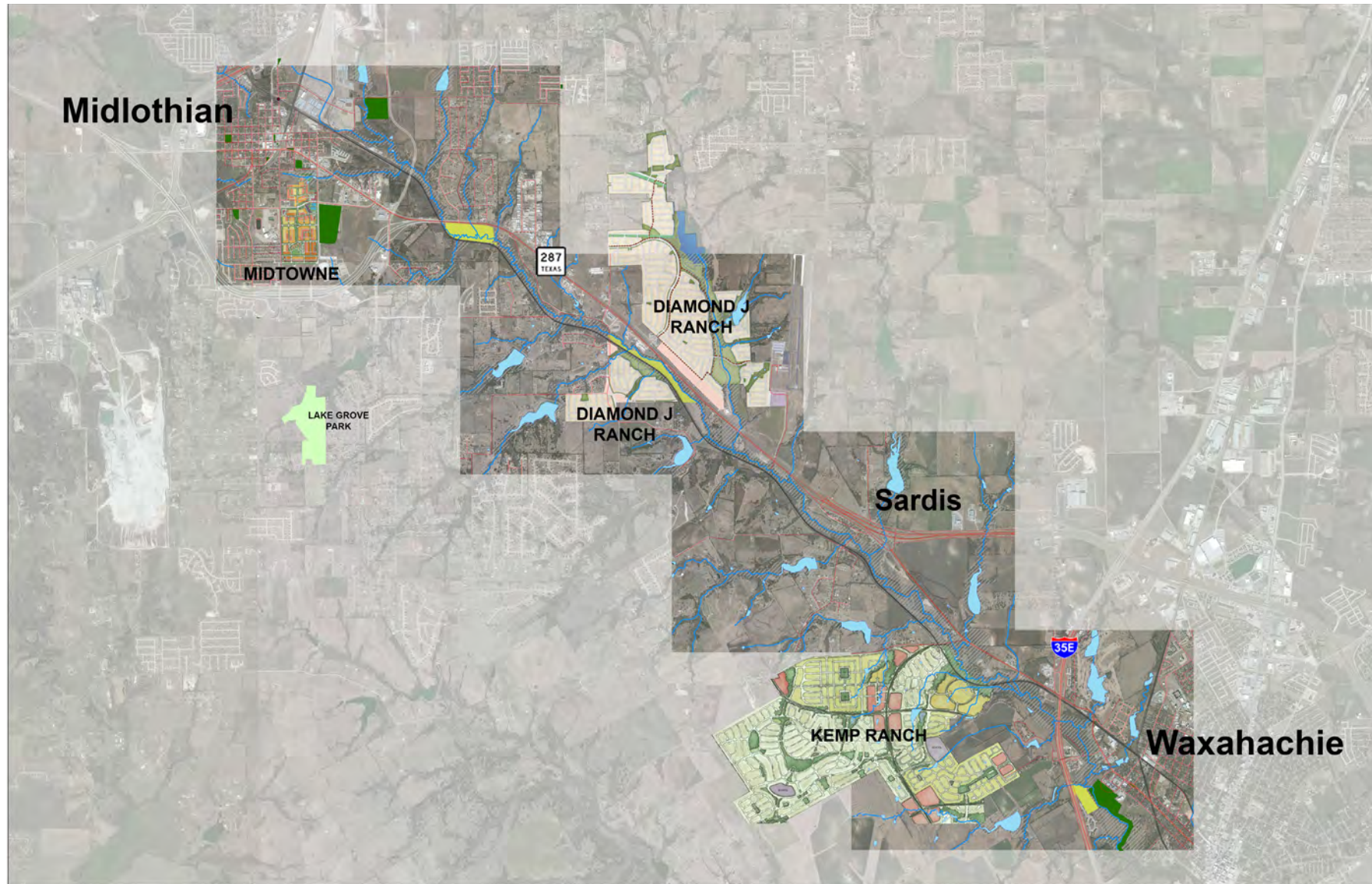
Future development plans and ongoing development were also taken into consideration. City staff identified two major developments planned for the corridor – Diamond J Ranch on the southeast side of Midlothian and Kemp Ranch on the northwest side of Waxahachie. These two developments were incorporated into the corridor analysis, and studied to determine how to take best advantage of their planned greenways and parks as key linkages in the larger, corridor-wide trail system. Midtowne, a development just south of downtown Midlothian, is an ongoing development under construction that was also included in trail routing considerations.

Key Field Observations

Site visits with extensive photo documentation and interpretation yielded a number of key observations that also played an important role in determining the trail alignments. A selection of these observations and issues are noted below along with corresponding photographs.

INVENTORY AND ANALYSIS

Recent and Future Development Map



INVENTORY AND ANALYSIS

Site Images



Historic character of downtown Waxahachie.



Stone marker at head of Waxahachie Creek Hike Bike Trail in Getzendaner Park.



Design character of existing Waxahachie Creek Hike Bike Trail in Getzendaner Park.



Opportunity for trail to pass under existing I-35E frontage next to Waxahachie creek.

INVENTORY AND ANALYSIS

Site Images



Existing F.M. Road 875 near the north side of the proposed Kemp Ranch development.



Existing Union Pacific right-of-way at F.M. 875.



Home in the community of Sardis.

INVENTORY AND ANALYSIS

Site images



A trailhead site is recommended for currently undeveloped land on Shady Grove Road, behind this travel center on the south side of U.S. 287 in Midlothian.



Character of existing bridge over Waxahachie Creek on Zion Road in Midlothian.



Existing Union Pacific right-of-way crossing Zion Road in Midlothian.

INVENTORY AND ANALYSIS

Site Images



Character of Waxahachie Creek near recommended gateway trailhead and parkland acquisition in Midlothian.



Undeveloped property south of U.S. 287 where the highway crosses Waxahachie Creek presents an opportunity for park and trailhead development.



Opportunity for proposed trail to cross under existing U.S. 287 at Waxahachie Creek, south side of Midlothian.



Google Maps 2014

Character of historic downtown Midlothian.

PRELIMINARY TRAIL ROUTE ALTERNATIVES

PRELIMINARY TRAIL ROUTE ALTERNATIVES

The roughly parallel routes of U.S. Highway 287, Union Pacific Railroad and Waxahachie Creek established the linear corridor within which potential trail routings were explored. Ultimately two alignments were found to represent divergent alternatives. The two routes are depicted in yellow and orange on the maps. While the routes have similarities and overlaps, they represent different approaches to siting the trail facilities. The yellow route generally stays closer to Waxahachie Creek, following its bends and turns through the wooded floodplain to provide interest with a more curvilinear alignment and to maximize the scenic quality of the trail system. The orange route takes advantage of railroad right-of-way adjacency where possible, resulting in much longer, straighter lengths of trail, while providing other unique opportunities along the corridor, such as longer views across rural countryside. Detailed design for both routes would need to be coordinated with Union Pacific Railroad, which would require that the trail segments

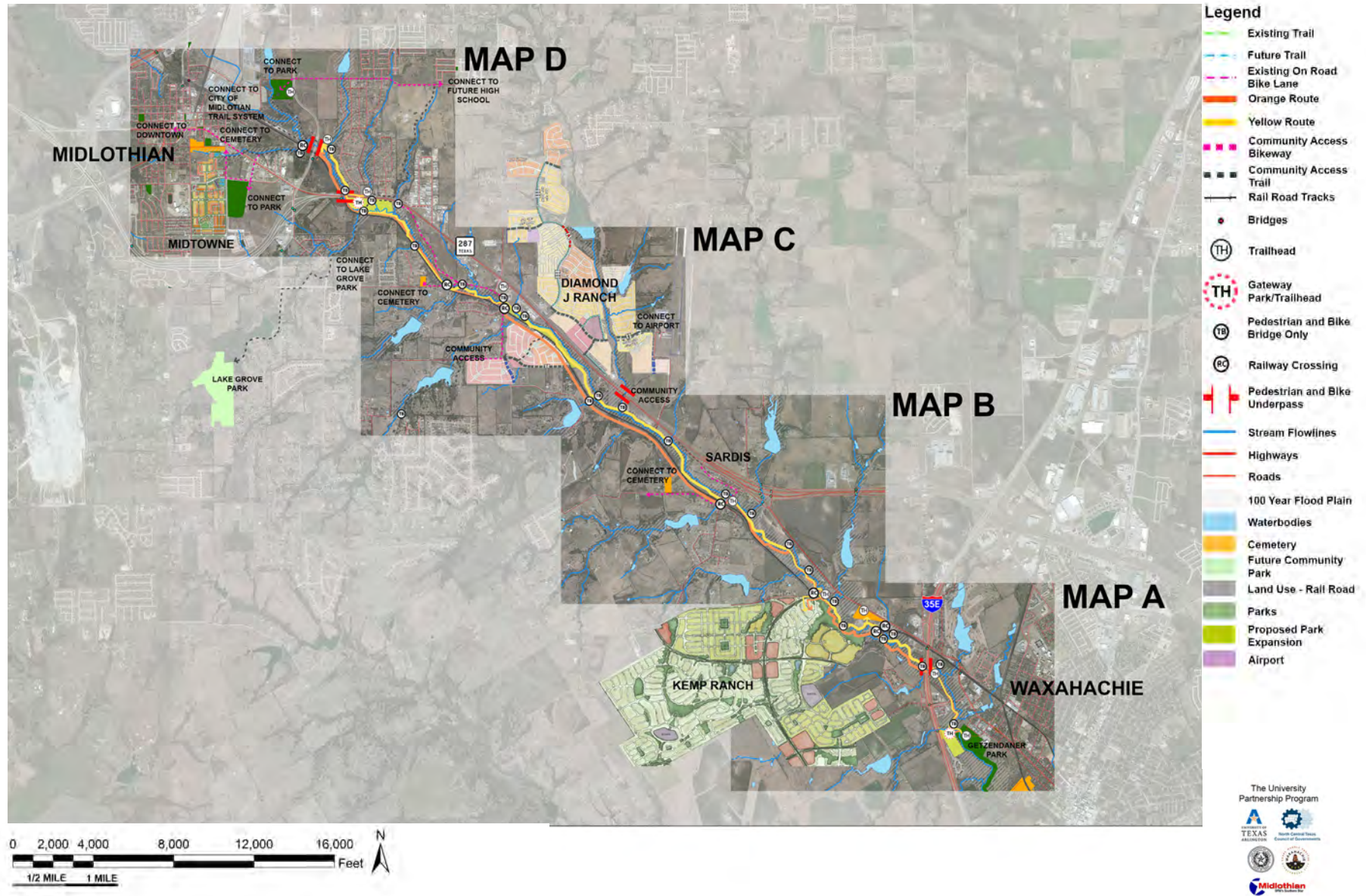
adjacent to their right-of-way be 30 feet from the tracks, that fencing be erected between the trail and the right-of-way, that crossings be limited to existing crossing locations wherever possible, and other requirements and considerations outlined in Appendix A. This section of the report describes both the yellow and orange alignments so that the reasons and sense behind each can be understood. These maps illustrate, at a concept level, where proposed trail bridges, potential railroad crossings, community access bikeways, community access trails, trail heads, two major gateway parks, and proposed park expansions are recommended. The map also delineate Community Access Bikeways, on-road bicycle routes on existing rural roads designated with "Share the Road" signage and shared lane markings, and Community Access Trails, off-road trails that could offer access to destinations off the main trail route in future phases of the trail system's development.

Legend

 Orange Route	 Regional Veloweb 2013	 100 Year Flood Plain	 Parks	 Pedestrian and Bike Bridge Only
 Yellow Route	 Stream Flowlines	 Waterbodies	 Proposed Park Expansion	 Railway Crossing
 Community Access Trail	 Highways	 Cemetery	 Bridges	 Pedestrian and Bike Underpass
 Community Access Bikeway	 Roads	 Future Community Park	 Trailhead	 Gateway Park/Trailhead

PRELIMINARY TRAIL ROUTE ALTERNATIVES

Overall Trail Alignment Map



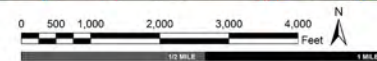
PRELIMINARY TRAIL ROUTE ALTERNATIVES

Trail Map A

A proposed trail head in Getzendaner Memorial Park in Waxahachie provides an excellent southern starting point for both trails and provides connection to the City's extensive existing trail system serving rest of the community. From there, yellow and orange routes move west where there currently is an open space adjacent to the IH-35E frontage road and to existing multi-family development, making it ideal for a new main trail head park. This space could be a place where people park for the day to utilize the trail and its features. The yellow trail then moves north following Waxahachie Creek on the southern side until it reaches Interstate IH-35E, where it crosses to the north side of the creek on a proposed trail bridge and continues to follow the creek along the north side, crossing under the existing railroad trestle and making a connection to Rosemont Cemetery as it continues northward. At Interstate 35E, the orange route diverges from the yellow, staying on the south side of Waxahachie Creek, following it to the existing Union Pacific freight rail line where it crosses under the existing rail



Trail Concept Map A



trestle and positions itself between the rail line and Waxahachie Creek. The two trail alignments converge just south of FM 875 and where both take advantage of an

existing rail crossing to make a connection into the future Kemp Ranch development before heading northward on the south side of Waxahachie Creek.

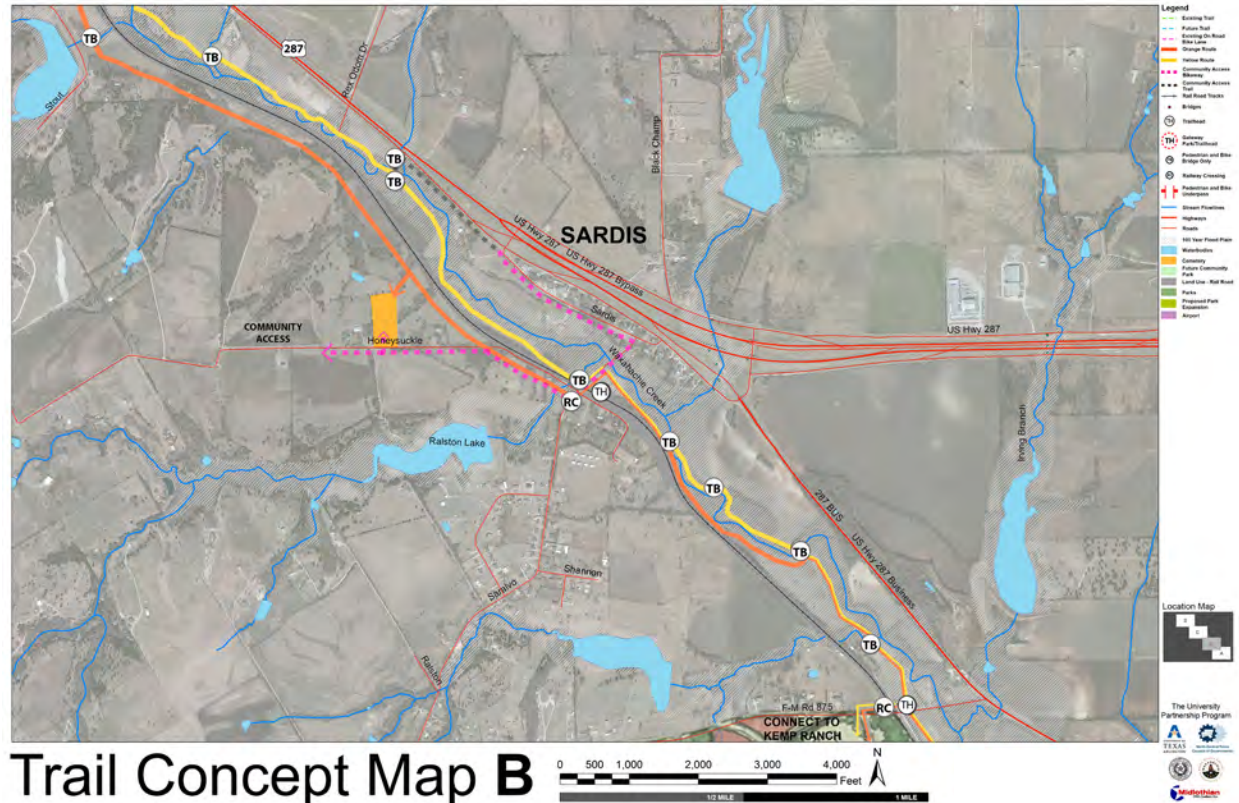
Legend

- | | | | | |
|--------------------------|-----------------------|-----------------------|-------------------------|---------------------------------|
| Orange Route | Regional Veloweb 2013 | 100 Year Flood Plain | Parks | Pedestrian and Bike Bridge Only |
| Yellow Route | Stream Flowlines | Waterbodies | Proposed Park Expansion | Railway Crossing |
| Community Access Trail | Highways | Cemetery | Bridges | Pedestrian and Bike Underpass |
| Community Access Bikeway | Roads | Future Community Park | Trailhead | Gateway Park/Trailhead |

PRELIMINARY TRAIL ROUTE ALTERNATIVES

Trail Map B

In Trail Map B both trail alignments are moving north until a major bend in Waxahachie Creek where the yellow route crosses to the north of the creek to avoid very narrow corridor conditions, while the orange remains south. The two converge again just south of the community of Sardis where they follow the creek on the south side. Both trails take advantage of Saralvo Road for a short distance and then diverge, with the yellow route roughly follows the creek, crossing on new trail bridges where necessary, while the orange route crosses the rail line at Saralvo Road and runs northward along the south side of the rail right-of-way. Honeysuckle Road provides an on-road Community Access bikeway opportunity to a nearby cemetery and outlying residences.



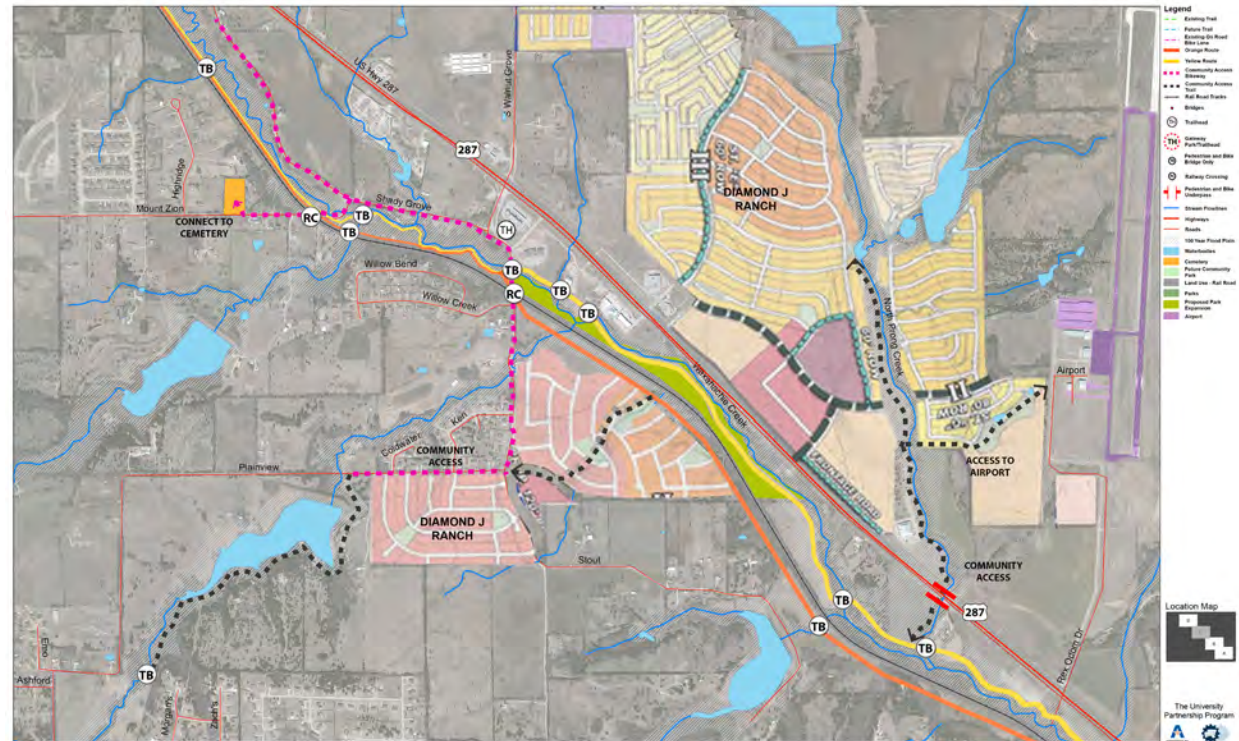
Legend

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|--------------------------|-----------------------|-----------------------|-------------------------|---------------------------------|
| Orange Route | Regional Veloweb 2013 | 100 Year Flood Plain | Parks | Pedestrian and Bike Bridge Only |
| Yellow Route | Stream Flowlines | Waterbodies | Proposed Park Expansion | Railway Crossing |
| Community Access Trail | Highways | Cemetery | Bridges | Pedestrian and Bike Underpass |
| Community Access Bikeway | Roads | Future Community Park | Trailhead | Gateway Park/Trailhead |

PRELIMINARY TRAIL ROUTE ALTERNATIVES

Trail Map C

Trail Map C has the yellow route moving north on the north side of Waxahachie Creek. It offers an opportunity to connect to the Diamond J Ranch development via a Community Access trail that proposes to retrofit an existing box culvert under U.S. 287, creating a trail underpass, then following the North Prong Creek. The yellow trail continues northward to take advantage of a large strip of public land owned by the City of Midlothian, crosses Shady Grove Road and continues northward. The orange route follows the south side of the rail right-of-way until it reaches Shady Grove Road where it reconnects with the yellow route. Both trail alignments continue north along the south side of Waxahachie Creek, where restricted space in the corridor pushes both alignments to hug the north side of the railroad right-of-way. A trailhead which could serve either alignment is proposed for undeveloped land immediately south of the travel center on the U.S. 287 frontage road.



Trail Concept Map C

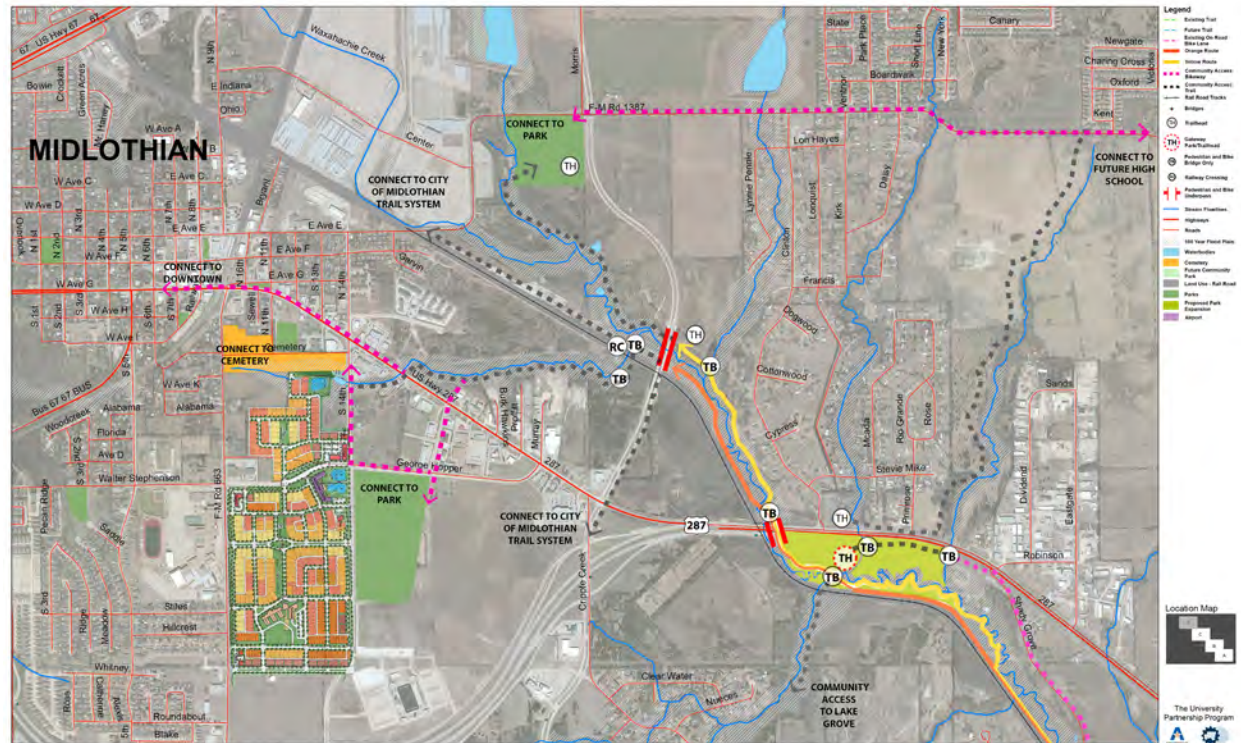
Legend

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|--------------------------|-----------------------|-----------------------|-------------------------|---------------------------------|
| Orange Route | Regional Veloweb 2013 | 100 Year Flood Plain | Parks | Pedestrian and Bike Bridge Only |
| Yellow Route | Stream Flowlines | Waterbodies | Proposed Park Expansion | Railway Crossing |
| Community Access Trail | Highways | Cemetery | Bridges | Pedestrian and Bike Underpass |
| Community Access Bikeway | Roads | Future Community Park | Trailhead | Gateway Park/Trailhead |

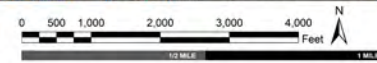
PRELIMINARY TRAIL ROUTE ALTERNATIVES

Trail Map D

On the Trail Map D, the yellow route splits to intricately wind its way along the south side of Waxahachie Creek while the orange route follows the north side of the rail right-of-way. An expanse of undeveloped property on the south side of 287 provides a significant opportunity for a “gateway park” with a larger main trail head that would provide a parkland anchor on the Midlothian side of the regional share-use trail, similar to the trail system anchor function Getzendaner Memorial Park provides in Waxahachie. The two trail alignments converge again to cross under the major underpass on U.S. Highway 287. At this point the yellow alternative continues on the north side of the creek, which provides easy access for adjacent residential development, but may require easements through the backs of those properties. The orange route crosses to the south side of the creek via a proposed bridge just north of U.S. Highway 287. The orange route stays closer to the freight rail and remains



Trail Concept Map D



in nicely with the City of Midlothian’s trail system closer to downtown Midlothian.

Legend

- | | | | | |
|--------------------------|-----------------------|-----------------------|-------------------------|---------------------------------|
| Orange Route | Regional Veloweb 2013 | 100 Year Flood Plain | Parks | Pedestrian and Bike Bridge Only |
| Yellow Route | Stream Flowlines | Waterbodies | Proposed Park Expansion | Railway Crossing |
| Community Access Trail | Highways | Cemetery | Bridges | Pedestrian and Bike Underpass |
| Community Access Bikeway | Roads | Future Community Park | Trailhead | Gateway Park/Trailhead |

PRELIMINARY TRAIL ROUTE ALTERNATIVES

Summary of Observations

As stated previously, the alternative trail alignments both navigate a relatively narrow corridor defined by U.S. Highway 287, the Union Pacific railroad right-of-way, and Waxahachie Creek to link to a major park in Waxahachie and a major park opportunity in Midlothian. The alternative trail alignments have different implications in terms of the length of trail and number of key trail system elements required. The yellow route is consciously sited to maximize views to the creek, resulting in a more curvilinear and, arguably, more scenic trail alignment. The orange route takes advantage of railroad right-of-way adjacency where possible, resulting in more long, straight trail segments which minimizes the need to acquire property or easements. Both alignments are viable, and the issues they raise require stakeholder and community input to weigh their relative benefits, drawbacks and trade offs. The alternative trail alignments have different implications in terms of the length of trail and number of key trail system elements required (see table at right).

	Yellow Route	Orange Route
Length of Trail:	11.1 miles	11.3 miles
Trailheads:	7	7
Trail Bridges	15	17
Existing at-grade Railroad Crossings used	6	2
Properties crossed	50	65
Miles of Railroad ROW adjacency	6.6	.6

PUBLIC AND STAKEHOLDER INPUT

PUBLIC AND STAKEHOLDER INPUT

Public Meeting



A public meeting was held on October 13, 2014 for the UT Arlington team and NCTCOG staff to present the two alternative routes. The public was invited to attend this presentation and voice their feedback and concerns. Approximately 40 citizens attended the two-hour meeting, which included a presentation of the study process and preliminary findings, opportunities for citizens to publicly voice their input, and one-on-one discussions using the corridor maps as references. Out of the scores of comments received, a few major themes emerged:

- Support for a continuous shared-use path linking the cities
- Support for collaborative efforts between the cities

- Concerns over trail route crossing specific private properties, especially in the Sardis area.
- Concerns over trail interrupting use of adjacent private property and businesses, especially in the Sardis area.

The public meeting provided critical input to help better understand the corridor's opportunities and constraints, and to guide routing criteria to refine a recommended trail alignment to reflect and balance the public's interests. The meeting was followed by consultation between the UT Arlington team and representatives of NCTCOG, Ellis County, the City of Waxahachie and the City of Midlothian to compare impressions and to use the public input to refine a recommended

alignment.

Union Pacific Railroad Consultation

Following the public meeting in October, the UT Arlington team and NCTCOG met with a representative of the Union Pacific Railroad to review trail system recommendations in light of regulations in utilizing the railroad's right-of-way. The purpose of the meeting was to provide an overview of the Ellis County Regional Trail Corridor project and to learn about the railroad's policies and requirements concerning paths (trails) in proximity to the rail lines, including possible crossing locations. Overall, the Union Pacific was receptive to cooperative efforts to create a safe environment for a shared-use path. A few key points from the meeting:

PUBLIC AND STAKEHOLDER INPUT

- There is no set schedule for the trains traveling along this corridor.
- The trail cannot be constructed within railroad right-of-way except in limited situations where the trail is approved by Union Pacific.
- Trails are not typically permitted within 30 feet of the railroad track.
- At-grade trail crossings are preferred in locations where there is an existing roadway crossing.
- All areas are context sensitive and would be reviewed on an individual basis by Union Pacific Railroad. Based on feedback to the alternative trail alignment concepts from NCTCOG and community representatives, Union Pacific and the public meeting, the UT Arlington team crafted a preferred trail alignment. The most significant modifications were designed to reflect private property concerns; in some areas a new symbol was introduced indicating a trail route alternative in instances where the main recommended route became unfeasible.
- The complete meeting minutes of the Union Pacific Railroad consultation comprise Appendix A of this report.



RECOMMENDED TRAIL PLAN

RECOMMENDED TRAIL PLAN

Recommended Trail Corridor Concept

The recommended trail plan described on the following pages incorporates a number of adjustments that reflect discussion and input from the public meeting, from stakeholder review and from consultation with Union Pacific. The resulting recommended trail route, shown as a solid yellow line, is 9.6 miles in length. This route incorporates 10 trailheads and 20 trail bridges. It makes use of 8 railroad crossings on existing roads, which will likely require modification to accommodate trail users. An alternative route, shown as a dotted yellow line, is indicated for consideration if development of the recommended route becomes unfeasible. The key features of the recommended trail system appear on the map legend, and include:

Trail route: The yellow line is the recommended alignment for the proposed trail. It is envisioned to be a 12-ft. wide, hard surface trail. The recommended alignment is 9.6 miles in length. The trail engineering design and construction would be consistent with the AASHTO guide for the development of bicycle facilities.

Alternate route: This alignment is suggested if development of the recommended route becomes unfeasible.

Community Access Bikeway: These routes are on existing roadways, providing access to residential areas, cultural resources and other points of interest off the main trail route. In most areas they would not require additional construction, and would be designated with “Share the Road” signage. In most instances a separate trail adjacent to the roadway is not recommended due to the challenges they pose, including coordination with utilities and light poles, narrow right-of-way constraints, curb cuts and driveways, and accommodation of future roadway widening plans.

Community Access Trail: These are hard surface “spur” trails off the main trail, providing access to residential areas, parks and other points of interest.

Future Trail (Diamond J Ranch): This trail facility appears in the current plans for the Diamond J Ranch development.

Trailhead: Trailheads provide “starting points” for the trail and should include, at a minimum, a paved parking area (size to be determined by area available and popularity of trailhead), signage, restrooms and a water fountain.

Gateway park/trailhead: These are recommended trailhead locations that offer opportunities for associated parkland acquisition and development.

Pedestrian and bike bridge only: A 12-wide (minimum) trail bridge designed to accommodate walkers and cyclists.

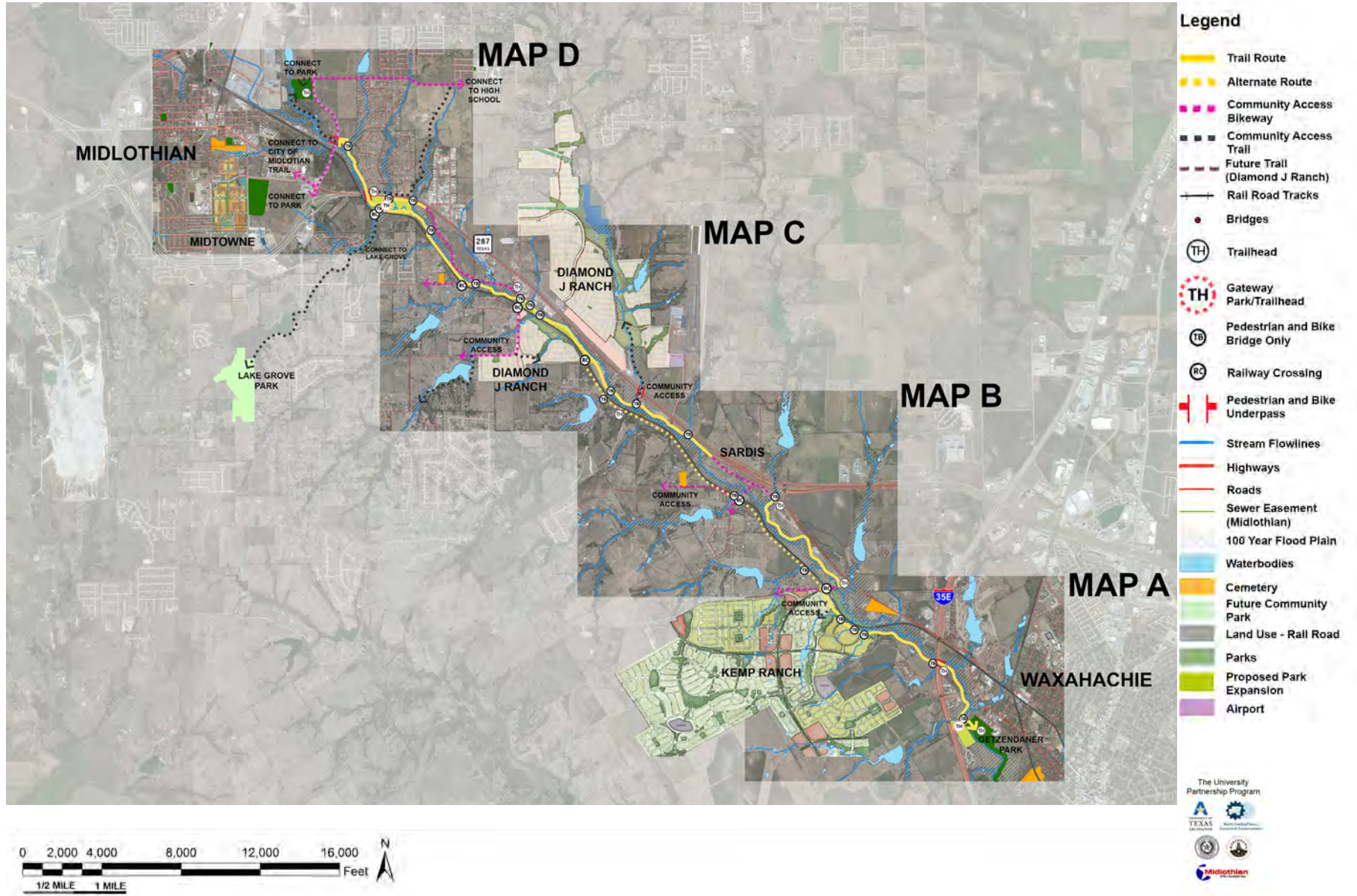
Railway crossing: These are existing roadway crossings of the Union Pacific railroad right-of-way which would likely require some modification to safely accommodate a trail crossing.

Note: Throughout the corridor, consideration may be given for supplemental equestrian and/ or soft surface nature paths generally parallel to the hard surface path.

RECOMMENDED TRAIL PLAN

RECOMMENDED TRAIL PLAN

Recommended Trail Corridor Concept



RECOMMENDED TRAIL PLAN

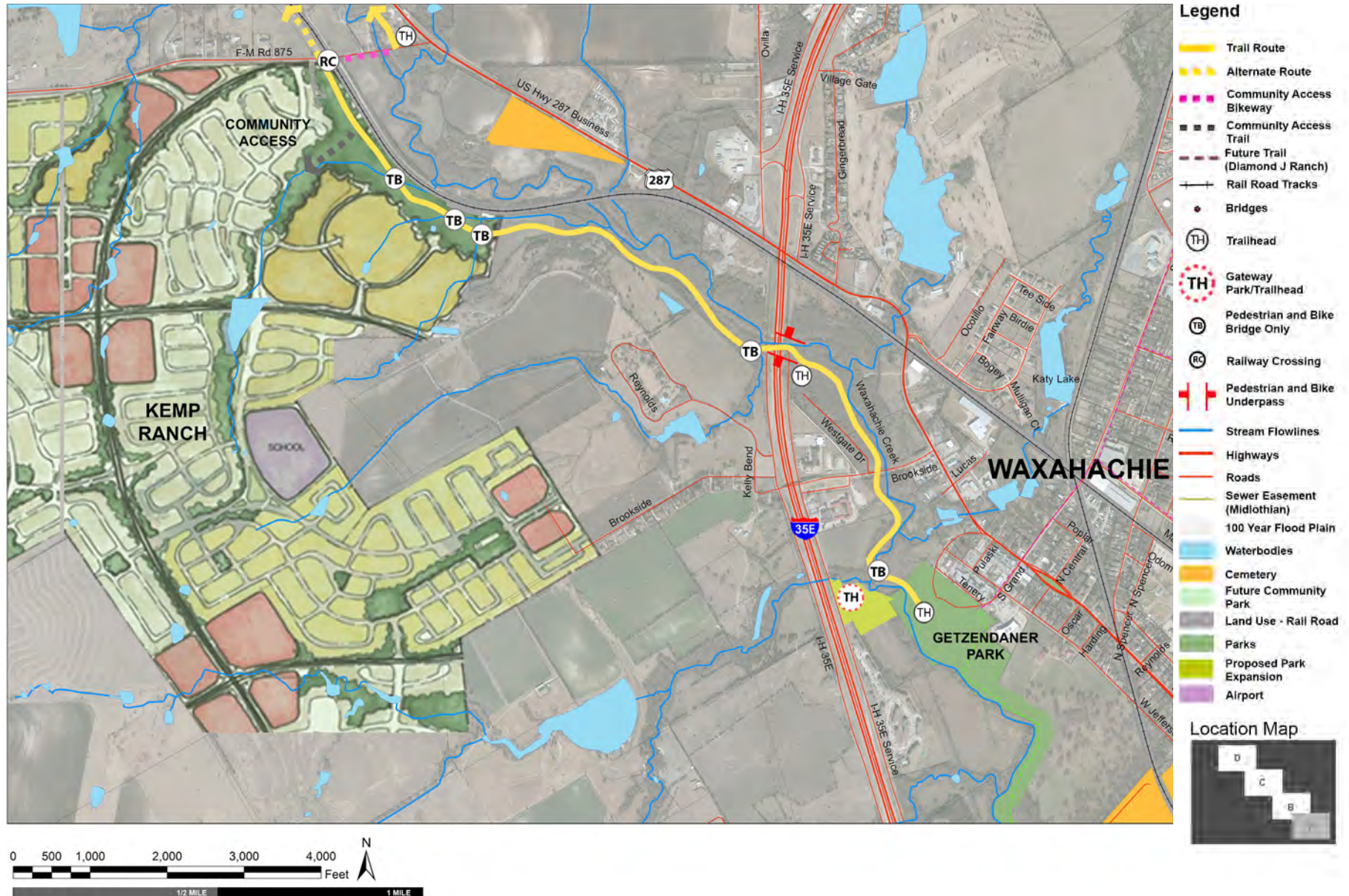
Trail System Concept Map A

Map A starts off in Getzendaner Park in Waxahachie. The trailhead is located on the northern side of the park. Adjacent to Getzendaner, the team proposes the acquisition of land for a small “gateway” park to accommodate a larger trailhead with access from the frontage road of IH-35E. The location of the proposed trailhead is convenient for local residents as well as for tourists arriving via the Interstate. The trail exits Getzendaner Park following Waxahachie Creek on the northern side. Once out of the park, a new trail bridge crosses a tributary to place the trail on the south side of Waxahachie Creek. The trail goes under IH-35E on the south side of the creek and parallels the creek to the proposed Kemp Ranch Development. At this point, the trail is intended to tie into the development’s proposed open space network for future community access. The trail alignment continues north to FM Road 875, where the trail heads east on the road right-of-way as a Community Access

Bikeway to another trailhead just on the west side of US Highway 287. There is also a proposed alternative routing along the southern edge of the Union Pacific right-of-way to be considered if there are issues acquiring land or easements for the primary route. This alternative could also be used as a loop to be considered as an addition to the primary route.

RECOMMENDED TRAIL PLAN

Trail System Concept Map A



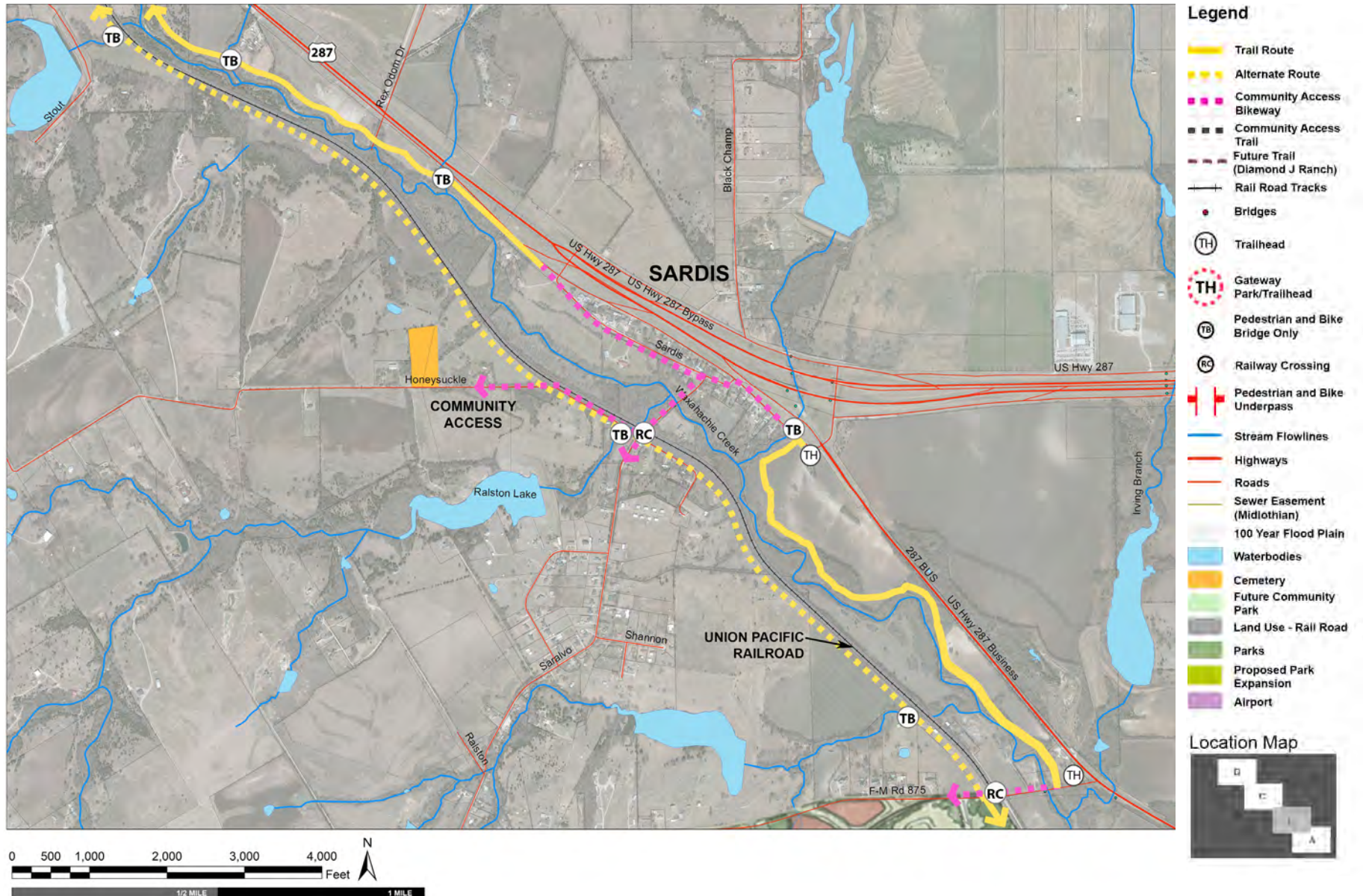
RECOMMENDED TRAIL PLAN

Trail System Concept Map B

The primary trail alignment continues northwards from FM 875, winding along the north side of Waxahachie Creek. Reflecting community input, the route chosen through the community of Sardis utilizes public road rights-of-way to least impact the private property owners in that community. The alignment runs along Sardis Road in Sardis and continues north between US Highway 287 and Waxahachie Creek. The alternative alignment introduced in Map A runs adjacent to the south side of the Union Pacific railroad right-of-way along this portion of the corridor.

RECOMMENDED TRAIL PLAN

Trail System Concept Map B



RECOMMENDED TRAIL PLAN

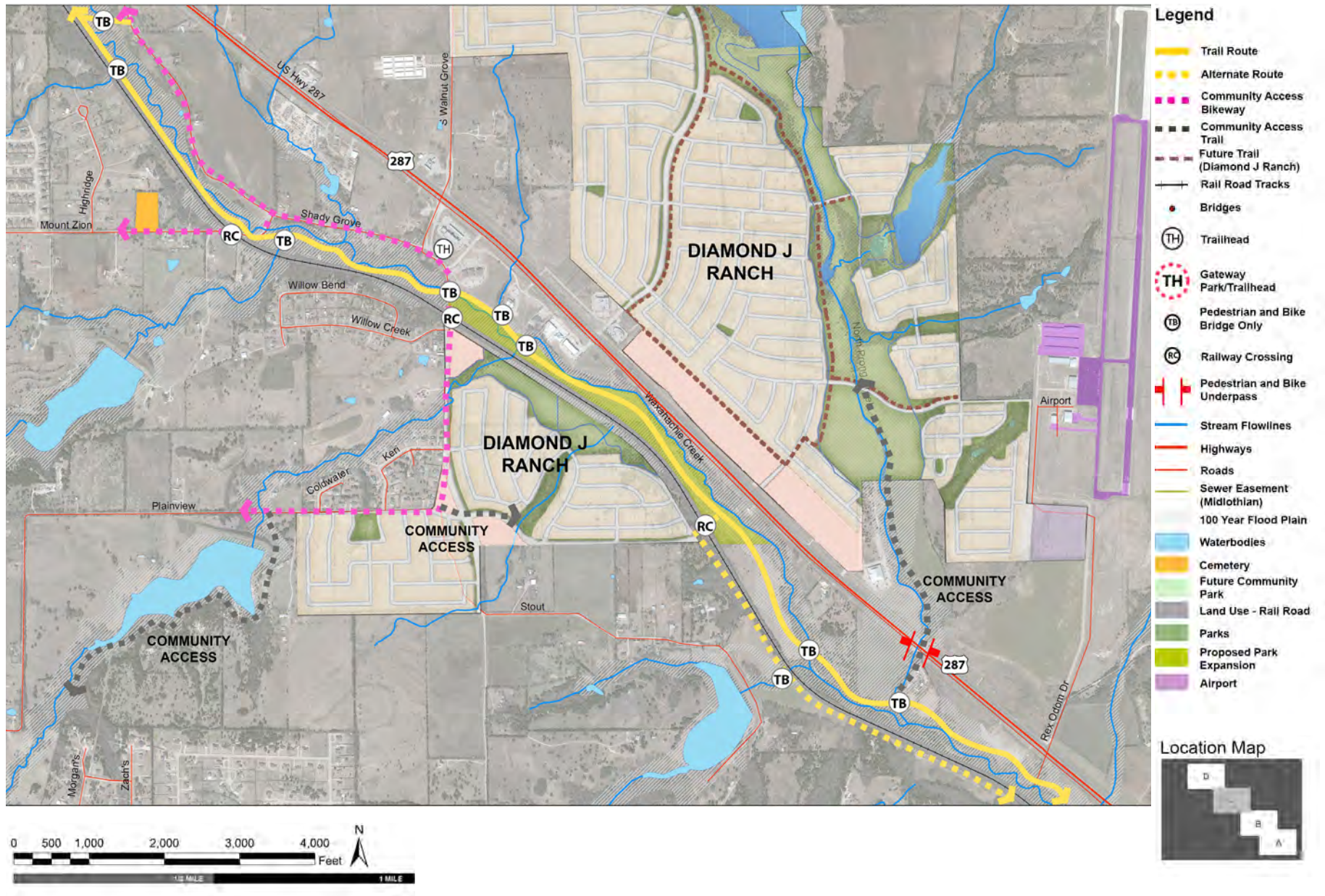
Trail System Concept Map C

The trail alignment continues north hugging Waxahachie Creek. A future trail connection to the Diamond J Ranch development is proposed via a Community Access trail that proposes to retrofit an existing box culvert under U.S. 287, creating a trail underpass, then following the North Prong Creek through that community's planned open space system. Further north, the main trail alignment takes advantage of a long strip of public land owned by the City of Midlothian (shown in green) between the creek and the railroad right-of-way. The alternative alignment introduced in Map A rejoins the primary alignment just after crossing into the City of Midlothian's property. At this

point, the trail alignment is on the southern side of Waxahachie Creek but still closely following its meanders. A trailhead from which pedestrians and bicyclists can easily access the trail is proposed on undeveloped land immediately south of a local travel center on the U.S. Highway 287 frontage road. From this point, on-street Community Access bikeways are proposed to the south on Plainview Road, and to the north on Shady Grove Road. The main trail alignment continues north between Waxahachie Creek and the railroad right-of-way, eventually running immediately adjacent to the railroad right-of-way where the corridor narrows.

RECOMMENDED TRAIL PLAN

Trail System Concept Map C



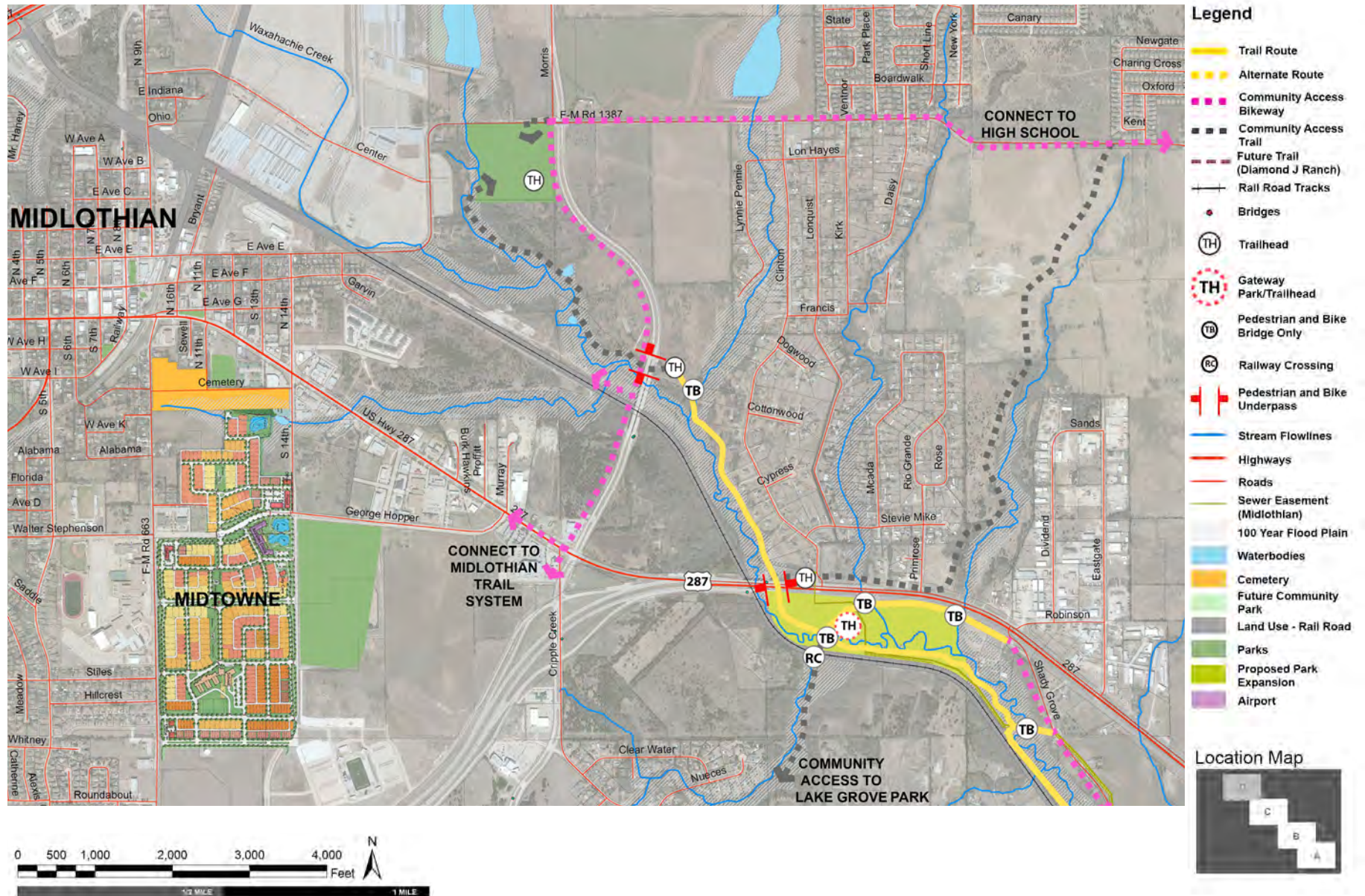
RECOMMENDED TRAIL PLAN

Trail System Concept Map D

Map D displays how the trail alignment connects into the City of Midlothian's trail system. A major feature in this reach of the trail system is the proposed "gateway park" that would provide access to the trail as well as community amenities. This park would also provide trailhead anchor for the Midlothian side of the trail, providing a link to the City's planned shared-use path system, and mirroring the anchor function provided by Getzendamer Memorial Park in Waxahachie. From this proposed park, the main trail alignment moves north on the north side of Waxahachie Creek, under the existing U.S. 287 bridge to link into Midlothian's existing trail system from a proposed trailhead just to the east of Morris Road. There are several Community Access trails and bikeways proposed to provide as many access points from community to the main trail alignment as possible. One of these, a proposed linkage from the proposed gateway park to Midlothian's Lake Grove Park, might offer an equestrian trail experience to take advantage of planned equestrian facilities at Lake Grove.

RECOMMENDED TRAIL PLAN

Trail System Concept Map D



IMPLEMENTATION

Introduction

The construction of the proposed Ellis County Regional Trail will likely occur in a phased manner over a period of years. Most of the trail development will typically occur when easements or public land is acquired and as new residential, commercial, or other projects (or approved phases thereof) are developed and land dedication requirements are met. Some trailheads will therefore be constructed when development occurs on lands adjacent to the proposed trail segment or when a proposed trail crosses the subject property. However, key trailhead sites should be acquired early in the process, before development on the ground might prevent adequate accessibility to the trail and to establish highly visible and well designed and equipped beginning and end point gateways to the overall trail.

Development Funded Trail Construction Projects

The construction of roads, utilities, and other infrastructure elements needed to support new residential communities and businesses is typically the responsibility of the developer. The Cities of Waxahachie and Midlothian, and most other

municipalities, require the developer of a project to design, engineer, and construct improvements such as roads, drainage ways, sewers, and water systems as needed to support the proposed new development. These improvements must be designed and constructed to established standards.

Waxahachie also requires subdivision developers to dedicate land for parks. This dedication requirement is set out in *Section 4.4: - Park Land and Public Facility Dedication* of the City's Subdivision code. Currently, the City of Midlothian does not have explicit parkland dedication requirements as part of its Subdivision Code. *Section 3.16* of Midlothian's code covers dedication for other public purposes, but does not specifically identify parks or trails nor does it identify any standard of required acreage or access with regards to parks or trails.

Midlothian should ensure that specific parkland dedication requirements are adopted as part of their Subdivision Code. The parkland required should be based on acreage per 1,000 residents of the proposed subdivision and land to be dedicated should comply with standards of the city's comprehensive

plan including all parks and trail plans. For small developments, a fee in lieu of land dedication option should be included, based on a set dollar amount per acre of development.

City or County Funded Trail Construction Projects

There will inevitably be instances where it may be desirable or necessary for the Cities of Midlothian or Waxahachie, or Ellis County to initiate trail or trailhead construction projects. This may especially occur during the initial phases of trail system development, when the construction of a basic network of trails and key trailhead locations is desired. It may also be the case when gaps in the trail system reduce or preclude public use of a trail or diminish the value of the overall trail system. City or County funded projects may also be the preferred alternative when trails are being developed in conjunction with other public works projects such as roadways and utility lines. In such instances, government entities should consider the potential cost savings associated with including trail and/or trailhead development as part of the scope of the overall project.

IMPLEMENTATION

Acquisition of Easements and Rights-of-Way

As a follow-up to the adoption of this Trail Plan, the Cities of Midlothian and Waxahachie, and Ellis County should begin the on-going process of acquiring easements, rights-of-way, or agreements, as will be needed for future trails. The early acquisition of corridors for the proposed community trails will facilitate and expedite the trail development process in the future.

Coordination with other Jurisdictions and Entities

The development of a regional trail system is a goal that is shared by other communities and jurisdictions in the North Central Texas region. Midlothian and Waxahachie have trails planned as part of their Master Parks, Recreation, and Open Space plans, and NCTCOG has a plan for a region-wide Veloweb network, adopted as part of the Metropolitan Transportation Plan. Independent school districts also have key properties that are envisioned as part of the trail system. Opportunities for the joint development of trails should be pursued whenever possible.

In addition to public and government entities, private businesses have key roles to play in the implementation of the planned trails. The Union Pacific railroad that runs roughly east to west through Ellis County is a key corridor for this plan. A number of rail crossings will be needed, as will access to the railroad's right of way. Careful coordination in planning and construction should be initiated as soon as possible.

Trail Path/Connections

CHALLENGES

- May need to acquire right of way to develop
- Some segments may be most cost effective if provided through dedication requirements at subdivision construction, which may be many years away, and requires an ordinance rewrite

Steps to Accomplishment

- Identify and implement local funding mechanisms for construction of the trail, trail heads, and related amenities
- Conduct engineering, environmental, and construction design plans
- Plan a phased approach to construction, determining which sections of the network should be completed in five years, the next five, and so on
- Acquire necessary right of way and/or easements
- Require developers to dedicate land and/or connect to the network so that it can be used as a transportation option
- Dedicate funding and combine with grant opportunities as they arise
- Construct the Trails/Greenway network

Key Parcels/Trail Segments in Midlothian

- Acquire parcel south of SH287 for gateway trailhead and park
- Identify and acquire connection Diamond J Ranch
- Identify floodplain property and plan route through Diamond J Ranch
- Identify areas within rail line ROW between Diamond J Ranch area and gateway trailhead needed for trail continuity

Key Parcels/Trail Segments in Waxahachie

- Acquire parcel between Getzendaner Park and IH35E for gateway trailhead
- Identify and acquire connection to Kemp Ranch
- Identify and plan needed rail crossings with UP railroad
- Identify areas within rail line ROW near Sardis needed for trail continuity

Ellis County Regional Trail Implementation Matrix	Short Term: 1-2 Years	Medium Term: 2-5 Years	Long Term: 5+ Years	Involved Parties
Goal T1: Develop Trail through the City of Midlothian, TX, including development of a gateway trailhead/park facility.				
T1.1: Adopt the final trail plan as an amendment to the master parks, recreation, and open space portion of the comprehensive plan.	X			City Staff, Elected officials
T1.2: Amend subdivision regulations to ensure that there are sufficient dedication requirements for new development to enable acquisition of trail right of way as development occurs.	X			City Staff, Elected officials
T1.3: Conduct any needed engineering, environmental, and construction design studies for the final trail alignment, including planned phasing of construction	X	X	X	City Staff, Outside consultants, Ellis County
T1.4: Identify funding sources for needed land acquisition, trail, and trailhead development in cooperation with neighboring cities, Ellis County, and other public and private institutions	X	X	X	City Staff, Ellis County
T1.5: Finalize engineering and construction plans for each trail segment and trailhead	X			City
T1.6: Construct each segment of the trail system				City
T1.7: Maintain developed trail system.	X			City
Goal T2: Develop Trail through the City of Waxahachie, TX, including development of a gateway trailhead/park facility.				
T2.1: Adopt the final trail plan as an amendment to the master parks, recreation, and open space portion of the comprehensive plan.	X			City Staff, Elected officials
T2.2: Conduct engineering, environmental, and construction design studies for the final trail alignment, including planned phasing of construction, and acquire needed right of way and/or easements.	X	X	X	City Staff, Ellis County
T2.3: Identify funding sources for needed land acquisition, trail, and trailhead development in cooperation with neighboring cities, Ellis County, and other public and private institutions	X	X	X	City Staff, Ellis County
T2.4: Finalize engineering and construction plans for each trail segment and trailhead	X	X	X	City
T2.5: Construct each segment of the trail system.	X	X	X	City
T2.6: Maintain Developed Trail System	X	X	X	City

Funding Strategies

The realization of this trail plan can only happen if there is funding to support it. The following overarching philosophy helps to guide the overall financing position:

1. Quality over quantity
2. Re-investment
3. Leveraging resources
4. Responsible fiscal, social, and environmental stewardship

For cities, most trails are constructed using bond financing or certificates of obligation, while maintenance and upkeep are funded through the general fund. However, finding new and creative ways to fund and finance construction and ongoing services can add a layer of certainty through a variety of funding options, involve more people creating a connection with the various places, and enhance the Cities and County's ability to provide higher quality places and more activities. The following is a list of potential funding sources to aid in the implementation of this plan.

GENERAL FUNDING REQUIREMENTS

Funding at the Local Level

A variety of opportunities for funding bicycle and pedestrian facilities exist at the local level, including the city and county bond programs, which allocate funds for specific roadway and transportation projects. In addition, the Capital Improvements Program (CIP) is a plan for capital expenditures that extends five years beyond the capital budget. One of the main components of the CIP is for public facilities, including the implementation of transportation facilities. In addition, funds allocated in a city or county's maintenance program can be utilized for bicycle and pedestrian facilities through re-striping and re-paving activities, as well as maintenance of existing facilities (street sweeping and re-striping activities). Some of the most successful cities in the nation have implemented the majority of their on-street bicycle facilities through the city maintenance program including Austin, Texas. In addition, funds at the city and county levels include allocations from a specific department (i.e. Parks and Recreation) or through impact fees which are regulated by county and municipal subdivision policies and require

residential, industrial, and commercial development project leaders to provide sites, improvements and/or funds to support public amenities such as open space and trails.

The North Central Texas Council of Governments also administers several funding initiatives for bicycle and pedestrian projects at the local level. The Texas Legislature enabled the Texas Department of Transportation to consider public- and private-sector partnerships to finance roadways. As a result, in 2007, the Dallas-Fort Worth region completed a project with the North Texas Tollway Authority that included a toll component and revenue for transportation projects known as the Regional Toll Revenue (RTR) initiative administered by NCTCOG. Funds offered through this initiative include allocations to regional trail and other sustainable development projects. Projects selected for funding through the RTR initiative are decided through the County Task Force and public meetings, before seeking approval by the Regional Transportation Council. The North Texas Tollway Authority paid the region a total of \$3.2 billion administered through the RTR funding initiative.

IMPLEMENTATION

Local Funding through the Private Sector

Investments in bicycle and pedestrian transportation infrastructure, including construction of sidewalks and provision of bicycle amenities (lockers, showers, parking, etc.), can be significantly leveraged by offering compelling incentives to developers through provisions adopted in local government land development codes. There are a number of incentives that can be offered to the private sector; many of these incentives can be offered at little or no actual expense to the jurisdiction. Some of these incentives include property tax abatements, parking requirement reductions, preferential fee structuring, rebate or payback programs to ensure contiguous development (developers construct infrastructure in excess of requirements, in order to prepare for future growth, but local government pays for the portion of the infrastructure that serves future growth), government support for on-site or off-site improvements, priority status for development review, and flexible public facility standards for compact mixed-use projects. There are two phases in which incentives can be effective: upon initial land development and during tenant build

out and/or maintenance.

Another approach used by many jurisdictions throughout the United States is to allow “in lieu of” payments to the community’s sidewalk fund. Rather than requiring developers to construct sidewalks in front of their properties, which frequently leads to an intermittent and inconsistent sidewalk network, this approach allows sidewalk funding to be pooled. By collecting equal payments in lieu of actual on-site sidewalk construction, more strategic choices can be made regarding where and when sidewalks are built.

Private Funding

Private Funding at the private level offers additional opportunities for bicycle and pedestrian related facilities and advocacy that are not otherwise offered in the national, state, and local funding initiatives. Several of these private funding opportunities are outlined below.

The American Hiking Society’s National Trails Fund is the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting,

and maintaining foot trails in America. National Trails Fund grants help give local organizations the resources they need to secure access, volunteers, tools, and materials to protect America’s cherished hiking trails. To date, American Hiking has granted nearly \$487,500 to 157 different trail projects across the US for land acquisition, constituency building campaigns, and a variety of trail work projects. Awards typically range from \$500 to \$5,000 per project. Beginning in 2010, all National Trails Fund applicants will be required to be members of the Alliance of Hiking Organizations.

The Robert Wood Johnson Foundation (RWJF) provides grants for projects in the US that improve the health and health care of all Americans. For projects to be eligible for funding, they must address one of seven program areas: Childhood Obesity, Coverage, Human Capital, Pioneer, Public Health, Quality/Equality, and Vulnerable Populations. Eligible Organizations include public agencies, universities, and public charities that are tax-exempt. Each program area has three strategies: evidence, advocacy, and action. Related calls for grant proposals are issued as developed, and multiple communities across the nation have

received grants related to promotion of trails and other non-motorized transportation facilities. Components of bicycle and pedestrian transportation projects include the development, implementation, and sustained collaboration among stakeholders for public health, city planning, transportation, architecture, recreation, crime prevention, traffic safety, and education. In addition, the RWJF has an ongoing “Active Living by Design” grant program that promotes the principles of active living, including non-motorized transportation, of which numerous communities nationwide have received funding under.

The Rails-to-Trails (RTC) Conservancy Organization actively pursues abandoned railroad corridors through the Surface Transportation Board (STB), the federal agency that oversees changes made by railroad companies (formerly the Interstate Commerce Commission (ICC)). When a rail line becomes abandoned (i.e., when the railroad has applied to the STB for abandonment authorization, the STB has issued an order authorizing abandonment of the line, and the railroad has notified the STB that it has consummated the abandonment authorization), the rail line can be acquired and a local or state

agency has the opportunity to use the corridor for the development of trails and greenways. As rail lines often connect important destinations, this initiative offers an opportunity for jurisdictions to acquire a right-of-way at no cost (other than administrative) to utilize in the development of bicycle and pedestrian facilities.

Corporate Sponsorships

The Cities of Waxahachie and Midlothian as well as Ellis County have a number of industries located within their jurisdictions. With the growing concern for the environment, many corporations desire to engage favorably in the local ecology. This funding source allows corporations to invest in the development and enhancement of new or existing trail and trailhead/park facilities. This is done through direct donations or sponsorships and staffing of programs and events.

Partnerships

Partnerships help to share cost and risks, responsibilities, and asset management based on the strengths of each partner. Partnerships can be developed between two government entities, a non-profit and a City department, or private businesses

or organizations and a City agency. Development of a “Friends of the Ellis County Trails” advocacy organization for fundraising is a great way to engage citizens and create community.

Dedication/Development Fees

These fees are assessed for the development and upgrade of parks, recreational facilities open spaces and trails for residential and/or commercial properties.

Foundation/Gift

Many tax-exempt, non-profit organizations offer a variety of means to fund to promote specific causes, activities or issues. These can be in the means of capital projects campaigns, fundraisers, endowments, etc. for trail construction and ongoing maintenance.

Friends of the Trail Organizations

The Dallas-Fort Worth (DFW) region has a history of using a utilitarian approach with public funds to provide the basic framework for the active transportation network. “Friends of the Trail” organizations support local governments

in a grassroots approach to fund and maintain enhancements along new and existing trail infrastructure including landscaping, lighting, and other user amenities.

Local non-profit Friends of the Trail organizations have various roles in communities. They promote and enhance bicycling, educate residents about walking and bicycling safety, organize community support for the trails and promote the image of a bike-friendly city. Typically local governments own the trail infrastructure and the land on which the trails are located. Municipalities may have agreements with non-profit Friends of the Trail organizations to express the responsibilities of both parties.

Typically the Friends of the Trails groups coordinate fundraising activities through campaigns, annual and seasonal events, and donations for trail enhancements. Funding campaigns may include trail run and walk fundraisers, member socials, private donations, corporate sponsorships and donations of amenities such as brick pavers and water fountains. Many Friends of the Trail organizations have their own website or blogs to provide the latest news about trails, upcoming events, and

many other useful resources so residents can be connected and involved.

There are numerous examples of non-profit Friends of the Trail organizations in the DFW region including the following:

Friends of Katy Trail	http://www.katytraildallas.org
Friends of Santa Fe Trail	http://friendsofsantafetrail.org
Friends of Preston Ridge Trail	http://www.prestonridgetrail.org
Friends of Northhaven Trail	http://northhaventrail.org
Friends of White Rock Trail	http://whiterocktrail.org
Streams & Valleys, Inc.	http://www.streamsandvalleys.org

Local governments coordinate with non-profit organizations in various ways, including partnerships to plan, construct, and maintain improvements of trail amenities. Friends of the Trail groups may form 501(c)(3) Non-Profit organizations with a specific purpose to raise funds for capital improvements, programs and operations related to the trail and generally supporting and enhancing the trail. Friends of the Trail organizations may oversee the cultural and safety improvements including but not limited to landscaping, lighting, mile markers, bike racks, benches, trail heads, and public art.

The Non-Profit organizations typically have a board of directors who act as officers of the organization, to coordinate and carry out the board's decisions. The organizations may also have administrative staff members who are paid for their services, in addition to a network of non-paid volunteers who assist the staff members in completing tasks for the organization.

In addition to the Friends of the Trail organizations, there are other 501(c)(3) non-profit advocacy organizations that promote bicycling for transportation and recreation throughout North Texas and

the State of Texas. The Friends of the Trail organizations differ from the regional and state advocacy groups in that their role and mission is focused expressly on a specific trail, or network of trails, in the community (<http://www.nctcog.org/trans/sustdev/bikeped/bikeweb/>).

Land and Water Conservation Fund

The LWCF Program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities (as well as funding for shared federal land acquisition and conservation strategies). The program is intended to create and maintain a nationwide legacy of high quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources across the United States (<http://www.nps.gov/lwcf/>).

General Obligation Bonds

Used primarily for capital improvements and general public improvement, these bonds are issued with the approval of the electorate.

Grants

The following grant programs are potential sources of funding other than municipal sources:

Texas Recreation and Parks Account (TRPA) Program - Texas Local Parks, Recreation, and Open Space Fund, administered by the Texas Parks and Wildlife Department (TPWD). Funds are available on a fifty percent (50%) cost share basis. (<http://www.tpwd.state.tx.us/business/grants/trpa/>)

Texas Department of Transportation (TxDOT) Fifty percent (50%) cost sharing support is available for both highway and pedestrian landscape projects on routes within the designated permanent state highway system through the Landscaping Cost Sharing Program.

National Tree Trust Partnership Provides databases for a number of funding opportunities. (<http://meldi.snre.umich.edu/node/21529>)

Texas Department of Forestry Urban and Community Forest Challenge Grant. Matching grants are available on a 50/50 cost share basis for a variety of projects including program development,

beautification, staffing and training workshops. These are small grants of \$5,000 to \$15,000. In-kind services and/or private money can provide the matching funds.

CDBG Funding: Funding received in accordance with the Community Development Block Grant (CDBG) Programs national objectives as established by the U.S Department of Housing and Urban Development. Funding may be applied to such programs as Infrastructure Improvements, Public Facility and Park Improvements, Human Service Enhancements, Lead-Based Paint Education and Reduction, Housing Education Assistance, and Economic Development and Anti-poverty strategies.

Special Improvement District/Benefit District

Taxing districts established to provide funds for certain types of improvements that benefit a specific group of affected properties. Improvements may include landscaping, the erection of fountains, and acquisition of art, and supplemental services for improvement and promotion, including recreation and cultural enhancements.

IMPLEMENTATION

Annual Appropriation/Leasehold Financing

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

Revenue Bonds

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

The Trust for Public Land

Land trusts to help secure and fund the cost for acquiring land that needs to be preserved and protected for greenway

purposes. This could be a good source to look to for acquisition of future lands. A key organization engaged in this type of activity is the Trust for Public Land (TPL).

"The Trust for Public Land works to protect the places people care about and to create close-to-home parks—particularly in and near cities, where 85 percent of Americans live. Our goal is to ensure that every child has easy access to a safe place to play in nature. We also conserve working farms, ranches, and forests; lands of historical and cultural importance; rivers, streams, coasts, and watersheds; and other special places where people can experience nature close at hand."

TPL has protected more than 30,000 acres for communities in Texas, including areas in and around Arlington, Austin, Dallas, Denton, Houston, and San Antonio.

<http://www.tpl.org/>

Greenway Utility

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

Sales Tax

This revenue source has been very successful in funding park systems. This tax is very popular in high traffic tourism type cities and with counties and state parks.

Food and Beverage Tax

The tax is usually associated with convention and tourism bureaus. However, since parks and recreation agencies manage many of the tourism attractions, they receive a portion of this funding source for operational or capital expenses.

Capital Improvement Fees

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

Easements

This revenue source is available when the City allows utility companies, businesses, or individuals to develop some type of an improvement above ground or below ground on their property for a set period

of time and a set dollar amount to be received by the City on an annual basis.

Irrevocable Remainder Trusts

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

Volunteerism

The revenue source is an indirect revenue source in that persons donate time to assist the department in providing a product or service on an hourly basis. This reduces the City's cost in providing the service plus it builds advocacy into the system.

Public Improvement District (PID)

New developments can establish a Public Improvement District (PID) when authorized by the City Council and legally set up according to state law. This taxing

district provides funds especially for the operation and maintenance of public amenities such as parks and major boulevards.

Federal Funding Overview

As stated in federal guidance, "Bicycle and walking contribute to many of the goals for the transportation system we have at the Federal Highway Administration (FHWA) and at the state and local levels. Increasing bicycling and walking offers the potential for cleaner air, healthier people, reduced congestion, more livable communities, and more efficient use of precious road space and resources. That is why funds in programs such as Congestion Mitigation and Air Quality Improvement (CMAQ), Transportation Alternatives Program (TAP), and the National Highway System (NHS) are eligible to be used for bicycling and walking improvements that will encourage the use of the two modes."

All major transportation funding programs can be used for bicycle and pedestrian programs, so there should be no federal barrier in implementing bicycle and pedestrian projects, either as stand-alone projects or in conjunction with other federally funded transportation

projects. Federal guidance makes it clear that the choice on how to use funds rests with the state; the one restriction in funding guidance being the requirement that bicycle projects funded through the Surface Transportation Program, Congestion Mitigation Air Quality, National Highway System, or Federal Lands Highway Program be "principally for transportation rather than recreation purposes."²

Ellis County should be aware of the federal funding opportunities and restraints as development of the countywide bicycle and pedestrian system continues. The system will be implemented more quickly if local funds are leveraged with state and federal dollars.

To develop successful bicycle and pedestrian guidelines and recommendations which eventually could be substantially funded with federal funds, it is important to review the federal strategies for promoting the use and proliferation of bicycle and pedestrian facilities under the federal surface transportation bill.

Bicycle and pedestrian transportation facility projects are broadly eligible for

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funding from almost all major federal-aid highway, transit, safety, and other programs. Bicycle and pedestrian projects must be “principally for transportation, rather than recreation purposes” and must be designed and located pursuant to the transportation plans required of states and Metropolitan Planning Organizations be eligible for such funds.

1 US Department of Transportation Federal Highway Administration: Transmittal of Guidance on Bicycle and Pedestrian Provisions of the Federal-aid Program, <http://www.fhwa.dot.gov/environment/bikeped/memo.htm>.

2 FHWA Guidance - Bicycle and Pedestrian Provisions of Federal Transportation Legislation, <http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm>.

NHS	National Highway System
STP	Surface Transportation Program
HSIP	Highway Safety Improvement Program
TAP	Transportation Alternatives Program
CMAQ	Congestion Mitigation/Air Quality Programs
RTP	Recreational Trails Program
HBR	Bridge
PLA	State/Metropolitan Planning Funds
FLH	Federal Lands Highway Program
402	State and Community Traffic Safety Program
FTA	Federal Transit Capital, Urban and Rural Funds
TRE	Transit Enhancements

Federal Bicycle and Pedestrian Funding Opportunities by Eligible Activities

	NHS	STP	HISP	TAP	CMAQ	RTP	HBR	PLA	FLH	402	FTA	TRE
Bicycle and pedestrian planning		X			X			X				
Bicycle lanes on roadway	X	X	X	X	X		X		X		X	X
Paved shoulders	X	X	X	X	X		X		X			
Shared use path/trail	X	X		X	X	X	X		X			
Single track hike/bike trail	X	X	X	X		X						
Spot improvement program			X		X							
Maps		X		X	X					X		
Bike racks on buses		X		X	X						X	X
Bicycle parking facilities		X		X	X						X	X
Trail/highway intersection	X	X	X	X	X	X			X			
Bicycle storage/service center		X		X	X						X	X
Sidewalks, new or retrofit	X	X	X	X	X		X		X		X	X
Crosswalks, new or retrofit	X	X	X	X	X				X		X	X
Signal improvements	X	X	X	X	X							
Curb cuts and ramps	X	X	X	X	X							
Traffic calming		X	X									

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At this time, the following is a list of current federal funding programs available for bicycle and pedestrian projects and programs.

Funding Sources: Federal Highway Administration (administered by the State of Texas)

National Highway System funds may be used to construct bicycle and pedestrian facilities within NHS corridors including projects within Interstate rights-of-way. Shared-use paths along Interstate corridors are eligible for the use of NHS funds, as are bike lanes, shoulder and sidewalk improvements on major arterial roads that are part of the NHS, and bicycle and/or pedestrian bridges and tunnels that cross NHS facilities.

Matching funds: 80 percent federal; 20 percent non-federal.

Surface Transportation Program (STP) funds provide states with flexible funds which may be used for a wide variety of projects on any federal-aid highway including the NHS, bridges on any public road, and transit facilities. Bicycle and pedestrian improvements are eligible activities under the STP. This covers

a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. The modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity. STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds.

Matching funds: 80 percent federal; 20 percent non-federal.

Congestion Mitigation and Air Quality Improvement Program assists areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs. Projects must be likely to contribute to the attainment of national ambient air quality standards (or the maintenance of such standards where this status has been reached) based on an emissions analysis. A major source

of funding for many bicycle related construction and safety projects, CMAQ is administered locally by the North Central Texas Council of Governments (NCTCOG) and its Transportation Improvement Program. Eligible activities include the construction of bicycle and pedestrian facilities, non-construction projects related to safe bicycle use, and many other projects and programs related to the implementation of bicycle and pedestrian transportation.

Matching funds: 80 percent federal; 20 percent non-federal.

Recreational Trails Program (RTP) provides funds to states to develop and maintain recreational trails and trail related facilities for both non-motorized and motorized recreational trail uses. Each state administers its own program; Texas Parks and Wildlife administers the RTP for the state of Texas. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for non-motorized trail uses and 40 percent for diverse trail uses. Eligible activities include maintenance and restoration of existing trails, development and rehabilitation of trailside and trailhead facilities and trail linkages, purchase and

lease of trail construction and maintenance equipment, construction of new trails (with restrictions for new trails on federal lands), acquisition of easements or property for trails, assessment of trail conditions for accessibility and maintenance, operation of educational programs to promote safety and environmental protection as those objectives relate to the use of recreational trails.

Matching funds: 80 percent federal; 20 percent non-federal.

Highway Bridge Replacement and Rehabilitation Program (HBP or BRR) funds the replacement or rehabilitation of highway bridges. If a highway bridge deck is being replaced, and bicyclists are permitted at each end, then the bridge project must include safe bicycle accommodations (at reasonable costs).

Matching funds: 80 percent federal; 20 percent non-federal.

Metropolitan Planning funds (PLA) are a one percent set-aside of the funds authorized for the IM, NHS, STP, CMAQ, and Bridge programs that are available only for metropolitan transportation planning. The funds are allocated to each state based on the population of

urbanized areas in each state. Funds may be used for bicycle and pedestrian related plans that are part of the metropolitan transportation planning process.

Matching funds: 80 percent federal; 20 percent non-federal.

Federal Lands Highways Program (FLH) provides funding for a coordinated program of public roads and transit facilities serving federal and Indian lands. Provision for pedestrians and bicycles are eligible activities in conjunction with projects on each of the classes of Federal Lands Highways: Forest Highways, Indian Reservation Roads, Park Roads and Parkways, Refuge Roads, and Public Lands Highways. Project selection is determined by the appropriate Federal Land Agency or tribal government.

Matching funds: 100 percent federal.

Transportation Alternatives Program (TAP) was authorized under Section 1122 of Moving Ahead for Progress in the 21st Century (MAP21) (the current transportation funding and authorization bill) and provides funding for bicycle and pedestrian programs and projects defined as transportation alternatives. The TAP is similar to the former Transportation

Enhancement (TE) and Safe Routes to School (SRTS) programs.

Transportation and Community and System Preservation (TCSP)

Program is a competitive grant program designed to support projects that show how transportation projects and plans, community development, and preservation activities can be integrated to create communities with a higher quality of life. The annual grant program is administered by the FHWA in partnership with the FTA and Environmental Protection Agency, and may be used to fund state, Metropolitan Planning Organizations, or local government agencies. Bicycling, walking, and traffic calming projects are eligible activities and may well feature as an integral part of many proposed projects that address larger land use and transportation issues.

Interstate Maintenance (IM) funding is targeted at maintaining and improving the Interstate highway system. IM funds may be used for resurfacing, restoration, rehabilitation, and reconstruction projects including pedestrian and bicycle facilities that are incorporated in the design of new interchanges and overcrossings.

Matching funds: 90 percent federal; 10 percent non-federal.

High Priority Projects (HPP) funds are designated for specific projects identified in SAFETEA-LU by Congress. The funds designated for the project in this program are available only for these HPP projects. Statewide Planning funds are a two percent set-aside of the funds states receive for the IM, NHS, STP, CMAQ and

Bridge programs that are available only for planning, research, and technology transfer activities. This list includes the Statewide Long Range Transportation Plan and Transportation Improvement Program, and may include bicycle- and pedestrian-related plans, research, and technology transfer activities.

Matching funds: 80 percent federal; 20 percent non-federal.

The Land and Water Conservation Fund (LWCF) Program is administered by state agencies in cooperation with the National Park Service. Program funds are intended for the acquisition and development of outdoor recreation areas; trails are one priority of this program.

Matching funds: 50 percent federal; 50 percent non-federal.

Emergency Relief funds are available for the reconstruction of highways, roads, and trails in any part of the United States that the Secretary finds has suffered serious damage as a result of natural disaster over a wide area (e.g. flood, hurricane, tidal wave, earthquake) or catastrophic failure from any external cause. The restoration of bicycle and pedestrian facilities, including shared-use paths, is an eligible activity for Emergency Relief funds.

The Energy Efficiency and Conservation Block Grant (EECBG) Program, as included in the Energy Independence and Security Act of 2007, funds are designed to assist eligible entities in implementing energy efficiency and conservation strategies, of which developing and implementing programs

to conserve energy used in transportation including bike lanes/pathways, and pedestrian walkways are eligible. The EECBG Program was enacted as part of the American Recovery and Reinvestment Act (ARRA), and issued direct formula (to cities over 35,000 and counties over 200,000) and non-direct formula (state administers the remaining funds to cities and counties not receiving direct formula funding) grants. The city of Fort Worth, Texas received \$6,738,300 in funding from the EECBG Program, of which \$400,000 has been designated for bicycling facilities (on-street lanes/routes and bike parking) for the downtown area.

The US Environmental Protection Agency Climate Showcase Communities Grants Program was launched in 2009 to assist local and tribal governments in establishing and implementing climate change initiatives. The overall goal of the Climate Showcase Communities Grant Program is to create replicable models of sustainable community action that generate cost-effective and persistent greenhouse gas reductions while improving the environmental, economic, public health, or social conditions in a community. The total estimated funding for the grant

program is approximately \$10 million. Approximately \$500,000 of this amount is awarded to tribal governments. The Environmental Protection Agency awards up to 30 cooperative agreements ranging from \$100,000 to \$500,000 per year (subject to availability of funds and the quality of proposals received).

The Urban and Community Forestry (UCF) Program of the US Forest Service, and administered through the US Department of Agriculture, provides technical, financial, research, and educational services to local governments, non-profit organizations, community groups, educational institutions, and tribal governments.

Though not a source of funding, the **Rivers, Trails, and Conservation Assistance Program (RTCA)** is a technical assistance arm of the National Park Service dedicated to helping local groups and communities preserve and develop open space, trails, and greenways. RTCA is an important resource center for many trail builders in urban, rural, and suburban areas. Instead of money, RTCA supplies a staff person with extensive experience in community-based conservation to work with a local group on a project.

Though not a source of funding, the **national recreation trails (NRT) designation** from the Secretary of the Interior recognizes exemplary existing trails of local or regional significance. NRT designation provides benefits, including access to technical assistance from NRT partners and listing in a database of National Recreation Trails. In addition, some potential support sources will take NRT designation into account when making funding decisions. The NRT Program is open to applications.

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APPENDIX A

Union Pacific Railroad Meeting Minutes

MEETING ON ELLIS COUNTY REGIONAL TRAIL CORRIDOR WITH UNION PACIFIC

October 22, 2014

Attendees

- Steven Martchenke, Union Pacific
- Jim Richards, University of Texas at Arlington
- Taner Özdil, University of Texas at Arlington
- Karla Weaver, NCTCOG
- Kevin Kokes, NCTCOG
- Daniel Snyder, NCTCOG

Meeting Overview

Project consultants from the University of Texas at Arlington (UTA) and the Special Projects Manager from Union Pacific (UP) met at North Central Texas Council of Governments (NCTCOG) to discuss potential alignment options for a regional shared-use path that will connect the cities of Midlothian and Waxahachie, roughly following the Waxahachie Creek and the 'Midlothian Sub' Union Pacific rail line.

The purpose of the meeting was to provide an overview of the Ellis County Regional Trail Corridor project and to learn about the railroad's policies and requirements concerning paths (trails) in proximity to the rail lines, including possible crossing locations.

The existing rail line has approximately 17 trains per day with no set schedule, traveling at speeds up to 49 mph along certain segments. Rail right-of-way (ROW) width varies throughout the corridor between Midlothian and Waxahachie. The trail cannot be constructed within railroad ROW, except in limited situations where the trail is approved to cross the rail line or locations where UP grants a lease agreement. The lease agreement would allow UP to retain all rights to expand within their ROW, possibly requiring the trail to be relocated in short notice. All areas are context sensitive and will be reviewed on an individual basis. Trails are typically not permitted within 30 feet of the railroad track. Under any trail alignment option, consideration should be given to the possibility of future rail double tracking.

At-Grade Trail Crossings

At-grade trail crossings are preferred in locations with existing public roadway at-grade crossings and warning devices, rather than in new locations. Considerations at roadway at-grade trail crossings include whether the trail will be inside or outside of the railroad

warning devices (lights, bells, and drop-gates). If the trail requires moving any warning devices, UP must be compensated for 100 percent of the cost to move the safety equipment. In addition, a C&M agreement or easement must be drafted and agreed upon by both parties. UTA identified up to five potential at-grade crossings within their proposed Ellis County Regional Trail Corridor.

Adding or extending a railroad planking is significantly less expensive than installing new or additional signals. Planking for the railroad is to be extended behind the gates for a separate facility. The planking option is estimated to cost \$1,200 per foot (eight foot increments), while a new crossing warning system is estimated to cost roughly \$200,000 – \$250,000 (depending on location).

While not desirable or encouraged, in limited situations an at-grade trail crossing of the rail line may be approved by the railroad for locations not on public ROW. A private crossing agreement with the local agency would be required.

Grade-Separated Trail Crossings

There are several requirements involving grade-separated trail crossings. Overall, creating a new grade-separated trail crossing is an extremely stringent process that would require a private-crossing agreement. The private-crossing agreement will not hold UP liable for any injury or fatality occurring at or near the new grade-separated trail crossing. There are two grade-separated trail crossings: overpasses and underpasses.

Bicycle/Pedestrian Bridge Overpass

If an overpass were to be approved, the entire structure must span the rail ROW and maintain a vertical clearance of the railroad track of at least 23.4 feet (measured from the top of the rail to the bottom of the bridge structure).

Bicycle/Pedestrian Trail Underpass

Trail underpasses will require a canopy to extend 30 feet from the railroad bridge on both sides in order to mitigate damages from falling debris, and must meet specific design standards. The canopy must be able to withstand at least 500 lbs. of weight to allow employees to inspect and work on the structure. The canopy must also hang no less than three feet from the bottom of the structure. The trail underpass must be tangent without curvature to efficiently funnel pedestrians and bicyclists to ensure safety. An example canopy is at the City of Keller Big Bear Creek Greenbelt Trail crossing under the rail bridge between the Keller Sports Park and US 377/Main Street. Any canopy being designed must be reviewed and approved by the Structures Department. A separate agreement will be needed. A trail underpass will require a hydrology report, paid for by the party applying for the crossing.

Additional Notes

- There are no setback requirements for the trail outside the railroad ROW. However, a fence separating the trail from the rail ROW is strongly desired.
- Trail projects involving federal funds are charged much lower rates for UP staff review time. A preliminary engineering agreement between the local agency and UP will be necessary. Cost estimates of the fees to compensate for Union Pacific's staff time can be provided. The local agency may request the preliminary engineering fees be waived.
- Drainage and potential damage to fiber optic cables and utilities in the rail corridor must be considered.
- The Special Projects Manager requests one point of contact for local agencies for the trail project.
- Consider trail lighting when possible, especially at rail crossing locations.
- Mileposts increase traveling northward, from Waxahachie to Midlothian.
- Union Pacific is willing to review non-traditional designs for fencing. The railroad company collaborated with the City of El Paso to permit a grade separated bridge overpass of a rail line, which included decorative wrought-iron fencing on the bridge. Ivan Hernandez, Project Manager with the City of El Paso, was involved in that project and can serve as a reference.
- Cheryl Cook at the TxDOT Dallas District office can provide additional information about future transportation projects impacting the rail corridor. Monroe Street in Waxahachie is likely to be closed in the future due to a US 77 overpass project.

Next Steps

1. UTA will create proposed cross-sections of grade-separated trail crossings to be reviewed for compliance, but not approval, by Union Pacific. These cross-sections will be featured in the final report. No grade-separated trail crossings of Union Pacific are recommended in the plan.
2. Updated project materials for Ellis County Regional Trail Corridor concepts will be provided to Union Pacific for review prior to public release.