

Cypress Creek Greenway

Trails Master Plan

Recommendations





Recommendations

Connectivity

The principal goal for developing this plan is to provide recommendations for future trail corridors throughout the study area in order to improve pedestrian accessibility to Cypress Creek. Upon reviewing existing trail systems, as well as potential alignments, while taking into account stakeholder and public input, and applying state and national standards, the following chapter outlines the proposed recommendations.

Facility Standards

For the purposes of this plan, recommendations for preferred trail corridor locations have been explored. Proposed trail types have been categorized as either "Major" or "Minor" trails for off-road locations and as "sidewalks" for trails located either adjacent or within road right-of-ways. "Bike Lanes" have been recommended for locations where a pedestrian route would not be feasible. These categories allow for recommendations for trail widths and materials based upon the level-of-service expected on each type of trail. Each type of trail is explored further in the following pages.

Trail Corridor

There are many factors to consider when assessing future trail corridor locations. For the purposes of this plan, connectivity to major waterways including Cypress Creek and Faulkey and Pillot Gully were given preference. Although the alignments proposed within this plan have been located through review of multiple levels of information and research, they remain conceptual. Specific trail alignments would need further investigation, engineering, and potentially environmental and geotechnical analysis.

Wherever possible, trail alignments are proposed within publicly owned lands such as right-of ways. Legal assistance and land surveys should be sought before trail design. Where trails must traverse through private lands, an easement or land acquisition may be necessary. Most public entities, including HCFCD require an interlocal agreement between them and the sponsoring entity.

The following outlines features taken into consideration for trail alignment.

Safety

In order for trails to be successful and utilized, users need to experience a sense of comfort and safety while using the trails. Final trail alignments should consider overall safety, first and foremost. Trail design should follow recommended guidelines and regulations from the American Association of State Highway and Transportation Officials (AASHTO) pedestrian and bicycle handbooks and the Americans with Disabilities Act (ADA), including recommended maximum slopes, sight distances and curvature. Site distances should be taken into consideration, especially on major corridor trails as speeds of bicyclists require greater distances than pedestrians.

Amenities placed along trail corridors can also assist with user safety. Signage placed at trailheads and along trails at appropriate intervals with wayfinding maps can assist with location, especially in case of an emergency. GPS coordinate locations can also be placed on signage, benches, etc. Providing an overall 12' minimum trail corridor to allow emergency access is important. Lighting along an entire trail system would be costly and create challenges as electrical sources are limited, especially along undeveloped areas. The use of lighting at strategic locations including trailheads and parking is encouraged. Solar lighting could also be used along trails that are not heavily forested. Emergency call boxes and kiosks should be included wherever feasible.

Providing barriers at locations where trails intersect with roadways, such as removable bollards, fencing, and even signage to indicate that vehicular traffic is prohibited is critical.

A number of studies have concluded that communities adjacent to trails report a lower rate of crime, and fewer problems than before trail construction.

Trail Design

Trail design shall take into consideration the existing natural environment. Proposed alignments shall avoid potentially environmental or culturally sensitive areas such as wetlands. Although there may be low probability for significant archaeological deposits within much of the study area, there is greater potential along the Cypress Creek Corridor.



Trail Signage with Map



Bollard Lighting along a Trail



Emergency Call Box along Trail

Recommendations

Preliminary wetland areas have been identified and further wetland delineations should be performed before final design of any trail alignments. Refer to appendix C for the complete review of cultural and natural resources.

Soils within the study area include some sands and sandy loams, especially within floodplain areas. These soils have a higher rate of erosion and trail alignment should be located a minimum of 20-feet from the edge of major waterways or changes in topography. Soil stabilization may be necessary. Trail materials should be carefully considered, especially along the Cypress Creek corridor where flooding may occur and the trail may be under water for some period of time. Trails shall also be designed as to not impede natural water flow and culverts may be needed where an alternative route to avoid natural drainage patterns is not feasible. Minimum cross slope of trails shall be 2% to allow for proper drainage.

Crossing of major waterways such as Cypress Creek would require a pedestrian bridge. Bridges should be at least as wide as the adjacent trail and clear zone. Substantial bridges of 12-feet or wider could accommodate occasional vehicles for maintenance. The installation of a bridge would require careful analysis of the existing waterway including the base flood elevation. Major hydraulic studies including revisions of current hydrologic mapping may be required. Coordination and permission with the local floodplain administrator is imperative. Trail alignments within current floodways may require coordination and permission from the U.S. Army Corps of Engineers (USACE).

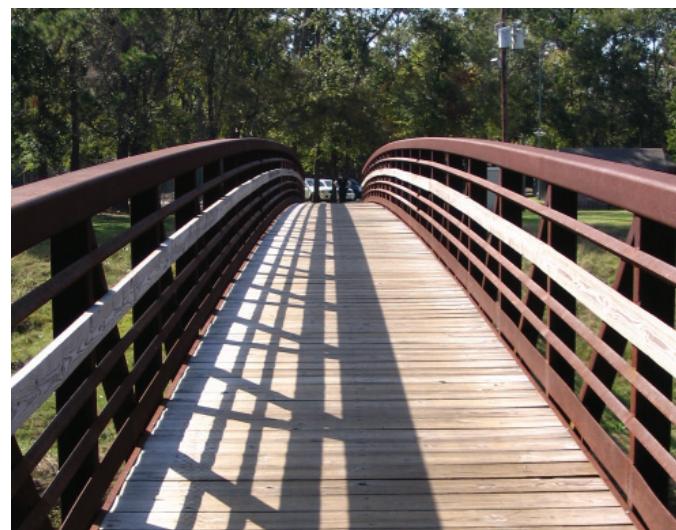
Wherever possible, trail alignments shall provide a range of experiences for the user. Long, straight paths should be avoided, and routes should appreciate natural features such as heritage trees, special landforms, views to Cypress Creek, etc.

Intersections

Major trails are recommended along routes with few conflict points with vehicular traffic. These trails shall experience the highest user volumes and intersections of major roadways shall be carefully considered. Allowing the trail to pass below major roadways can limit vehicular conflict. For example, developing an undercrossing at Highway 249 and Cypress Creek



Culverts may be needed to accommodate existing drainage



Pedestrian bridge at Faulkey Gully



Undercrossing at Faulkey Gully and Louetta Road

would allow safe passage for trail users from Lakewood Forest and the HP Complex to the Kickerillo-Mischer Preserve and Prestonwood Forest neighborhood. An undercrossing would also allow for students of Lone Star College to utilize alternate methods of travel, rather than by auto.

Where an undercrossing of roadways is not feasible, at-grade crossings are recommended at controlled intersections. There are multiple locations of signalized intersections within the study area that would benefit from the addition of pedestrian facilities. This minor expense would greatly increase safe pedestrian travel and would be especially beneficial along Louetta Road. Recommendations for the creation of signalized intersections should be carefully reviewed by a traffic engineer and would require vehicle, as well as pedestrian counts. Mid-block crossings, or crosswalks located at un-signalized locations are not preferable, and alternate routes should be considered. Harris County approval of these types of crossings are contingent on roadway type and traffic volumes.

A railroad exists along the eastern edge of the study area. Pedestrian crossings of railroad facilities must be designed with extreme caution. Facilities are typically located outside of gate arms, aligned perpendicularly to the track, and include additional surfacing such as concrete planking to reduce trip hazards and gaps. The proposed trail along Cypress Creek will traverse under the railroad tracks, since there is a significant amount of overhead clearance present.

Other Types of Trails

Although a wide trail corridor may serve multiple users, certain groups may need specific accommodations. Equestrian and off-road biking are currently two popular uses of trails within the study area. The 100 Acre Wood Preserve boasts over 2 miles of natural trails heavily utilized by the off-road biking clubs, including the Greater Houston Off-Road Biking Association (GGORBA). Future trail development should consider special user groups and provide facilities that accommodate their unique needs. Trail corridors should be separated for equestrian use and specific routes be restricted to their use. Off-road bikers appreciate natural trails with greater obstacles than a typical trail user including topography and tight



Signalized intersection with pedestrian facilities



Off-Road Biking



Equestrian Trails

Recommendations

curves. The online survey revealed a desire for more challenging courses as well as a pump track.

Several Harris County Flood Control owned properties exist within the study area adjacent to Cypress Creek. Stakeholders should coordinate with HCFC to identify specific properties that could accommodate these special user groups.

Paddling trails are also gaining popularity in the Greater Houston Region. Although water levels of Cypress Creek within the study area are typically shallow, launch sites could be explored to be used during rainy seasons. Currently, a paddle trail is under development by the Bayou Preservation Association in coordination with the Cypress Creek Greenway Project.

Trail Materials

Trails can be constructed out of numerous types of materials and have varying degrees of durability and maintenance associated with each. Hard surfaces include concrete, asphalt and decorative pavers. Soft surfaces include decomposed granite, and natural ground with or without binding agents as well as mulched paths.

Concrete: Typical choice for sidewalks. Durable and low maintenance. Installation costs can be high and proper grade preparation is needed. Desirable for multiple types of users.

Asphalt: Easy to install on existing grade, although special equipment is needed. Harris County has equipment. Maintenance is required every few years to seal cracks and surface. Edges may fail quickly if existing grade is not prepared properly.

Pavers: Should be used for special areas such as entry plazas, trail heads, etc. Can be costly to install and proper subbase is required to reduce future maintenance.

Decomposed Granite: Combined crushed granite and aggregate. Steel edge or concrete curb can increase longevity as well as a binding agent. Popular with walkers and runners.

Natural Trails: Removal of existing vegetation and debris and the surface can be compacted using mechanized equipment or binding agent or be compacted naturally through use. Natural trails are



Existing Asphalt Trails



Existing Concrete Sidewalks



Existing Natural Paths in 100 Acre Wood Preserve

popular with both off-road bikers and equestrian users.

Mulched Trails: Can be constructed economically through volunteer work. Mulch can assist with impeding vegetation growth of newly routed paths. Maintenance of these types of trails is high. Should only be used as a first phase option of trail development if funding is lacking. A more formal trail should be constructed as soon as possible.

Existing trail widths and materials vary, in some locations creating uncomfortable transitions between trail pieces. Careful selection of proposed widths and materials is recommended.

Trail Amenities

The installation of various amenities along the trail corridor can enhance user experience and promote the overall success of the trail network. These support facilities should provide convenience services such as restrooms, shade, water, emergency call boxes, etc., as well as wayfinding and specialty items such as nature interpretive boards, seating areas, and gathering spaces.

Major trail heads should be located where parking is available and access is straightforward. These types of facilities should be located along major trail corridors. Possible locations for major trail heads would be within park facilities such as Cypress Park, the 100 Acre Wood Preserve, and the future Kickerillo-Mischer Preserve. These locations should provide ample parking, restroom facilities, drinking fountains, seating areas, and lighting. They could also offer additional items such as playgrounds and exercise equipment.

Minor trail heads should be located near access points to the trail or where two trails intersect. They should provide a wayfinding map, shade, bike racks, and some seating. Available space will dictate the amount of amenities that can be placed at a minor trail head but wayfinding signage is critical.

Additional amenities that could be located along the trail include exercise stations which can be enjoyed either along a long portion of a single trail or incorporated in clusters or separate around loop trails. They should be located where access for maintenance is possible.

Rest areas should be located along major and minor



Example of Major Trail Head with Signage and Parking



Example of Minor Trail Head Signage



Example of a Rest Area

Recommendations

trails and can include benches, shade and litter receptacles. Litter receptacles should be carefully located so that can be easily emptied by maintenance crews.

Wayfinding

Although specific wayfinding signage has not been developed for the Cypress Creek corridor, developing these types of standards can improve accessibility and awareness of the overall trail network. Trails along Buffalo and Brays Bayou have developed such systems, and the benefits of cohesive signage can assist with integrating trails that may have been constructed of varying widths and material types. Mileage markers along major corridor trails can also prove beneficial for exercise and network orientation.

Several survey respondents expressed a desire for a printable map of existing trails. Developing such a map, as well as an online app, and updating it as trail pieces are constructed can promote the trail system and encourage usage.

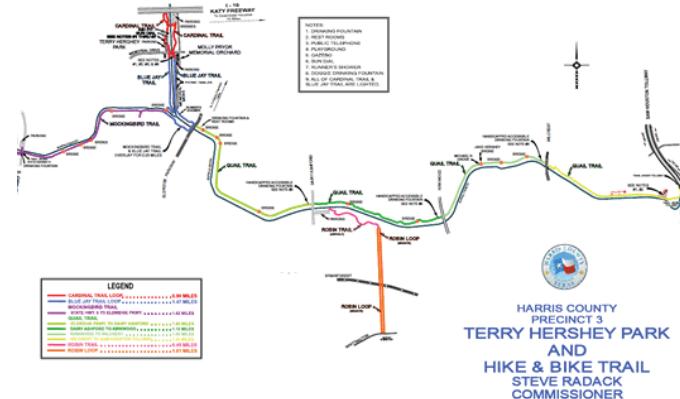
Landscape

Wherever possible, existing landscaping should be preserved to enhance the trail corridor. Specific trail routes should be designed to avoid removal of specimen trees and natural landscaping, especially in areas with potential for erosion, along waterways.

The planting of additional landscaping along trail corridors and at trail heads should be carefully considered. Shade is important to maximize trail usage, especially during summer months. Shrubs and groundcovers may be used to stabilize slopes as an alternative to constructing walls or using riprap. Native plants should be used at all times.

Trail Types

The following pages define the types of trails recommended in this plan. Typical cross sections of major and minor trails, sidewalks and bike lanes are provided as well as design for use of an adjacent equestrian trail. A description of each trail type is given as well as an expected cost per linear foot. Preferred trail widths and materials are also shown.



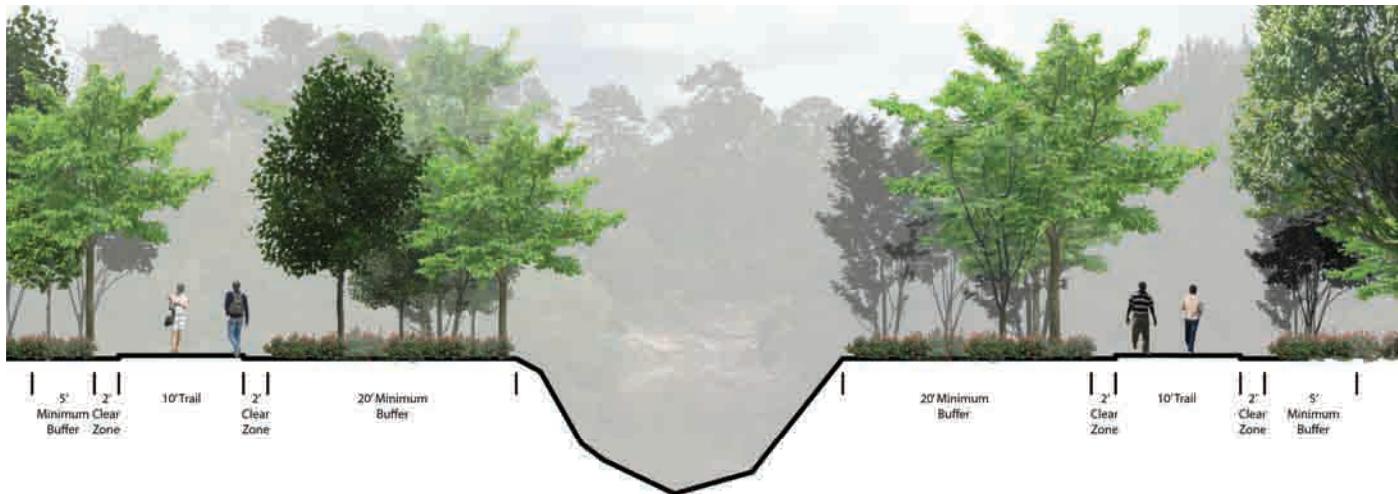
Example of Trail Map - HC Precinct 3



Native Landscaping Provides Instant Shade



Enhancement of Trail Corridors with Native Landscaping



Major Trail Corridor

Major trail corridors are recommended for long distances of contiguous trail that are intended for an all-weather heavy, 2-way use. These trails act as the “highways” of the overall trail system. Major trails are recommended to be a minimum width of 10-feet and should have a clearance of at least 2-feet on either side of trail and 10-feet height clear of signage, tree branches, etc. In locations that allow for a larger corridor a 12-feet trail is encouraged with a 5-feet clearance on either side.

Major Trail Corridors should be constructed of an all-weather material to increase longevity as well as reduce maintenance. Inside the City of Houston, the Houston Parks Board is currently constructing 10-feet concrete trails as part of the Bayou Greenway 2020 initiative. Utilizing this type of trail along Cypress Creek would continue the Bayou Greenway vision, and provide cohesiveness to the region’s major trails.

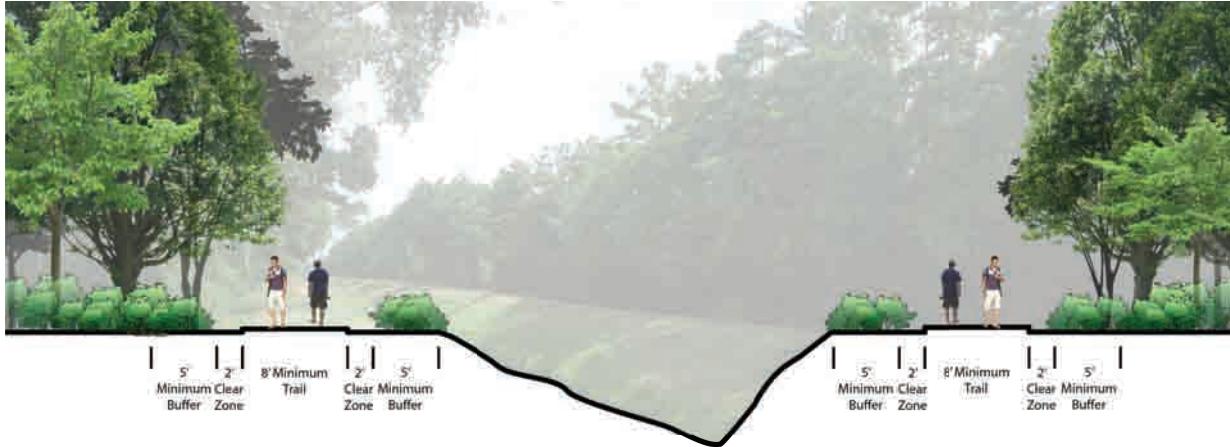
Within the study area, Major Trail Corridors are proposed along Cypress Creek, Faulkey Gully, and Pillot Gully. Trails already exist along portions of all three of these water bodies, and they have already become a natural destination to both residents and visitors to the area. The location of undeveloped floodplain property along Cypress Creek also provides an opportunity for a wider trail system.

Estimated Construction Cost: \$100 per Linear Foot



Proposed Trail Type Locations

Major Trails Quick Guide	
Recommended Width	10 - 12 Feet
Recommended Materials	All Weather; concrete, asphalt
Suggested Amenities	Signage, mileage markers, seating/rest areas, parking, shade



Minor Trail Corridors

Minor trail corridors are off-road routes that serve as collectors from specific neighborhoods or destinations within the study area. They allow users the ability to access the trail system closer to their home or workplace. Minor trails are recommended to be a minimum of 8-feet width, with 2-feet of clearance on either side, and 10-feet height. A 6-feet wide trail may be used in locations where overall corridor width is limited.

Trail material for minor trails could vary between hard and soft surfaces. Respondents of the public survey expressed an equal desire for both hard surface trails, such as asphalt and concrete, and soft trails such as decomposed granite or natural ground trails. As these connections mainly serve one area or neighborhood, and may be funded by various agencies, each party may choose to select a material that suits their needs. Overall width, however, is important and should be kept consistent to 8-feet wherever feasible.

Minor corridor trails are proposed within the study area along drainage corridors and utility easements, as well as loop trail systems around existing detention facilities. These trails are off-road and link neighborhoods to either an existing or proposed sidewalk or to a major corridor trail.

Estimated Construction Cost: \$75 per Linear Foot

Minor Trails Quick Guide

Recommended Width	6 - 8 Feet
Recommended Materials	Mix of hard and soft surfaces
Suggested Amenities	Signage, seating/rest areas, shade, lighting



Proposed Trail Type Locations

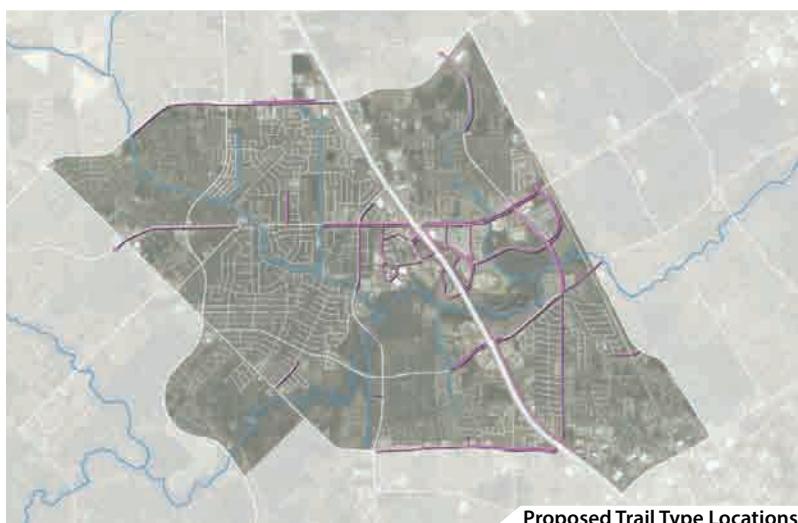


Proposed Sidewalk

Sidewalks can be considered either major or minor trails, depending on width and location. They are directly adjacent to a roadway and typically located within the public right-of-way. Harris County does not require the installation of sidewalks by a land developer at this time. However, if installed, sidewalks need to follow the County's design regulations requiring a minimum width of 4-feet, while the City of Houston requires a minimum of 5-feet. This plan recommends a minimum width of 6-feet for all proposed sidewalks, as it allows for two adults to comfortably pass each other. Sidewalks should be constructed of concrete and be placed a minimum of 2-feet from the roadway. Wherever possible, a 5-feet separation of the walk from the roadway creates a less intimidating corridor for pedestrians.

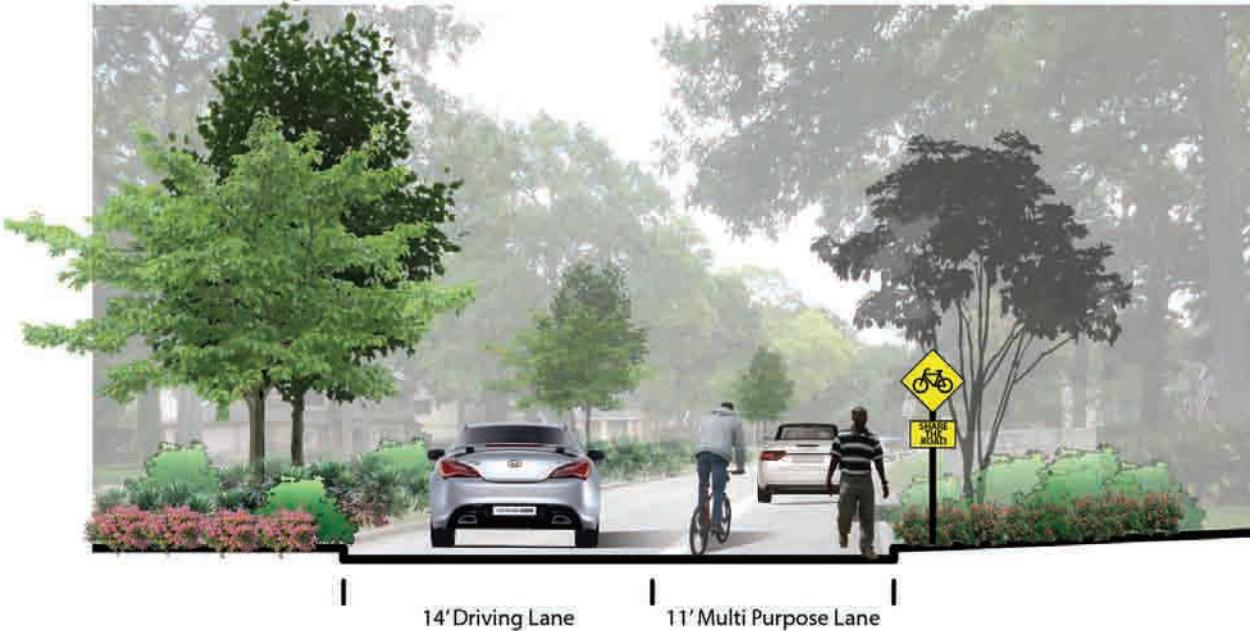
Obstacles may currently exist along roadways, including signage and utility structures. Careful review of a proposed sidewalk corridor must take place before further design.

Estimated Construction Cost: \$75 per Linear Foot



Sidewalks Quick Guide	
Recommended Width	6 Feet
Recommended Materials	Concrete
Suggested Amenities	Signage, seating/rest areas, shade

Recommendations



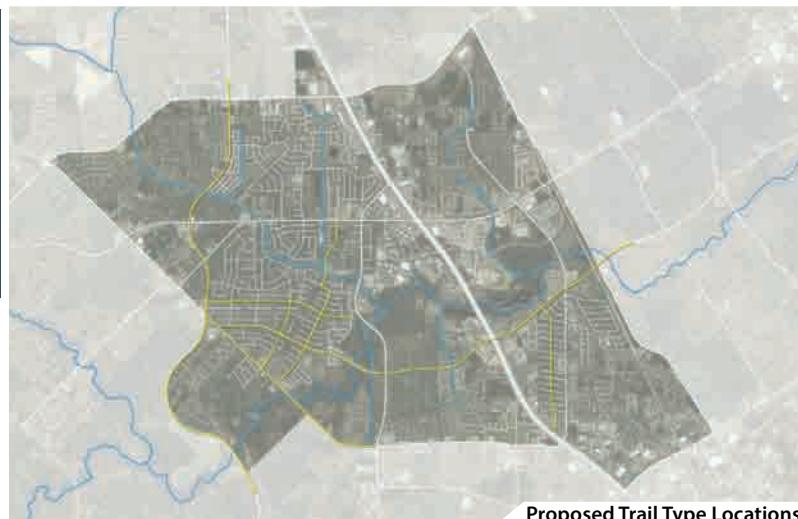
Option A
Boulevard with Multi-Purpose Lane

Proposed Bike Lane

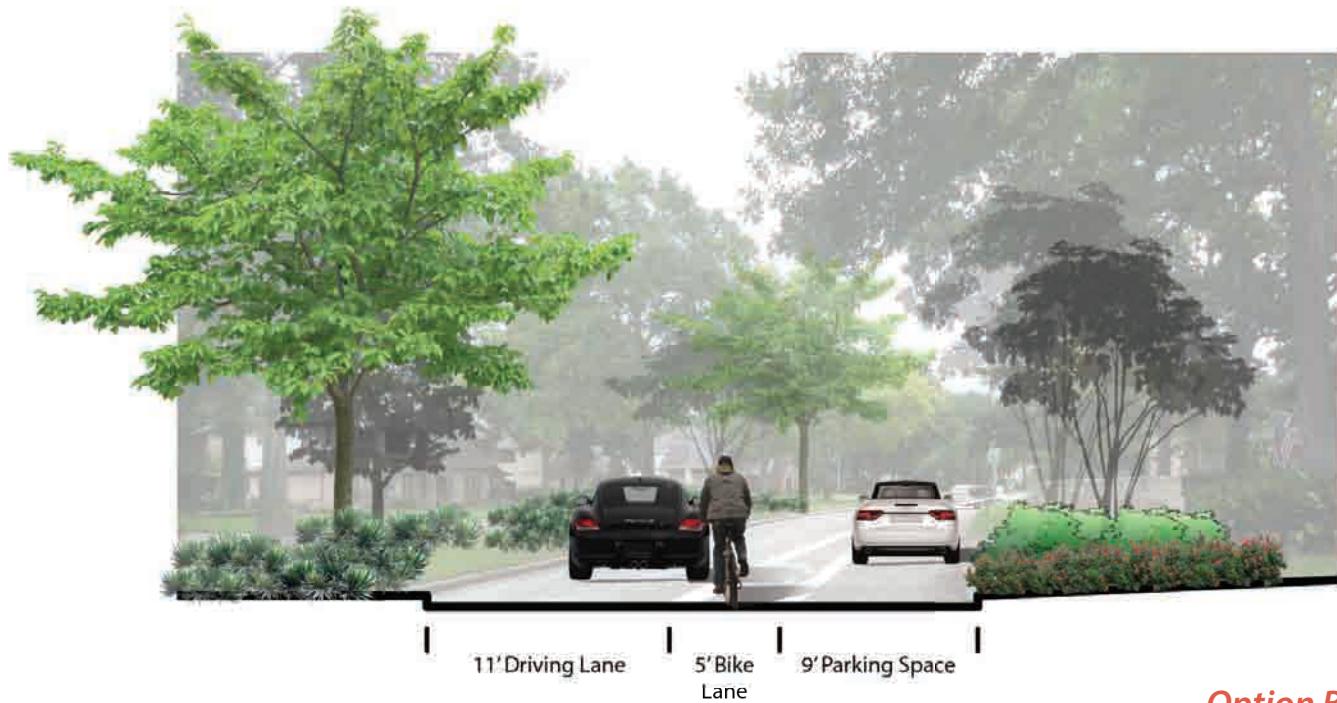
Some of the older developments within the study area pose challenges to locating future trail corridors. Lack of existing sidewalks, homes that front on major thoroughfares, and limited drainage facilities provide few options. Although Harris County does not currently allow for specific bike facilities under their development regulations, many other area jurisdictions such as City of Houston and the Texas Department of Transportation, do. Policy changes should be explored in order to allow bike facilities such as those shown in Options A-C below. Although under state law bikes may travel along all roadways, unless prohibited and signed as such, these types of facilities would provide for a more comfortable atmosphere for the bicyclist. Cypresswood Road could be converted to a single travel lane in each direction while providing a wide outside lane used for parking and could accommodate bicyclists and pedestrians. The creation of a striped bike lane alongside a parking lane may create conflicts when motorists are opening car doors. Along narrow two-lane roadways, such as Prestonwood Forest Drive, "Share The Roadway" signage could be installed to encourage motorists to respect bicyclists.

Estimated Construction Cost: \$25 per Linear Foot

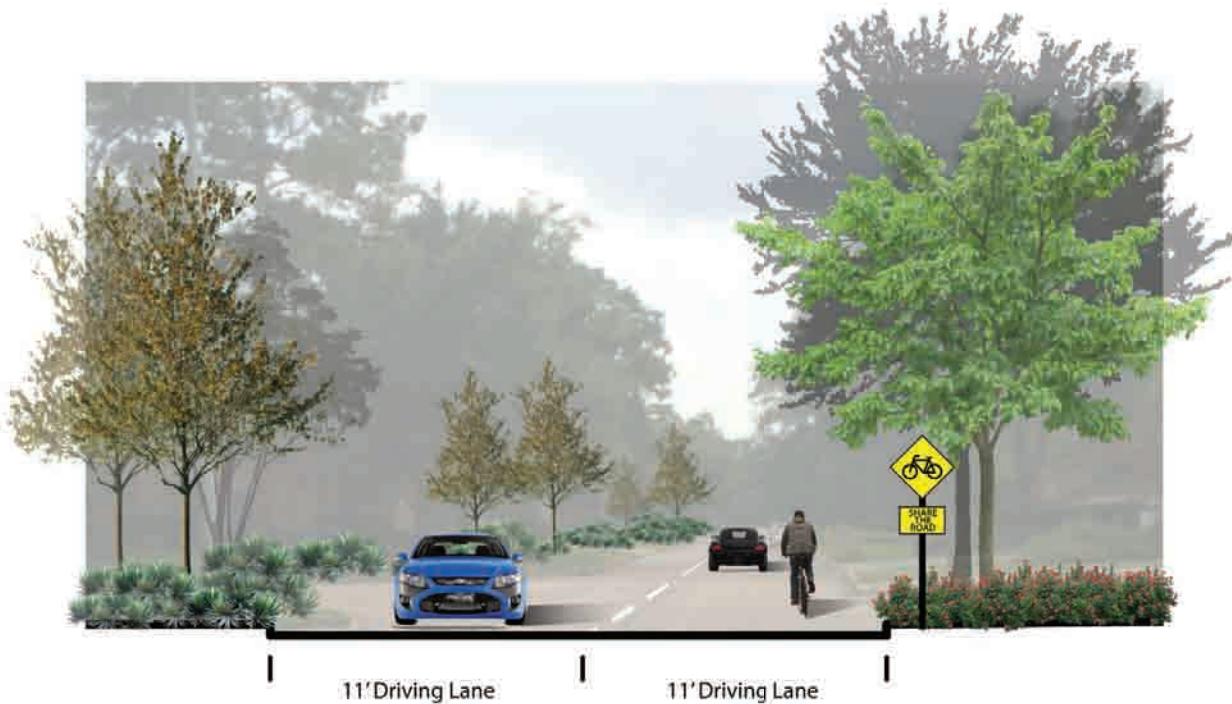
Bike Lanes Quick Guide	
Recommended Width	5 Feet Minimum
Recommended Materials	Existing Roadway
Suggested Amenities	Signage, striping



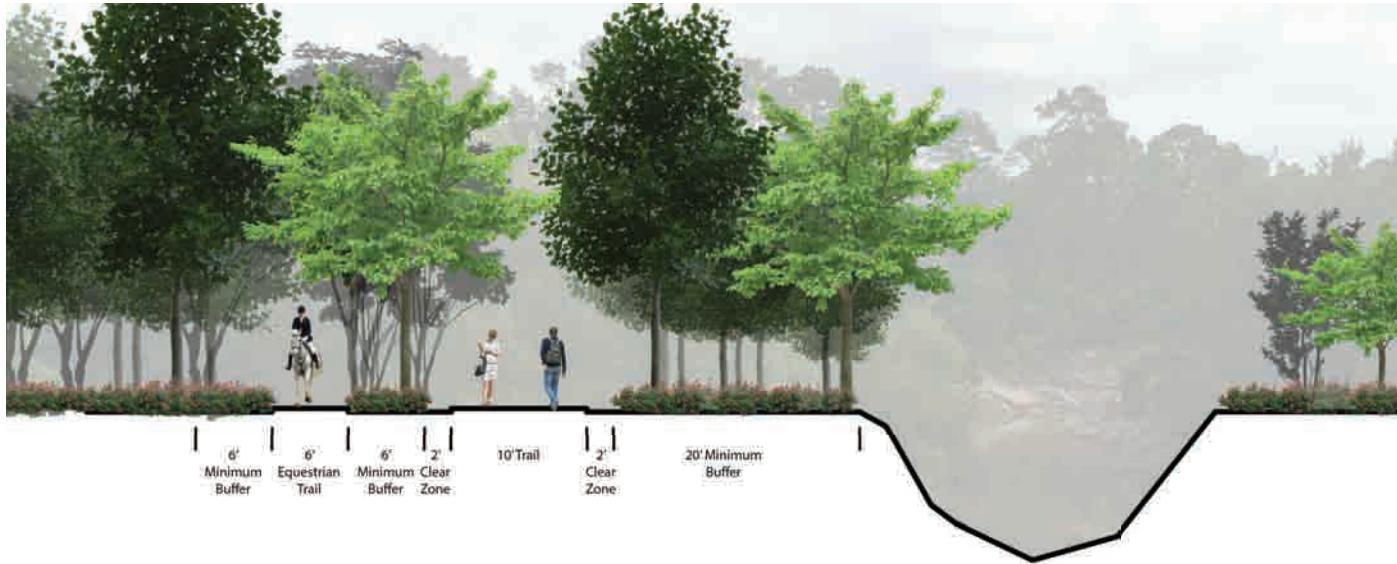
Proposed Trail Type Locations



Option B
Boulevard with Parking and Bike Lane



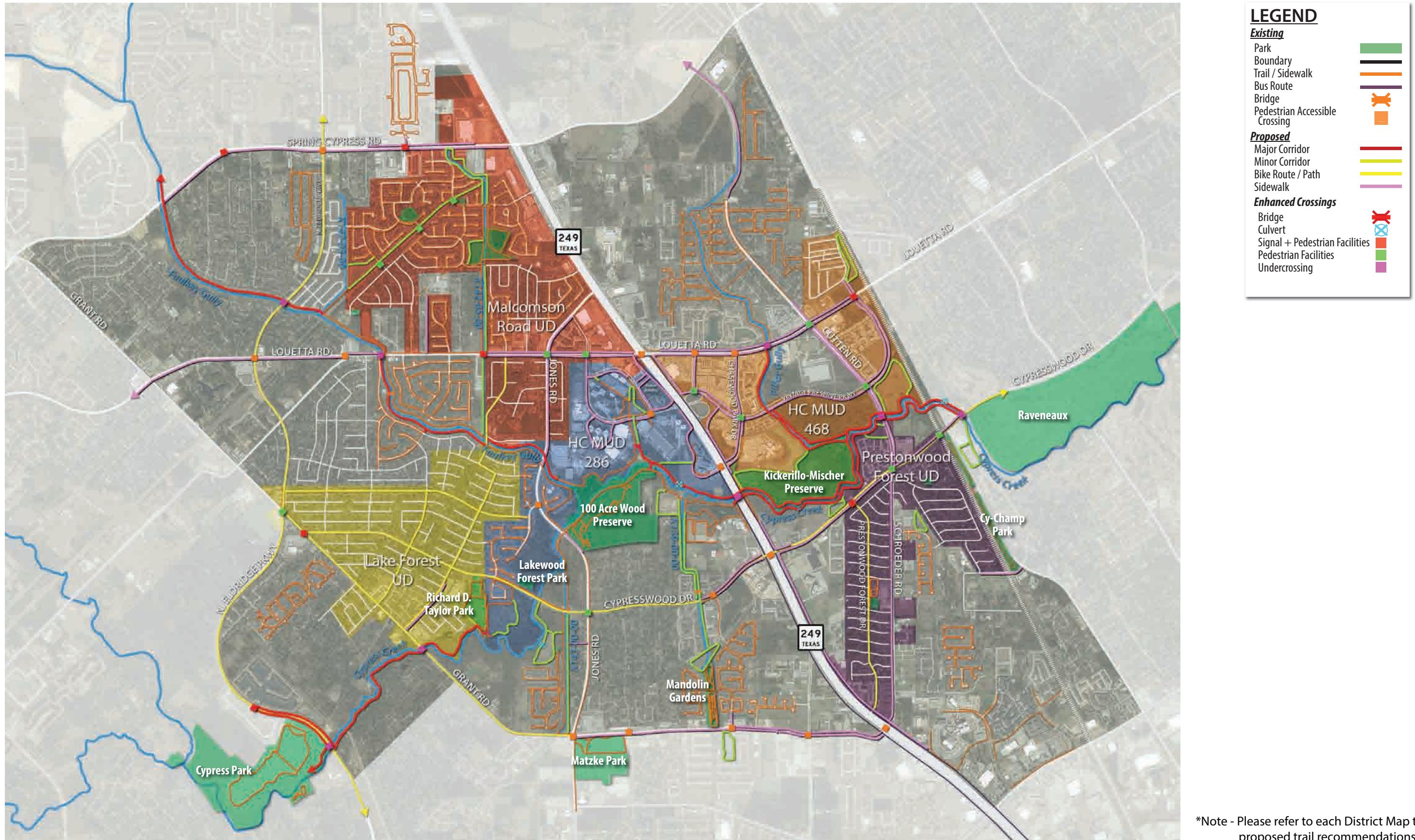
Option C
Share the Road Signage



Equestrian Trail Corridors

Although not specifically located on the trails master plan, equestrian use is very popular in the region and locations for accommodating these types of trails should be explored. Specific properties could be identified as equestrian use only facilities or equestrian trails may be developed alongside proposed multi-use trails. Equestrian trail corridors should be a minimum of 6-feet wide and passing areas should be located along the trail every quarter mile. If located adjacent other trails, a separation area, or buffer, should be a minimum of 6-feet and could include existing vegetation to enhance the buffer.

Proposed Trails Master Plan



*Note - Please refer to each District Map to clarify proposed trail recommendations

Detailed Recommendations

For purposes of this plan, the study area has been divided into two focus levels. The primary focus includes areas that fall within the jurisdictional boundaries of the plan's Coordinating Board. More specifically, this includes Lake Forest Utility District, Prestonwood Forest Utility District, Harris County Municipal Utility District No. 468, Harris County Municipal Utility District No. 286 and Malcomson Road Utility District. The plan's additional partners and their interests are located within the boundaries above.

Each of these District's have been carefully analyzed for potential trail corridors. On-site review of existing pedestrian facilities as well as proposed future corridors provides a more comprehensive understanding of future trail needs. Trail recommendations include preliminary cost estimates for budgetary purposes, as well as a priority system, and further explanation of priority projects, including potential challenges or obstacles.

Area's that fall outside the boundaries described above have been analyzed for existing and potential trail corridors with the focus being connectivity to Cypress Creek, Faulkey Gully and Pillot Gully. Trail alignments are proposed but detailed cost estimates have not been provided.

The following pages provide recommendations for specific partner area's as well as an overview of the entire study area.

Project Prioritization - Rating System

To assist with identifying priority projects in order to provide a phased approach to the development of trails within the study area, each proposed trail segment was reviewed for the questions below. If a trail segment answered yes to any of the sub-questions, the trail segment received a green star for that question. Any segment that did not fit the criteria received a red star. Priority projects were those that received a majority of green stars, preferably all 5. Each segment is shown with its priority rating on the following pages.

1. Does the trail segment provide a critical connection?
 - Is it the first alignment along a specific corridor?

- Does it connect pedestrians to a destination not currently served by a trail?
 - Does it close a gap between existing trails?
2. Is the trail corridor readily available for trail construction?
 - Is the property public, (HC or HCFCD) owned?
 - Does it fall within an existing right-of-way
 - Would minimal effort need to be made in order to utilize the corridor for recreational purposes (interlocal agreement, etc.)
 3. Would construction of the trail be relatively easy?
 - Is the corridor relatively flat and minimal grading would need to be performed (no major culverts or bridges needed)?
 - Is the corridor generally free from major obstacles that would need relocation (signs and trees rather than major utilities, buildings, etc.)
 4. Has a potential funding partner for construction been identified?
 - Typically a Utility District who could partner with someone else, if needed.
 - Is there an Home Owner Association or Property Owner Association that has shown interest and funding capabilities?

Example

Question:	1	2	3	4
This trail meets the criteria for questions 2 and 3, as indicated by the green stars. Stars 1 and 4, both red , indicate that the trail does not meet the criteria for those questions.				
Note: Projects are numbered for reference and not by priority. Priority projects are listed separately.				

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Malcomson Road Utility District

Recommendations

Malcomson Road Utility District currently has a extensive trail network that the District has been developing over several years. The majority of subdivisions within the District were constructed in the late 90's and were developed with internal sidewalks which provide connectivity within the community. Unfortunately, routes along and across major thoroughfares including Spring Cypress and Louetta Roads are lacking, limiting pedestrian access outside the District to destinations such as Compaq Center Drive and Vintage Park.

Utilizing an existing utility corridor for trail development would connect residents to the Faulkey Gully Trail as well as existing trails along the K 142-05-00 channel. Developing sidewalks and pedestrian crossings along Spring Cypress Road and Louetta Roads would allow more access to these existing off-road trails. The Malcomson Road Utility District is currently designing sidewalks along Louetta, on the north side, from Faulkey Gully to the K142-05-00 channel. Continuing the trail along the channel as well as sidewalks along Jones Road would provide north-south pedestrian connectivity.

Developing a bike lane system along Lakewood Forest Drive would provide an alternate route from Louetta to Faulkey Gully.

Descriptions, estimated costs, and ratings for all proposed projects as well as more in-depth descriptions for priority projects are included on the following pages.

Priority Project Descriptions

3 Minor trail along utility easement from the K142-03-00 drainage channel to the K142-05-00 drainage channel.

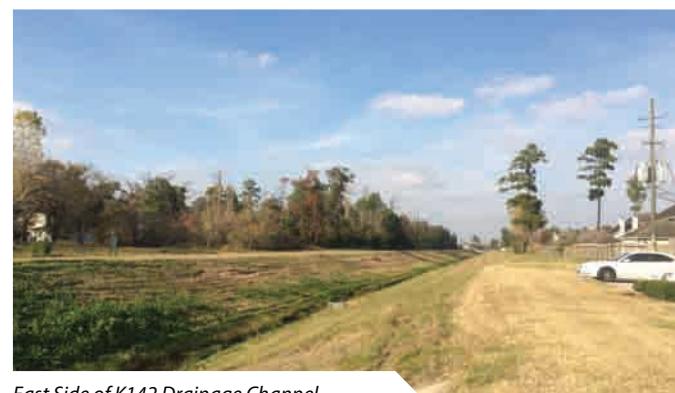
This 5,000-foot corridor is owned by the Lakewood Grove Home Owners Association. The property includes utility easements, aerial towers and pipelines. Generally the terrain is flat and other than the towers and signage is free from obstacles. Utility companies may require surveys as well as probing to locate their features in regards to proposed trail locations. Malcomson UD may be able to enter into an interlocal agreement with the HOA to construct this trail.



View of Utility Easement

4 Minor trail along K142-05-00 channel and existing detention basin.

Existing trails along the K142-05-00 drainage channel terminate at Lakewood Field Drive. Extending the trail north, to Spring Cypress Road and creating a loop trail around the Malcomson Road UD owned detention basin would provide access to future sidewalks proposed along Spring Cypress Road and Walmart. A loop trail would provide a ½ mile that can be used for passive walkers or for exercise.



East Side of K142 Drainage Channel

13 Sidewalk along Jones Road from Faulkey Gully to Louetta Road

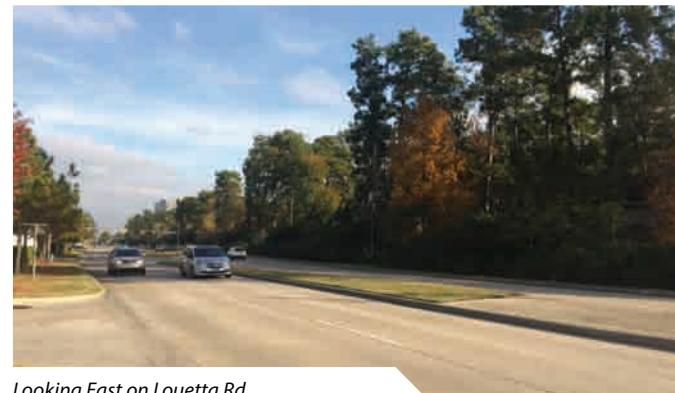
The only existing sidewalk along Jones Road within Malcomson UD is a small section at Highway 249. Extending the sidewalk on the east side of Jones Road from Louetta to Faulkey Gully would provide north-south access to existing trails. Driveways do front on Jones Road, but a sidewalk could be constructed within the right-of-way with limited re-location or removal of obstacles.



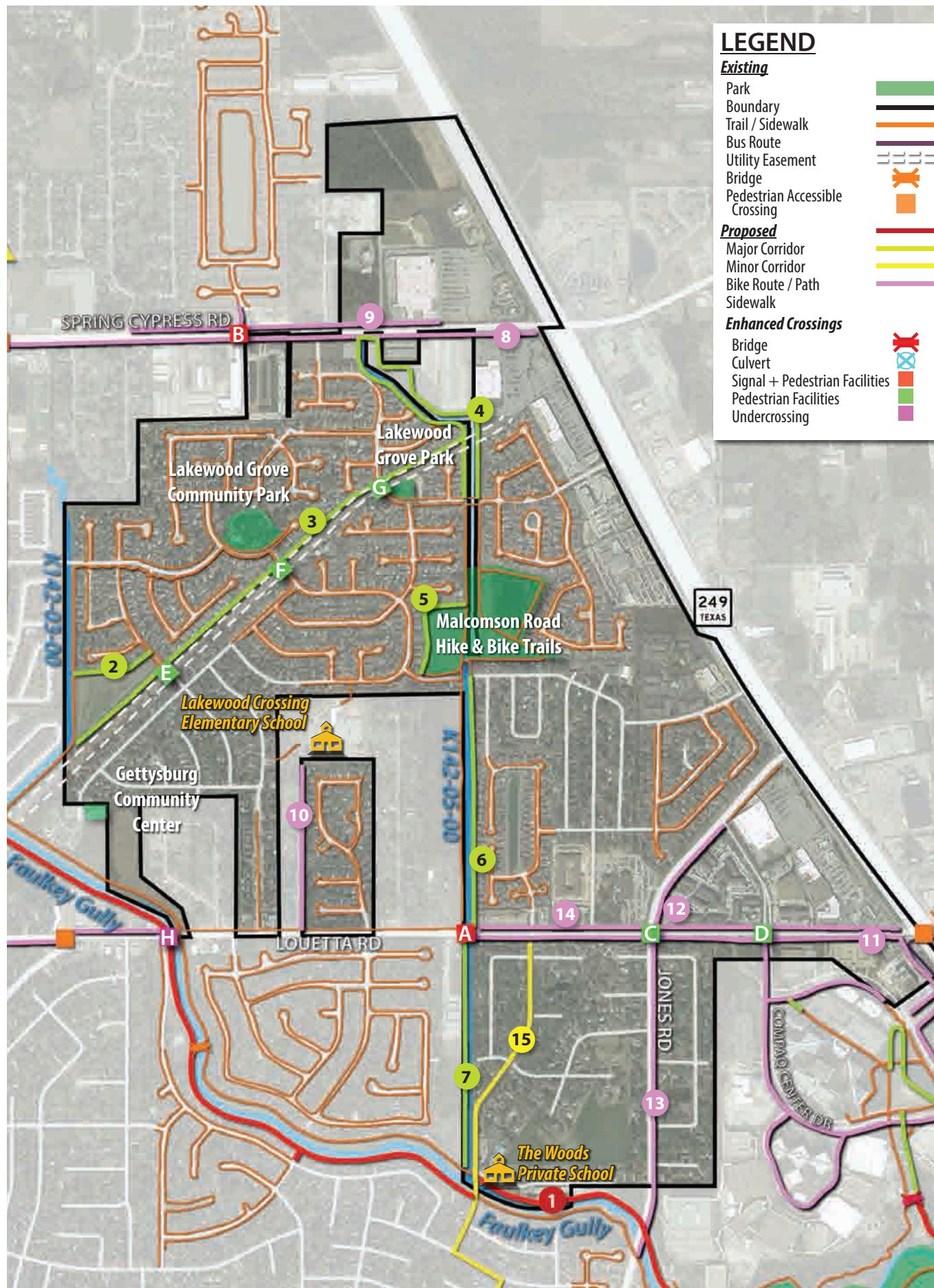
North Bank of Detention Pond

11 12 14 Sidewalks along Louetta Road from K142-05-00 drainage channel to Highway 249

Malcomson Road UD is currently constructing sidewalks along Louetta Road from Faulkey Gully to the K142-05-00 drainage channel. Extending these sidewalks east to Highway 249 would allow residents to access retail shops as well as offices within the HP Complex. Signage and utility boxes are located within and adjacent to the right-of-way along Louetta Road and would require relocation.



Looking East on Louetta Rd.



Measurements and Costs

Proposed Trails within The District

Type	Description/Location	Quantity	Est. Cost	Rating
①	Cypress Creek - MUD Boundary to Lakewood Forest Dr.	1,000 LF	\$100,000	★★★★★
②	Detention Pond North Trail - Birchview Dr. to Faulkey Gully Trail	800 LF	\$60,000	★★★★★
③	Utility Easement Trail - K142 Drainage Channel to Faulkey Gully Trail	5,000 LF	\$375,000	★★★★★
④	K142 Drainage Channel Trail Loop	4,750 LF	\$356,250	★★★★★
⑤	Malcomson Road UD Trail System - Detention Pond North Loop	1,250 LF	\$93,750	★★★★★
⑥	K142 Drainage Channel - Gatesden Dr. to Louetta Rd.	2,500 LF	\$187,500	★★★★★
⑦	K142 Drainage Channel - Louetta Rd. to Faulkey Gully Trail	2,300 LF	\$172,500	★★★★★
⑧	Spring Cypress Rd. - SH 249 to Trial Cypress Dr.	3,000 LF	\$225,000	★★★★★
⑨	Spring Cypress Rd. - Walmart to Trial Cypress Dr.	1,850 LF	\$138,750	★★★★★
⑩	Lakewood Elementary Dr. - Lakewood Elementary School to Louetta Rd.	1,650 LF	\$123,750	★★★★★
⑪	Louetta Rd. - K142 Drainage Channel to Noble Energy Building	4,950 LF	\$371,250	★★★★★
⑫	Louetta Rd. & Jones Rd. - SH 249 to Compaq Center Way	3,500 LF	\$262,500	★★★★★
⑬	Jones Rd. - MUD Boundary to Louetta Rd.	2,500 LF	\$187,500	★★★★★
⑭	Louetta Rd. - Jones Rd. to K142 Drainage Channel	1,700 LF	\$127,500	★★★★★
⑮	Lakewood Forest Dr. - Faulkey Gully to Louetta Rd.	2,650 LF	\$66,250	★★★★★

Proposed Enhanced Crossings

Type	Description/Location	Est. Cost
A	Intersection of K142 Channel and Louetta Rd.	\$300,000
B	Intersection of Spring Cypress Rd. and Trial Cypress Dr.	\$300,000
C	Intersection of Jones Rd. and Louetta Rd.	\$60,000
D	Intersection of Louetta Rd. and Compaq Center Dr.	\$60,000
E	Intersection of Malcomson Road Utility Easement and Birchview Dr.	\$60,000
F	Intersection of Malcomson Road Utility Easement and Gatesden Dr.	\$60,000
G	Intersection of Malcomson Road Utility Easement and Lakewood Crossing Dr.	\$60,000
H	Undercrossing at Louetta Rd. and Faulkey Gully	\$250,000

Lake Forest Utility District

Recommendations

Predominately residential, Lake Forest Utility District has limited existing pedestrian facilities. Constructed in the 80's, adding sidewalks was not typical, and therefore not included in the development. Homes that front on major thoroughfares, such as Cypresswood Drive and Lakewood Forest Drive create challenges to installing sidewalks. Although rights-of-ways may be used for this purpose, existing obstacles such as mailboxes and landscaping would need to be re-located. Public support may be lacking for this type of project and the cost would be prohibitive.

A sidewalk could be developed along the east side of Lakewood Forest Drive at the Gardens of Lakewood subdivision from Grant Road to Moore Elementary and Richard Taylor Park. Extending a Minor Trail along an existing drainage channel would also provide access to Cypress Creek.

Due to limited sidewalks within Lake Forest UD, a series of bike lanes are proposed in order to improve connectivity. Although Harris County does not currently allow bike lanes, revised policies should be encouraged. Creating Option "A", boulevard with multi-purpose lane, or Option "B", boulevard with parking and bike lane could improve connectivity within the District. Two-way roads such as Normont Drive, and Cedar Point Drive could be signed as in Option "C", to provide multiple routes.

Descriptions, estimated costs, and ratings for all proposed projects as well as more in-depth descriptions for priority projects are included on the following pages.



Priority Projects

1 Major trail along Cypress Creek from Grant Road to Richard Taylor Park

Although only 2,900-feet of trail along Cypress Creek falls within Lake Forest UD's boundary, this piece would provide a critical connection from Grant Road to existing trails near Richard Taylor Park. The trail corridor would be located on properties owned by HCFCD and Cy-Fair ISD. Varying topography and soils exist within this area and further studies and a preliminary engineering report should be performed before final alignment is designed.



Typical Streetscape Within the District

2 Minor trail the K164-00-00 drainage channel from Lakewood Forest Drive to Cypress Creek

This trail would be located along an existing drainage channel owned by Cy-Fair ISD as part of the adjacent Moore Elementary. The existing trail within Richard Taylor Park has fencing along the western edge creating a barrier for public access. This trail portion would allow pedestrians to connect to the existing Harris County MUD 286 hike and bike trail that extends north to Cypresswood Drive.



Desired Path Along Drainage Channel

6 8 Bike lanes along Cypresswood and Lakewood Forest Drives

Although these projects ranked low using the scoring system due to current Harris County regulations, these routes would provide critical connections for bicyclists and possibly pedestrians through the Lakewood Forest subdivision and to both Cypress Creek and Faulkey Gully.

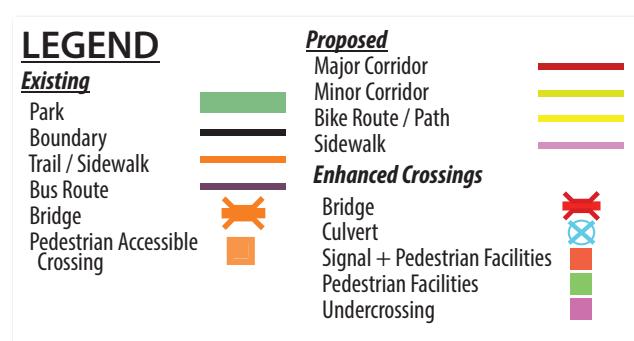
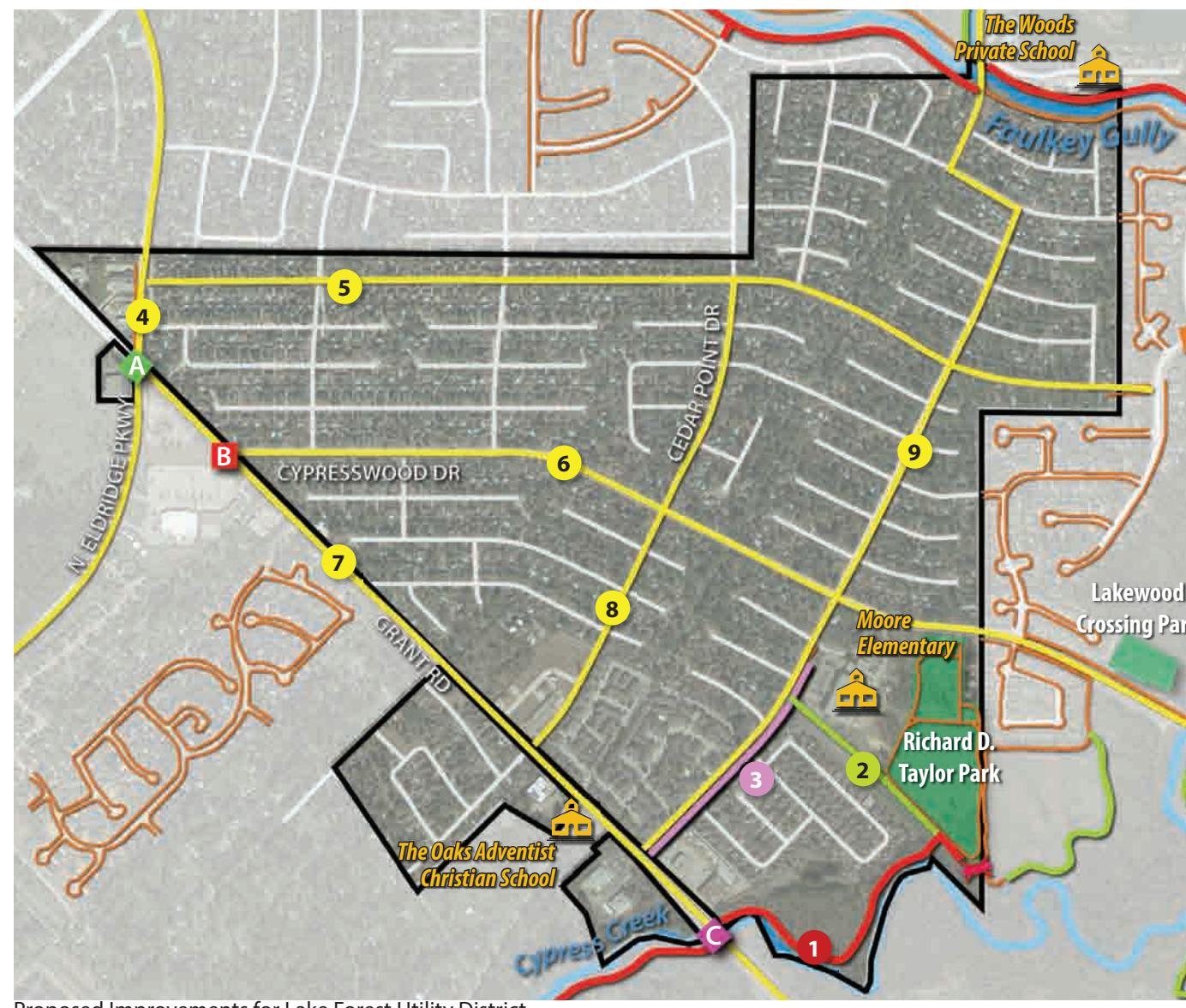


Looking West on Cypresswood Dr.



Looking Into Drainage Channel

Measurements and Costs



Proposed Trails within The District

Type	Description/Location	Quantity	Est. Cost	Rating
①	Cypress Creek - Grant Rd. to HC MUD 286 Hike/Bike Trail	2,500 LF	\$250,000	★★★★★
②	K164 Drainage Channel - Lakewood Forest Dr. to HC MUD 286 Hike/Bike Trail	1,500 LF	\$150,000	★★★★★
③	Lakewood Forest Dr. - Grant Rd. to Moore Elementary	1,800 LF	\$135,000	★★★★★
④	Eldridge Pkwy. - Eldridge Pkwy. to UD Border	900 LF	\$22,500	★★★★★
⑤	Normont Dr. - Eldridge Pkwy. to Lakewood Crossing Blvd.	7,150 LF	\$178,750	★★★★★
⑥	Cypresswood Dr. - Grant Rd. to UD Border	5,450 LF	\$136,250	★★★★★
⑦	Grant Rd. - Eldridge Pkwy. to Cypress Creek	5,550 LF	\$138,750	★★★★★
⑧	Cedar Point Dr. - Grant Rd. to Normont Dr.	3,600 LF	\$90,000	★★★★★
⑨	Lakewood Forest Dr. - Grant Rd. to Faulkey Gully	6,450 LF	\$161,250	★★★★★

Proposed Enhanced Crossings

Type	Description/Location	Est. Cost
A	Intersection of Grant Rd. and Cypresswood Dr.	\$300,000
B	Intersection of Eldridge Pkwy. And Grant Rd.	\$60,000
C	Undercrossing at Cypress Creek and Grant Rd.	\$500,000
X	Proposed Bridge at K164 Drainage Channel to Existing HC MUD 286 Hike/Bike Trail	\$300,000

Harris County MUD No. 286

Recommendations

With significant frontage along Cypress Creek, existing trails within Harris County MUD 286 provide pedestrian access along portions of the Creek between Jones Road and the HP Complex. Trails also continue north along Faulkey Gully. Just outside the District, trails along the K143-00-00 channel and within the 100 Acre Preserve create an extensive network.

Continuing a major trail along the west side of Cypress Creek would improve access from Richard D. Taylor Park, and the Lakewood Crossing subdivision. Improvements should be made to the existing HP trails along the north side of the creek. Installing a new pedestrian bridge near the complex across an existing drainage channel and extending the major trail, eastward, would provide accessibility from the HP Complex to the Vintage Park Development.

Although some sidewalks exist within the HP Complex, they are primarily disconnected. Providing additional minor trails and connections to Cypress Creek would improve quality of life options for both students and employees. These routes could also be utilized for commuting, as an alternate to automobiles. Developing sidewalks along Compaq Center Drive and Noble Energy Way is imperative for creating a more walkable campus atmosphere.

Descriptions, estimated costs, and ratings for all proposed projects as well as more in-depth descriptions for priority projects are included on the following pages.



Priority Projects

3 16 Major trail along Faulkey Gully and sidewalk at Jones Road.

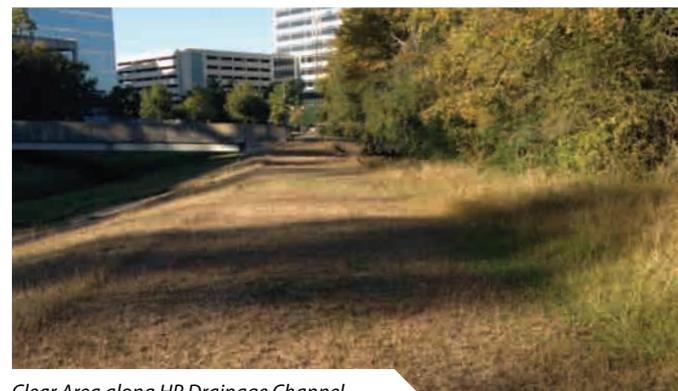
These two segments would provide connections to existing trails along Faulkey Gully. Partnering with Malcomson Road UD could extend a sidewalk along Jones Road from Louetta Road to Faulkey Gully. A small portion along Faulkey Gully west of Jones Road also lies within the HCMUD 286 boundary.



Desired Path Along Cypress Creek

6 7 Minor trails along K158-00-00 drainage channel

Existing decomposed granite and informal natural trails exist along portions of the K158-00-00 channel. Formalizing and extending these trails to Cypress Creek would allow more usage of existing trails. Pedestrian bridges across the channel and Cypress Creek would allow access to the adjacent 100 Acre Wood Preserve. Hydrological reports would need to be performed and approved by Harris County before bridges could be constructed.



Clear Area along HP Drainage Channel

10 11 12 Sidewalks within the HP campus

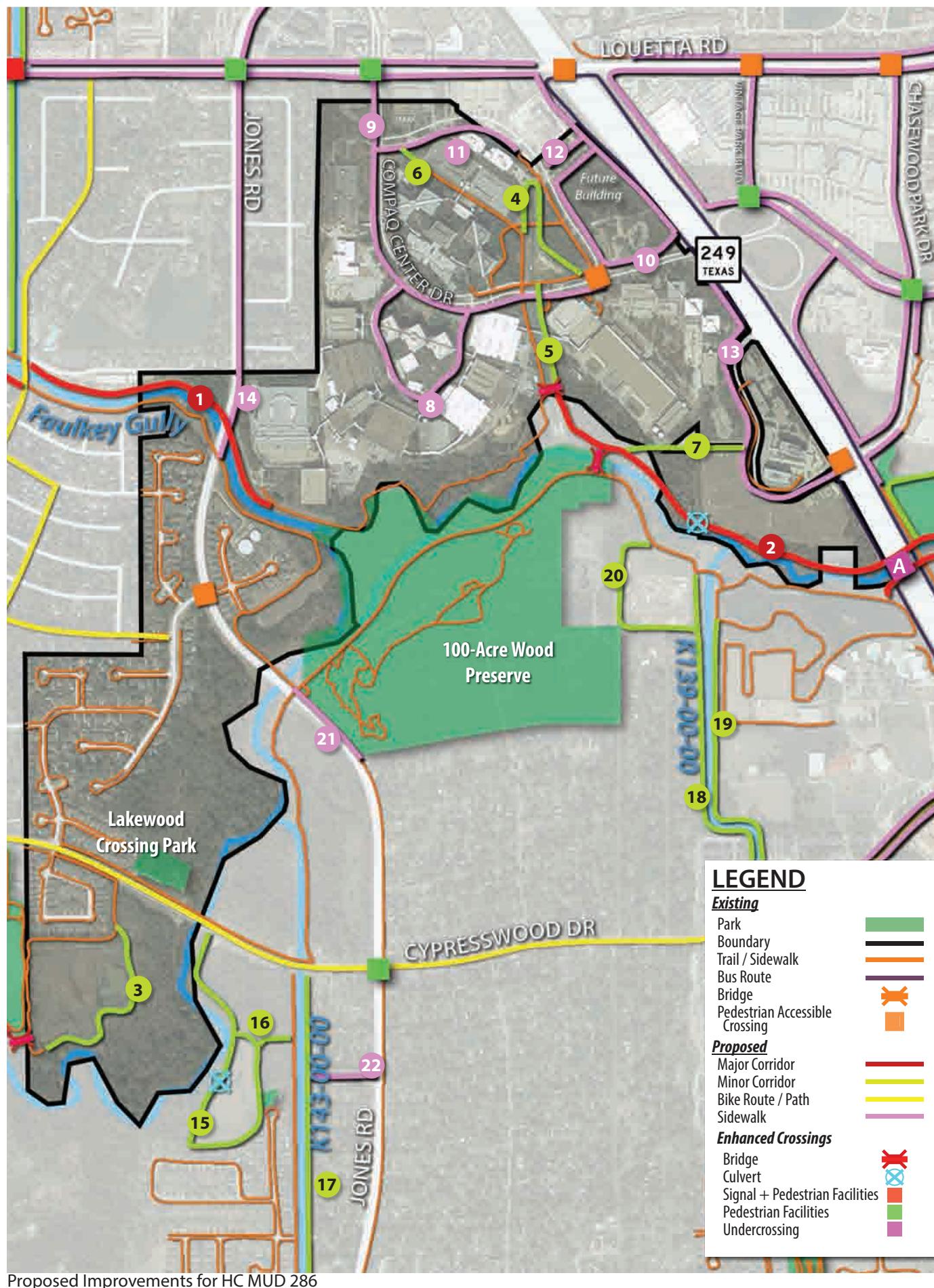
Originally designed with overhead pedestrian bridges to connect buildings, no sidewalks were constructed. Now that the campus is no longer strictly HP, these existing structures do not always provide the most direct routes. In order to encourage a more traditional campus like atmosphere, sidewalks should be constructed along major roadways, including Compaq Center Drive, and Noble Energy Way. These sidewalks could connect pedestrians to proposed major and minor corridor trails along Cypress Creek and Faulkey Gully.



Cypress Creek Banks



Looking Towards Cypress Creek



Measurements and Costs

Proposed Trails within The District

Type	Description/Location	Quantity	Est. Cost	Rating
①	Faulkey Gully - MUD Boundary to Existing HP Trails	1,500 LF	\$150,000	★★★★★
②	Cypress Creek - Proposed HP Pedestrian Bridge to Kickerillo-Mischer Preserve	3,730 LF	\$373,000	★★★★★
③	HCFCD Property - South HC MUD 286 Trail Loop	1,675 LF	\$125,625	★★★★★
④	K158 Drainage Channel - HP Drainage Loop Trail	1,420 LF	\$106,500	★★★★★
⑤	K158 Drainage Channel - Compaq Center Dr. to Proposed HP Pedestrian Bridge	900 LF	\$67,500	★★★★★
⑥	LoneStar Campus - Dirt Path to University Park Campus Dr.	300 LF	\$22,500	★★★★★
⑦	Service Road - Chasewood Park Dr. to Cypress Creek	1,000 LF	\$75,000	★★★★★
⑧	HP Campus - South Loop	2,275 LF	\$170,625	★★★★★
⑨	Compaq Center W. Dr. - Louetta Rd. to Noble Energy Way	3,375 LF	\$253,125	★★★★★
⑩	SH 249 Frontage Rd. and Noble Energy Way - Loop	3,050 LF	\$228,750	★★★★★
⑪	University Park Campus Dr. - Noble Trail to Compaq Center Dr.	1,130 LF	\$84,750	★★★★★
⑫	LoneStar College Dr. - SH 249 Frontage Rd. to Noble Energy Way	400 LF	\$30,000	★★★★★
⑬	SH 249 Frontage Rd. and Chasewood Park Dr.	2,775 LF	\$208,125	★★★★★
⑭	Jones Rd. - MUD Boundary to HC MUD 286 Hike/Bike Trail	800 LF	\$60,000	★★★★★

Proposed Out of District Connections

Type	Description/Location	Quantity	Est. Cost	Rating
⑯	Cypress Creek - K143 Drainage Channel to Cypresswood Dr.	3,450 LF	\$258,750	★★★★★
⑯	Proposed Anderson Woods Detention Basin Loop	300 LF	\$22,500	★★★★★
⑯	K143 Drainage Channel - Cypresswood Dr. to Grant Rd.	3,500 LF	\$262,500	★★★★★
⑯	K139 Drainage Channel - HC MUD 230 Detention Pond to 100 Acre Wood Trail	4,800 LF	\$360,000	★★★★★
⑯	K139 Drainage Channel - Cypresswood Dr. to YMCA Trails	2,750 LF	\$206,250	★★★★★
⑯	HC MUD 230 North Detention Pond	1,500 LF	\$112,500	★★★★★
⑯	Jones Rd. - Existing Sidewalk to HC MUD 286 Hike/Bike Trail	670 LF	\$50,250	★★★★★
⑯	Elmdale Dr. - Jones Rd. to K143 Drainage Channel	490 LF	\$37,500	★★★★★

Proposed Enhanced Crossings

Type	Description/Location	Est. Cost
A	Undercrossing at Cypress Creek and Cypresswood Dr.	\$500,000
✗	Proposed HP Bridge in K158 Drainage Channel	\$500,000
✗	Proposed Bridge across Cypress Creek to 100 Acre Wood Preserve	\$1,000,000
✗	Proposed Culvert along Major Corridor Trail #2	\$50,000
✗	Proposed Culvert along Minor Corridor Trail # 15	\$50,000



Harris County MUD No. 468

Recommendations

Harris County MUD 468 has the greatest amount of density within the study area, and also the least amount of pedestrian facilities. Currently, Vintage Park is accessed by vehicular traffic, while pedestrian access is limited. With the current development of numerous multi-family complexes within the District, as well as future development of the Kickerillo-Mischer Preserve, roadway traffic will continue to increase, therefore encouraging those who live and work nearby to seek out alternative ways to access the popular development.

Establishing a network of sidewalks along major roadways within the Vintage Park Development could greatly increase the potential for increased pedestrian access from nearby neighborhoods. Pedestrian accessible intersections along Louetta road already exist and sidewalks would improve access from the Vintage Lake Subdivision. Installing sidewalks along Cutten Road and the Vintage Preserve Parkway would provide pedestrian access for residents of the new apartment complexes along Cutten Road.

Existing asphalt trails along Pillot Gully, to the north of Louetta Road, should be extended south to Cypress Creek. Developing major trails along Pillot and Cypress Creek from Highway 249, eastward, could connect to Meyer and Collins Parks, about 2 miles away. Improvements for pedestrian crossing of the existing railroad tracks at the eastern edge of the study area would need to be explored.

Descriptions, estimated costs, and ratings for all proposed projects as well as more in-depth descriptions for priority projects are included on the following pages.

Priority Projects

1 4 Major trails along Cypress Creek

Creating a major trail system east of Highway 249 would provide a critical connection from the HP Campus and YMCA to the Kickerillo-Mischer Preserve and Vintage Park area. This route could also extend beyond the study area to Meyer and Collins Parks which are popular park destinations.



Desired Foot Path Along SH 249

2 3 Major trails along Pillot Gully

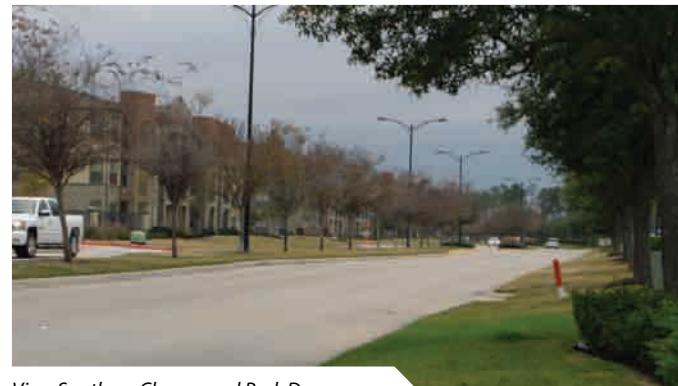
Extending existing trails developed in Charterwood across Louetta Road just over a half mile to Cypress Creek would create a direct route to commercial, retail, health and recreation destinations from residential neighborhoods to the north and east of HCMUD 468. Undercrossings should be explored at both Louetta Road and Vintage Preserve Parkway.



Existing In District Detention Basin

12 17 18 19 Sidewalks along Louetta Road

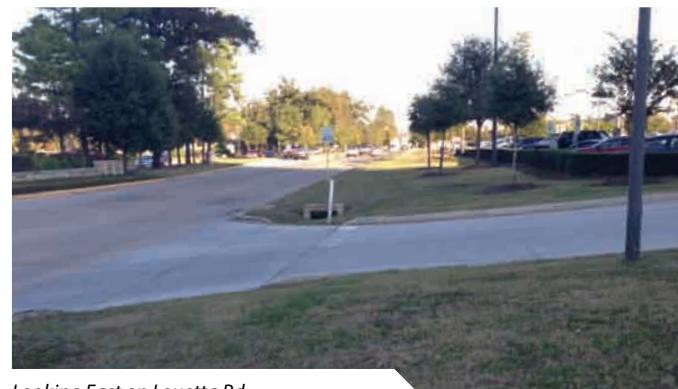
Only a small portion of sidewalk exists along Louetta Road near Highway 249. The potential for pedestrian access to services and amenities within the Vintage Park development from surrounding residential could boost the developments popularity and also assist with reducing traffic congestion.



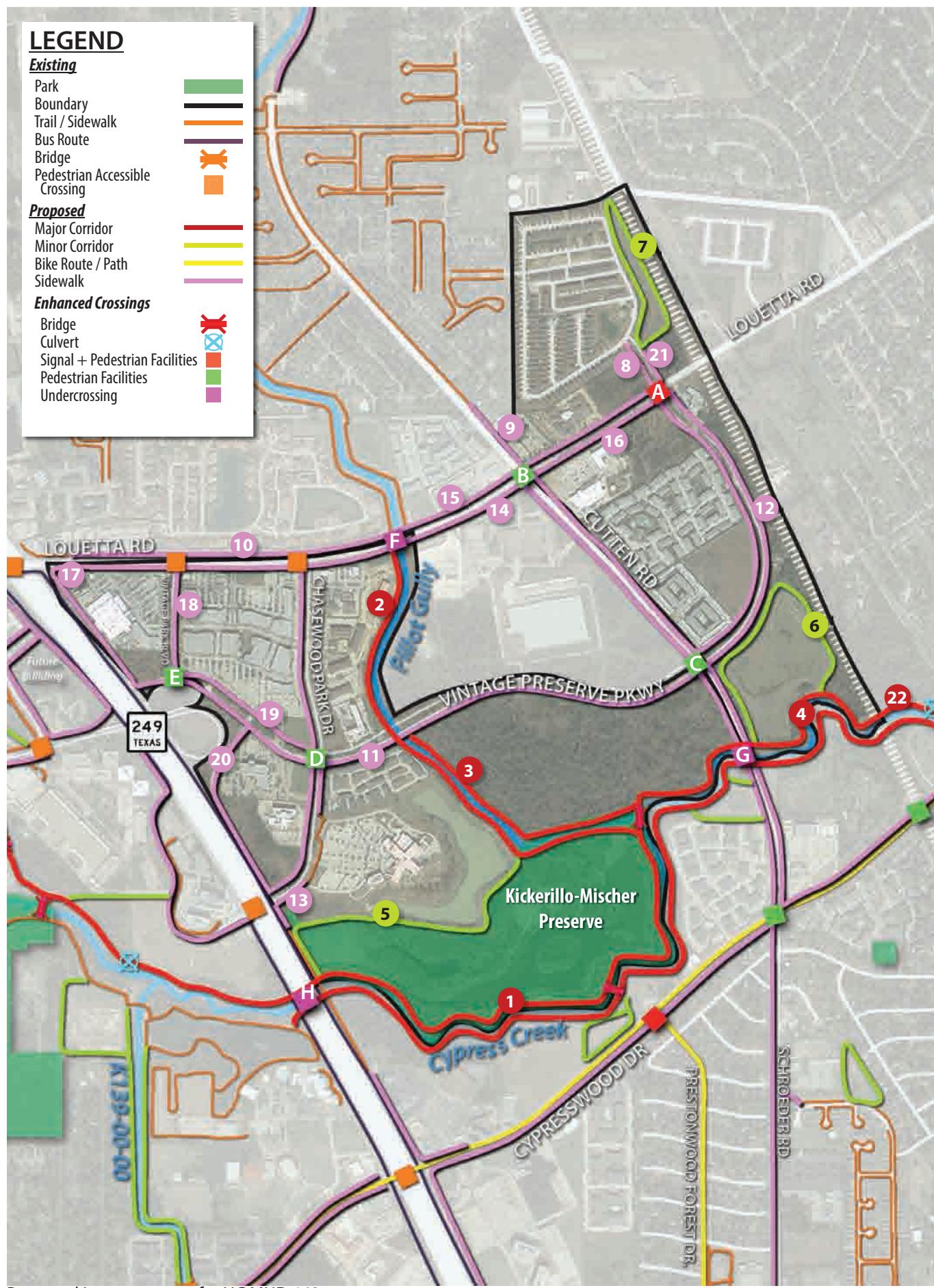
View South on Chasewood Park Dr.

20 21 22 Sidewalks within Vintage Park

Originally designed as a destination accessed primarily by vehicular traffic, the increase in both single and multi-family developments nearby has strengthened the desire for pedestrian access to the development. Constructing internal sidewalks would provide safer routes for pedestrians.



Looking East on Louetta Rd.



Measurements and Costs

Proposed Trails within The District

Type	Description/Location	Quantity	Est. Cost	Rating
①	Cypress Creek - SH 249 to Cutten Rd.	6,750 LF	\$675,000	★★★★★
②	Pillot Gully - Louetta Rd. to Cypress Creek (South)	4,700 LF	\$470,000	★★★★★
③	Pillot Gully - Vintage Preserve Pkwy. to Cypress Creek (North)	2,700 LF	\$270,000	★★★★★
④	Cypress Creek - Cutten Rd. to Railroad Tracks	1,775 LF	\$177,500	★★★★★
⑤	Kickerillo-Mischer Preserve - Kickerillo Mischer Trail North	3,175 LF	\$238,125	★★★★★
⑥	East Detention Pond Near Train Tracks - Detention Pond Loop Trail	3,000 LF	\$225,000	★★★★★
⑦	Vintage Royale Detention Pond - Detention Pond Loop Trail	3,200 LF	\$240,000	★★★★★
⑧	Louetta Rd. - Vintage Royale to Property	1,000 LF	\$75,000	★★★★★
⑨	Louetta Rd. & Cutten Rd. - Property to Existing Sidewalk on Cutten Rd.	1,181 LF	\$88,575	★★★★★
⑩	Louetta Rd. - Pillot Gully to Shops at the Vintage	3,010 LF	\$225,750	★★★★★
⑪	Vintage Preserve Pkwy. - Vintage di Vita Apartments to Cypress Creek	4,600 LF	\$345,000	★★★★★
⑫	Cutten Rd. and Vintage Preserve Pkwy. - Louetta Rd. to Cypress Creek	4,000 LF	\$300,000	★★★★★
⑬	SH 249 and Chasewood Park Dr. - SH 249 Feeder to St. Lukes Hospital	400 LF	\$30,000	★★★★★
⑭	Cutten Rd. and Louetta Rd. - Vintage Preserve Pkwy. To Pillot Gully	3,450 LF	\$258,750	★★★★★
⑮	Louetta Rd. - Cutten Rd. to Pillot Gully (North)	1,200 LF	\$90,000	★★★★★
⑯	Louetta Rd., Cutten Rd., and Vintage Preserve Pkwy. - Whole Foods Block Loop	6,500 LF	\$487,500	★★★★★
⑰	Louetta Rd. and SH 249 - Pillot Gully to Vintage Park Blvd.	5,000 LF	\$375,000	★★★★★
⑱	Vintage Park Loop	4,225 LF	\$316,875	★★★★★
⑲	Vintage Preserve Pkwy. - Vintage Park Blvd. to Hospital	1,975 LF	\$148,125	★★★★★
⑳	Chasewood Park Dr. and SH 249 - Hospital to Feeder entrance Loop	2,300 LF	\$172,500	★★★★★
㉑	Vintage Preserve Pkwy. - Vintage Royale to Louetta Rd.	375 LF	\$28,125	★★★★★

Proposed Out of District Connections

Type	Description/Location	Quantity	Est. Cost	Rating
㉒	Cypress Creek - K143 Drainage Channel to Cypresswood Dr.	3,450 LF	\$258,750	★★★★★

Proposed Enhanced Crossings

Type	Description/Location	Est. Cost
A	Intersection of Vintage Preserve Pkwy. and Louetta Rd.	\$300,000
B	Intersection of Cutten Rd. and Louetta Rd.	\$60,000
C	Intersection of Cutten Rd. and Vintage Preserve Pkwy.	\$60,000
D	Intersection of Chasewood Park Dr. and Vintage Preserve Pkwy.	\$60,000
E	Intersection of Vintage Park Blvd. and Vintage Preserve Pkwy.	\$60,000
F	Undercrossing at Louetta Rd. and Pillot Gully	\$250,000
G	Undercrossing at Cutten Rd. and Cypress Creek	\$500,000
H	Undercrossing at SH 249 and Cypress Creek	\$500,000
㉓	Proposed Culvert along Major Corridor Trail #22	\$50,000
㉔	Proposed Bridge across Pillot Gully	\$300,000

Prestonwood Forest Utility District

Overall Analysis

Prestonwood Forest Utility District is an older residential subdivision with no internal sidewalks. Prestonwood Forest Drive would be a candidate for a future bike lane as the development of sidewalks may create challenges. Existing right-of-way along the pipeline easement adjacent to Cypresswood Drive could be utilized for a sidewalk that would connect from Prestonwood to Highway 249 and Cy-Champ Park to the east. Schroeder Road has available right-of-way for a future sidewalk although existing drainage may need to be piped.

The potential for trail development at the northern edge of the District, along Cypress Creek could connect residents directly to the Kickerillo-Mischer Preserve with a pedestrian bridge. The former volunteer fire facility, which is owned by the District could be converted into a community center and major trail head. Due to limited space and existing slopes within the property, it is recommended that Prestonwood Forest UD approach adjacent landowners, Tomball Road UD and HCMUD 230 for partnering options and use of land west of the site.

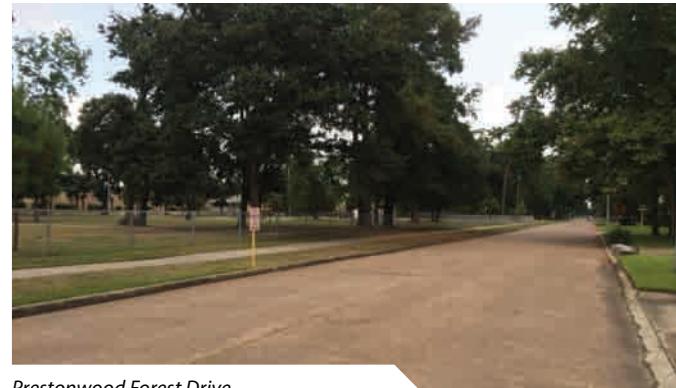
Descriptions, estimated costs, and ratings for all proposed projects as well as more in-depth descriptions for priority projects are included on the following pages.



Priority Projects

1 Major trail along Cypress Creek

Partnering with adjacent landowners including Tomball Road UD and HCMUD 230, a major trail system and pedestrian bridge would create a direct connection for residents of Prestonwood Forest UD to the Kickerillo-Mischer Preserve.



Prestonwood Forest Drive

4 5 Sidewalk along Cypresswood Drive

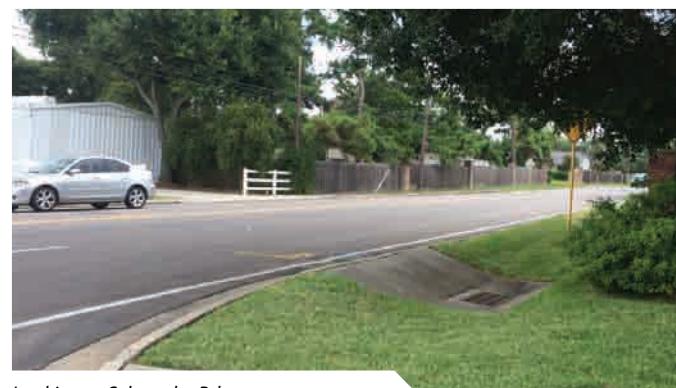
A sidewalk is proposed on the south side of Cypresswood Drive until Schroeder Road due to an existing wide utility corridor. At Schroeder Road the sidewalk should be located along the north side as existing drainage inlets are prevalent on the south side. The addition of a signalized intersection with pedestrian facilities at Prestonwood Drive would allow crossing of Cypresswood and access to the proposed pedestrian bridge at Cypress Creek. Although already signalized, the intersection at Schroeder Road would require the addition of pedestrian facilities.



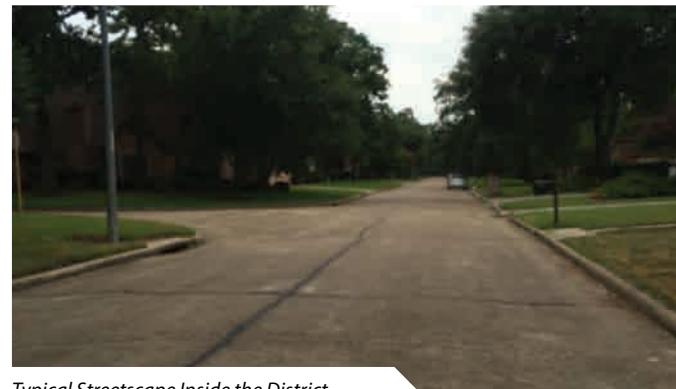
Utility Easement Along Cypresswood Drive

6 Sidewalk along Schroeder Drive

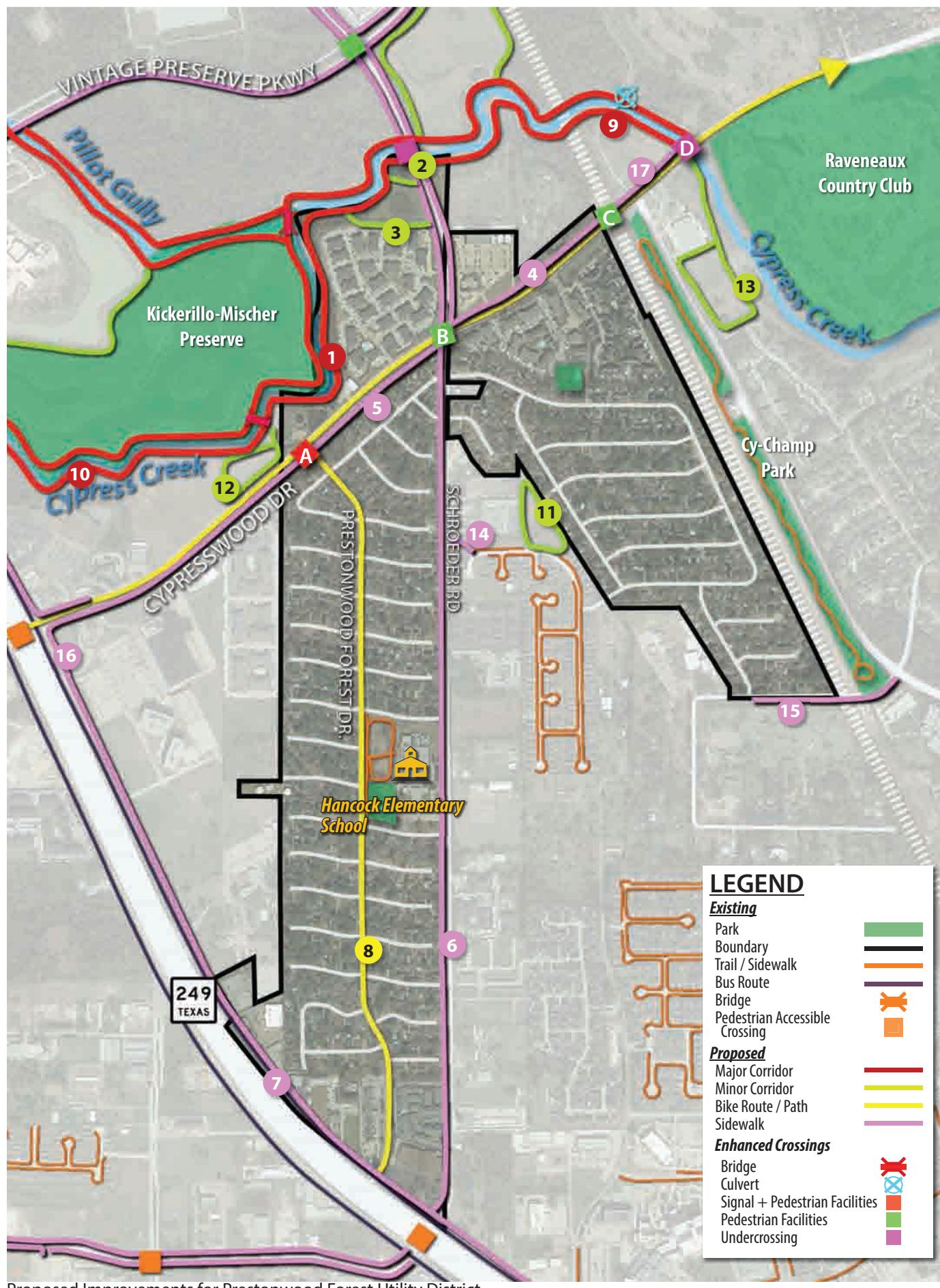
Due to multiple homes fronting on Prestonwood Forest Drive, proposing a north-south connection for the District creates challenges. A sidewalk could be constructed within existing right-of-way along Schroeder Road if the existing drainage swale was piped. A preliminary engineering report should be performed before design to determine feasibility.



Looking at Schroeder Rd.



Typical Streetscape Inside the District



Measurements and Costs

Proposed Trails within The District

Type	Description/Location	Quantity	Est. Cost	Rating
①	Cypress Creek - MUD Boundary to Cutten Rd.	3,216 LF	\$312,600	★★★★★
②	Detention Pond fronting Cypress Creek - Cutten Rd. To Cypress Creek (North Trail)	267 LF	\$20,025	★★★★★
③	Detention Pond fronting Cypress Creek - Cutten Rd. To Cypress Creek (South Trail)	614 LF	\$46,050	★★★★★
④	Cutten Rd. & Cypresswood Dr. - Cypress Creek to Railroad Tracks	2,921 LF	\$219,075	★★★★★
⑤	Cypresswood Dr. - MUD Boundary to Schroeder Rd.	1,697 LF	\$127,275	★★★★★
⑥	Cutten Rd. & Schroeder Rd. - Cypress Creek to SH 249 (West Side of Road)	8,764 LF	\$657,300	★★★★★
⑦	SH 249 Frontage Rd. - Schroeder Rd. To MUD Boundary	2,308 LF	\$173,100	★★★★★
⑧	Prestonwood Forest Dr. - Cypresswood Dr. to SH 249 Frontage Rd.	6,111 LF	\$30,555	★★★★★

Proposed Out of District Connections

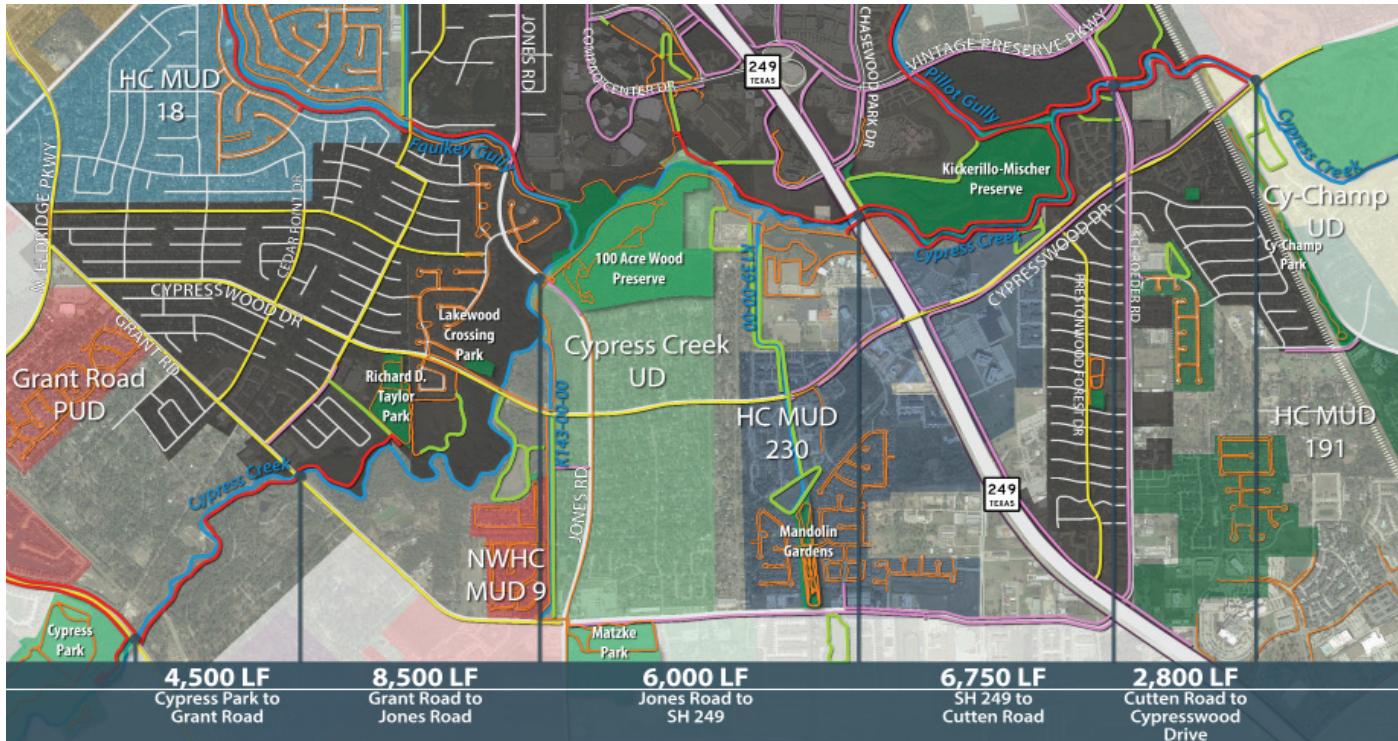
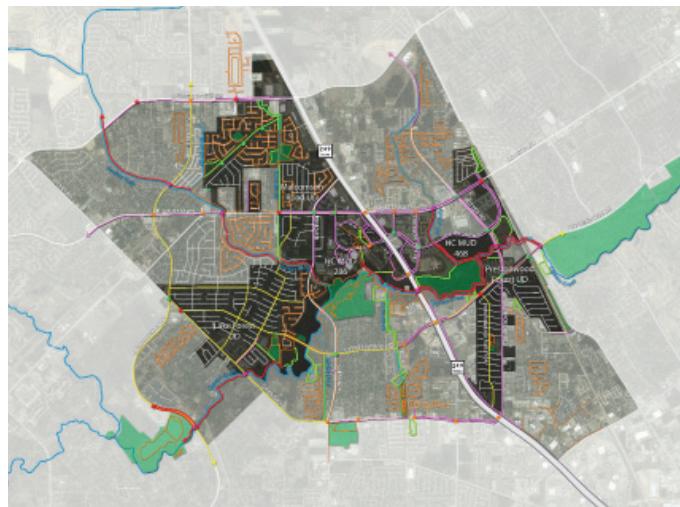
Type	Description/Location	Quantity	Est. Cost	Rating
⑨	Cypress Creek - Cutten Rd. to Cypresswood Dr.	2,845 LF	\$284,500	★★★★★
⑩	Cypress Creek - YMCA to MUD Boundary	4,052 LF	\$405,200	★★★★★
⑪	Detention Pond along High Hollow Ln. - Detention Pond Trail at Top of Bank	1,475 LF	\$110,625	★★★★★
⑫	W. Detention Pond along Cypresswood Dr. - Detention Pond Trail at Top of Bank	1,770 LF	\$132,750	★★★★★
⑬	E. Detention Pond along Cutten Rd. - Detention Pond Trail at Top of Bank	2,830 LF	\$212,250	★★★★★
⑭	Prestonwood Park Dr. - Schroeder Rd. to Sidewalk on High Hollow Ln.	275 LF	\$20,625	★★★★★
⑮	ROW Trail connecting to Cy-Champ Park	1,300 LF	\$97,500	★★★★★
⑯	SH 249 Frontage Rd. & Cypresswood Dr.	5,800 LF	\$435,000	★★★★★
⑰	Cypresswood Dr. - Railroad Tracks to Cypress Creek	720 LF	\$54,000	★★★★★

Proposed Enhanced Crossings

Type	Description/Location	Est. Cost
A	Intersection of Cypresswood Dr. and Prestonwood Forest Dr.	\$300,000
B	Intersection of Cypresswood Dr. and Schroeder Rd.	\$60,000
C	Intersection of Cypresswood Dr. and Train Tracks	\$60,000
D	Undercrossing at Cypresswood Dr. and Cypress Creek	\$500,000
	Proposed Bridge across Cypress Creek to connect to Kickerillo-Mischer Preserve	\$1,000,000

Overall Study Area

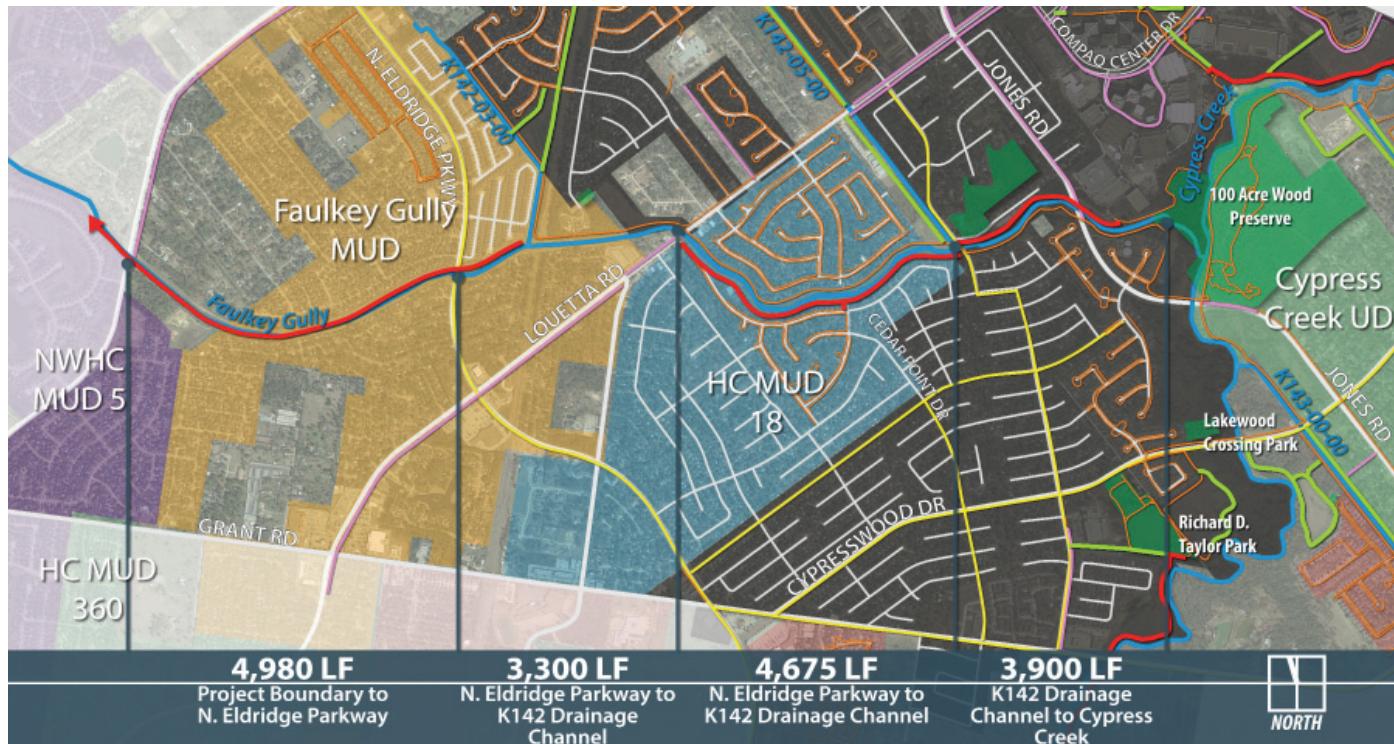
Roughly half of the study area falls within one of the plan's partner jurisdictional boundaries. The majority of the northern boundary of Cypress Creek is included in this area, except for $\frac{3}{4}$ mile between Cypress Park and Grant Road. Prestonwood is the only District located south of Cypress Creek. The map to the right indicates partner boundaries in dark grey and the remaining areas in light grey. Extensive areas along Faulkey and Pillot Gullies are not included within these boundaries and detailed recommendations and cost estimates are not provided for them. For the scope of this plan, however, trail connections within the entire study area were explored and further analysis and recommendations are provided in the following pages.



Cypress Creek

As stated above, the majority of the proposed trails are located to the north of Cypress Creek and fall within partner boundaries. The section of proposed trail from Eldridge Parkway to Grant Road is proposed along the south side of the Creek and is not part of a Utility District. About half of length is located within the former Grant Woods neighborhood which was part of FEMA buy-out lots and now currently owned by HCFCD. The rest of the proposed trail would be located within some private property and easement acquisition may be necessary.

East of Highway 249 there is potential for the trail system to be located on both sides of the Creek. The northern portion would fall within the Kickerillo-Mischer Preserve and extend into properties within HCMUD 468 and Prestonwood Forest UD. Pieces of the southern portion of the trail fall within HCMUD 230 boundary which has already been developing park and trail projects. The remainder of the proposed trail is located within a mix of private and public ownership. More extensive ownership research should be performed before final alignment is designed.

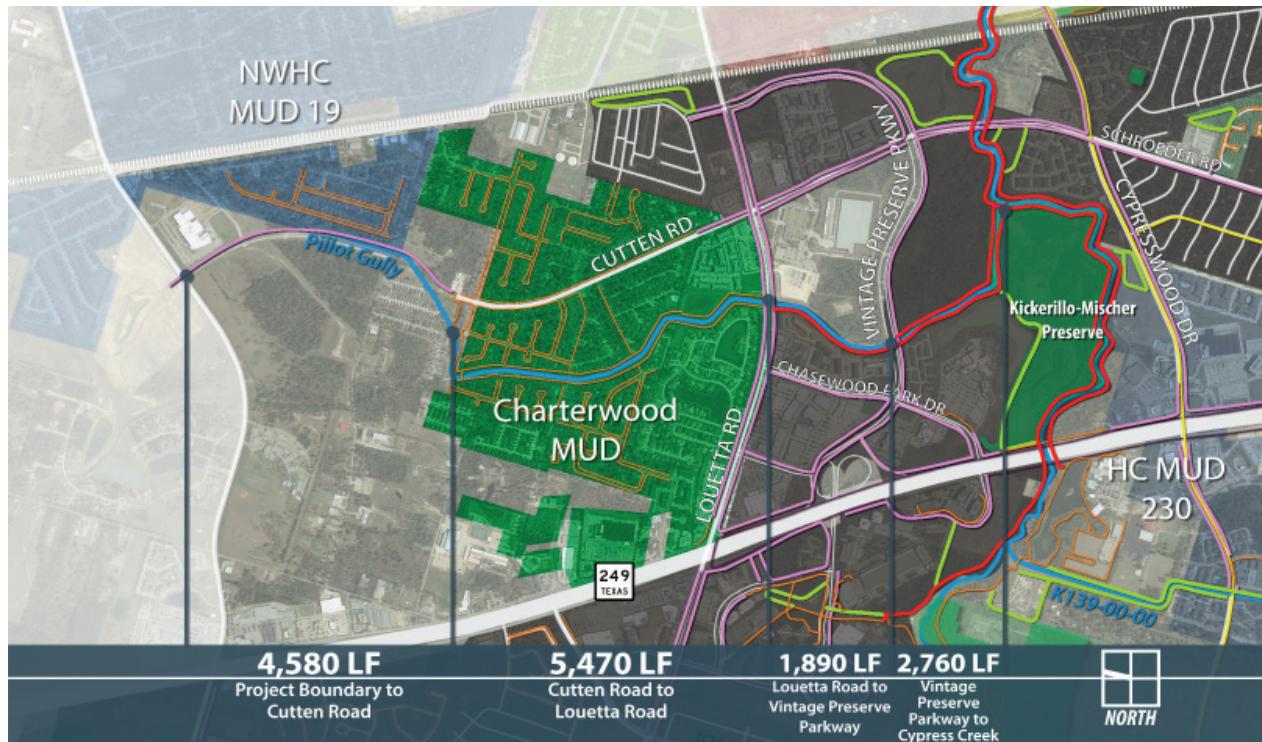


Faulkey Gully

An extensive trail system was previously developed along portions of Faulkey Gully. Trails along the east side of the channel extend from the K142-03-00 channel in Malcomson Road Utility District to the K142-05-00 channel where the trail moves to the west side and extends to Jones Road and the 100 Acre Wood Preserve.

Future trails should be developed to fill in the gaps on both sides of the Gully. Malcomson Road and HCMUD 286 could partner on a trail extension on the east side from Lakewood Forest Drive to Cypress Creek. Although HCMUD 18 did not participate in the plan, they previously were a partner to develop the trail portion on the east side of Gully. Their boundary overlays the portion between Louetta Road and Lakewood Forest Drive.

From Louetta drive, west, the majority of the remaining channel falls within Faulkey Gully UD. The proposed trail should be located on the east side of the channel, as landowners along the west side of Faulkey Gully own across the channel. Additional property research should be performed along this portion of the gully and recreational easements may need to be obtained from multiple landowners.



Pillot Gully

Charterwood MUD has developed asphalt trails along both sides of Pillot Gully from Cedar Park Forest Drive down to Louetta Road. These trails allow residents within the Charterwood, Majestic Oaks, and Vintage Lakes subdivisions off-street pedestrian access to Louetta Road. Recommendations to extend this trail across Louetta into Vintage Park, the Kickerillo-Mischer Preserve and connecting with Cypress Creek would allow these residential areas direct access to commercial, retail, and recreation destinations. This extension would need to include some type of undercrossing at Louetta Road.

Extending a trail $\frac{1}{4}$ mile eastward along the K140-02-00 channel would allow access to Cutten Road and provide pedestrian access for the existing Ulrich Intermediate School and the planned future Klein ISD High School. This route would require easements from private property owners.

An alternate route along the Pillot Gully channel could extend northward, directly to Spring Cypress Road. Property ownership along this route includes Harris County, Klein ISD as well as private ownership.

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