BLUEPRINT
INTERGOVERNMENTAL AGENCY

RIDGE ROAD MULTI-USE TRAIL

Springsax Road to St. Marks Trail (at US 319/Crawfordville Hwy)

Tallahassee, FL

Feasibility Study

Prepared by:

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Completion Date: August 2022

BLUEPRINT
INTERGOVERNMENTAL AGENCY

BIKE ROUTE SYSTEM FEASIBILITY STUDY PURPOSE

The Blueprint Intergovernmental Agency is tasked with implementing projects from the Tallahassee-Leon County Bicycle and Pedestrian Master Plan (BPMP), via the Blueprint 2020 Build the Bike Route System Project. In order to maximize the impact of project funding, and consistent with the BPMP recommendations, a feasibility study is the first step in determining both the physical and financial feasibility of implementing a particular project.

The feasibility study evaluates the existing conditions and physical constraints of implementing the project, such as:

- Available right-of-way
- Environmental features
- Stormwater impacts
- Utility locations
- Slopes along the project corridor
- Crash data, and other safety factors
- Existing bicycle and pedestrian facilities

The feasibility study also includes high-level planning cost estimates, which provide Blueprint the ability to compare the cost of implementing the project with available and future project funding.

ABOUT BIKE ROUTE SYSTEM FEASIBILITY STUDIES

A feasibility study does not necessarily mean that a project is coming in a given area. It is simply a study, and indicates that Blueprint is evaluating the potential to implement a project. Should a study indicate that a project is physically and financially feasible, there is still an iterative process before a project is authorized for construction by the IA Board, as outlined below.

Bike Route System Project Process

1. Following feasibility studies, the next step for many projects is design. During design, concepts, findings, and recommendations contained within the feasibility study would be thoroughly vetted through additional data gathering and analysis.
2. Once the design phase is complete, Blueprint seeks IA Board authorization to procure construction services for the project.
3. Community Engagement will occur through all phases of a project, from concept to construction, programming, and maintenance. Each Blueprint project will have a customized Public Engagement Plan, with unique outreach activities and techniques that will vary from project to project, as each project's outcome and stakeholder community character is unique.

Feasibility Study

RIDGE ROAD MULTI-USE TRAIL

Springsax Road to St. Marks Trail (at US 319/Crawfordville Hwy)

Project Length: 2.0 Mi

Leon County

prepared for:

BLUEPRINT INTERGOVERNMENTAL AGENCY

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August 15, 2022

DATE

Executive Summary

The purpose of this assessment is to develop an engineering-based analysis to determine the feasibility of constructing a multi-use path along Ridge Road, from Springsax Road to the St. Marks Trail. This segment is a Tier 1 Bicycle and Pedestrian Master Plan project. A feasibility study for this trail was approved by the Blueprint Intergovernmental Agency Board of Directors for the FY 2022 Bike Route System Work Program.

The results of this analysis have concluded that adhering to either the FDOT Florida Design Manual (FDM) or FL Greenbook design criteria will require additional R/W acquisition based on design elements such as path width, clear zone/clear width, and separation from edge of travel way. However, using a blend of FL Greenbook criteria (where feasible) and standard sidewalk criteria including limited separation from travel way and clear widths (where necessary), a contiguous pathway of at least 8-feet wide may be constructable without acquiring additional right-of-way. The total construction costs could range from a low of $3 million to a high of $4 million, depending on which side of the road is selected.

To further minimize impacts from this project, an alternative design option has been evaluated for programming consideration, which addresses the purpose and need of the project. The Alternative Design Option includes the following major elements:

1. 8-foot-wide multi-use path along the south side of Ridge Road, from Sunnyside Drive to St. Marks Trail (within Segment 2).
2. ADA connection from Ridge Road to Lake Henrietta Trail. This ADA connection would replace the existing worn pathway/primitive trail connection located south of the Dr. Charles Billings Greenway.
3. Sidewalk on the east side of Ridge Road, from Silver Lake Park to Sunnyside Drive to provide safe and efficient access to/from Silver Lake Park and the shared use lanes on Sunnyside Drive.
4. Sharrow markings on Sunnyside Drive, which provides an opportunity for users to exit Ridge Road onto a lower speed facility with less vehicles.
5. Sharrow markings on Springsax Road from Springhill Road
6. Raised Crosswalk at/near Silver Lake Park and Lake Henrietta Trail to provide safe and efficient access from both sides of Ridge Road, which is an area that will attract users.
7. Raised Intersection on Ridge Road at Sunnyside Drive to provide safe and efficient access to/from Ridge Road and the shared use lanes on Sunnyside Drive.
8. Wayfinding signage to designate available routes for alternative modes and direct users to destination points of interest. Wayfinding signage also helps create a sense of place and assists with speed management by helping identify a mixed user context for drivers.

Selecting the alternative design option takes full advantage of existing infrastructure along Ridge Road, including recently constructed sidewalk within Segment 1, while adding safe and efficient connections where most needed. To enhance safety for all users, additional features to slow traffic and provide all users with safe access to alternative modes of transportation are included in the alternative design option, such as raised a crosswalk/intersection, shared use lanes (sharrows), and wayfinding signage.

Based on the projected costs for the alternative design option, significant cost savings (over $1 million+) can be achieved in comparison to a contiguous multi-use path along the length of Ridge Road, without

sacrificing project goals and desired outcomes. Therefore, the Alternative Design Option is the recommended approach for meeting the needs of this project. Planning level costs for the Alternative Design Option have been estimated as follows:

TABLE i. Alternative Design Option Costs Breakdown

Alternative - Segment 2 Plus Traffic Calming/Wayfinding	
Asphalt Trail (Sunnyside to St. Marks Trail)	$ 1.055M
Asphalt Trail Connection to Lake Henrietta Trail	$ 60k
Raised Crosswalk near Lake Henrietta	$ 8.2k
Raised Intersection at Sunnyside Drive	$ 25k
Sharrows: Sunnyside Drive, Springsax Road, and Ridge Road north of Sunnyside Drive to Springsax Road	$ 75k
Way Finding Signage (for entire project length)	$ 30.5k
250' of New Sidewalk at Culvert	$ 16.5k
Texas Classic Barrier on Culvert	$ 30k
Subtotal	$ 1.3M
Contingency	$ 188k
Construction Total	**$ 1.49M**
Consultant Fees: includes survey, geotech, design & bid phase	*$ 180k-200k*
CEI Fees	*$ 150k*
Estimated Project Total *(without CEI)*	**$ 1.69M**
Estimated Project Total *(with CEI)*	**$ 1.84M**

Purpose & Need

The purpose of this assessment is to develop an engineering-based analysis to determine the feasibility of adding a multi-use path 8'-12' wide along Ridge Road, from Springsax Road to the St. Marks Trail (west side of Crawfordville Road). This multi-use path/trail segment is a Tier 1 Bicycle and Pedestrian Master Plan project. A feasibility study for this trail was approved by the Blueprint Intergovernmental Agency of Board of Directors of the FY 2022 Bike Route System Work Program.

The intended path should remain within the existing right of way to the extent possible. If feasible, this assessment will determine a preferred alignment by evaluating both sides of Ridge Road and will make a recommendation based on these findings. The assessment will consider the potential impacts, both beneficial and adverse, as well as constructability, engineering criteria, and environmental, social, and economic factors which may affect the outcome or feasibility of the project.

Figure 1 below shows the study area along Ridge Road (in yellow) as well as existing adjacent bicycle and pedestrian facilities. Future facilities are also planned along Springhill Road as a component of Blueprint's Airport Gateway project. Together, these facilities, both existing and planned, form a network of opportunities for alternative modes of travel serving the areas south of the St. Marks Trail, West of Adams Street and East of Springhill Road.

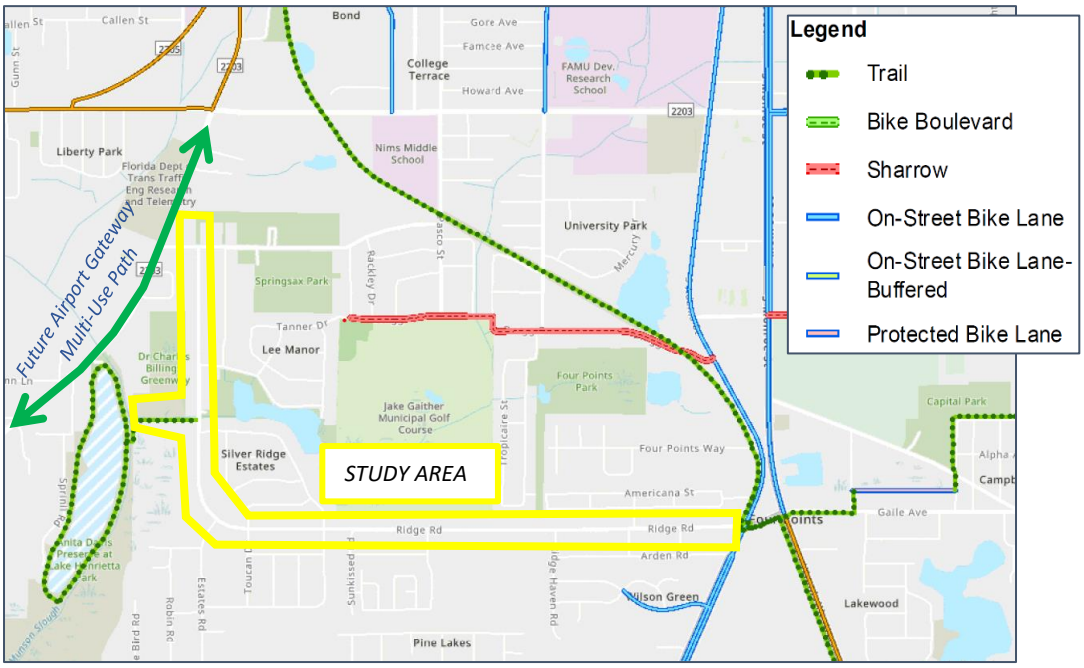

Figure 1. Study Area

For the purposes of this evaluation, the Ridge Road study area has been divided into two (2) segments:

- Segment 1: Springsax Road to Toucan Drive (0.75 mi)
- Segment 2: Toucan Drive to St. Marks Trail Connection at Crawfordville Road (1.25 miles)

The analysis also includes the feasibility of constructing an improved, ADA compliant connection over an existing worn pathway/ primitive trail from the planned multi-use path on Ridge Road to Lake Henrietta which is south of the Dr. Charles Billings Greenway (West Side of Segment 1). As shown in ***Figure 2*** to the right, this connection is currently a worn pathway trail connection.

Figure 2. Connection to Lake Henrietta Trail

Right-of-Way (R/W) Impacts

Existing Right-of-Way (R/W) along Ridge Road was researched to determine approximate available R/W for construction of a potential multi-use path or wide sidewalk. Sources of available R/W information obtained for this review included:

- City of Tallahassee recent survey (north end of Segment 1, west side only)
- Leon County Property Appraiser Website
- Surrounding Neighborhood plats (received from City of Tallahassee)

Based on review of this available information, the existing R/W along Ridge Road varies from sixty (60) feet in width to eighty (80) feet in width, with most of the corridor having 60 feet of R/W. The Table below provides a breakdown of existing R/W, based primarily on Plat records.

TABLE 1. R/W By Plat

From	To	R/W (ft)	Lt. EOP to R/W Width (ft)	Rt. EOP to R/W Width (ft)
Springsax Road	North side of Creek Road	60	14-17	21-25
South side of Creek Road	North side of Silver Lake Park	60	16	22
South side of Silver Lake Park	North side of Greenway culvert	60	13-16	19-20
South side of Greenway Culvert	North side of Sunnyside Drive	60	13	19-21
South side of Sunnyside Drive	North side of Estates Road	60	16-21	18-22
South side of Estates Road	West side of Blue Jay Drive	60-80	21-29	16-33
East side of Blue Jay Drive	West side of Sunnyside Drive	70-80	29-31	18-33
East side of Sunnyside Drive	West side of Sunkissed Road	66-70	23-30	18-21
East side of Sunkissed Road	West side of Sundown Road	66	23-24	19-21
East side of Sundown Road	West side of TLH Electric Easement	66	27-28	17-19
East side of TLH Electric Easement	West side of Ridge Haven Road	66	27-28	17-19
East side of Ridge Haven Road	West side of Maurice Street	60	22-27	16-17
East side of Maurice Street	West side of State Street	60	21-22	17-19
East side of State Street	West side of SR 61 (Crawfordville)	60	21-22	16-17

Based on existing R/W, there is limited available space for design and construction of a full 12-foot-wide multi-use path along Ridge Road that meets Florida Greenbook or the FDOT Florida Design Manual (FDM) criteria. Additional R/W width would be required along a majority of the project to adhere to these criteria. In lieu of acquiring additional R/W for the purposes of this project, a constrained multi-

use path of reduced criteria or wide sidewalk may be constructed, which still allow for connectivity and expansion of multi-modal facilities, yet minimize the need for permanent sidewalk/trail easements or additional R/W.

Even with a reduced design to avoid R/W impacts, temporary or permanent easements may still be required to harmonize features such as property slopes, driveways, or mailboxes due to the constrained nature of the corridor. Other features such as required ADA clear space for transit stops, benches, and mailboxes may also affect the need to acquire additional easements in select locations along the project.

Typical Section Alternatives

Ridge Road has two 11-ft wide travel lanes with grassed shoulders, open ditches, and a mix of curb/gutter and flush shoulders. Within Segment 1 (from Springsax Road to Toucan Drive), a 5-6-ft wide sidewalk exists on the west side of Ridge Road, which was recently constructed by the City of Tallahassee within the last few years. Within Segment 2 (Toucan Drive to St. Marks Trail connection), 5-ft wide sidewalks exist on the north side for the entire segment and on the south side from Toucan Drive to Sunnyside Drive.

According to input from the City of Tallahassee Underground Utilities and Public Infrastructure (UUPI), the preferred typical section for a multi-use path constructed within the City of Tallahassee should meet FDOT's Florida Design Manual (FDM), or the Florida Greenbook (Manual of Uniform Minimum Standards). The Table below provides an overview of the major criteria associated with each source.

TABLE 2. Multi-Use Path Design Criteria

	Design Element	Standard Criteria	
		FDOT Design Manual	**Florida Greenbook**
General Criteria	Design Speed	18 MPH	18 MPH
	Separation from Roadway		
	- Flush Shldr. Roadway w/ ≤45MPH	5 ft from Edge of Paved Shldr.	5 ft from Edge of Paved Shldr.
	- Curbed Roadway	5 ft from Face of Curb	5 ft from Face of Curb
	Vertical Clearance		
	- Standard	10 ft	10 ft
	- Minimum (Overhead Signs)	8 ft	8 ft
	Drop-Off Hazard	10 in w/in 2 ft Railing/Fence Needed	10 in w/in 2 ft Railing/Fence Needed
		60 in, 1:2 Slope w/in 2 ft Railing/Fence	60 in, 1:2 Slope w/in 2 ft Railing/Fence
	Public Transit Facility Stop	5 ft min. Sidewalk Connection	N/A
Typical Section	Path Width		
	- Standard	12 ft	10-14 ft
	- Minimum (Limited R/W)	10 ft (8 ft Short Sections)	8 ft
	Pavement Cross Slopes	2%	2%
	Horizontal Clearance	4 ft both sides of path	3 ft both sides of path 5 ft from slopes steeper than 1:3
	- Minimum		2 ft both sides of path (max 1:6)
	Path Side Slopes	2 ft @ 1:6 max	2 ft @ 1:6 max
	Pavement Design	12-inch Stabilized Subgrade	N/A
		Base Group 1	
		1.5-inch Structural Course	

However, as determined through the review of existing R/W along Ridge Road, there is limited available space for design and construction of a full-width shared use path which meets Florida Greenbook or the FDOT Florida Design Manual (FDM) criteria.

As a potential solution, a blend of sidewalk and urban design criteria may be adopted or approved for this project, which may include the following:

- Lesser Trail width: 8' standard instead of 10'
- Less Separation from Roadway: 3' standard instead of 5'. Can be 0' (up against curb) at driveways and conflict areas
- Less Horizontal Clearance: Use 1' for horizontal clearance instead of 4' to provide minimum accommodations for mailboxes and utility poles

The resulting preferred multi-use path typical section would include an 8' wide pathway with Modified F Curb/Gutter and a 3-foot grass utility strip to balance design elements of path width, roadway separation, roadside features, safety, and limited available R/W.

In general for the proposed project, a curb/gutter typical section is recommended over flush shoulder for several reasons. First, if reduced separation from the travel lane is required to avoid R/W impacts, adding curb/gutter provides a limited opportunity to help minimize vehicles departing the travel lane into the multi-use path. Secondly, adding curb/gutter will limit unwanted on-street parking, which may frequently obstruct the multi-use path. Lastly, curb/gutter will aid in slope transitioning for driveway areas. In select areas, the path may be placed at the back of curb to limit relocation of utility poles or other features. ***Figure 3*** below provides an example of this potential typical section.

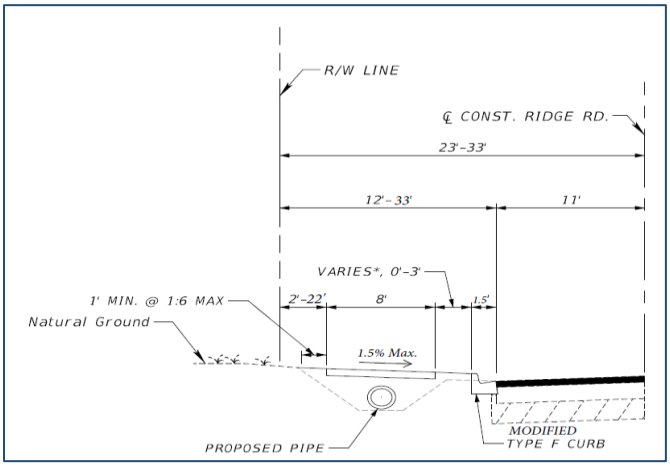

Figure 3. Preferred Typical Section
(Left side shown; Right side similar)

Applying the preferred typical section to the corridor, the following table describes the estimated number of parcel impacts for each Segment option:

TABLE 3. Parcel Impacts Using Preferred Typical Section

	Segment 1		**Segment 2**	
	Springsax Rd. to Toucan Drive		***Toucan Drive to Crawfordville Rd.***	
	West Side	East Side	North Side	South Side
Residential Parcels	4 Parcels for Transit Stop ADA 1 Parcel for slopes	X Parcels for OH Elec. Service Poles 1 Parcel for slopes	None Anticipated	None Anticipated
Vacant Parcels	None	None	4 Parcels	1 Parcel – currently under initial development
4F Properties/ Easements	Dr. Charles Billings Greenway connection to Lake Henrietta	Silver Lake Park Access	Jake Gaither G.C. City of Tallahassee Electric Easement	City of Tallahassee Electric Easement
Commercial Parcels	None	None	None	1 Parcel at SW corner of Crawfordville Rd.

The parcel impacts estimated in the table above are approximate only and are based on TLCGIS information and aerial imagery. Actual impacts can be verified once survey for the corridor is conducted and analyzed.

Although several 4F and public use-type parcels (public easements) may exist along the corridor, these are owned by the City of Tallahassee (Jake Gaither G.C., Lake Henrietta Trail, etc.) and therefore connections to, or minor impacts resulting from, this multi-use path should be easily coordinated through the permitting phase of this project.

Multi-Use Path Surface Materials

Multi-Use paths are typically asphalt surface paths designed to accommodate pedestrian/bicycle traffic as well as the occasional light-duty maintenance vehicles. Multi-Use paths found in urban environments may be made of concrete surface to accommodate aesthetics and blend with surrounding features. In some instances, pervious asphalt or concrete surfaces may be used to lessen stormwater pollutants or permitting needs associated with construction of impervious surfaces.

For this assessment, the multi-use path surface recommended is based on the nature of the corridor and how it would blend with adjacent features. Although using asphalt may be $100k per mile less expensive than concrete ($200k total for this project), a concrete path is recommended in general to blend with existing sidewalk and the predominant driveway types found along the project. Asphalt surface would help differentiate the multi-use path from a normal sidewalk; however, the frequency of concrete driveways creates frequent changes in material types for users of the trail, thus decreasing rideability, comfort, and/or leading to long-term maintenance concerns.

The project length is sufficient to require Environmental Management Permit (EMP) requirements from the City of Tallahassee, therefore, pervious surfaces may create an opportunity to reduce treatment or

attenuation needs while increasing the cost of surface materials. Further analysis of pervious trail options may be conducted during the design phase of this project.

Potential Environmental and Stormwater Impacts

Existing environmental and stormwater data available for the corridor was reviewed to identify features which may impact the feasibility, design approach, or constructability for the project. This includes desktop review of potential wetlands, stormwater treatment and/or attenuation requirements, potential floodplain impacts, if any, and potential tree impacts. The table below provides a breakdown of impacts associated with each Segment option.

TABLE 4. Summary of Estimated Environmental/Stormwater Impacts

	Segment 1		**Segment 2**	
	Springsax Rd. to Toucan Drive		***Toucan Drive to Crawfordville Rd.***	
	West Side	East Side	North Side	South Side
Wetland Impacts	Possible near Silver Lake/Lake Henrietta	Possible near Silver Lake/Lake Henrietta	Possible near Sunkissed Road (<0.1ac)	None Anticipated
Anticipated Stormwater Requirements	0.08 acre of new impervious -No additional Pipes/Inlets -Confirm capacity of Existing Pond	0.83 acre of new impervious -Install ~4,000 LF of pipe required -Confirm capacity of Existing Pond	0.34 acre of net new impervious -Approx. 6,300 LF of pipe -May require off site attenuation	1.24 acres of net new impervious -Approx. 6,300 LF of pipe -May require off site attenuation
Estimated Tree Impacts	Minimal impacts	Root impacts to larger trees & removal of Private Landscaping Only	Minimal Impacts; some vegetation trimming	Minimal Impacts

Wetland Impacts

Based on review of potential existing wetland features from the TLCGIS website, there is a low potential to impact wetlands within the project limits. There are two (2) potential areas along the project where wetland impacts, likely secondary in nature, may occur. These areas are shown in green in ***Figure 4*** on the next page. These areas include:

1. Segment 1: The culvert (stream) crossing at Lake Henrietta and Silver Lake Park. No work is necessary within the channel or likely boundaries of any jurisdictional wetlands, however, construction activities within this area will need to avoid secondary impacts from clearing/grubbing, silt fencing or turbidity barriers.

2. Segment 2: The area east of Sunnyside Drive on the north side of Ridge Road. This area is on the south side of Jake Gaither Municipal Golf Course wetlands. Although this area appears to consist of several undeveloped residential lots on the north side of Ridge Road that do not contain

known wetlands, it may be determined during design that actual wetland limits may extend closer towards the north side of Ridge Road.

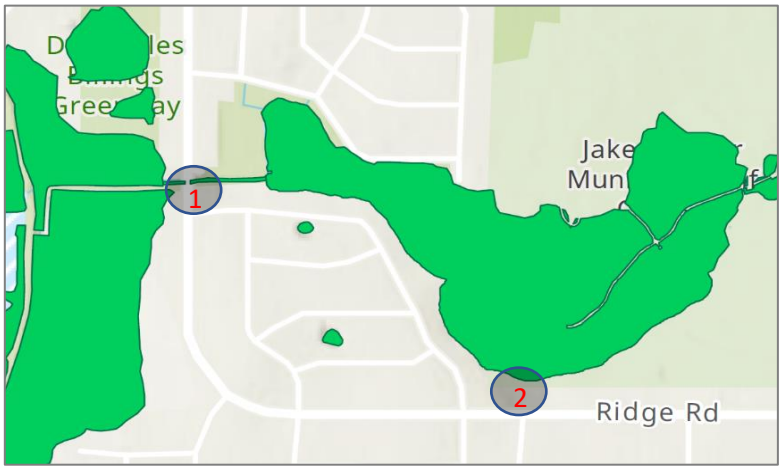

Figure 4. Approximate Wetland Locations

Stormwater and Floodplain Impacts

Ridge Road is located in the Lake Munson Drainage Basin from Springsax Road to west of State Street. Within that basin, the west and south side of the road is in the Lake Henrietta Watershed and outfalls to Lake Henrietta at the Lake Henrietta Park access. The east and north side of the road is mostly within the East Ditch #1 watershed, and outfalls in two locations to a wetland area, which connects to Lake Henrietta at the park through a box culvert. The remaining portion of Ridge Road is within the Woodville West Drainage Basin and the Four Points Watershed which drains toward Crawfordville Road (SR 61). All of these are open basins.

The Ridge Road project area lies within the designated Primary Spring Protection Zone and has two potential karst features, but these are not likely to affect the stormwater requirements. The NRCS soil survey shows that the soils along the roadway are sandy with a Hydraulic Soil Group rating of A or A/D.

A FEMA Zone AE Floodway crosses Ridge Road at the box culvert, between Creek Road and Sunnyside Drive, as shown in ***Figure 5*** on the next page. Fill activities within the floodway will not be allowed unless it can be demonstrated that it will not result in any increase in flood levels. The Floodplain Administrator for this area is Leon County, so it is anticipated that permitting for work in the floodplain will be administered through the County.

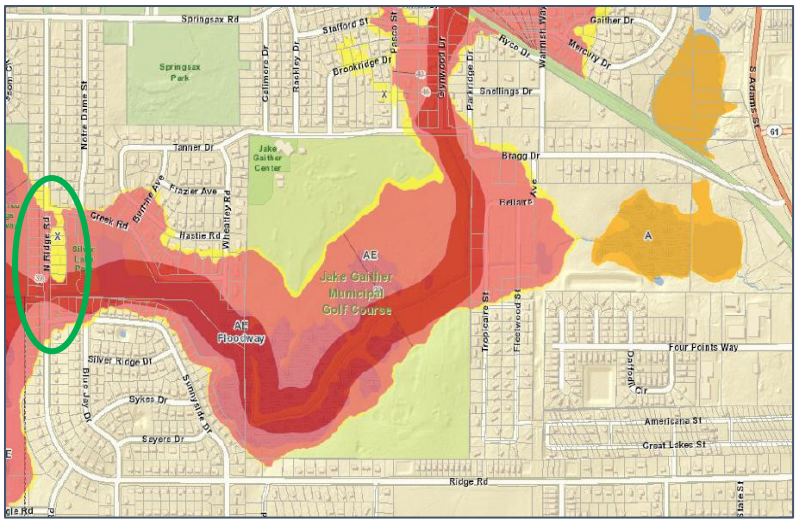

Figure 5. Approximate Floodplain Locations

Stormwater permitting will be required with the Environmental Management Permit (EMP) through the City of Tallahassee (COT). COT regulations do not have an accommodation for an exemption for muli-use paths or trails, as sidewalks do, and per conversations with COT staff, it is unlikely that an Environmental Variance for linear infrastructure would be granted for construction of an entire trail (Springsax to St. Marks). It is anticipated that the trail will qualify as a Type 2 Minor roadway project. Treatment and attenuation of the additional impervious area created by the trail will be required since the additional impervious area is anticipated to be over 3,000 square feet in all scenarios.

Based on the soil survey and the fact that there is an existing dry pond in the project limits, dry retention or detention is anticipated and will require 1.125 inches or treatment volume over this addition area. Attenuation requirements will be that the peak post development discharge rate not exceed the peak pre-development discharge rate for all critical duration storms through the 25-year event. Estimated volumes based on impervious area estimates are provided per segment in the Feasibility Matrix. Options to consider other than a pond include pervious pavement, gravel envelope, underground storage, etc. The City of Tallahassee Operations and Maintenance Department will need to approve of the selected option.

The trail is expected to be exempt from Environmental Resource Permitting (ERP) with Northwest Florida Water Management District under rule 62-330.051(10) along with a de minimis wetland exemption for the two small areas of potential impacts.

Tree Impacts

Given the project corridor is a constrained residential roadway with overhead utilities, most trees of significance are located on private property. There are a few locations along the project corridor where trees or landscaping are located relatively close to the existing R/W line. These locations may see minor impacts associated with root pruning or trimming of limbs to maintain a minimum height above the trail for vertical clearance hazards.

Some areas of bushes and other private landscaping enhancements may be impacted due to the multi-use path and horizontal clearance requirements, as seen in the photo to the right. The multi-use path/wide sidewalk alignment can likely be shifted in most instances to avoid major tree impacts requiring debits. The following table provides an overview of potential treeimpacts for each segment option.

TABLE 5. Estimated Tree Impacts

	Segment 1		**Segment 2**	
	Springsax Rd. to Toucan Drive		***Toucan Drive to Crawfordville Rd.***	
	West Side	East Side	North Side	South Side
<6" Diameter Trees/ Landscaping	None/Minimal	2 locations for removal of Hedges/ Landscaping	1 location for removal of Hedges/ Landscaping	2 locations for removal of Hedges/ Landscaping
6"-12" Diameter Trees	None	No Removals. 4 locations with construction within root zone.	No Removals. 7 locations with construction within root zone.	None
12" Diameter Trees or Greater	None	2 locations with construction within root zone.	No Removals. 6 locations with construction within root zone.	None

Safety Impacts/Benefits

The addition of a multi-use path or other multimodal enhancements along a constrained corridor such as Ridge Road presents opportunities as well as challenges. The opportunities for this multi-use trail facility include enhanced safety and mobility through additional connectivity for alternate modes of travel. The challenge is to develop this project while recognizing existing safety concerns and anticipating potential safety issues which may arise through the construction of this facility.

To address this challenge, a review of the existing corridor features and recorded crashes was conducted to identify potential existing pedestrian and bicycle safety issues along the corridor, as well as document overall safety trends.

Qualitative Review

A qualitative review of existing conditions was conducted to visually observe operating conditions and determine areas or elements which may pose an issue during design. The following is a summary of major existing elements along the corridor:

Existing Roadway: Two-Lane Undivided
Functional Class: Minor Collector (TLC Mobility Element: Functional Classification Map)
Context Classification: C3R Suburban Residential
AADT: 6,600 vpd (FL Traffic Online, 2021)
Posted Speed Limit: 35 MPH

Right-of-Way:	60-80 feet (measured using LCPA Map Tool and Record Plat Info)
Lane Widths:	11' lanes
Bicycle Lanes:	None
Sidewalks:	5'-6' sidewalks, primarily on one side (no contiguous sidewalk for entire corridor)
Crosswalks:	Yes, at Springsax Road and Crawfordville Road (crossing Ridge Road)
Lighting:	Yes, spot locations via joint-use fixtures attached to utility poles
Transit Service:	***Star Metro –*** Gulf (G) Route (Weekdays/Saturdays)
Adjacent Land Use:	Residential, Single Family
Alignment:	Straight, with one horizontal curve separating the N/S and E/W sections of Ridge Rd.
Terrain:	Relatively flat

The operating speeds along Ridge Road appeared to exceed the posted speed limit of 35 MPH, with several vehicles having to slow down and brake as they entered the horizonal curve towards the middle of the project. In general, a moderate number of pedestrians and bicyclists were observed utilizing the sidewalks, where available, and in some instances, bicyclists were observed utilizing the travel lane when vehicles were not present either for traveling along Ridge Road or navigating to/from adjacent side streets.

Figure 6. Transit Facility at Springsax Rd.

Transit access exists throughout the corridor, with StarMetro having seven (7) stops along the west and south sides of Ridge Road. The route that serves this area is the StarMetro Gulf (G) Route, which operates Monday-Friday from 5:30am – 7:30pm, and on Saturdays from 7:30am – 7:30pm. The Gulf Route does not currently operate during nighttime or Sundays. Transit usage was observed along several of the stops along Ridge Road, with most of the transit riders using two of the stops: one located at the southwest corner of Springsax Road (see ***Figure 6***) and the second located on the southwest corner of Toucan Drive near the horizontal curve.

Given these existing conditions observations, some minor traffic calming (raised crosswalks, etc.), wayfinding signage and/or advanced warning signs may provide low-cost opportunities to enhance the safety along the corridor, help reduce speeds and improve conspicuity for pedestrians and bicyclists as part of the overall multi-use path project, if funding conditions permit.

Crash History

Signal 4 Analytics ® was utilized to obtain history of recorded crashes along the project study area. From 2016 – April 2022, a total of one hundred forty-seven (147) crashes occurred along the entire corridor. The following table provides a breakdown of these crashes based on crash type and severity.

TABLE 6. Crash Summary Table

Crash Type	Fatalities (K)	Incapacitating Injury (A)	Non-Incapacitating Injury (B)	Possible Injury (C)	Property Damage Only (O)	TOTAL CRASHES
Angle		1		3	5	9

Crash Type	Fatalities (K)	Incapacitating Injury (A)	Non-Incapacitating Injury (B)	Possible Injury (C)	Property Damage Only (O)	TOTAL CRASHES
Head On			2		7	9
Left-Turn			2	6	16	24
Off Road	1		2	3	17	23
Other		1	3	3	15	22
Pedestrian		2				2
Rear End			6	10	23	39
Sideswipe		1		2	8	11
Unknown				1	7	8
TOTAL CRASHES	1	5	15	28	98	147

Overall, there were 48 injury/possible injury crashes, 98 property damage only crashes, and one fatal crash (Run off Road). The fatal Run Off Road (Lane Departure) crash was the result of an apparent speeding vehicle departing the travel lane and impacting a fixed object (utility pole/tree).

There were two (2) pedestrian related crashes during the study period from 2016 – April 2022, both resulting in injury. The first pedestrian crash, which occurred just south of Creek Road in 2018 (2/24 at 5:30pm), was the result of a southbound vehicle departing the travel lane onto the shoulder and striking a bicyclist in a driveway near the edge of road. The second pedestrian crash, which occurred in 2019 (10/6 at 8pm), was the result of an intoxicated pedestrian walking westbound on the shoulder near the intersection of State Street and being struck by a westbound vehicle. The crash report noted a sidewalk was available but was not being utilized by the pedestrian.

Recommended Considerations for Enhancing Safety

Based on crash history for the corridor, low-cost safety enhancements that focus on reducing speeds and raising awareness of all users may provide needed benefits as part of this overall project. These low-cost safety enhancements may include:

- Raised Crosswalks or Raised Intersections where pedestrian crossings may occur
- Speed Feedback Signs
- Advanced high-visibility signage
- Sharrow Markings
- Wayfinding Signage (to direct users to adjacent amenities or facilities)

Existing Infrastructure Impacts

Existing infrastructure along the corridor was evaluated for potential impacts related to the construction of a multi-use path on Ridge Road. Both overhead and apparent underground utilities, as well as other features along the corridor may be impacted or avoided, depending on the available design alternatives.

Underground utility impacts

Underground utility impacts will include relocation or adjustment of manhole covers, water meters, backflow preventers, pull boxes, pedestals or other features located at the R/W line or along the alignment of the multi-use path. In general, these impacts are minor in nature and are to be expected when adjusting the ground profile for a new ADA feature. These impacts are difficult to quantify and are generally addressed during design.

Overhead powerline, telecom, or other relocations

The primary overhead electric distribution line is located on the west and south side of Ridge Road. Avoiding impacts to this line will allow the project to be constructed in a more cost efficient and feasible manner. To do this within Segment 1, the layout of the multi-use path will need to avoid impacts to these poles if placed on the west side by adjusting the alignment (hugging the back of curb) or reducing the width of the path for a short distance. If placed on the east side, there are no distribution lines to avoid, however, there are about 4-5 locations where overhead service lines directly servicing homes may be affected and require relocation. These impacts are generally avoidable, but if relocation is required, they are generally considered minor in nature.

Stormwater Inlets, culverts

The majority of Ridge Road has flush shoulders with open drainage, with the exception of the aforementioned sidewalk on the west side of Ridge Road from Springsax Road to Sunnyside Drive, where curb/gutter and stormwater inlets were installed in 2015 with the sidewalk. As a result, the open drainage is conveyed primarily through roadside ditches. The majority of driveways use culverts (pipe) to convey the water under the driveway aprons. To convey the stormwater properly, these culverts will need to be replaced and included in a designed conveyance system, particularly if utilizing curb/gutter in a closed drainage system.

Within Segment 1, if replacing the sidewalk on the west side with a new multi-use trail, the existing drainage pipes, stormwater inlets, and junction boxes installed with the sidewalk remain unaffected and can be incorporated into the design of the multi-use path.

Existing Pedestrian/Bicycle Facilities

Existing facilities for pedestrians and bicyclists have been evaluated for potential impacts as well as any opportunities to add value to existing features. This multi-use path should seek to take advantage of existing sidewalks, bike lanes, or other features, which together may offer a holistic network of alternative transportation opportunities for pedestrians and cyclists.

Within Segment 1 and extending into Segment 2, the City of Tallahassee recently constructed a 5-6-ft wide sidewalk from Springsax to Sunnyside Drive along the west (and south) side of Ridge Road. This sidewalk included a dry retention pond, improved transit stops, new curb/gutter, stormwater inlets, utility relocations and slope harmonization along the private property lines for the residences on the road. This project appears to have been constructed around 2015 from scan of historical aerial imagery.

Within Segment 2, sections of sidewalk exist along Ridge Road as follows:

- From Toucan Drive to Sunnyside Drive – Sidewalk exists on both sides of Ridge Road.
- From Sunnyside Drive to end of Project (St. Marks Trail Connection) – A 5-ft wide sidewalk exists only on the north side of Ridge Road. This sidewalk appears to be substantially older and may pose ADA or clear zone issues like most older sidewalk connections.

Based on the existence of sidewalk along some portions of Ridge Road, the condition and age of these facilities and the benefit/need that an additional multi-use path pay provide, the immediate target area within the corridor appears to be within Segment 2, from Sunnyside Drive to the St. Marks Trail connection. Within this area, the older sidewalk on the north side provides the only pedestrian/bicycle connection from the St. Marks Trail to the resources and facilities to the west.

Other Significant Infrastructure

The existing concrete box culvert located just north of the Lake Henrietta Trail connection point (Segment 1) offers a unique challenge to the project when determining feasible options for constructing the multi-use path. Three (3) likely alternatives considered include:

1) Multi-use path constructed on existing box culvert (if space allows);
2) Multi-use path constructed on widened section of box culvert; and
3) Separate crossing (e.g., prefabricated metal bridge).

Based on the preferred typical section of a reduced width path, option 1 to construct a path on top of the existing box culvert is the most cost-feasible option to completing this connection. However, this option may require analysis of the additional loading in the form of a load rating analysis, which can be completed during the design phase of the project. Typically culverts of this type can accommodate additional loadings from sidewalks, trails, barriers or shoulder widening, however, this must be checked during the design process to ensure no issues arise.

Widening the box culvert to accommodate a multi-use path of full width and full separation will add significant costs to the project. The widening would likely be more cost effective from the west side of Ridge Road due to the existing drainage outfall under the Silver Lake driveway as shown in ***Figure 7***.

Figure 7. East Side of Ridge Road over Box Culvert

Additionally, a hydraulic analysis will need to be added to the design phase to confirm the additional hydraulic length can accommodate the max flow stages during the design storm event without increasing flood stages since the culvert crossing lies within the flood plain.

Adding a separate crossing via a prefabricated steel truss or other means is an option, but also provides the likely highest cost option to complete the crossing. The hydraulic analysis is not as critical if fill can be avoided

within the flood plain boundary. The truss foundations (substructure) will need to be designed to accommodate the length and weight of the prefabricated truss, which is typically completed during the design phase.

To complete the feasibility analysis and planning level costs for the project, Option 1 is assumed the most likely option and therefore is included in the overall planning level project costs. As an added feature for community aesthetics, the box culvert headwalls can be evaluated for a Texas classic barrier retrofit, similar to that shown in ***Figure 8*** to the right. This barrier can be evaluated during the same load rating analysis process that will be required for the new multi-use path or sidewalk.

Figure 8. Texas Classic Concrete Barrier

Planning Level Cost Estimates

As a component of this feasibility assessment, planning level cost estimates were prepared for each Segment option. A cost estimate was also included for the ADA improved connection from Ridge Road to the Lake Henrietta Trail via the Dr. Charles Billings Greenway (within Segment 1). To construct a multi-use path along the full length of Ridge Road, from Springsax Road to the St. Marks Trail connection, including the Dr. Charles Billings Greenway (approx. 2 miles), the approximate cost may range from $3M to $4M for the entire project. The following table provides a breakdown of costs for each side of the road for Segments 1 and 2.

TABLE 7. Estimated Planning Level Construction Costs for Multi-Use Path

	Segment 1		**Segment 2**	
	Springsax Rd. to Toucan Drive		***Toucan Drive to Crawfordville Rd.***	
	West Side	East Side	North Side	South Side
8-Foot Wide Multi-Use Path on Ridge Road	$630k	$1.25M	$1.82M	$1.65M
10-Foot Wide Connection to Lake Henrietta	$55k	$70k	n/a	n/a
Texas Classic Style Barrier on Box Culvert (Segment 1)	$15k	$15k	n/a	n/a
TOTALS	$800k	$1.3M	$1.86M	$1.65M

Based on estimated construction costs only, the most cost-effective options for constructing a multi-use path along Ridge Road are the west (Segment 1) and south (Segment 2) sides of the road. This approach also reduces the number of crossings by keeping the multi-use path one contiguous pathway from start to finish along Ridge Road.

TABLE 8. Total Estimated Planning Level Costs

Ridge Road Multi-Use Path	
West/South Sides	$2.5M*
East/North Sides	$3.2M*
Estimated Design Fees	$250-300k
Estimated CE&I Fees	$250-300k
TOTALS	$3M - $4M

*Includes connection to Lake Henrietta Trail

Alternative Design Option & Estimated Costs

Considering an alternative approach to a contiguous multi-use path throughout the project limits can further minimize impacts to existing facilities yet achieve desired goals of the project by focusing on the critical target area of Sunnyside Drive to the St. Marks Trail connection (within Segment 2). Older sidewalk exists only on the north side of Ridge Road and does not provide adequate connection for alternative modes of transportation from the St. Marks Trail to points of interest to the east, including Lake Henrietta, Silver Lake Park, Jake Gaither Community Center, or Springsax Park.

The Alternative Design Option includes a combination of treatments aimed at connecting a network of choices for transportation users of alternative modes to choose their most comfortable route to and from community features near Ridge Road. The Alternative Design Option includes the following primary elements:

Separated Multi-Use Path or Sidewalk

- 8-foot-wide multi-use path along the south side of Ridge Road, from Sunnyside Drive to St. Marks Trail (within Segment 2).
- ADA connection from Ridge Road to Lake Henrietta Trail. This ADA connection would replace the existing worn pathway/primitive trail connection located south of the Dr. Charles Billings Greenway.
- Sidewalk connection on the east side of Ridge Road, from Silver Lake Park to Sunnyside Drive to provide safe and efficient access to/from Silver Lake Park and the shared use lanes on Sunnyside Drive.

Shared-Use Lanes

- Sharrow markings on Sunnyside Drive, which provides an opportunity for users to exit Ridge Road onto a lower speed facility with less vehicles.
- Sharrow markings on Springsax Road from Springhill Road

Vulnerable User Safety / Speed Management

- Raised Crosswalk at/near Silver Lake Park and Lake Henrietta Trail to provide safe and efficient

access from both sides of Ridge Road, which is an area that will attract users.

- Raised Intersection on Ridge Road at Sunnyside Drive to provide safe and efficient access to/from Ridge Road and the shared use lanes on Sunnyside Drive.
- Wayfinding signage to designate available routes for alternative modes and direct users to destination points of interest. Wayfinding signage also helps create a sense of place and assists with speed management by helping identify a mixed user context for drivers.

Figure 9 provides an overview of this alternative, which has several benefits such as avoiding the need to impact existing relatively new City facilities, offering users an opportunity to get off Ridge Road and onto a lower speed roadway with sharrows. There are also additional benefits such as reduced stormwater impacts for the overall project, as well as reduced impacts on transit facilities, existing utility poles, and decorative mailboxes.

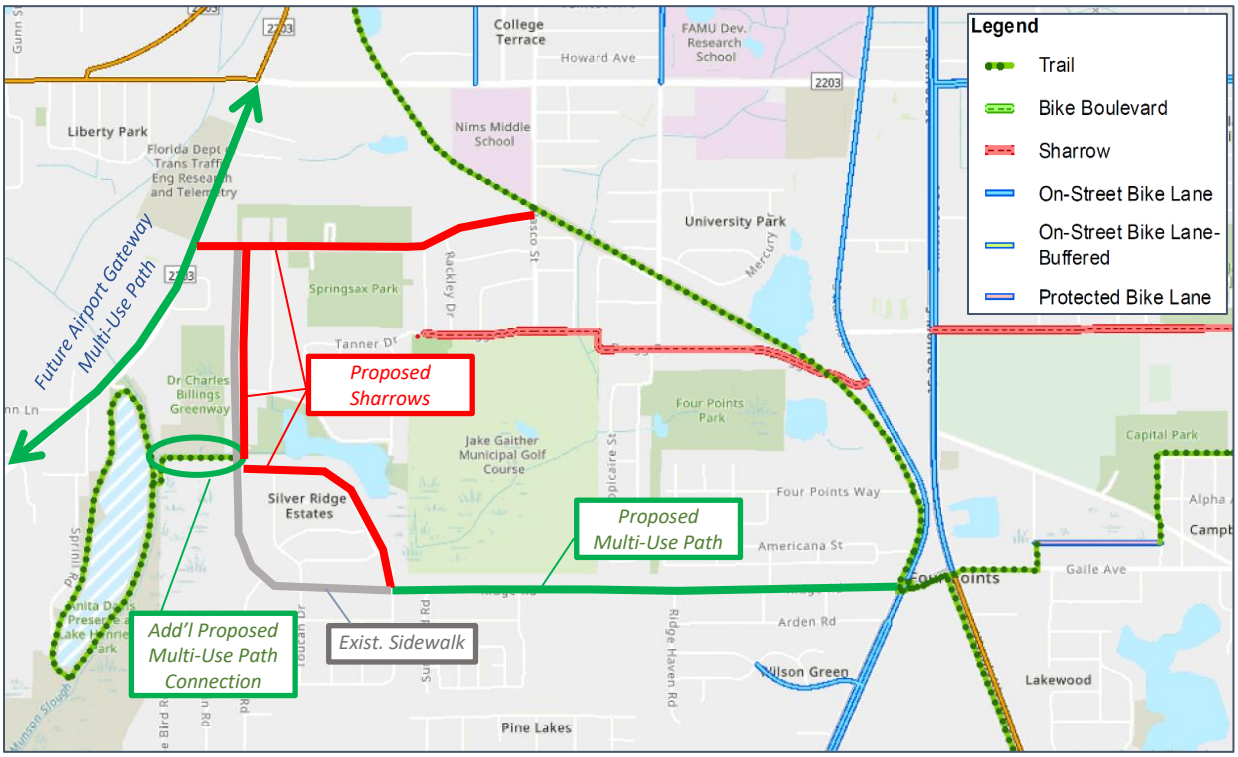

Figure 9. Alternative Design Approach

Adding a trail connection within the section of Ridge Road from Sunnyside Drive to the St. Marks Trail, along with enhanced multimodal features such as shared use lane markings (sharrows), wayfinding signage, or other traffic calming features such as raised crosswalks will achieve desired goals yet seek to balance need and safety with available funding.

The following table provides a planning level breakdown of probable costs associated with the alternative design option.

TABLE 9. Alternative Design Option Costs Breakdown

Alternative - Segment 2 Plus Traffic Calming/Wayfinding	
Asphalt Trail (Sunnyside to St. Marks Trail)	$ 1.055M
Asphalt Trail Connection to Lake Henrietta Trail	$ 60k
Raised Crosswalk near Lake Henrietta	$ 8.2k
Raised Intersection at Sunnyside Drive	$ 25k
Sharrows on Sunnyside Drive, Springsax Road, and Ridge Road north of Sunnyside Drive to Springsax Road	$ 75k
Way Finding Signage (for entire project length)	$ 30.5k
250' of New Sidewalk at Culvert	$ 16.5k
Texas Classic Barrier on Culvert	$ 30k
Subtotal	$ 1.3M
Contingency	$ 188k
Construction Total	**$ 1.49M**
Consultant Fees: includes survey, geotech, design & bid phase	*$ 180k-200k*
CEI Fees	*$ 150k*
Estimated Project Total *(without CEI)*	**$ 1.69M**
Estimated Project Total *(with CEI)*	**$ 1.84M**

Conclusions

The results of this analysis have concluded that adhering to either FDM or FL Greenbook design criteria will require additional R/W acquisition based on design elements such as path width, clear zone/clear width, and separation from edge of travel way. However, using a blend of FL Greenbook criteria (where feasible) and sidewalk criteria including limited separation from travel way and clear widths (where necessary), a contiguous pathway of at least 8-feet wide along Ridge Road, from Springsax Road to the St. Marks Trail, may be constructable without the need to acquire additional R/W. The total project construction costs would range from $3-4 million, depending on which side of the road is selected.

An alternative design option has also been evaluated for programming consideration, which addresses the purpose and need of the project. Using the alternative design approach takes full advantage of existing infrastructure along Ridge Road, including recently constructed sidewalk within Segment 1, while adding safe and efficient connections where most needed. To enhance safety for all users, additional features to slow traffic and provide all users with safe access to alternative modes of transportation are included, such as raised crosswalk/intersection, shared use lanes (sharrows), and wayfinding signage. Based on the projected costs for the alternative design approach, significant cost savings (over $1 million+) can be achieved in comparison to a contiguous multi-use path along the length of Ridge Road, without sacrificing project goals and desired outcomes.

Therefore, this study recommends consideration of the alternative design option to meet the goals of the Build the Bike Route Program and the Ridge Road Multi-Use Path project purpose and need.