

# PLANT CITY CANAL TRAIL FEASIBILITY STUDY

## Final Recommendations

October 12, 2022



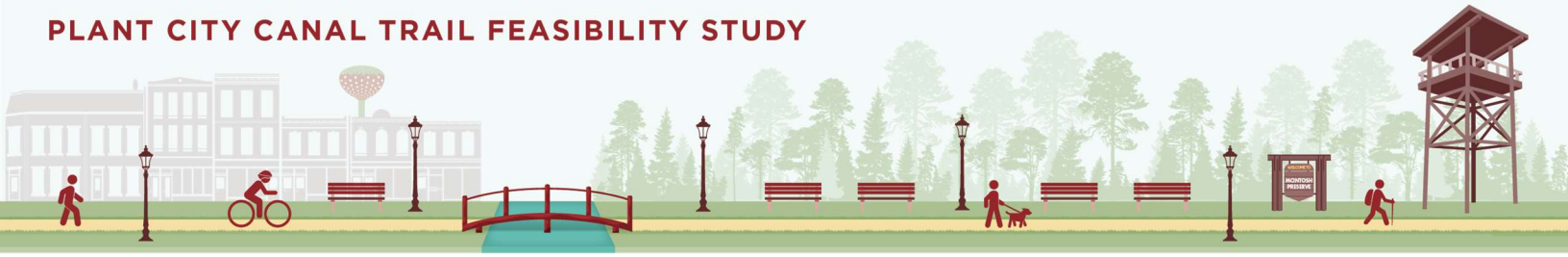


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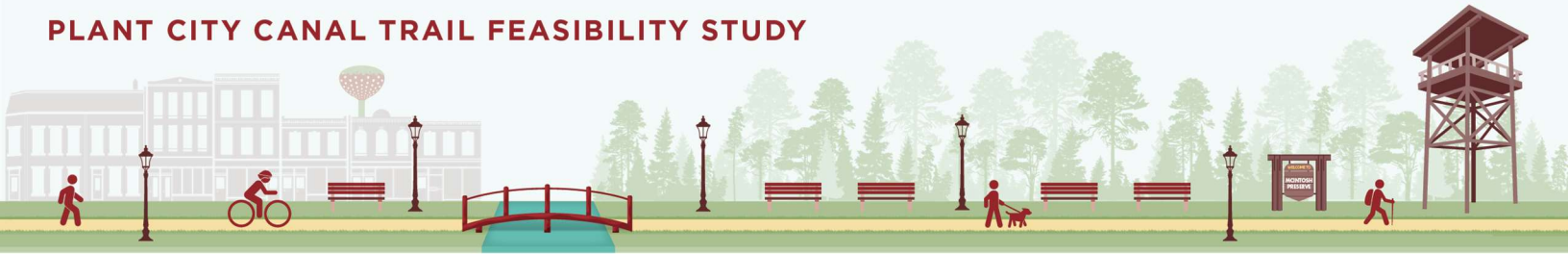
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# 1

## Introduction

The study area, shown on **Figure 1.0-1**, extends from Dr. Hal & Lynn Brewer Park in the south to McIntosh Preserve in the north, linking several parks and community destinations together along the way. The Canal Connector Trail is envisioned to be the major north-south trail spine extending from south/southwest Plant City, northerly through Midtown and downtown. The trail will connect parks as well as other recreational and public facilities all the way to McIntosh Preserve, providing a major improvement for active transportation in the area. The trail is intended to meet the needs of both recreational and utilitarian users of all ages and abilities. The preferred alternative will blend the goals for the city mobility plans and will also provide visitors a means of exploring new parts of the community that can enhance economic development opportunities.

# PLANT CITY CANAL TRAIL FEASIBILITY STUDY

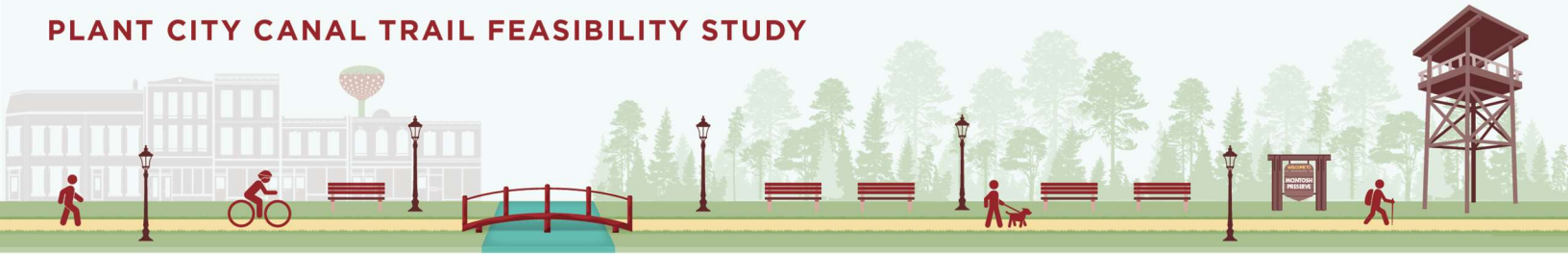
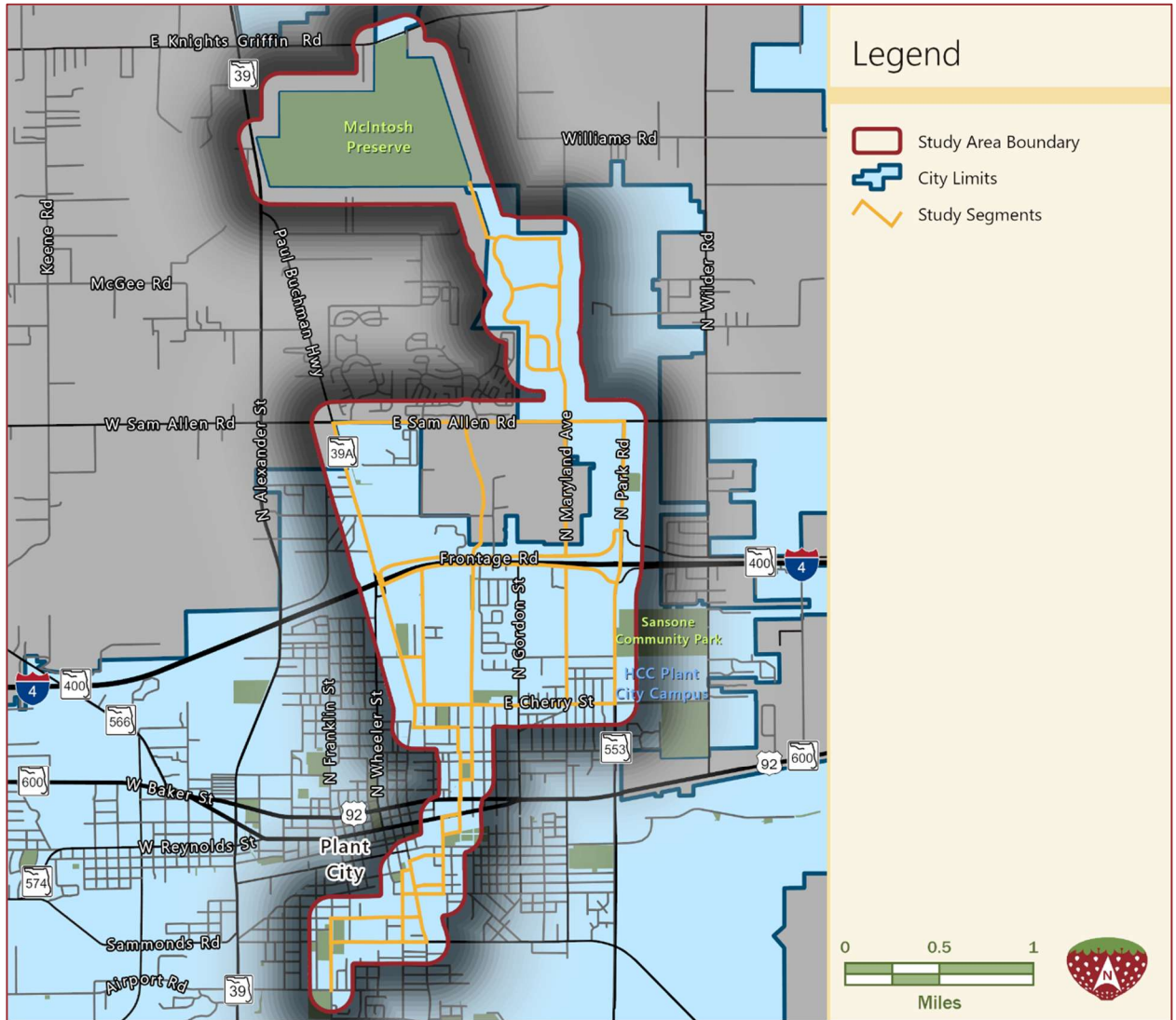


Figure 1.0-1: Study Area Map





# 2

## Existing Conditions

### 2.1 Community and Cultural Characteristics

#### 2.1.1 Demographics

Demographic data from the study area, in **Table 2.1-1**, show that this area is generally representative of Plant City and Hillsborough County in terms of labor force participation and percent of foreign-born residents. It is significantly different in education levels and has a higher home ownership rate and slightly older population.

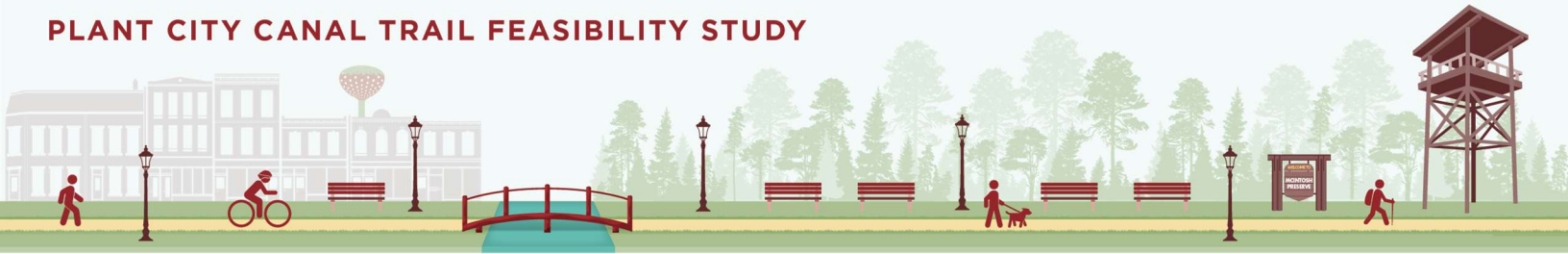
Table 2.1-1 Study Area Demographics

	Study Area*	Plant City	Hillsborough County
<b>Total population</b>	10,498	39,437	1,459,762
<b>Percentage age 18 younger</b>	20.8%	25.2%	22.3%
<b>Percentage age 65 and older</b>	20.9%	12.4%	14.3%
<b>Foreign-born population percentage</b>	16.0%	13.4%	17.9%
<b>Percentage of the population with at least a high school degree</b>	84.6%	83.1%	88.9%
<b>Percentage with at least a bachelor’s degree</b>	15.4%	22.7%	34.5%
<b>Percentage with at least a master’s degree</b>	3.3%	6.5%	12.5%
<b>Labor force participation rate (Employment Rate)</b>	52.0%	64.2%	61.3%
<b>Home ownership rate</b>	71.2%	60.0%	59.3%

\*Seven block groups encompassing most of the land area

Source: US Census Bureau, American Community Survey, 2020 5-Year Estimates





## 2.1.2 Pedestrian and Bicycle Infrastructure

There is currently fair sidewalk coverage in and around downtown Plant City, but very few bicycle facilities. The Plant City Walk-Bike Plan from 2017 identified corridors that had existing sidewalks and bike facilities as well as corridors on which pedestrian and bicycle facilities were planned to be constructed. Outside of the downtown area, there is currently a scarcity of bike and pedestrian facilities, even on major corridors within the study area. To address this, two central spines were identified in the Walk-Bike Plan to serve as the main north-south and east-west corridors through Plant City, connecting residential areas, parks, schools, and other activity areas throughout the city. The north-south spine would be partially served by the trail proposed in this study.

Along major corridors in the study area, East Sam Allen Road is currently being reconstructed and will have sidewalks and bike facilities along it. North Park Road currently has sidewalks, and bike facilities are proposed to be added in the future. SR 39A/Paul Buchman Highway and SR 39/Alexander Street both have bike facilities along some segments of the road but are proposed to have both sidewalks and bike facilities along the entire corridor. Smaller roadways that are also potential candidates for the trail alignments have planned sidewalks and bike facilities. North Maryland Avenue south of I-4 has planned sidewalks and bike facilities, and North Sharron Avenue south of I-4 has planned sidewalks.

**Figure 2.1-1** shows existing and planned facilities from the Plant City Walk-Bike Plan. In comparison to the study area, a very significant portion of the spine will fall within those limits and the north and south connecting points are generally consistent. Based on this, the trail addressed by this study would provide almost all of the spine segments north of US 92, and much to the south as well.

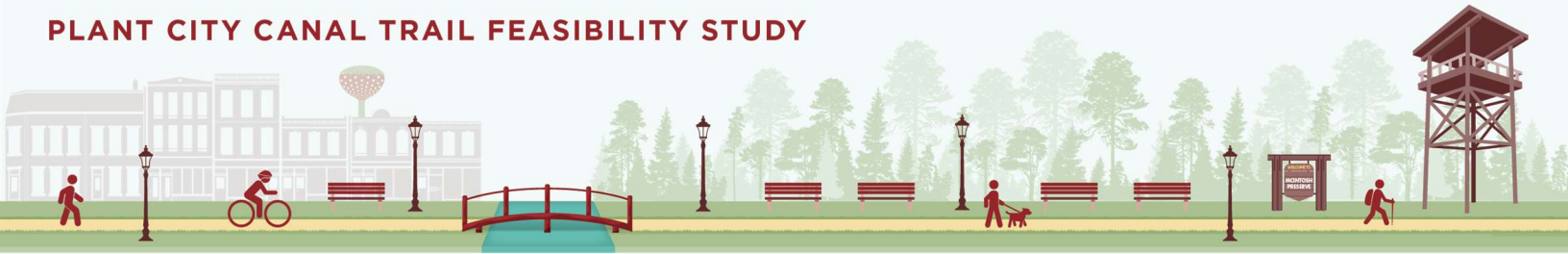
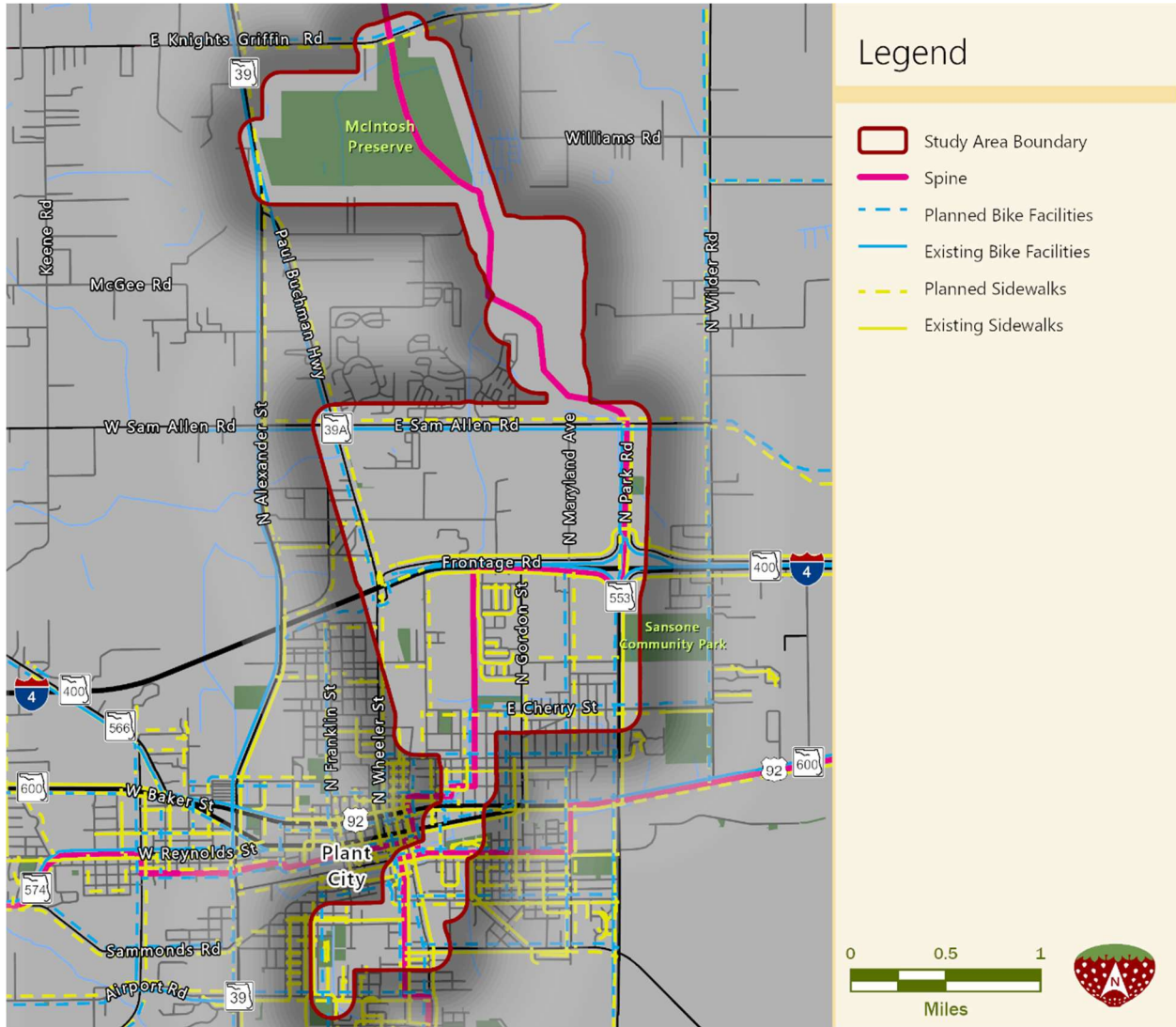
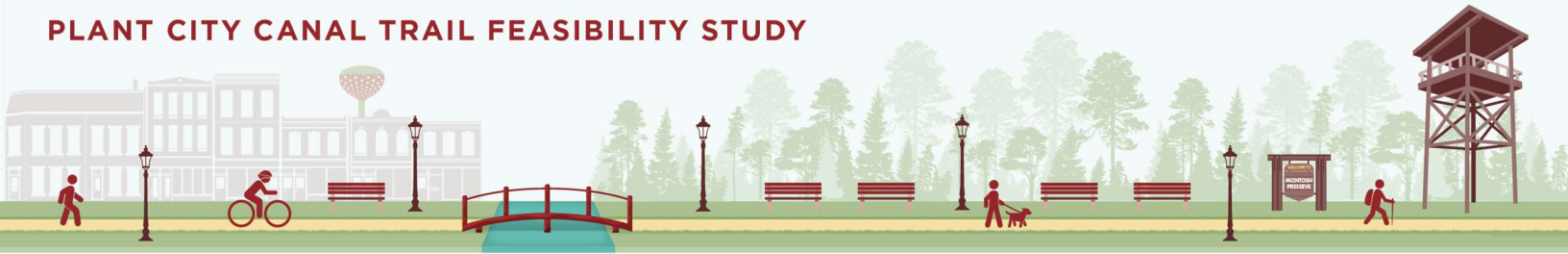


Figure 2.1-1: Existing/Planned Pedestrian and Bicycle Facilities



### 2.1.3 Transit Service and Infrastructure

Bus service is not currently provided in Plant City but was from 2001 to 2017. During that time, there was an express route between Plant City and Tampa, and four local routes within Plant City. A study was conducted in 2021 that developed alternatives for transit routes that provide connections to and within Plant City. One route would connect Plant City to Tampa, another route would connect Plant City to Lakeland, and the last route(s) would be circulators within Plant City. At this time no alternative has been selected. The study was conducted when the All for Transportation sales tax had not yet been struck down; it is unclear if this project will move forward without that revenue source.



## 2.2 Existing Physical Features

### 2.2.1 Roadway Classifications, Jurisdictions and Posted Speeds

Data on roadway characteristics were gathered from the Hillsborough County Roadways Database and the FDOT Open Data Hub. These data were supplemented with review of imagery for local roads. Characteristics for the major study area roadways are summarized in **Table 2.2-1: Roadway Characteristics**

Table 2.2-1: Roadway Characteristics

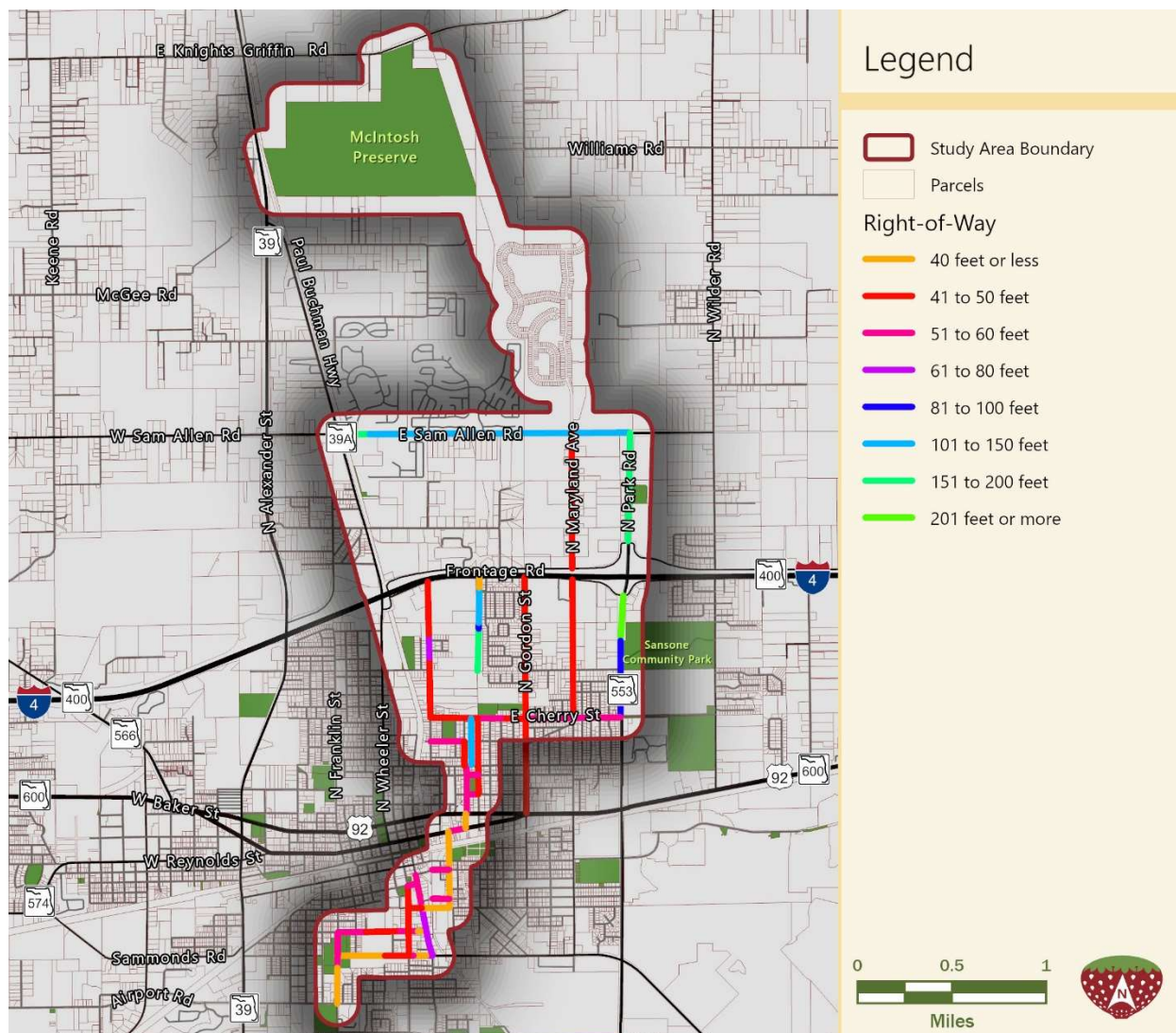
Major Roads	Segment	Context Class	Posted Speed	Jurisdiction	Functional Class
<b>SR 39A/Paul Buchman Hwy</b>	N Alexander St to Sam Allen Rd	C2	55	FDOT	Urban Minor Arterial
	Sam Allen Rd to I-4	C2	45	FDOT	Urban Minor Arterial
	I-4 to W Spencer St	N/A	45	FDOT	Urban Minor Arterial
	W Spencer St to Baker St	N/A	35	FDOT	Urban Minor Arterial
<b>SR 553/N Park Rd</b>	Sam Allen Rd to N Frontage Rd	N/A	45	Hillsborough County	Urban Minor Arterial
	N Frontage Rd to Cherry St	C3C	45	FDOT	Urban Minor Arterial
	Cherry St to Baker St	C3R	45	FDOT	Urban Minor Arterial
<b>N Gordon St</b>	Frontage Rd to E Spencer St	N/A	40	Plant City	Urban Minor Collector
	E Spencer St to Baker St	N/A	30	Plant City	Urban Minor Collector
<b>S Collins St</b>	Reynolds St to Renfro St	N/A	30	Plant City	Urban Minor Arterial
	Renfro St to Alsobrook St	N/A	30	Plant City	Urban Minor Arterial
<b>N Alexander St</b>	Knights Griffin Rd to Paul Buchman Hwy	C3C	50	FDOT	Urban Principal Arterial Other
	Paul Buchman Hwy to I-4	C2	50	FDOT	Urban Principal Arterial Other
	I-4 to Victoria St	C3R	50	FDOT	Urban Principal Arterial Other
	Victoria St to W Grant St	C4	50	FDOT	Urban Principal Arterial Other
	W Grant St to JL Redman Pkwy	C3R	50	FDOT	Urban Principal Arterial Other
<b>US 92/Baker St</b>	N Alexander St to Whitehall St	C2T	40	FDOT	Urban Principal Arterial Other
	Whitehall St to N Illinois St	C2T	35	FDOT	Urban Principal Arterial Other
	N Illinois St to N Gordon St	C2T	40	FDOT	Urban Principal Arterial Other
<b>US 92/Reynolds St</b>	N Alexander St to Reynolds St	C4	35	FDOT	Urban Principal Arterial Other
	N Alexander St to N Howard St	C2T	35	FDOT	Urban Principal Arterial Other
	N Howard St to N Pennsylvania Ave	C2T	30	FDOT	Urban Principal Arterial Other
	N Pennsylvania Ave to N Maryland Ave	C2T	35	FDOT	Urban Principal Arterial Other
<b>N Maryland Ave</b>	S Frontage Rd to Baker St	N/A	30	Plant City	Local
<b>E Cherry St</b>	N Shannon Ave to N Park Rd	N/A	30	Plant City	Local
<b>E Calhoun St</b>	N Wheeler St to N Park Rd	N/A	30	Plant City	Local
<b>E Sam Allen Rd</b>	SR 39/N Alexander St to SR 39A/Paul Buchman Hwy	N/A	45	Hillsborough County	Urban Major Collector
	SR 39A/Paul Buchman Hwy to N Park Rd	N/A	40	Hillsborough County	Urban Major Collector
<b>Knights Griffin Rd</b>	SR 39/Paul Buchman Hwy to Bailey Rd	N/A	50	Hillsborough County	Rural Major Collector
	Bailey Rd to N Wilder Rd	N/A	55	Hillsborough County	Rural Major Collector



### 2.2.2 Right-of-Way & Easements

Right-of-way along possible trail alignments was estimated from parcel data available from the Hillsborough County Property Appraiser. The Appraiser’s Office records do not show easements on private property in the database, and a review of individual plat pages may still need to occur to determine their presence. Estimated rights-of-way for major roadways are shown on **Figure 2.2-1**. Major property owners are shown on **Figure 2.2-2**.

Figure 2.2-1: Property Ownership/Right-of-Way



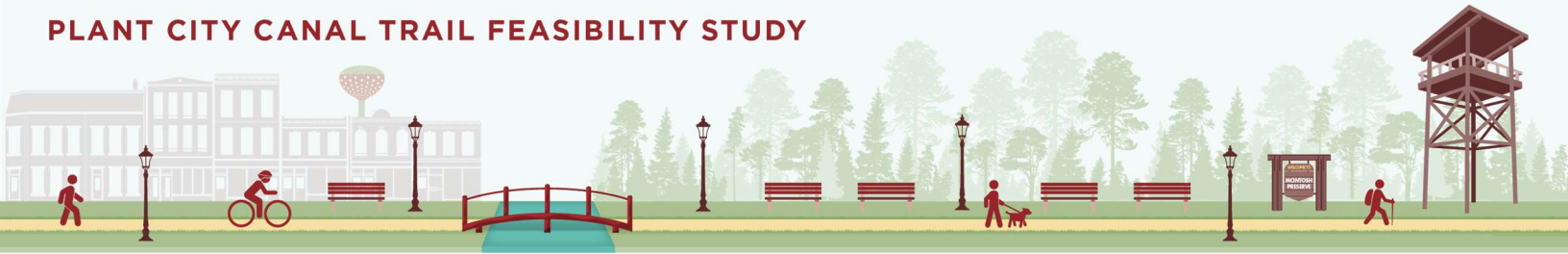
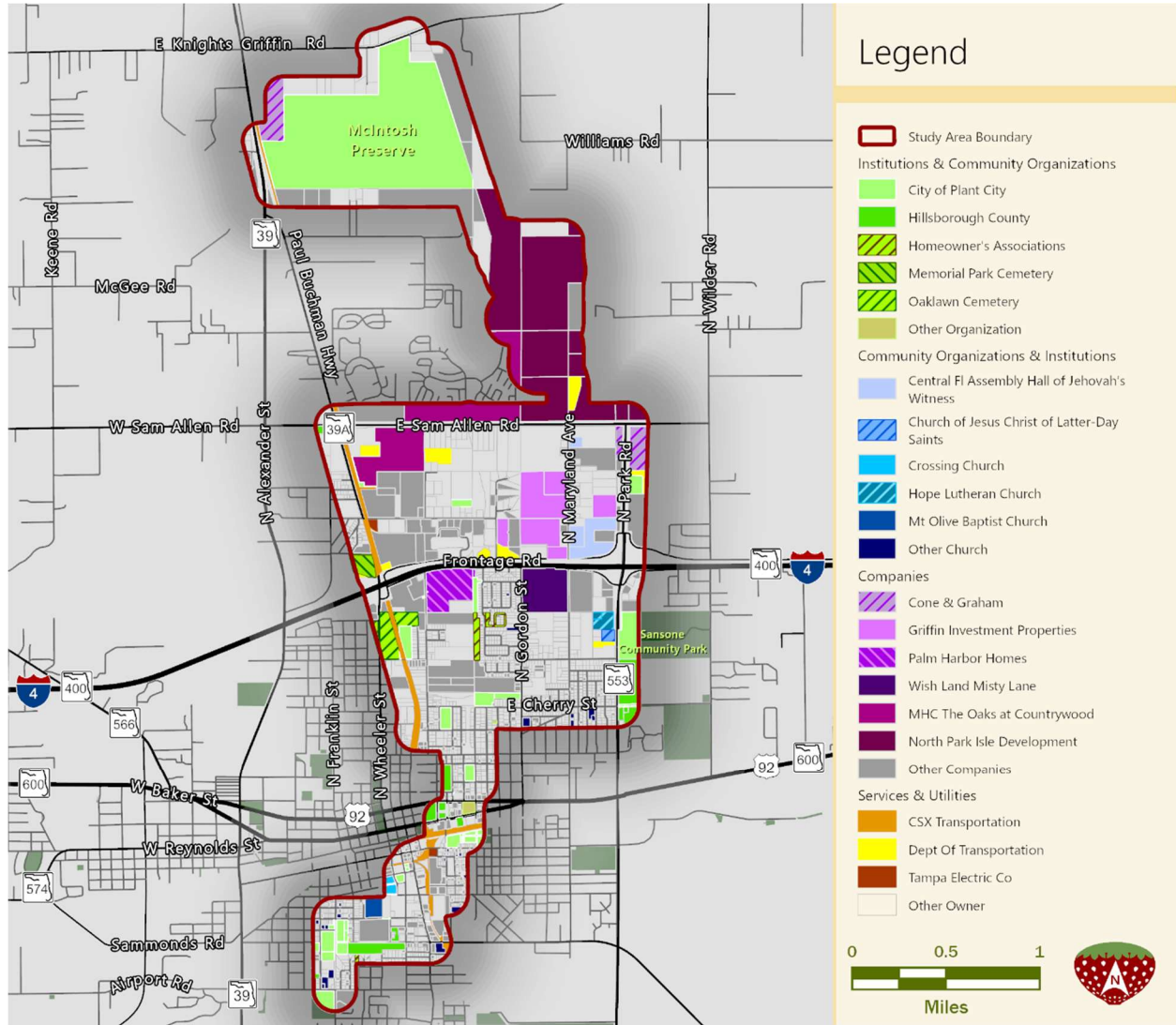
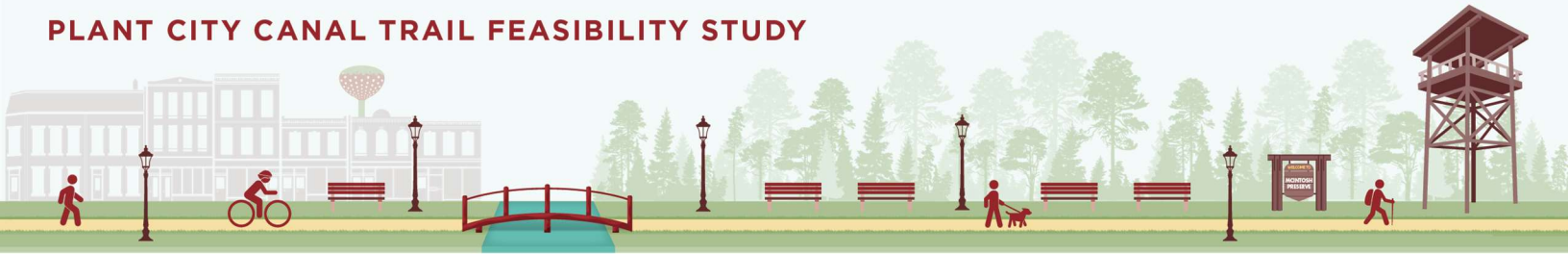


Figure 2.2-2: Major Property Ownership





### 2.2.3 Typical Sections

Typical section data was gathered from Straight Line Diagrams (SLDs) for state roads and supplemented with review of aerial imagery for local roads. Typical sections for roadway in the study area are summarized in

**Table 2.2-2.**

**Table 2.2-2: Typical Sections Major Roadways**

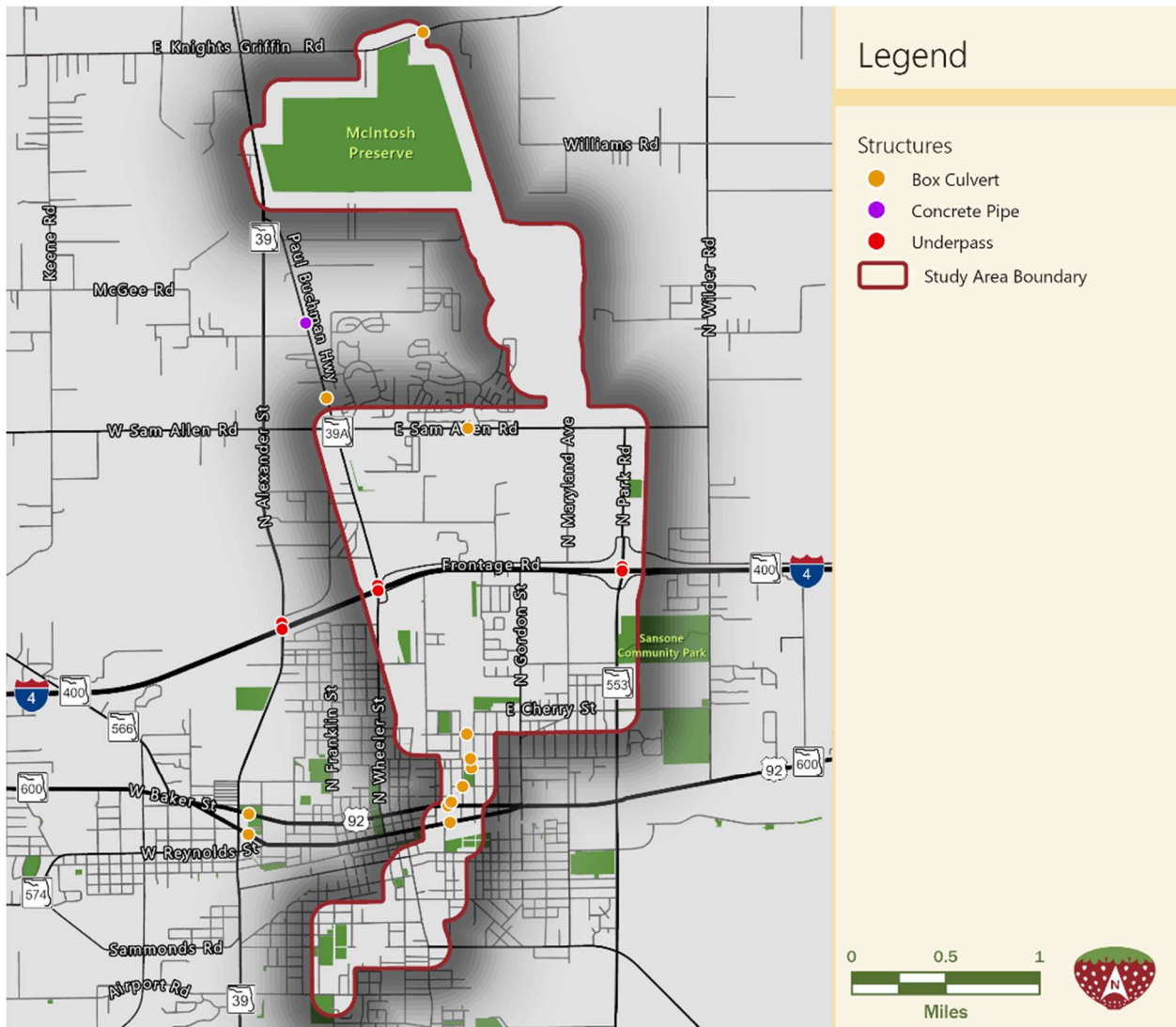
Major Roads	Segment	Number of Lanes	Lane Width (ft)	Divided/Undivided	Curbed/Flush Shoulder	Multimodal Facilities
<b>SR 39A/Paul Buchman Hwy</b>	Alexander St to Sam Allen Rd	2	12	U	Flush	None
	Sam Allen Rd to Oakland Heights Ave	2	12	U	Flush	None
	Oakland Heights Ave to I-4	2	12	U	Flush	None
	I-4 to Baker Street	2	12	U	Flush	None
<b>SR 553/N Park Rd</b>	Sam Allen Rd to N Frontage Rd	4	11.5	D	Flush	Sidewalk, Bike Lane
	N Frontage Rd to S Frontage Rd	4	12	D	Flush	Sidewalk
	S Frontage Rd to Baker St	6	11.5-13	D	Curb	Sidewalk
<b>N Gordon Street</b>	S Frontage Rd to 1,225' S of S Frontage Rd	2	10.5	U	Flush	Sidewalk
	1,225' S of S Frontage Rd to E Tomlin St	2	10.5	U	Flush	None
	E Tomlin St to E Baker St/E Reynolds St	2	10.5	U	Flush	Sidewalk
<b>S Collins St</b>	Reynolds St to Alabama St	2	11	U	Curb	Sidewalk
	Alabama St to W Grant St	4	10.5	U	Curb	Sidewalk
<b>N Alexander St</b>	Knights Griffin Rd to I-4	4	12	D	Flush	Bike Lane
	I-4 to Thonotosassa Rd	4	12	D	Curb	Sidewalk, Bike Lane
	Thonotosassa Rd to W Dr MLK Jr Blvd	4	12	D	Curb	Sidewalk
	W Dr MLK Jr Blvd to Plantation Blvd	4	12	D	Curb	None
	Plantation Blvd to Mendosa Rd	4	12	D	Curb	Sidewalk
	Mendosa Rd to JL Redman Pkwy	4	12	D	Flush	Sidewalk
<b>US 92/Baker St</b>	N Gordon St to Whitehall St	2	11.5-12	U	Curb	Sidewalk
	Whitehall St to Dort St	2	11.5	U	Flush	Sidewalk, Bike Lane
	Dort St to Alexander St	2	11.5	U	Curb	Sidewalk, Bike Lane
	Alexander St to N Mobley St	2	12	U	Flush	Sidewalk, Bike Lane
<b>US 92/Reynolds St</b>	N Mobley Rd to N Thomas St	2	12	U	Curb	Sidewalk
	N Thomas St to Railroad Tracks	2	10-10.5	U	Curb	Sidewalk
	Railroad Tracks to N Gordon St	2	10.5-12	U	Curb	Sidewalk
<b>E Sam Allen Rd</b>	Paul Buchman Hwy to N Park Rd	4	12	D	Curb	Sidewalk, Bike Lane
<b>E Knights Griffin Rd</b>	Paul Buchman Hwy to N Wilder Rd	2	11.5	U	Flush	None
<b>N Shannon Ave</b>	S Frontage Rd to Palm Cove Living	2	11	U	Curb	None
	Palm Cove Living to E Calhoun St	2	9	U	Flush	None
<b>N Maryland Ave</b>	E Baker St to E Calhoun St	2	10.5	U	Flush	Sidewalk
	E Calhoun St to S Frontage Rd	2	10.5	U	Flush	None
<b>E Cherry St</b>	N Shannon Ave to N Park Rd	2	10	U	Flush	None
<b>E Calhoun St</b>	N Wheeler St to N Collins St	2	12	U	Curb	Sidewalk
	N Collins St to Railroad Tracks	2	9.5	U	Flush	Sidewalk
	Railroad Tracks to N Park Rd	2	10.5-11	U	Flush	None



### 2.2.4 Structures

Data on structures were sourced primarily from Straight Line Diagrams (SLDs) for state roads. These data were supplemented with review of aerial imagery to identify additional structures on primary local roads. As shown in **Figure 2.2-3**, overpasses are present at the I-4 interchanges at Paul Buchman Highway and North Park Road, and box culverts are generally located where primary study area roadways intersect the East Canal.

Figure 2.2-3: Structures





## 2.2.5 Existing Intersections

Signalized intersection data were gathered from the FDOT Open Data Hub and supplemented with a review of aerial imagery. As shown in **Figure 2.2-4**, there are ten signalized intersections within the study area.

Those intersections are as follows:

- South Collins Street & Alsobrook Street
- South Collins Street & East Alabama Street
- South Collins Street & West Martin Luther King Jr. Boulevard
- South Evers Street & West Ball Street
- North Park Road & East Cherry Street
- North Park Road & South Frontage Road
- North Park Road & I-4 WB Ramps
- North Park Road & I-4 EB Ramps
- Paul Buchman Highway & Sam Allen Road
- Paul Buchman Highway & South Frontage Road



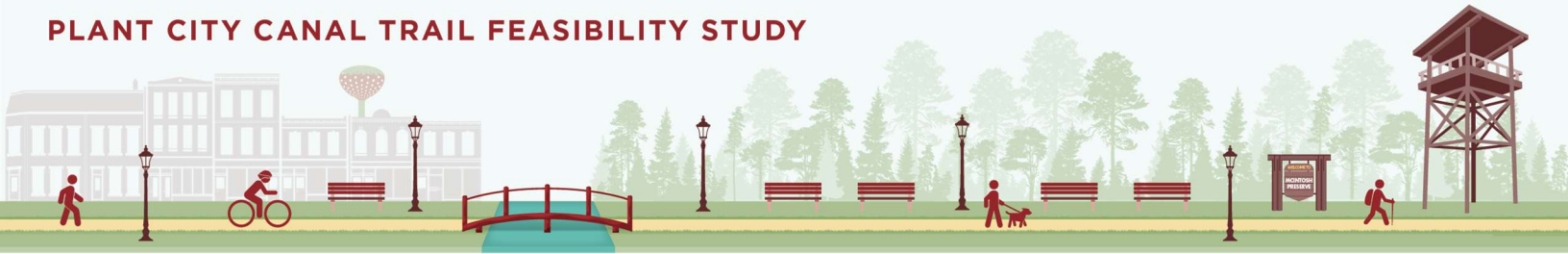
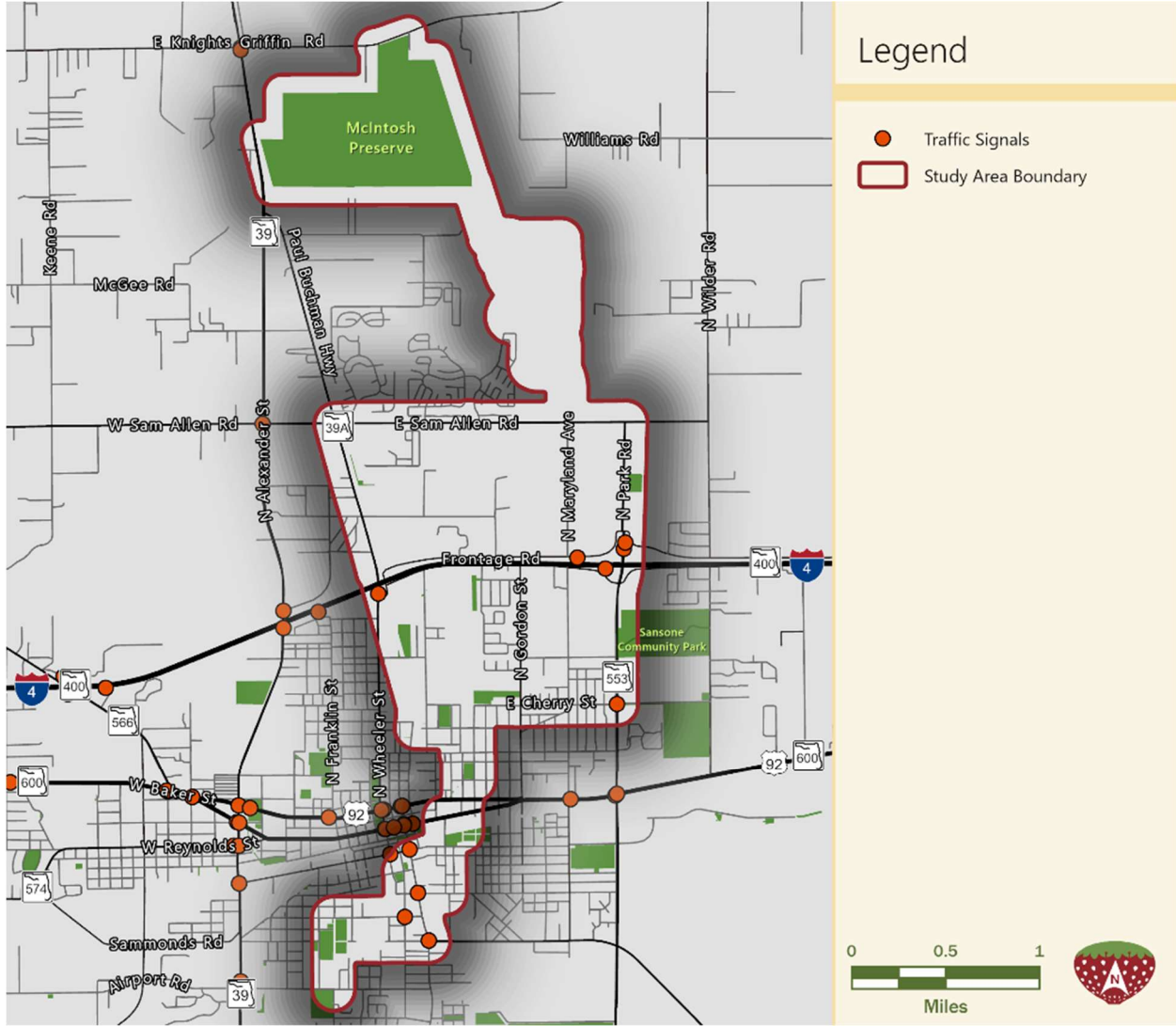


Figure 2.2-4: Major Intersections





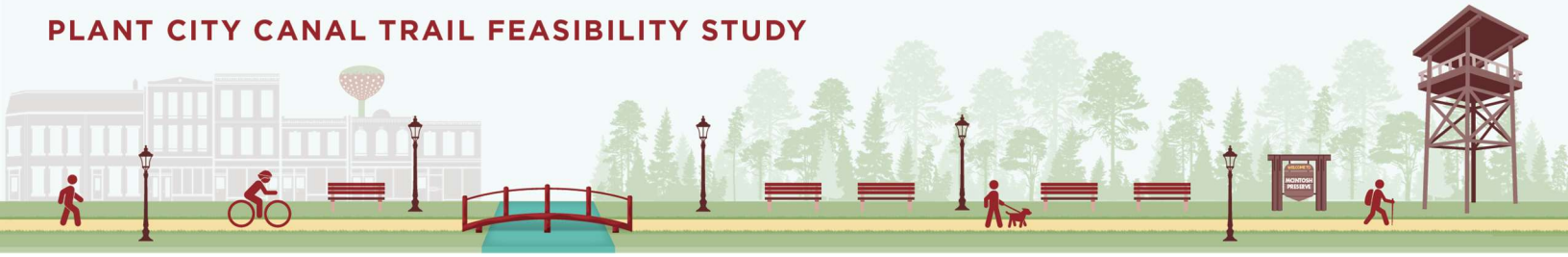
### 2.2.6 Utilities

A Sunshine811 ticket was processed April 2022 to identify a list of potential utility providers within the study area. **Table 2.2-3** lists the potential utilities companies within the study area. Utility companies were not contacted to confirm the list as a part of the existing conditions assessment. Once an alignment for the trail is determined, the utility companies could be contacted to verify the location and content of the utilities.

Table 2.2-3: Utility Providers

Utility Name	Code	Type
AT&T	ATTF01	COMMUNICATION LINES, FIBER
CHARTER COMMUNICATIONS	BH1271	CABLE
CHARTER COMMUNICATIONS	BH1272	CABLE
CHARTER COMMUNICATIONS	BP1780	CATV, FIBER
BLACK & VEATCH TAMPA 1F	BV2267	FIBER
FLORIDA PUBLIC UTILITIES	CFLGAS	GAS
KINDER MORGAN / CENTRAL FLORIDA PIPELINE	CFPIPL	FUEL OIL PIPELINE
CITY OF PLANT CITY TRAFFIC DEPARTMENT	CP2372	ELECTRIC, TRAFFIC SIGNALS
CITY OF PLANT CITY	CPC588	FIBER, SEWER, TRAFFIC LIGHTS, WATER
FLA. GAS TRANS.-LAKELAND	FGT05	GAS
FLA. GAS TRANS.-SAFETY	FGT09	GAS
FLORIDA GAS TRANSMISSION-FT MYERS	FGT11	GAS
ZAYO GROUP / FORMERLY LIGHTWAVE, LLC	FLW941	FIBER
FRONTIER COMMUNICATIONS	GT1722	CATV, COMMUNICATION LINES
HILLSBOROUGH COUNTY TRAFFIC SERVICE UNIT	HCR409	STREETLIGHTS, TRAFFIC SIGNALS
HILLSBOROUGH COUNTY WATER RESOURCE SERVICES	HCW906	WATER
CENTURYLINK	HW1474	FIBER
CENTURYLINK	L3C900	FIBER
COMCAST COMMUNICATIONS/PREV LK CNTY CBLV	LCA395	CATV
CITY OF LAKELAND ELECTRIC	LLELEC	ELECTRIC
CITY OF LAKELAND WATER	LLWATR	WATER
CITY OF LAKELAND WASTEWATER	LLWWTR	WASTEWATER
MCI	MCIU01	COMMUNICATION LINES, FIBER
CROWN CASTLE NG	NN1882	FIBER
PASCO COUNTY UTILITIES	PASCO	RECLAIMED WATER, SEWER, WATER
TECO PEOPLES GAS- LAKELAND	PGSLL	GAS
UNITI FIBER LLC	SL1086	FIBER
UNITI FIBER LLC	SL2333	FIBER
CITY OF TAMPA SEWER	TAMPS1	SEWER
TRANSCORE FL DEPT OF TRANS DISTRICT 7 ITS	TC2329	ELECTRIC, FIBER
TAMPA ELECTRIC COMPANY	TECO01	ELECTRIC
TECO FIBER	TF1649	FIBER
SPRINT	USSP01	FIBER
TAMPA BAY WATER	WCRW01	WATER

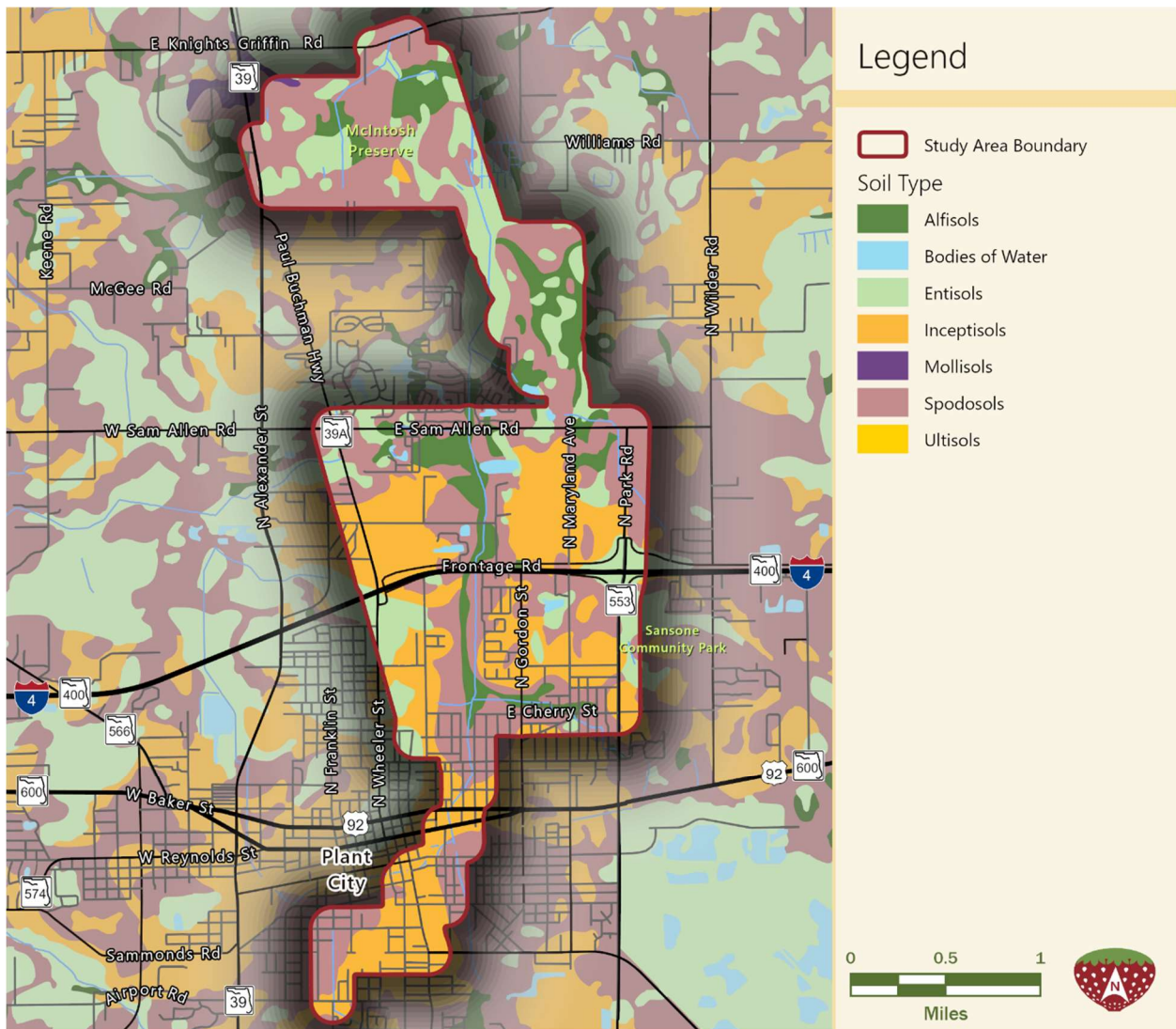
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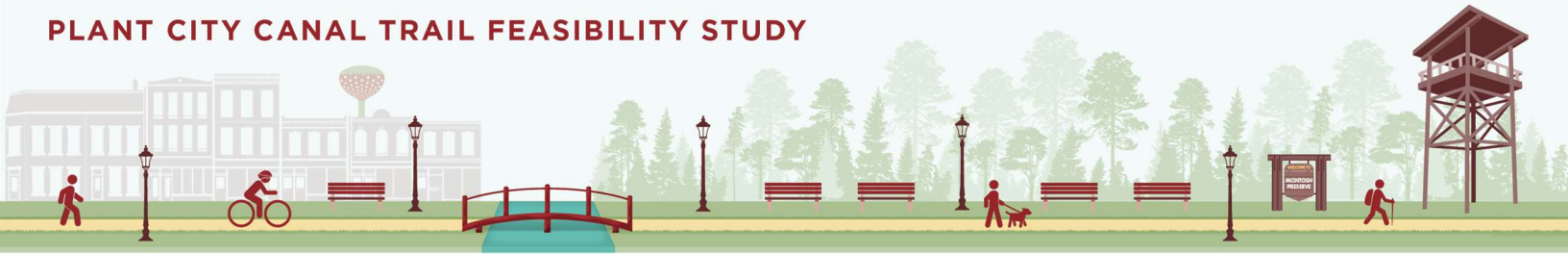


### 2.2.7 Soils

Data from the Natural Resources Conservation Service (NRCS) Soils Survey database were collected for the study area and mapped, as shown on **Figure 2.2-5**. Except for some locations that have both Alfisols and Entisols, often associated with deciduous forests and areas of sandy minerals low in organic matter, much of the study area consists of Ultisols and Spodosols, indicating weathered soil conditions and high acidity and low in natural fertility. While certain areas of the study area present soils conditions that are not conducive to vertical building construction without soil enhancement or replacement, there appear to be minimal obstacles to the construction of a trail along any of the potential alignments.

**Figure 2.2-5: Study Area Soils**

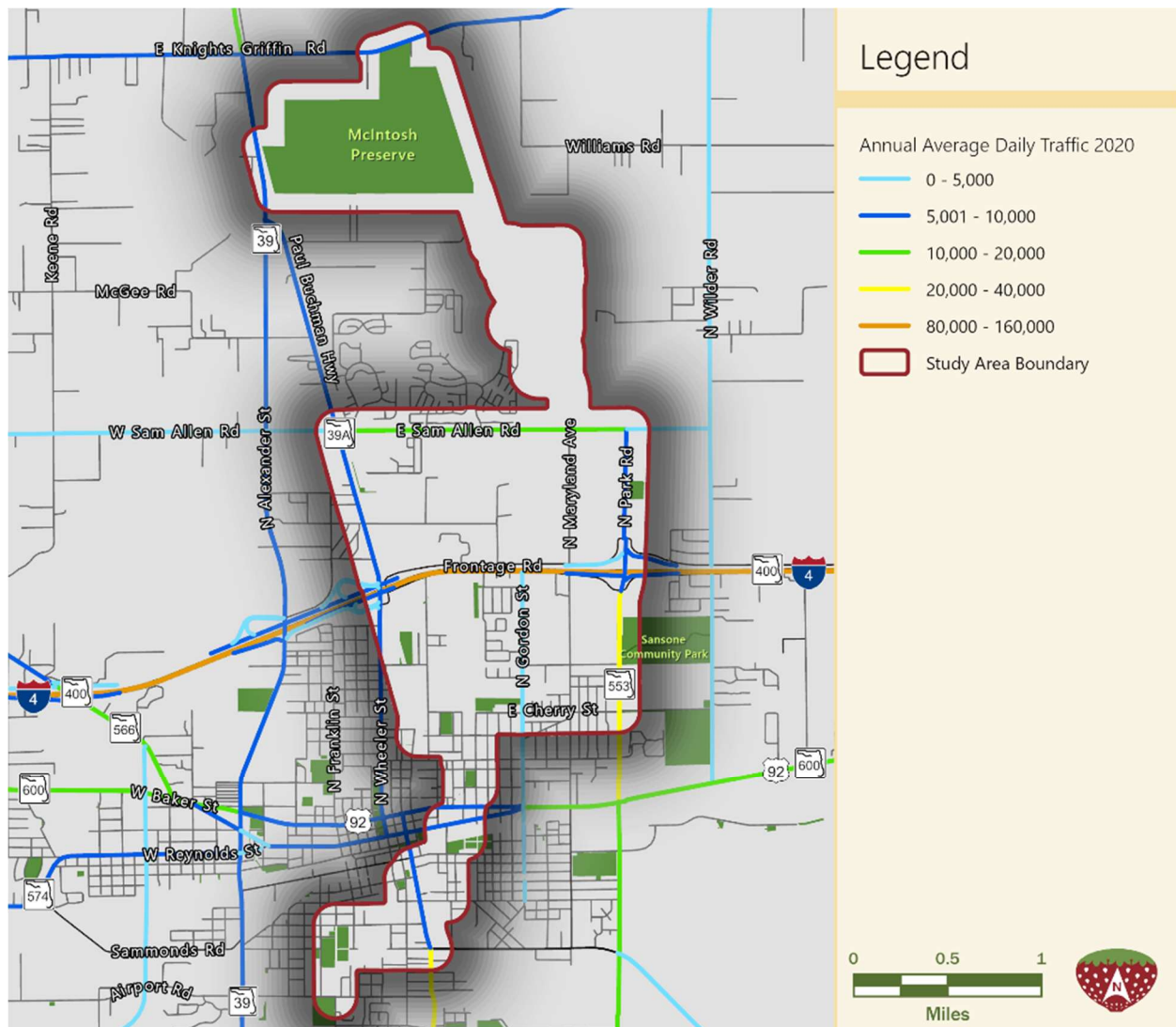




## 2.3 Existing Traffic Conditions

**Figure 2.3-1** shows daily traffic volumes from Florida Traffic Online for the year 2020. Within the study area, limited-access I-4 carries a substantial amount of traffic. SR 553/North Park Road south of I-4 had the highest traffic volumes of any surface road, followed by East Sam Allen Road, which is currently being widened to four lanes with construction expected to be completed by Summer 2022. No other study area roadways carry daily traffic volumes more than 10,000 vehicles.

**Figure 2.3-1: Daily Traffic Volumes**



Capacity and level of service (LOS) for major study area roadways are summarized in **Table 2.3-1**. Capacity and LOS for roadways were calculated using the 2020 Quality/Level of Service Handbook from FDOT. All roadways performed satisfactorily with their adopted LOS. Only SR 39A/Paul Buchman Highway from I-4 to Baker Street had a LOS of D; all other roadway segments performed at LOS C.



Table 2.3-1: Existing Roadway Capacity Analysis

Roadway	Speed Limit	No. of Lanes	Adopted LOS	Daily MSV	2020 AADT	K Factor	D Factor	Pk Hr Pk Dr	PHPD MSV	LOS
<b>SR 39A/Paul Buchman Hwy</b>										
Alexander St to Sam Allen Rd	55	2	D	15,045	5,400	9.0%	58.1%	282	748	C
Sam Allen Rd to Oakland Heights Ave	45	2	D	14,160	5,500	9.0%	58.1%	288	704	C
Oakland Heights Ave to I-4	45	2	D	15,045	6,400	9.0%	58.1%	335	748	C
I-4 to Baker St	35	2	D	12,580	6,600	9.0%	58.1%	345	638	D
<b>SR 553/N Park Rd</b>										
Sam Allen Rd to I-4	45	4	D	41,790	5,900	9.0%	58.1%	309	2,100	C
N Frontage Rd to S Frontage Rd	45	4	D	41,790	6,400	9.0%	58.1%	335	2,100	C
I-4 to Baker St	45	6	D	62,895	22,000	9.0%	58.1%	1,150	3,171	C
<b>N Gordon St</b>										
Frontage Rd to Baker St	40	2	E	11,232	850	9.0%	58.1%	44	-	C
<b>S Collins St</b>										
Alsobrook St to Reynolds St	35	4	E	30,420	8,100	9.0%	58.1%	424	1,530	C
<b>SR 39/N Alexander St</b>										
JL Redman Pkwy to Knights Griffin Rd	50	4	D	41,790	5,400	9.0%	58.1%	282	2,100	C
<b>E Sam Allen Rd</b>										
Alexander St to N Park Rd	40	2	E	11,232	6,900	9.0%	58.1%	361	-	C
<b>Knights Griffin Rd</b>										
SR 39/Paul Buchman Rd to N Wilder Rd	50	2	D	23,400	11,000	9.0%	58.1%	575	1,160	C

Source: 2020 Quality/Level of Service Handbook from FDOT

## 2.4 Safety and Crash Data

Crash data from 2016 to 2020 were analyzed to determine crash trends. The data were pulled from FDOT District 7’s Crash Data Management System. Only crashes that occurred within the study area were analyzed and mapped crashes that occurred on I-4 were excluded, except for one pedestrian crash.

There were 791 crashes that occurred within the study area from 2016 to 2020. Study area crashes were concentrated at the I-4 interchanges of SR 39A/Paul Buchman Highway and SR 553/North Park Road. There were also significant concentrations of crashes along South Collins Street and US 92/East Baker Street.

There were five crashes that involved pedestrians, and 10 that involved bicyclists. There were two fatal pedestrian crashes and no fatal bicycle crashes. Almost 75% of bicycle and pedestrian crashes resulted in fatalities or injuries, compared to only 24% for all other crash types.



Table 2.4-1: Number of Crashes by Crash Type

Crash Type	2016	2017	2018	2019	2020	5-year Total
Angle	67	60	46	77	66	316
Rear End	32	35	29	34	27	157
Left Turn	18	17	21	24	22	102
Hit Fixed Object	16	10	17	16	24	83
Sideswipe	7	7	11	9	14	48
Run Off Road	6	4	6	2	0	18
Head On	6	3	2	3	0	14
Single Vehicle	2	3	3	2	0	10
Bike	2	0	1	1	6	10
Unknown	1	5	1	0	2	9
U-Turn	3	1	1	4	0	9
Right Turn	4	1	1	0	0	6
Hit Non-Fixed Object	0	0	0	2	2	4
Pedestrian	0	2	0	1	2	5
<b>Total</b>	164	148	139	175	165	791

Source: Crash Data Management System

A heat map, shown in **Figure 2.4-1**, was developed to identify study area locations with a higher concentration of crashes. Based on this evaluation, particular attention must be given to improving safety at locations where the alignments parallel or cross the major study area roadways, particularly at the I-4 underpasses, US 92 and along South Collins Street.

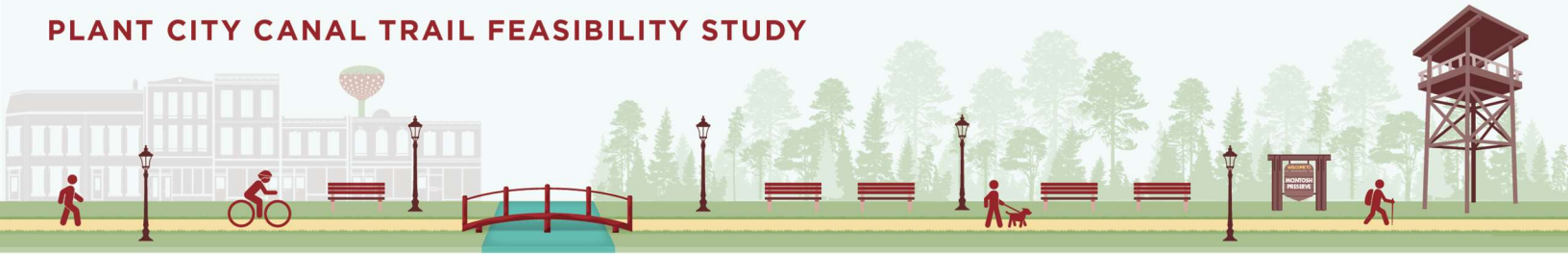
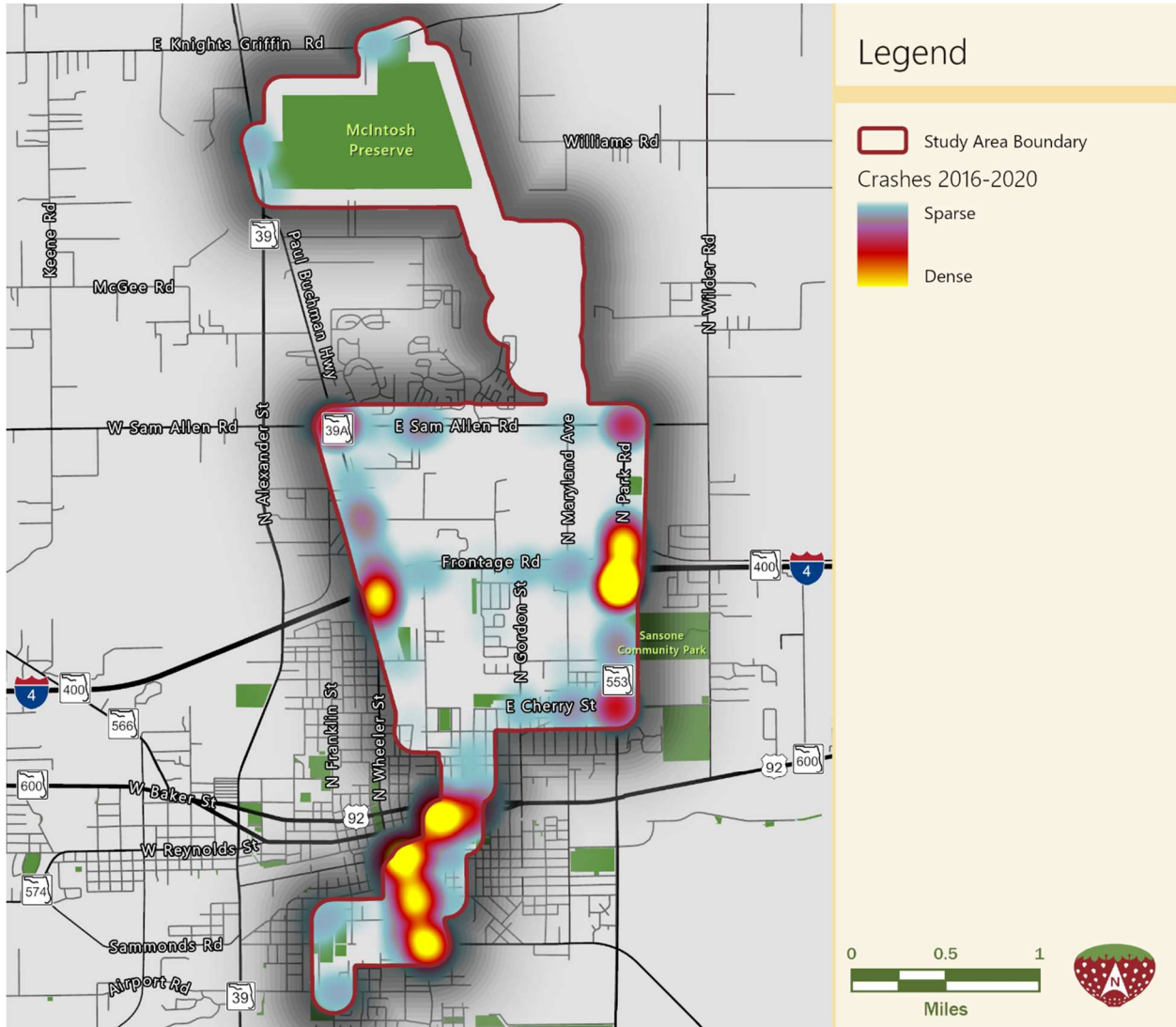


Figure 2.4-1: Crash Heat Map



## 2.5 Environmental Characteristics

### 2.5.1 Cultural Resources

Data were obtained from the Florida Division of Historical Resources for potential historical and cultural resources within the study area that are recorded in the Florida Master Site File (FMSF). A total of eight structures near or in the study area are categorized as eligible or “likely eligible” for inclusion in the National Register of Historic Places. These structures are in the vicinity of McCall Park in Plant City (near intersection of Dr. Martin Luther King Boulevard and South Collins Street). Development in this area should “seek ways to avoid, minimize or mitigate” any adverse effects on these historic properties including consultation with the State Historic Preservation Office (SHPO). An additional nine structures are categorized as “not evaluated” or

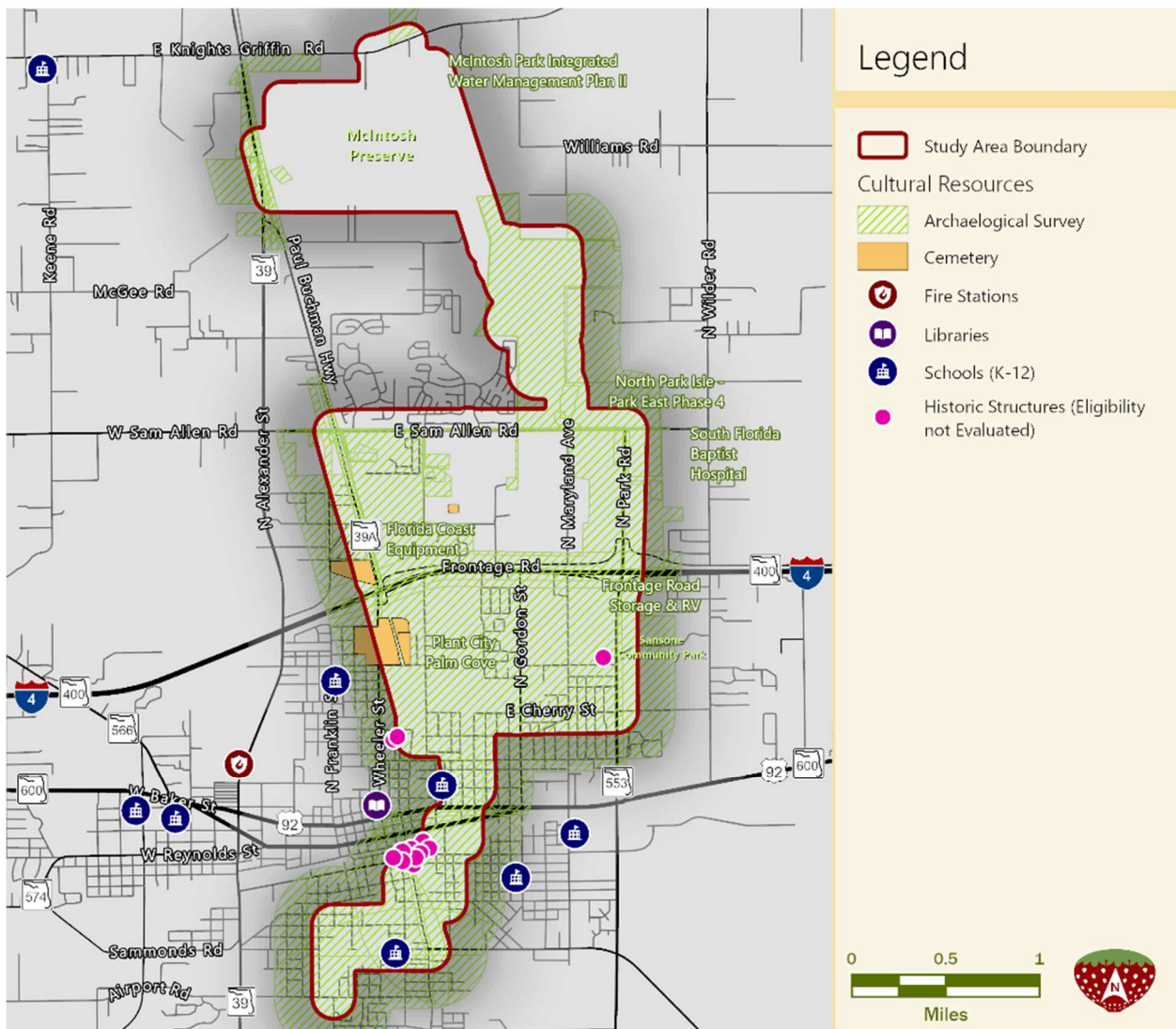


“insufficient information”. Historical structures are expressed as point data for all 17 structures shown in **Figure 2.5-1**.

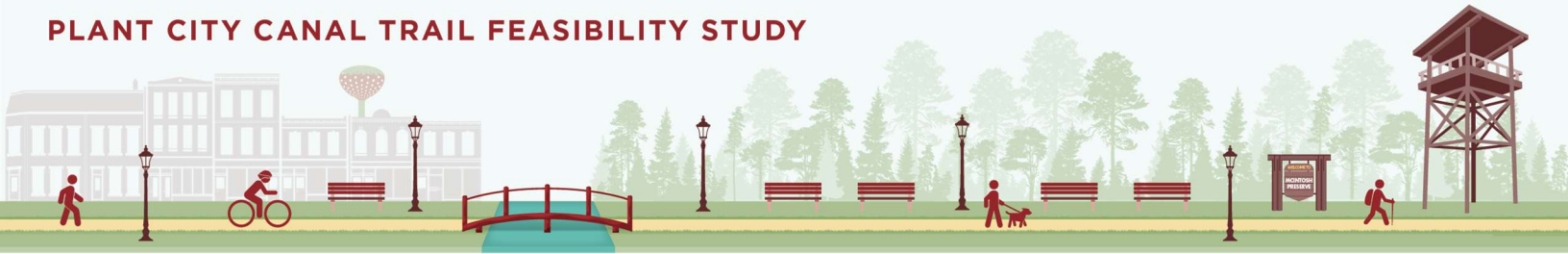
A total of four cemeteries are located within the study area.

In addition to historic structures and cemeteries, a total of 27 archeological surveys have been previously conducted within the study area, mostly associated with previous development projects in the area. A request was submitted to the Florida Division of Historical Resources for the reports associated with these surveys. Report titles and publication dates were included in the request. The information received is also reflected on **Figure 2.5-1**.

**Figure 2.5-1: Cultural Resources**







## 2.5.2 Threatened and Endangered Species

No bald eagle nests are currently documented as occurring within the study area, or within a 330-ft buffer of the area assumed for construction of paved trails. The closest eagle nests are north of McIntosh Preserve.

One federally listed species, the wood stork (*Mycteria americana*), may be relevant to development permitting and design. The study area falls within 15 miles of two Hillsborough County colonies (Cross Creek and Ferman Corporation) and within 18.6 miles of three Polk County colonies (Lake Somerset, Lone Palm, and Mulberry Northeast). Consequently, it is recommended that impacts to wetlands and surface waters (including ponds and conveyances) be as minimized as possible (i.e., below 0.5 acres) to avoid wood stork impacts and subsequent agency consultation.

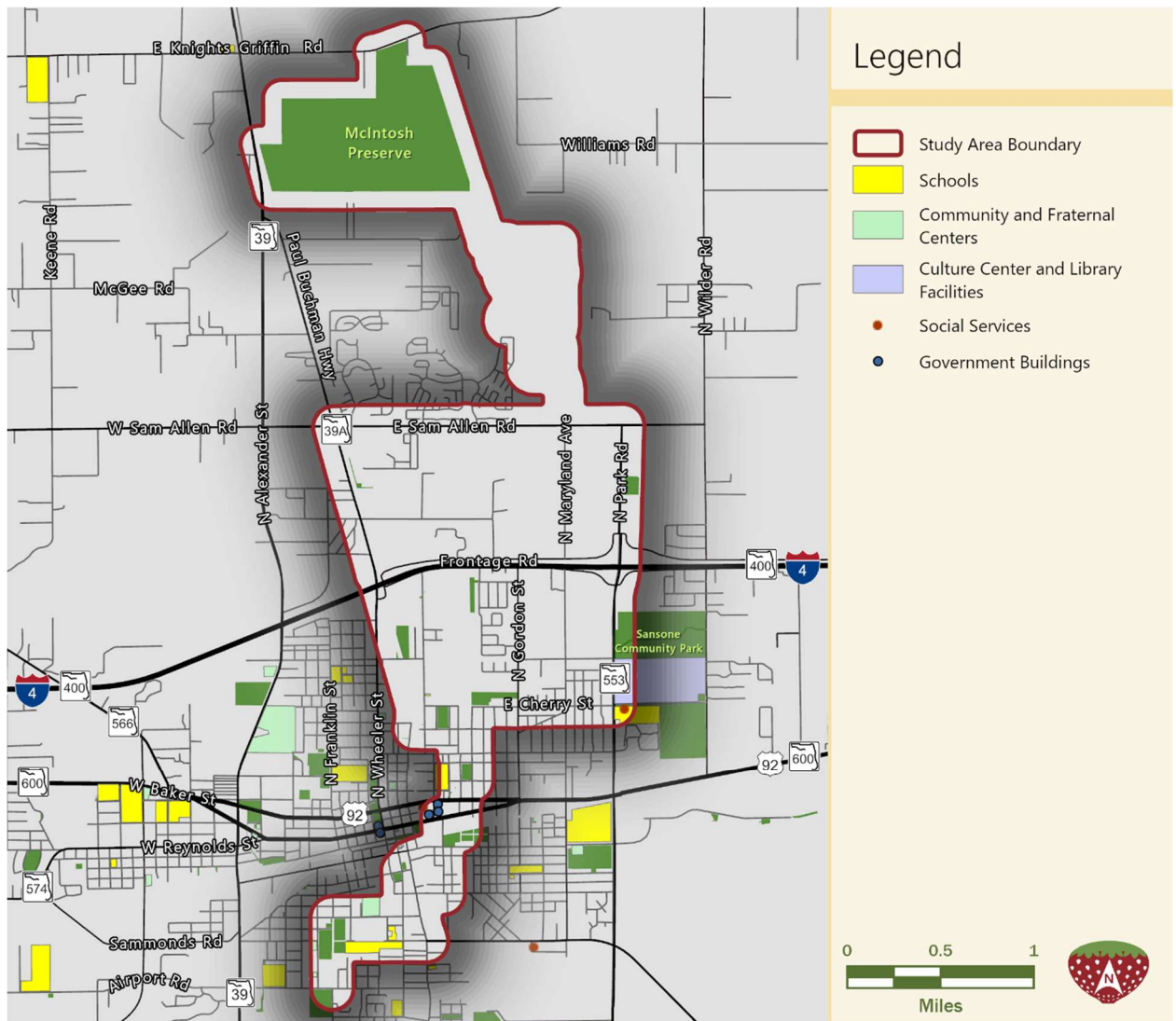
One state-listed species, the gopher tortoise (*Gopherus polyphemus*), is also a current candidate for federal protection. Both live individuals, as well as their burrows, are protected under State law. From a brief desktop review, gopher tortoise suitable habitat appears minimal due to poorly drained soils and previous land use conversion in most of the study area. Based on land cover and soils, some areas with the most potential (though low to moderate overall) for gopher tortoises or their burrows include the vicinity of Maryland Avenue to Park Road in the first half-mile north of I-4. It is recommended that a brief (i.e., <100%) gopher tortoise burrow survey be conducted prior to project construction.



### 2.5.3 Community Destinations

For the purposes of this study, community destinations include schools, libraries, cultural centers, community centers, civic centers, social services, and government buildings. These are land uses that are important to connect to residential areas as well as each other. Community destination data was gathered from the University of Florida GeoPlan Center. **Figure 2.5-2** shows the community destinations in the study area. Schools in the study area include the Hillsborough Community College (HCC) – Plant City Campus, Jackson Elementary School, and Burney Elementary School. There is a cluster of government buildings in downtown Plant City. These include the Plant City Courthouse and the Plant City Community Resource Center.

Figure 2.5-2: Community Destinations

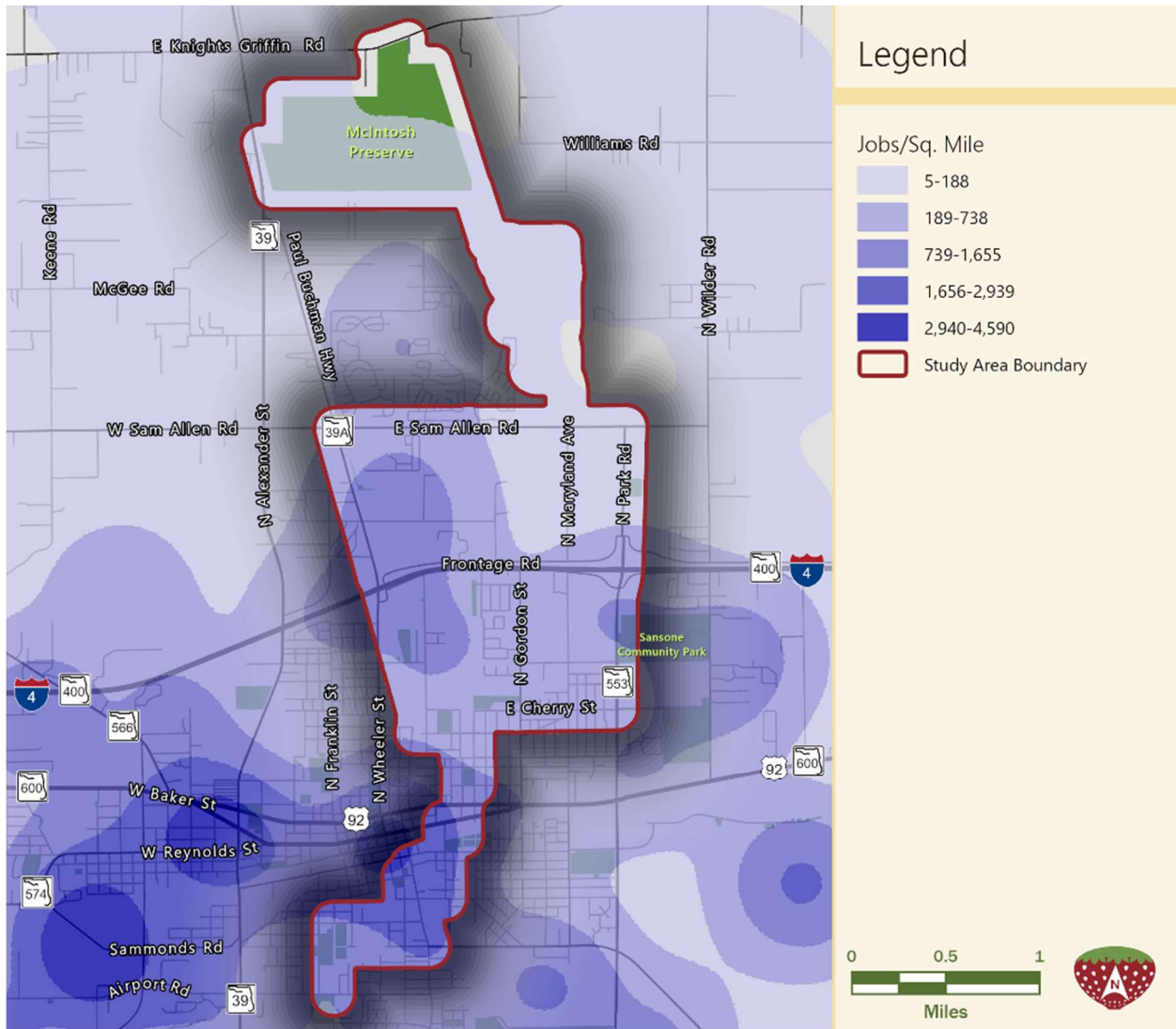


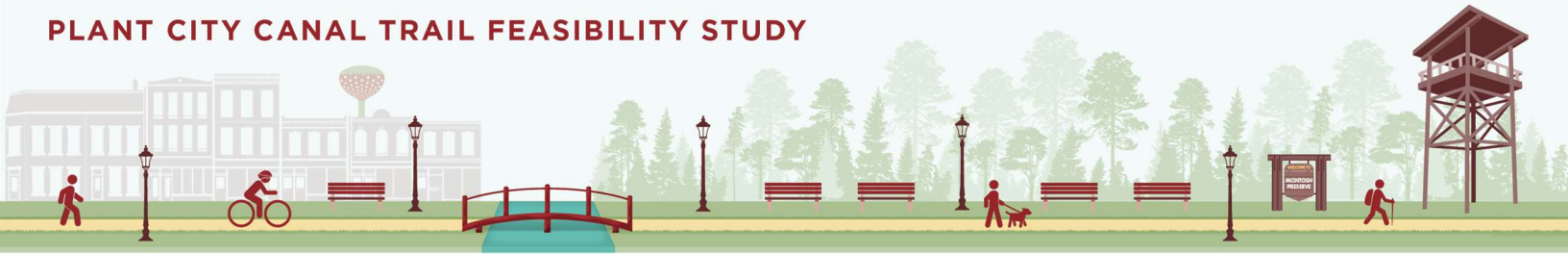


### 2.5.4 Major Employers and Activity Centers

Employment data were retrieved from OnTheMap, with 2019 being the most recent year available. As shown in **Figure 2.5-3**, employment is concentrated in the southwest of the study area around downtown Plant City. There are other concentrations of employment near the I-4 and SR 39A/Paul Buchman Highway interchange, as well as east of SR 553/North Park Road.

Figure 2.5-3: Employment Centers

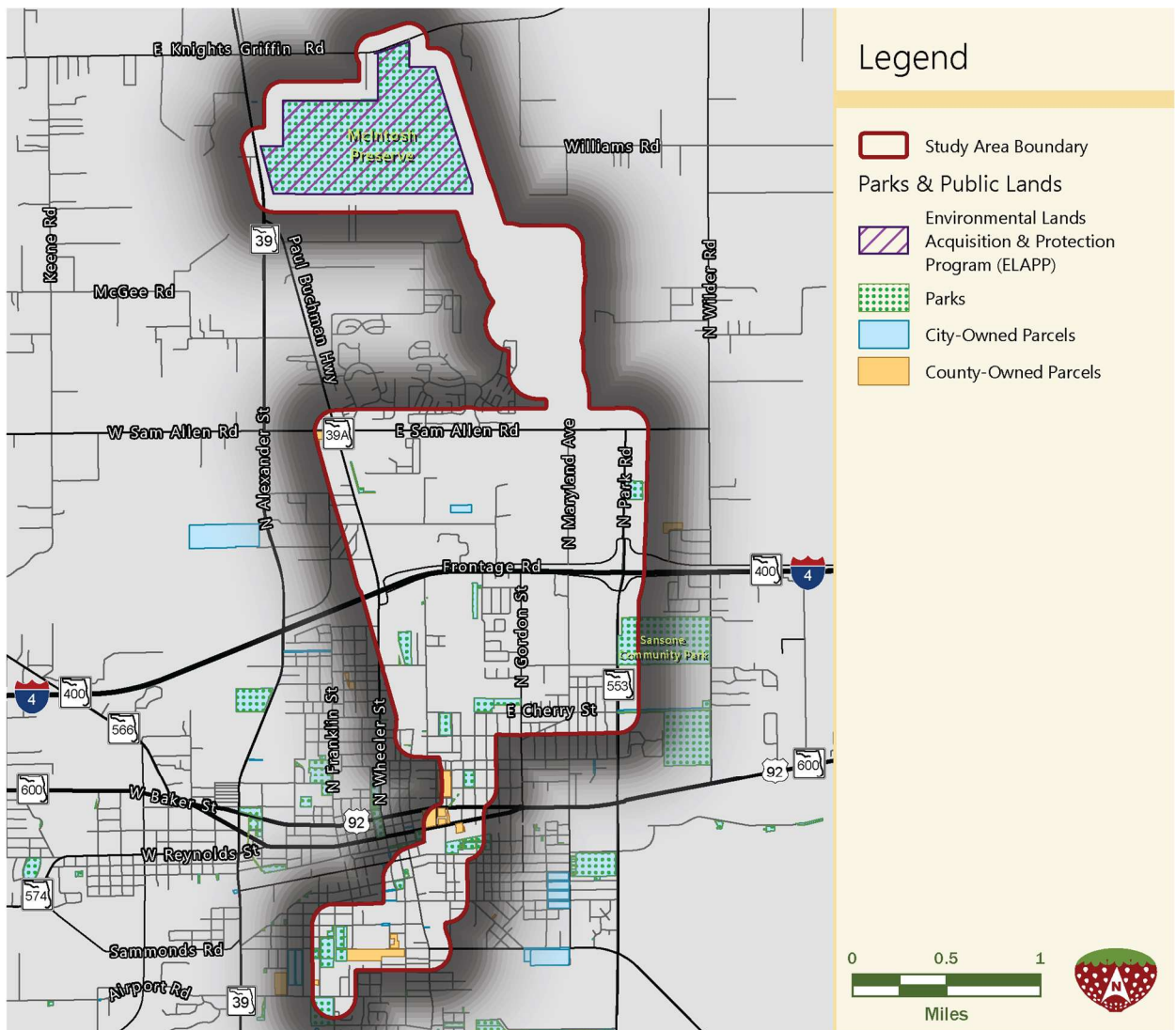


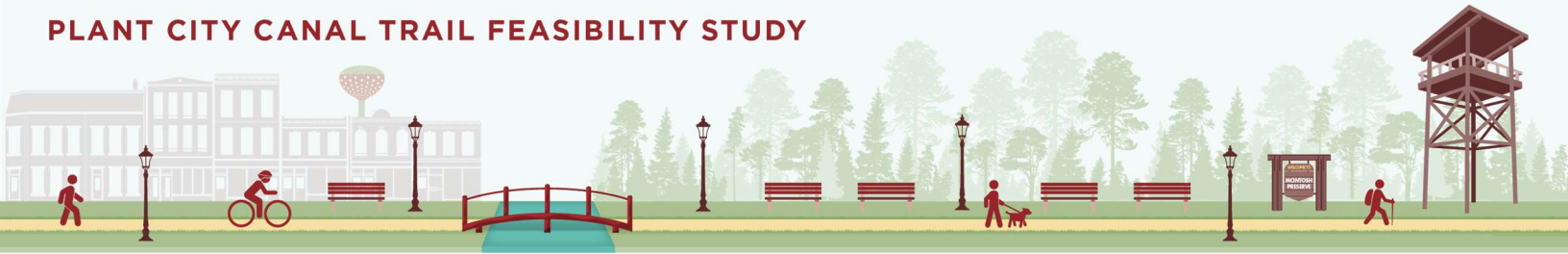


### 2.5.5 Parks, Public and Protected Lands

Parks, public parcels, and protected lands are shown in **Figure 2.5-4**. Protected lands are represented by the Environmental Lands Acquisition & Protection Program (ELAPP). The only ELAPP land in the study area is McIntosh Preserve which is owned by Plant City and operated as a park. McIntosh Preserve and Mike E. Sansone Community Park are the largest parks in the study area. Other notable parks in the study area from north to south include Cherry Street Park, Gilchrist Park, Samuel W. Cooper Park, Marie B. Ellis Park, Ronald L. Snowden Park, and Dr. Hal & Lynn Brewer Park.

Figure 2.5-4: Parks and Public Lands





### 2.5.6 Wetlands

The federal National Wetlands Inventory (NWI), mapped in **Figure 2.5-5**, is somewhat outdated and does not represent an accurate indication of wetlands and other surface waters in the study area. To supplement the NWI, land cover data were obtained from the Southwest Florida Water Management District (SWFWMD) and Florida Fish and Wildlife Conservation Commission (FFWCC), and broad-level review of the resulting datasets was conducted. A total of 248 wetlands and other surface water polygons are present within (or within 1,000-ft) of the study area. “Other surface waters” include ponds or other drainage features to which impacts would require permitting but may be exempt from compensatory mitigation (absent listed species concerns).

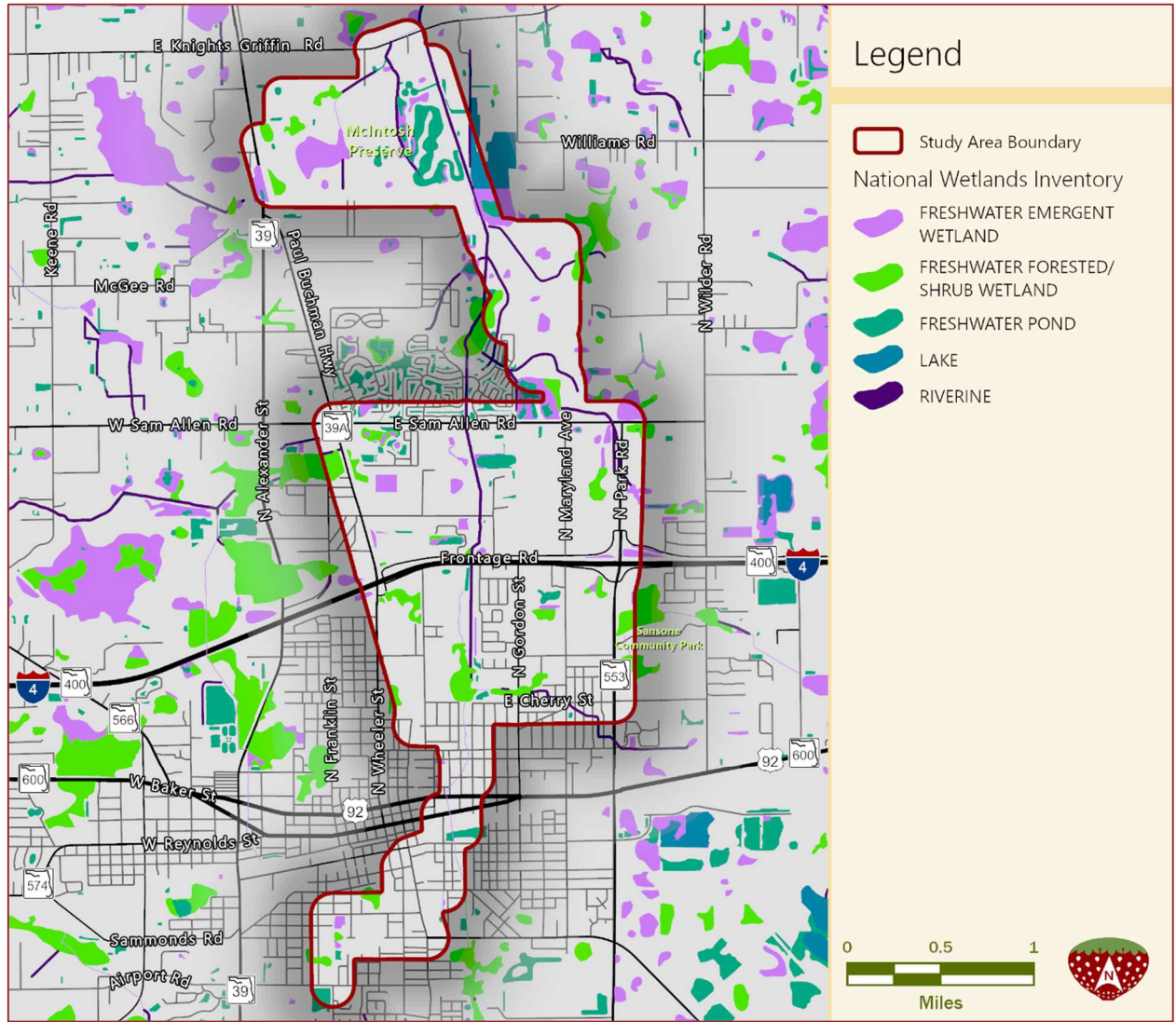
Wetlands and surface waters are expressed as polygon data. Polygons that would likely qualify as wetland under State definition are designated as “Wetland” in the “Type” field, while other surface waters are designated as “Water Body”.

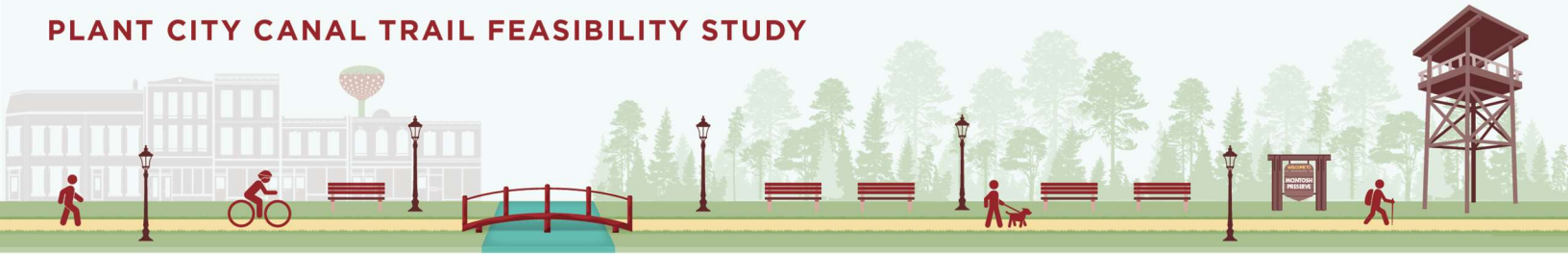
Within the study area, there are over 1,000 acres of land within the most recent mapping of the 100-year floodplain (Flood Zone A/AE) by the Federal Emergency Management Agency (FEMA). All floodplain in the study area is represented on the Digital Flood Insurance Rate Map (DFIRM) with ID number 12057C-NFHL. This map was updated very recently, on March 15, 2022. Development within the floodplain may be subject to floodplain compensation requirements. Impacts to wetlands within the floodplain may entail additional permitting jurisdiction and corresponding effort. The floodplain extent is expressed as polygon data.

There are a total of six pending Environmental Resource Permits (ERP) in the study area. If these occur in areas optimal for trail alignment, the permit applications and project designs should be briefly examined to ensure compatibility with project design. Pending ERPs may include construction of development or wetland mitigation that would affect design of concurrent projects. The pending ERPs are provided as polygon data, roughly corresponding with the corresponding project boundaries. The ERP application ID is identified for each site in the study files.



Figure 2.5-5: Wetlands





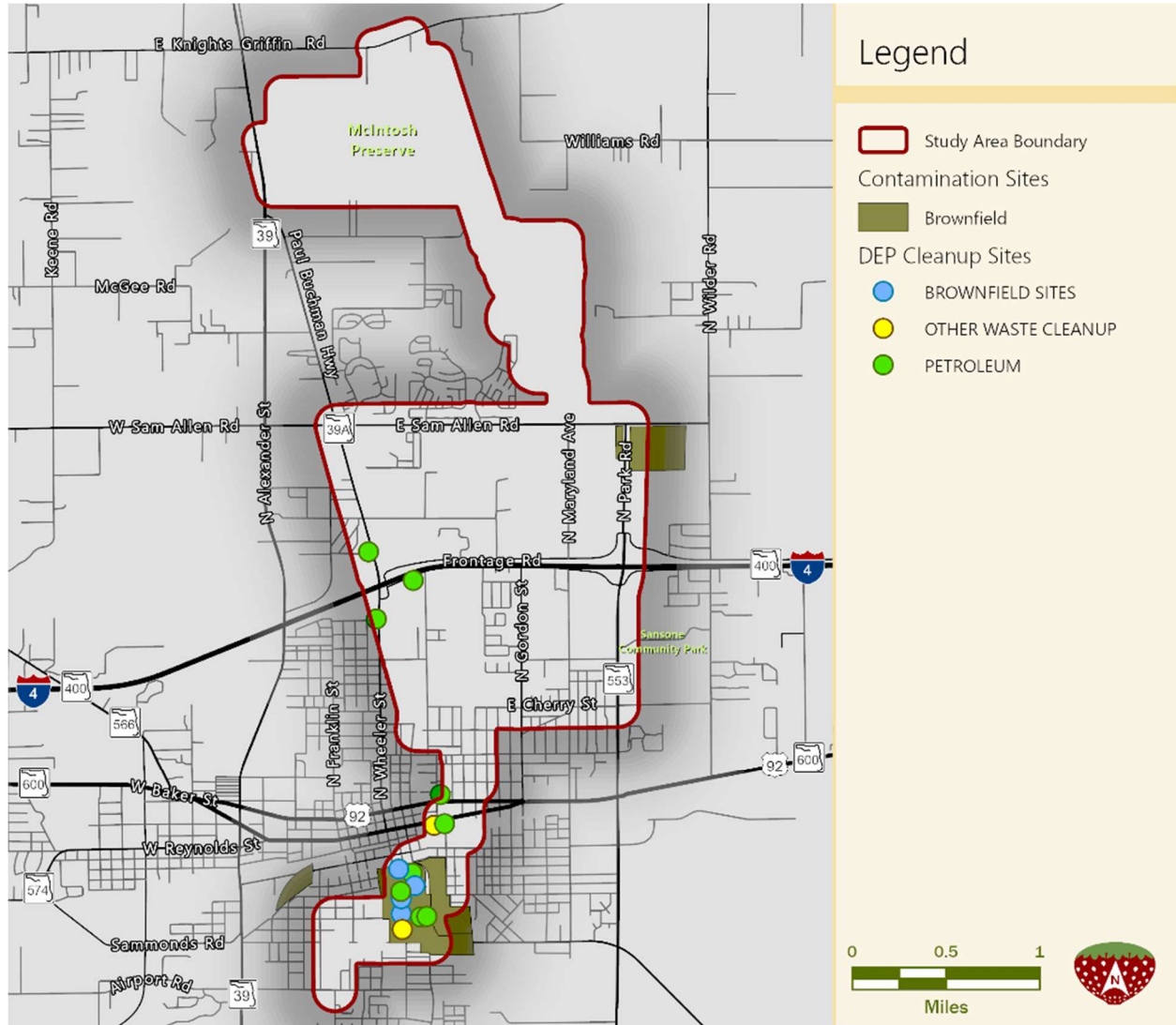
## 2.5.7 Contamination

Site location data were obtained from the Florida Department of Environmental Protection (FDEP) for areas within the study boundary for which re-use or redevelopment may be complicated by actual or perceived environmental contamination. Those data are mapped on **Figure 2.5-6**. There are 16 known contamination sites within the study area where cleanup has not yet been completed. Each of these sites corresponds with a property or facility contaminated by a previous land use or hazardous material storage. Land purchase or construction within these sites could involve complications related to remediation. The most common contaminant is petroleum. Contamination sites are expressed as point data.

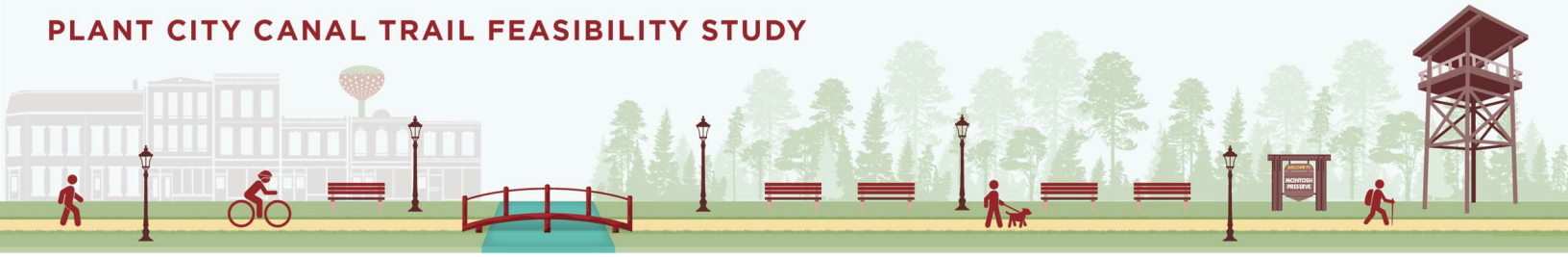
There are also four Brownfield Areas that intersect the study area: Midtown Brownfield Area, Lincoln Park Brownfield Area, Plant City Industrial Area, and South Florida Baptist Hospital Economic Enhancement Area. These are areas that historically or currently contained numerous contamination sites but were designated by local government through resolution to be cleaned up and/or redeveloped through incentive of the Florida Brownfields Redevelopment Act. Brownfield Areas are expressed as polygon data.



Figure 2.5-6: Contamination Sites







# 3

## Issues and Opportunities

### 3.1 Issues

#### 3.1.1 Right-of-Way

In the southern portions of the study area, where local roads will provide most of the alignment options, narrow rights-of-way in residential neighborhood pose a potential challenge. Ample right-of-way exists along many of the major roadways but some restrictions there may still dictate a reduced trail width.

#### 3.1.2 Environmental Constraints

Natural environmental constraints are very few in the study area. Due to the urban nature of the developed condition, there are no threatened or endangered species that would present a major constraint to trail development.

#### 3.1.3 Utilities

There are at least two dozen active utility providers in the area. These utilities include telecommunications, power, gas, potable water, and sanitary sewer, along with private fiber optic providers.

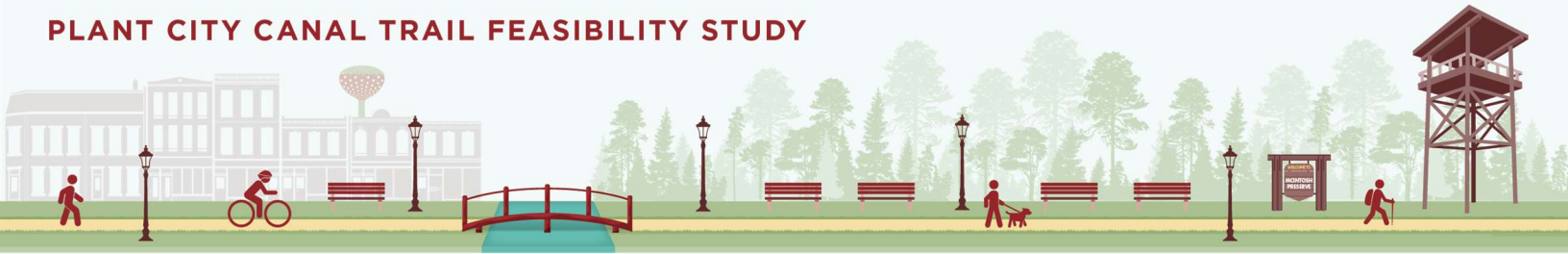
#### 3.1.4 Intersections and Crossings

The development of an urban trail usually requires consideration of design treatments at major intersection and mid-block crossing locations that prioritize efficiency and safety for trail users.

The traffic volume and crash data collected for this report reveals that while the daily traffic volumes on the area roadway network are not excessive, there are some points of congestion that will need to be considered. More importantly, there is a history of multiple crashes at intersections and on roadway segments that are initially included in the set of possible trail alignments.

#### 3.1.5 Natural and Man-made Barriers

Within the study area, there are very few if any natural barriers that would prohibit the development of the trail facility. The man-made barriers are those that will influence trail selection based on the practicality, the viability to address, the cost and the reasonableness of developing a trail in unison with that infrastructure.



These manmade barriers do include the existence of utilities, especially those with significant above ground infrastructure (poles/towers), drainage structures (bridges and box culverts), cultural or historic structures, major highway crossings, railroads, and of real significance for this project, the barrier created by I-4 and the limited opportunities to use an existing interchange to pass through the limited access right-of-way. As an alternative, a possible overpass may be both difficult to develop due to the length and area needed for transitions to grade, and the associated cost for a structure that would be elevated over hundreds of feet of interstate highway.

## 3.2 Opportunities

### 3.2.1 Previous Plans

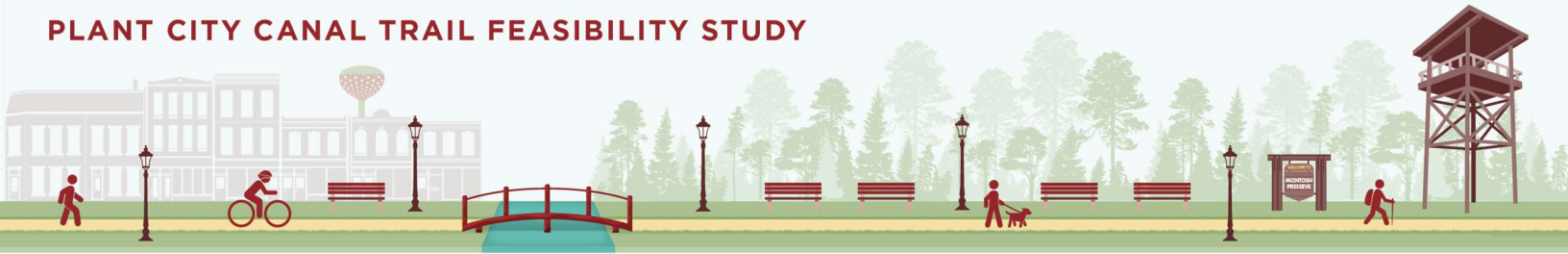
Previous plans have identified the need and provided much of the groundwork necessary to support the development of a trail within the study area connecting key community features. In certain parts of the study area, strides have already been made to support the development of this proposed trail. For example, Plant City has already constructed segments of what will likely be incorporated into the selected trail alignment, or they have obtained a commitment for improvements and/or access through development that will connect to McIntosh Preserve.

### 3.2.2 Connections to Amenities

As noted in previous sections, there are many amenities that the trail facility can connect to. These include schools, parks, community centers, cultural centers, and government services. There are a total of nine parks that can be tied into a potential trail alignment: McIntosh Preserve, Mike E. Sansone Park, Cherry Street Park, Plant City Dog Park, Gilchrist Park, Samuel W. Cooper Park, Marie B. Ellis Park, Ronald L. Snowden Park, and Dr. Hal & Lynn Brewer Park. Additionally, there are three schools along potential trail alignments: Hillsborough Community College (HCC) – Plant City Campus, Jackson Elementary School, and Burney Elementary School. In addition to being a school, HCC has many other amenities on campus like vocational rehabilitation, truck driving school, community gardens, and an event hall. Other services that can be connected to with a potential trail alignment are the Plant City Community Resource Center and Plant City Courthouse on Michigan Avenue. Another important amenity to connect to is employment – the trail would connect employment centers near downtown with residential areas to the north.

### 3.2.3 Connecting Underserved Communities

Analysis available from the Hillsborough TPO's 2021 Nondiscrimination and Equity Plan shows that underserved communities are concentrated in the southern end of the study area – south of Reynolds Street. The trail would allow for better connectivity within the underserved community as well as better connections to amenities and opportunities farther north in the study area.



# 4

## Trail Alternatives Development

### 4.1 Development of Alternative Alignments

#### 4.1.1 Universe of Alternatives

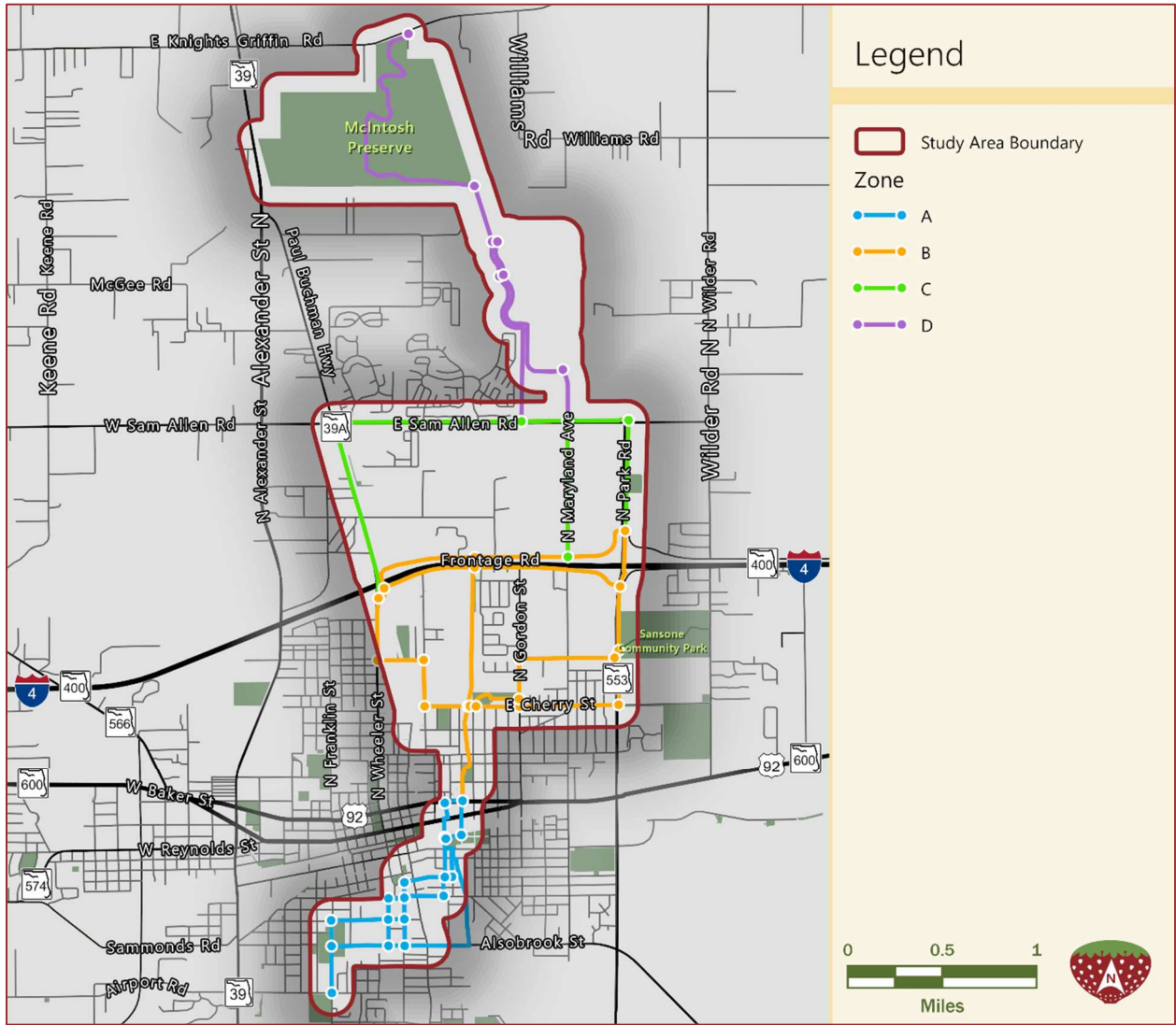
The objective of the alternative development and analysis process was to identify technical, sustainable, and equitable alternatives that address the project's intent. The project team worked with the Hillsborough County Transportation Planning Organization (TPO) and Plant City to develop 24 alternative alignments to evaluate as a part of this screening phase. The alternative alignments are intended to minimize the impacts on private property and the environment. They maximize access and connectivity to parks, public facilities, and services, resulting in a north-south trail "spine" through the City of Plant City (City). In developing the universe of alternatives, the study area was separated into four distinct zones:

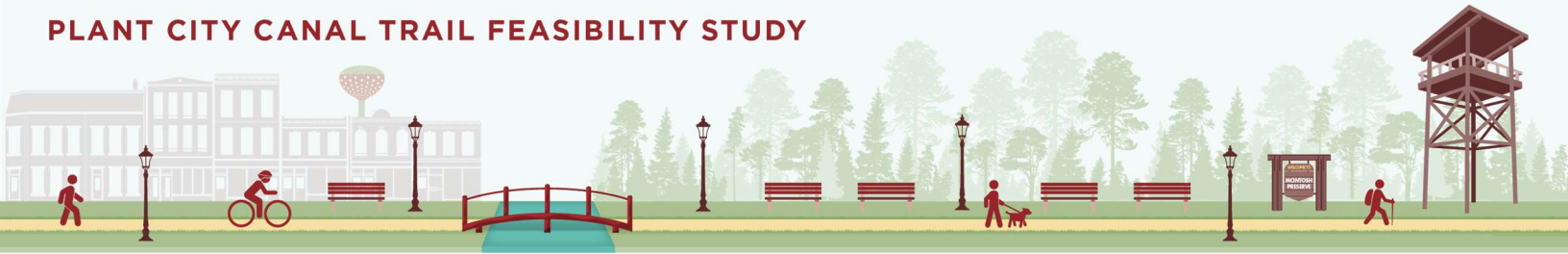
- Zone A is the southernmost portion of the study area south of US 92. It includes 11 alternatives.
- Zone B is between US 92 and I-4. It includes 6 alternatives.
- Zone C is between I-4 and Sam Allen Road. It includes 5 alternatives.
- Zone D is the northernmost portion of the study area, north of Sam Allen Road. It includes four (4) alternatives.

The zones and accompanying alignments are depicted in **Figure 4.1-1** Alternative Alignments.



Figure 4.1-1 Alternative Alignments





## 4.1.2 Description of Alternative Alignments

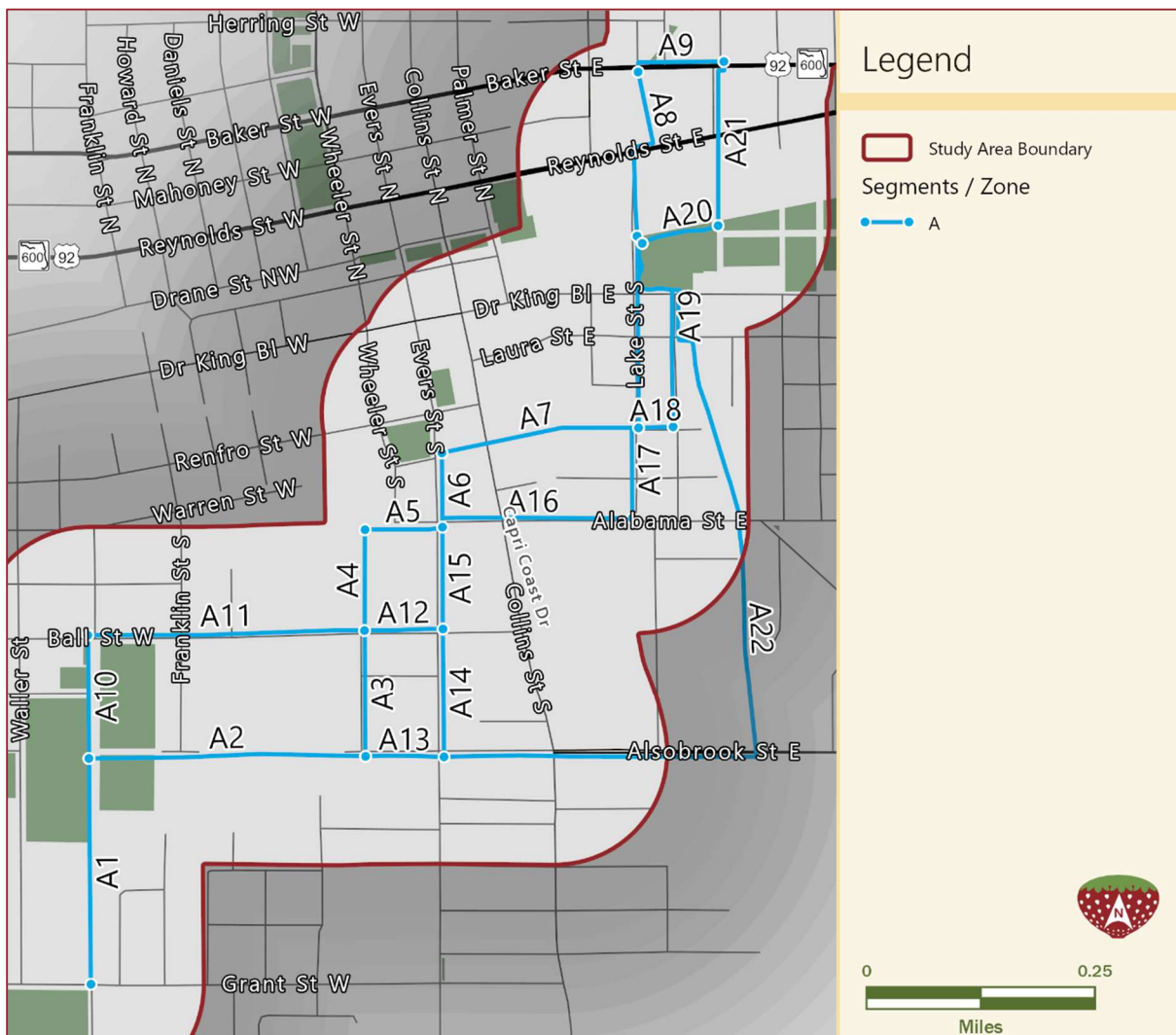
### 4.1.2.1 Zone A Alternatives

Zone A provides linkage from the communities north of US 92 to the city ball fields and Dr. Hal & Lynn Brewer Park and the existing trail connecting these two community facilities. Overall, the Zone A alignment area is relatively narrow in width (east to west) but includes the area known as Midtown, a targeted redevelopment section of the City and one where considerable investment has been made in public infrastructure and connecting to Samuel W. Cooper Park just south of East Reynolds Street, east of South Collins Street. This Zone consists of the most densely residential demographic, the highest level of underserved communities, and minimal bicycle and pedestrian infrastructure. It has a higher density of public lands and parks within the study area.

**Figure 1.1-9** shows the various alternate roadway segments and canal easements/right-of-way that were evaluated in forming the Alternatives and involved in the comparative analysis.



Figure 4.1-2: Zone A Alternative Alignments



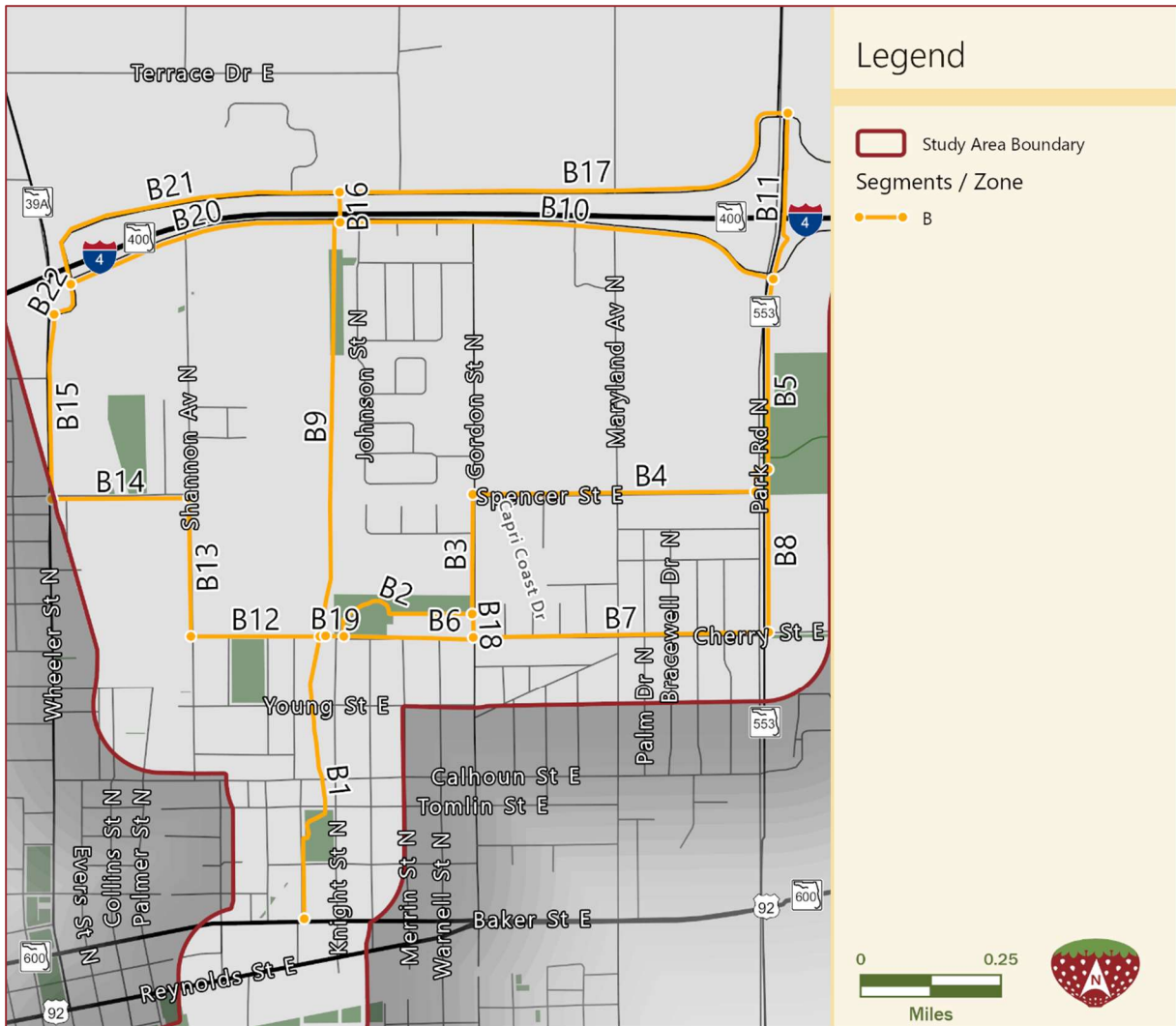


4.1.2.2 Zone B Alternatives

Zone B includes much of the heart of Plant City. It begins at US 92 near the county circuit courthouse and extends northward to encompass Gilcrest Park, Plant City Dog Park, Cherry Street Park, Hillsborough Community College Plant City Campus, Mike E. Sansone Community Park, Otis M. Andrews Sports Complex, and the Ellis Methvin Park. This area is generally residential except for the area near the circuit court along US 92 and then along Park Road North, these areas offer a mix of commercial, institutional, and industrial uses. The northern limit of Zone B is Interstate 4 (I-4) and South Frontage Road, which parallels the highway and connects North Wheeler Road and North Park Road between their interchanges with I-4.

Figure 1.1-20 shows the various alternate roadway segments and canal easements/right-of-way that were evaluated in forming the Alternatives and involved in the comparative analysis.

Figure 4.1-3: Zone B Alternative Alignments





### 4.1.2.3 Zone C Alternatives

Zone C extends immediately north of I-4 between Paul Buckman Highway and Park Road North, ending at East Sam Allen Road approximately 4,000 feet north of I-4. The southern limit of this Zone is where an I-4 overpass would be located, extending across the highway from the Cherry Street Canal and touching down to the west of Procchi Street and east of North Frontage Park Place. This area includes existing stormwater treatment facilities and would require extensive right-of-way acquisition to make any overpass connection. The area within Zone C is largely rural transitioning lands with a mixture of residential, agricultural, industrial, and institutional zoning. The new BayCare Hospital is under construction in the southeast quadrant of Park Road North and East Sam Allen Road. The Kingdom Hall of Jehovah’s Witness is located on the north end of Maryland Avenue, just south of East Sam Allen Road. As indicated by Plant City, this area is involved in multiple planning and development proposals for new residential subdivisions. Connectivity to and through those projects was a consideration in the alternative evaluation process.

**Figure 1.1-23** shows the various alternate roadway segments and/or public easements/right-of-way that were evaluated in forming the Alternatives and involved in the comparative analysis.



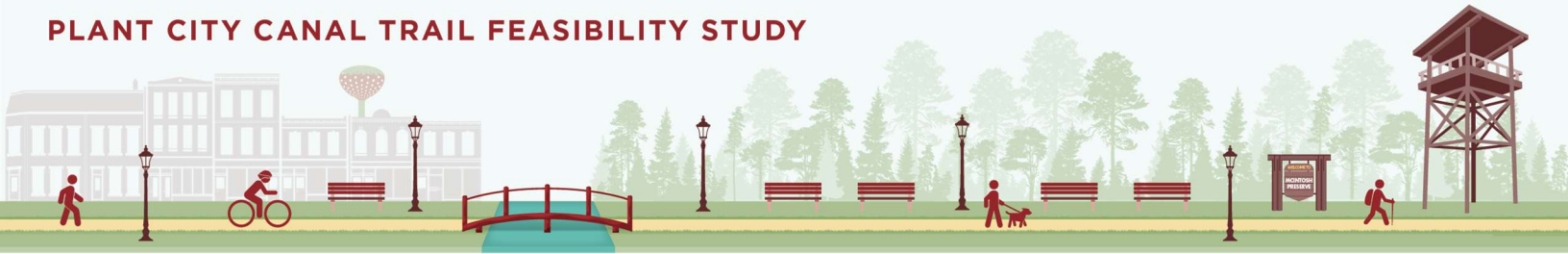
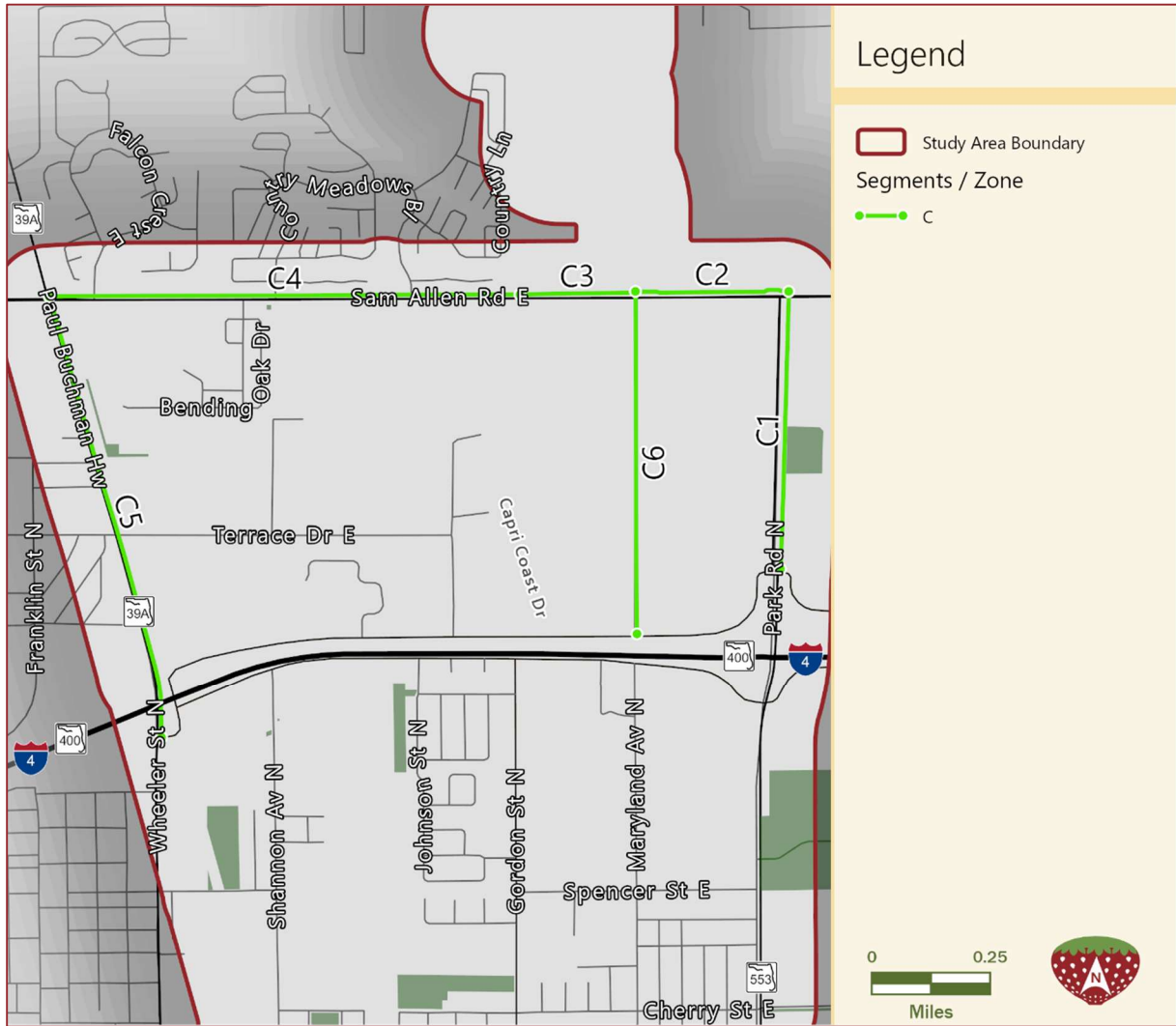


Figure 4.1-4: Zone C Alternative Alignments



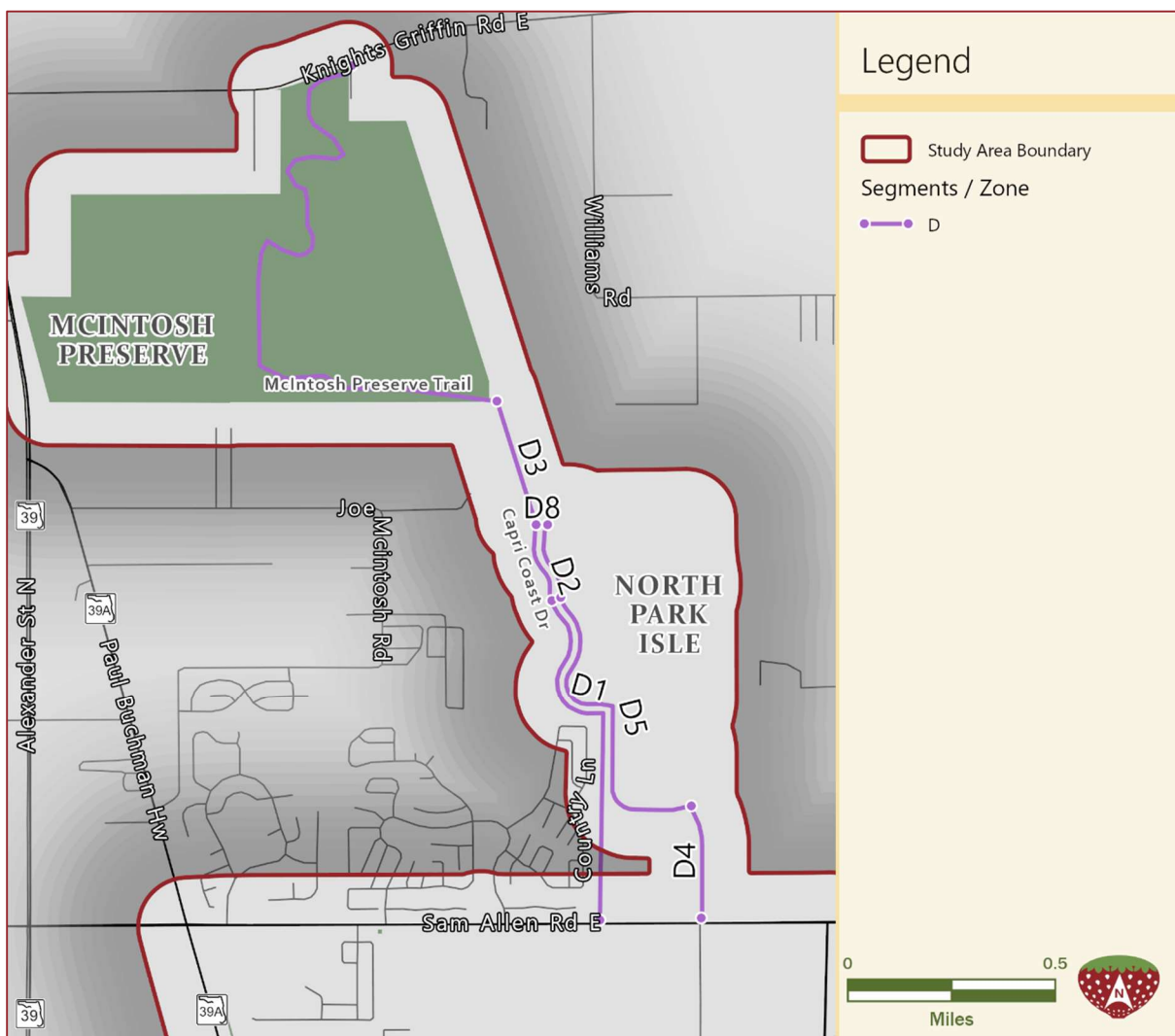


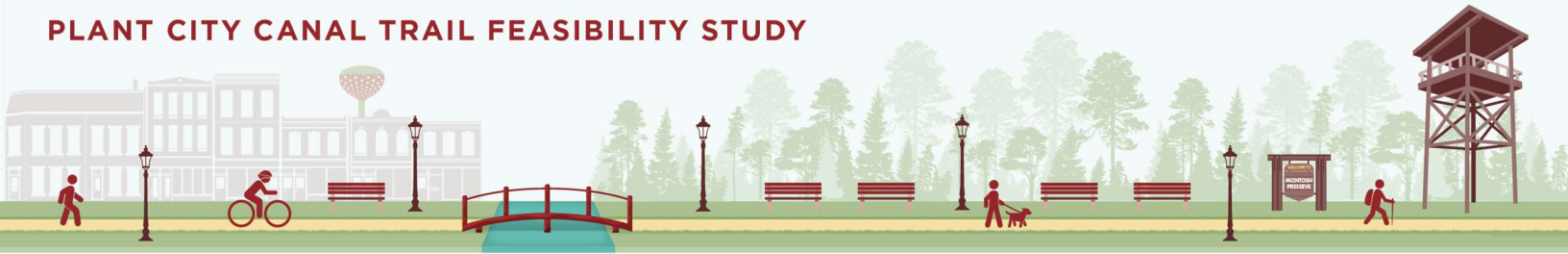
4.1.2.4 Zone D Alternatives

The limits for this study zone are relatively narrow as the directive for the connecting alignment from East Sam Allen Road to the northern terminus of the trail at/within the McIntosh Preserve was indicated by the city as through the North Park Isle development. This residential community is under construction, and most of the public infrastructure is completed. Based on the development's construction documents and field evaluation, a 5-foot sidewalk has been constructed on one side of the roadway to serve the non-motorized traffic through the project.

Figure 1.1-27 shows the various alternate roadway segments and drainage easements/right-of-way that were evaluated in forming the Alternatives and involved in the comparative analysis.

Figure 4.1-5: Zone D Alternative Alignments





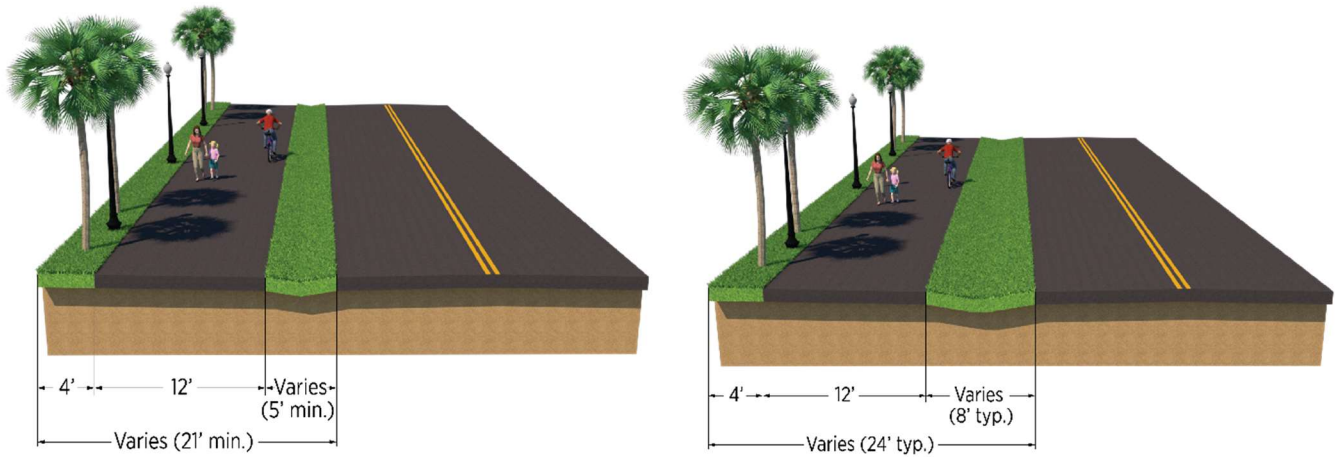
## 4.2 Multimodal Typical Sections

Five potential design concepts were developed based on the types of corridors and existing land uses within the study area. Those concepts include:

- Sidepath on Local/Collector (Flush Shoulder Roadway - e.g., Cherry Street, Maryland Avenue)
- Sidepath on Arterial (Curbed Roadway - e.g., Park Road North)
- Independent Trail Facility (on public lands)
- Independent Trail Facility Adjacent to Canal
- Independent Trail Facility on Boardwalk

Based on the observed field conditions within the corridors identified as viable alternative alignments, one or more of these typical sections were applied to each Alternative to evaluate the implementation needs and the estimated costs. These typical sections were developed to be consistent with the latest guidance in the FDOT Design Manual. The conceptual typical sections are presented in the following figures.

Figure 4.2-1: Typical Section for Sidepath on Local/Collector (Flush Shoulder)



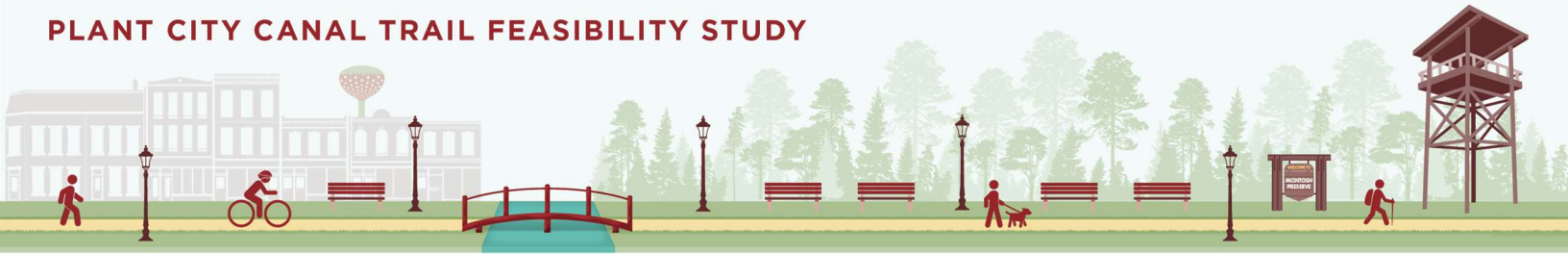


Figure 4.2-2: Typical Section for Sidepath on Arterial (Curbed)

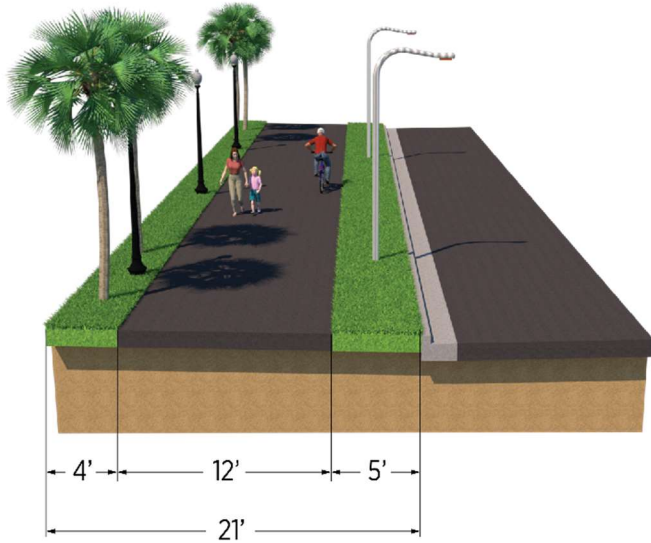
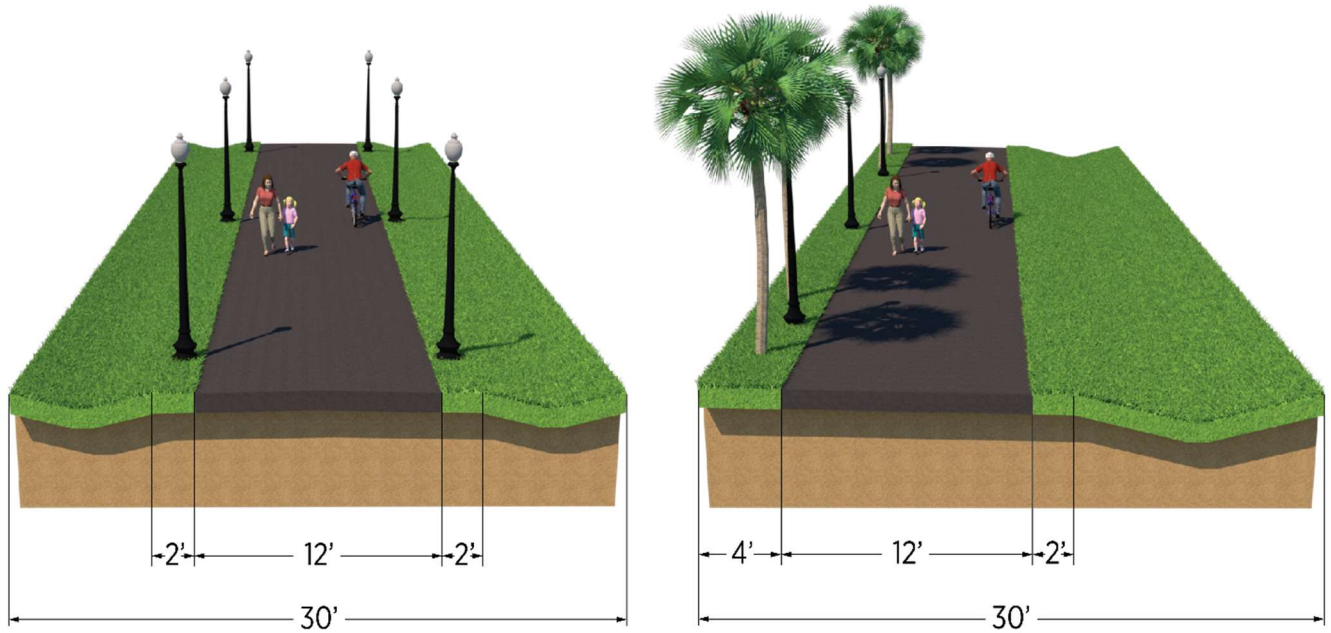


Figure 4.2-3: Typical Section for Independent Trail Facility



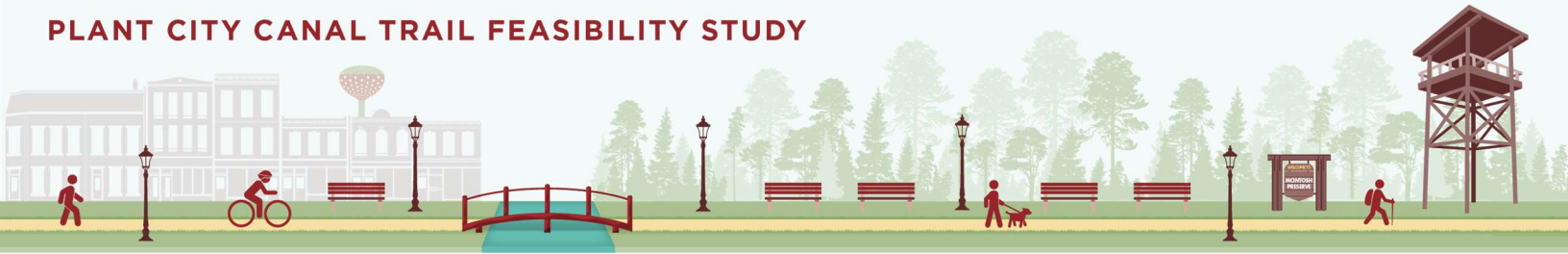


Figure 4.2-4: Typical Section for Independent Trail Facility Adjacent to Canal (without & with railing)

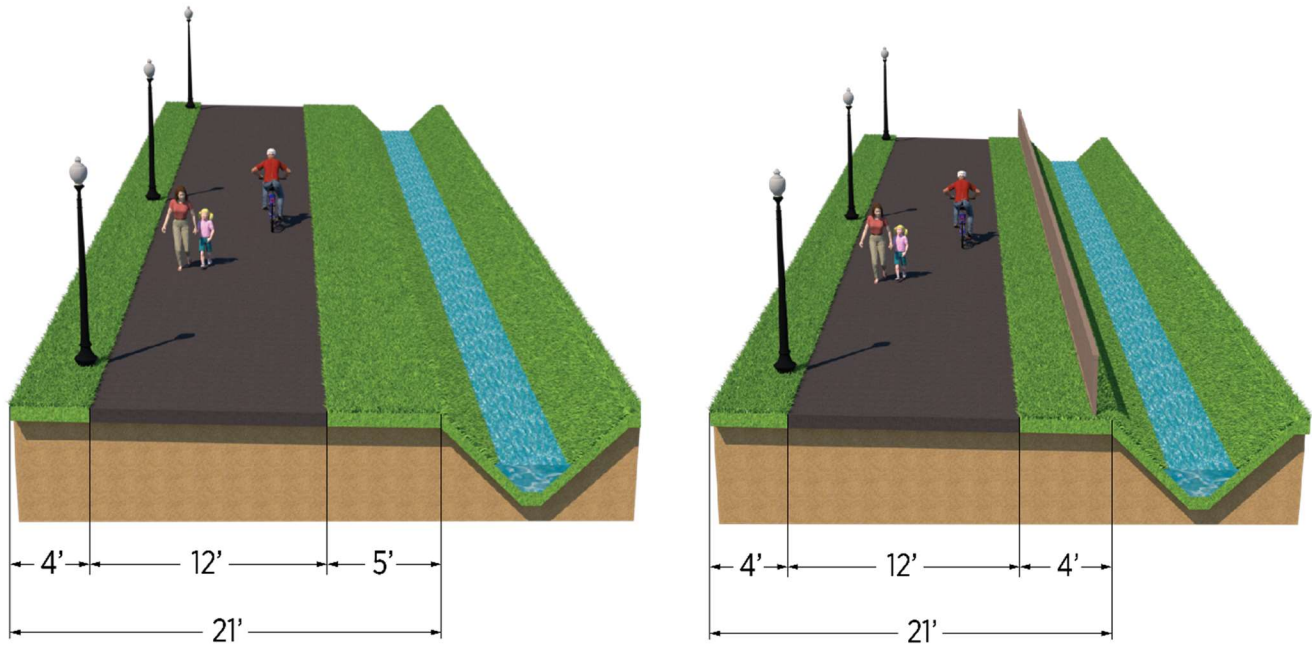
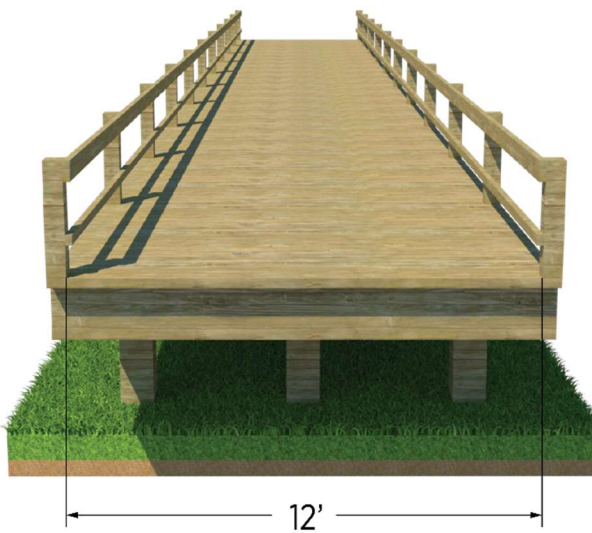
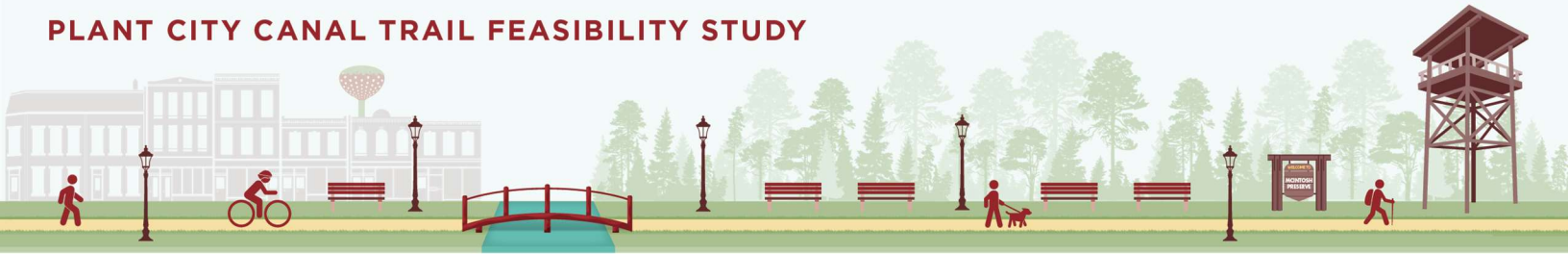


Figure 4.2-5: Typical Section for Independent Trail Facility on Boardwalk





# 5

## Evaluation of Alternative Alignments

Each of the study area zones and alternative alignments previously described were first evaluated to identify the logical locations where connections would benefit the community and offer safe travel ways. A second factor in selection was to take advantage of the investments in multimodal infrastructure that have already been made by the city. Key destinations include parks and recreation facilities, public service buildings, employment and redevelopment centers, cultural and community centers, and institutional and educational properties. Within each Zone, multiple alignments were considered, many using some or most of another alignment roadway or trail/pathway segments but ultimately creating a series of different overall options to traverse through each Zone and make meaningful connections to the adjacent Zone.

The following sections describe the process, the applied methodology, and the findings of the comparative evaluation of the alternatives, resulting in the recommendations for a select number of candidates that will be presented to the stakeholders for input before the final evaluation and determination of a “preferred” alignment for advancement to the next planning and design phases. Within each Zone, two “best” potential alignments were identified (the best score and a second-best) to offer options for stakeholder input. In some cases, the differences in alternative scoring were somewhat minor but professional judgement was able to determine the most viable alternative based on issues such as cost, network continuity, priorities identified by the city and minimized negative impacts.

### 5.1.1 Evaluation Methodology

The evaluation consisted of a three-step process. First, eight key goal areas were produced in collaboration with TPO staff, and a series of evaluation criteria were developed for each goal. Geospatial data for these criteria were collected, compiled in a GIS environment, analyzed, and mapped. The geospatial data, recent aerial imagery, and site visit observations were referenced against each of the alternative alignments described in Chapter 1. Each alternative was assigned a score for each evaluation criterion based on a predetermined scoring weight. Weights were added up to create an overall score. This score was used to identify the alternatives that will advance into the next screening stage of the feasibility study.

The following section describes these goal areas, evaluation criteria, and the process used to assign scores and their weights. It goes on to present the findings and recommends two alternative alignments from each zone to advance.



## 5.1.2 Evaluation Criteria

Evaluation criteria were established to provide a holistic understanding of the various alignments. They were developed around eight key goal areas: safety, equity, environment, social/cultural, economic development, connectivity, buildability, and cost. These goal areas and associated evaluation criteria are below.

- The **Safety** goal area focused on the extent to which the alternative avoids or reduces vehicle and trail user conflicts.
- The **Equity** goal area was based around two criteria. The first was the extent to which the alternative limits negative impacts to traditionally underserved communities. The second being a positive impact regarding the extent to which the alternative connects traditionally underserved populations to services, employment centers, and educational, cultural, and recreational opportunities.
- The **Environment** goal area looked at the alternatives impact on natural resources and how the natural and built environments contribution to the trail.
- The **Social/Cultural** goal area was based on the extent to which the alternative limits impact to cultural resources and the extent to which it enhances connectivity to them.
- The **Economic Development** goal area looked at the extent to which the alternative supports economic development based on proximity to target redevelopment or growth areas such as Midtown.
- The **Connectivity** goal area focused on the extent to which the alternative connects existing and planned pedestrian/bike networks as well as services, employment centers, educational, cultural, and recreational opportunities.
- The **Constructability** goal area was based around three criteria. The first criteria was ease of implementation and partnerships. The second, the extent to which the alternative limits impact to drainage, utilities, and other physical obstructions present and presenting constraints.
- The **Cost** goal area looked at the probable cost to implement the alternative based on general levels of potential (high, moderate, or low) construction and right-of-way costs.

## 5.1.3 Scoring

Each alternative within the 4 different study area zones was assessed using the described criteria. Each alternative was assigned a quality designation of “high,” “medium,” or “low” for each goal area. The “high” designation was equivalent to 5 points, “medium” equivalent to 3 points, and “low” equivalent to 1 point. These qualitative designations indicated how well the alternative met the different criteria goals, or in some cases, when those goals were not well served by the alternative.

Each goal’s metrics were also assigned a “weight” based on professional judgment and multiple discussions of priorities with the TPO Project Manager. Initially, some of the criteria were assigned a factor of 1, meaning of lesser importance than most others. However, the discussions of each goal produced a consensus among the project team that each factor had inherent value and should generally not be judged against the others, and that there were 3 that should be weighted slightly higher than all others.

The analysis and rationale used to assign “high,” “medium,” or “low” designations is reflected in **Appendix A**, Alternatives Benefits Quality Matrix. The goals and the assigned weights are outlined below:

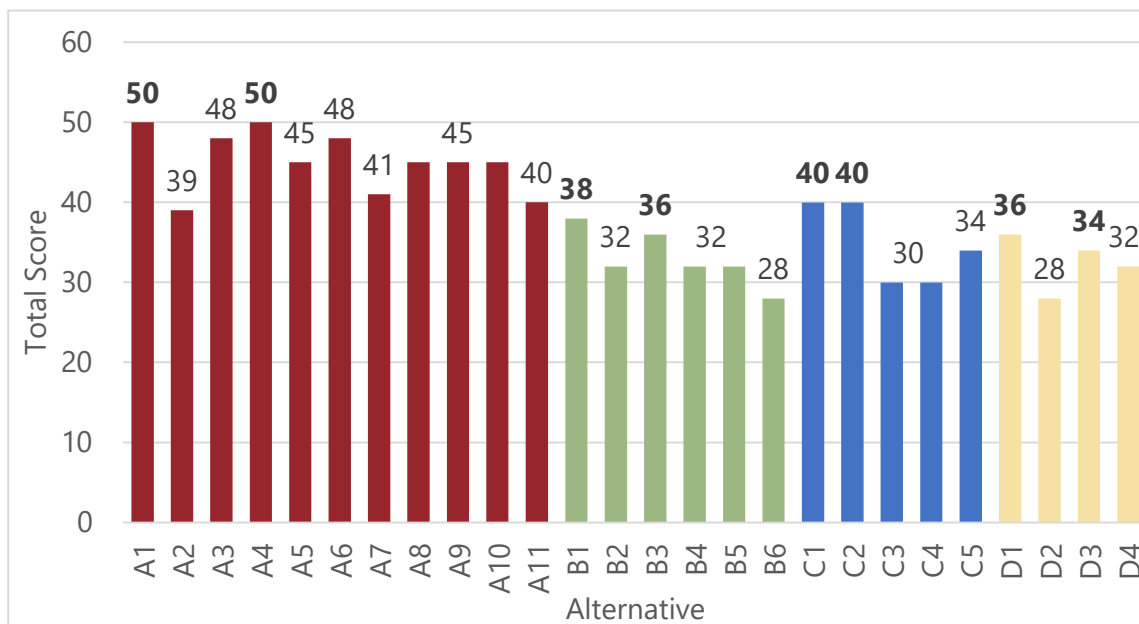


- Safety 2
- Equity 3
- Environment (natural) 2
- Social/Cultural 2
- Economic Development 2
- Connectivity 2
- Constructability 3
- Cost 3

## 5.2 Evaluation of Results

The sum of each goal’s assigned points and the goal weight is the total score used to conduct the comparative analysis and develop a numerical ranking of alternative preferences. The scoring results and associated qualitative rankings are shown in the matrix in **Appendix A**. These scores represent the cumulative consideration of spatial analysis, planning judgement, physical conditions and corridor context and project goals and priorities applied across the 8 key goal areas. The higher the score, the more preferred and/or viable the alternative. In some cases, one alternative may have received preference based on the obvious better connectivity between zones while another may have received a reduced “score” based on an identified cost prohibitive constraint that the alternative would present. The results of this scoring of all alternatives are displayed in **Figure 2.2-1**. The top two scoring alternatives for each Zone were advanced to the next stage of study evaluation. As can be seen, the score separation between alternatives is relatively minor in Zone A but much more pronounced in Zones B, C and D.

Figure 5.2-1: Alternative Total Scores







## 5.3 Alternatives to Advance

The analysis shows that the alternatives in Zone A reflect high benefits in 4 of 8 categories for both Alternative A1 and A4. They both rank medium level benefits in the other categories. In Zone B both Alternatives B1 and B3 have one high benefit ranking but Alternative B1 also has medium benefits in 6 of the remaining 7 categories, while B3 has medium benefits in 5 of the remaining 7.

In Zone C, the quality rankings for the two best alternatives are equal in every case as there are minimal differences in the alignment and selected roadway segments that are followed for the trail location. Zone D results are similar with only one quality benefit category showing a difference between high and medium, that being the safety factor.

**Figures 2.3-1** through **2.3-4** reflect a diagram of the general alignment on each segment for the identified preferred alternatives within each zone. The alignments are displayed in the maps show the recommended side of the roadway or canal for the alignment, the locations where street crossings would occur, and the transition through open areas such as undeveloped properties and public parks.



Figure 5.3-1: Zone A Selected Alternatives

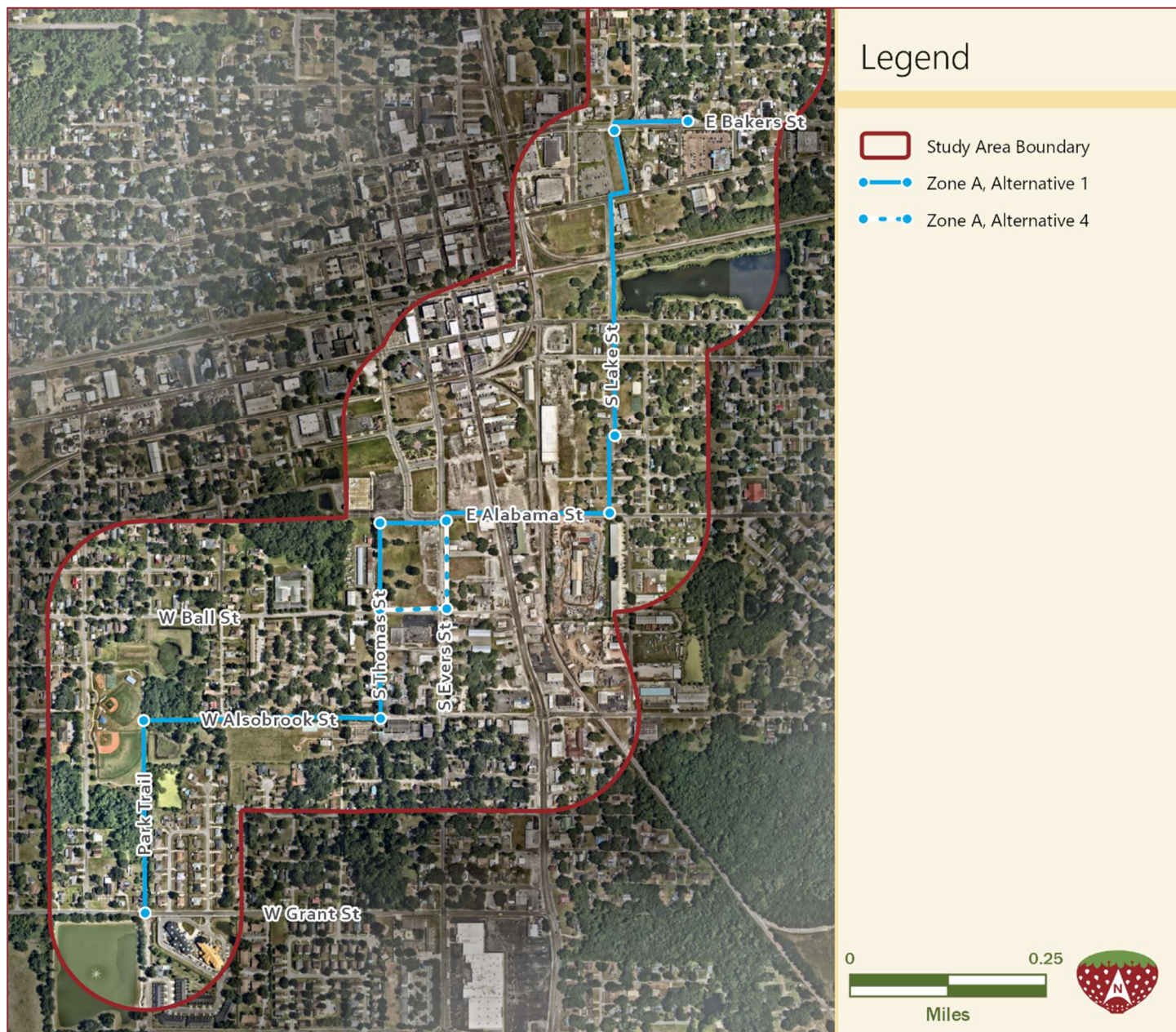


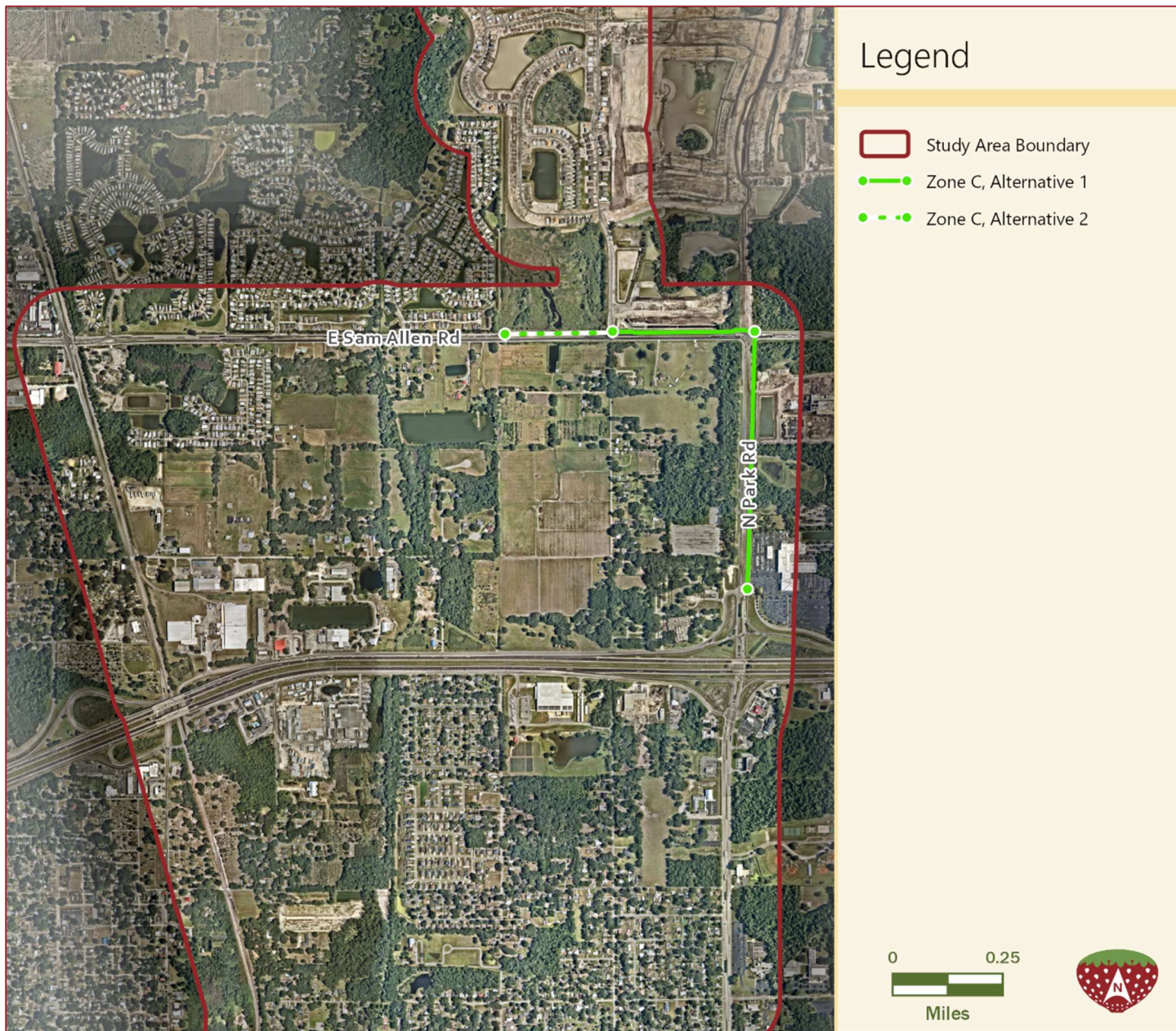


Figure 5.3-2: Zone B Selected Alternatives





Figure 5.3-3: Zone C Selected Alternatives



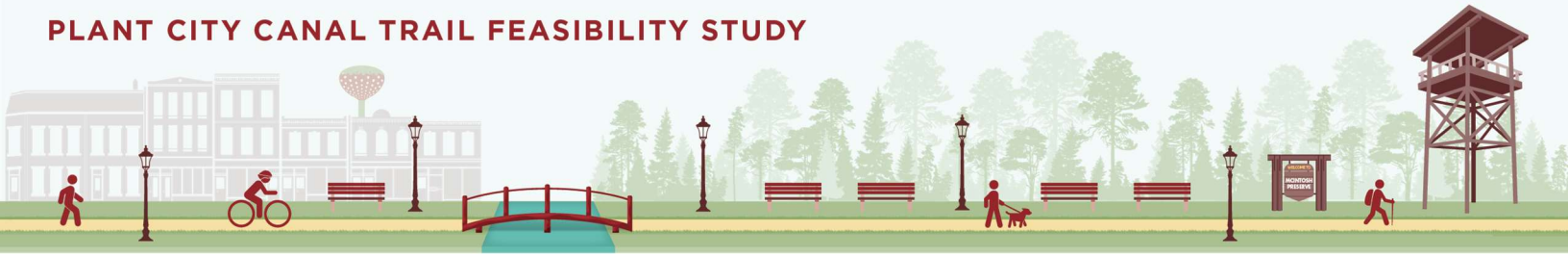
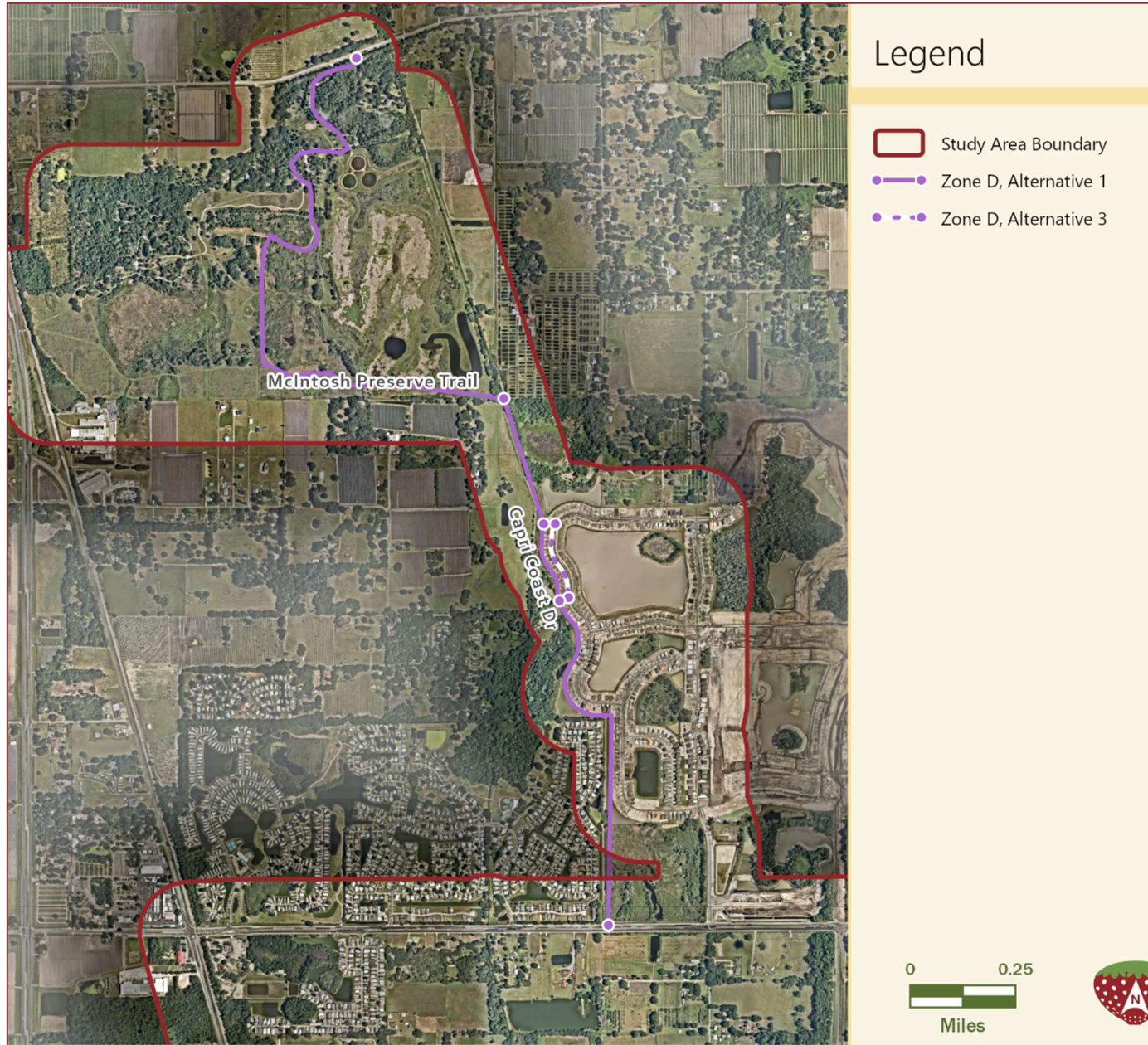


Figure 5.3-4: Zone D Selected Alternatives





# 6

## Recommended Alternative Alignments

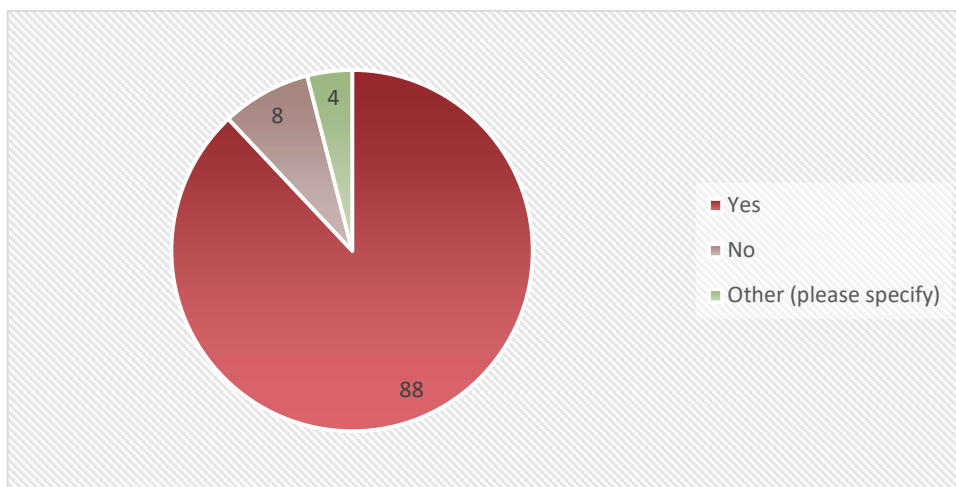
### 6.1 Public Feedback

The Hillsborough TPO conducted public outreach to obtain input on the proposed trail and potential alignments. The TPO recognizes the inherent value that the input has in the development of public facilities and the benefits of incorporating the expectations of the potential users. The TPO prepared and posted a survey on the public website and also provided to public kiosk sites for the public to submit responses to the survey questions. Over 225 responses were received during the period between August and September of 2022. The online survey was advertised on the webpage along with location of the kiosks to provide written responses to the questions.

The summary of responses is provided below.

#### 6.1.1 Question 1

Do you like the idea of connecting Downtown Plant City to McIntosh Preserve and other parks with a safe pathway for people to walk and bike?

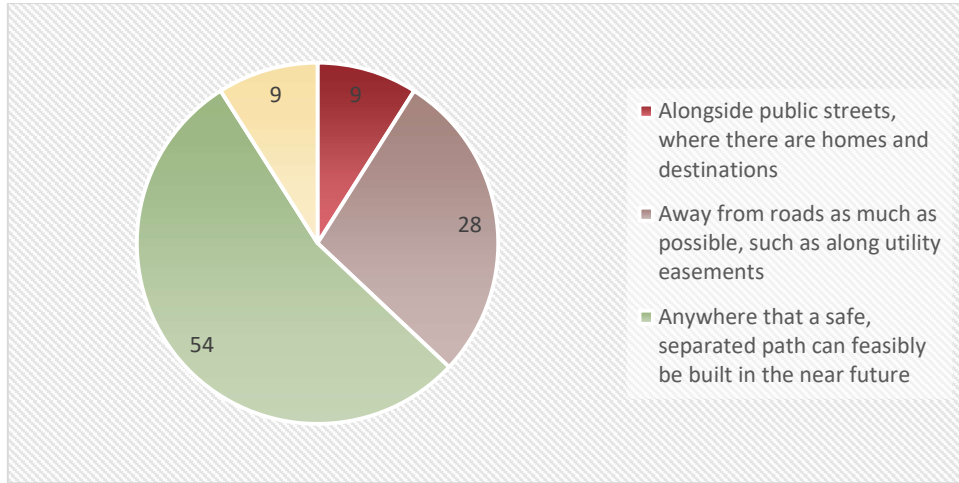


The majority, 88%, of respondents were in favor of a trail, with 8% opposed.



### 6.1.2 Question 2

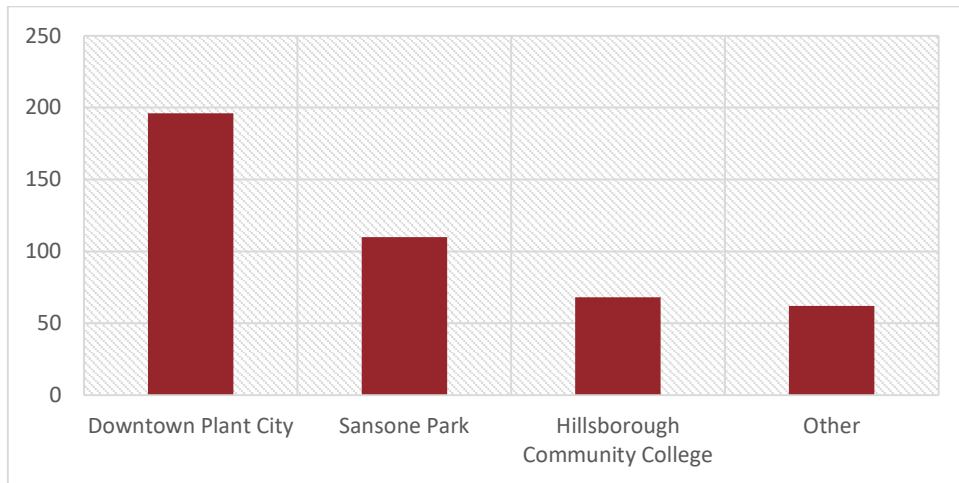
What kind of pathway do you prefer?



Most respondents, 54%, wanted a trail anywhere a separated path can be feasibly done. 28% indicated they would prefer the trail to be away from roads as much as possible.

### 6.1.3 Question 3

What would you like the route to connect to?



Respondents were able to choose multiple connection points that they thought would be beneficial. The following represents the percentage of respondents who selected each connection. 83% connect to Downtown Plant City, 46% connect to Sansone Park, 29% connect to Hillsborough Community College, and 26% added recommendations for connections points including Gilchrist Park, Cherry Street Park, Walden Lake, and Brewer Park.



## 6.2 Preferred Alternative Alignment

### 6.2.1 A1 Alignment

Zone A's Alternative 1 (A1) alignment extends from W Grant Street and E Baker Street connecting Hal & Lynn Brewer Park, Mid-Town, Marie B Ellis Park, and Samuel W Cooper Park. The alignment utilizes the existing trail from Brewer Park and provides separation and access to nature along the existing Park Trail. The north portion of S Lake Street allows for rewilding of the canal. Wayfinding and signage will be essential to navigate the alignment changes and at-grade crossings. The two railroad crossings (Alabama St and Lake St) will also require extra coordination. **Figure 6.2-1** reflects a diagram of the general alignment on each segment for the identified preferred alternative within Zone A.

### 6.2.2 B1 Alignment

Zone B's Alternative 1 (B1) alignment extends from the end point of A1 on Baker Street to just north of I-4 on N Park Road. It connects to the Hillsborough County Circuit Court & Plant City Community Center, Gilchrist Park, Plant City Dog Park, Cherry Street Park, the Spencer Street/N Park Road intersection at the NW corner of the Hillsborough Community College Campus, and Sansone Park. The alignment provides the opportunity to implement a canal portion as part of the greenway network. Pedestrian and cyclist safety will need to be a focus for crossing N Park Street due to the traffic volume and speed. **Figure 6.2-2** reflects a diagram of the general alignment on each segment for the identified preferred alternative within Zone B.

### 6.2.3 C2 Alignment

Zone C's Alternative 2 (C2) alignment extends from the end point of B1 on N Park Road to E Sam Allen Road at the maintenance road along the west edge of the Park Isle project. This alignment passes by the new AdventHealth hospital. Pedestrian and cyclist safety will need to be a focus at the intersection of N Park Road and Sam Allen Road due to the traffic volume and speed. **Figure 6.2-3** reflects a diagram of the general alignment on each segment for the identified preferred alternative within Zone C.

### 6.2.4 D1 Alignment

Zone D's Alternative 2 (D1) alignment extends from the end point of B1 on E Sam Allen Road at the maintenance road along the west edge of the Park Isle project up connecting into McIntosh Preserve. **Figure 6.2-4** reflects a diagram of the general alignment on each segment for the identified preferred alternative within zone D.



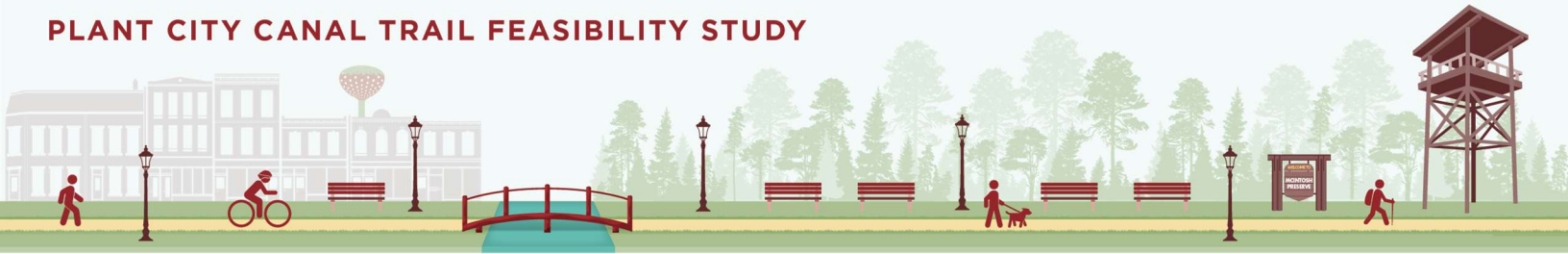


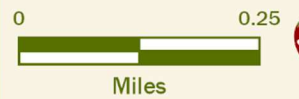


Figure 6.2-1: Zone A Preferred Alternative



Legend

-  Study Area Boundary
-  Zone A, Alternative 1



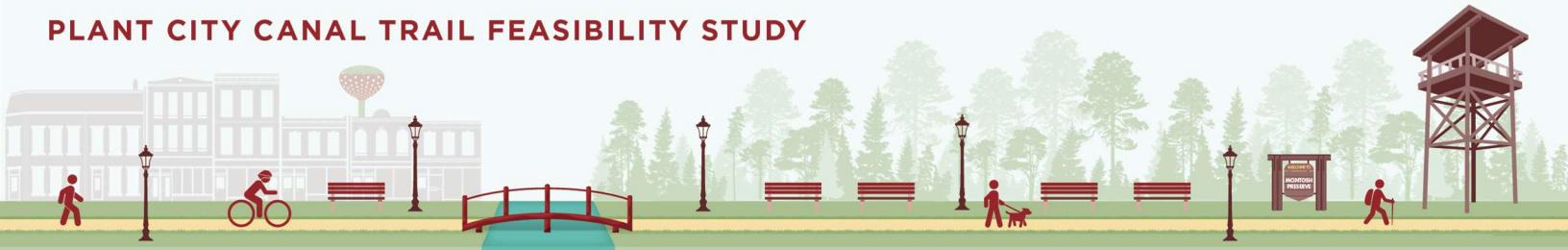
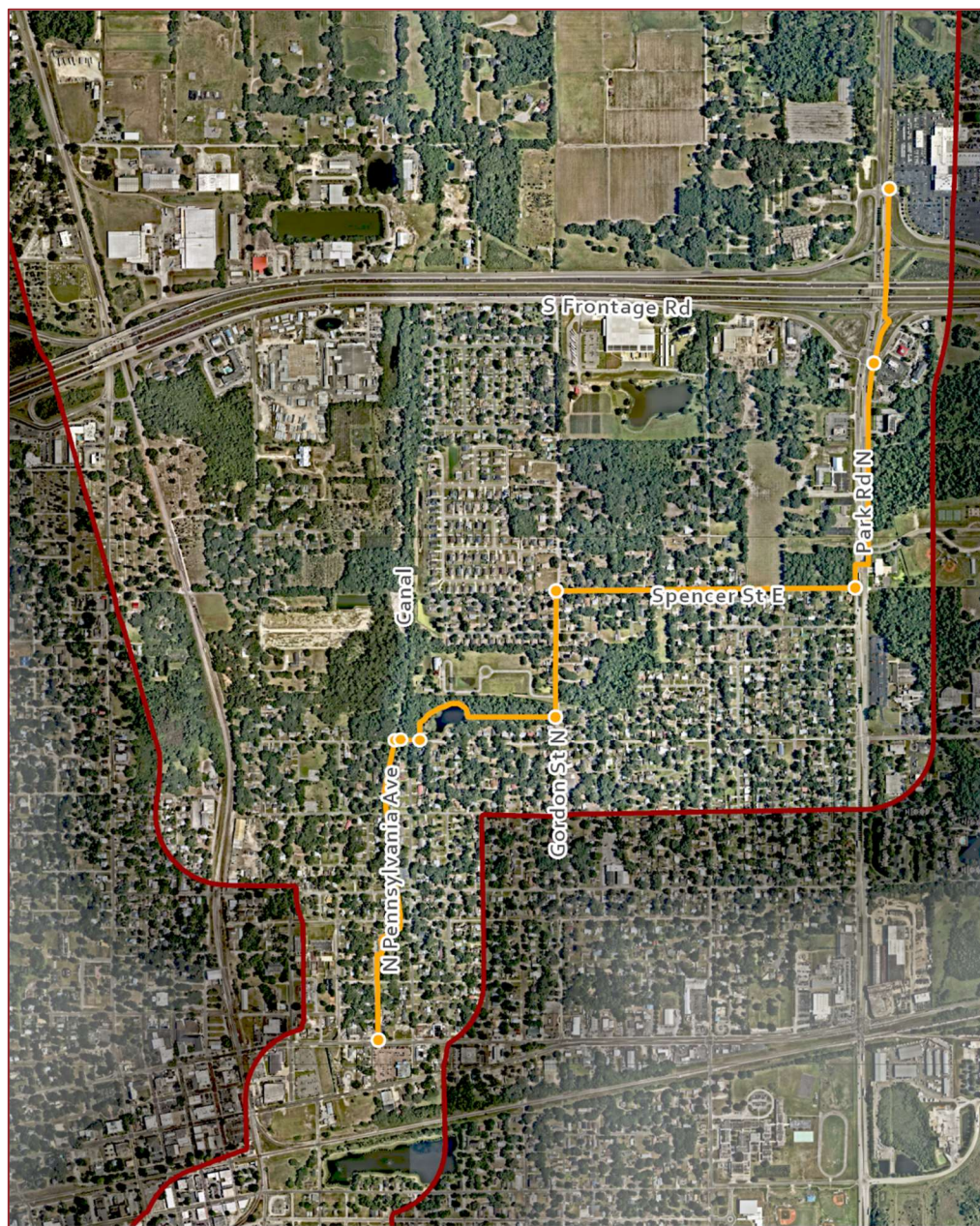


Figure 6.2-2: Zone B Preferred Alternative



Legend

- Study Area Boundary
- Zone B, Alternative 1



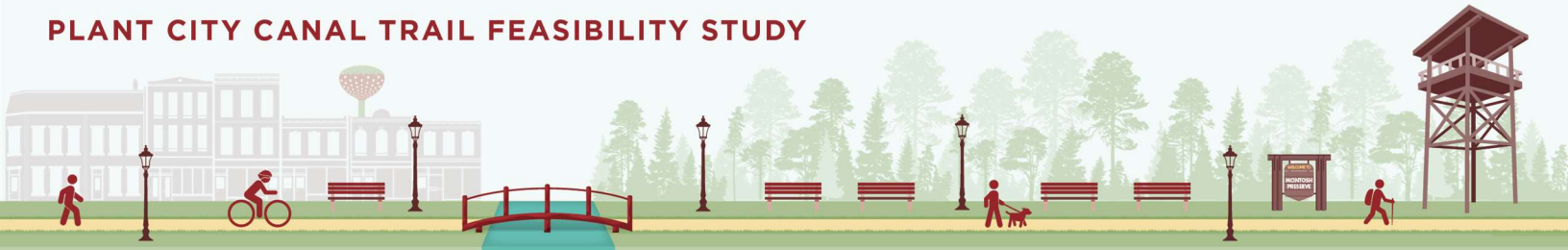
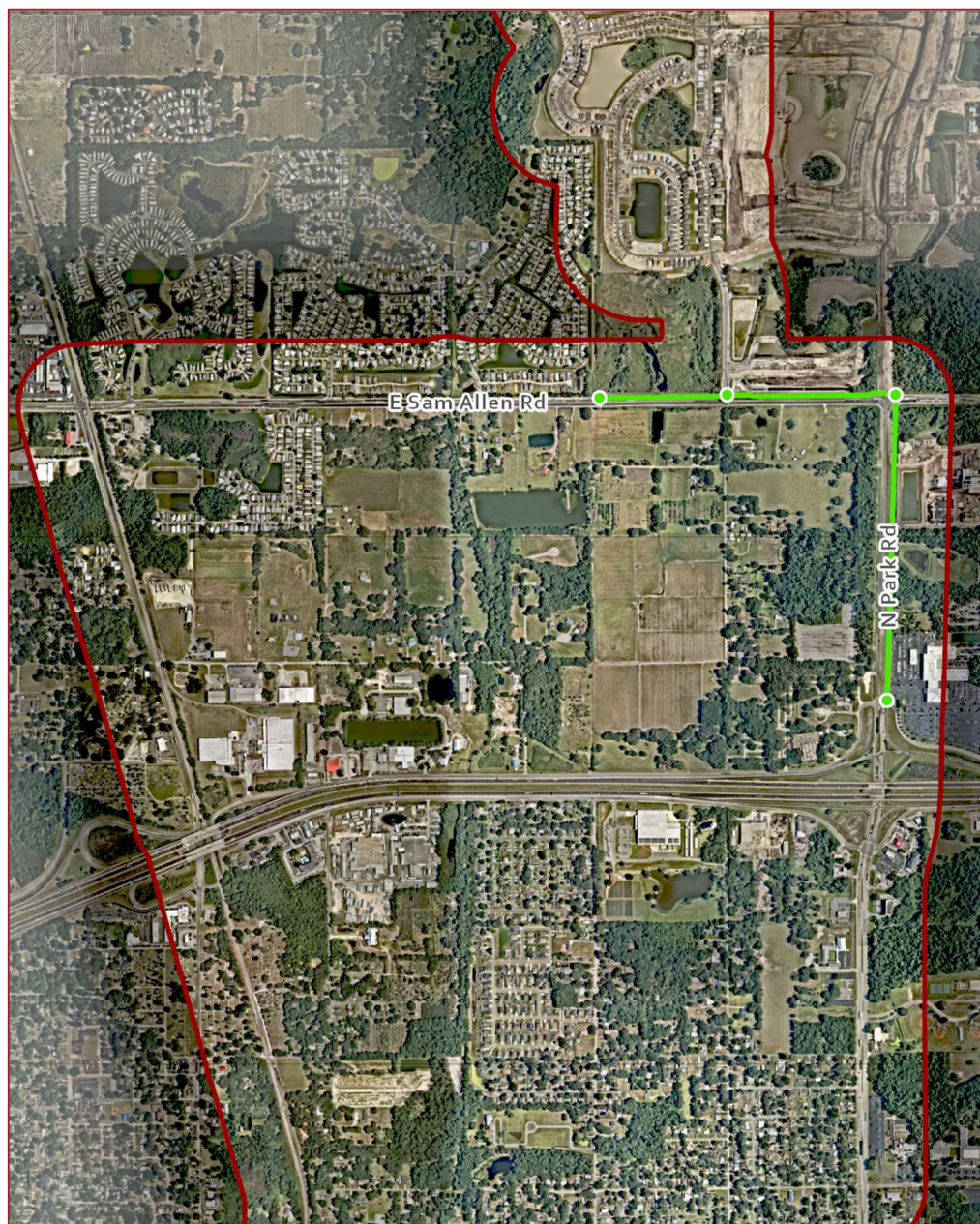




Figure 6.2-3: Zone C Preferred Alternative



Legend

-  Study Area Boundary
-  Zone C, Alternative 2

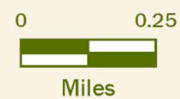
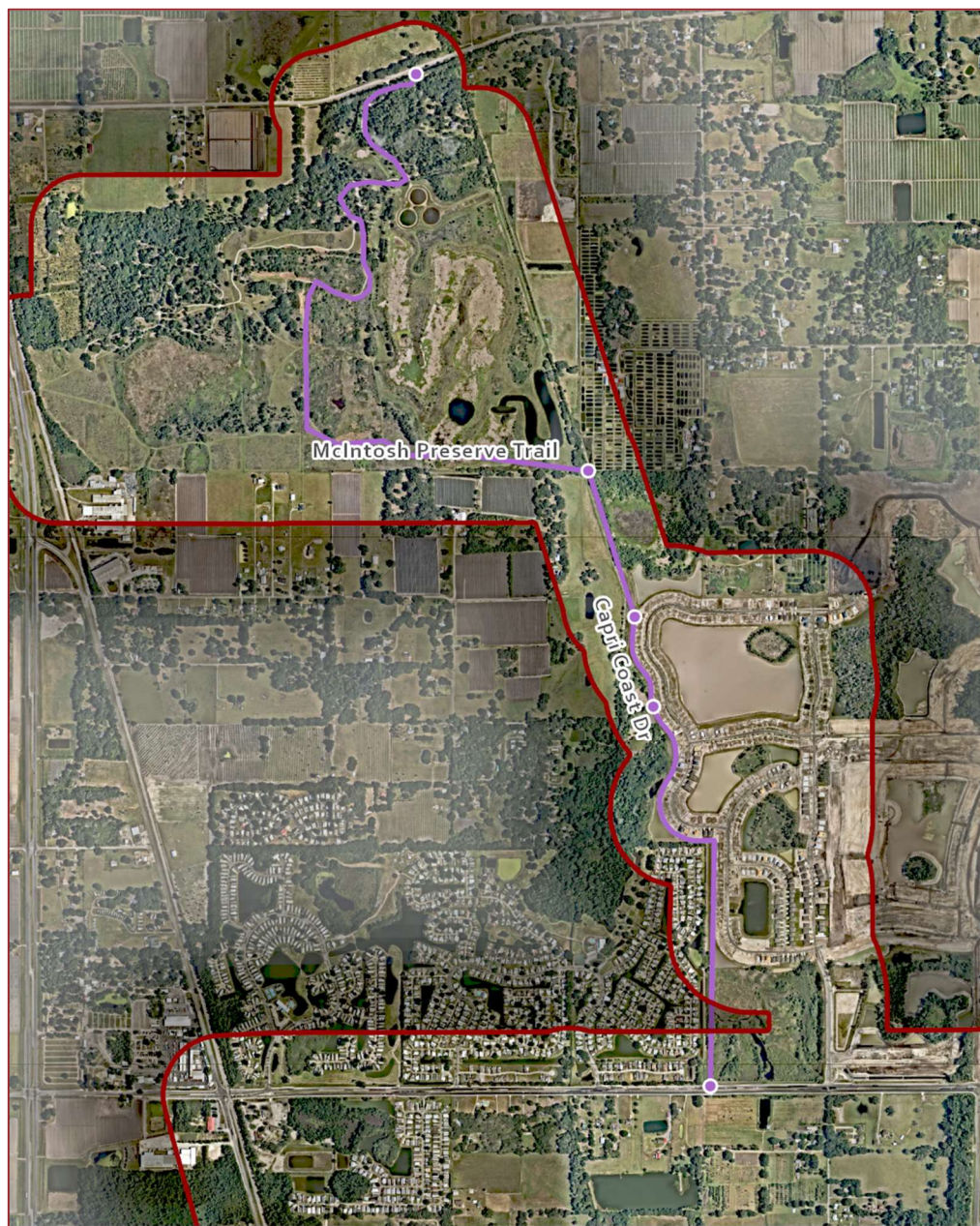






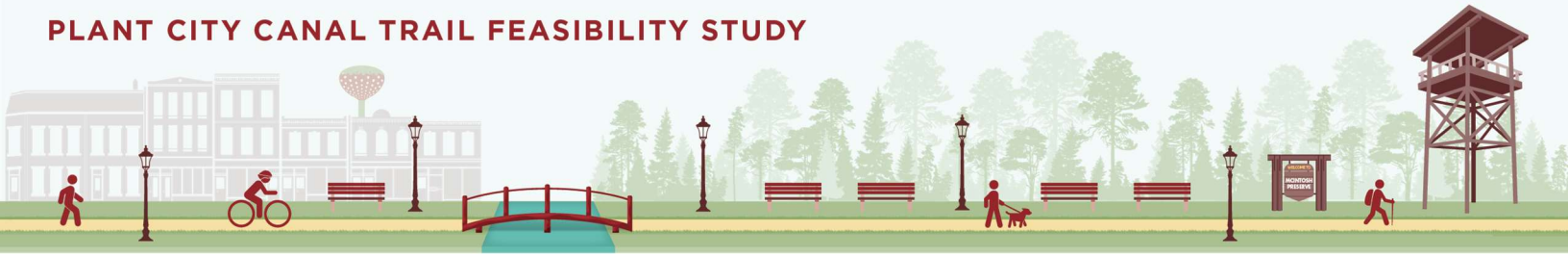
Figure 6.2-4: Zone D Preferred Alternative



Legend

-  Study Area Boundary
-  Zone D, Alternative 1





## 6.3 Alignment Cost

Each alignment was separated into multiple segments based on the typical section that would best work within that area. The segmentation and the selected typical sections are shown in **Table 6.3-1**.

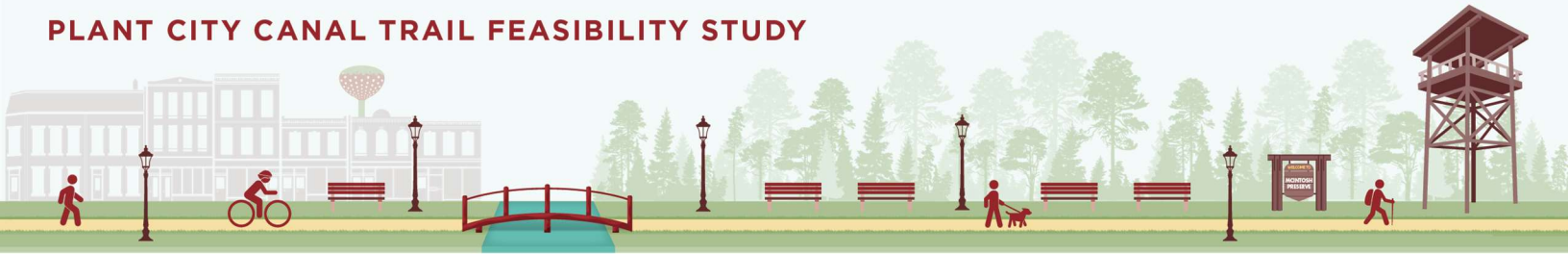


Table 6.3-2 outlines the cost per mile developed for each of the typical sections. The breakdown of the cost estimates is outlined in **Appendix B**. These estimates were applied to each of alignment as shown in **Table 6.3-3** along with the estimated overall cost.

Table 6.3-1: Alignment Typical Sections

	Length (Miles)	Road Shoulder (Flush)	Road Shoulder (Curbed)	Independent	Adj to Canal (Rail)	Adj to Canal (No Rail)	Boardwalk
<b>A1 Segments</b>							
From W Grant St to W Alsobrook St	0.24			x			
From East of Park & Baseball Fields to S Thomas St along W Alsobrook St	0.30	x					
From W Alsobrook St to W Ball St along S Thomas St	0.14	x					
From W Ball St to Alabama St	0.11		x				
From East of The Crossing Church to S Evers St along Alabama St	0.10		x				
From S Evers to S Lake St along Alabama St	0.21	x					
From S Lake St to E Reynolds St along S Lake St	0.40	x					
From S Lake St to West of Pipe Pros along E Reynolds St	0.03		x				
From E Reynolds St to East Baker St along Canal	0.08					x	
From N Illinois St to N Pennsylvania Ave along E Baker St	0.10		x				
<b>B1 Segments</b>							
From E Baker St to North of E Gilchrist St along N Pennsylvania Ave	0.14	x					
From N Pennsylvania Ave North of E Gilchrist St to E Tomlin St West of N Knight St through Gilchrist Park	0.08			x			
From E Tomlin St to E Cherry St West of N Knight St	0.31				x		
From West of N Knight St to East of N Knight St along E Cherry St	0.04		x				
From E Cherry St to Cherry Park's Northeast corner along Cherry St Park	0.14			x			
From Cherry Park's Northeast corner to N Gordon St along Cherry St Park	0.15						x
From North of Cherry St to E Spencer St along N Gordon St	0.21	x					
From N Gordon St to N Park Rd along E Spencer St	0.50	x					
From E Spencer St to Hope Lutheran Church Ent along N Park Rd	0.18		x				
From Hope Lutheran Church Ent to S Frontage Rd along N Park Rd	0.24			x			
From S Frontage Rd to N Frontage Rd along N Park Rd	0.31			x			
<b>C2 Segments</b>							
From N Frontage Rd to E Sam Allen Rd along N Park Rd	0.59			x			
From N Park Rd to East of Canal/Country Meadows Blvd along E Sam Allen Rd	0.57		x				
<b>D1 Segments</b>							
From E Sam Allen Rd to Carpi Coast Dr East of Canal	0.50					x	
From Tahitian Sunrise Dr to North of Tropical Oasis Ave East of Capri Coast Dr	0.37						x
From North of Tropical Oasis Ave to Capri Coast curve (N/S) to (E/W) East of Capri Coast Dr	0.24						x
From Capri Coast Dr to McIntosh Preserve	0.31			x			



Table 6.3-2: Typical Section Cost per Mile

Trail Type	\$/Mi
Road Shoulder (Flush)	\$ 365,455.08
Road Shoulder (Curbed)	\$ 351,664.32
Independent	\$ 375,798.15
Adjacent to Canal (Rail)	\$ 714,007.49
Adjacent to Canal (No Rail)	\$ 351,664.32
Boardwalk	\$ 11,553,096.24

Table 6.3-3: Recommended Alignment Cost

Alignment	Cost
A1	\$ 621,618.40
B1	\$ 2,631,674.30
C2	\$ 422,169.57
D1	\$ 7,339,718.29
<b>Overall</b>	<b>\$ 11,015,180.56</b>

## 6.4 Trail Implementation

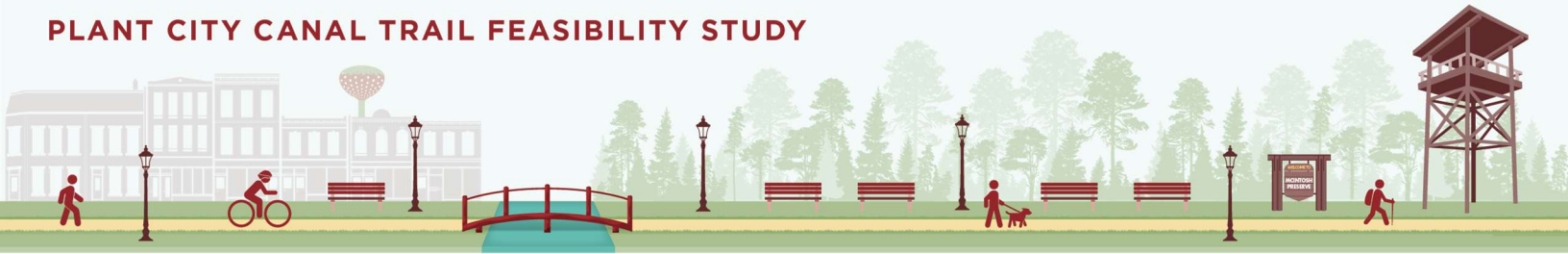
Implementing an ambitious project through a phased approach allows success to be seen sooner, demand to grow, and support to flourish. Phasing typically leaves the segments with the most challenges to later phases, instead opting to reach for the “low-hanging fruit” first. The following phasing is recommended for the Preferred Alternative for the Plant City Canal Trail and is based on the community-desired outcomes as well as opportunities for essential connections and safety improvements.

1. Erect “Future Home of Plant City’s First Greenway” signs in existing ROW, particularly where the ROW does not have an existing facility, such as:
  - a. Either end of Alsobrook St (A)
  - b. North portion of Thomas St (A)
  - c. North portion of Lake St (A)
  - d. Capri Coast Dr and other locations in Park Isle (D)
2. Begin coordinating with FDOT and railroad owner to accommodate a pedestrian-specific crossing and gates at all at-grade crossings.
  - a. E Alabama St (A)
  - b. S Lake St (A)
3. Invite local Audubon or Sierra Club chapters as well as AdventHealth to help design and possibly adopt the portions of greenways that are separated from roads. The focus is on the surrounding landscaping and habitat. Resources should be devoted to this effort to help mitigate and realize the public’s goal of greenways away from vehicles – many feasible portions through the already built environment do use existing roads. Enhancing the landscaping and vegetation is a good compromise. Candidate portions are:



- a. Alsobrook St (A)
  - b. North portion of Lake St (A)
  - c. Park Rd north of I-4 (C) (can the swales/culverts be transitioned to rain gardens with shade trees and other Low Impact Development strategies?)
  - d. AdventHealth frontage (C) (Possibly connect to an on-site trail which many hospital campuses are implementing.)
  - e. Maintenance road north from Sam Allen Rd (D)
  - f. Capri Coast Dr/boardwalk locations (D)
4. Designate the existing trails and/or park lands as part of “Plant City’s First Greenway” and sign accordingly.
- a. Park Trail (A)
  - b. Portion through Gilchrist Park (B)
  - c. Portion through Cherry Street Park (B)
  - d. Portion into McIntosh Preserve (D)
5. Implement sharrows **temporarily** on lower-speed (<25 mph), lower-volume roads. Communicate through signage these are temporary solutions and more is to come. Candidate portions are:
- a. Thomas St (A)
  - b. Pennsylvania Ave (B)
  - c. E Spencer St (B)
  - d. Streets interior to Park Isle (D) prior to constructing the recommended boardwalk on the west border of the Park Isle development
6. Restriping can also **temporarily** allow implementation and connections on roads with excess capacity. Communicate through signage these are temporary solutions and more is to come. Disruptions during eventual construction of the greenway should be considered and evaluated. Candidate portions include:
- a. West portion of Alabama St (A)
7. During FDOT’s scheduled upcoming resurfacing work on Park Road, implement Urban Corridor Improvements which would accommodate improvements for cyclists and pedestrians. This is essential to providing a safe and inviting greenway connection through the I-4 barrier.





## 6.5 Trail Funding Sources

The list below includes some potential sources for funding the Plant City Canal Trail. Inclusion in the list does not imply full eligibility.

### 6.5.1 FHWA Transportation Alternatives Set-Aside program

<https://www.fhwa.dot.gov/bipartisan-infrastructure-law/ta.cfm>

The Bipartisan Infrastructure Law (BIL) includes new funding to expand and connect safe bike infrastructure in communities, from programs designed to create complete active transportation networks to building climate resilient infrastructure and reconnecting communities.

### 6.5.2 The Recreational Trails Program (RTP)

<https://floridadep.gov/ooo/land-and-recreation-grants/content/recreational-trails-program>

The RTP is a federally funded competitive grant program that provides financial assistance to agencies of city, county, state or federal governments and organizations approved by the state, or state and federally recognized Indian tribal governments, for the development of recreational trails, trailheads and trailside facilities. For more information on Florida's Recreational Trails Program, view Chapter 62S-2, F.A.C. (pdf 109 kb), the rule governing the program in Florida.

### 6.5.3 America Walks Community Change Grants

<https://americawalks.org/programs/community-change-grants/>

Awards grantees \$1,500 in community stipends for projects related to creating healthy, active, and engaged places to live, work and play

### 6.5.4 Doppelt Family Trail Development Fund

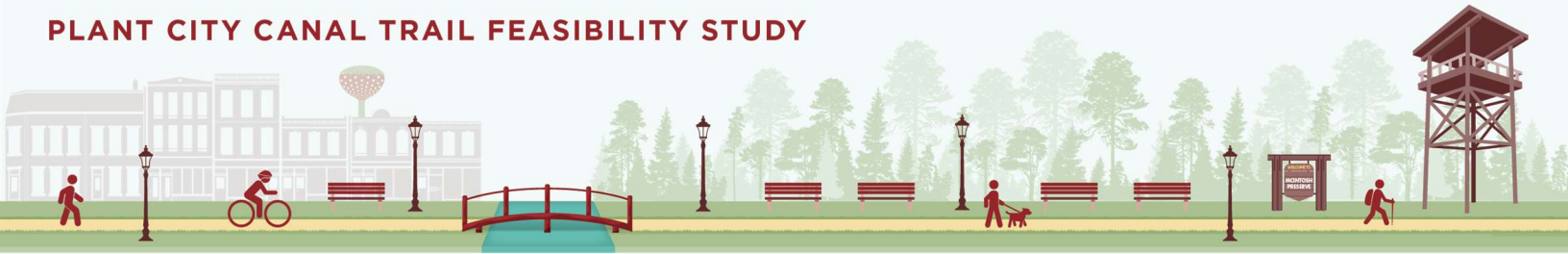
<https://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/>

The Rails to Trails Conservancy awards about \$85,000 per year to support organizations and local governments that implement projects to build and improve multi-use trails.

### 6.5.5 Transportation Alternatives Program (TAP)

<https://www.fdot.gov/planning/systems/tap/default.shtm>

The Florida Department of Transportation's TAP focuses on improvements that create alternatives to transportation for the non-motorized user and enhancements to the transportation system for all users. Nine activities are eligible for funding including construction, planning and design of on- and off-road facilities for bicyclists and pedestrians.



### 6.5.6 Land and Water Conservation Fund (LWCF)

<https://floridadep.gov/ooo/land-and-recreation-grants/content/land-and-water-conservation-fund-program>

The LWCF is a federal competitive program that provides grants for acquisition or development of land for public outdoor recreation use. The matching ratio is one applicant dollar to one federal dollar for all grant awards (50%/50%). The maximum grant request is \$200,000.

### 6.5.7 Florida Recreation Development Assistance Program (FRDAP)

<https://floridadep.gov/ooo/land-and-recreation-grants/content/florida-recreation-development-assistance-program>

The FRDAP is a state competitive grant program that provides financial assistance to local governments to develop and/or acquire land for public outdoor recreational purposes. The maximum grant request is \$200,000.

### 6.5.8 10-Minute Walk Planning Grant and Technical Assistance, administered by the National Recreation and Parks Association (NRPA)

<https://www.nrpa.org/our-work/partnerships/initiatives/park-access/>

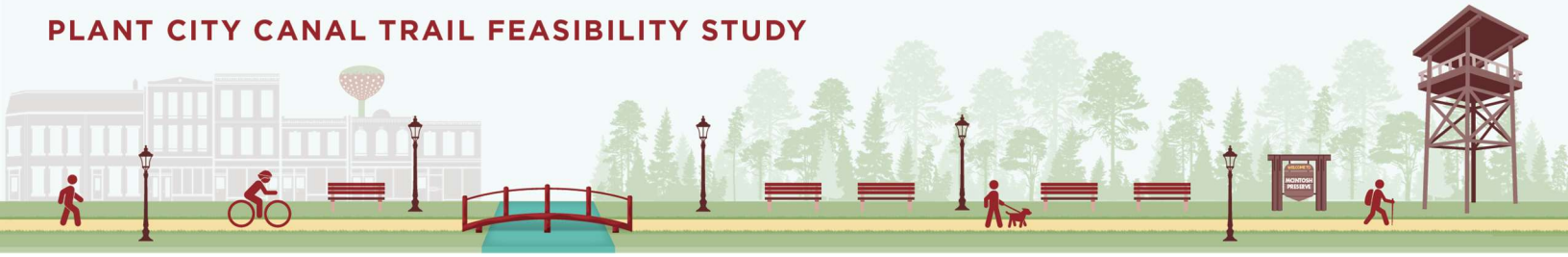
<https://10minutewalk.org/resources/>

Grants and technical assistance to support planning efforts that help cities increase access to high-quality parks within a 10-minute walk. Ongoing technical assistance from NRPA, Trust for Public Lands, Urban Land Institute, and additional national and local experts to support local planning efforts. Access and technical support for planning and mapping tools such as TPL's ParkServe and Parkology. Peer-to-peer support and networking opportunities to share lessons learned and address challenges. National visibility through articles in Parks and Recreation magazine, Open Space Blog, partner publications, and national press release. Opportunities to present at national conferences, including the NRPA Annual Conference.

### 6.5.9 People for Bikes Community Grant, administered by PeopleForBikes

<https://outridebike.org/outride-fund>

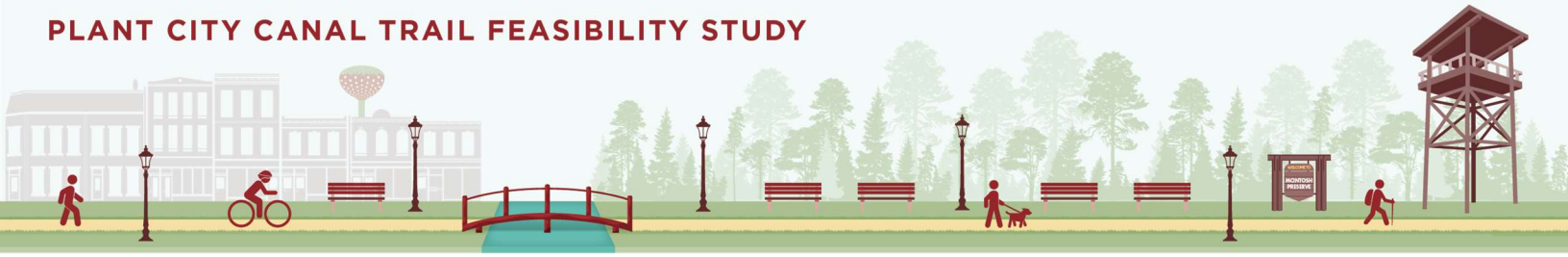
PeopleForBikes grants are funded by U.S. bicycle industry members who participate in the Employee Pro Purchase Program. PeopleForBikes focuses most grant funds on bicycle infrastructure projects such as: bike paths, lanes, trails, and bridges; mountain bike facilities; bike parks and pump tracks; BMX facilities; end-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage.



# Appendices

Appendix A – Alternatives Matrices

Appendix B – Cost Estimates



# Appendix A – Alternatives Matrices

Alternatives Benefits Quality Matrix

Qualitative Rankings Matrix



Goal	Weight	Criteria	Metrics	Zone A											Zone B					Zone C				Zone D						
				Alternative A1	Alternative A2	Alternative A3	Alternative A4	Alternative A5	Alternative A6	Alternative A7	Alternative A8	Alternative A9	Alternative A10	Alternative A11	Alternative B1	Alternative B2	Alternative B3	Alternative B4	Alternative B5	Alternative B6	Alternative C1	Alternative C2	Alternative C3	Alternative C4	Alternative C5	Alternative D1	Alternative D2	Alternative D3	Alternative D4	
Safety	2	Extent to which the alternative limits vehicle/trail user conflicts	Driveway crossings	Medium	Medium	Medium	High	Medium	Medium	High	Medium	Medium	Medium	High	Medium	Low	Medium	High	Medium	Low	High	High	Medium	Medium	Low	High	Low	Medium	Low	
			Intersection crossings (signalized v. stop-controlled)	Medium	Medium	Medium	High	Medium	Medium	High	Medium	Medium	Medium	High	Medium	Low	Medium	High	Medium	Low	High	High	Medium	Medium	Low	High	Low	Medium	Low	
Equity	3	Extent to which the alternative connects traditionally underserved populations to services, employment centers, and educational, cultural, and recreational opportunities.	Midblock crossings	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	
			Volumes and speeds of traffic if adjacent to roadway	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
			Proximity to underserved communities	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
			Proximity to services	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
			Proximity to schools, colleges	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Environment	2	Extent to which the alternative limits impacts to natural resources	Proximity to community assets (parks, libraries, etc.)	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	
			Parcel impacts in underserved communities	High	Low	High	High	Medium	High	Low	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Social/Cultural	2	Extent to which the alternative limits impacts to cultural resources	Impacts to wetlands	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High	High	Medium	Medium	Medium	Medium	Low	Medium	Medium	High	High	High	Medium	High	Medium	Medium	Medium	
			Potential involvement of contamination sites	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High	High	Medium	Medium	Medium	Medium	Low	Medium	Medium	High	High	High	Medium	High	Medium	Medium	Medium	Medium
Economic Development	2	Extent to which the alternative enhances connectivity to cultural resources	Aesthetic quality of surrounding environs	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	
			Parcel impacts to social/cultural sites (4f)	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Connectivity	2	Extent to which the alternative connects existing and planned pedestrian/bike networks	Proximity to targeted redevelopment or growth areas	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	
			Connections to existing or planned facilities	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
Buildability	3	Extent to which the alternative connects services, employment centers, and educational, cultural, and recreational opportunities.	Proximity to employment centers	High	High	High	High	Medium	High	High	Medium	Medium	Medium	Low	Medium	High	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low	
			Proximity to schools, colleges	High	High	High	High	Medium	High	High	Medium	Medium	Medium	Low	Medium	High	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low	Low
			Proximity to community assets (parks, libraries, etc.)	High	High	High	High	Medium	High	High	Medium	Medium	Medium	Low	Medium	High	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low	Low
			Scale of implementation and partnerships	High	High	High	High	Medium	High	High	Medium	Medium	Medium	Low	Medium	High	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low	Low
			Required permits coordination with other agencies	High	High	High	High	Medium	High	High	Medium	Medium	Medium	Low	Medium	High	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low	Low	Low	Low
Cost	3	Probable cost to implement alternative	Presence of physical obstructions	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Medium	Medium	High	Low	High	Low	High	High	Low	Low	High	High	Low	Medium	Medium	
			Extent to which the alternative limits impacts to drainage, utilities, and other physical obstructions	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Medium	Medium	High	Low	High	Low	High	High	Low	Low	High	High	Low	Medium	Medium	
			Extent to which the alternative impacts private property	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Medium	Medium	High	Low	High	Low	High	High	Low	Low	High	High	Low	Medium	Medium	
<b>Total Score</b>			50	39	48	50	45	48	41	45	45	45	40	38	32	36	32	32	28	40	40	30	30	34	36	28	34	32		



## Appendix B – Cost Estimates

### Segment Cost Matrix

Road Shoulder (Flush) Cost Per Mile

Road Shoulder (Curbed) Cost Per Mile

Independent Trail Cost Per Mile

Adjacent to Canal (Rail) Cost Per Mile

Adjacent to Canal (No Rail) Cost Per Mile

Boardwalk Cost Per Mile

	Segment			Length (mi)	Road Shoulder		Independent (30')		Adj to Canal		Boardwalk	Segment Cost
					Flush	Curbed	Left/Right	Center	Rail	No Rail		
From	To	Along										
A1	W Grant St	W Alsobrook St	-	0.24				x				\$ 90,191.55
	E of Park & Baseball Fields	S Thomas St	W Alsobrook St	0.3	x							\$ 109,636.52
	W Alsobrook St	W Ball St	S Thomas St	0.14	x							\$ 51,163.71
	W Ball St	Alabama St	-	0.11								\$ 38,683.08
	E of The Crossing Church	S Evers St	Alabama St	0.1		x						\$ 35,166.43
	S Evers	S Lake St	Alabama St	0.21	x							\$ 76,745.57
	S Lake St	E Reynolds St	S Lake St	0.4	x							\$ 146,182.03
	S Lake St	W of Pipe Pros	E Reynolds St	0.03		x						\$ 10,549.93
	E Reynolds	E Baker St	Canal	0.08						x		\$ 28,133.15
	N Illinois St	N Pennsylvania Ave	E Baker St	0.1		x						\$ 35,166.43
<b>A1 Subtotal</b>											\$ 621,618.40	
B1	E Baker St	N of E Gilchrist St	N Pennsylvania Ave	0.14	x							\$ 51,163.71
	N Pennsylvania Ave N of E Gilchrist St	E Tomlin St/ W of N Knight St	Gilchrist Park	0.08				x				\$ 30,063.85
	E Tomlin St	E Cherry St	W of N Knight St	0.31					x			\$ 221,342.32
	W of Knight St	E of Knight St	E Cherry St	0.04		x						\$ 14,066.57
	E Cherry St	Cherry Park NE corner	Cherry St Park	0.14				x				\$ 52,611.74
	Cherry Park NE corner	N Gordon St	Cherry St Park	0.15							x	\$ 1,732,964.44
	N of Cherry St	E Spencer St	N Gordon St	0.21	x							\$ 76,745.57
	N Gordon St	N Park Rd	E Spencer St	0.5	x							\$ 182,727.54
	E Spencer St	Hope Lutheran Church Ent	N Park Rd	0.18		x						\$ 63,299.58
	Hope Lutheran Church Ent	S Frontage Rd	N Park Rd	0.24				x				\$ 90,191.55
S Frontage Rd	N Frontage Rd	N Park Rd	0.31				x				\$ 116,497.43	
<b>B1 Subtotal</b>											\$ 2,631,674.30	
C2	N Frontage Rd	E Sam Allen Rd	N Park Rd	0.59				x				\$ 221,720.91
	N Park Rd	E of Canal/Country Meadows Blvd	E Sam Allen Rd	0.57		x						\$ 200,448.66
<b>C2 Subtotal</b>											\$ 422,169.57	
D1	E Sam Allen Rd	Capri Coast Dr	E of Canal	0.5						x		\$ 175,832.16
	Tahitian Sunrise Dr	N of Tropical Oasis Ave	E of Capri Coast Dr	0.37							x	\$ 4,274,645.61
	N of Tropical Oasis Ave	Capri Coast curve N/S to E/W	E of Capri Coast Dr	0.24							x	\$ 2,772,743.10
	Capri Coast Dr	McIntosh Preserve	-	0.31				x				\$ 116,497.43
<b>D1 Subtotal</b>											\$ 7,339,718.29	
<b>Total</b>											\$ 11,015,180.56	



Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				Total	\$344,768.94

Notes:

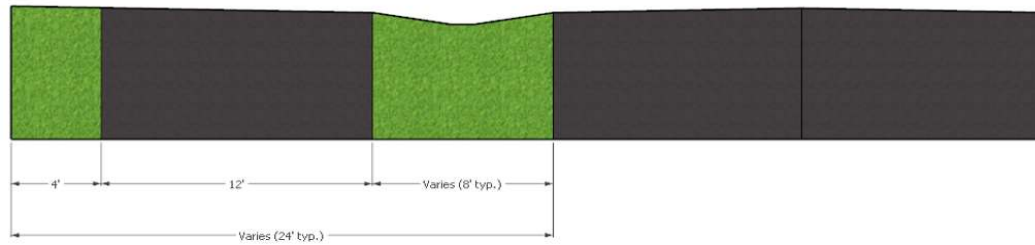
1) Based on FDOT's Cost Per Mile Model for "Two Directional, 12' Shared Use Path: 001" Website: <https://www.fdot.gov/programmanagement/estimates/documents/costpermilemodels>

Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				SUBTOTAL	\$344,768.94
	EARTHWORK	6	%	TOTAL	\$365,455.08

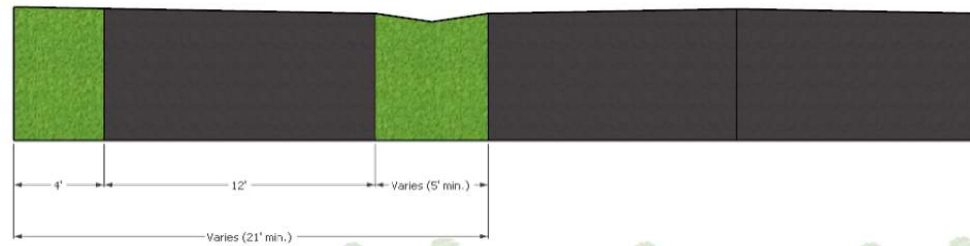
## Sidepath on Local/Collector (Flush Shoulder Roadway)

4.4  
5.6

Typical Application



Minimum Application



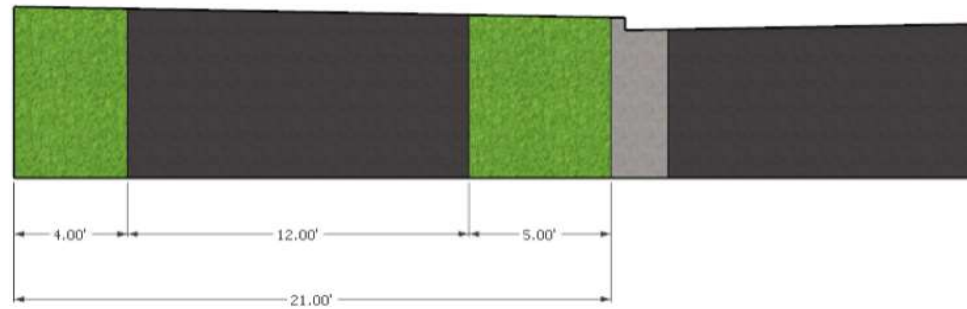
2.9  
3.8



Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				SUBTOTAL	\$344,768.94
EARTHWORK				TOTAL	\$351,664.32

## Sidepath on Arterial (Curbed Roadway)

0.9  
1.8

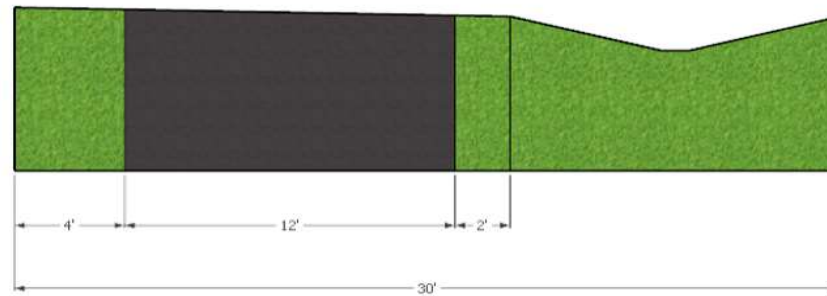


Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				SUBTOTAL	\$344,768.94
EARTHWORK				TOTAL	\$375,798.15

## Independent Trail Facility

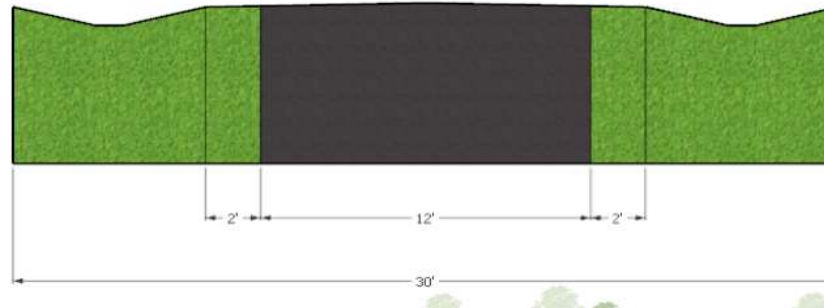
6.6  
8.4

Left/Right  
Alignment



Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				SUBTOTAL	\$344,768.94
EARTHWORK				TOTAL	\$375,798.15

Center Alignment



7.4  
9.2

Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00
515-1-2*	PIPE HANDRAIL - GUARDARAIL, ALUMINUM	5280	LF	67.28**	\$355,238.40
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57
				SUBTOTAL	\$700,007.34
	EARTHWORK	2	%	TOTAL	\$714,007.49

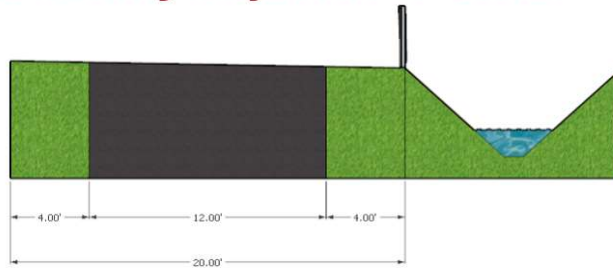
0515	1 2	1	\$67.28	\$15,339.84	228,000	LF	N	PIPE HANDRAIL - GUIDERAIL, ALUMINUM
0515	221 1	1	\$237.90	\$54,003.30	227,000	LF	N	PEDESTRIAN / BICYCLE RAILING, STEEL, 42" TYPE 1
0515	4 2	1	\$66.20	\$21,581.20	326,000	LF	N	BULLET RAIL, DOUBLE RAIL

\*Handrail is not necessary as the dropoff is not within 2-feet of the edge of trail. If handrail is still wanted 515-1-2 is chosen over 515-2-211 because of the 4-foot buffer.

\*\*Unit cost value is based on district 7 market area moving average found here: <https://www.fdot.gov/programmanagement/estimates/documents/historicalitemaveragecosts>

## Independent Trail Facility Adjacent to Canal

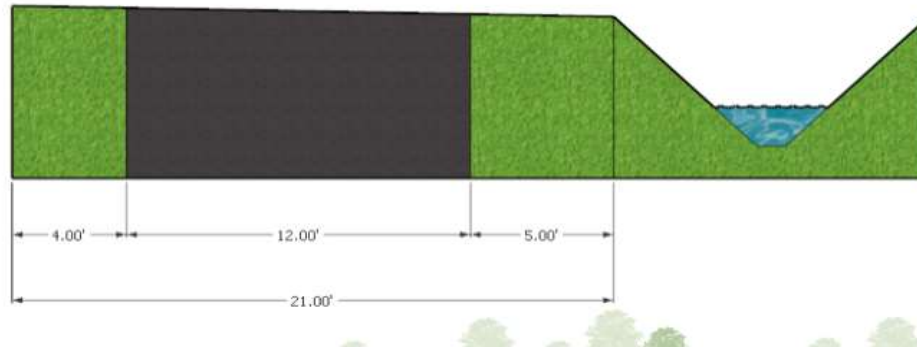
With Railing



0.8  
1.6

Pay Item	Description	Total Quantity	Unit	Unit Price	Total Amount	
101-1	MOBILIZATION	1	LS	\$29,850.12	\$29,850.12	
102-2	MAINTENANCE OF TRAFFIC	1	LS	\$16,896.30	\$16,896.30	
110-1-1	CLEARING & GRUBBING	3.9	AC	\$19,000.00	\$74,100.00	
160-4	TYPE B STABILIZATION	9386.67	SY	\$5.30	\$49,749.35	
285-701	OPTIONAL BASE, BASE GROUP 01	7040	SY	\$13.00	\$91,520.00	
334-1-11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	528	TN	\$113.00	\$59,664.00	
570-1-2	PERFORMANCE TURF, SOD	2347	SY	\$2.80	\$6,571.60	
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1	LS	\$16,417.57	\$16,417.57	
					SUBTOTAL	\$344,768.94
EARTHWORK					TOTAL	\$351,664.32

Without Railing



0.8  
1.8



# Computations

Project: Plant City Project #: 66392.03  
Location: Hillsborough County, FL Sheet: \_\_\_\_\_  
Calculated by: LJP Date: 7/28/22  
Checked by: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: High Level Bridge Estimate

**Nature Bridges Boardwalk Info:**

Boardwalk Structure =	55	\$/sf	(2021 cost, pressure-treated Southern Yellow Pine)
Increase for High-Quality Materials =	1.0		(Use regular materials)
Boardwalk Deck =	30	\$/sf	(2021 cost, composite/plastic wood)
Increase for High-Quality Materials =	1.69		(Similar to mark-up noticed on E-W Trail Boardwalk)
Boardwalk Width =	13.17	ft	
Inflation Rate (2021 to 2022) =	1.50		(Assumed Cost increase similar to softwood lumber to adjust from 2021 to 2022 costs, \$300 vs \$450)
Boardwalk Railing =	58	\$/LF	(Assumes high-quality composite cap/IPE railing, cost assumed similar to EW boardwalk, 2019 cost)
Inflation Rate (2019 to 2021) =	1.73		(Assumed Cost increase similar to softwood lumber to adjust from 2019 to 2022 costs, \$225 vs \$388.25)

(Note: Due to recent large swings in price of lumber since 2019, 2022 price is taken as average from 9/20 to 4/22)

**Boardwalk Cost = 2188.09 \$/LF**  
**166.14 \$/SF**

\$ 11,553,096.24 per mi

5280 ft in a mi