

# Myrtle Avenue Complete Streets Study

**Forest Street to Moncrief Road**

Jacksonville, FL (Duval County)

Final Report

January 2024



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## Forest Street to Moncrief Road

Jacksonville, FL (Duval County)

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## ACRONYMS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
aka	Also known as
BAC	Blood Alcohol Content
CIP	Capital Improvement Plan
COJ	City of Jacksonville
DIA	Downtown Investment Authority
FDOT	Florida Department of Transportation
FEC	Florida East Coast Railway

FDM	FDOT Design Manual
FHWA	Federal Highway Administration
FPID	Financial Project Identification
JPDD	Jacksonville Planning and Development Department
JTA	Jacksonville Transportation Authority
KSI	Killed/Severely Injured
LF	Linear Feet
LOGT	Local Option Gas Tax
LOS	Level of Service
MLK	Martin Luther King, Jr.
mph	Miles per hour
MSV	Maximum Service Volume
MUTCD	Manual on Uniform Traffic Control Devices
NACTO	National Association of City Transportation Officials
PD&E	Project Development and Environment
PDO	Property Damage Only
PSL	Posted Speed Limit
ROW	Right-of-Way
RRFB	Rectangular Rapid Flashing Beacon
RRR	Resurfacing, Restoration And Rehabilitation
SNAPP	Strategic Neighborhood Action Program for Pedestrians
S.R.	State Road
TPO	Transportation Planning Organization
U.S.	United States Highway
UAO	Utility Agent/Owners
VPD	Vehicles per Day
VPH	Vehicles per Hour

# 1 INTRODUCTION

## 1.1 PROJECT DESCRIPTION

The North Florida Transportation Planning Organization (North Florida TPO, the TPO) is partnering with the City of Jacksonville (COJ) and coordinating with the Jacksonville Transportation Authority (JTA) to conduct the Myrtle Avenue Complete Streets Study. The study determines the feasibility of bicycle facilities to provide the highest level of comfort for nonmotorized users of all ages and abilities for travel. This includes safe and comfortable passage under the Florida East Coast (FEC) Railway viaduct (aka Myrtle Avenue Subway). Study results and documentation will provide the level of detail necessary to explore grant funding opportunities or move into the initial phase of project implementation.

## 1.2 PROJECT LOCATION

Figure 1 depicts the Myrtle Avenue study corridor, which extends from Forest Street on the south to Moncrief Road on the north. The corridor spans from the LaVilla on the south to Moncrief on the north.

## 1.3 DEVELOPMENT OF THE REPORT

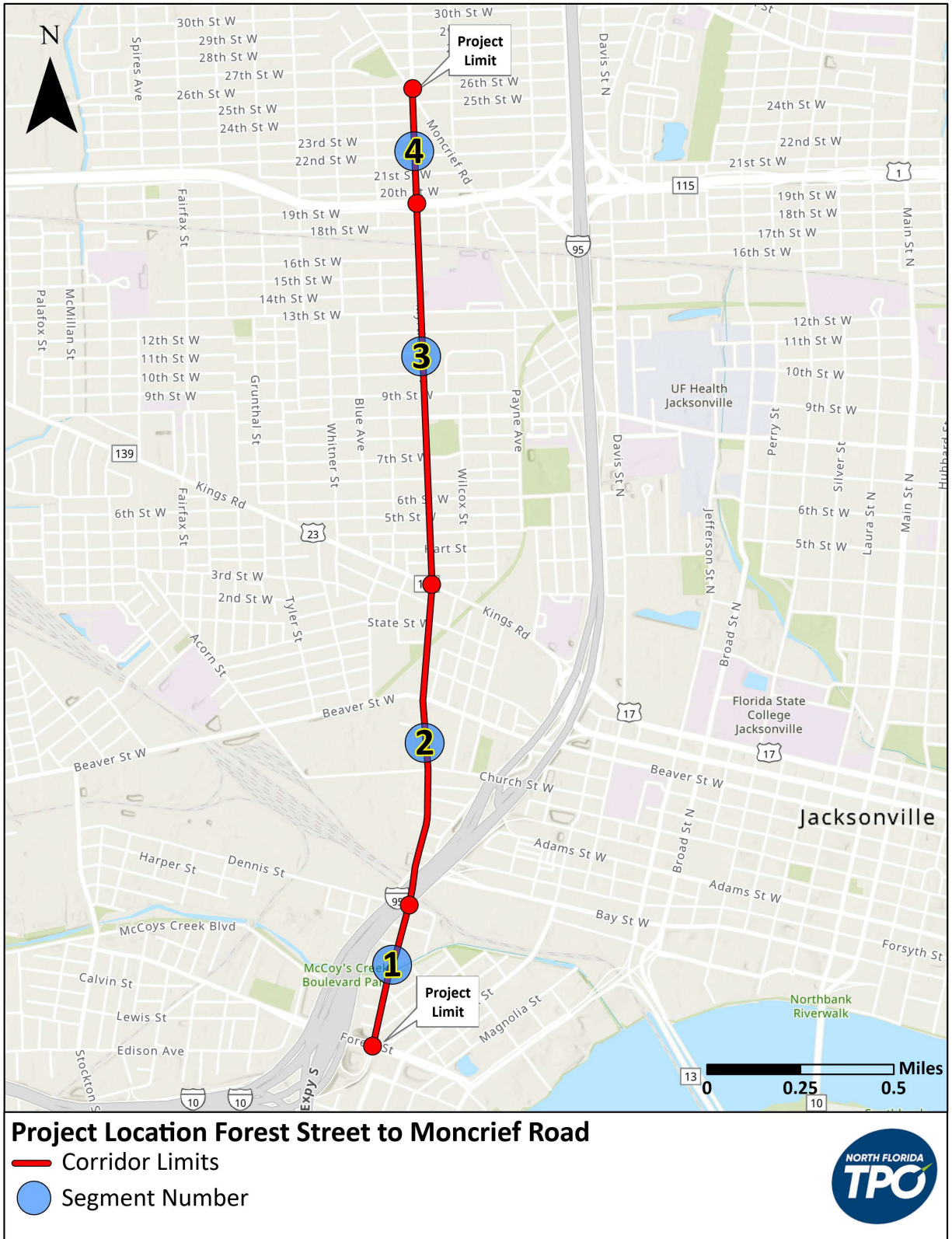
Benesch analyzed the approximately 2.5-mile corridor as four segments, based on similar typical sections, streetscapes, land uses, built environment, neighborhood boundaries and roadway design. For each segment, data is compiled and analyzed to develop an understanding of transportation, land use and environmental factors. Benesch also reviewed five years of crash reports to determine corridor trends.

- Segment 1: Forest Street to Dennis Street (Brooklyn neighborhood; also within Downtown Investment Authority (DIA) boundaries)
- Segment 2: Dennis Street to Kings Road (Rail Yard District); one notable feature is the “subway” between Dennis Street and W. Bay Street. The former street car tunnel provides vehicular access under I-95 and the CSX rail yard.
- Segment 3: Kings Road to Martin Luther King, Jr. (MLK) Parkway (Durkeeville neighborhood)
- Segment 4: MLK Parkway to Moncrief Road (Moncrief neighborhood)



*The “subway” provides a connection under I-95 on Myrtle Avenue between Dennis Street and West Bay Street.*

Overall, the body of the report focuses on recommendations and next steps for the Myrtle Avenue study corridor, developed from background information provided in the appendices. A roll plot depicting recommendations is provided as Appendix A with other supporting documentation provided in Appendix B through E.



Date: 5/2/23

Figure 1 – Myrtle Avenue Study Corridor

## 2 STUDY AREA DESCRIPTION

### 2.1 LAND USE

Existing and future land use are depicted in Figure 2 and Figure 3. Starting at the southern project limit and moving north, existing land use between Forest Street and Dennis Street is mainly vacant commercial and government parcels, the latter of which is being redeveloped as recreation/ open space as the Emerald Trail/McCoys Creek Greenway . Between Dennis Street and Kings Road, the area is known as the “Rail Yard District” and consists primarily of industrial uses. North of Kings Road, land use transitions to mixed use and residential, with a commercial corridor between MLK Parkway and Moncrief Road.

Future land use generally follows the existing land use categories.

### 2.2 ZONING

Figure 4 illustrates zoning in the area surrounding the study corridor. Myrtle Avenue, between Forest Street and Dennis Street, is primarily zoned as Commercial Central Business District (CBD). Between Dennis Street and Kings Road, zoning is primarily industrial with some Commercial Community/General (CCG) at the intersection of Myrtle Avenue and Kings Road. North of Kings Road, the zoning is mainly CCG and Planned Unit Development (PUD).

### 2.3 COMMUNITY FACILITIES

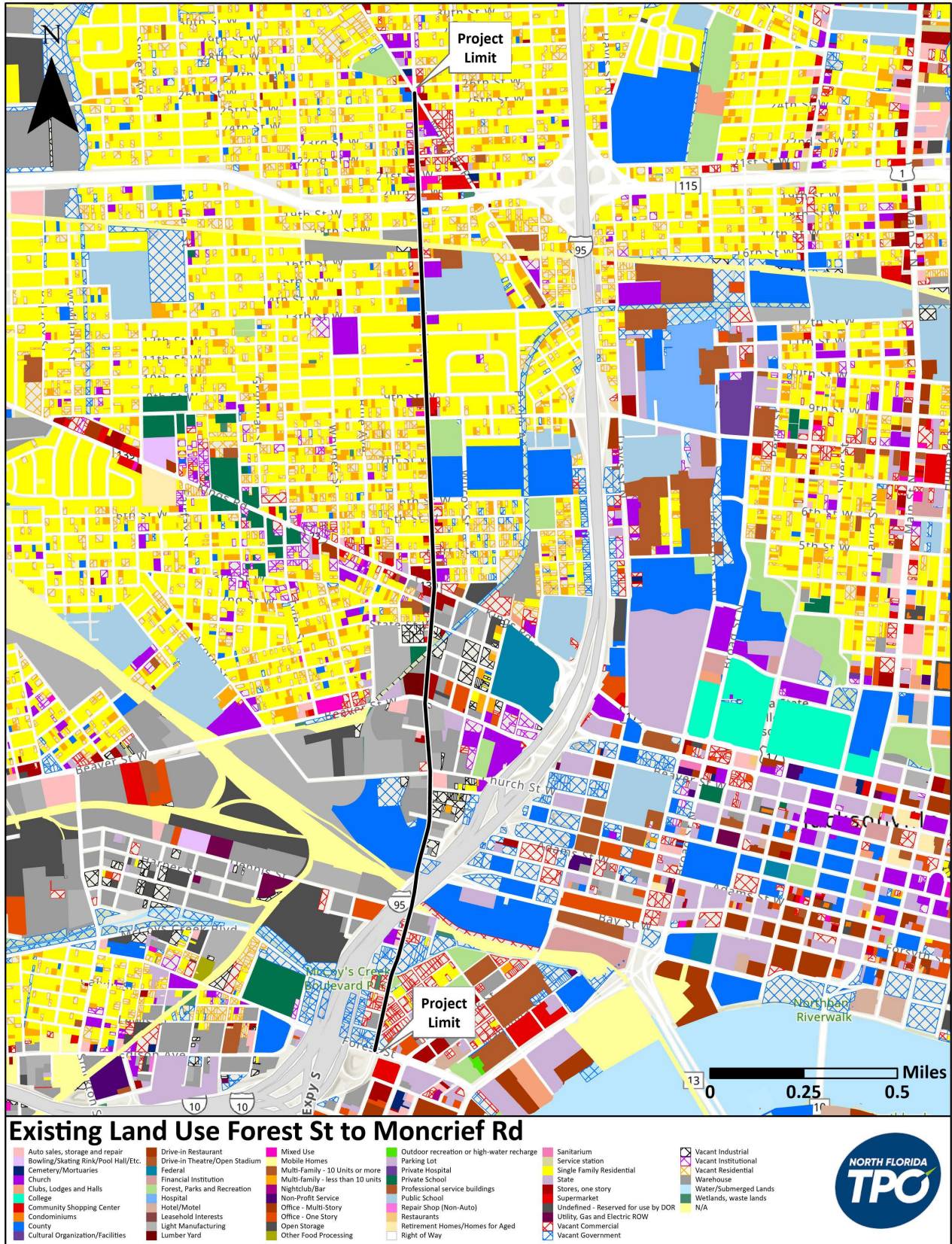
Community facilities within the study area include libraries, schools, medical facilities and public parks. Their locations are depicted in Figure 5 through Figure 8. Many facilities are located on or near Segment 3, which offers a mix of commercial and professional land uses surrounded by residential neighborhoods. Examples include:

- Rutledge Pearson Center (Segment 2)
- James P. Small Park (Segment 3)
- Graham Branch Library (Segment 3)
- Stanton College Preparatory School (Segment 3)
- S-Line Urban Greenway (Segments 2 and 3)

### 2.4 PLANNED DEVELOPMENT

Redevelopment is occurring along all segments of the Myrtle Avenue study corridor and within the surrounding area. Planned projects are identified in Figure 9 through Figure 12 and include both public and private funding. Notable development projects include:

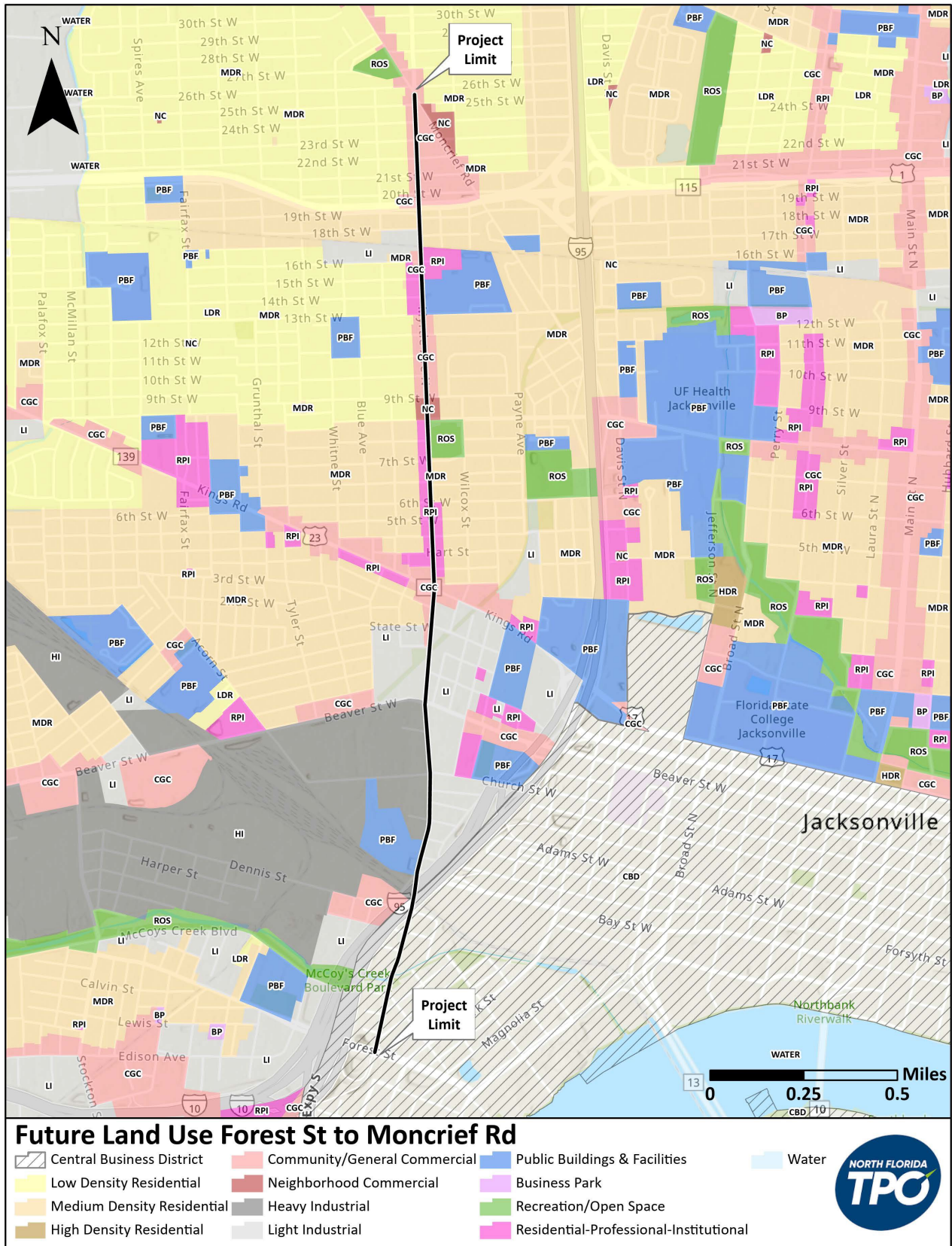
- Emerald Trail (Segments, 1, 2 and 3)
- Myrtle Street Redevelopment– 280 Apartment Units (Segment 1)
- 1220 West State– Rehabilitation of the former USNR manufacturing complex over nine square blocks (Segment 2)
- Baseball Museum at James P. Small Park (Segment 3)



Date: 3/29/23

Source: FDOR 2023

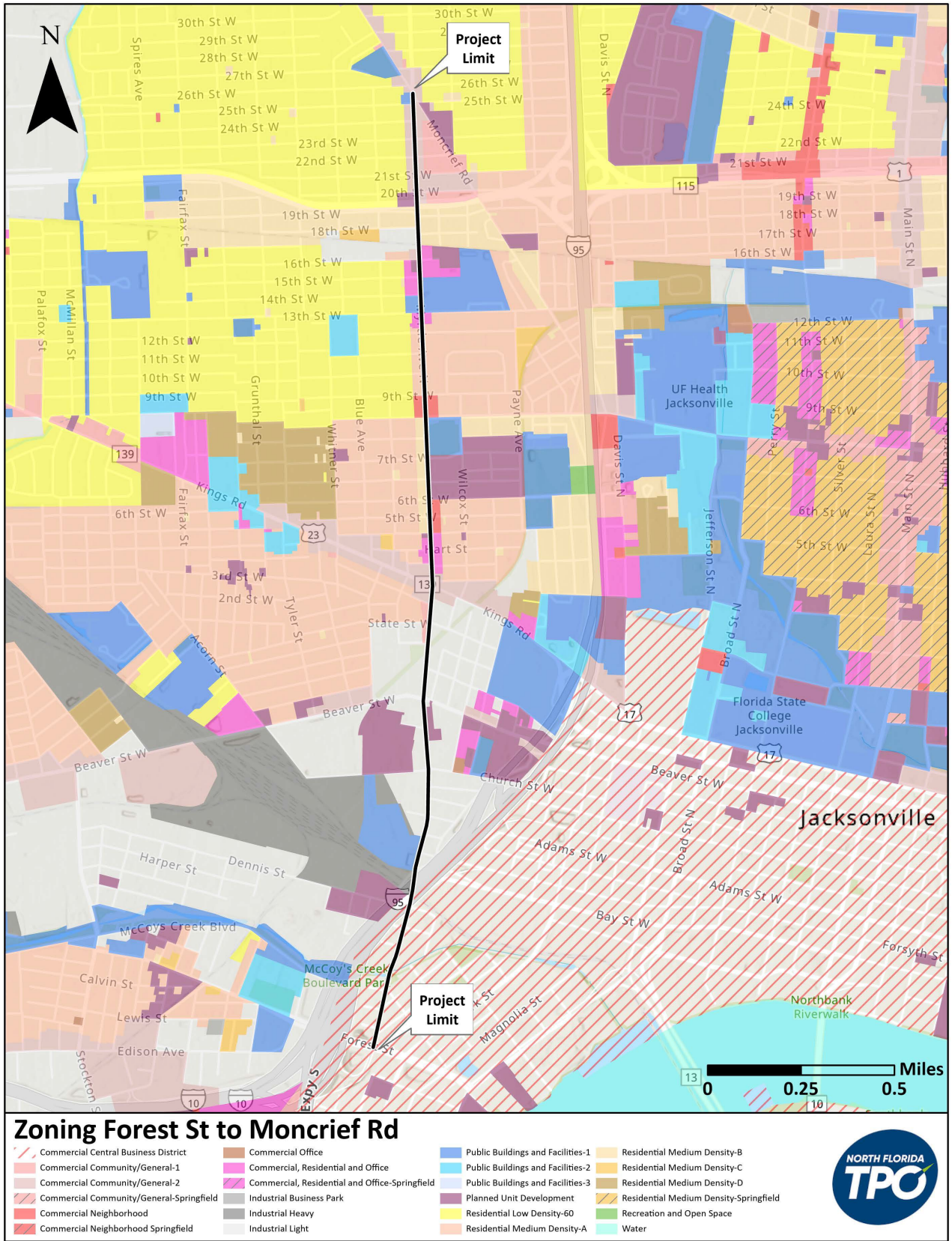
Figure 2 – Existing Land Use



Date: 4/19/23

Source: COJ 2023

Figure 3 – Future Land Use



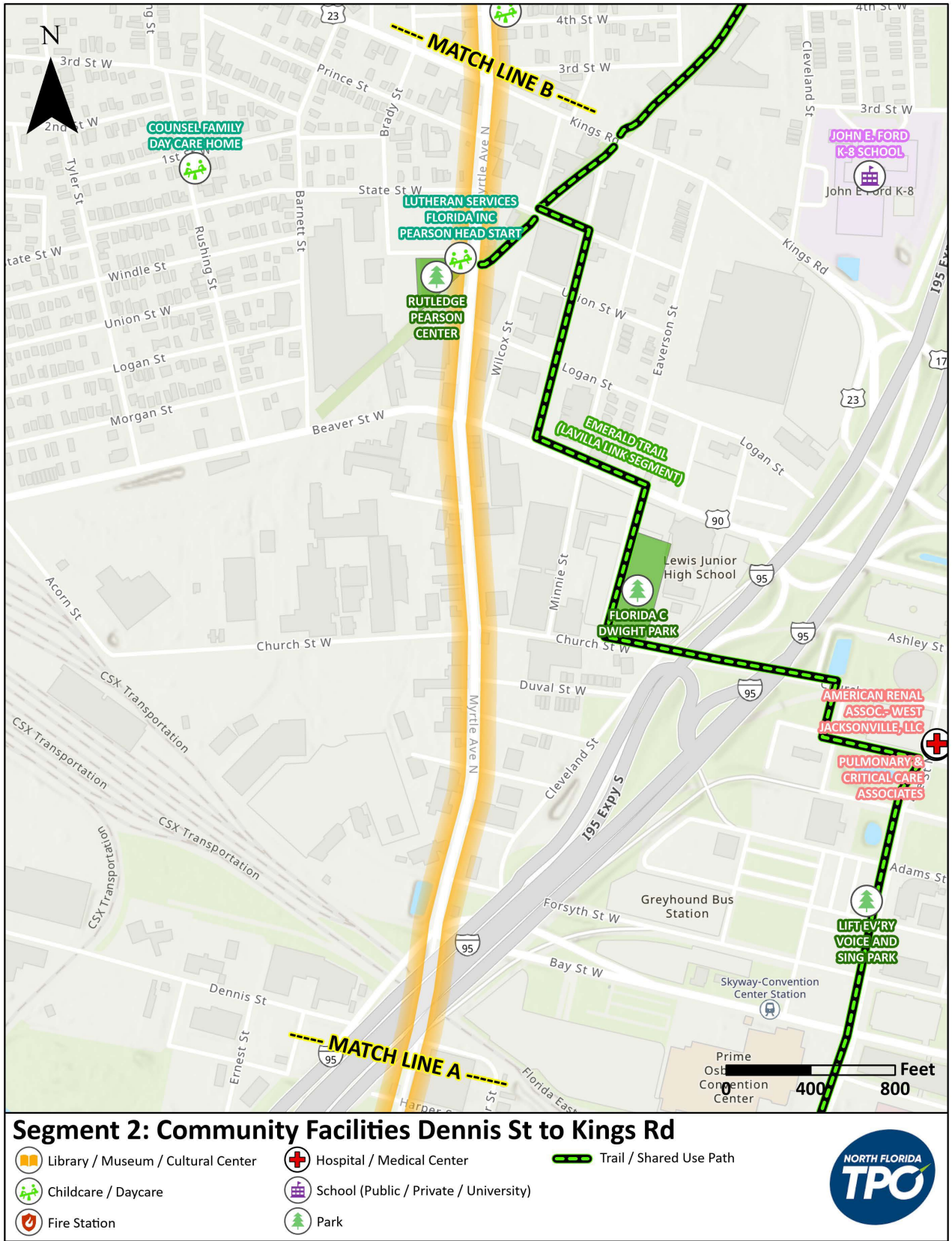
Date: 4/19/23

Source: COJ 2023

Figure 4 - Zoning



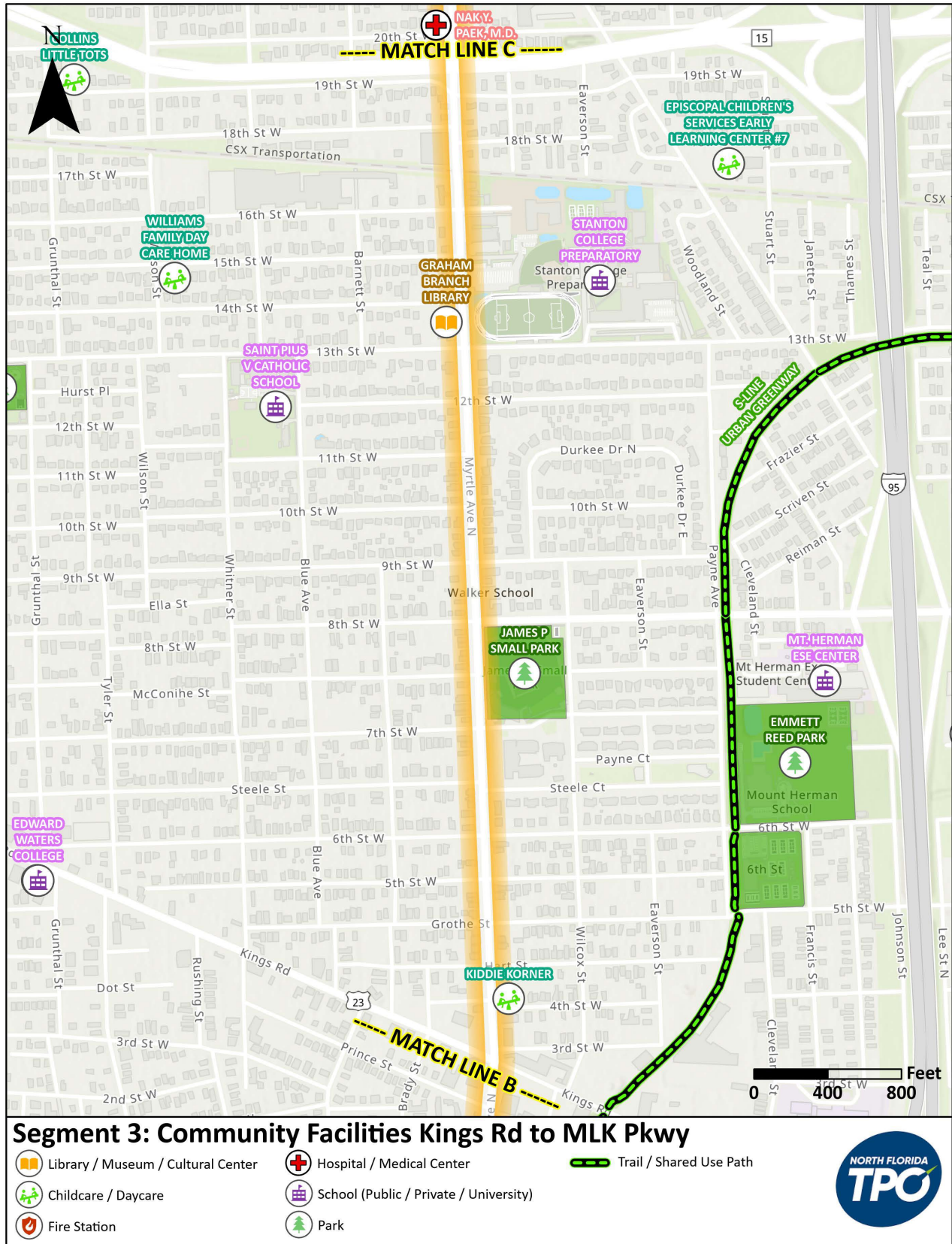
**Figure 5 – Community Facilities Segment 1 (Forest Street to Dennis Street)**



Date: 4/18/23

Source: FGDL GIS, 2023

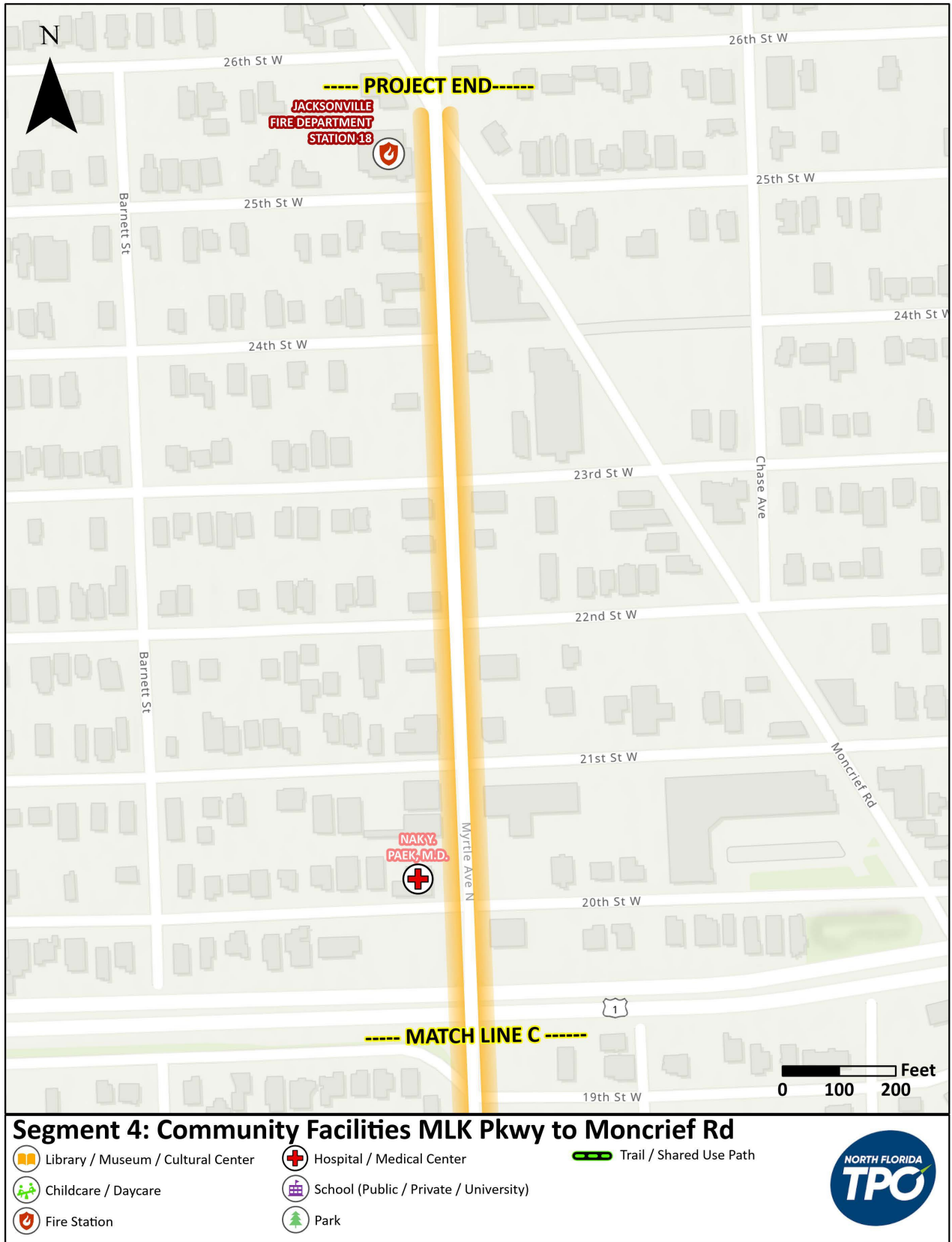
**Figure 6 – Community Facilities Segment 2 (Dennis Street to Kings Road)**



Date: 4/18/23

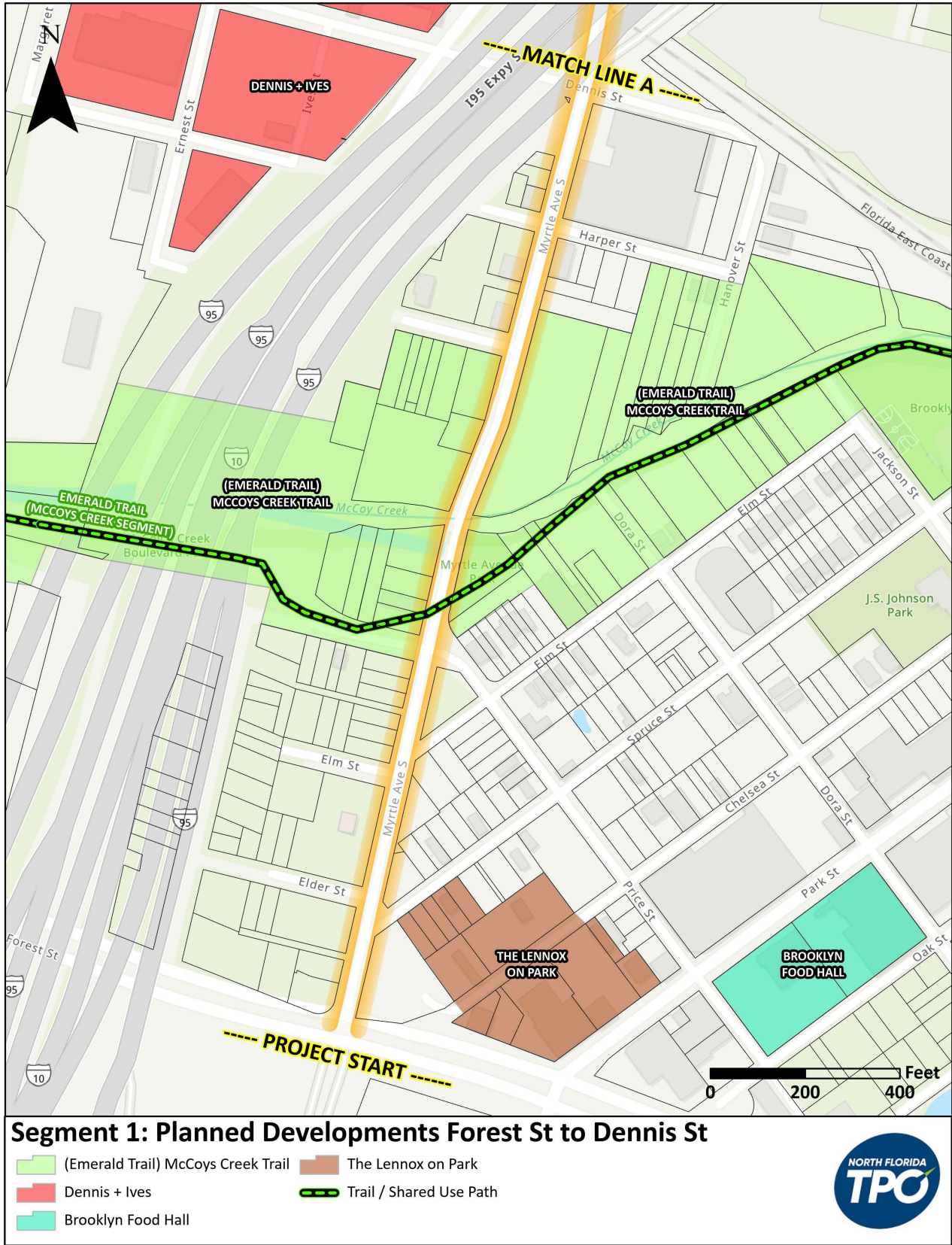
Source: FGDL GIS, 2023

**Figure 7 – Community Facilities Segment 3 (Kings Road to MLK Parkway)**



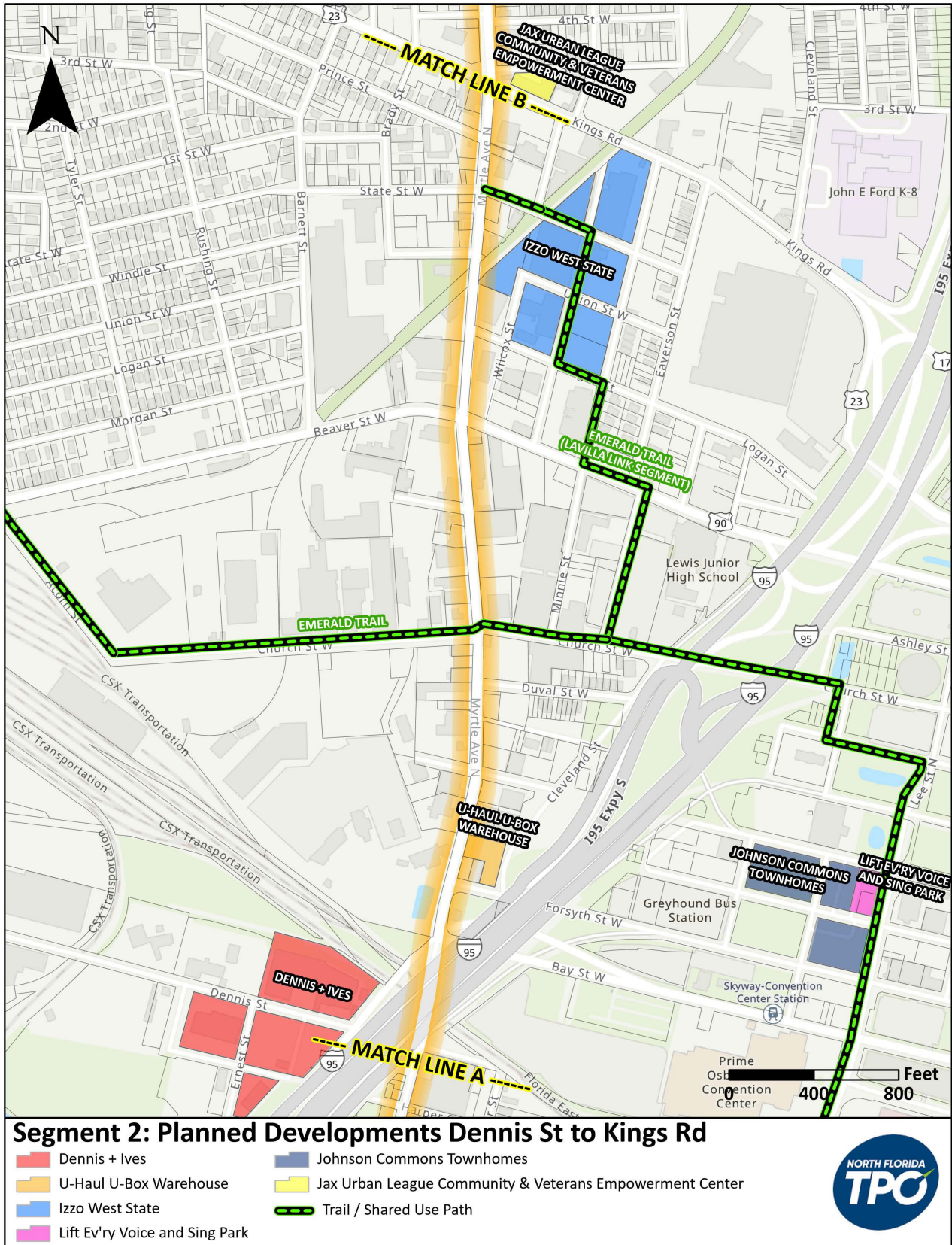
Date: 4/18/23

Figure 8 - Community Facilities Segment 4 (MLK Parkway to Moncrief Road)



Date: 4/20/23

Figure 9 - Planned Developments Segment 1 (Forest Street to Dennis Street)



Date: 4/20/23

Figure 10 – Planned Developments Segment 2 (Dennis Street to Kings Road)

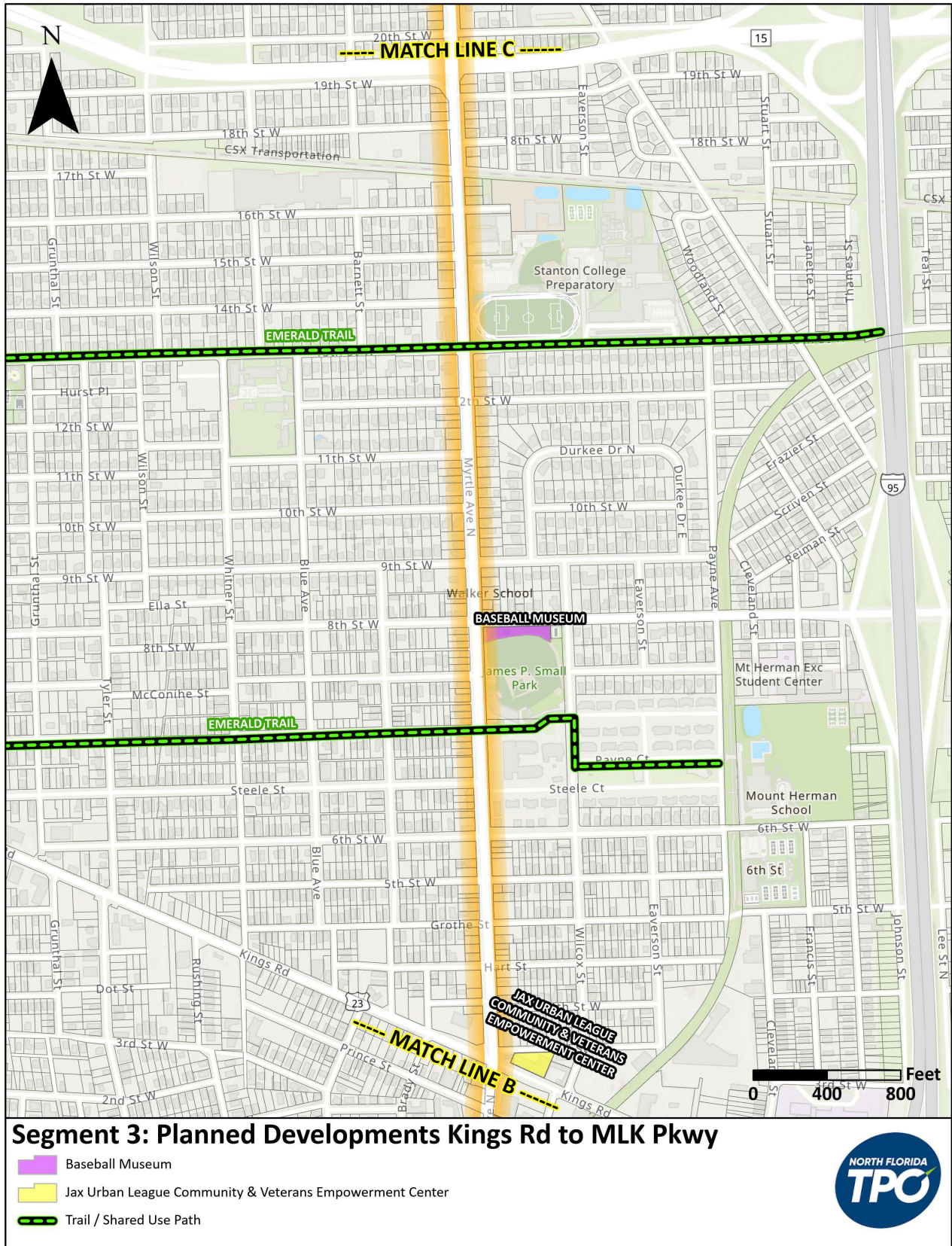
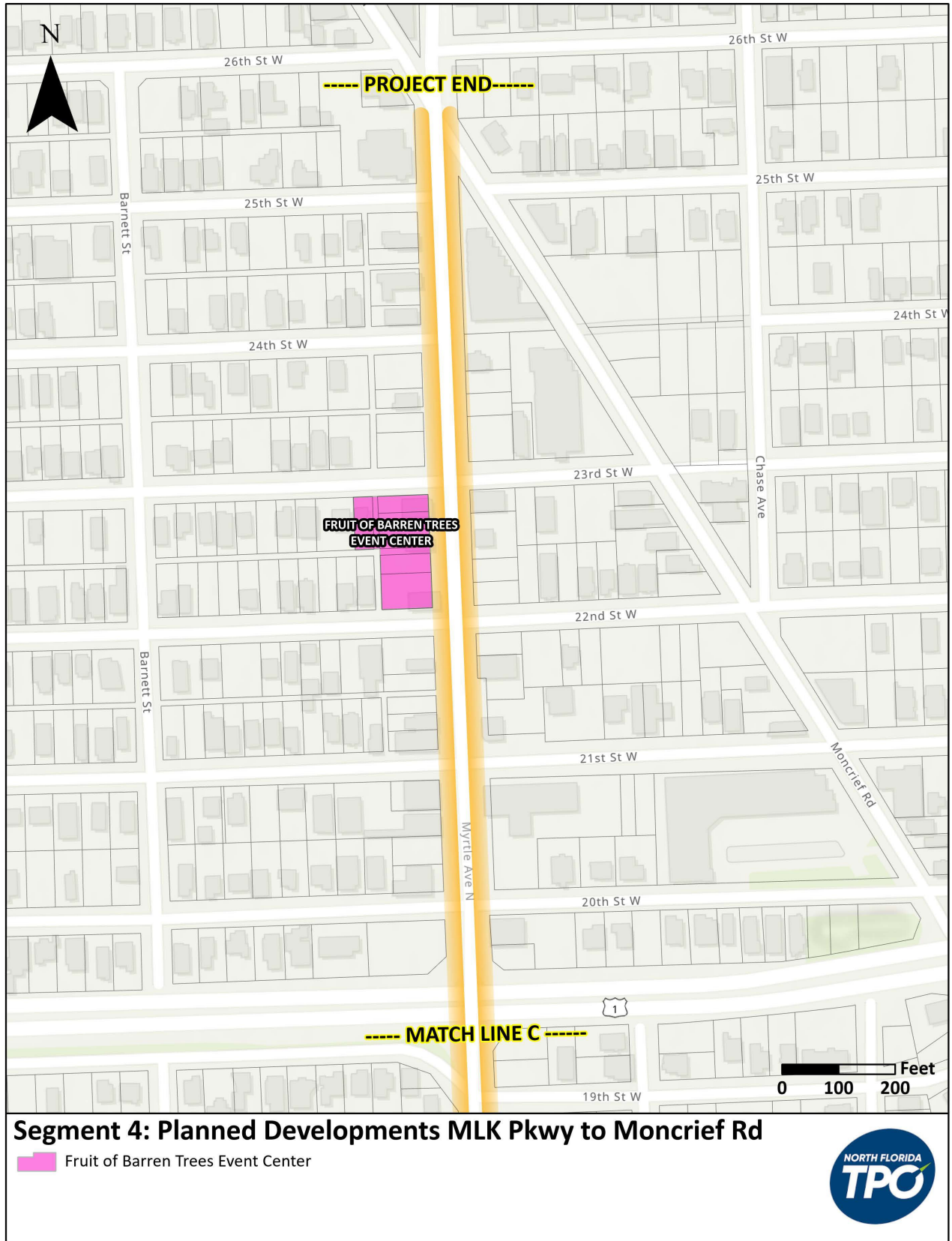


Figure 11 – Planned Developments Segment 3 (Kings Road to MLK Parkway)



Date: 4/20/23

**Figure 12 – Planned Developments Segment 4 (MLK Parkway to Moncrief Road)**

## 2.5 PLANNED PROJECTS

Projects described in the following sections are on or adjacent to the study corridor and funded for construction. Additional projects, such as those identified in JTA's Complete Streets initiative, COJ Mobility Fee projects, recommendations from the City of Jacksonville Pedestrian and Bicycle master plan, DIA projects, etc. are planned long term improvements but are unfunded.

### 2.5.1 FY 2023-2027 Adopted Capital Improvement Plan (CIP)

Programmed projects in the current adopted CIP that are on the study corridor are identified in Table 1. The projects include infrastructure improvements, a library replacement and parks improvements which will provide new and expanded education and recreation opportunities for the community.

The McCoys Creek projects are associated with the Emerald Trail Urban Greenway. A baseball museum as well as facility improvements will be constructed at James P. Small Park, which is at the southeast corner of Myrtle Avenue and 8<sup>th</sup> Street.

These projects should be considered when making recommendations for multimodal improvements to Myrtle Avenue. These projects may already include or serve as an opportunity to add such improvements to a programmed project.

### 2.5.2 FDOT District 2

FDOT District 2 is currently conducting a Project Development and Environment (PD&E) study for I-95, from I-10 to Beaver Street (U.S. 90, S.R. 10), to evaluate alternatives to improve safety, capacity and traffic operations on I-95. The proposed project will add up to two 12-foot travel lanes in each direction on I-95 and includes the Myrtle Avenue Bridge (Bridge No. 720163) deck replacement and rehabilitation. The project is also evaluating intersection and roadway improvements at Church Street, Beaver Street and West Union Street, as well as potential changes in access to and from I-95 ramp terminals. The project, FM 442778-1, will impact South Myrtle Avenue at the I-95/Forest Street ramps.

**Table 1 – COJ CIP Projects**

Department	Project No.	Description	Description	Prior FY	Funding Years	Total	Beyond 5
Public Works	010592	McCoys Creek Branches	Improvements at the tail waters of McCoys Creek, to reduce local flooding, improve access to the creek and improve recreational opportunities.	-	FY 22-23	\$3.4M	\$10M
	008972	McCoys Creek Greenway-Outfall Improvements	Stormwater improvement from Myrtle Avenue to the outfall as well as opening up the mouth of McCoys Creek to support access to the creek, and improved recreational opportunity associated with McCoys Creek.	\$27.5M	FY 22-25	\$30.7M	-
Public Libraries	-	Dallas Graham Branch Library	NW corner of W. 13 <sup>th</sup> Street and Myrtle Avenue; Replace the existing library with a new 25,000 SF library in the same area.	-	FY 26-27	\$900,000	\$9,336,431
Park & Recreation	010426	James P. Small Park	The project will provide new lighting, field turf, restrooms, museum upgrades and design for a waterpark.	\$6M	-	\$6.6M	\$600,000

### 3 PLANNING CONCEPT DEVELOPMENT

#### 3.1 DESIGN STANDARDS

The typical section alternatives and concepts developed for this study generally follow the guidelines and standards listed below. Additional guidance for best practices is listed in Appendix B, Section 1.2.

- FDOT Design Manual (FDM) and Standard Plans
- Manual on Uniform Traffic Control Devices (MUTCD)
- FDOT Traffic Engineering Manual (TEM)
- Minimum Standards for Design, Construction, and Maintenance Streets and Highways (AASHTO Greenbook)

#### 3.2 RECOMMENDED TYPICAL SECTION/CORRIDOR PLAN

This study determines the feasibility of bicycle facilities to provide the highest level of comfort for nonmotorized users of all ages and abilities for travel. Based on the existing facility characteristics described in Appendix C, Benesch focuses many recommendations “between the curbs” in order to utilize existing infrastructure and leverage the opportunity to make improvements during Resurfacing, Restoration And Rehabilitation (RRR) projects. Safety recommendations, such as midblock crosswalks, are based on the crash analysis provided in Appendix D.

The proposed typical sections are described in the following sections with a roll plot of the proposed concept layout plans provided in Appendix A. Recommendations are grouped by segment using a target speed of 30 mph on Myrtle Avenue. Although Myrtle Avenue is under the jurisdiction of the City of Jacksonville, improvements at intersections with FDOT roads (Forest Street, Beaver Street, Kings Road and MLK Parkway), will require coordination with District 2.

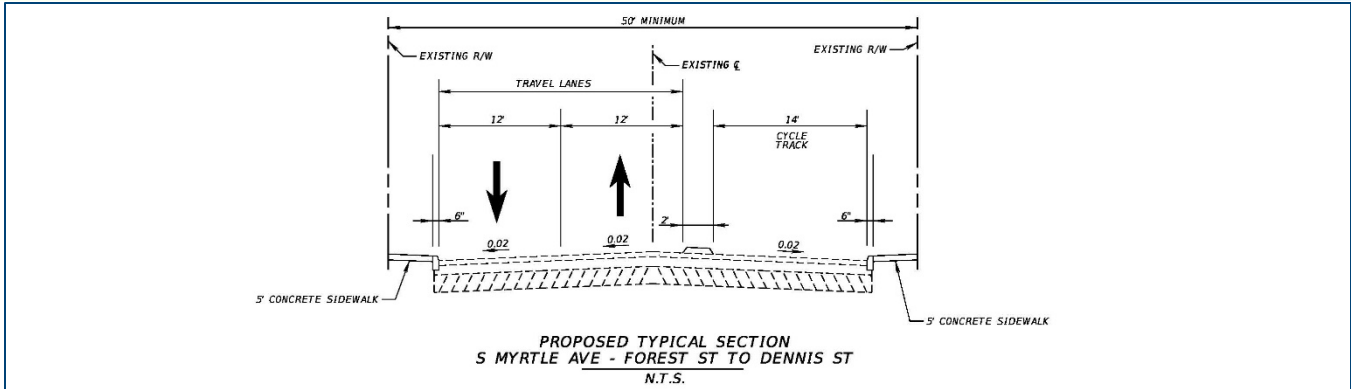
The overall improvements are based on a mill and resurfacing (RRR) of Myrtle Avenue. Bicycle facilities are provided using a combination of lane reallocation and sidewalk widening. Much of the work is accommodated within the existing curb line to limit reconstructing curb and drainage structures. In areas where ROW is limited, particularly in Segment 2 (Dennis Street to Kings Road), an engineering survey should be conducted to establish the ROW line and determine if improvements shown impact adjacent properties.

##### 3.2.1 Segment 1: Forest Street to Dennis Street

As depicted in Figure 13, the proposed typical section narrows the existing lanes from 19 LF to 12 LF, reallocating the pavement to a 14 LF cycle track with a 2 LF modular traffic separator (e.g. zicla zipper system) on the northbound side of the road. Along the frontage of the southeast quadrant of Myrtle Avenue and Dennis Street (Parcel ID 075404 0000), improvements should be coordinated with the review for the McCoys Landing project.



*The site of the former Duval Container factory is planned for redevelopment into 280 apartment units.*

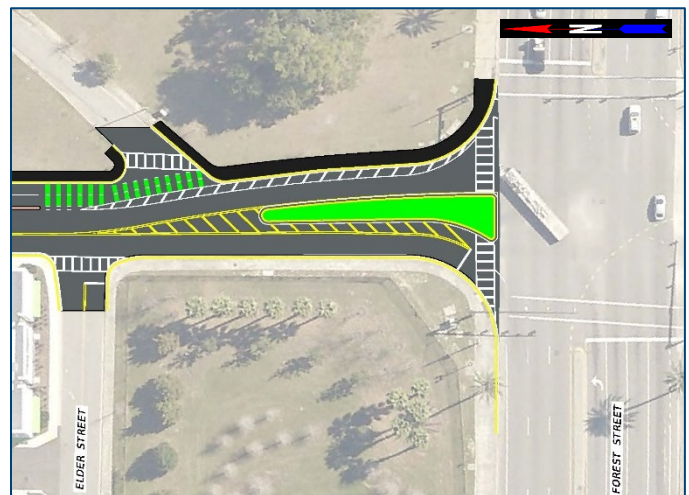


**Figure 13 – Proposed Typical Section (Segment 1, Forest Street to Dennis Street)**

A depiction of the recommended improvements for Segment 1 is provided in Figure 14, which details an area from McCoys Creek to Elm Street (refer to Appendix A for the full roll plot). Spot treatments throughout the segment are identified on the roll plot and include the following:

- Special Emphasis Crosswalks at intersections: Spruce Street, Elder Street, Elm Street, McCoys Creek Boulevard, Swan Street, Harper Street and Dennis Street
- Transverse green bicycle markings across intersections
- Midblock crossing and RRFB at the proposed Emerald Trail McCoys Creek crossing, east of McCoys Creek Boulevard
- Bike box at Dennis Street

Improvements shown at the Forest Street intersection are consistent with the ramp terminal improvements for FM 442778-1. As part of the project and as illustrated in the image at the right, vehicles on Myrtle Avenue southbound will be restricted to right turns only onto Forest Street.



*A planned FDOT project at the I-95 ramp terminals will also update the access at the Myrtle Avenue and Forest Street intersection.*

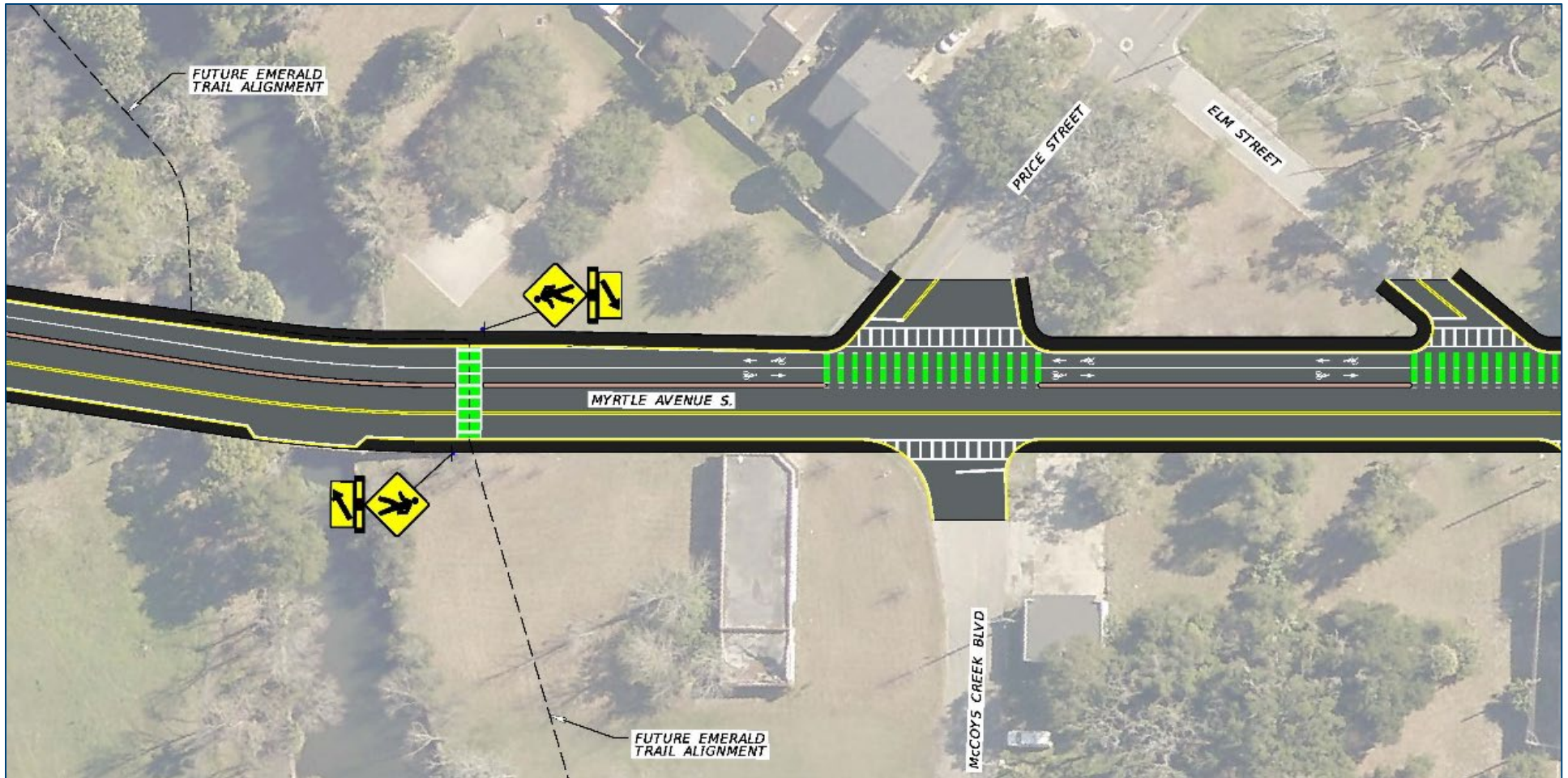


Figure 14 - Detail of Roll Plot (Segment 1, Emerald Trail to Elm Street)

### 3.2.2 Segment 2: Dennis Street to Kings Road

The recommended alternative varies through this segment, due to multiple existing typical sections and inconsistent ROW.

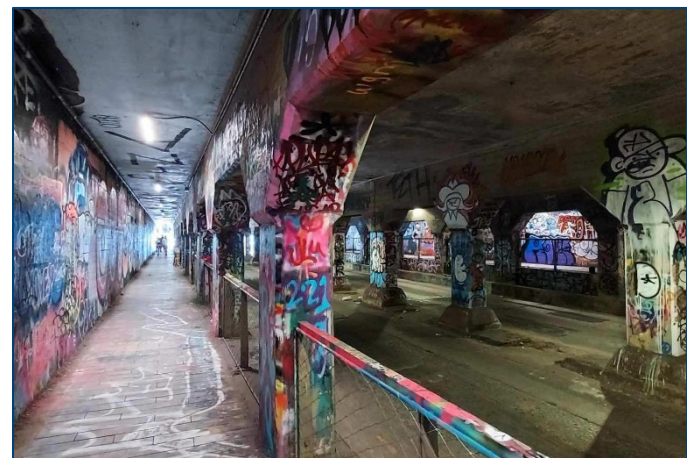
#### 3.2.2.1 Dennis Street to Bay Street

This segment consists of the “subway” which, while dark and uncomfortable for users in its current state, was identified in the COJ Pedestrian and Bicycle Master Plan as an opportunity to connect segments of Myrtle Avenue with a multimodal facility and provide connectivity from near downtown to northern neighborhoods.

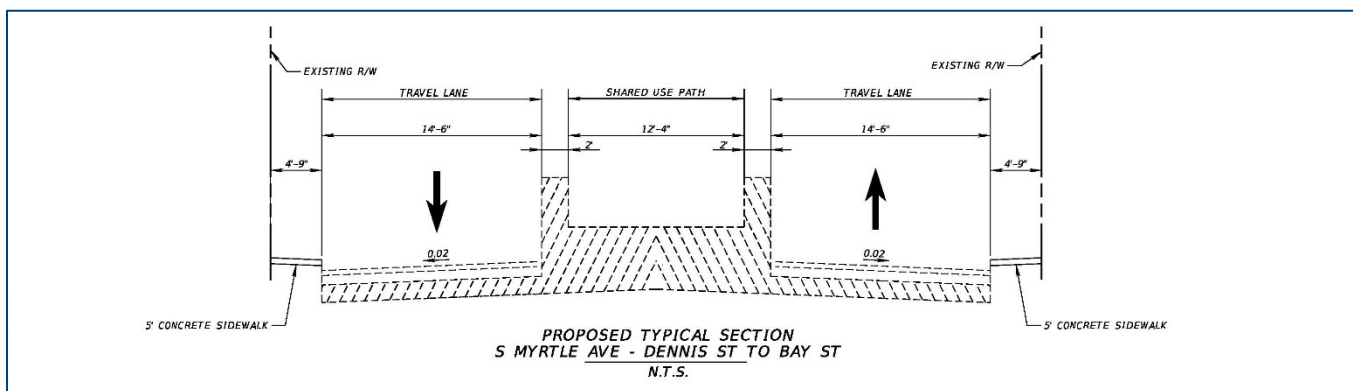
Using the Atlanta BeltLine as inspiration, the concept plan utilizes the center utility chase to route the cycle track. The proposed typical section is depicted in Figure 15. With the addition of lighting, protective railings and beautification, the subway can transform from a neglected location to a focal point for the Myrtle Avenue corridor.



*The Atlanta BeltLine has successfully activated facilities similar to the Myrtle Avenue subway.*



*The lighting and protective railings on the Atlanta BeltLine are similar to what is needed to utilize the center chase of the Myrtle Avenue subway as a shared use path.*



**Figure 15 – Proposed Typical Section (Segment 2, Dennis Street to Bay Street)**

An artist's rendering of an updated subway is illustrated in the adjacent images. Recommended improvements for Segment 2 are also provided in Figure 16, which details the area between Bay Street and Dennis Street (refer to Appendix A for the full roll plot). Spot treatments are identified on the roll plot and include the following:

- Special Emphasis Crosswalks at intersections: Dennis Street and Bay Street
- Green bicycle markings on the subway and green transverse markings across the Bay Street intersection
- Bike box at Dennis Street and Bay Street



*(Upper and lower image) The proposed improvements at the Subway are an opportunity to activate a neglected space and connect neighborhoods.*



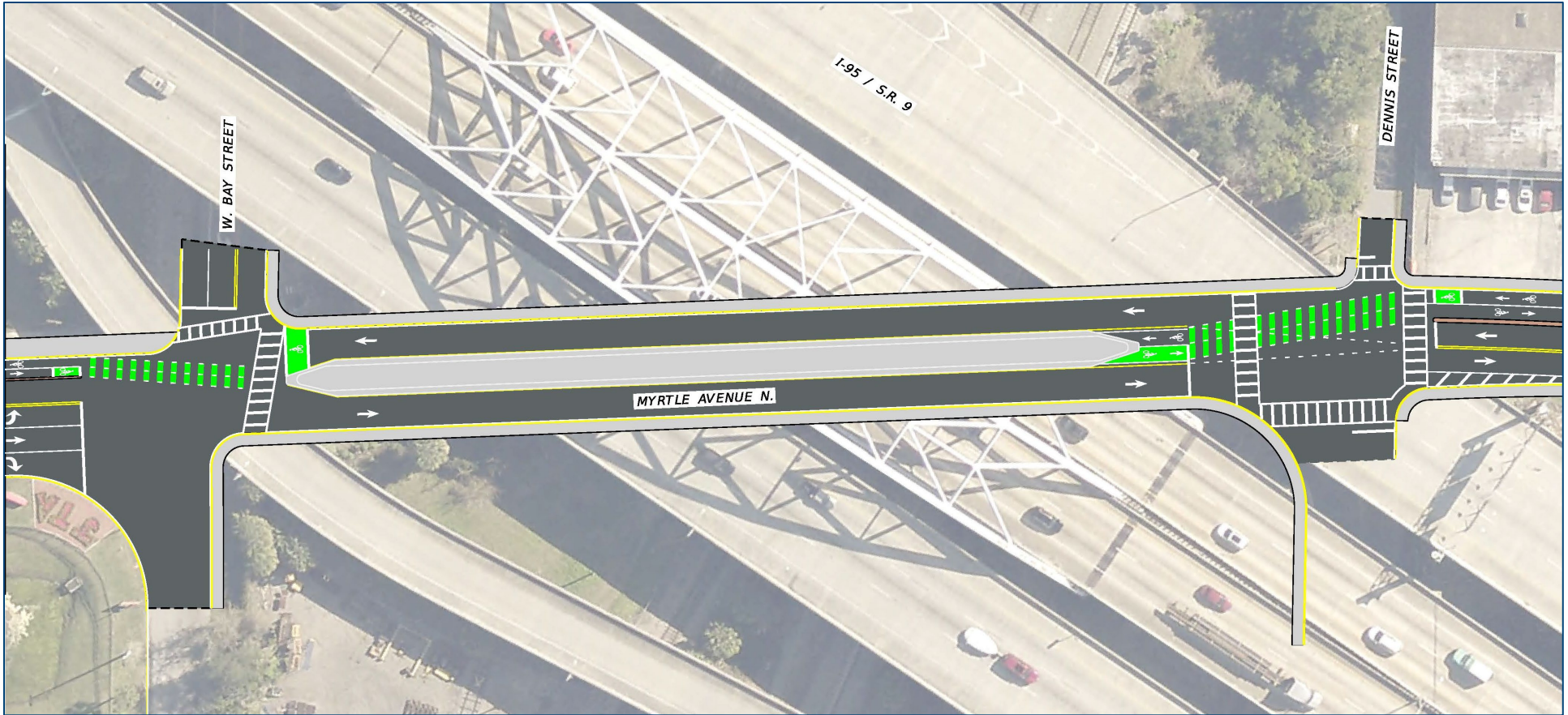


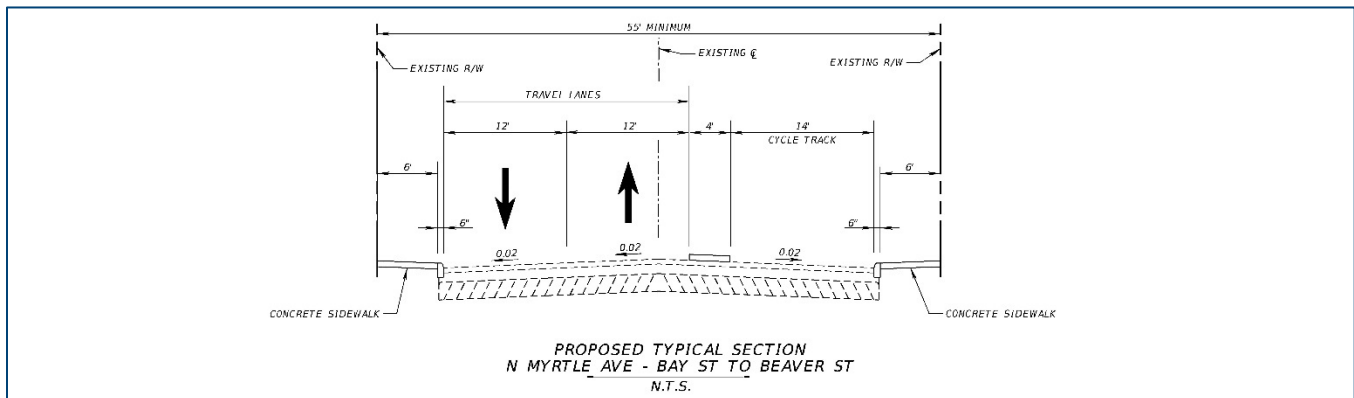
Figure 16 – Detail of Roll Plot (Segment 2, Subway)

### 3.2.2.2 Bay Street to Beaver Street

In this constrained section, the minimum ROW is 55 LF and buildings are constructed right up to the back of the sidewalk. Utility poles are also located within the sidewalk. As illustrated in Figure 17, the proposed typical section generally narrows the existing lanes from 14 LF to 12 LF and reallocates the existing center turn lane in order to continue the 14 LF cycle track on the northbound side of Myrtle Avenue. In this section, the buffer is widened to 4 LF with a modular traffic separator.



*Buildings are constructed up to the ROW line, resulting in utility poles in the sidewalk. Vehicles and delivery trucks frequently park in the road along this low traffic volume section.*



**Figure 17 – Proposed Typical Section (Segment 2, Bay Street to Beaver Street)**

An example of the recommended improvements for this segment is provided in Figure 18, which details the area between Adams Street and Church Street (refer to Appendix A for the full roll plot). Spot treatments throughout the segment are identified on the roll plot and include the following:

- Special Emphasis Crosswalks at intersections: Forsyth Street, Houston Street, Adams Street, Duval Street, Church Street and Beaver Street
- Transverse green bicycle markings across intersections

To maintain existing turn lanes at Church Street, Forsyth Street and Beaver Street, the cycle track was shifted to a shared use path for 1-2 blocks at each location. The shared use path was accommodated by widening the sidewalk into the road.

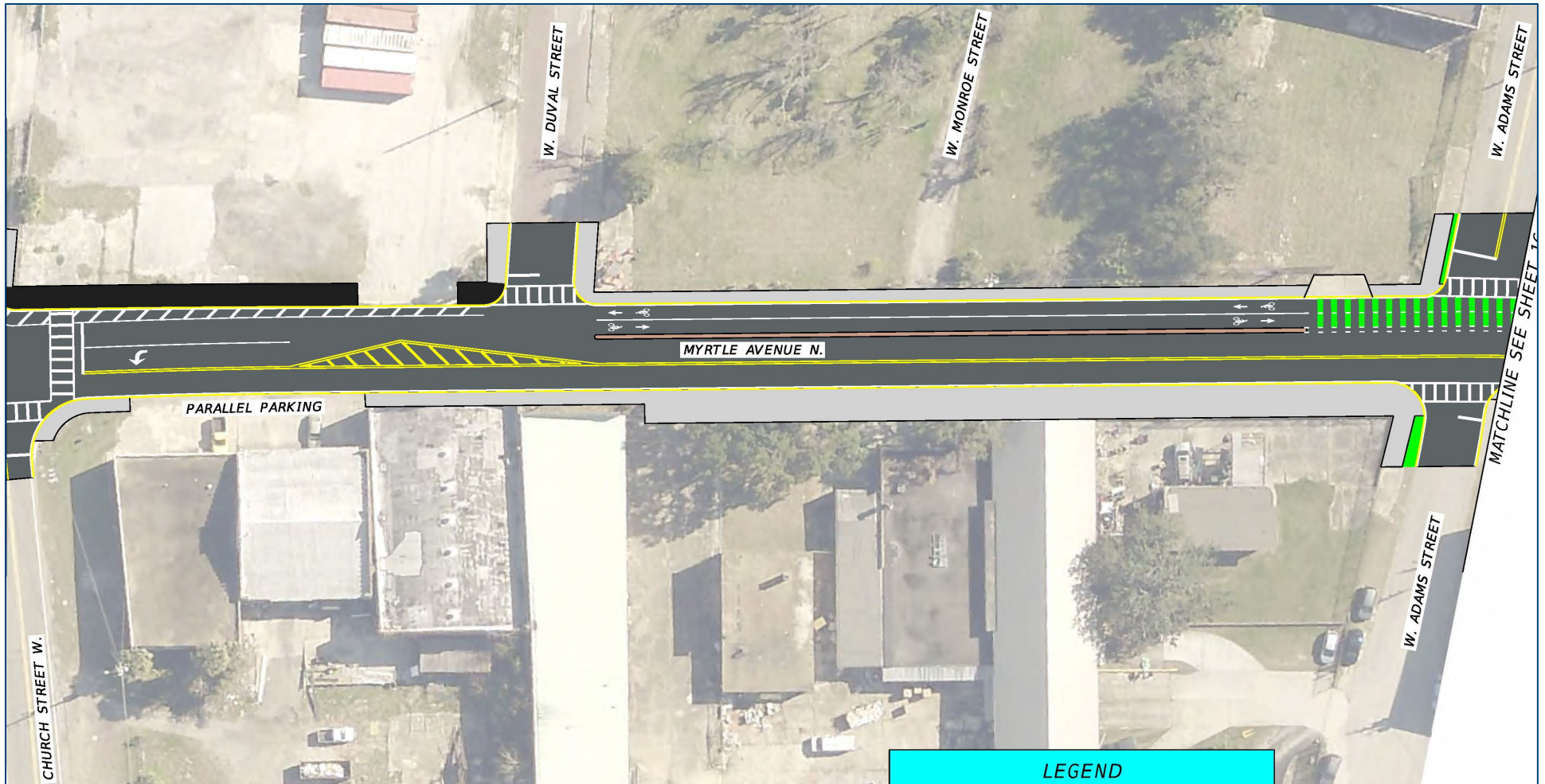
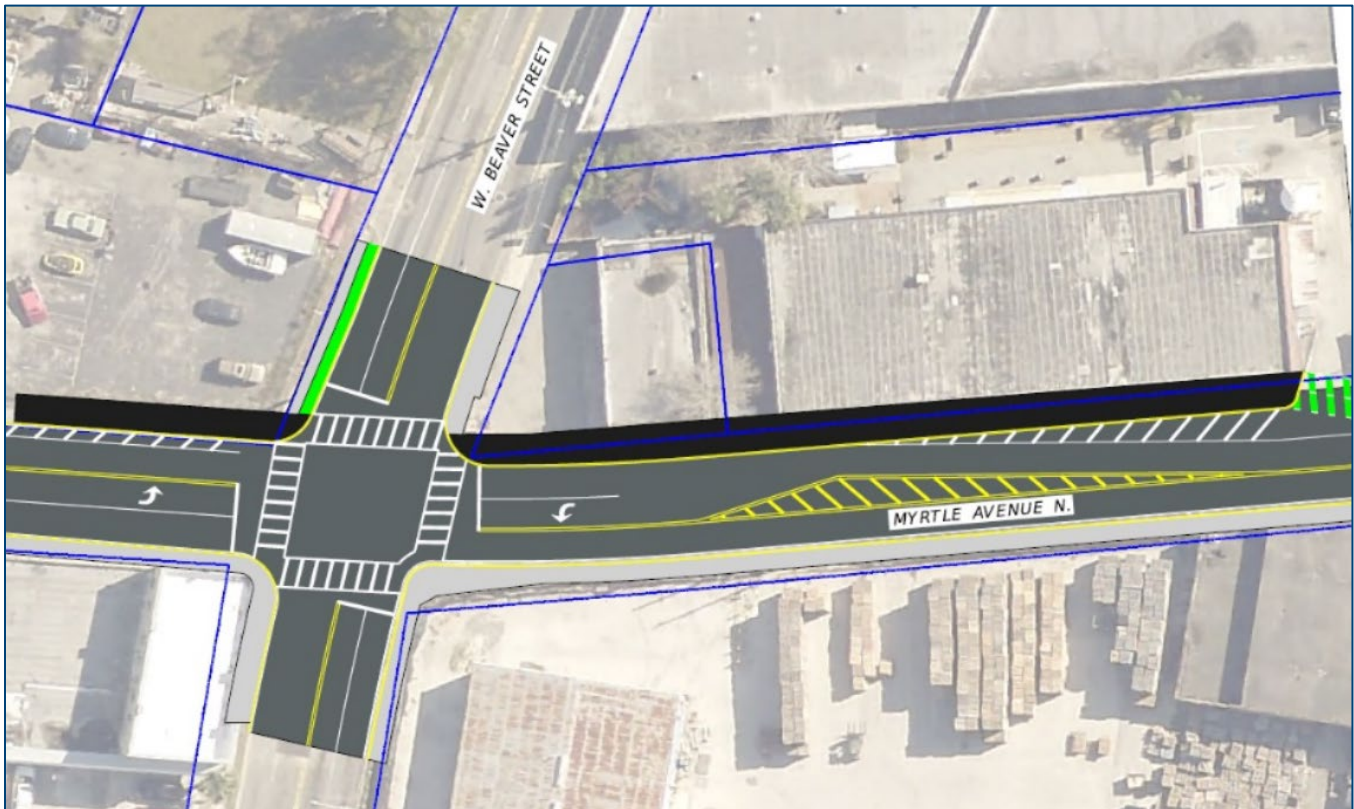


Figure 18 - Detail of Roll Plot (Segment 2, Bay Street to Beaver Street)

At Beaver Street, the northbound left turn and through lanes were reduced to 10 LF and 11 LF, respectively, using the resulting 4 LF to extend the width of sidewalk. ROW is an issue in this section and the concept impacts adjacent properties in several areas, such as the north side of Myrtle Avenue at Church Street and at Beaver Street. In addition, utility poles are located within the sidewalk, particularly from Church Street to Beaver Street. As adjacent structures are constructed up to the property line, meeting ADA requirements for clearance may not be possible without rebuilding the entire road and putting the utilities underground.

At the intersection of Myrtle Avenue and Beaver Street as shown in Figure 19, the location of adjacent buildings and utility poles in the sidewalks restricts improvements in this area without removal of the turn lanes or costly utility relocations and reconstruction of the street.



**Figure 19 – Detail of Parcel Lines at Beaver Street Intersection**

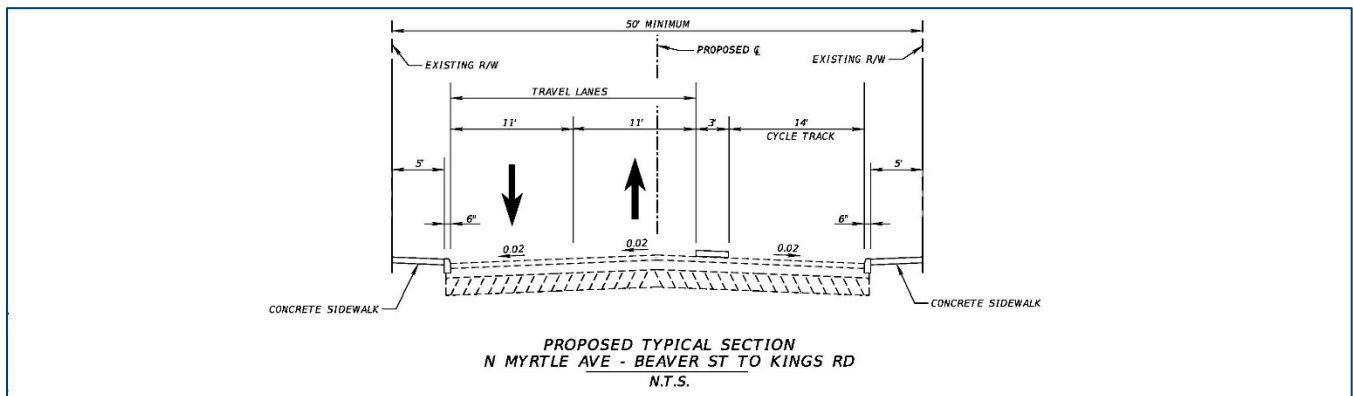
An alternative to varying the cross section is to maintain the cycle track and remove the turn lanes. Review of this option requires operational analysis of the intersections to determine the change in LOS; coordination with FDOT for changes to the intersection at Beaver Street; and outreach to the community for local preferences. Businesses in the segment, such as The Glass Factory (red building in image on Page 23) and Myrtle Avenue Brewing, utilize Myrtle Avenue for on street parking and should also be consulted.

### 3.2.2.3 Beaver Street to Kings Road

The section has the narrowest ROW on the corridor, with a minimum ROW of 50 LF. Buildings are constructed right up to the back of the sidewalk. Utility poles are also located within the sidewalk. As illustrated in Figure 20, the proposed typical section generally narrows the existing lanes from 19.5 LF to 11 LF to reallocate the width to a 14 LF cycle track on the northbound side of Myrtle Avenue. A 3 LF buffer is provided by a modular traffic separator.



Looking north on Myrtle Ave at Union St.



**Figure 20 – Proposed Typical Section (Segment 2, Beaver Street to Kings Road)**

An example of the recommended improvements for this segment is provided in Figure 21, which details the area west of State Street to Logan Street (refer to Appendix A for the full roll plot). Spot treatments throughout the segment are identified on the roll plot and include the following:

- Special Emphasis Crosswalks at intersections: Logan Street, Union Street, State Street, Prince Street and Kings Road
- Transverse green bicycle markings across intersections
- Midblock crossing and RRFB at the S-Line Greenway trail head

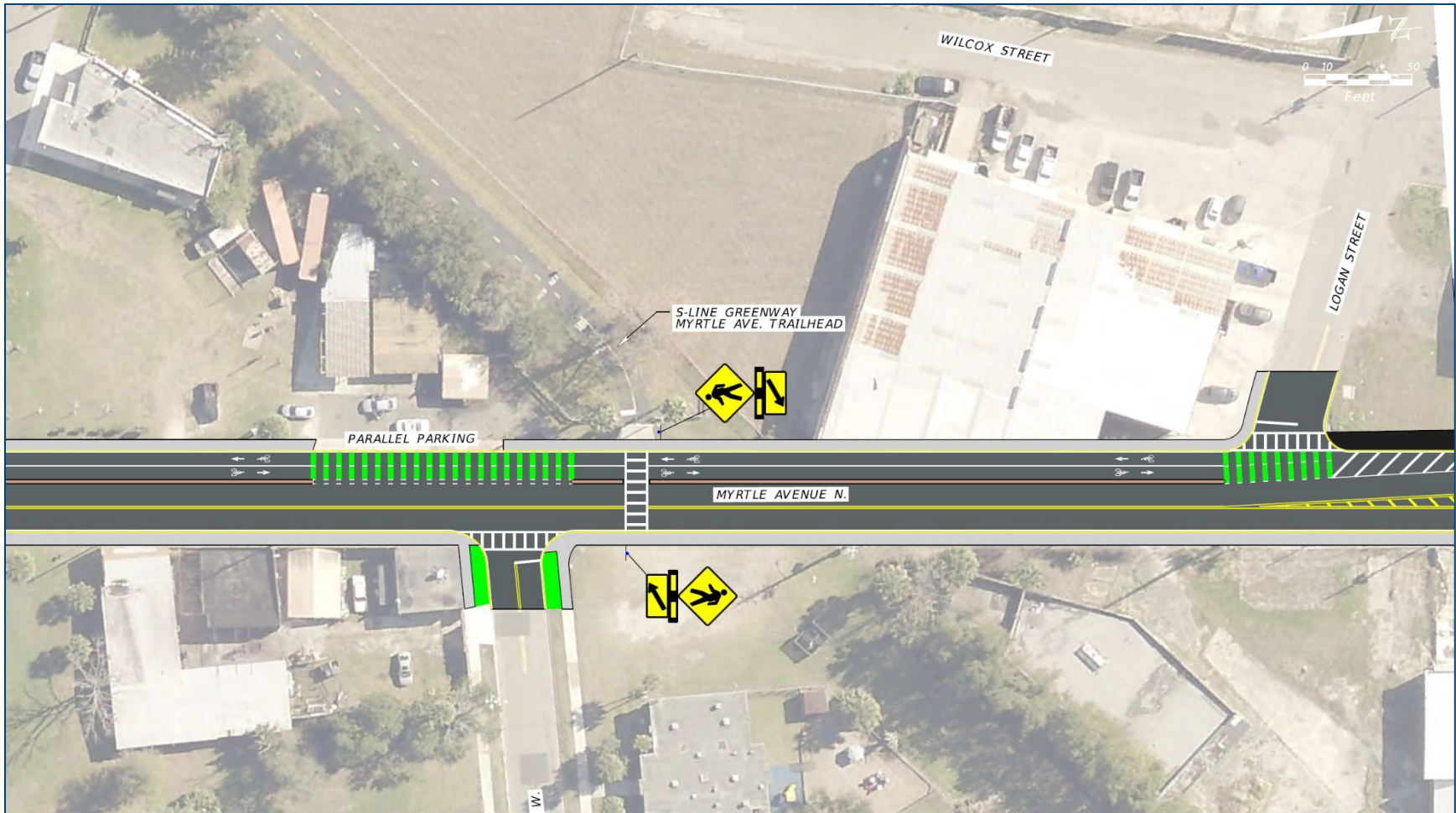
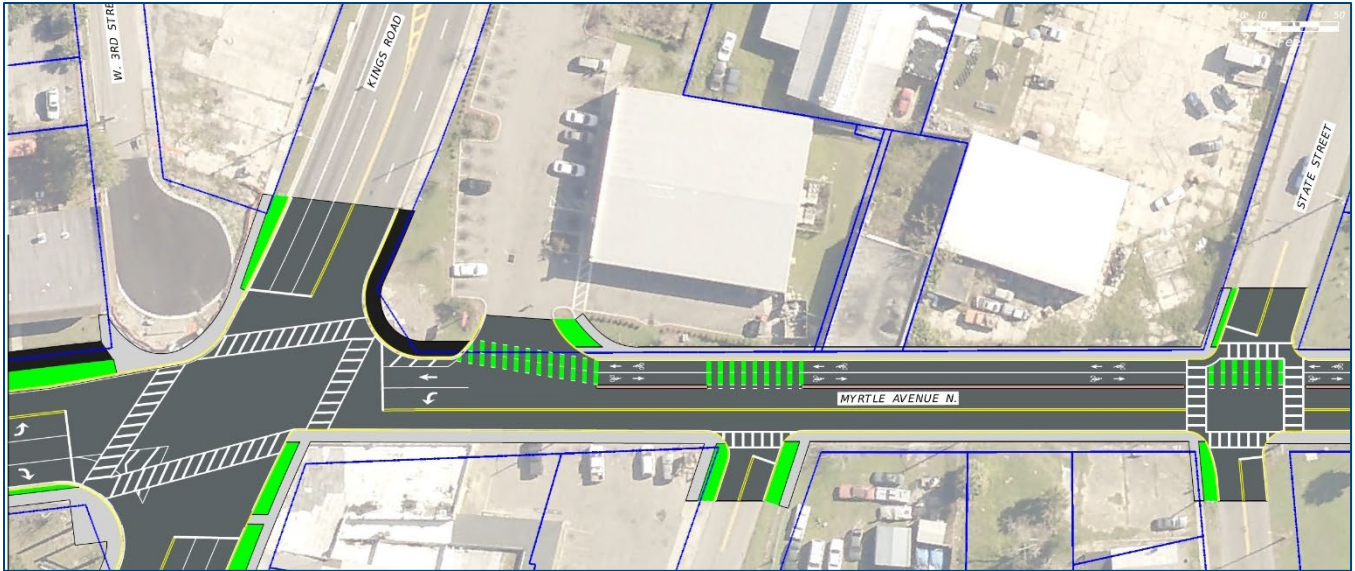


Figure 21 – Detail of Roll Plot (Segment 2, Beaver Street to Kings Road)

The concept maintains the intersection turn lanes at Beaver Street and Kings Road by using a shared use path to reduce pavement width in these areas. ROW is an issue in this section and the concept, as shown in Figure 22, impacts adjacent properties in several areas, such as the north side of Myrtle Avenue from State Street to Kings Road.



**Figure 22 – Detail of Parcel Lines from State Street to Kings Road**

In addition, utility poles are located within the sidewalk, particularly from State Street to Kings Road. As adjacent structures are constructed up to the property line, meeting ADA requirements for clearance may not be possible without rebuilding the entire road and putting the utilities underground.

An alternative to varying the cross section is to maintain the cycle track and remove the turn lanes at Beaver Street and Kings Road. As in the previous segment, review of this option requires operational analysis of the intersections; coordination with FDOT; and outreach to the community and businesses for local preferences.

### 3.2.3 Segment 3: Kings Road to MLK Parkway

#### 3.2.3.1 Kings Road to 15<sup>th</sup> Street

This segment has the widest ROW on the corridor (80 LF). On either side of Myrtle Avenue, there is a mix of residential and commercial uses, so the recommended typical section, illustrated in Figure 21, maintains existing parallel parking and widens the northbound sidewalk into the existing verge to achieve a 10 LF shared use path. Existing median islands between West 10<sup>th</sup> Street and West 12<sup>th</sup> Street and at West 14<sup>th</sup> Street are maintained and can be used for pedestrian refuge.

Spot treatments throughout the segment are identified on the roll plot and include the following:

- Stamped asphalt crosswalks at intersections: West 4<sup>th</sup> Street, Hart Street, Grothe Street, West 5<sup>th</sup> Street, West 6<sup>th</sup> Street, West 7<sup>th</sup> Street, McConihe Street, West 8<sup>th</sup> Street, West 9<sup>th</sup> Street, West 10<sup>th</sup> Street, West 11<sup>th</sup> Street, West 12<sup>th</sup> Street, West 13<sup>th</sup> Street, West 14<sup>th</sup> Street and West 15<sup>th</sup> Street,
- Raised Intersection at 8<sup>th</sup> Street and Myrtle Avenue



Looking north on Myrtle Avenue, near Grothe Street.

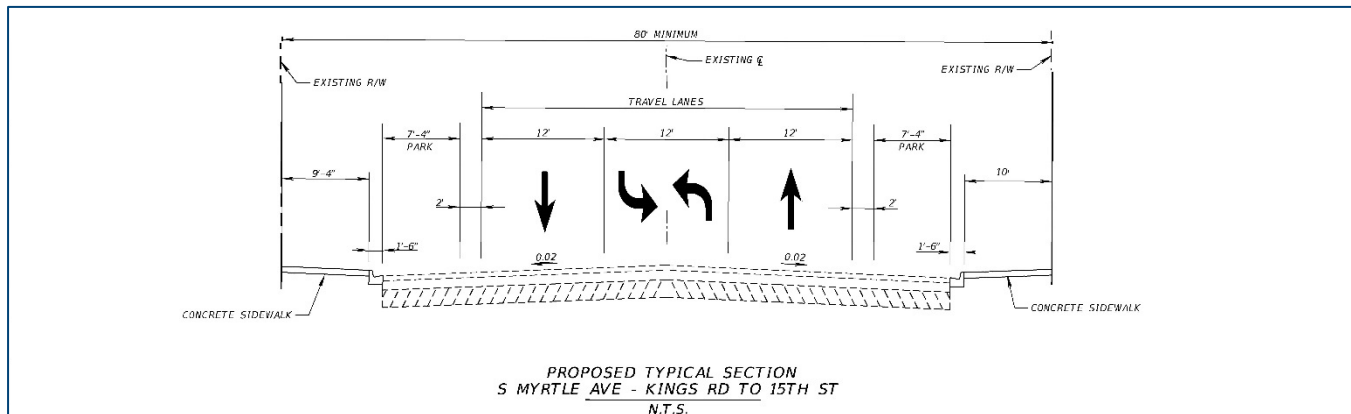


Figure 23 – Proposed Typical Section (Segment 3, Kings Road to 15<sup>th</sup> Street)

### 3.2.3.2 15<sup>th</sup> Street to MLK Parkway

The minimum ROW in this section is 60 LF. As illustrated in Figure 22, the recommended typical section maintains existing parallel parking and widens the existing northbound sidewalk into the verge to achieve a 10 LF shared use path. Existing median islands between West 15<sup>th</sup> Street and West 19<sup>th</sup> Street are maintained and can be used for pedestrian refuge.

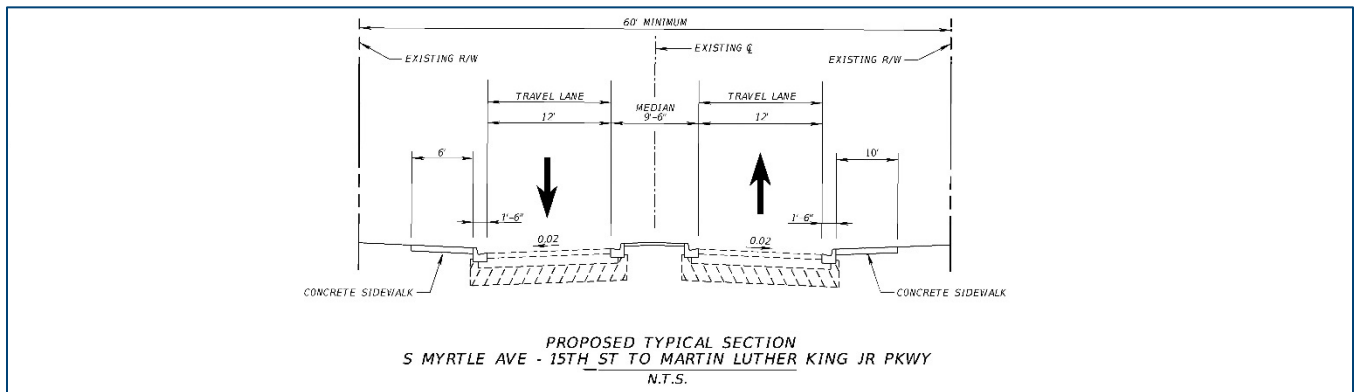
There is an existing rail crossing between West 16<sup>th</sup> Street and West 18<sup>th</sup> Street. The recommended alternative does not propose any improvements within the rail ROW, as there is an existing sidewalk.



Looking south on Myrtle Avenue south of W. 18<sup>th</sup> Street.

Spot treatments throughout the segment are identified on the roll plot and include the following:

- Stamped asphalt crosswalks at intersections: West 16<sup>th</sup> Street, West 18<sup>th</sup> Street and West 19<sup>th</sup> Street,
- Special Emphasis Crosswalks at intersections: MLK Parkway



**Figure 24 – Proposed Typical Section (Segment 3, 15<sup>th</sup> Street to MLK Parkway)**

### 3.2.4 Segment 4: MLK Parkway to Moncrief Road

As illustrated in Figure 23, the proposed typical section reallocates the existing three-lane section (12 LF lanes) to two, 11 LF lanes with a 12 LF cycle track and 2 LF modular traffic separator on the northbound side of Myrtle Avenue. The minimum ROW is 70 LF.

A landscape island south of West 21<sup>st</sup> Street (circled in adjacent image) is removed to maintain the typical section.

The cycle track transitions to a shared use path at West 24<sup>th</sup> Street, which continues to the Moncrief Road intersection and end of the corridor. A pull off area adjacent to the North Point Town Center building is signed for no parking. The sidewalk will be widened into the pull off to achieved the shared use path.

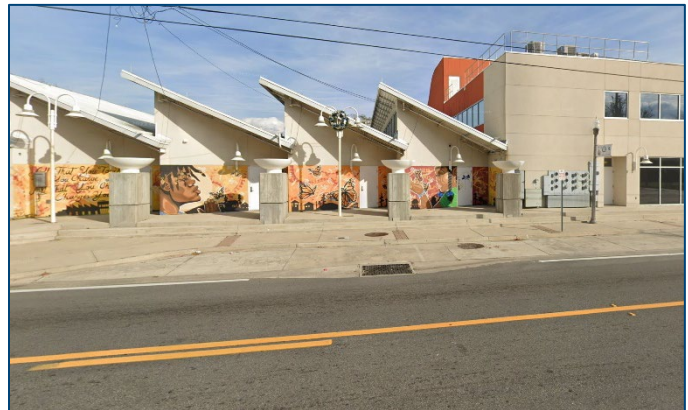
The Myrtle Avenue and Moncrief Road intersection is enhanced with mountable curb bulb outs and stamped asphalt crosswalks.

Spot treatments throughout the segment are identified on the roll plot and include the following:

- Stamped asphalt crosswalks at intersections: West 20<sup>th</sup> Street, West 21<sup>st</sup> Street, West 22<sup>nd</sup> Street, West 23<sup>rd</sup> Street, West 24<sup>th</sup> Street, West 25<sup>th</sup> Street, West 26<sup>th</sup> Street and Moncrief Road.
- Transverse green bicycle markings across intersections

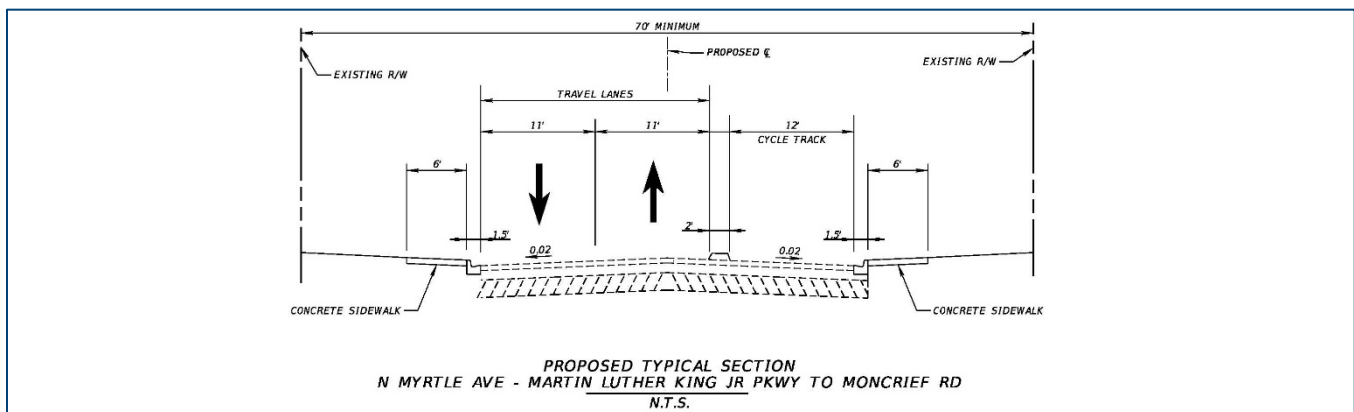


A cycle track on the northbound side of Myrtle Avenue is envisioned in this segment. The landscape island (circled in yellow) will be removed in the lane reallocation.



The sidewalk adjacent to North Point Town Center will be widened into a shared use path.

**Figure 25 – Proposed Typical Section (Segment 4, MLK Parkway to Moncrief Road)**



### 3.3 COST ESTIMATES

As part of the implementation plan development, Benesch developed a concept level construction cost estimate for the identified potential improvements. Table 2 provides a summary of the estimated costs. The overall project is estimated to cost approximately \$6.94 million, including the cost of the raised intersection at 8<sup>th</sup> Street. The cost estimate is provided in Appendix E.

Pay item costs are based on the FDOT 12 Month Moving Market Area Averages(08/01/2022 through 07/31/2023). The cost estimate is based on the concept plan and is for planning purposes only. The estimate may be revised following additional evaluation, engineering feasibility and design. The cost estimate does not include additional evaluation, engineering feasibility, ROW acquisition, utility relocation or design. Also, environmental permitting is not included and should be added once design is underway.

**Table 2 – Construction Cost Estimate<sup>1</sup>**

Component	Percentage	Segment 1	Segment 2	Segment 3	Segment 4	Total
Roadway <sup>2</sup>		\$445,496	\$594,880	\$1,853,850	\$580,166	\$3,474,292
Signing and Pavement Marking <sup>2</sup>		\$168,391	\$260,331	\$84,458	\$106,320	\$619,500
<b>Subtotal</b>		<b>\$613,887</b>	<b>\$855,211</b>	<b>\$1,938,208</b>	<b>\$686,486</b>	<b>\$4,093,792</b>
Mobilization	10%	\$61,389	\$85,521	\$193,821	\$68,649	\$403,379
MOT	10%	\$61,389	\$85,521	\$193,821	\$68,649	\$403,379
<b>Construction Subtotal</b>		<b>\$736,664</b>	<b>\$1,026,253</b>	<b>\$2,325,850</b>	<b>\$823,783</b>	<b>\$4,912,551</b>
Contingency	10%	\$73,666	\$102,625	\$232,585	\$82,378	\$491,255
<b>Construction Total</b>		<b>\$810,330</b>	<b>\$1,128,878</b>	<b>\$2,558,435</b>	<b>\$906,162</b>	<b>\$5,403,806</b>
CEI	15%	\$110,500	\$153,938	\$348,878	\$123,568	\$736,883
PE	15%	\$110,500	\$153,938	\$348,878	\$123,568	\$736,883
Environmental Permitting <sup>3</sup>		-	-	-	-	-
<b>Subtotal</b>		<b>\$220,999</b>	<b>\$307,876</b>	<b>\$697,755</b>	<b>\$247,135</b>	<b>\$1,473,765</b>
<b>PROJECT TOTAL</b>		<b>\$1,031,330</b>	<b>\$1,436,754</b>	<b>\$3,256,190</b>	<b>\$1,153,297</b>	<b>\$6,877,571</b>

<sup>1</sup> Slight variations in totals due to rounding

<sup>2</sup> FDOT Area 5 (Duval County) 12-Month Moving Market Area Averages (8/1/2023 – 7/31/2023)

<sup>3</sup> Environmental permitting is not included and should be considered once design is underway

## 4 NEXT STEPS

This study is a guide towards identifying opportunities to provide a high level of comfort to non-motorized users of all ages and abilities on Myrtle Avenue. Implementing potential improvements along the Myrtle Avenue corridor will require effective coordination and collaboration between various jurisdictions, government agencies and departments, and community stakeholders.

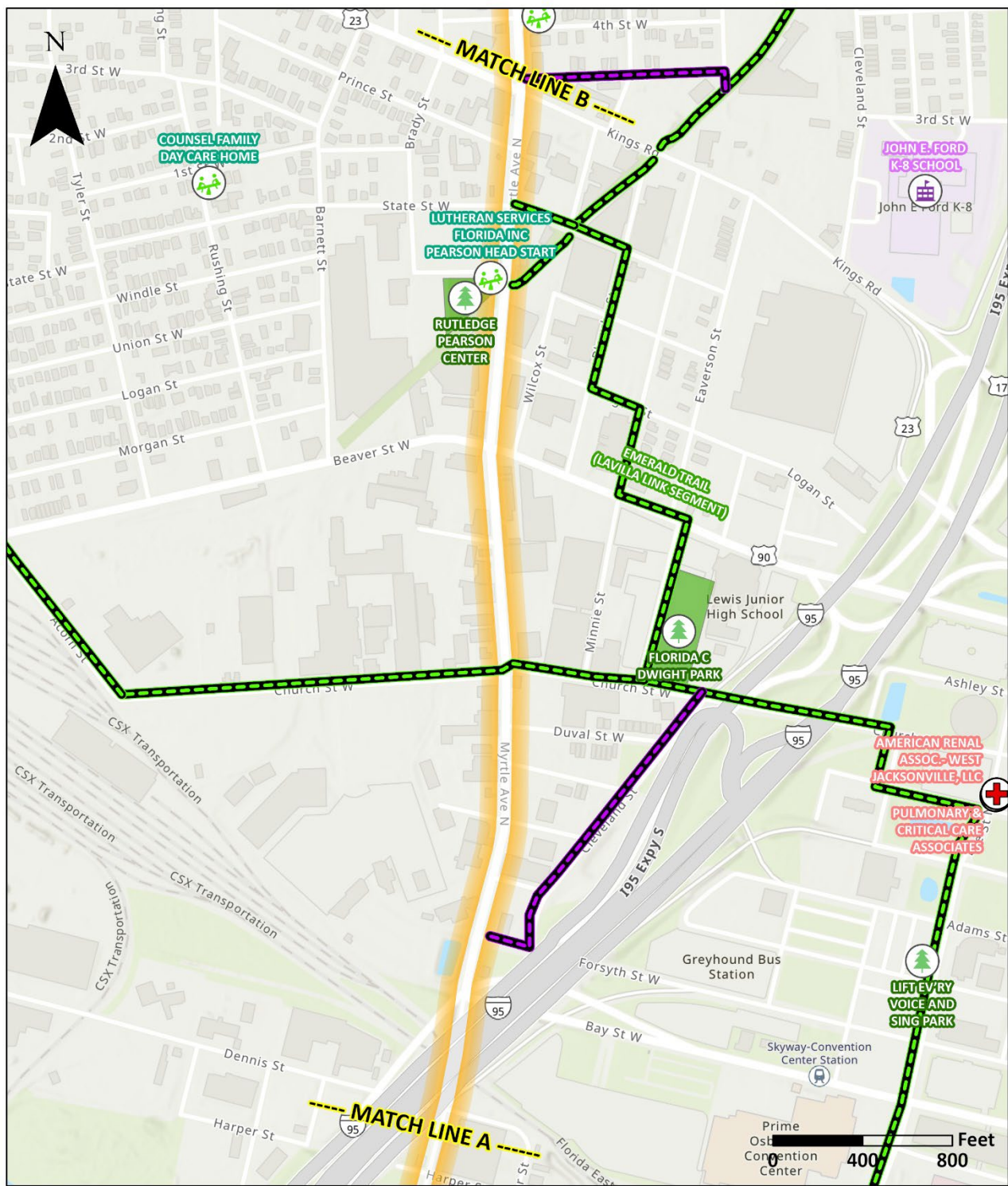
Key players along Myrtle Avenue include:

- North Florida TPO
- City of Jacksonville
- Jacksonville Transportation Authority (JTA)
- Florida Department of Transportation (FDOT)
- GroundWork Jacksonville
- Local businesses (e.g., Glass Factory, Myrtle Avenue Brewing, North Point Town Center)

To help facilitate the project, the Jacksonville Planning and Development Department (JPDD) should coordinate internally with Public Works to implement the recommendations as a potential RRR resurfacing project, where feasible. The District 10 Jacksonville City Councilperson will be a key ally in this process to establish funding and the support of residents and businesses.

Additional recommendations for next steps include:

- Coordinate recommendations at the Myrtle Avenue and 8<sup>th</sup> Street intersection with the COJ 8<sup>th</sup> Street improvement project
- Coordinate with FDOT and COJ Traffic Engineering on the operational analysis for the turn lanes located at Bay Street, Forsyth Street, Church Street, Beaver Street and Kings Road.
- Obtain more precise ROW/property line information in Segment 2 (Bay Street to Kings Road) so that any needed parcel acquisition can be quantified.
- Conduct engagement with area business, particularly in Segment 2 as relates to the potential loss of parallel parking on Myrtle Avenue.
- Based on input from area businesses, review options for an alternate route for the cycle track/shared use path to bypass Segment 2. It may be feasible to shift bicycle facilities in this segment to the east to tie into the Emerald Trail LaVilla Link, currently under construction, and the S-Line Rail Trail to route back to Myrtle Avenue north of Kings Road. A potential route is illustrated in Figure 26, which would provide north-south connectivity while mitigating any need for ROW and/or costly utility relocations on Myrtle Avenue.
- Coordinate between JPDD, FDOT District 2 and GroundWork Jacksonville to integrate ongoing projects with the study recommendations.



**Segment 2: Community Facilities Dennis St to Kings Rd**

- Library / Museum / Cultural Center
- Hospital / Medical Center
- Trail / Shared Use Path
- Childcare / Daycare
- School (Public / Private / University)
- Potential Bypass
- Fire Station
- Park



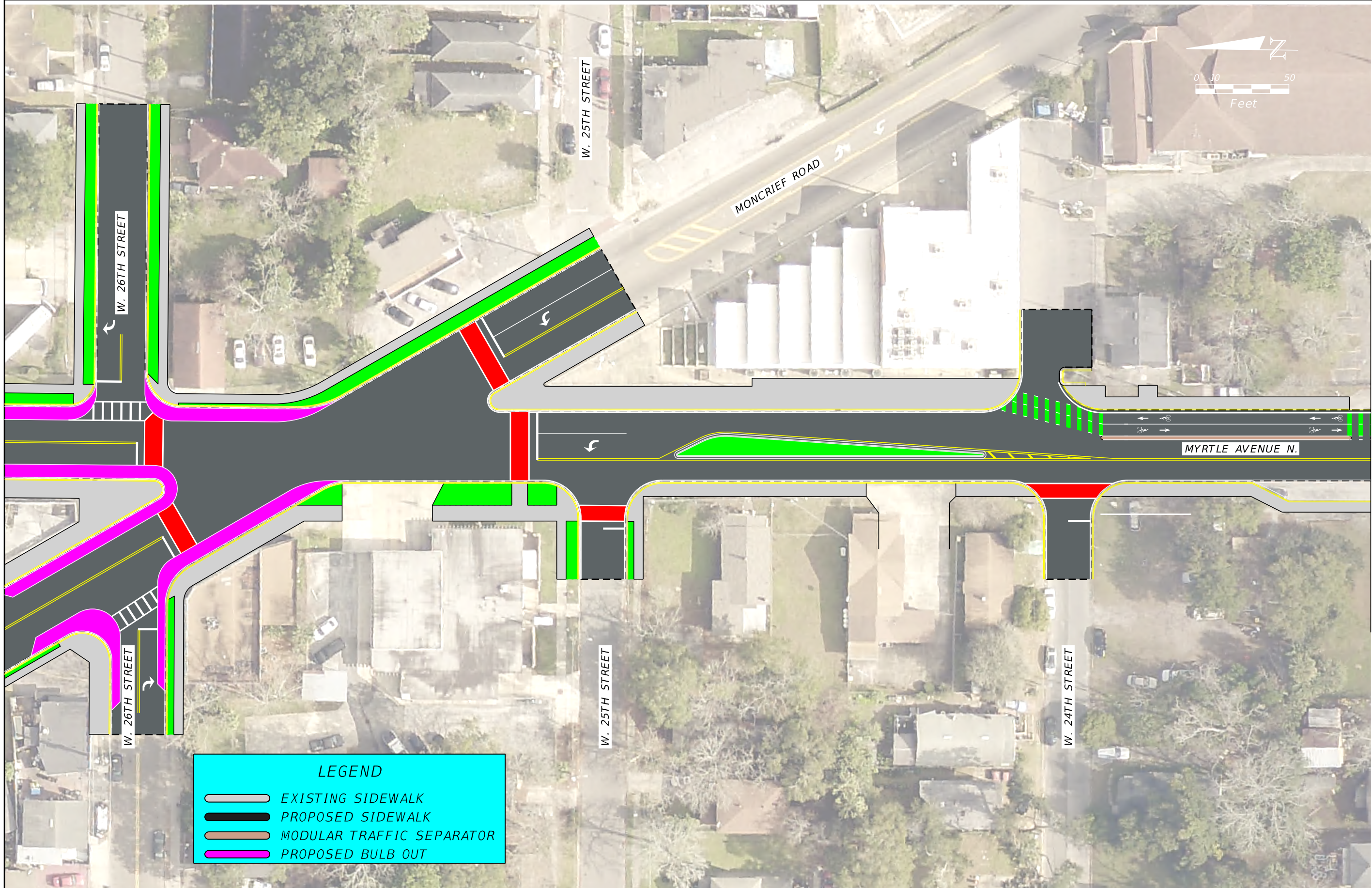
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Source: FGDL GIS, 2023

**Figure 26 – Alternate Route (Segment 2)**

# **APPENDIX A**

## **Corridor Roll Plot**



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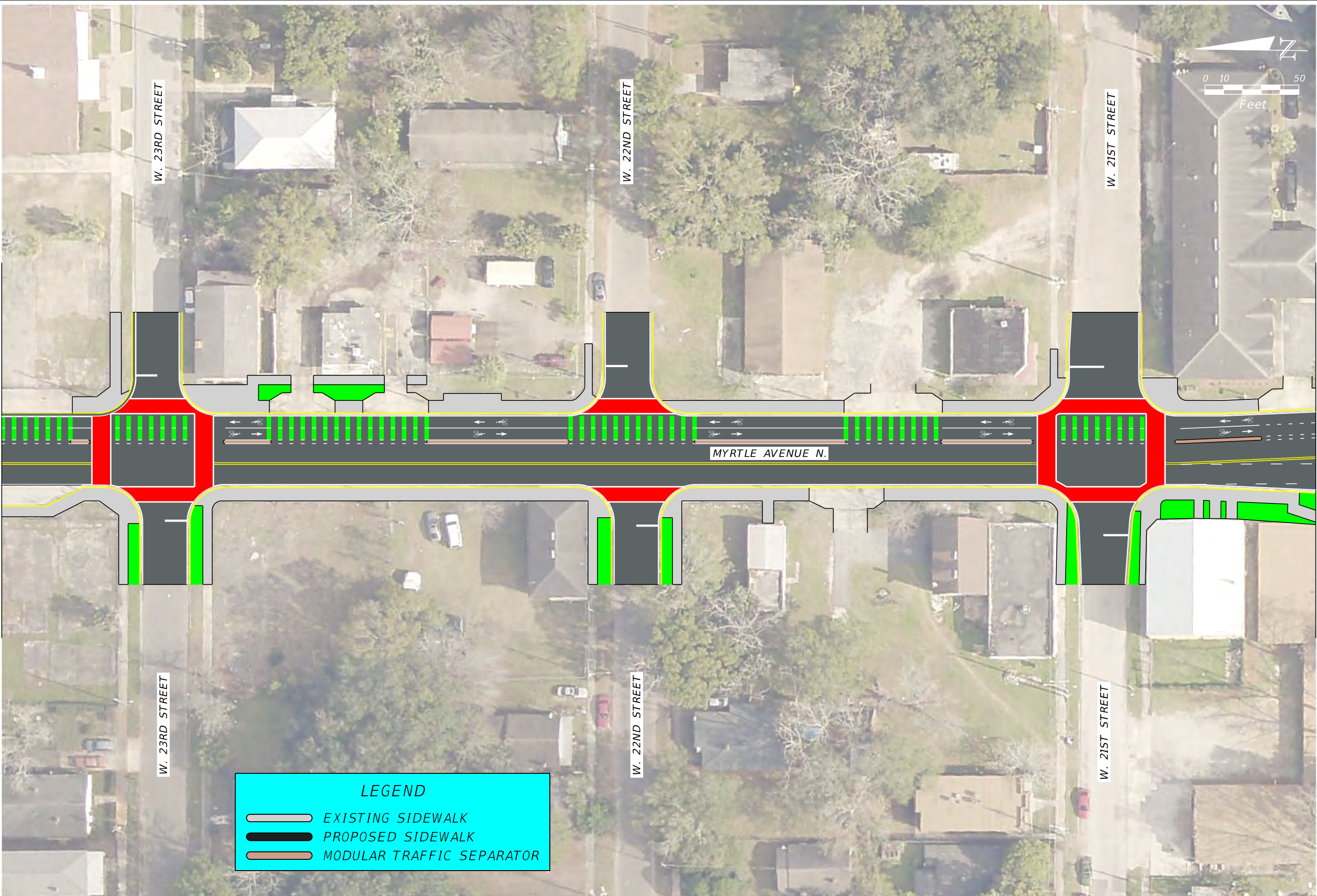
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**MYRTLE AVENUE  
CONCEPT**

SHEET NO.  
**1**



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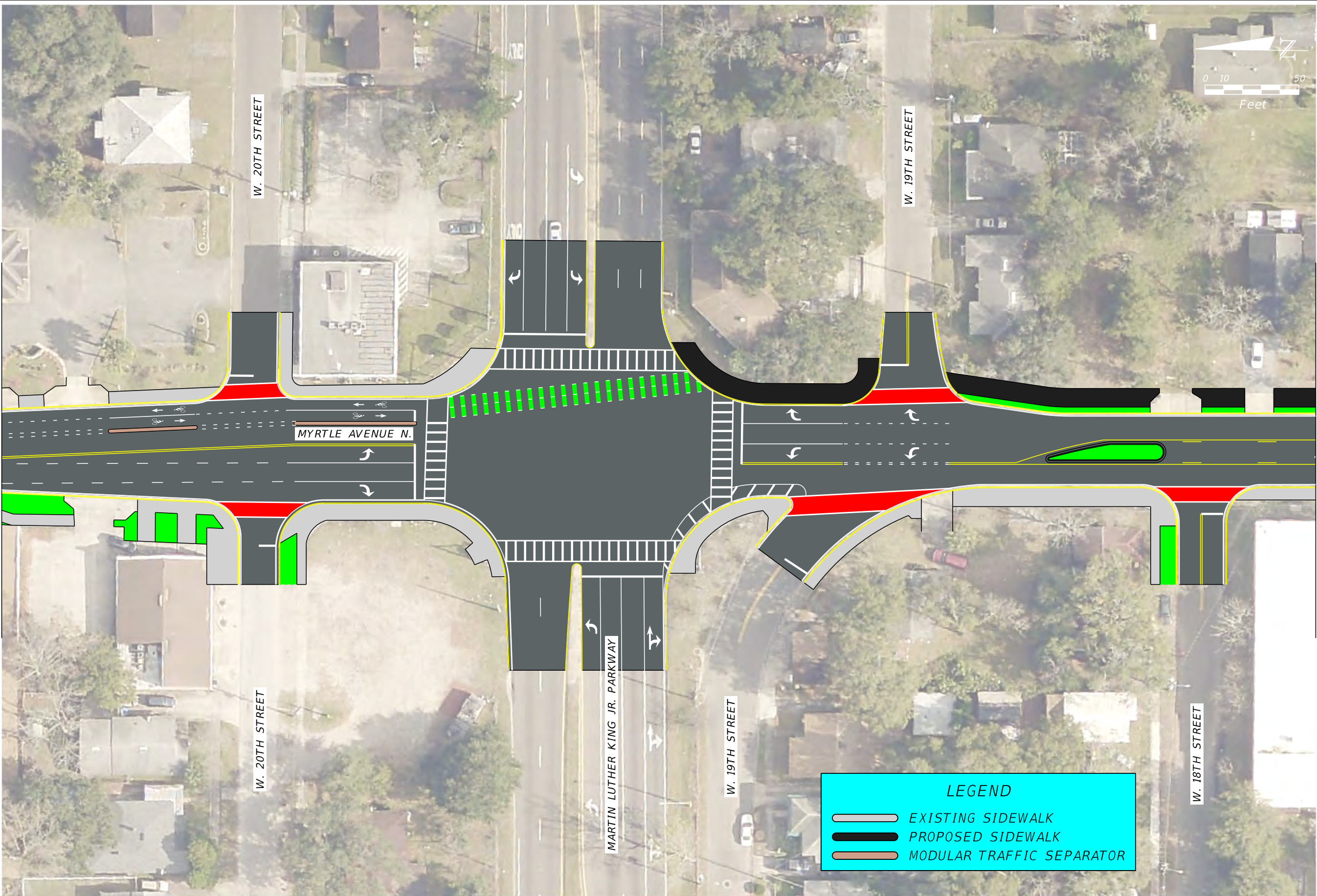
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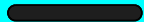

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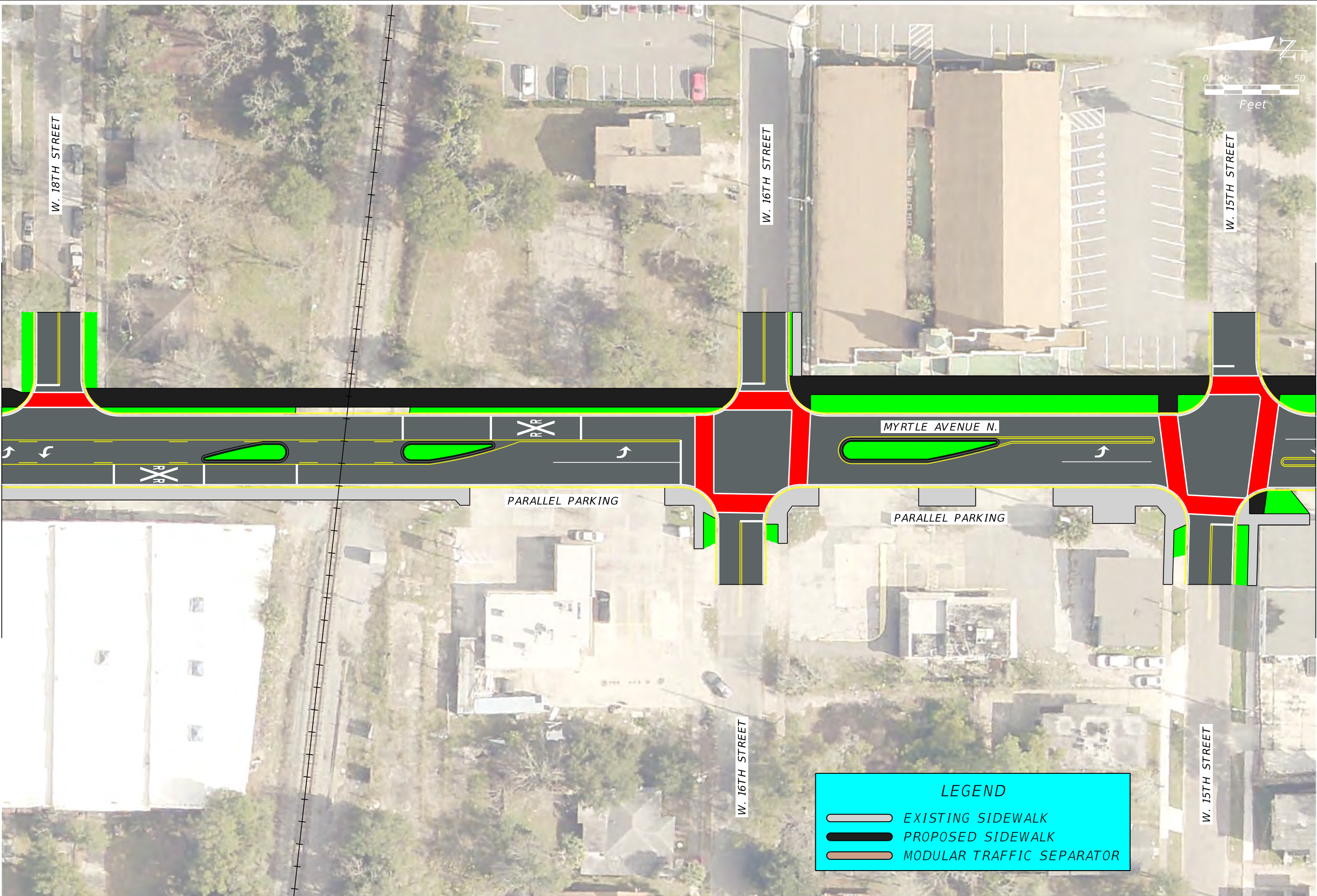


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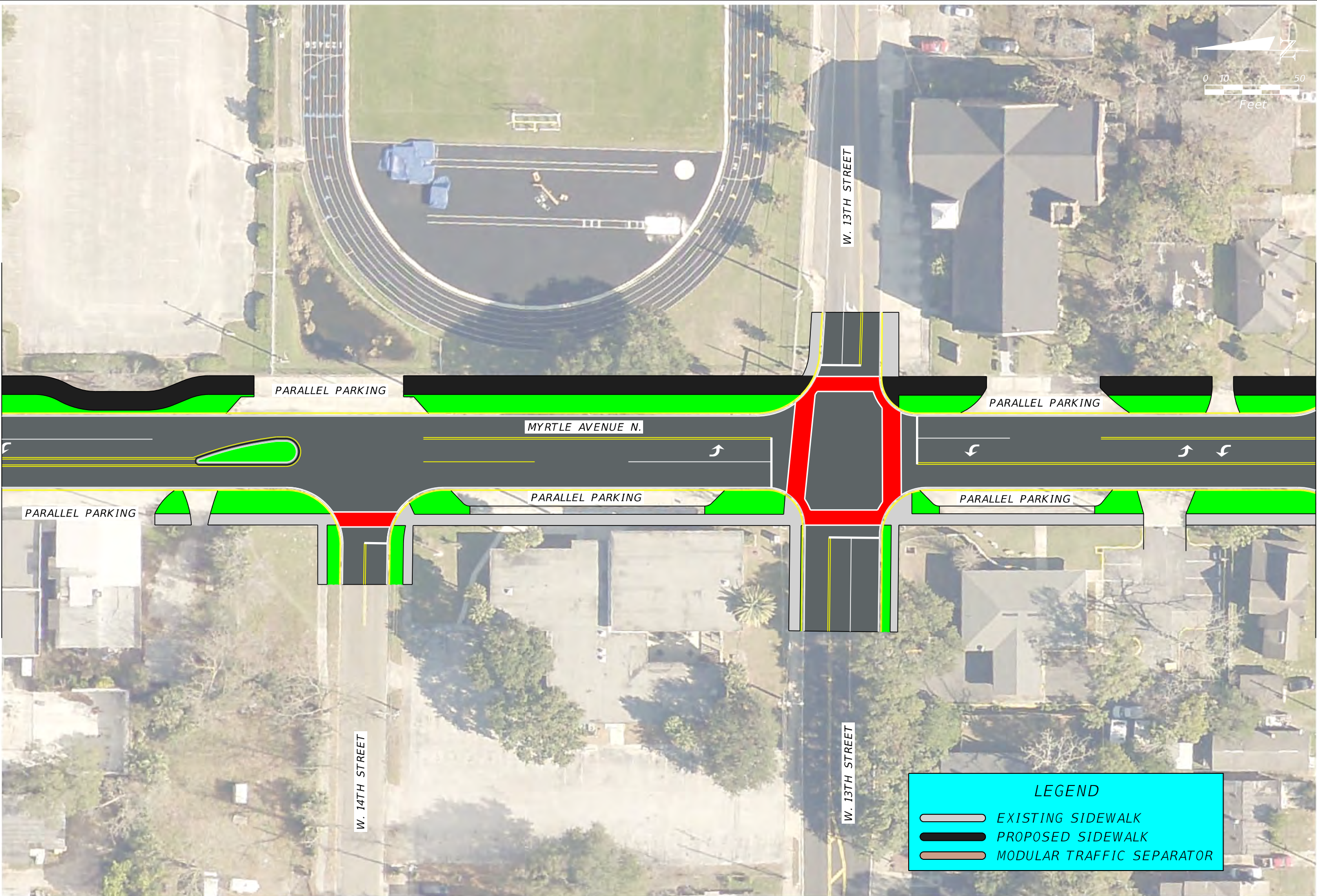
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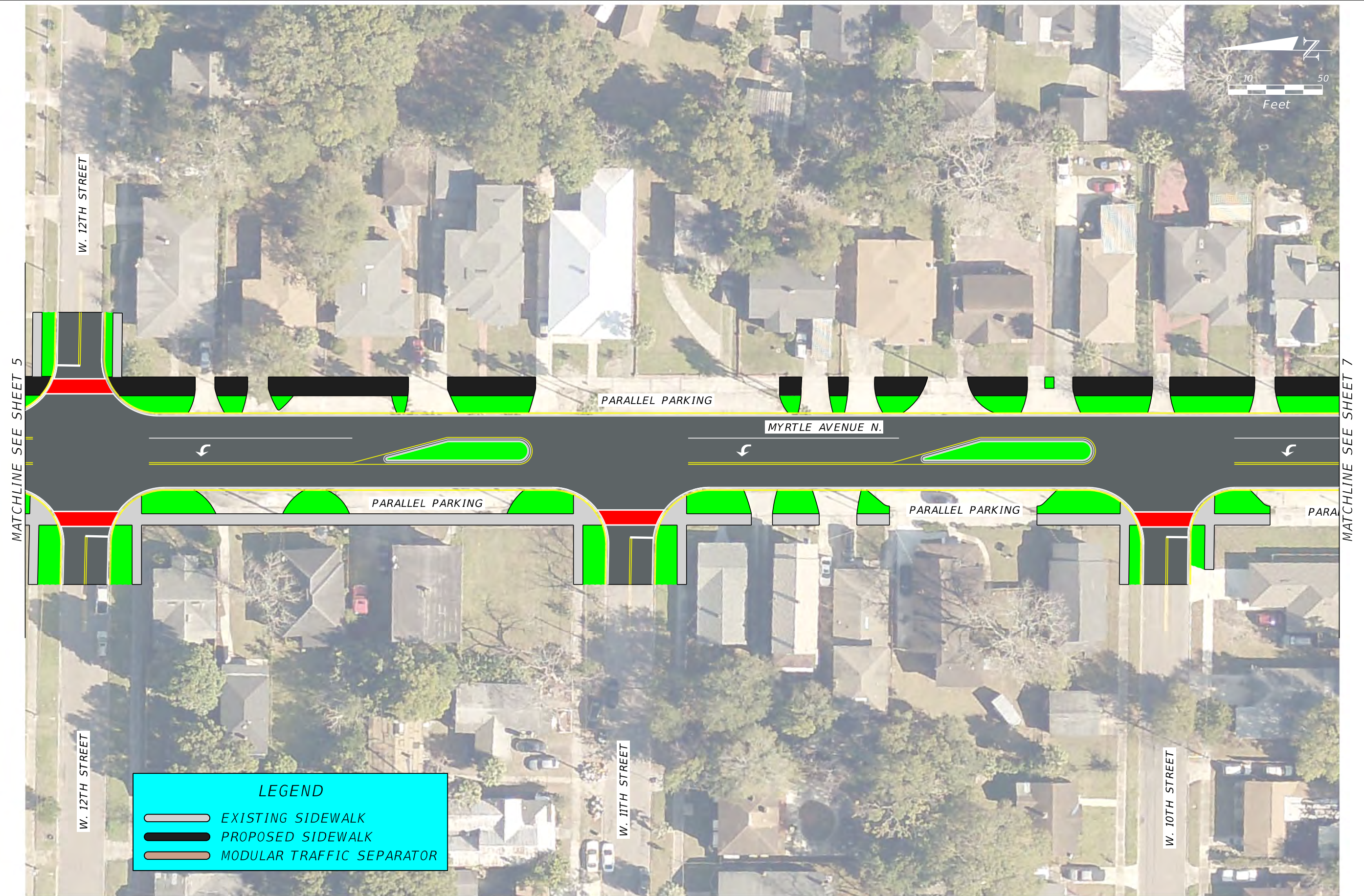
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**MYRTLE AVENUE  
CONCEPT**

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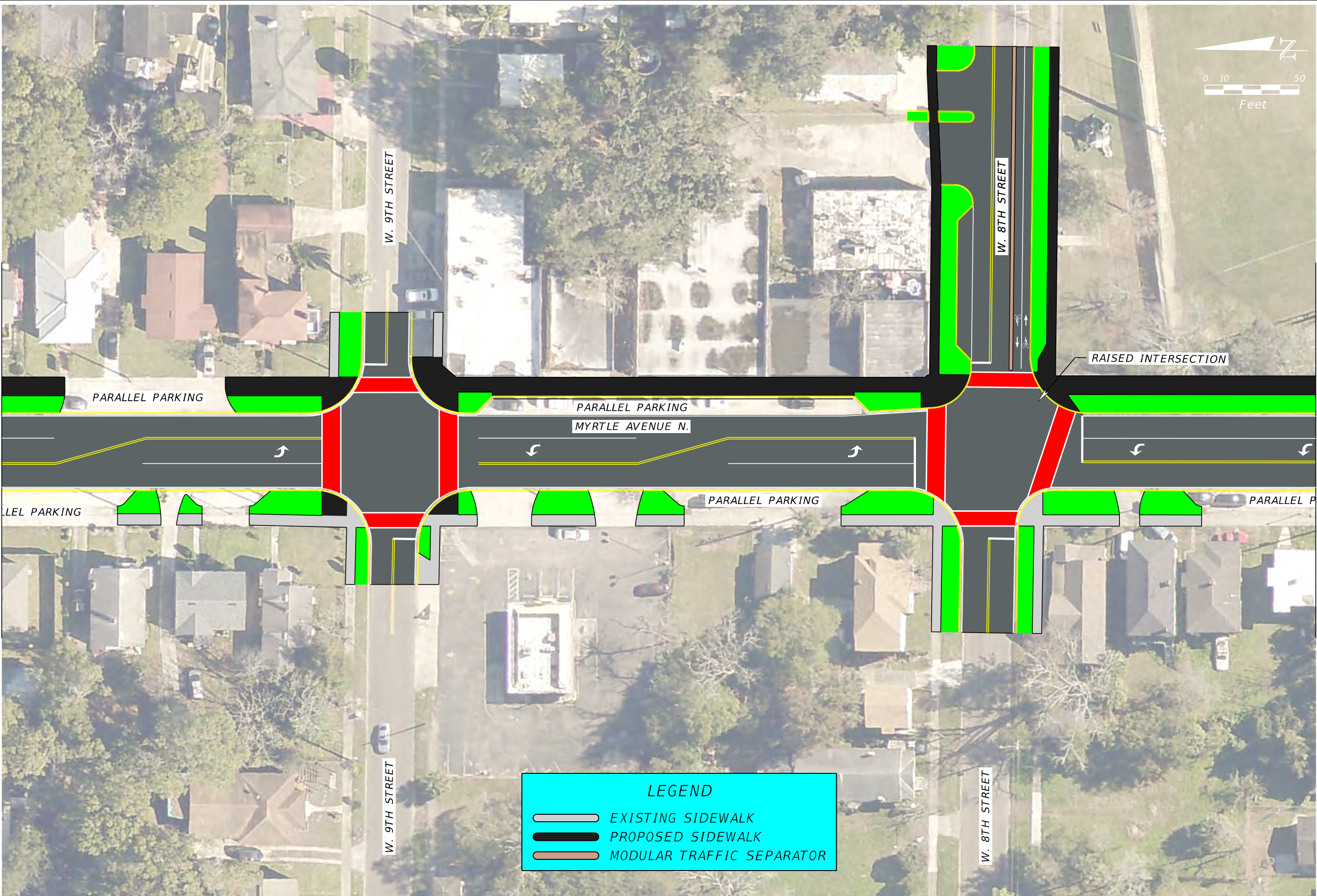


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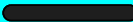

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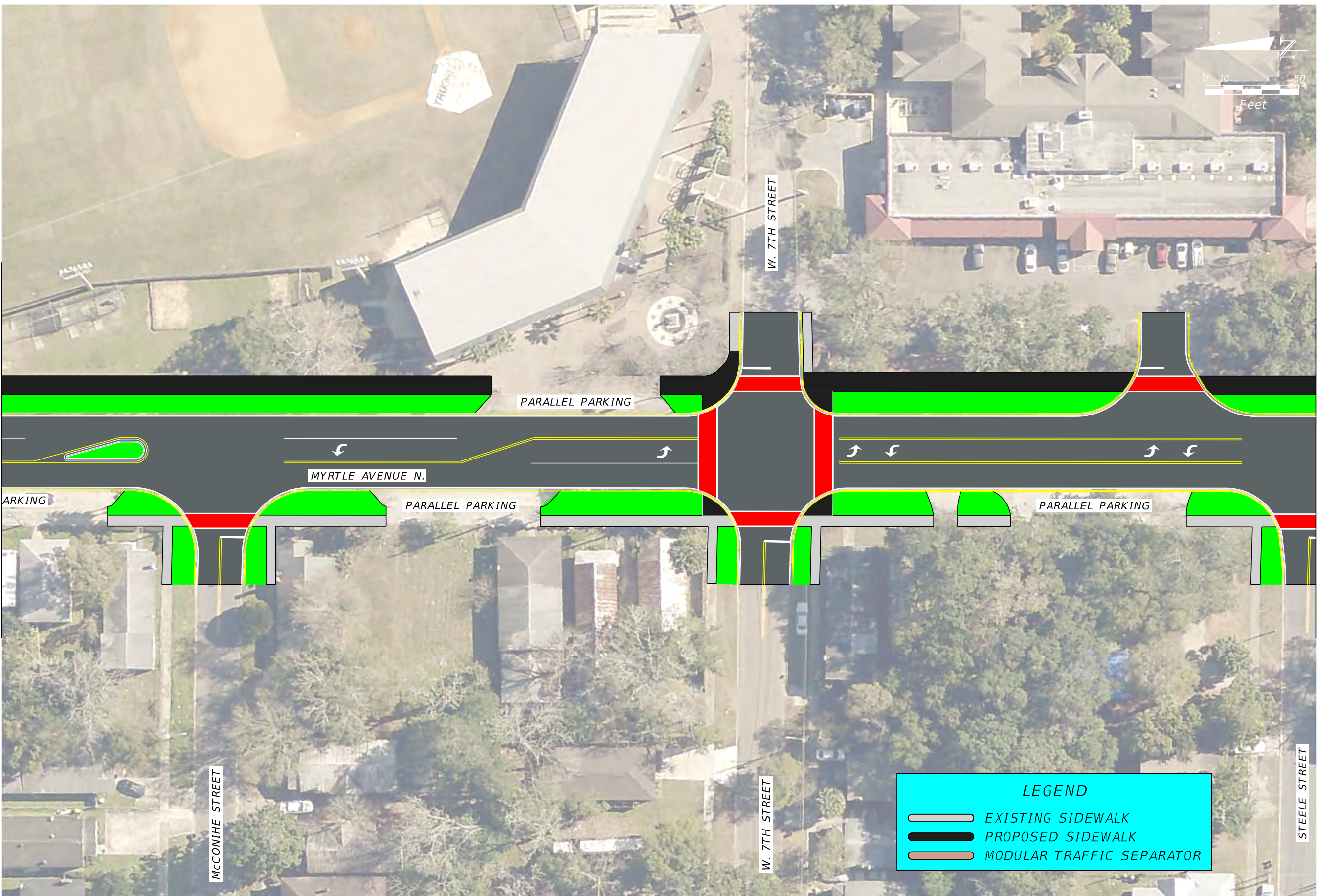
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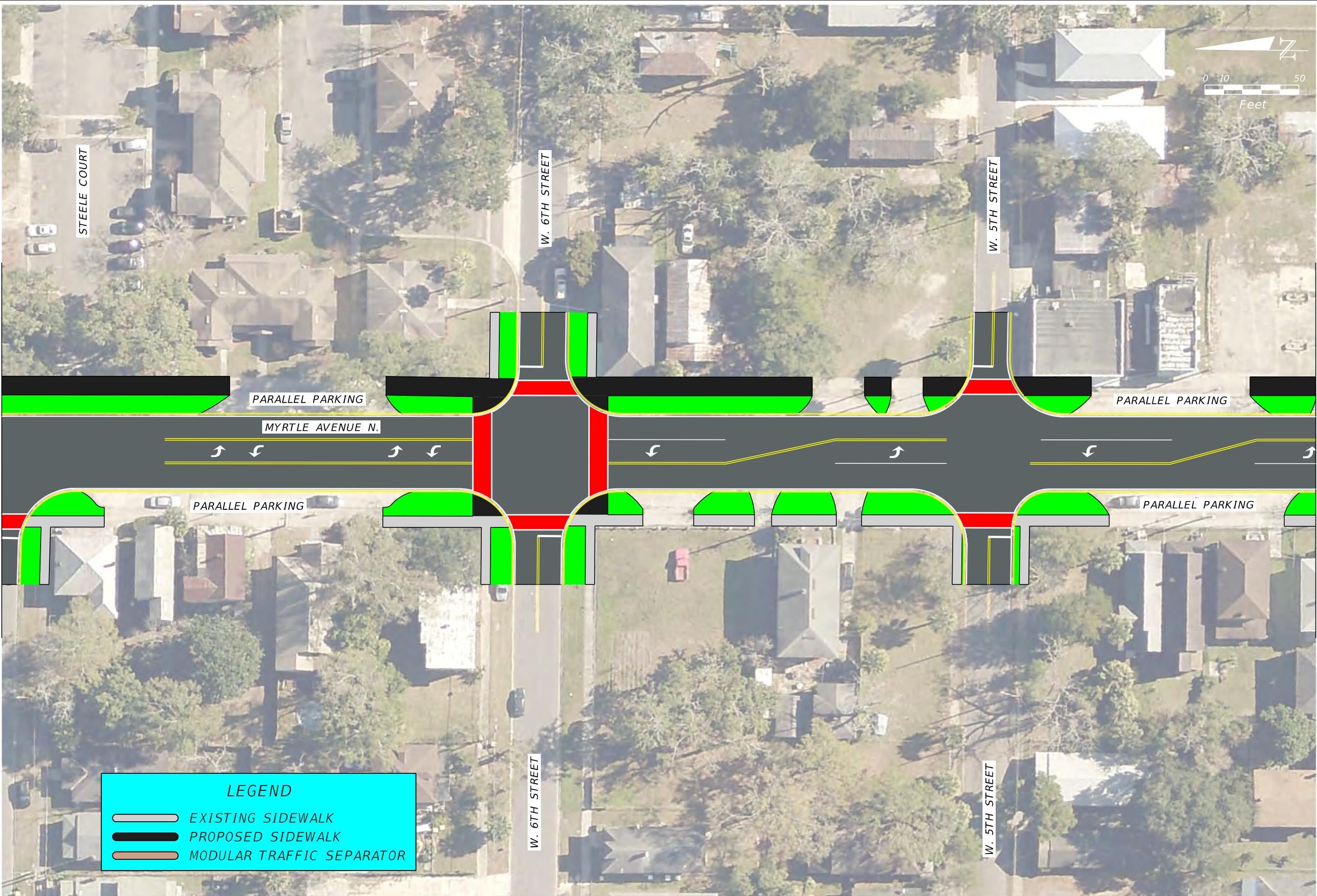
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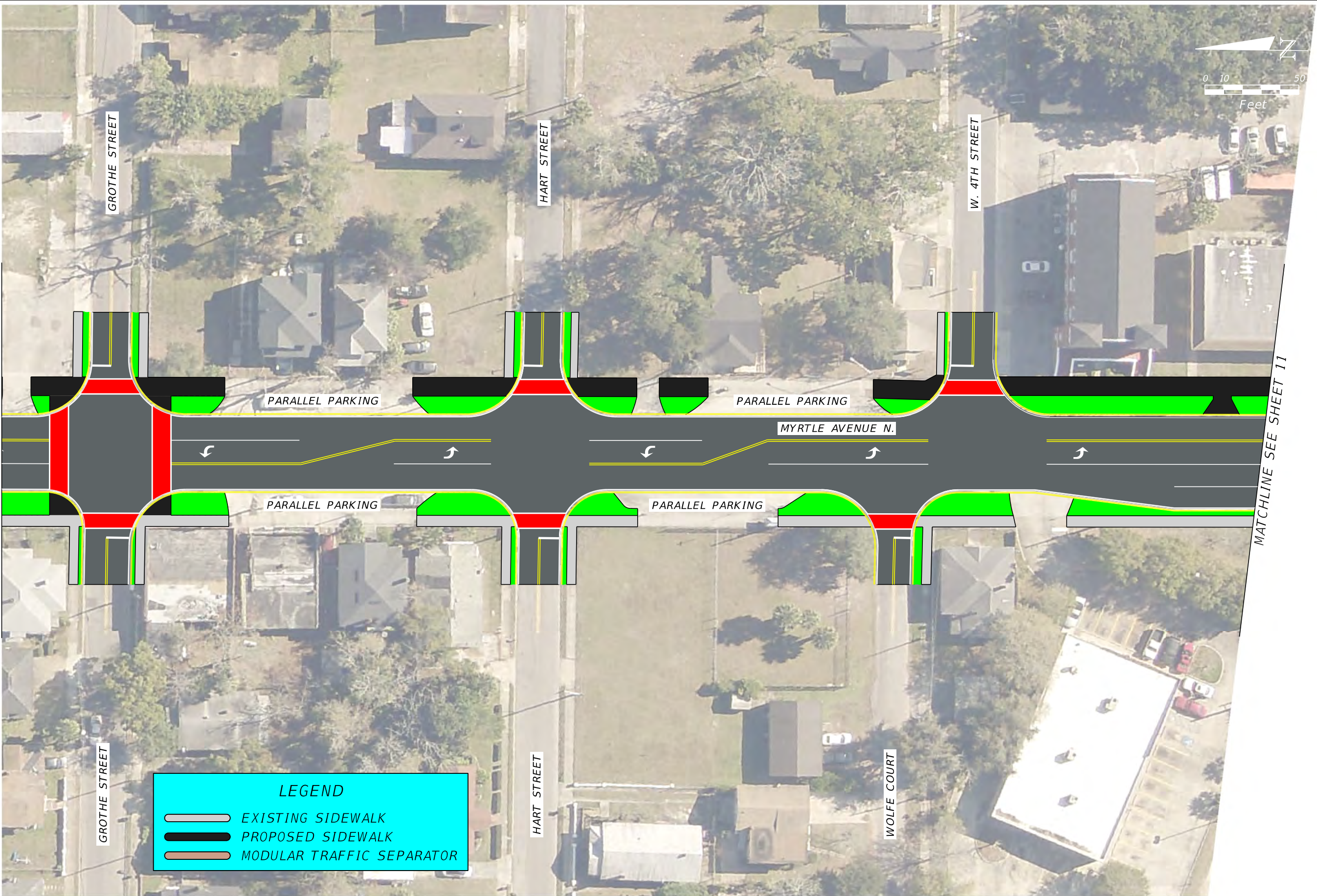
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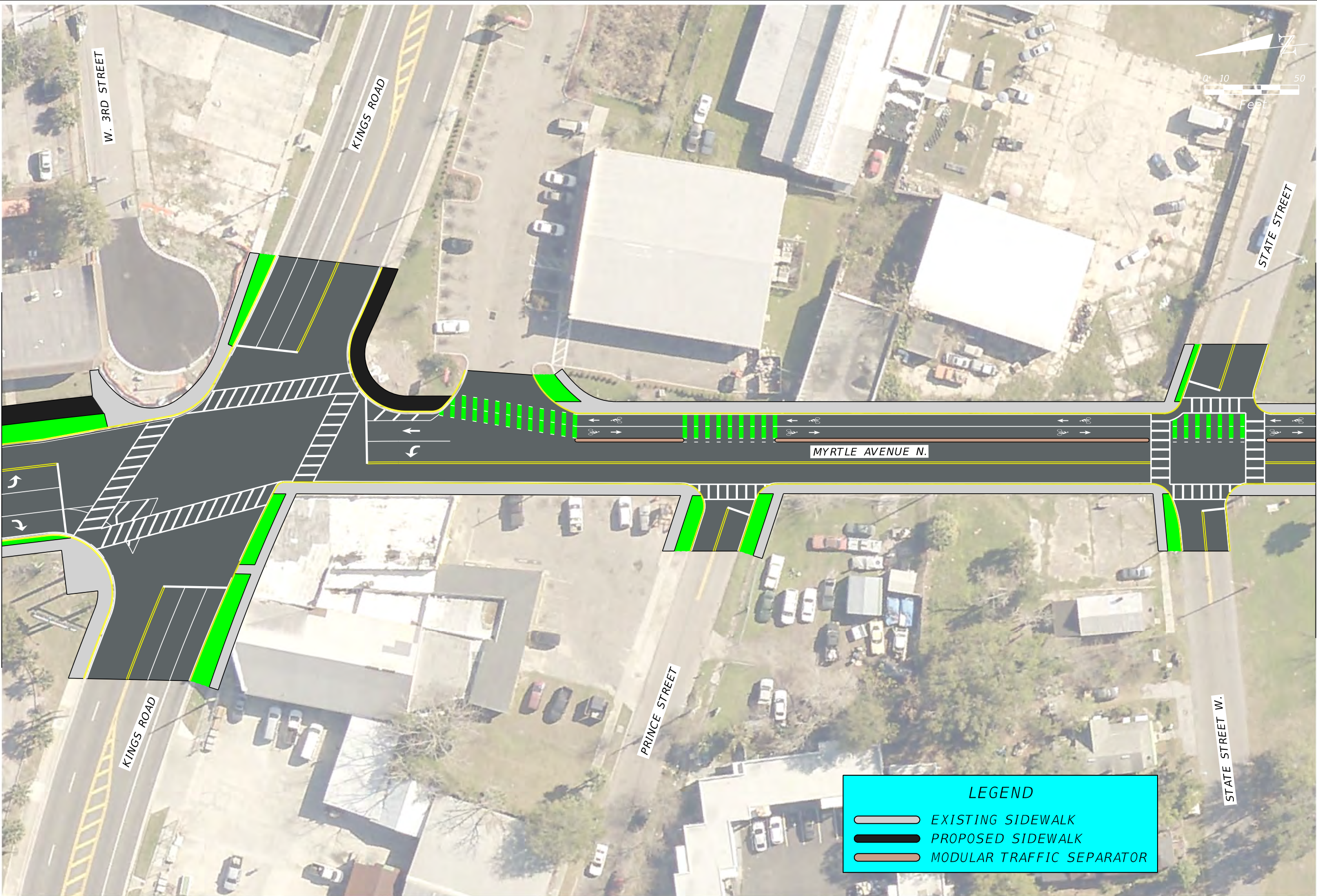
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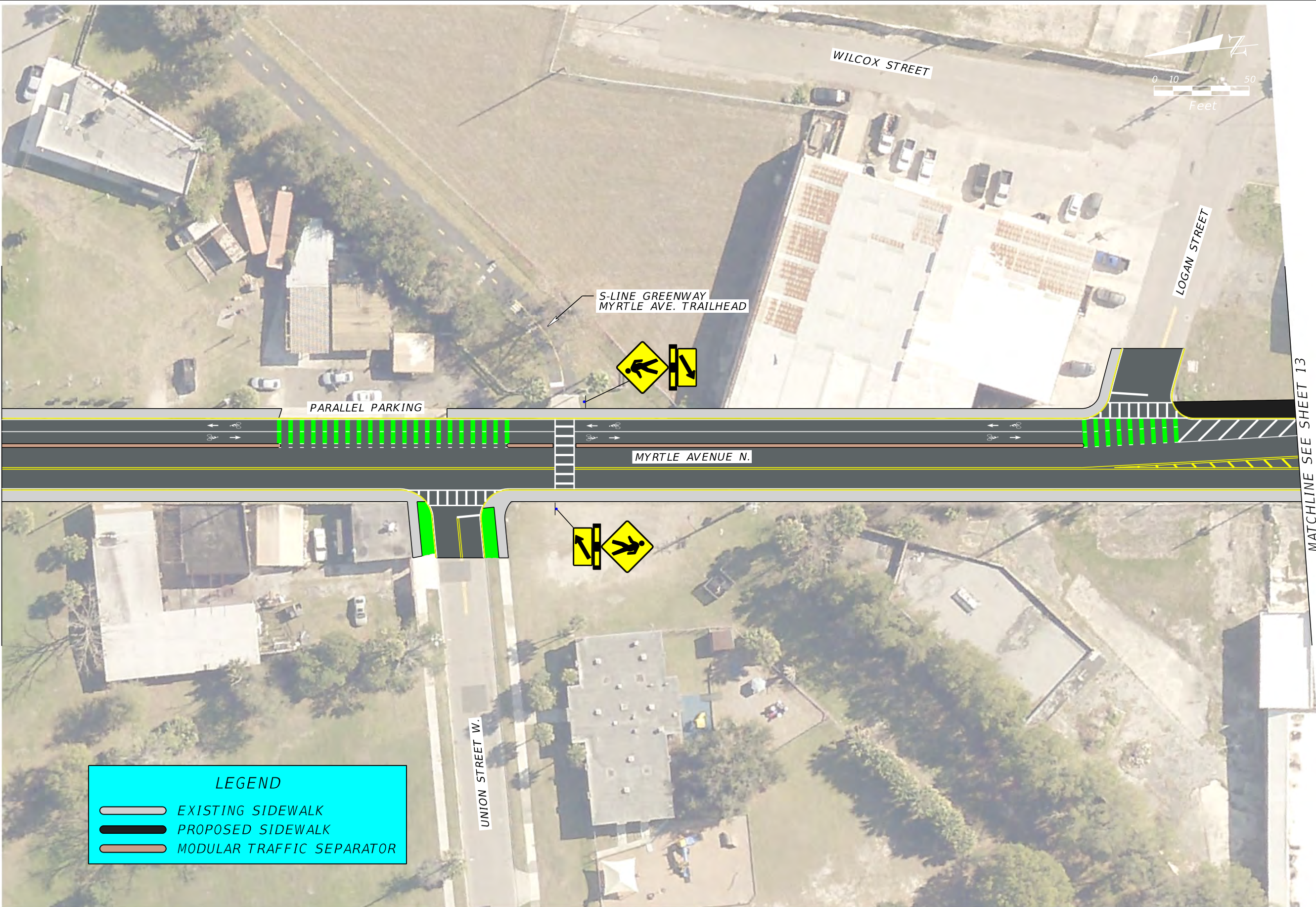
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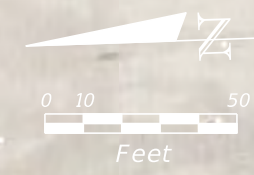


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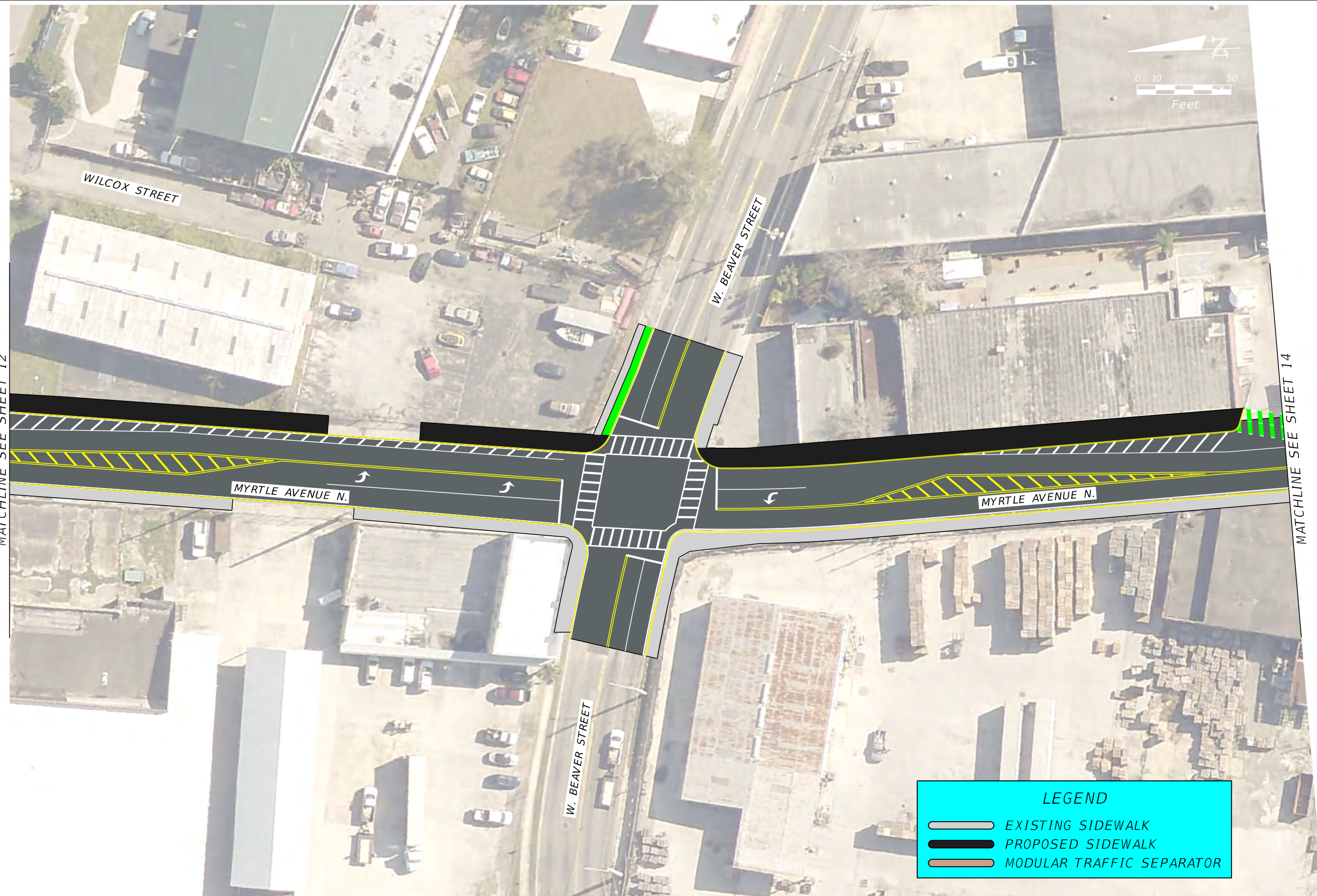
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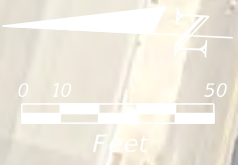
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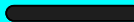



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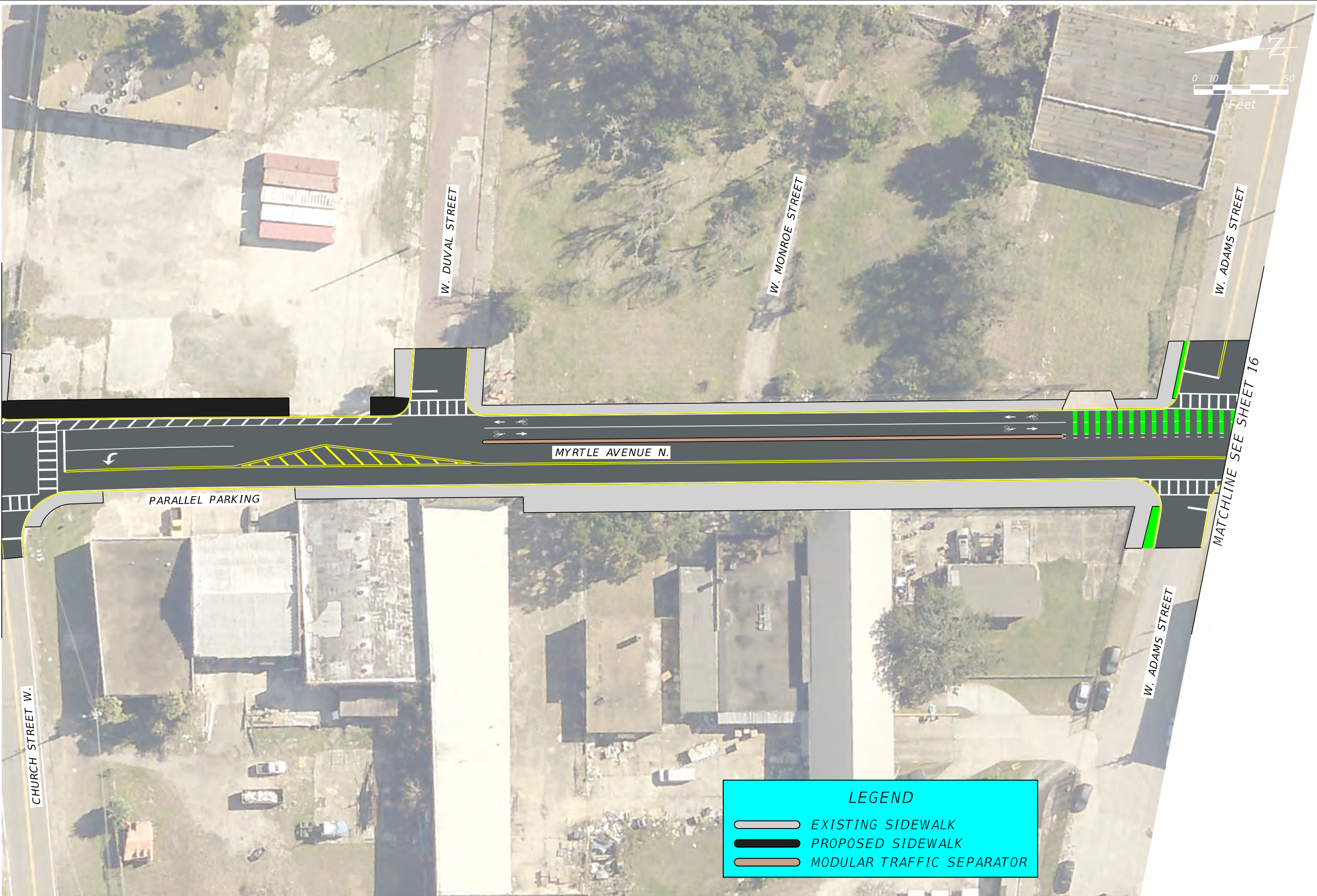
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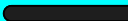

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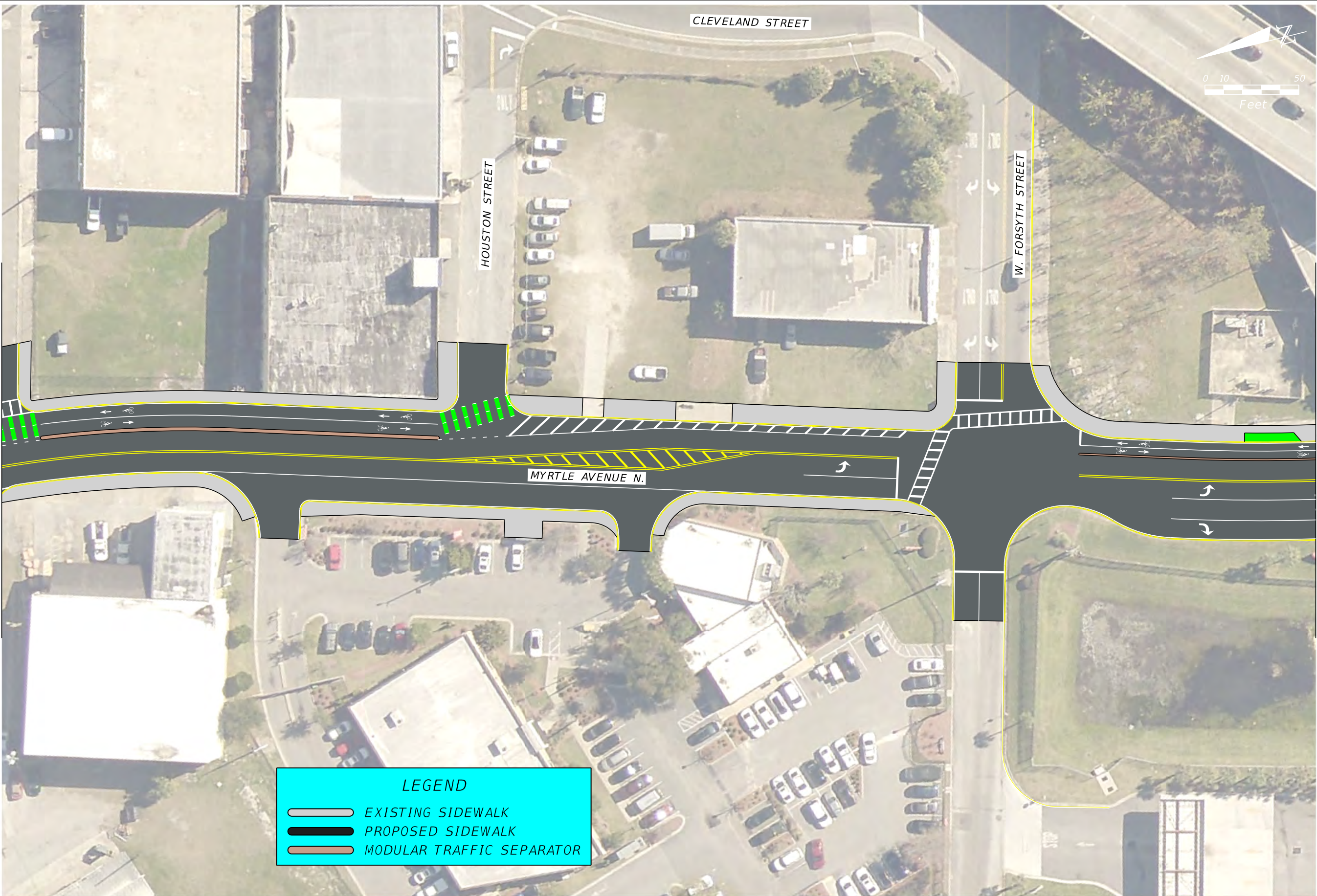
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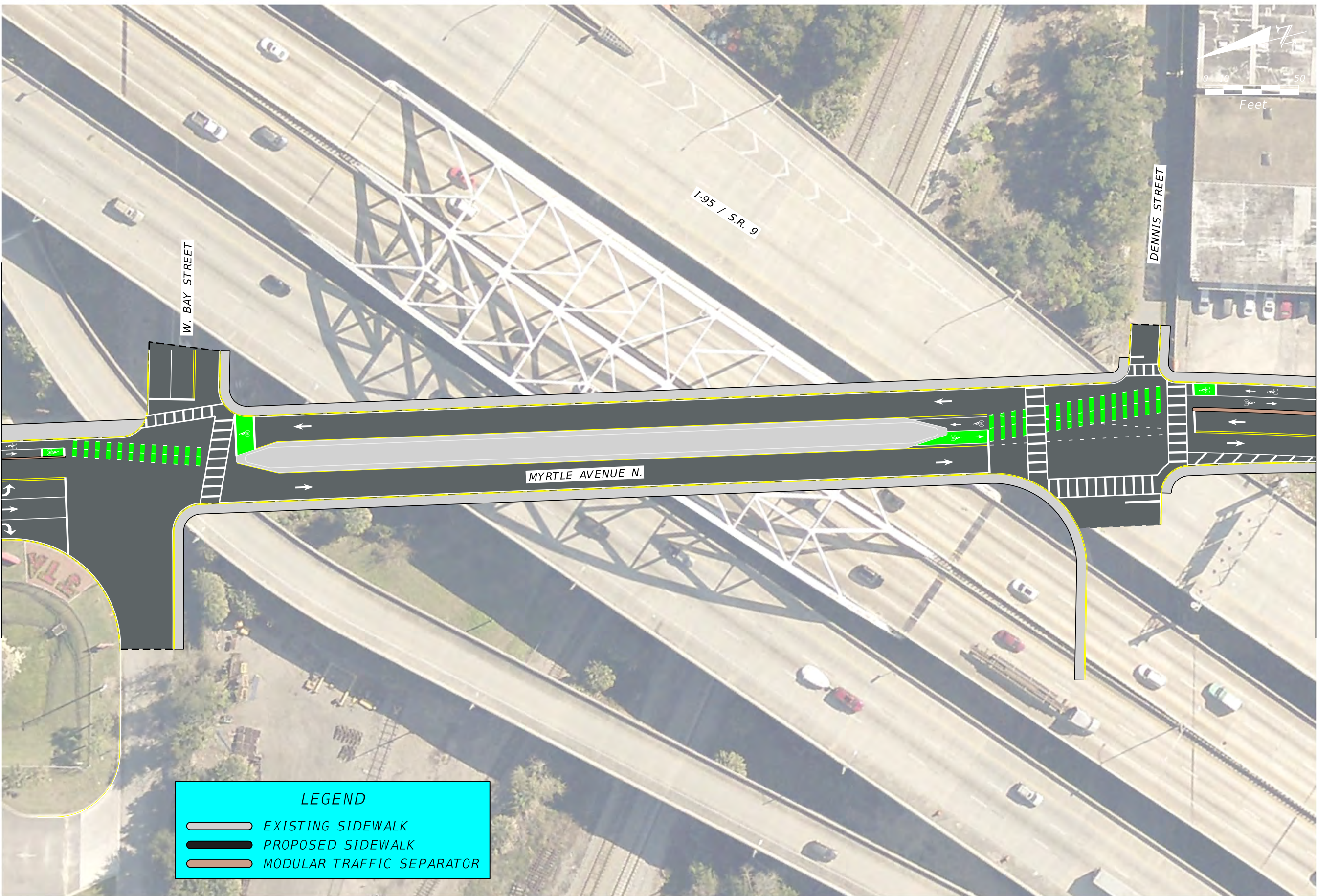
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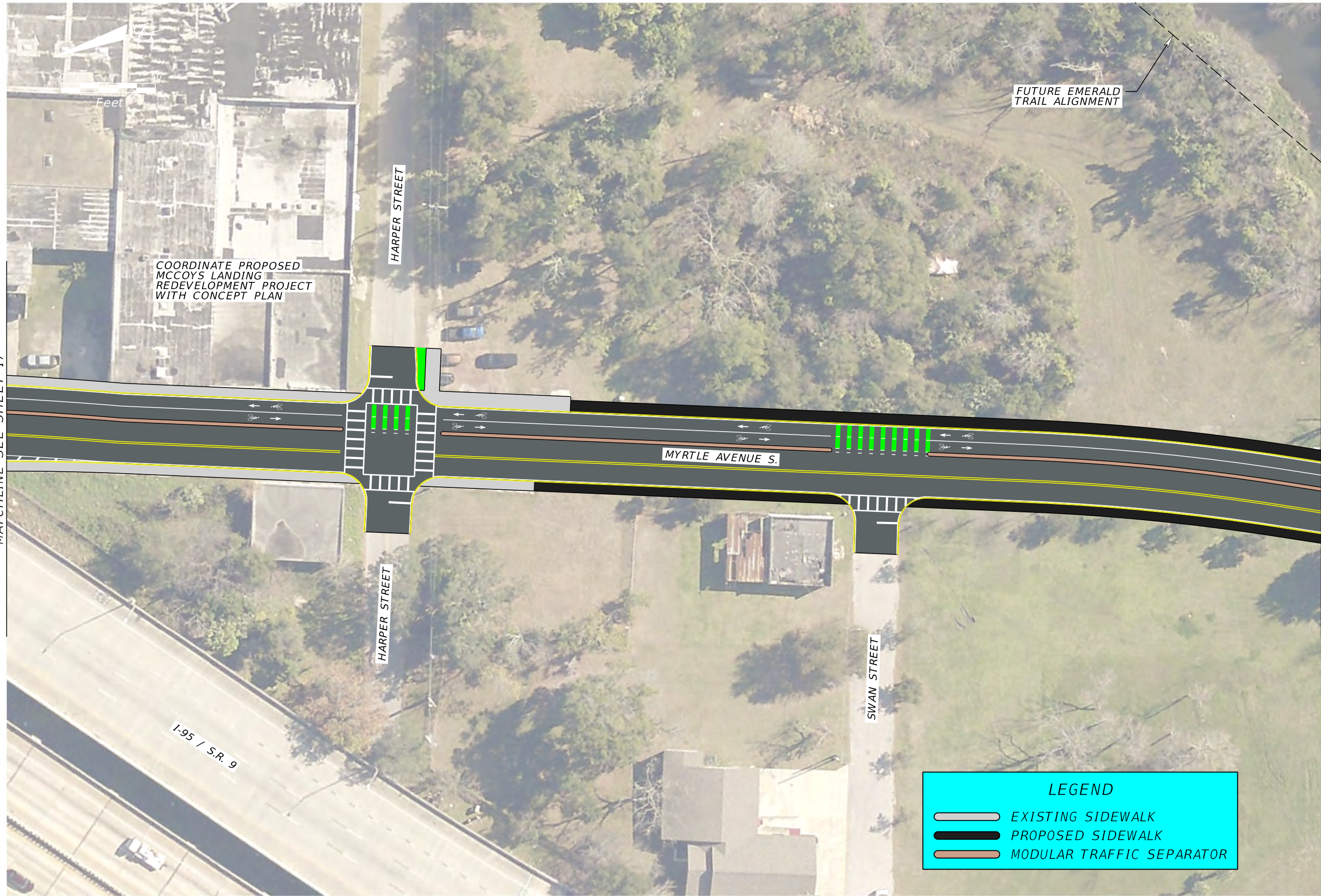
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SHEET NO.
17

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COORDINATE PROPOSED  
MCCOYS LANDING  
REDEVELOPMENT PROJECT  
WITH CONCEPT PLAN

FUTURE EMERALD  
TRAIL ALIGNMENT

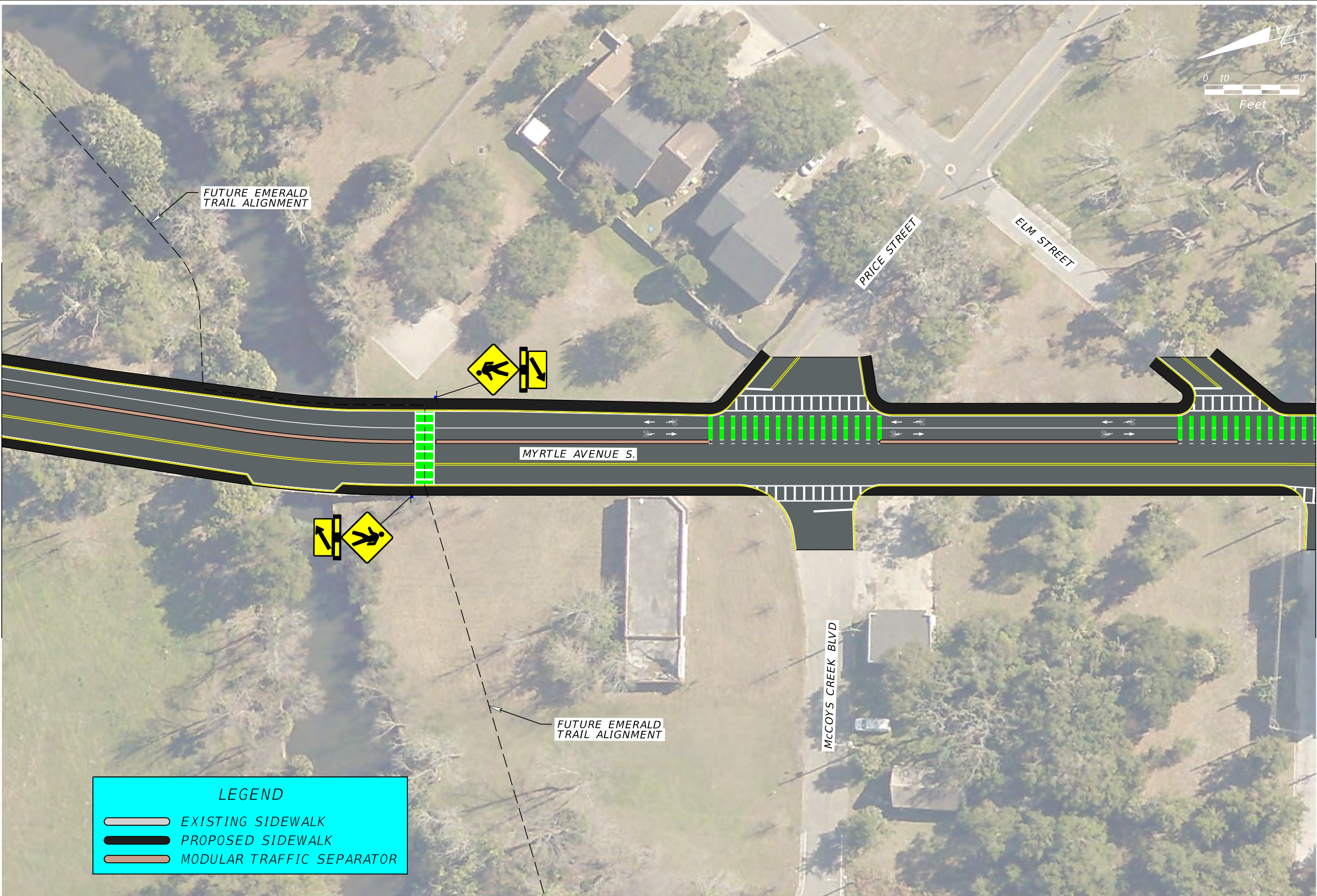
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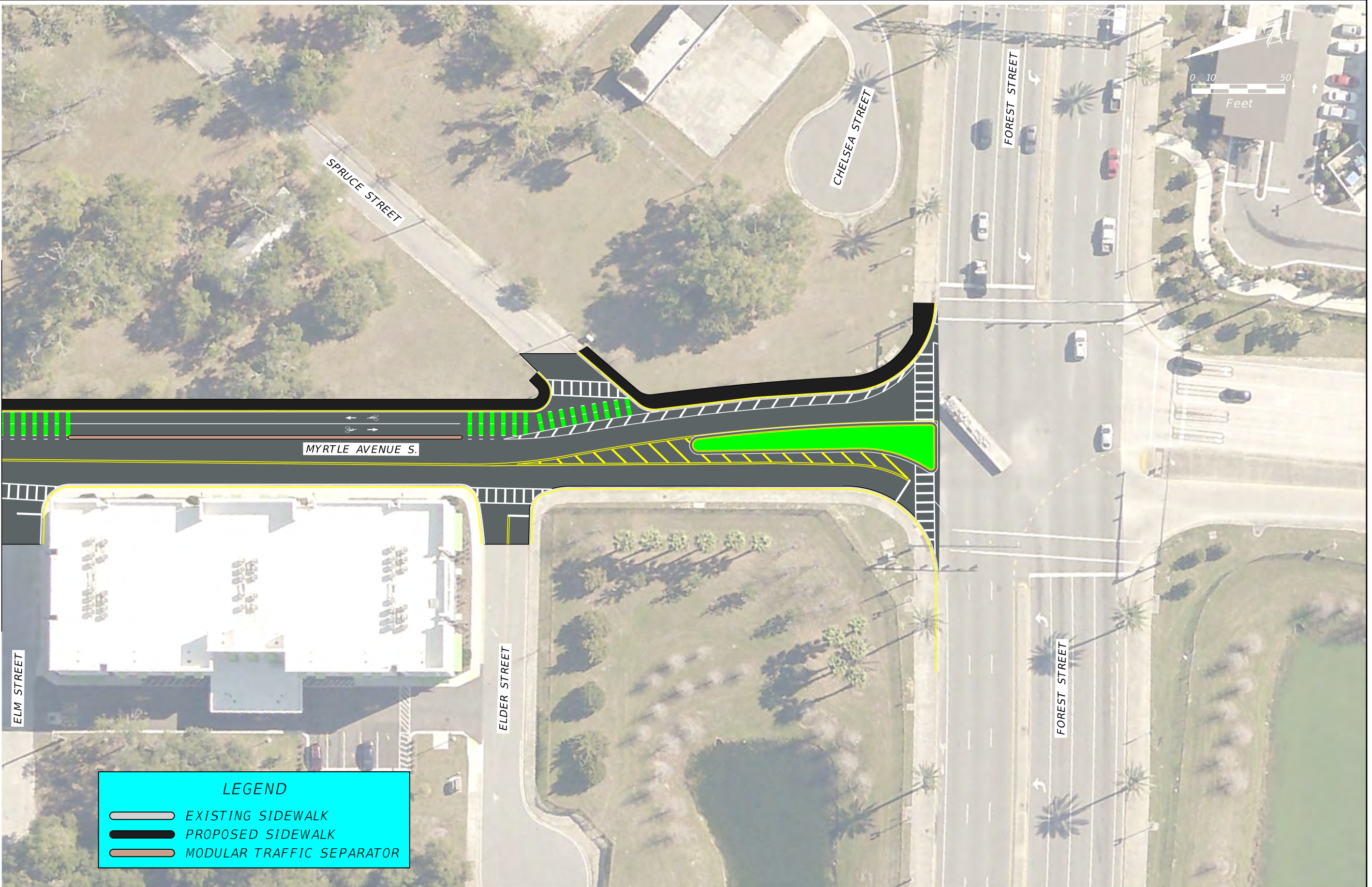
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**LEGEND**

-  EXISTING SIDEWALK
-  PROPOSED SIDEWALK
-  MODULAR TRAFFIC SEPARATOR

REVISIONS	
DATE	DESCRIPTION

--	--

NORTH FLORIDA TPO		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NA	NA	NA

<p><b>MYRTLE AVENUE CONCEPT</b></p>
---

SHEET NO.
20

# **APPENDIX B**

## **Summary of Transportation Plans, Projects and Studies**

# 1 SUMMARY OF TRANSPORTATION PLANS, PROJECTS AND STUDIES

Background data was obtained to document the transportation, land use and environmental information pertinent to developing the study. Listed below are reports, studies, data and other information that may be useful in later phases of the study.

## 1.1 CITY OF JACKSONVILLE

### 1.1.1 Pedestrian and Bicycle Master Plan (September 2017)

The plan outlines a roadmap for the City to improve bicycling and walking opportunities. Key elements are existing conditions, developing a safety action plan, and identifying a Strategic Neighborhood Action Program for Pedestrians (SNAPP) and bicycle network recommendations and prioritization.

The plan recommends the following improvements for Myrtle Avenue:

- Buffered Bike Lanes – Forest Street to Dennis Street
- Shared Use Path – Dennis Street to Bay Street (Subway)
- Buffered Bike Lanes – 33<sup>rd</sup> Street to I-95 Underpass

The plan also identifies a unique opportunity at the Myrtle Avenue underpass (the subway) to link two segments of Myrtle Avenue with a bike facility to provide connectivity from near downtown to northern neighborhoods.

### 1.1.2 Northwest Jacksonville Vision Plan

*EDAW for City of Jacksonville Planning and Development Department, September 2003*

The Plan took a broad look at development types, open spaces, connections and activity centers, rather than specific sites and individual properties within the district. Northwest residents most often cited proximity and easy transportation access as the features they liked most about their communities. Residents most disliked the poor physical appearance, particularly of housing. Northwest respondents also cited the lack of nearby stores and inadequate infrastructure as conditions that detract from their communities.

Northwest residents ranked public safety (specifically crime), the appearance of streets, types of businesses and housing appearance as the top priorities in the community.

The top priorities for vision plan improvements are as follows:

- Increased code enforcement
- Improved public safety
- Upgraded infrastructure (particularly water and sewer)

Most desired changes over the next 20 years are as follows:

- Planned growth
- Economic revitalization
- Community services for youth

### **1.1.3 Town Center Vision Plan – Myrtle and Moncrief Phase 1 Initiative**

*Prosser Hallock for City of Jacksonville Planning and Development Department, May 2004*

The Myrtle and Moncrief Town Center is the commercial corridor along Myrtle Avenue, from 16<sup>th</sup> Street north to Moncrief Road and Moncrief Road, Myrtle Avenue south to MLK Parkway (20<sup>th</sup> Street), and MLK Parkway between Moncrief Road and Myrtle Avenue.

The report defines a vision for Myrtle Avenue and Moncrief Road through data collection, Vision concepts, and implementation recommendations. Final recommendations include an overlay district to include all or part of the Myrtle and Moncrief study area; commercial sign guidelines specific to Myrtle and Moncrief; architectural guidelines; CPTED (Crime Prevention Through Environmental Design) and code enforcement.

### **1.1.4 Urban Core Vision Plan**

*Zyscovich Architects for City of Jacksonville Planning and Development Department, June 2010*

This plan was intended as the guiding document for planning and development in the Urban Core so that future growth is accommodated while achieving and maintaining a high quality of life. This included strengthening the connections between the Urban Core neighborhoods and downtown through numerous revitalization strategies.

Community comments received during the study included a desire to have the following:

- Improved connectivity of existing roadways
- Neighborhood connectivity
- Walkable neighborhoods
- “Walkable Destinations” within neighborhoods

Recommendations, which remain valid and are in some cases underway, included finding opportunities to do the following:

- Re-connect downtown and the surrounding neighborhoods
- Create walkable and connected neighborhoods
- Expand the Hogans Creek Park System
- Improve traffic circulation
- Continue connections with redevelopment
- Create gateways and new connections

## **1.2 JACKSONVILLE TRANSPORTATION AUTHORITY**

### **1.2.1 Complete Streets Program Prioritization Summary Report, Final Draft**

*Michael Baker International, August 21, 2021*

The report summarizes the updated methodologies and driving principles to deploy and establish long-term success of JTA’s transit-driven Complete Streets Program. The Program prioritizes three (3) tiers of projects for potential funding and implementation: 1) projects currently identified for the new Local Option Gas Tax

(LOGT) funding (Tier 1); 2) existing, unfunded Complete Street Program projects developed during the original JTA MobilityWorks Complete Streets planning phase completed in 2016 (Tier 2); and 3) new potential projects identified in the City of Jacksonville’s Capital Improvement Plan (CIP) and Bicycle and Pedestrian Master Plan (Tier 3).

Projects identified for the Myrtle Avenue corridor include:

- 8<sup>th</sup> Myrtle/Moncrief - Add buffered bike lanes on Moncrief Road from Soutel Drive to Edgewood Avenue
- 8<sup>th</sup>/Myrtle/Moncrief - 8<sup>th</sup> Street pedestrian crossing features (midblock crossings with enhanced islands) & improved signal timing/bus priority upgrades
- 8<sup>th</sup>/Myrtle/Moncrief - Add sharrows markings along Myrtle Avenue from Moncrief Road to 8<sup>th</sup> Street
- 8<sup>th</sup>/Myrtle/Moncrief Corridor: Fill sidewalk and ADA access gaps at intersections of 8<sup>th</sup> and Myrtle, 13<sup>th</sup> and Myrtle and 36<sup>th</sup> and Moncrief; Improve existing S-Line crossing at 8<sup>th</sup> Street (immediately east of Payne Avenue) with Rectangular Rapid Flashing Beacon (RRFB)

### 1.3 DESIGN GUIDELINES

The study identifies appropriate and applicable design feature opportunities for Myrtle Avenue. Therefore, the products and recommendations are consistent with current standards, policies and design guidelines for the City of Jacksonville and Florida Department of Transportation (FDOT). These include:

- COJ Context Sensitive Streets Guidelines
- COJ Land Development Procedure Manual and Standard Plans and Details
- FDOT Design Manual (FDM)

Guidance from the FDM includes recommendations from Chapter 3.3, Speed Management, and Table 202.3.1, Strategies to Achieve Desired Operating Speed.

Additional guidelines include the Federal Highway Administration (FHWA) *Improving Safety for Pedestrians and Bicyclists Accessing Transit*, FHWA *Improving Intersections for Pedestrians and Bicyclists*, NACTO *Designing for All Ages and Abilities*, NACTO *Don't Give Up at the Intersection*, NACTO *Urban Bikeway Design Guide*, and FHWA *Bikeway Selection Guide*.

In addition, the following guidelines from the FHWA and National Association of City Transportation Officials (NACTO) were reviewed.

- *Improving Safety for Pedestrians and Bicyclists Accessing Transit* (FHWA Report No.-SA-21-130, September 2022)
- *Improving Intersections for Pedestrians and Bicyclists* (FHWA Report No. SA-22-017, April 2022)
- *Bikeway Selection Guide* (FHWA, February 2019)
- *Designing for All Ages and Abilities – Contextual Guidance for High Comfort Bicycle Facilities* (NACTO, December 2017)
- *Don't Give Up at the Intersection – Designing All Ages and Abilities, Bicycle Crossings* (NACTO, May 2019)
- *Urban Bikeway Design Guide, 2<sup>nd</sup> Edition* (NACTO, March 2014)

# **APPENDIX C**

## **Facility Characteristics**

## 1 FACILITY CHARACTERISTICS

This section describes the characteristics of Myrtle Avenue throughout the study corridor. For each segment, Benesch provides a segment map, describes the typical section, and summarizes corridor elements. Figure 1 through Figure 4 detail the limits of each segment while Table 1 through Table 4 summarize elements of each. Additional detail on corridor characteristics is also provided.

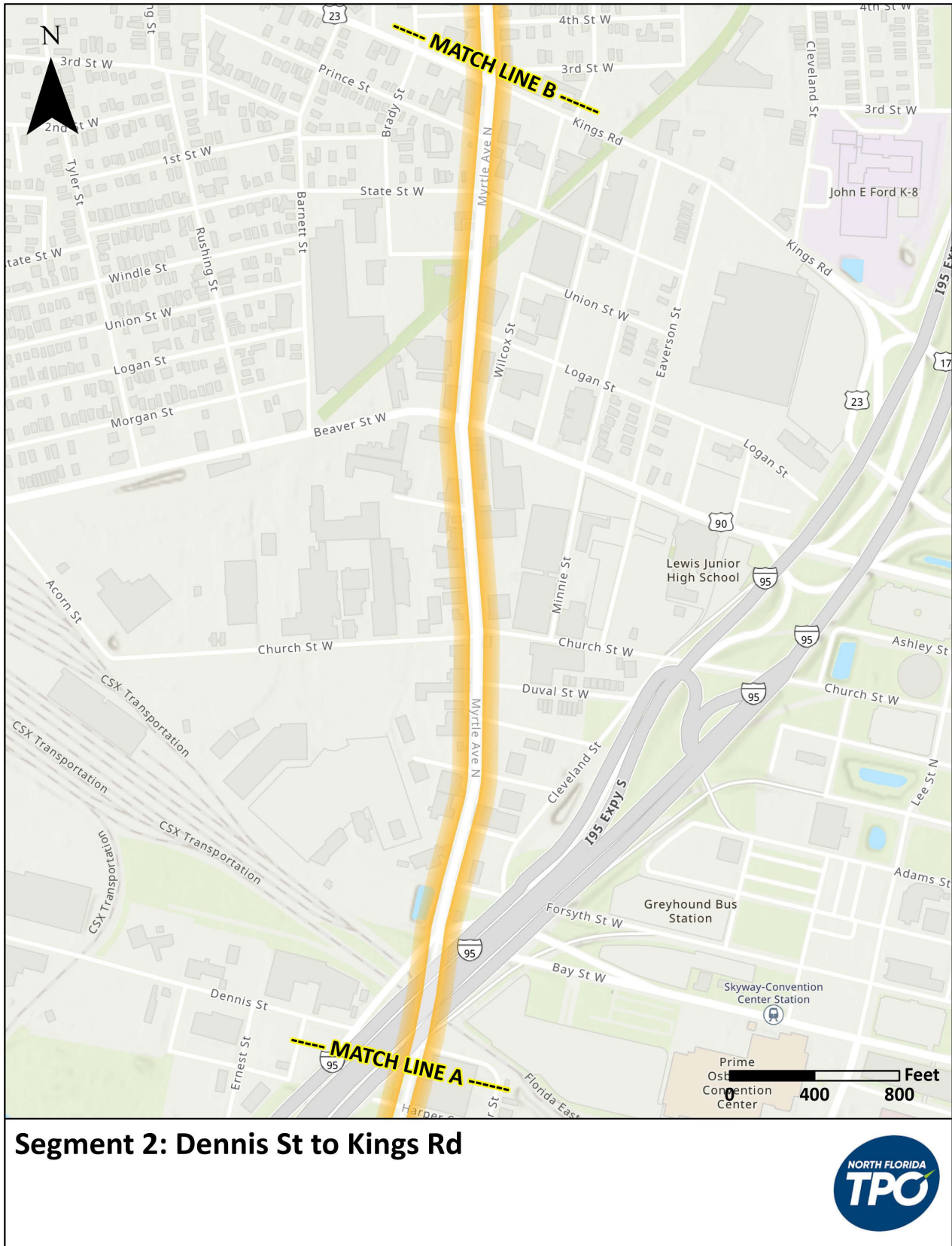


Date: 3/27/23

**Figure 1 – Myrtle Avenue Segment 1 (Forest Street to Dennis Street)**

**Table 1 – Roadway Characteristics Summary (Segment 1)**

Characteristic	Description
<b>Segment 1 – Forest St to Dennis St</b>	
Cross Section	Two-lane undivided section, mix of urban and rural
Context Classification	C4
Functional Classification	Collector
Right of Way (Min.)	50 LF
Posted Speed Limit	30 mph
Lighting	Cobra style overhead fixtures on the east side of Myrtle Ave
Pedestrian Facilities	Forest St to Elder Street/Bruce Street; Elder Street to Elm Street (west side); Harper Street to Dennis Street
Bicycle Facilities	None
On-Street Parking	Elm Street to Spruce Street (west side)
Signalized Intersections	Dennis Street
	Forest Street
Mid-Block Crossings	None
At Grade Rail Crossings	None
Trail Crossings	None
Transit Service (Routes)	N/A
General Land Use	MU residential, recreation,
School Zone	None

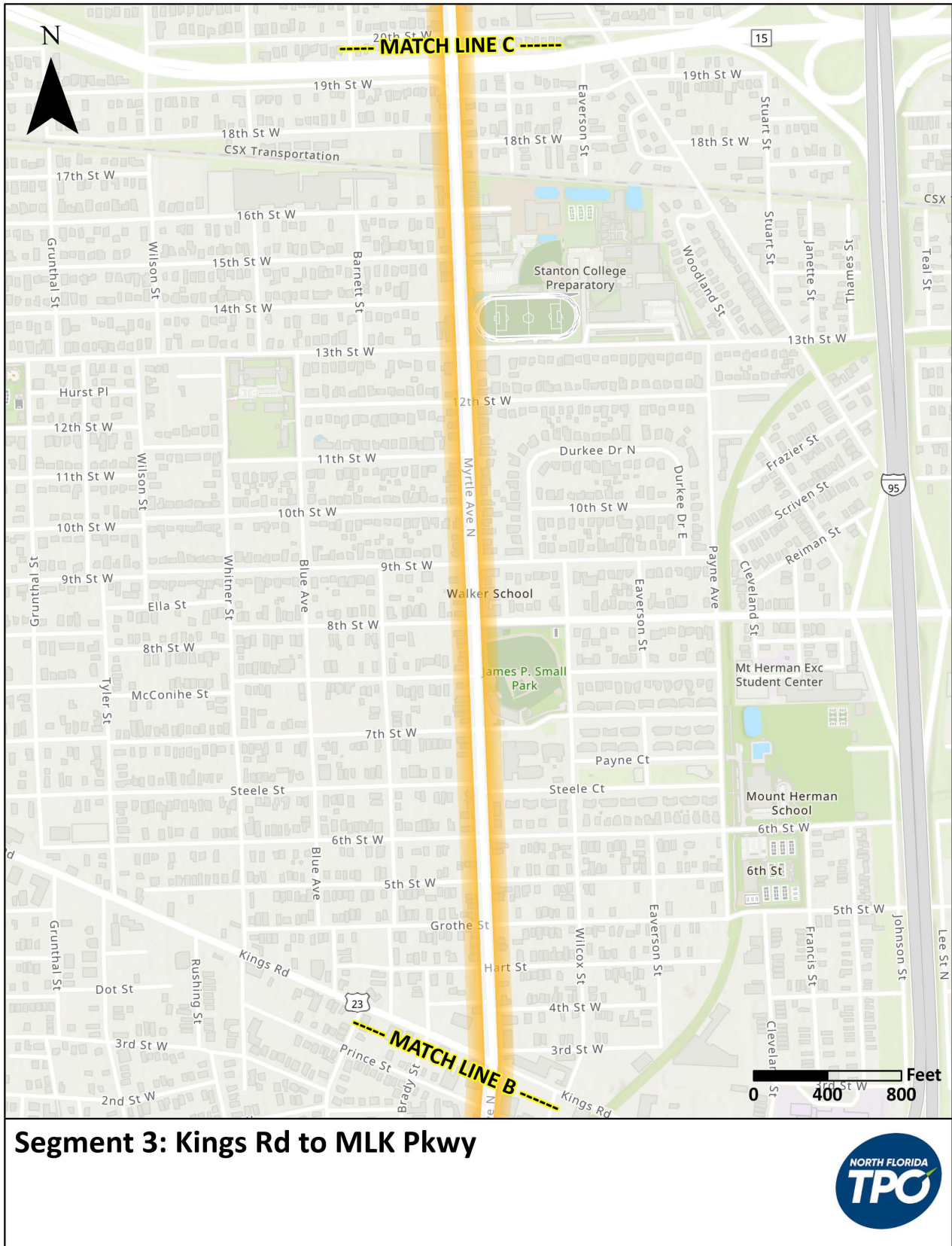


Date: 3/27/23

**Figure 2 – Myrtle Avenue Segment 2 (Dennis Street to Kings Road)**

**Table 2 – Roadway Characteristics Summary (Segment 2)**

Characteristic	Description
<b>Segment 2 – Dennis St to Kings Rd</b>	
Cross Section	Two-lane undivided section, mix of urban and rural
Context Classification	C4
Functional Classification	Collector
Right of Way (Min.)	55 LF
Posted Speed Limit	30 mph
Lighting	Cobra style overhead fixtures on the east side of Myrtle Ave
Pedestrian Facilities	Dennis St to Bay Street; Bay Street to Forsyth Street (east side); Forsyth Street to Kings Road
Bicycle Facilities	None
On-Street Parking	N/A
Signalized Intersections	Dennis St
	W. Bay Street
	W. Forsyth Street
	Beaver Street
	Kings Road
Mid-Block Crossings	None
At Grade Rail Crossings	None
Trail Crossings	S-Line Urban Greenway Myrtle Trail Head (east side of Myrtle Avenue, S/O Union Street W)
Transit Service (Routes)	JTA Route 12
General Land Use	Commercial/Industrial
School Zone	None

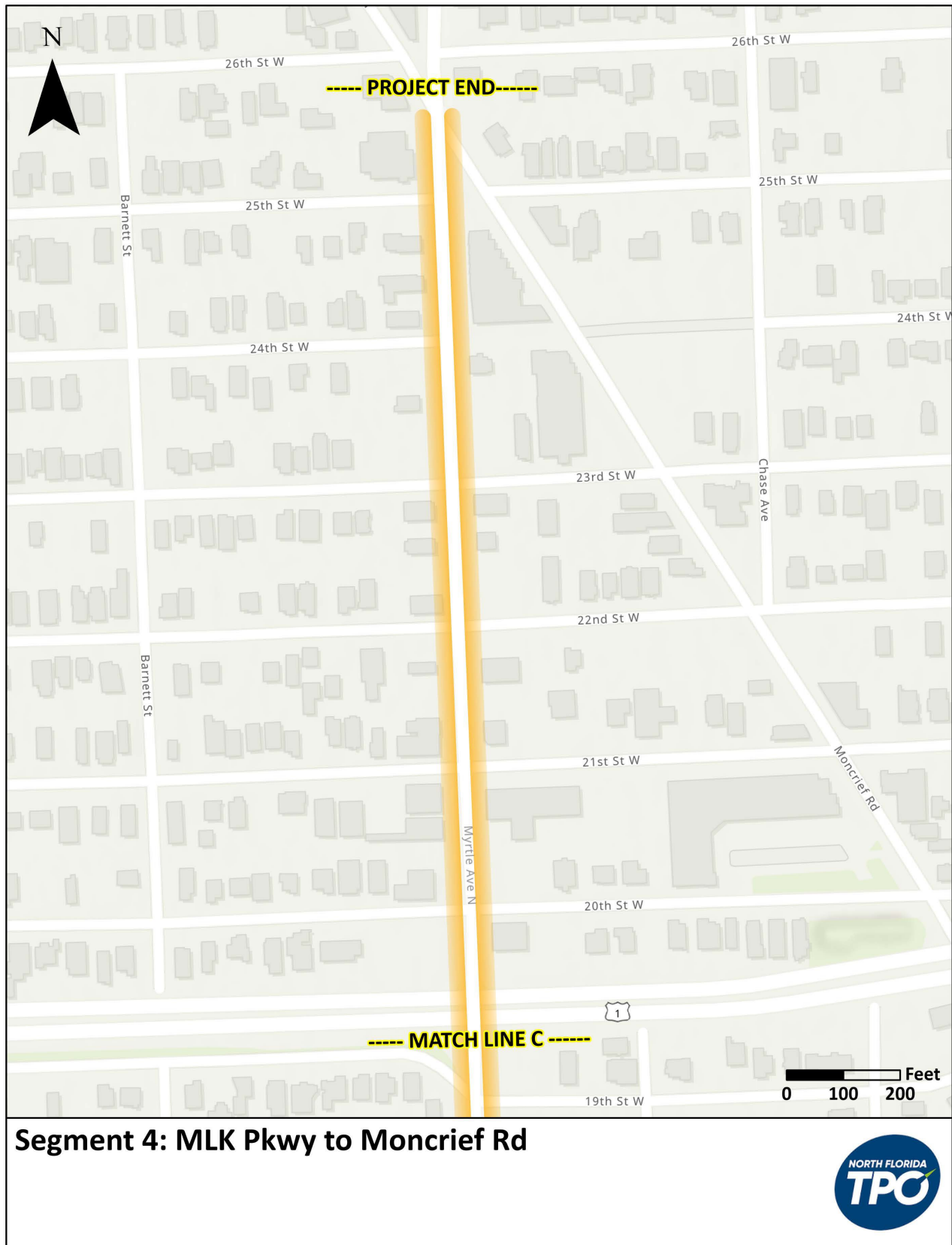


Date: 3/27/23

**Figure 3 – Myrtle Avenue Segment 3 (Kings Road to MLK Parkway)**

**Table 3 – Roadway Characteristics Summary (Segment 3)**

Characteristic	Description
<b>Segment 3 –Kings Rd to MLK Parkway</b>	
Cross Section	Two-lane undivided section, mix of urban and rural
Context Classification	C4
Functional Classification	Collector
Right of Way (Min.)	60 LF - 80 LF
Posted Speed Limit	30 mph
Lighting	Pedestrian scale pedestal fixtures on both sides of Myrtle Avenue
Pedestrian Facilities	Both sides of roadway
Bicycle Facilities	None
On-Street Parking	N/A
Signalized Intersections	Kings Road
	W. 8 <sup>th</sup> Street
	W. 13 <sup>th</sup> Street
	MLK Parkway
Mid-Block Crossings	None
At Grade Rail Crossings	No. 713576 (between W. 16 <sup>th</sup> Street and W. 18 <sup>th</sup> Street)
Trail Crossings	None
Transit Service (Routes)	JTA Route 12
General Land Use	Mixed use and residential uses
School Zone	None



Date: 3/27/23

**Figure 4 – Myrtle Avenue Segment 4 (MLK Parkway to Moncrief Road)**

**Table 4 – Roadway Characteristics Summary (Segment 4)**

Characteristic	Description
<b>Segment 4 – MLK Parkway to Moncrief Rd</b>	
Cross Section	Two-lane undivided section, mix of urban and rural
Context Classification	C4
Functional Classification	Collector
Right of Way (Min.)	70 LF
Posted Speed Limit	30 mph
Lighting	Pedestrian scale pedestal fixtures on both sides of Myrtle Avenue
Pedestrian Facilities	Both sides of roadway
Bicycle Facilities	None
On-Street Parking	Elm Street to Spruce Street (west side)
Signalized Intersections	MLK Parkway
	Moncrief Road
Mid-Block Crossings	None
At Grade Rail Crossings	None
Trail Crossings	None
Transit Service (Routes)	JTA Route 12
General Land Use	Commercial
School Zone	None

## 1.1 RIGHT OF WAY

Benesch determined the width of the existing right-of-way (ROW) along the corridor by reviewing as built plans and historic plat maps, located in the archives of the City of Jacksonville. Parcel maps for the corridor are illustrated in Figure 5 to Figure 10.

Table 5 details the minimum ROW width by segment. The south end of Myrtle Avenue has a narrower ROW, ranging from 50 LF to 55 LF from Forest Street to Kings Road. The segment from Kings Road to West 15<sup>th</sup> Street is the widest, at 80 LF.

**Table 5 –ROW Width**

Segment	From	To	Minimum ROW (LF)
1	Forest Street	Dennis Street	50
2	Dennis Street	Beaver Street	55
2	Beaver Street	Kings Road	50
3	Kings Road	West 15 <sup>th</sup> Street	80
3	West 15 <sup>th</sup> Street	MLK Parkway	60
4	MLK Parkway	Moncrief Road	70

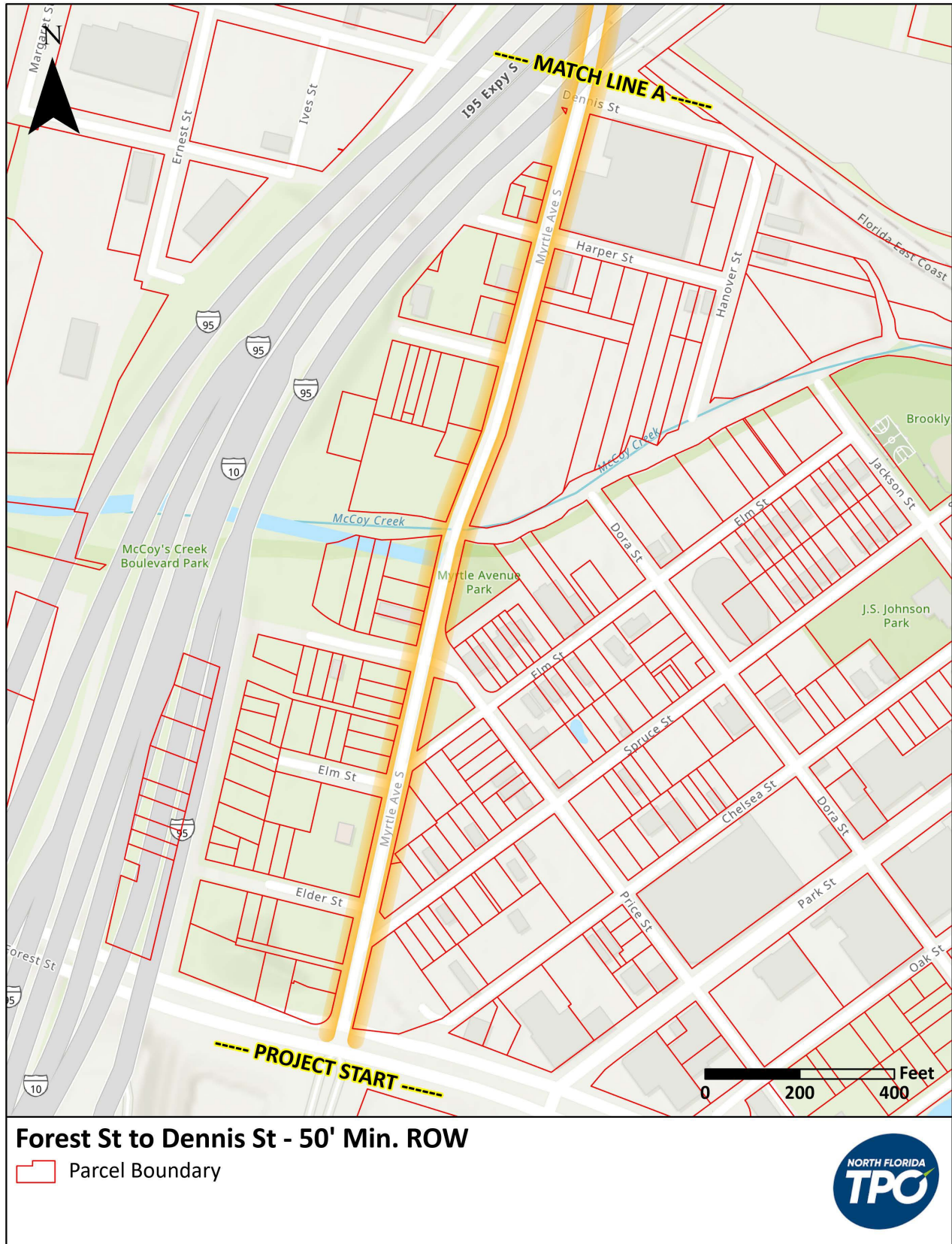
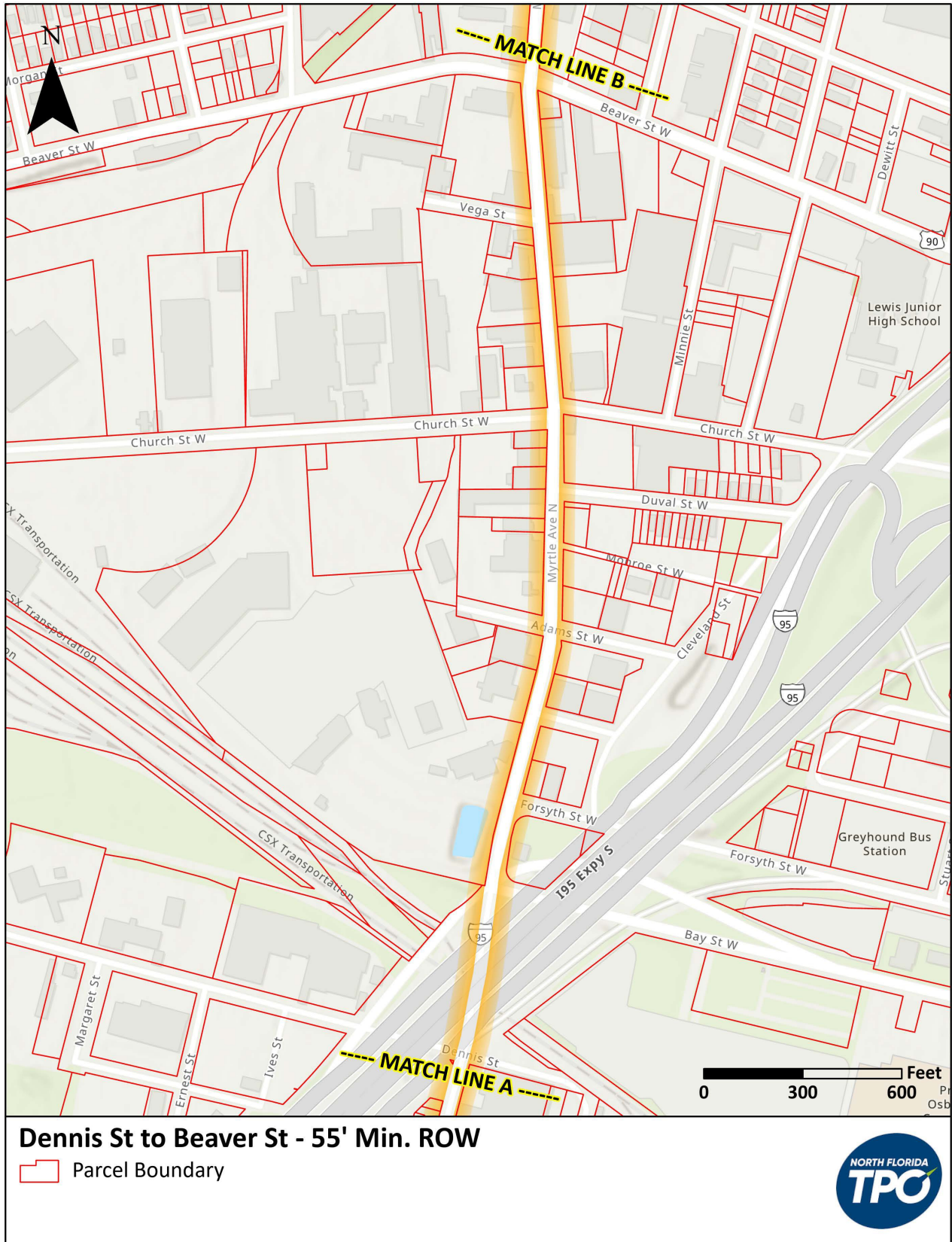


Figure 5 – Myrtle Avenue ROW (Forest Street to Dennis Street)



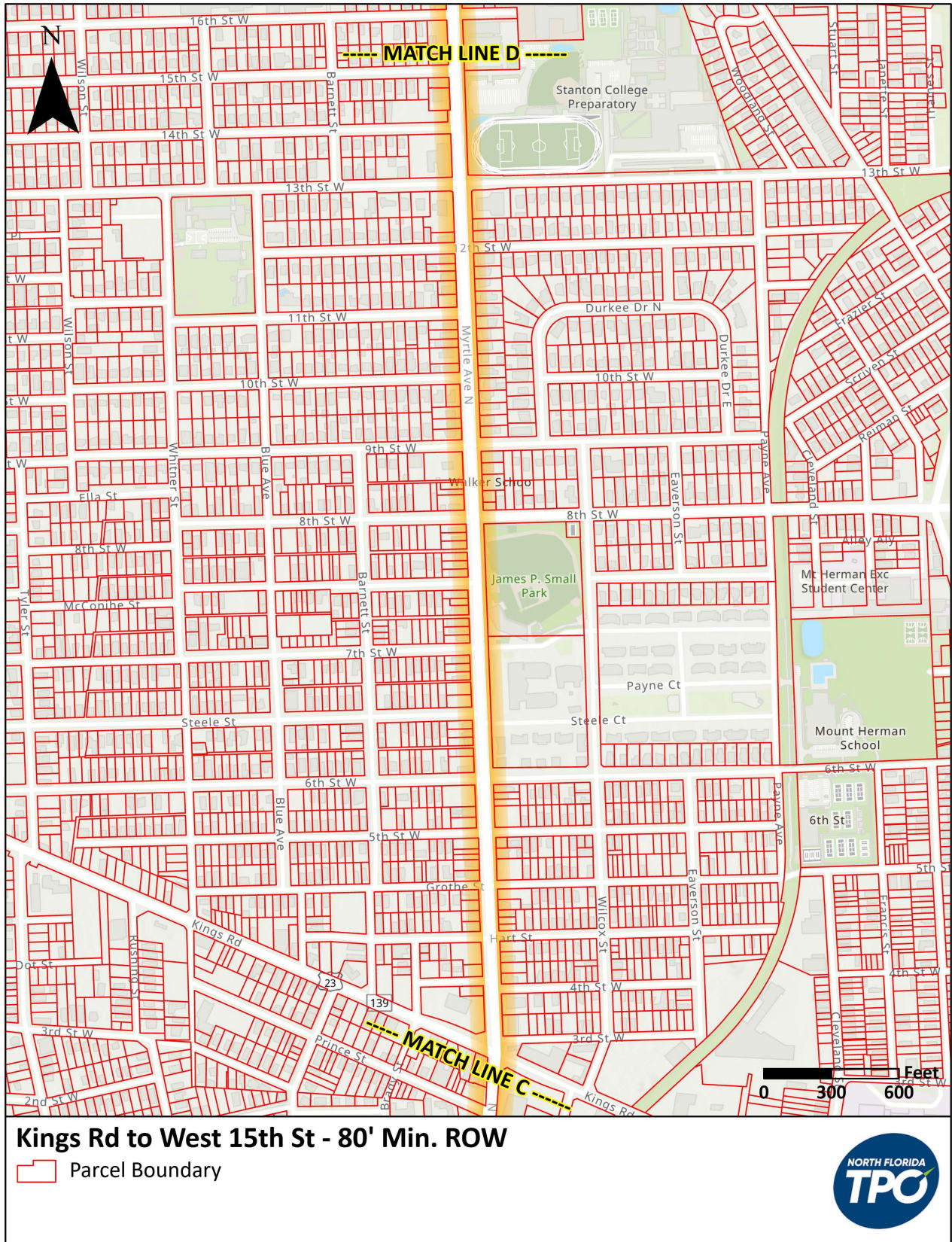
Date: 3/28/23

Source: FDOR 2022

**Figure 6 - Myrtle Avenue ROW (Dennis Street to Beaver Street)**



**Figure 7 – Myrtle Avenue ROW (Beaver Street to Kings Road)**



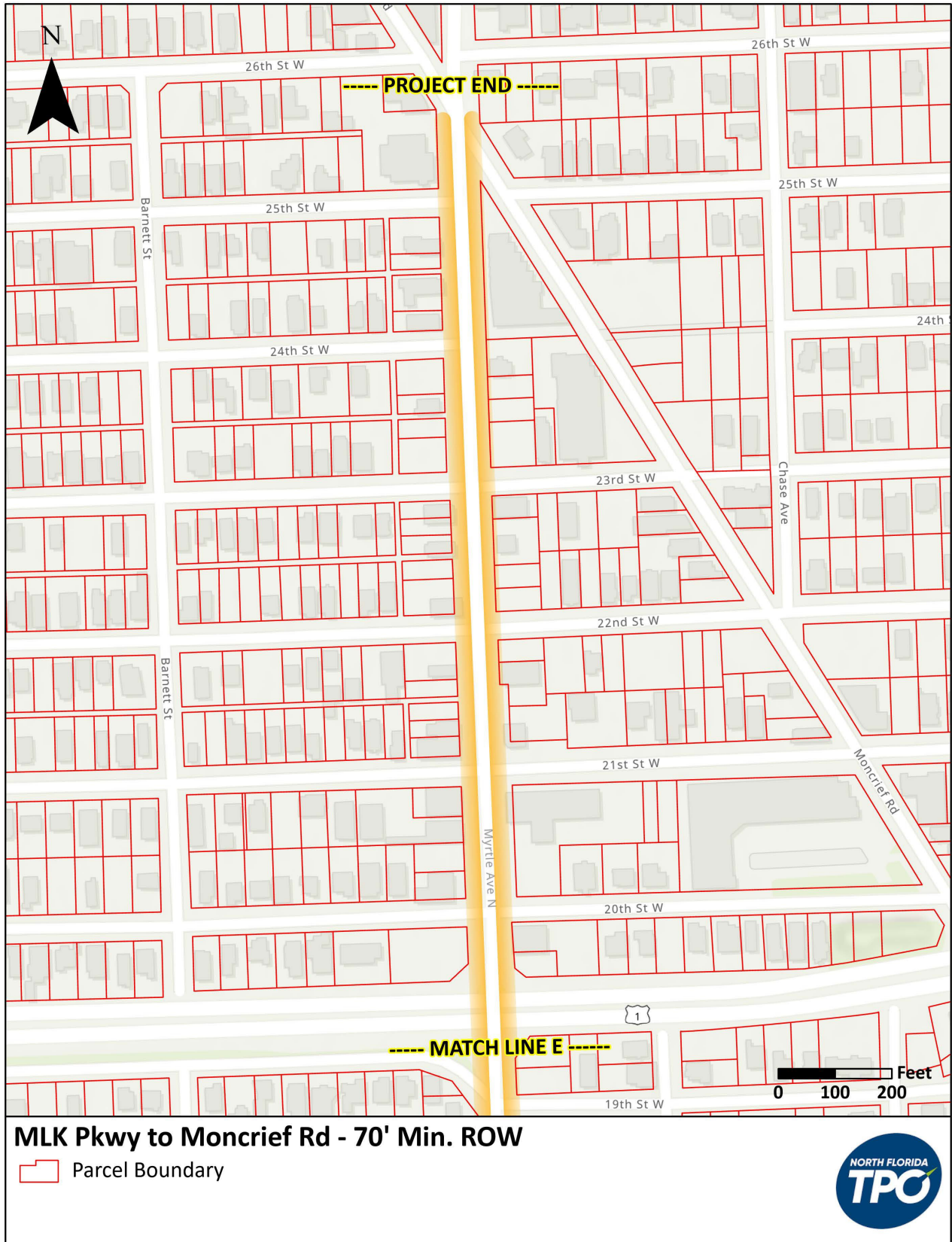
**Figure 8 – Myrtle Avenue ROW (Kings Road to West 15<sup>th</sup> Street)**



Date: 3/28/23

Source: FDOR 2022

**Figure 9 – Myrtle Avenue ROW (West 15<sup>th</sup> Street to MLK Parkway)**



Date: 3/28/23

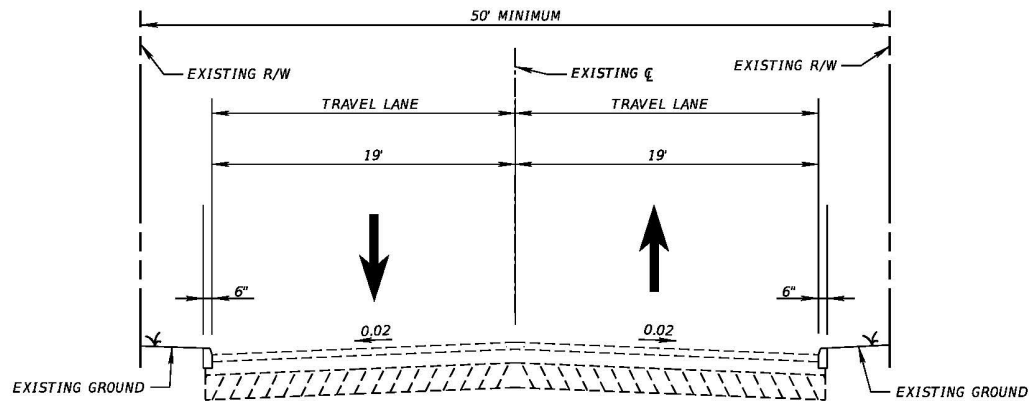
Source: FDOR 2022

Figure 10 – Myrtle Avenue ROW (MLK Parkway to Moncrief Road)

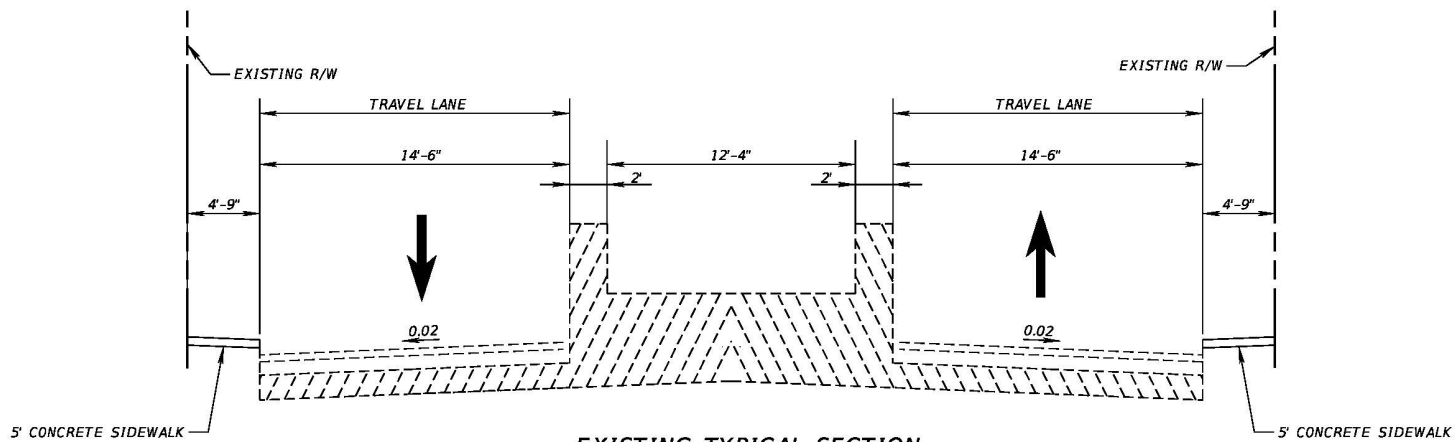
## 1.2 TYPICAL SECTION

The existing typical sections for Myrtle Avenue are depicted in Figure 11 to Figure 15. The corridor consists of two travel lanes with a center turn lane from Bay Street to Adams Street, Kings Road to 15<sup>th</sup> Street, and MLK Parkway to Moncrief Road. Lane widths are 12 LF north of Kings Road, with wider lanes from Forest Street to Adams Streets and Church Street to Beaver Street. There is 6" header curb throughout the corridor. Sidewalks are generally 5 LF to 6 LF wide; from Kings Road to 15<sup>th</sup> Street, the sidewalks are 9'3".

The segment from Dennis Street to Bay Street consists of the "subway," which is a former street car tunnel under the FEC Railway viaduct. The subway has a height limit of 9 LF, which restricts truck traffic to standard height pick-up trucks. In its current condition, the subway has two tunnels for vehicles separated by a raised utility chase in the center. Narrow sidewalks abut the outer wall of each tunnel but they offer no protection from vehicles.

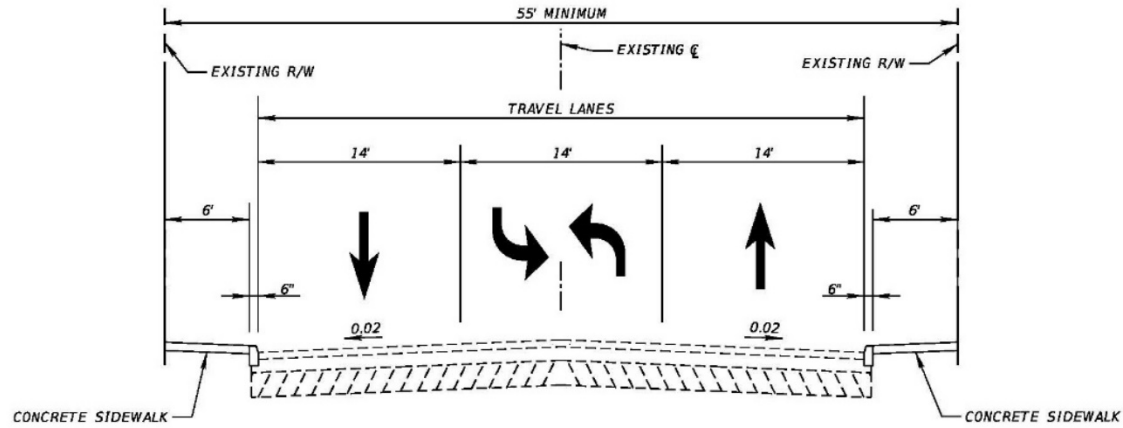


EXISTING TYPICAL SECTION  
S MYRTLE AVE - FOREST ST TO DENNIS ST  
N.T.S.

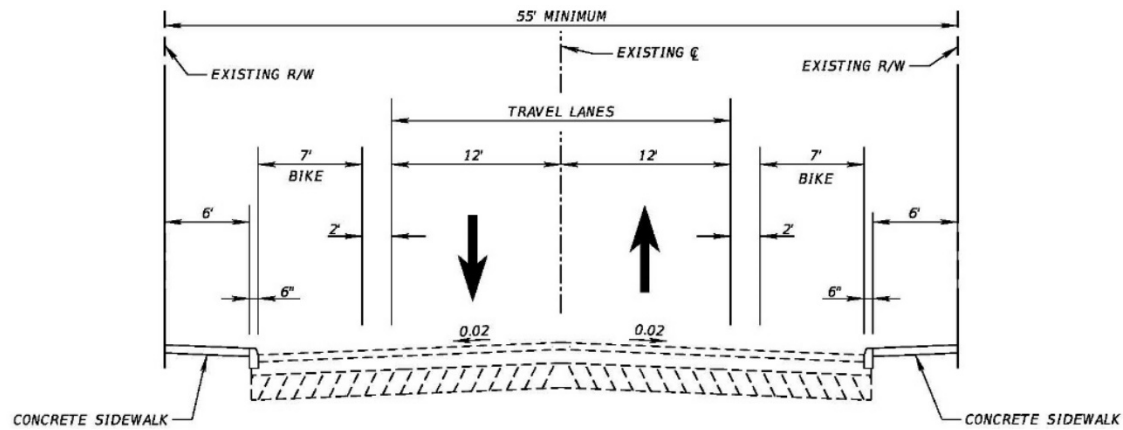


EXISTING TYPICAL SECTION  
S MYRTLE AVE - DENNIS ST TO BAY ST  
N.T.S.

Figure 11 - Myrtle Avenue Typical Sections (Forest Street to Bay Street)

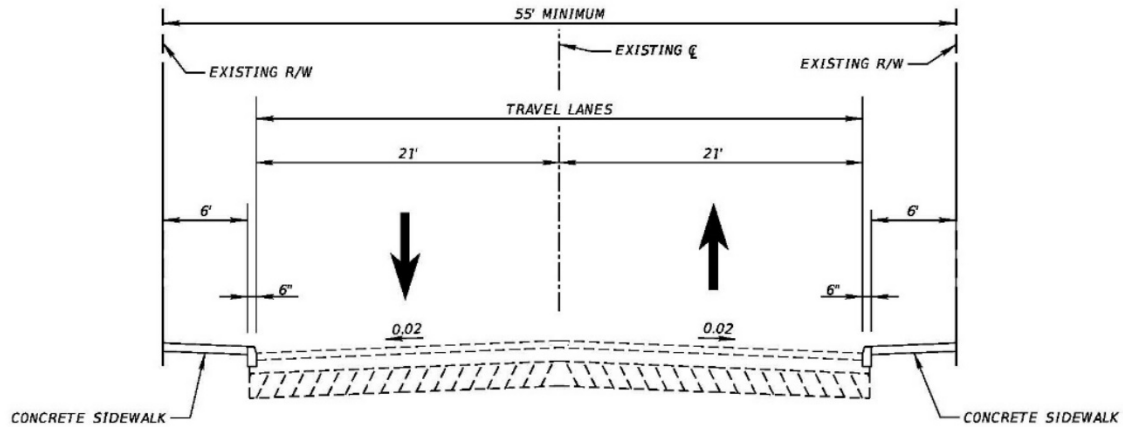


EXISTING TYPICAL SECTION  
S MYRTLE AVE - BAY ST TO ADAMS ST  
N.T.S.

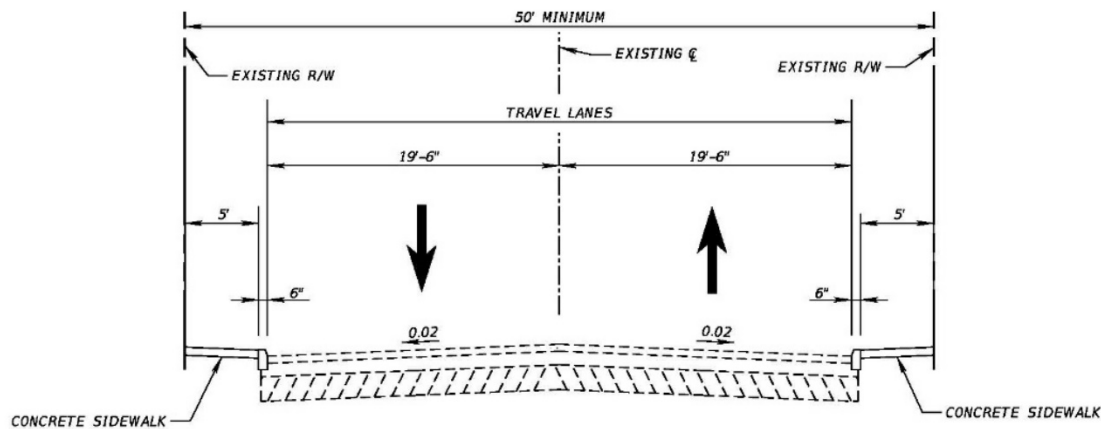


EXISTING TYPICAL SECTION  
S MYRTLE AVE - ADAMS ST TO CHURCH ST  
N.T.S.

Figure 12 – Myrtle Avenue Typical Sections (Bay Street to Church Street)

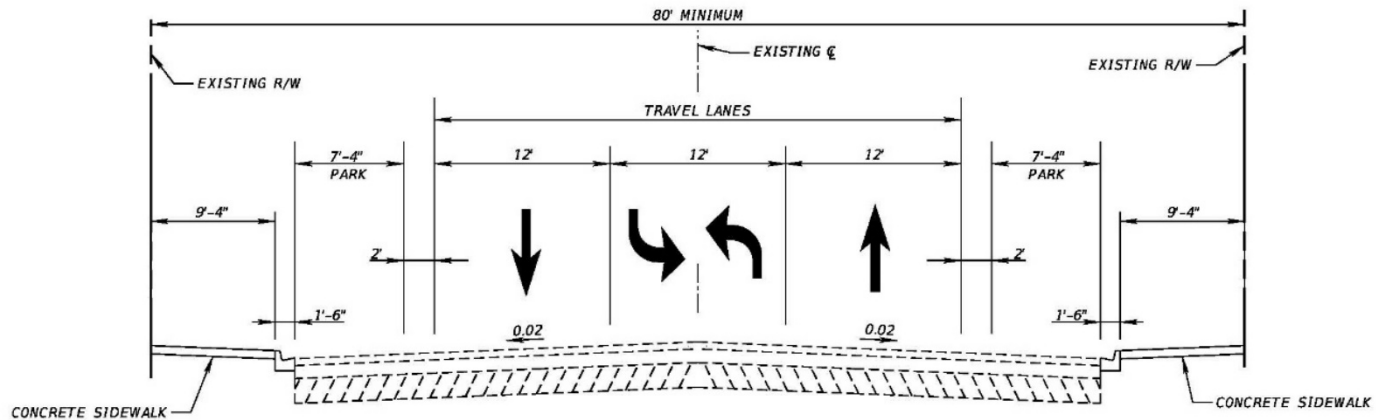


**EXISTING TYPICAL SECTION  
S MYRTLE AVE - CHURCH ST TO BEAVER ST  
N.T.S.**

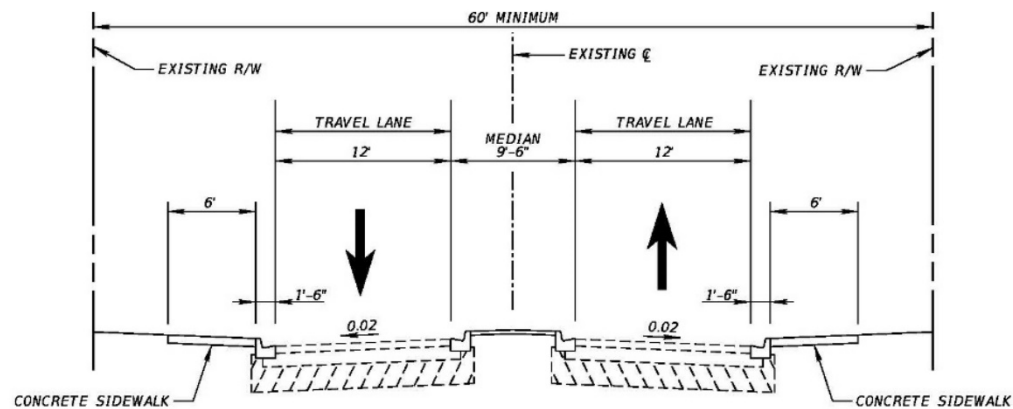


**EXISTING TYPICAL SECTION  
S MYRTLE AVE - BEAVER ST TO KINGS RD  
N.T.S.**

**Figure 13 - Myrtle Avenue Typical Sections (Church Street to Kings Road)**

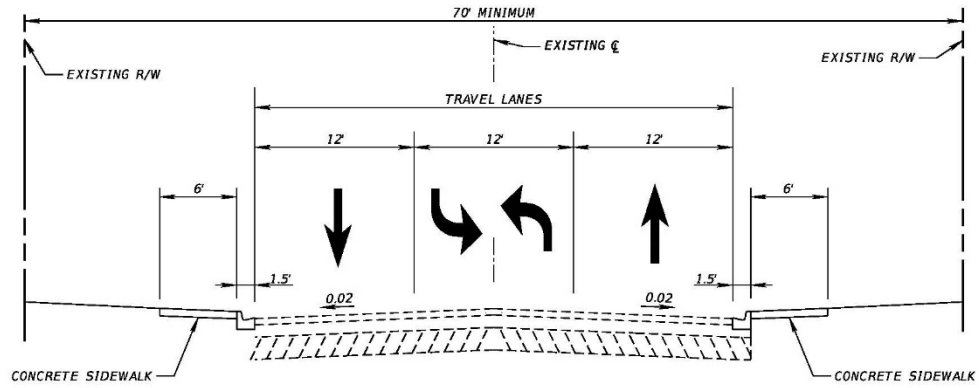


EXISTING TYPICAL SECTION  
S MYRTLE AVE - KINGS RD TO 15TH ST  
N.T.S.



EXISTING TYPICAL SECTION  
S MYRTLE AVE - 15TH ST TO MARTIN LUTHER KING JR PKWY  
N.T.S.

Figure 14 - Myrtle Avenue Typical Sections (Kings Road to MLK Parkway)



EXISTING TYPICAL SECTION  
S MYRTLE AVE - MARTIN LUTHER KING JR PKWY TO MONCRIEF RD  
N.T.S.

Figure 15 – Myrtle Avenue Typical Sections (MLK Parkway to Moncrief Road)

### **1.3 MAINTAINING AGENCY**

Myrtle Avenue is a City of Jacksonville maintained facility. Within the larger study area, major through routes include I-95, US 17 (Main Street), US 90 (Beaver Street), US 23 (Kings Road) and US 1 (MLK Parkway), all of which are FDOT maintained.

Figure 16 identifies the area roadways by maintaining agency.

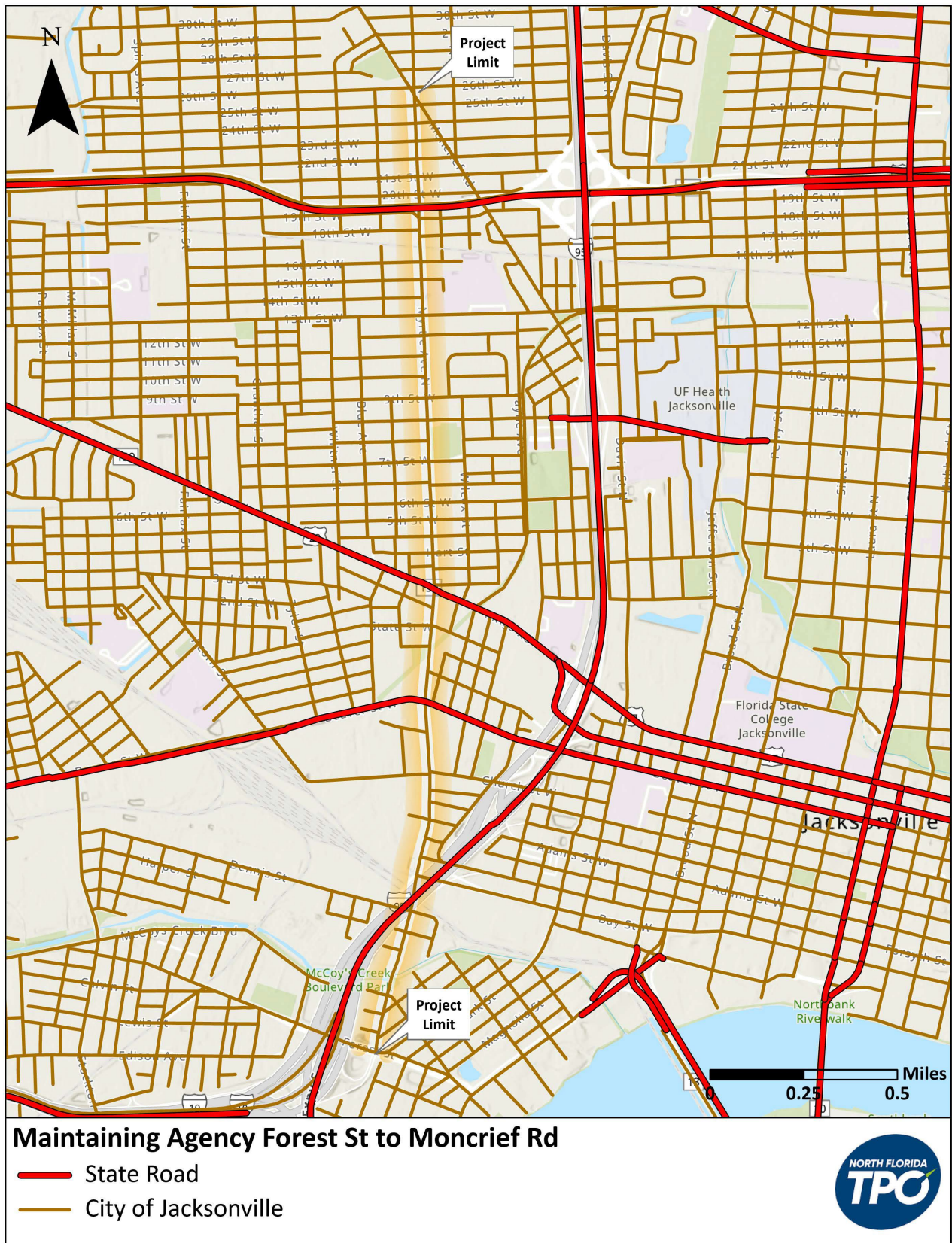
### **1.4 FUNCTIONAL CLASSIFICATION**

Myrtle Avenue is a non-state local road and is classified as a Major Collector (Urban) as are the study termini, Forest Street and Moncrief Avenue, west of Myrtle Avenue. US 90 (Beaver Street) is a Minor Arterial (Urban). US 23 (Kings Road) is a Principal Arterial Other (Urban) and US 1 (MLK Parkway) is a Principal Arterial Freeway and Expressway (Urban). The majority of the roads that intersect with Myrtle Avenue are local low speed neighborhood streets.

Figure 17 depicts the functional classification along the corridor and within the surrounding area.

### **1.5 POSTED SPEED LIMIT**

Posted speed limits (PSL) along the corridor and within the surrounding area are depicted in Figure 18. The Myrtle Avenue corridor has a 30 mph PSL throughout the study limits. Although PSL is a different element from design speed, the posted speed is indicative of the design speed.



Date: 3/28/23

Source: FDOT GIS 2023

**Figure 16 – Maintaining Agency**

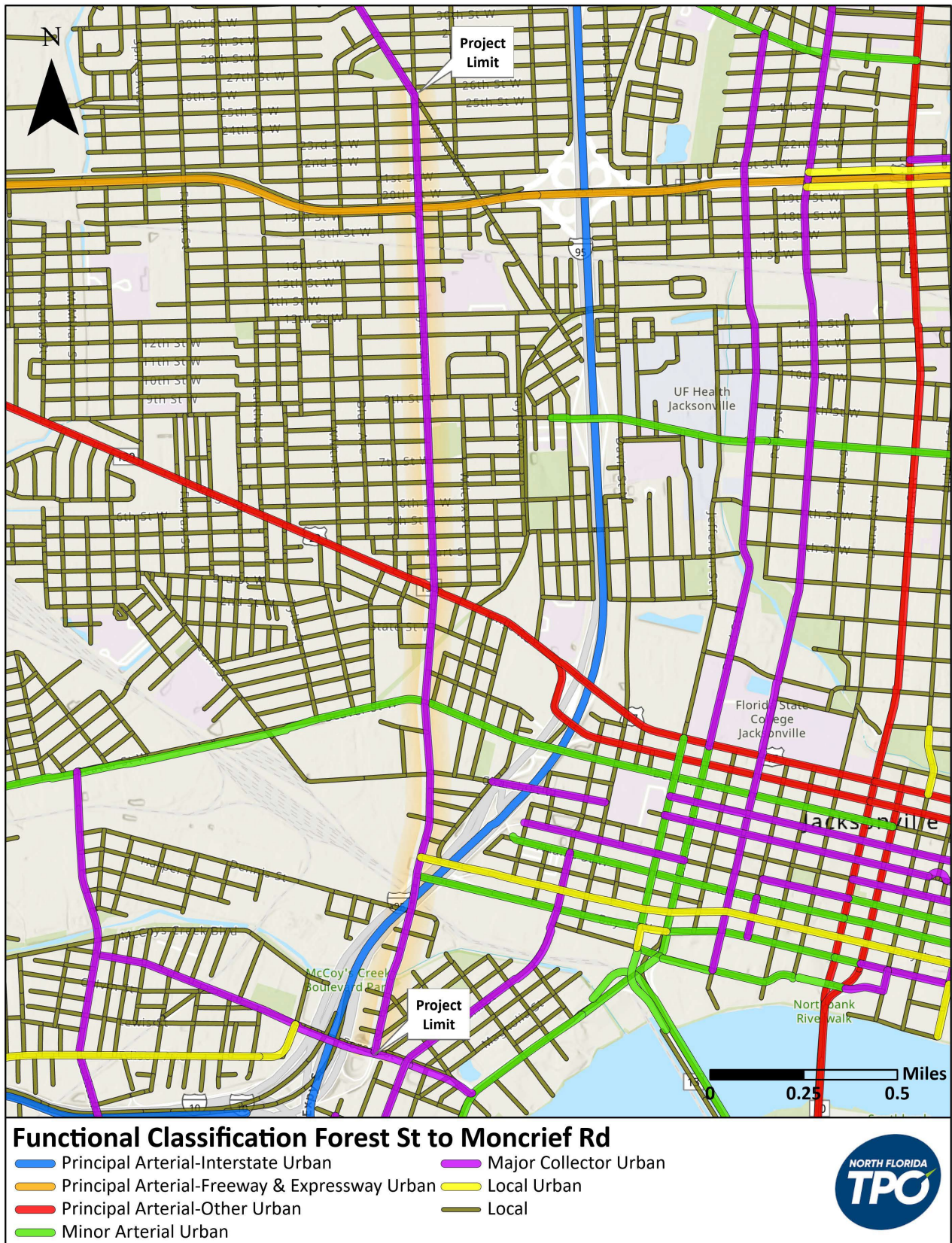
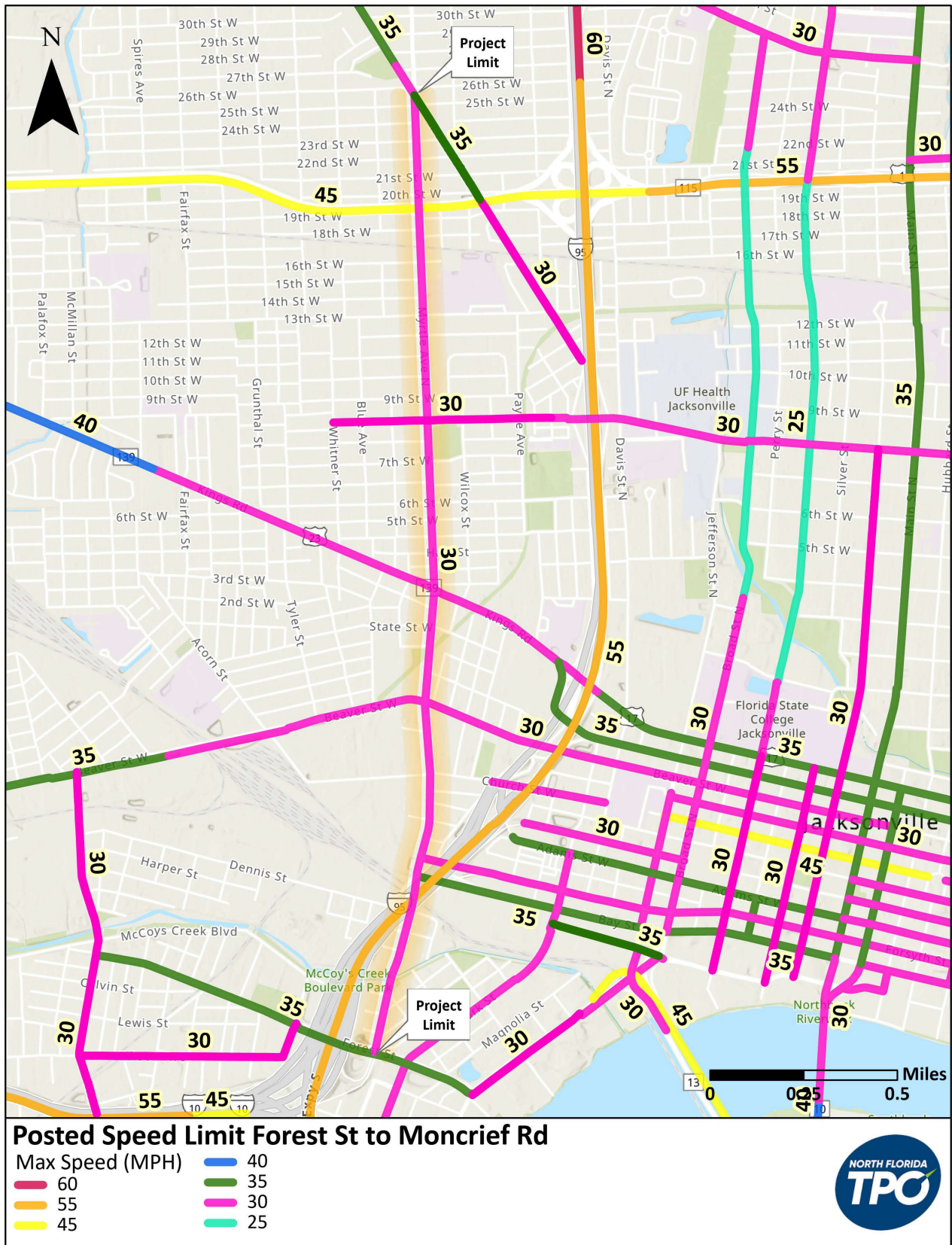


Figure 17 - Functional Classification



Date: 4/18/23

Source: FDOT GIS 2023

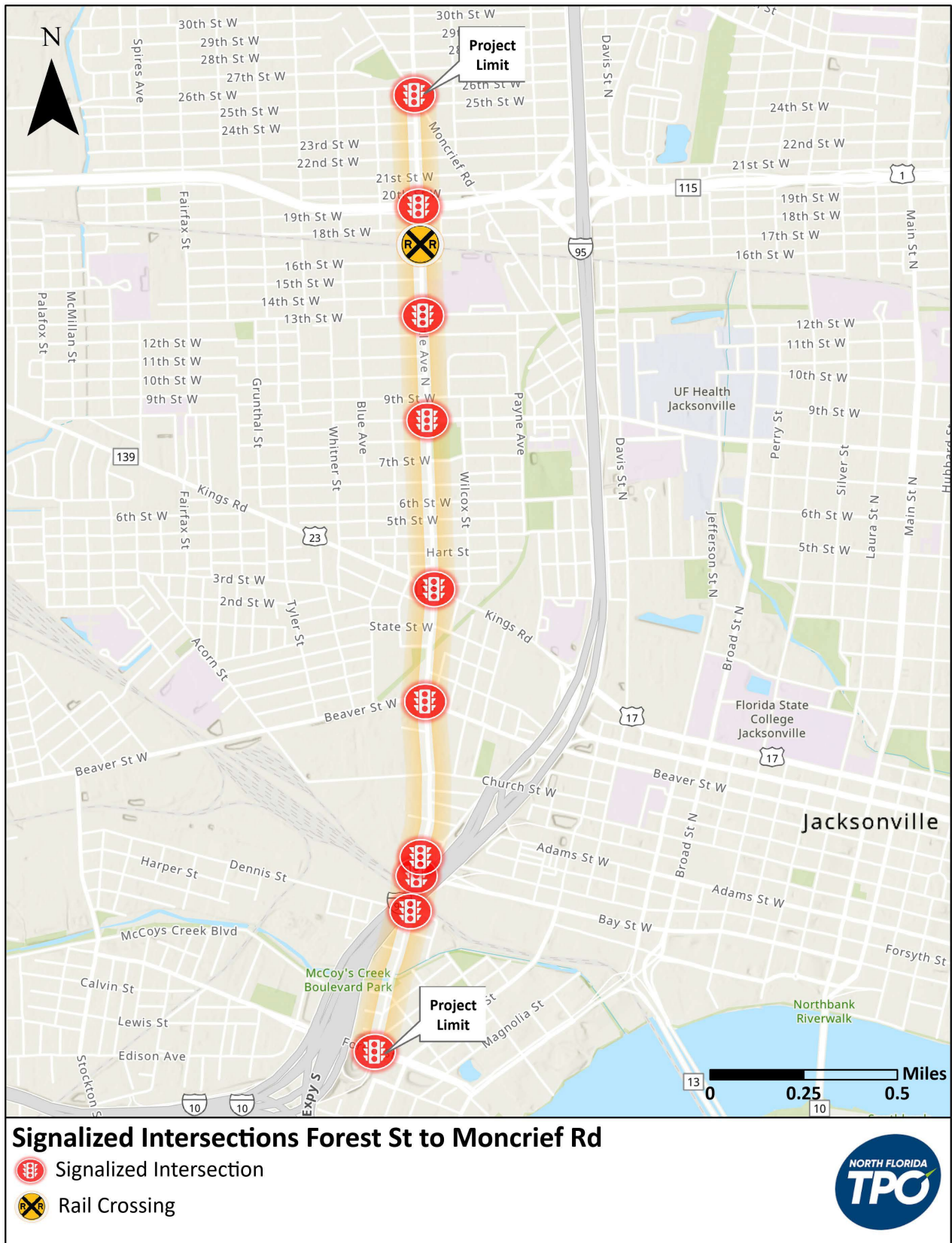
Figure 18 – Posted Speed Limits

## 1.6 TRAFFIC SIGNALS

Ten signalized intersections are located on the 2.5-mile corridor. Table 6 describes of the intersection geometry and signal equipment. Signal locations are detailed in Figure 19.

**Table 6 - Signalized Intersections**

Cross St	Turn Lanes	Crosswalks	Signal Backplates	FYA	Pedestrian Equipment
Forest Street	NB Left/NB Right SB Left EB Left WB Left	Standard crosswalks on 4 legs	No	No	Countdown pedestrian signals
Dennis Street	No	No	No	No	No
W. Bay Street	SB Left/SB Right WB Left	Standard Crosswalk, east leg	No	No	Non-countdown pedestrian signals
W. Forsyth Street	SB Left EB Left WB Left/WB Right	Standard Crosswalks, north and east legs	No	No	Non-countdown pedestrian signals
Beaver Street	NB Left SB Left	Standard crosswalks on 4 legs	No	No	Countdown pedestrian signals
Kings Road	NB Left SB Left/SB Right EB Left WB Left	Special Emphasis crosswalks on 4 legs	Yes	Yes	Countdown pedestrian signals
W. 8 <sup>th</sup> Street	NB Left SB Left	Standard crosswalks on 4 legs	No	No	Non-countdown pedestrian signals
W. 13 <sup>th</sup> Street	NB Left SB Left EB Left WB Left	Standard crosswalks on 4 legs	No	No	Countdown pedestrian signals
MLK Parkway	NB Left/NB Right SB Left/SB Right EB Left WB Left/WB Right	Standard crosswalks on east/west legs Decorative stamped asphalt on north/south legs	No	No	Countdown pedestrian signals
Moncrief Road	NB Left WB left	Decorative stamped asphalt on south leg	No	No	None



Date: 3/28/23

Source: FDOT GIS 2023

**Figure 19 – Signalized Intersections**

## 1.7 LIGHTING

From Forest Street to Kings Road, there are overhead Cobra-style light fixtures. These are primarily on only one side of the road: the location varies between the east and west sides. North of Kings Road to Moncrief Road, there are pedestrian scale, ornamental street lights are on both sides of the road.

## 1.8 UTILITIES

On the study corridor, there are multiple utility companies and infrastructure along, under and above the road. Based on information provided through Sunshine OneCall, there are 14 Utility Agent/Owners (UAOs), which are summarized in Table 7. UAOs include cable, fiberoptic and telephone lines; electric, water, sewer and gas; and traffic signals/ITS.

Above ground pedestals, poles, junction boxes and other utility markers within the existing ROW are present throughout the corridor and at most of the study intersections.

**Table 7 - Utilities**

Service Area Name	Utility Type
AT&T	Telephone/Cable/Telecommunications
CenturyLink	Internet/Telephone/Cable
City of Jacksonville Traffic	Signals/ITS
Comcast Cablevision	Telephone/Cable/Telecommunications
Crown Castle Fiber	Internet/Telephone/Cable/Telecommunications
Hargray of Florida, Inc	Internet/Telephone/Cable
Jacksonville Electric Authority	Water/Wastewater/Reclaimed Water/Power
MCI	Telephone/Cable/Telecommunications
Resurgence Infrastructure Group LLC	Dark Fiber Network
Southern Telecom Inc.	Dark Fiber-Optic
Sprint	Telecommunications
TECO Peoples Gas - Jacksonville	Gas
Traffic Control Devices Inc.	Signals/ITS
Uniti Fiber, LLC	Telephone/Cable/Telecommunications

Source: Sunshine OneCall (Sunshine 811)

## 1.9 RAILROADS

There is one existing at grade rail crossing on the Myrtle Avenue study corridor. The primary operating railroad is Norfolk Southern Railway Company and the line is used by freight trains. Table 8 summarizes the crossing data.

Crossing 385875Y is located on Myrtle Avenue, approximately 500 feet south of MLK Parkway. This is a public crossing with an estimated two switching trains per day and no daily through train movements. The maximum timetable speed is 10 mph. Traffic control devices include advance warning signs (two, W10-1) and railroad crossing symbols but no dynamic envelope. Activated warning devices include gate arms and flashing lights. The crossing is illuminated with street lights within 50 feet from the rail.

**Table 8 – Rail Crossing Data**

Item	Myrtle Avenue Crossing
DOT Crossing No.	713576Y
Location	Duval County, FL Between 16 <sup>th</sup> St and 18 <sup>th</sup> St
RR Milepost	002.730
Owner	BNSF
Type of Crossing	At-Grade
No. Thru Trains/Day	0
Total Switching Trains	2
Type of Track	Mainline – 1 track
Crossbuck Assemblies	2
Advance Warning Signs	W10-1 (2 EA)
Pavement Markings	Stop lines, RR Xing symbols
Illuminated	Yes
Quiet Zone	No

## 1.10 CONTEXT CLASSIFICATION

The provisional (existing) context classification of FDOT non-limited access roads is identified in Figure 20. Both Kings Road and Beaver Street are C4 (Urban General). While context classification applies only to FDOT roads, we assumed a provisional context classification of C4 for the study corridor based on a review of the built environment. Benesch will use the context classification in the concept development phase to inform key design elements, such as the design speeds, lane widths and types of pedestrian and bicycle facilities to be included in the design concept.



## 1.11 BICYCLE AND PEDESTRIAN FEATURES

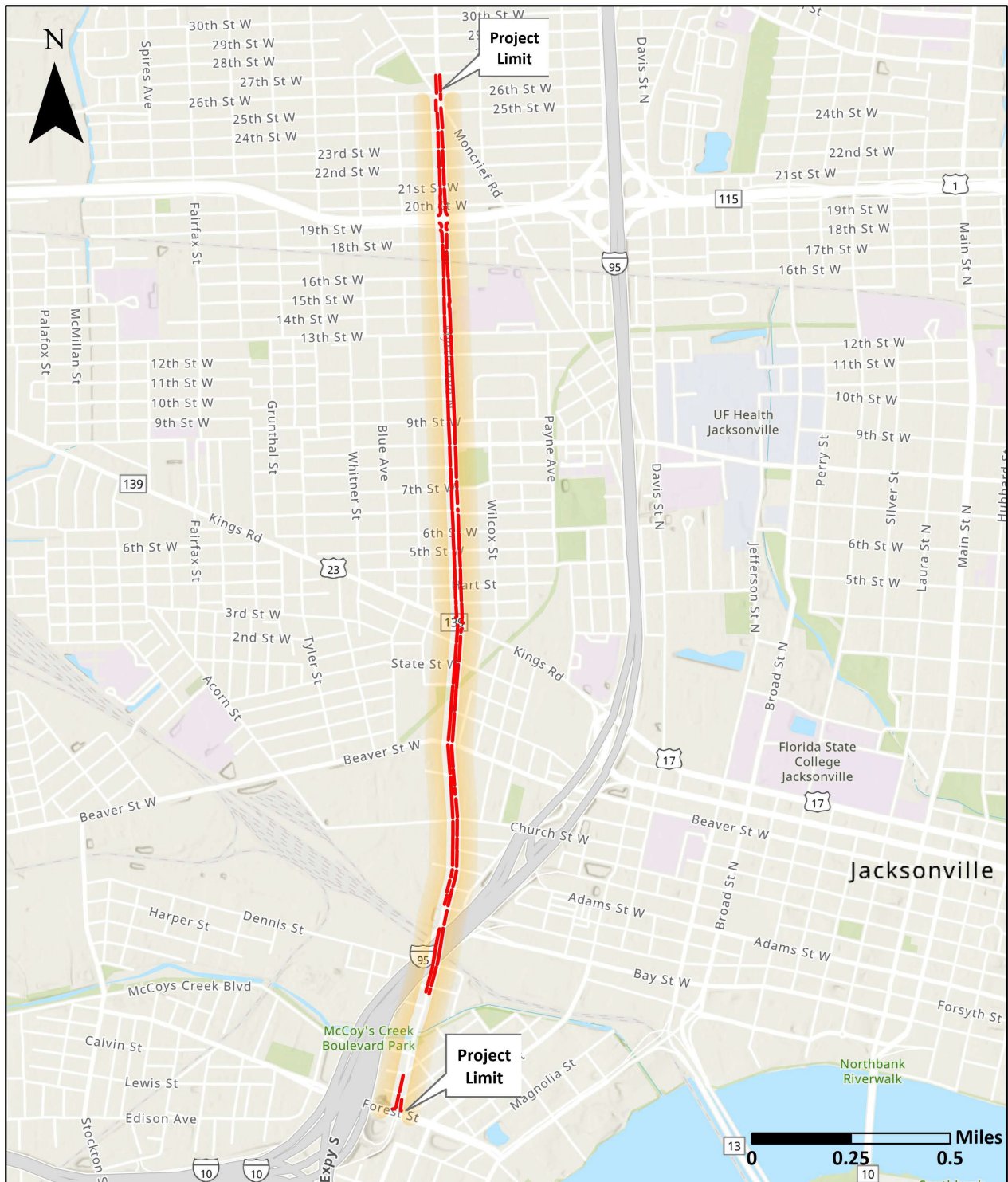
Sidewalk adjacent to the study corridor is illustrated in Figure 21. With the exception of a 1,100 LF gap at the south end of the corridor, between Elm Street and Harper Street, a continuous sidewalk exists along Myrtle Avenue on at least one side of the roadway throughout the study corridor. Sidewalk condition is detailed in Table 9. The existing facilities are mainly in good condition, except for the section between Harper Street and Dennis Street.

Bicycle facilities are depicted in Figure 22, including study area recommendations from the City of Jacksonville’s Pedestrian and Bicycle Master Plan.

From a multimodal perspective, improving the connectivity along Myrtle Avenue provides opportunities to eliminate pedestrian/bicycle gaps within the overall network, reduce pedestrian/bicycle/auto conflict points, and increase multimodal safety within the corridor. Increased multimodal connectivity may also reduce short local auto trips.

**Table 9 – Myrtle Avenue Sidewalk Inventory**

From	To	East	West	Condition
Forest Street	Elder Street/ Spruce Street	Yes	Yes	Good
Elder Street	Elm Street	No	Yes	Good
Elm Street	Harper Street	No	No	N/A
Harper Street	Dennis Street	Yes	Yes	Poor
Dennis Street	W. Bay Street	Yes	Yes	Good
W. Bay Street	W. Forsyth Street	Yes	No	Good
W. Forsyth Street	Houston Street	Yes	Yes	Good
Houston Street	Kings Road	Yes	Yes	Poor
Kings Road	Moncrief Road	Yes	Yes	Good



**Sidewalk Facilities Forest St to Moncrief Rd**

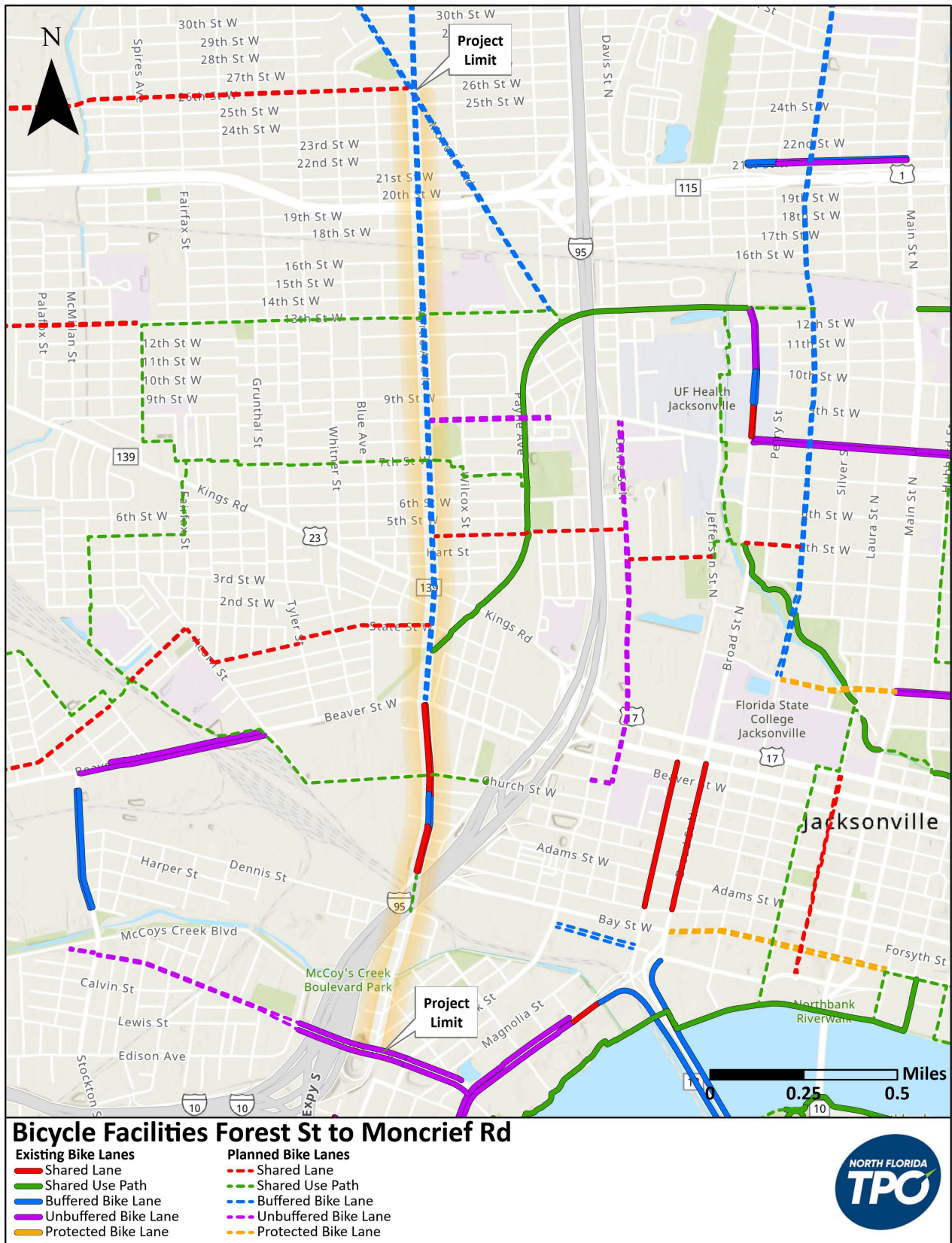
— Existing Sidewalk



Date: 3/28/23

Source: FDOT GIS 2023

**Figure 21 – Sidewalk Facilities**



Date: 3/28/23

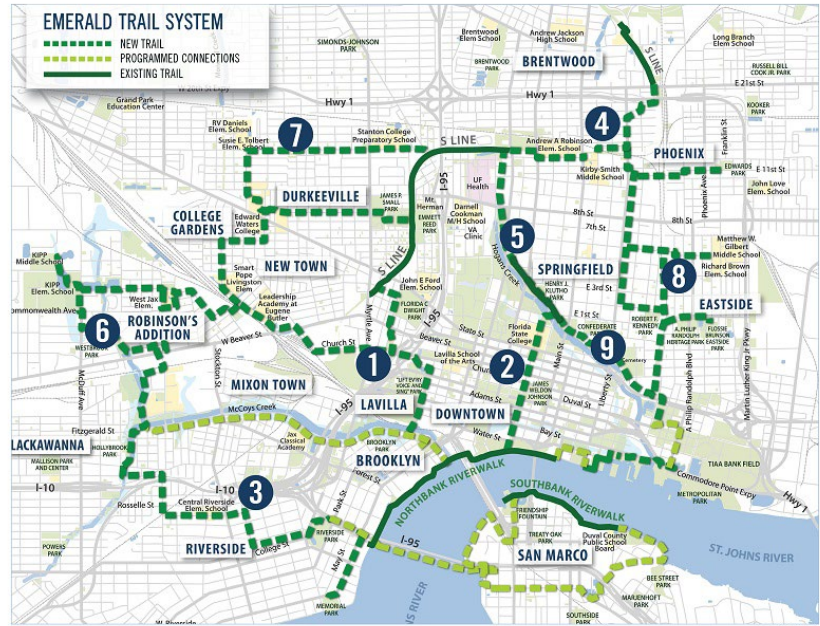
Source: COJ GIS 2023

Figure 22 – Bicycle Facilities

## 1.12 TRAILS

The Emerald Trail is a planned 30-mile bicycle/pedestrian trail and linear park system that will connect 14 historic neighborhoods and downtown Jacksonville to local and regional trails, parks, schools, businesses, transit and other destinations. The McCoy's Creek Greenway segment will cross Myrtle Avenue, with a side path on the east side of the road from McCoy's Creek Boulevard to McCoy's Creek. The project is currently under construction. Segment 7, Northwest Connector, is a Tier 2 project (unfunded). It will cross Myrtle Avenue at 7<sup>th</sup> Street (James P. Small Park) and at W. 13<sup>th</sup> Street.

The S-Line Rail Trail/Urban Greenway spans between Myrtle Avenue, in the Rail Yard District, to Norwood Avenue. When completed, the 4.8-mile multiuse path will connect the Durkeeville, Springfield and Brentwood neighborhoods. The Myrtle Avenue trail head is currently located between Logan Street and Union Street West but is currently being relocated to State Street.



*The McCoy's Creek Greenway, Northwest Connector and S-Line Urban Greenway will provide connections to Myrtle Avenue as part of the 30-mile Emerald Trail. (Image: Groundwork Jacksonville)*

## 1.13 TRANSIT DATA/ROUTES

JTA provides transit service throughout the Jacksonville metro area. Route 12 (Myrtle/Lem Turner) operates on Myrtle Avenue, between West Bay Street and West 27<sup>th</sup> Street. Figure 23 depicts the transit routes and stops along the study corridor and within the surrounding area. Myrtle Avenue has multiple transit stops north of Kings Road in the residential section of the corridor. Fewer stops are in the more commercial/industrial section, south of Kings Road.

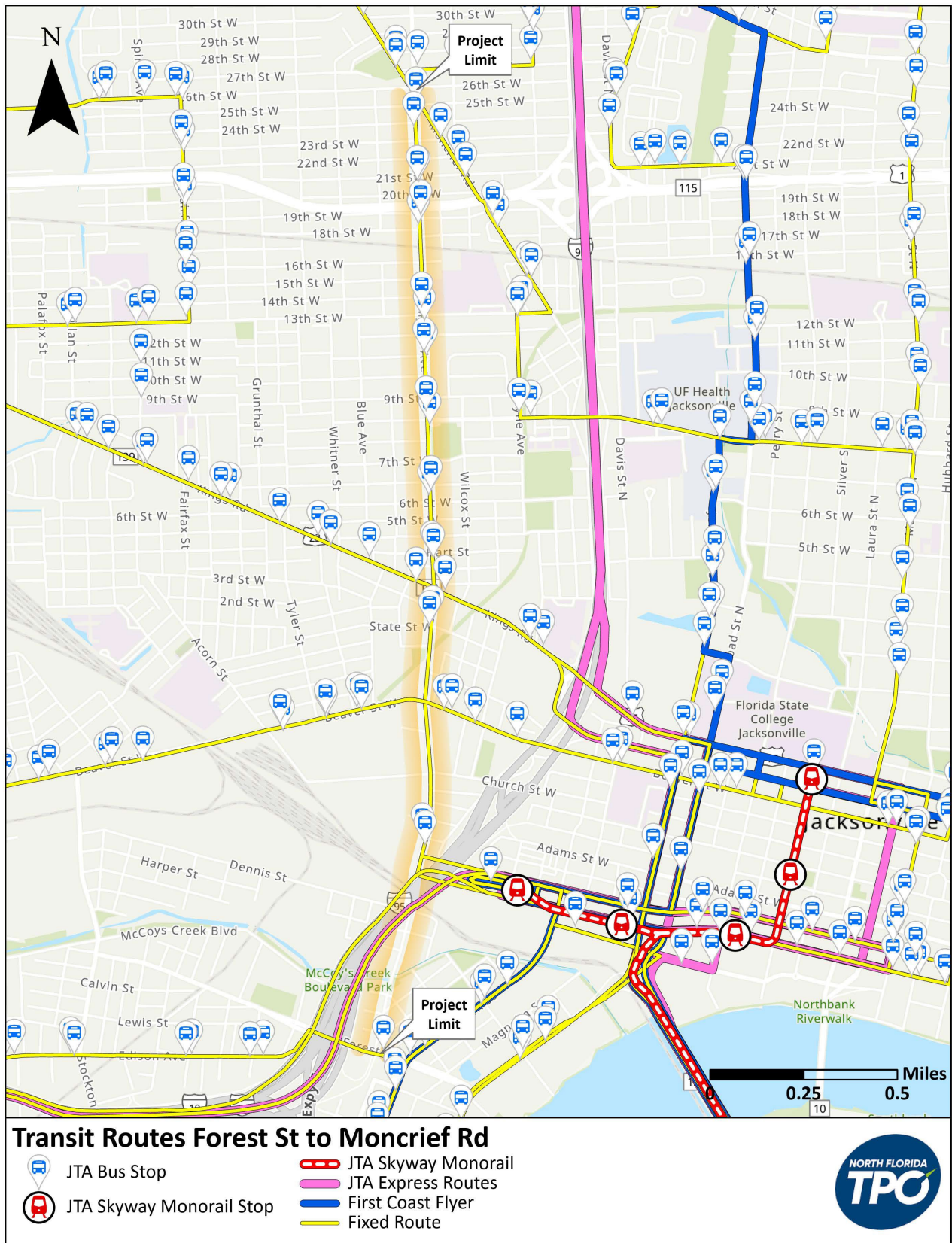


Figure 23 – Transit Routes

## 1.14 EXISTING TRAFFIC VOLUMES

Traffic volumes on the corridor were obtained from the City of Jacksonville Planning and Development Department and are provided in Table 10. There are no counts for the south end of the corridor from Forest Street to north of Beaver Street. It’s reasonable to assume, based on knowledge of the corridor and that the “subway” limits vehicle height to 9 LF, that both truck traffic and overall traffic volumes are lower in this section.

In the upper 2/3 of the corridor, the annual average daily traffic volumes (AADT) are fairly consistent between Kings Road and Moncrief Road, ranging from approximately 5,800 vehicles per day (vpd) on the south end of the corridor to 5,600 vpd, south of Moncrief Road. Similar to the AADT, the segment with highest peak hour volumes is south of Kings Road, with 518 vehicles per hour (vph) in the a.m. peak and 717 vph in the p.m. peak hour.

A planning level analysis of existing peak hour traffic volumes was conducted using the generalized service volume tables in the FDOT *Multimodal Quality/Level of Service Handbook*. The results are also provided in Table 10. At current peak hour traffic volumes, Myrtle Avenue is operating at level of service (LOS) D and has ample capacity for current traffic volumes.

The counts, LOS Tables and supporting documentation are at the end of this document.

**Table 10 – Traffic Volumes**

Location	Year	AADT	LOS Std	Peak Hour MSV <sup>1, 2</sup>	Peak Volume		LOS	
					AM	PM	AM	PM
Myrtle Avenue, 200' S/O Kings Road	2021	5,833	E	1,944	518	717	D	D
Myrtle Avenue, 100' S/O Moncrief Road	2019	5,608	E	2,041	371	499	D	D

<sup>1</sup> FDOT 2023 *Multimodal Quality/Level of Service Handbook, Generalized Service Volume Tables*

<sup>2</sup> *Maximum Service Volume*

# Traffic Count Data

## Q/LOS Tables

Peggy Malone and Associates

WEEKLY SUMMARY FOR LANE 1  
Starting: 11/3/2021

Page: 1

Station #: NW473  
Site ID: 000000004063  
Loc: Myrtle Ave S/o Moncrief Rd  
Direction: NORTH

File: NW473.prn  
Info: 21-308 JB MIN  
GPS: 30.359264,-81.675993

TIME	MON		TUE		WED		THU		FRI		SAT		SUN		WK TOT		WK AVG	
	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm
Lane 1																		
00:15					20	40									20	40	20	40
00:30					11	66									11	66	11	66
00:45					14	50									14	50	14	50
01:00					5	58									5	58	5	58
01:15					10	55									10	55	10	55
01:30					8	52									8	52	8	52
01:45					8	53									8	53	8	53
02:00					2	44									2	44	2	44
02:15					6	51									6	51	6	51
02:30					8	53									8	53	8	53
02:45					5	48									5	48	5	48
03:00					5	49									5	49	5	49
03:15					6	59									6	59	6	59
03:30					1	59									1	59	1	59
03:45					3	73									3	73	3	73
04:00					7	60									7	60	7	60
04:15					4	61									4	61	4	61
04:30					8	67									8	67	8	67
04:45					6	71									6	71	6	71
05:00					8	71									8	71	8	71
05:15					6	72									6	72	6	72
05:30					9	60									9	60	9	60
05:45					12	59									12	59	12	59
06:00					17	61									17	61	17	61
06:15					21	72									21	72	21	72
06:30					16	84									16	84	16	84
06:45					14	54									14	54	14	54
07:00					25	47									25	47	25	47
07:15					36	51									36	51	36	51
07:30					29	36									29	36	29	36
07:45					37	43									37	43	37	43
08:00					31	40									31	40	31	40
08:15					57	31									57	31	57	31
08:30					52	29									52	29	52	29
08:45					47	34									47	34	47	34
09:00					35	28									35	28	35	28
09:15					29	29									29	29	29	29
09:30					39	18									39	18	39	18
09:45					34	32									34	32	34	32
10:00					42	31									42	31	42	31
10:15					36	28									36	28	36	28
10:30					31	18									31	18	31	18
10:45					33	14									33	14	33	14
11:00					48	22									48	22	48	22
11:15					47	16									47	16	47	16
11:30					53	14									53	14	53	14
11:45					35	14									35	14	35	14
12:00					45	7									45	7	45	7

TOTALS	3245		3245		3245	
AM Times	08:15		08:15		08:15	
AM Peaks	191		191		191	
AM PHF	0.84		0.84		0.84	
PM Times	16:30		16:30		16:30	
PM Peaks	281		281		281	
PM PHF	0.98		0.98		0.98	

# **APPENDIX D**

## **Safety Review**

# 1 SAFETY ASSESSMENT

Crash records were obtained for the City of Jacksonville for a five-year period (2018 through 2022) from the University of Florida’s Signal Four Analytics.

## 1.1 TOTAL CRASHES

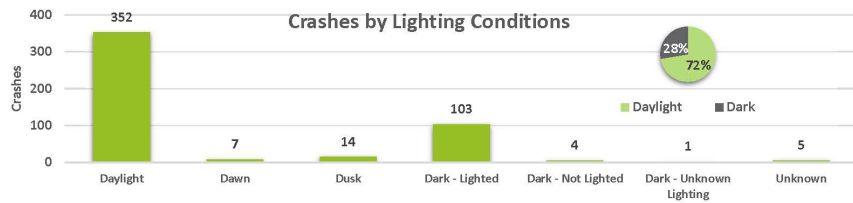
A total of 486 crashes occurred on the corridor during the analysis period, including one fatality (in 2021) and four incapacitating injury crashes. Crash statistics are detailed in Figure 1 and depicted by location and year in Figure 2 to Figure 5. On an annual basis, crashes have increased in the last two years.

The most common crash type is rear end, with 25.7% of crashes during the five-year study period. The next highest crash type is left turn (18.1%) followed by off road (13.2%), angle (11.9%) and sideswipe (11.1%). These four crash types comprise 69% of total crashes. There were 15 pedestrian and seven bicycle crashes.

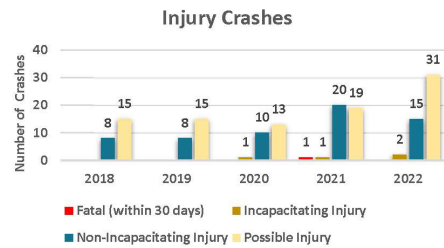
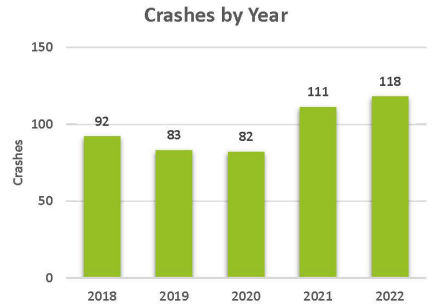
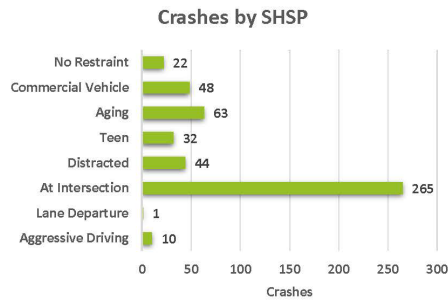
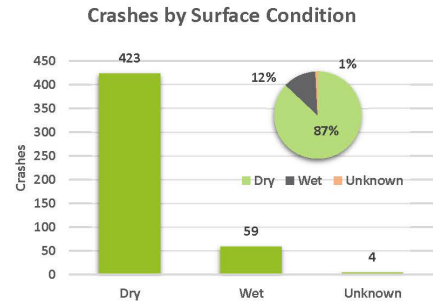
During the analysis period, a little more than half of the total crashes (56%) occurred at an intersection. Surface conditions were primarily dry (87%). The majority (72%) of crashes occurred during daylight conditions.

TOTAL CRASHES						
Crash History by Year	Fatal (K)	Incapacitating (A)	Non-Incapacitating (B)	Possible Injury (C)	No Reported Injury (O)	Total Crashes
2018	0	0	8	15	69	92
2019	0	0	8	15	60	83
2020	0	1	10	13	58	82
2021	1	1	20	19	70	111
2022	0	2	15	31	70	118
<b>TOTAL</b>	<b>1</b>	<b>4</b>	<b>61</b>	<b>93</b>	<b>327</b>	<b>486</b>
<b>% of Total</b>	<b>0.2%</b>	<b>0.8%</b>	<b>12.6%</b>	<b>19.1%</b>	<b>67.3%</b>	

PEDESTRIAN & BICYCLIST CRASHES						
Crash History by Year	Fatal (K)	Incapacitating (A)	Non-Incapacitating (B)	Possible Injury (C)	No Reported Injury (O)	Total Crashes
2018	0	0	2	1	1	4
2019	0	0	1	2	0	3
2020	0	0	1	1	1	3
2021	0	0	1	0	0	1
2022	0	2	4	5	0	11
<b>TOTAL</b>	<b>0</b>	<b>2</b>	<b>9</b>	<b>9</b>	<b>2</b>	<b>22</b>
<b>% of Total</b>	<b>0.0%</b>	<b>9.1%</b>	<b>40.9%</b>	<b>40.9%</b>	<b>9.1%</b>	



### Crash Statistics (2018 - 2022)



### MYRTLE AVE N FROM MONCRIEF RD TO FOREST ST

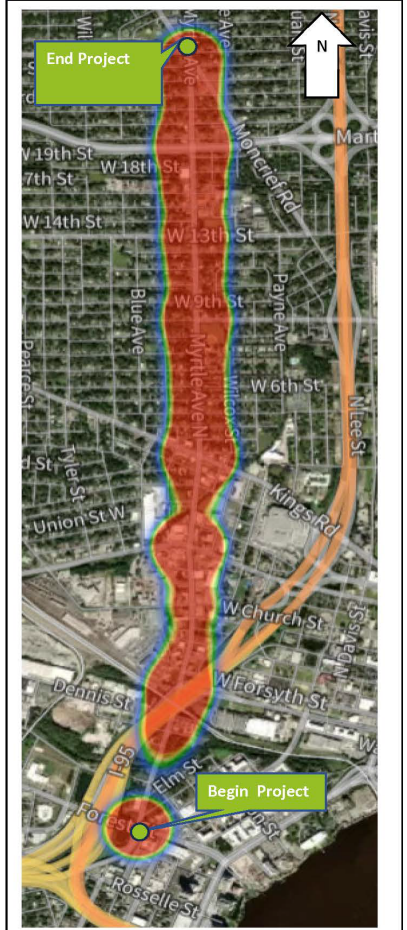
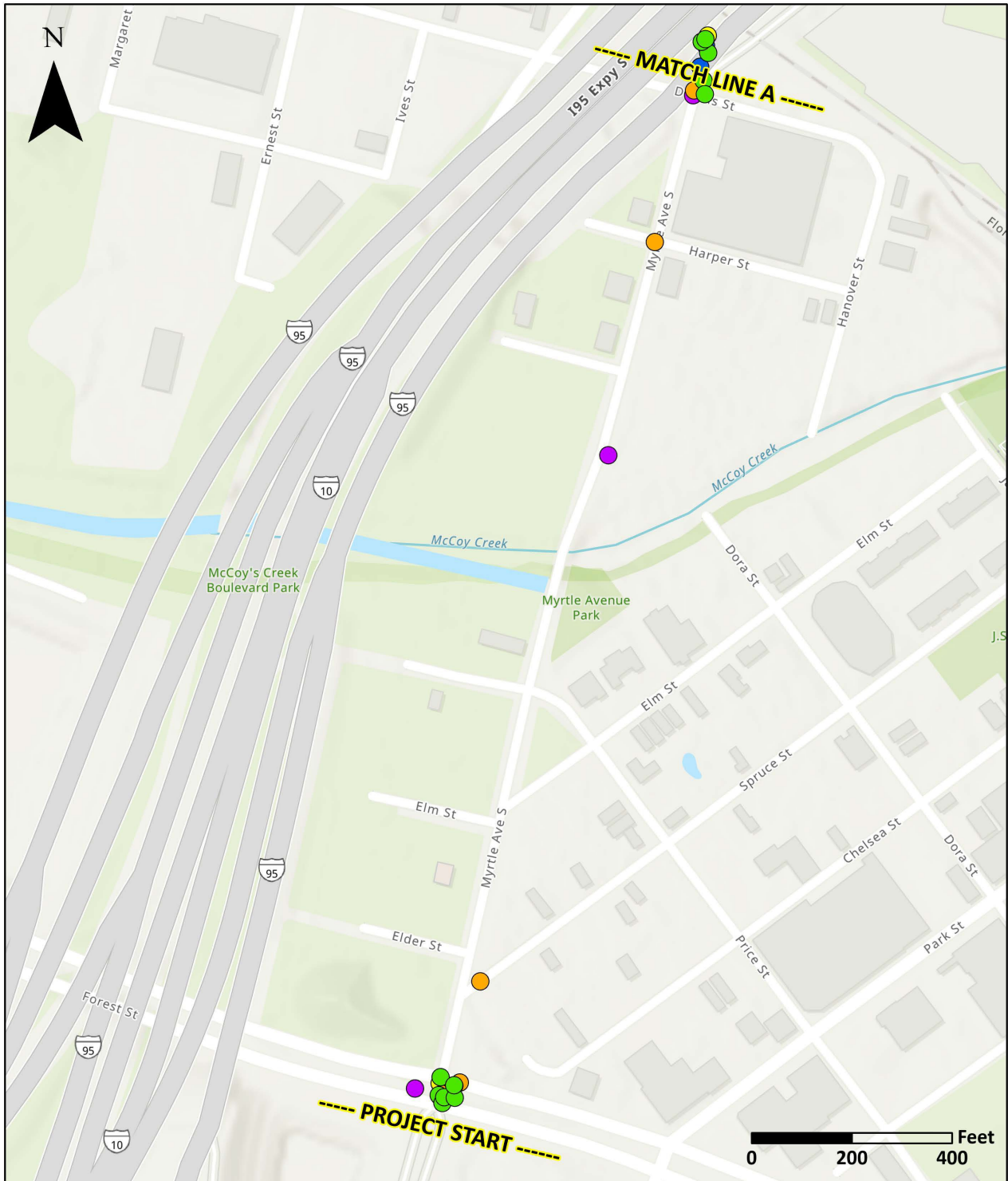



Figure 1 - Crash Statistics



**Segment 1: Forest St to Dennis St Crashes by Year 2018 - 2022**

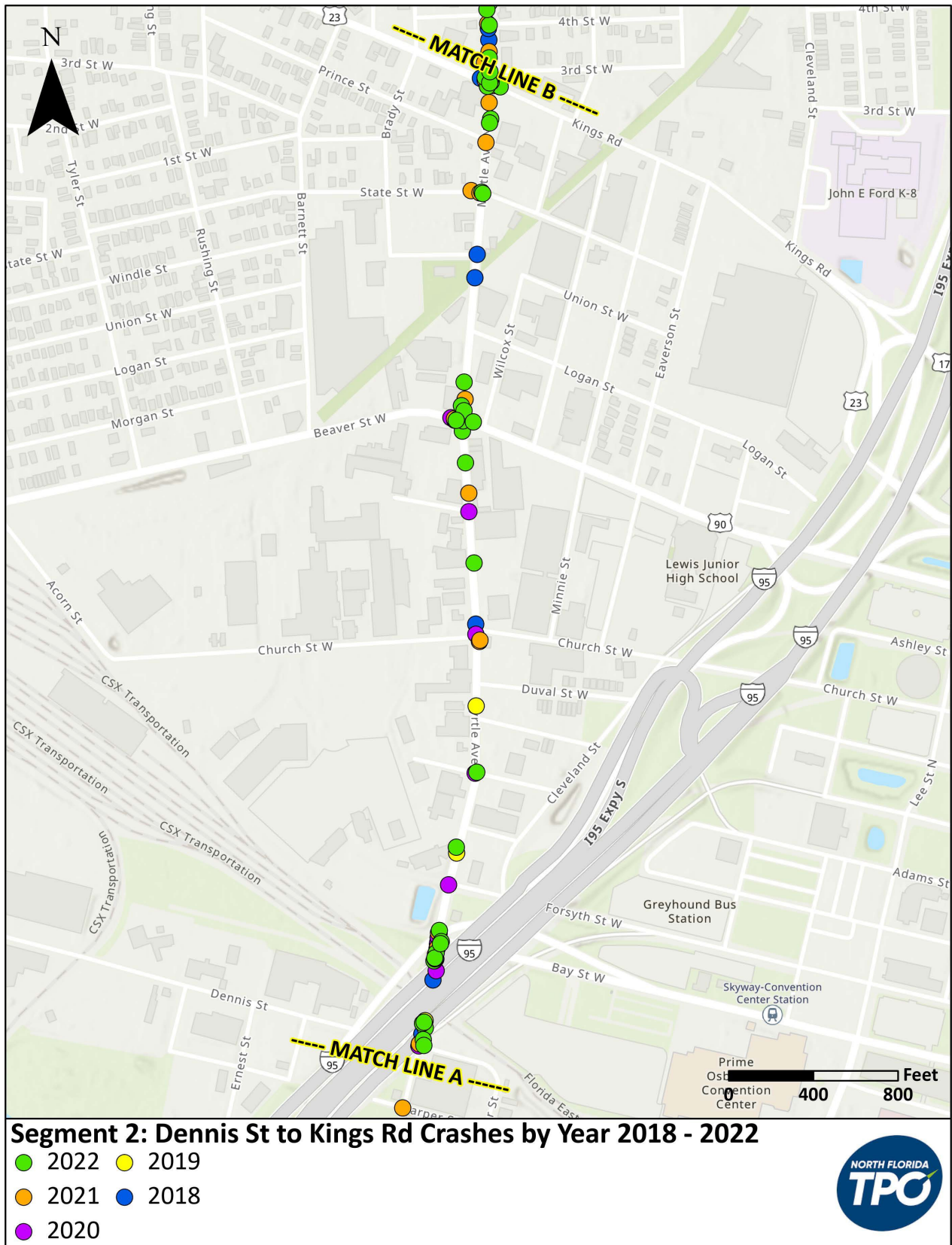
- 2022 ● 2019
- 2021 ● 2018
- 2020



Date: 3/28/23

Source: Signal Four Analytics (2018 - 2022)

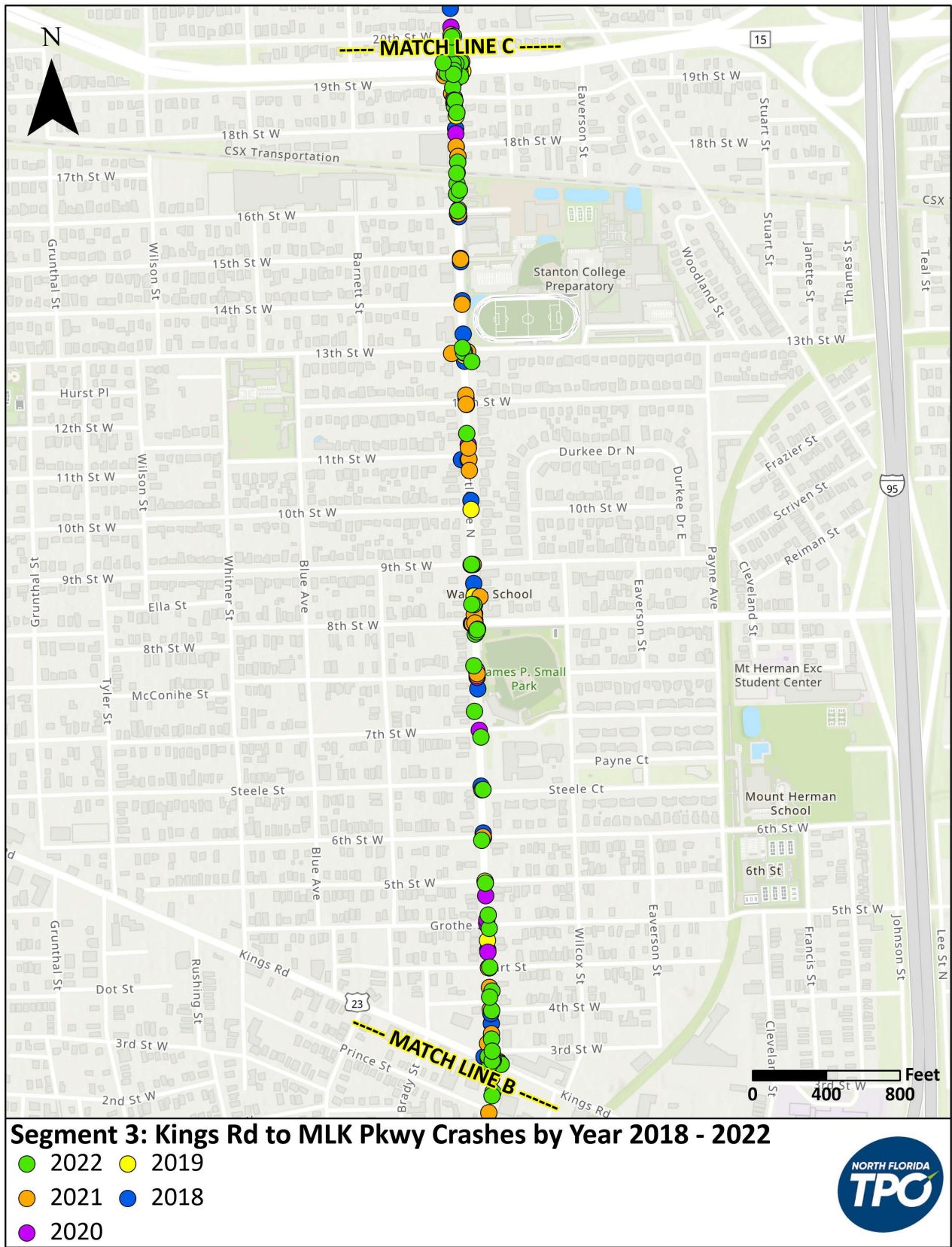
**Figure 2 – Crashes by Year (Segment 1)**



Date: 3/28/23

Source: Signal Four Analytics (2018 - 2022)

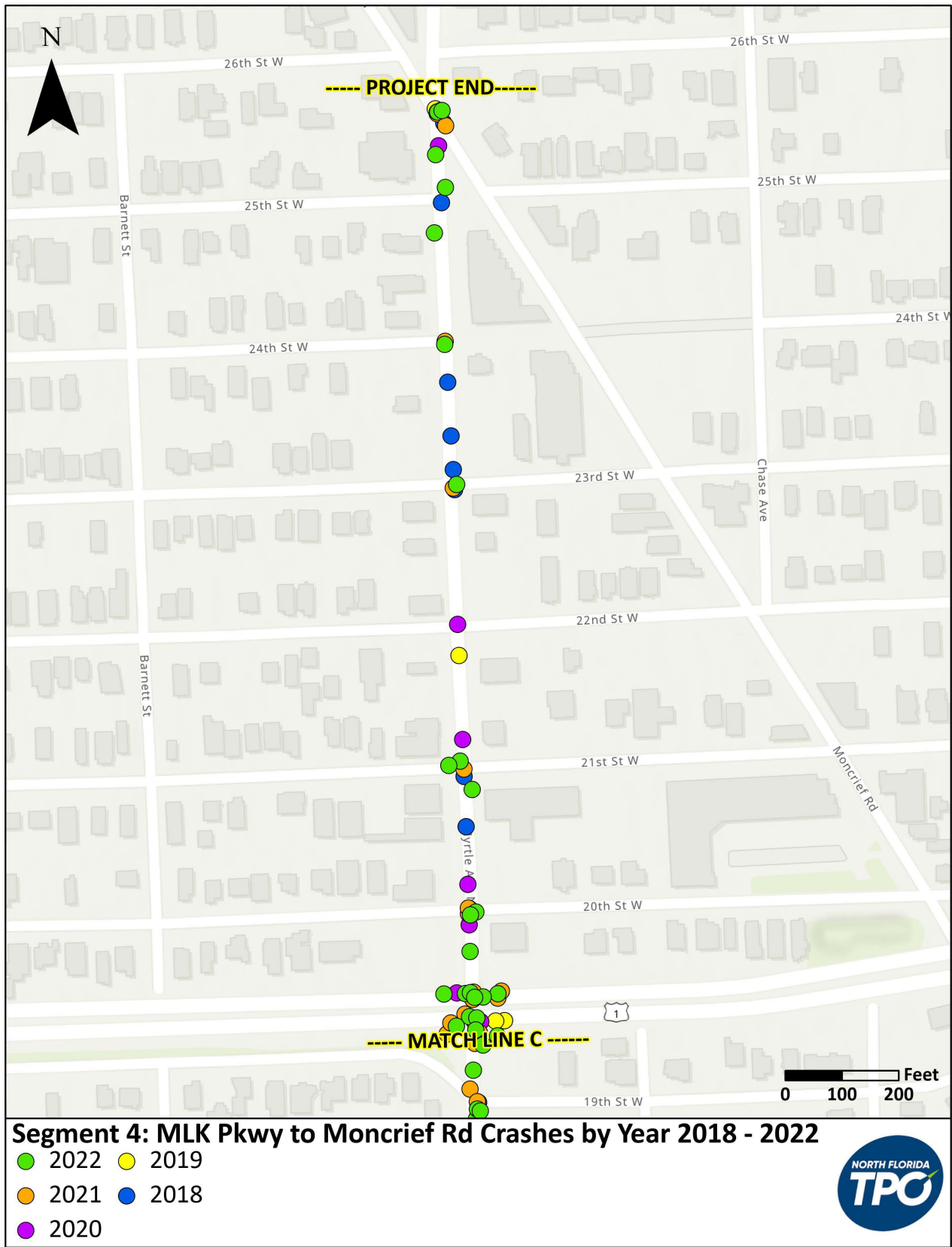
Figure 3 - Crashes by Year (Segment 2)



Date: 3/28/23

Source: Signal Four Analytics (2018 - 2022)

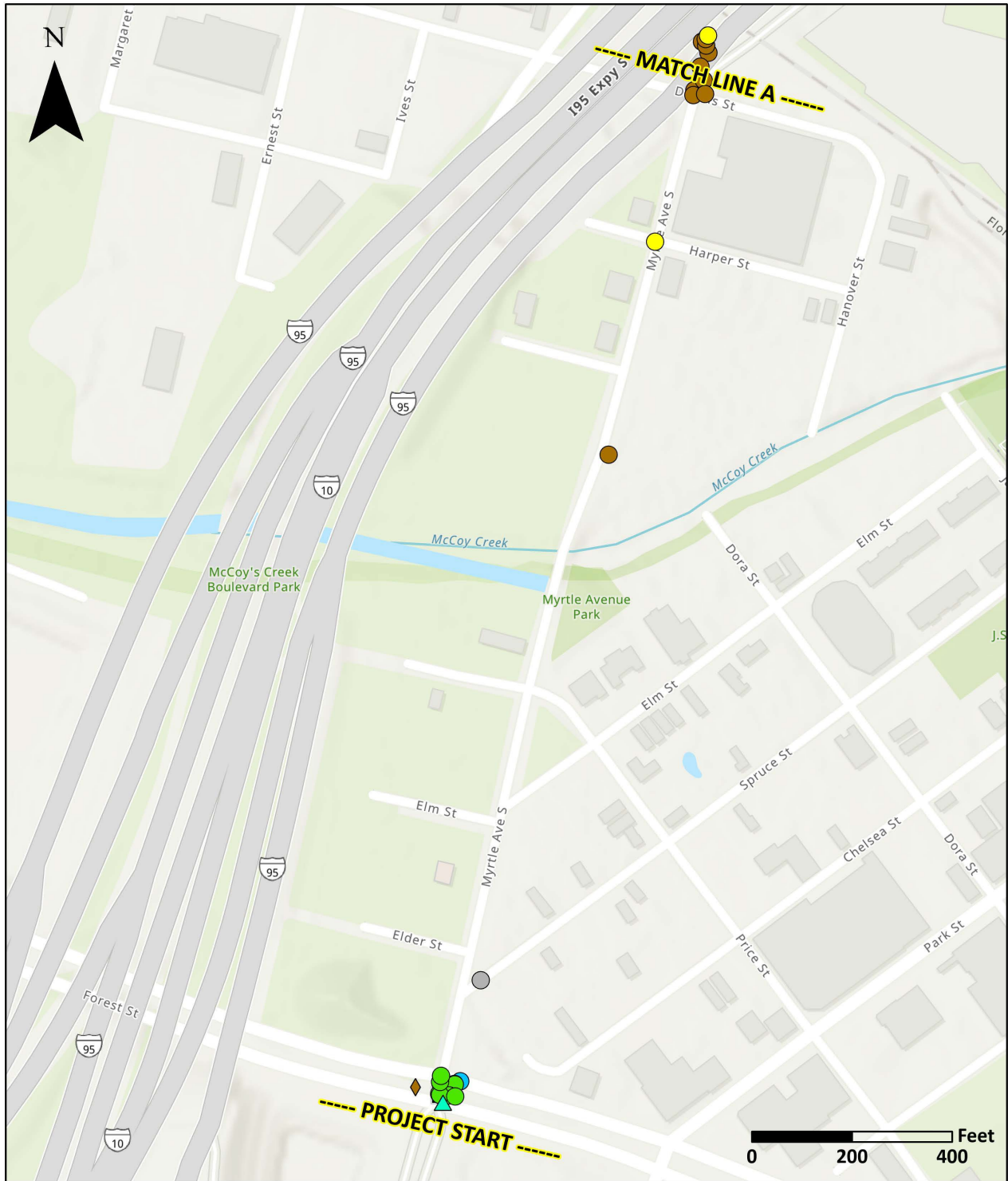
Figure 4 - Crashes by Year (Segment 3)



Date: 3/28/23

Source: Signal Four Analytics (2018 - 2022)

Figure 5 - Crashes by Year (Segment 4)



**Segment 1: Forest St to Dennis St Crashes by Type 2018 - 2022**

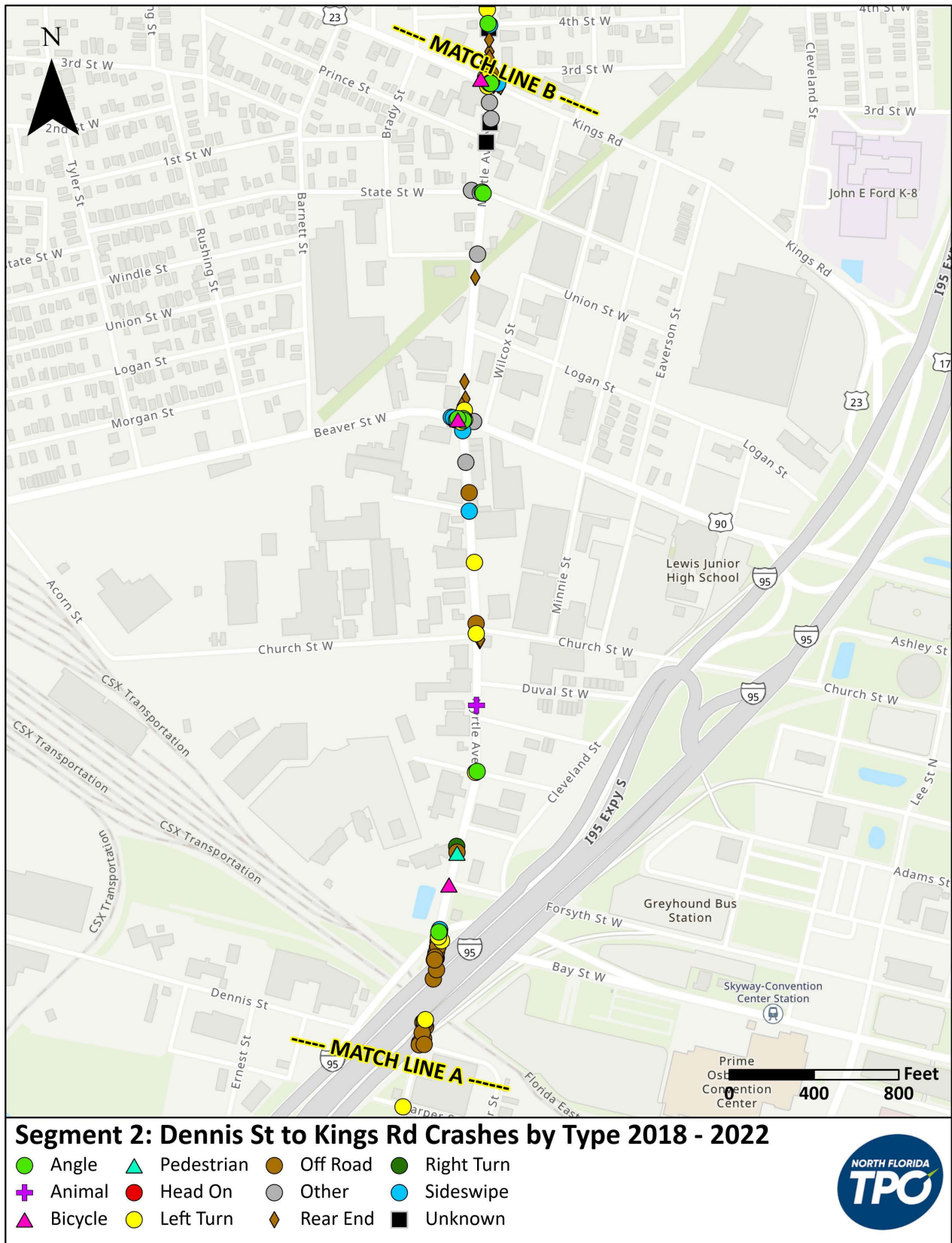
- |           |              |            |              |
|-----------|--------------|------------|--------------|
| ● Angle   | ▲ Pedestrian | ● Off Road | ● Right Turn |
| ✚ Animal  | ● Head On    | ● Other    | ● Sideswipe  |
| ▲ Bicycle | ● Left Turn  | ◆ Rear End | ■ Unknown    |



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

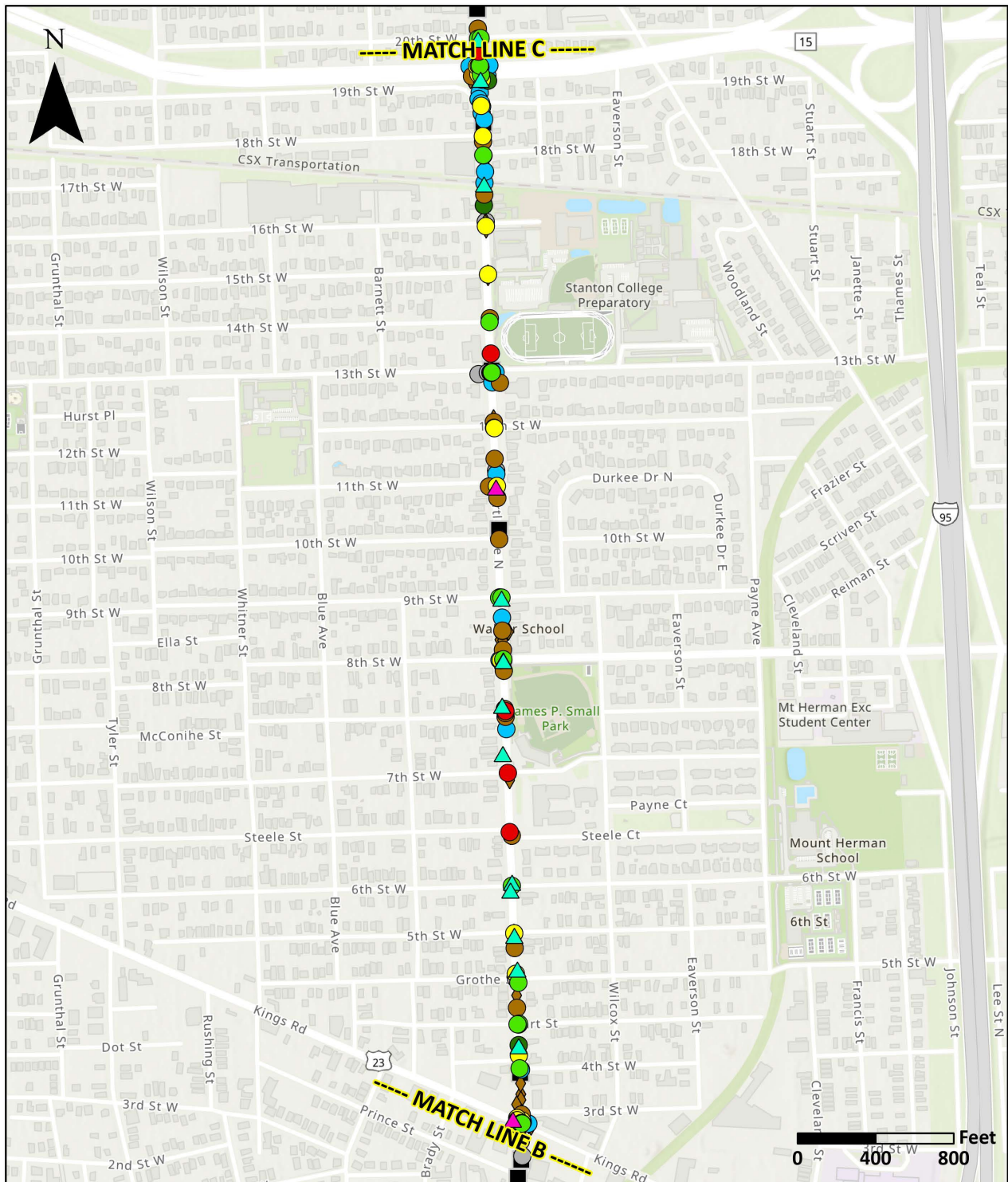
**Figure 6 - Crashes by Type (Segment 1)**



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

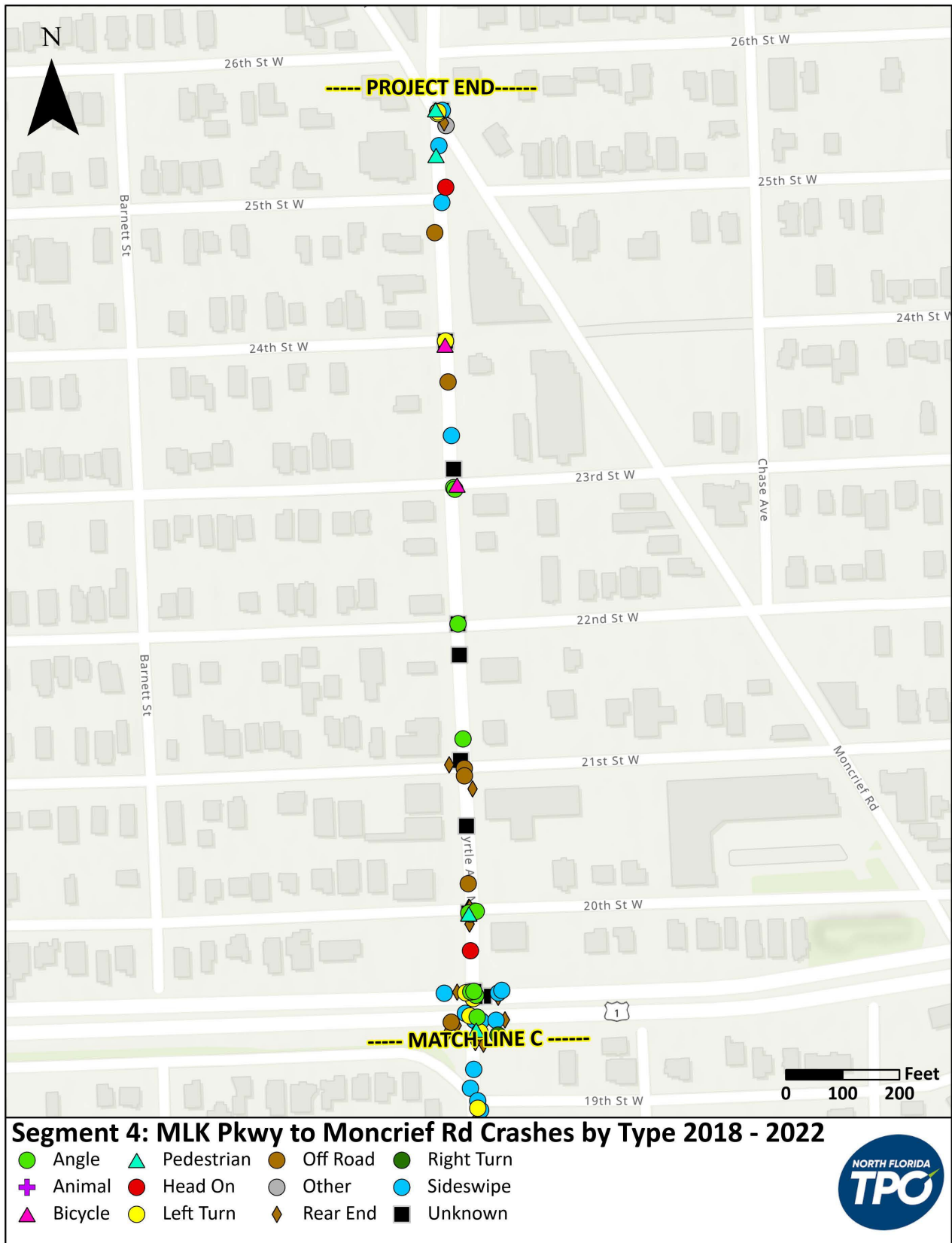
Figure 7 - Crashes by Type (Segment 2)



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

Figure 8 - Crashes by Type (Segment 3)



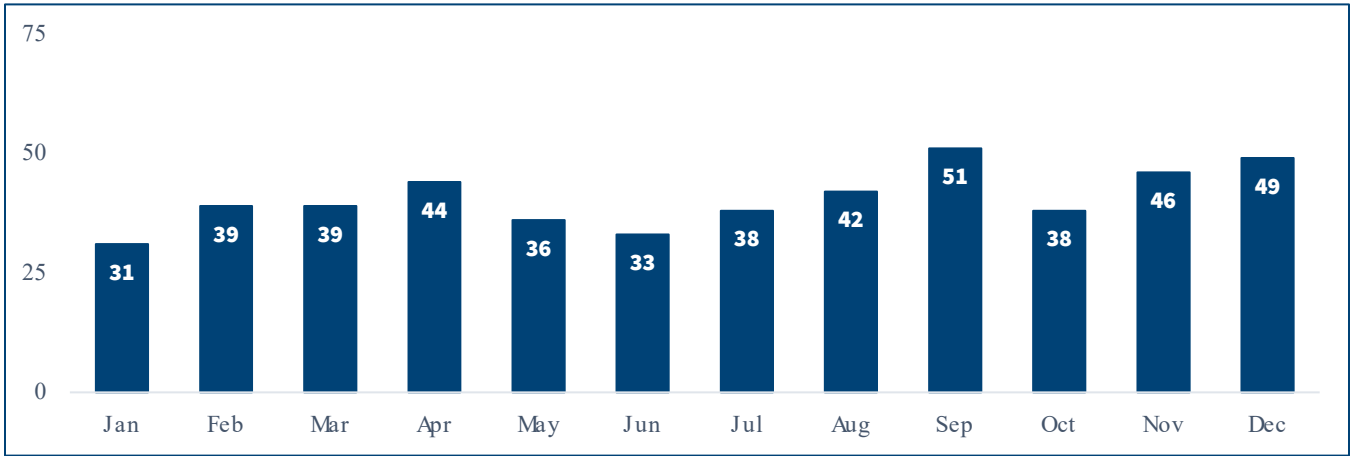
Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

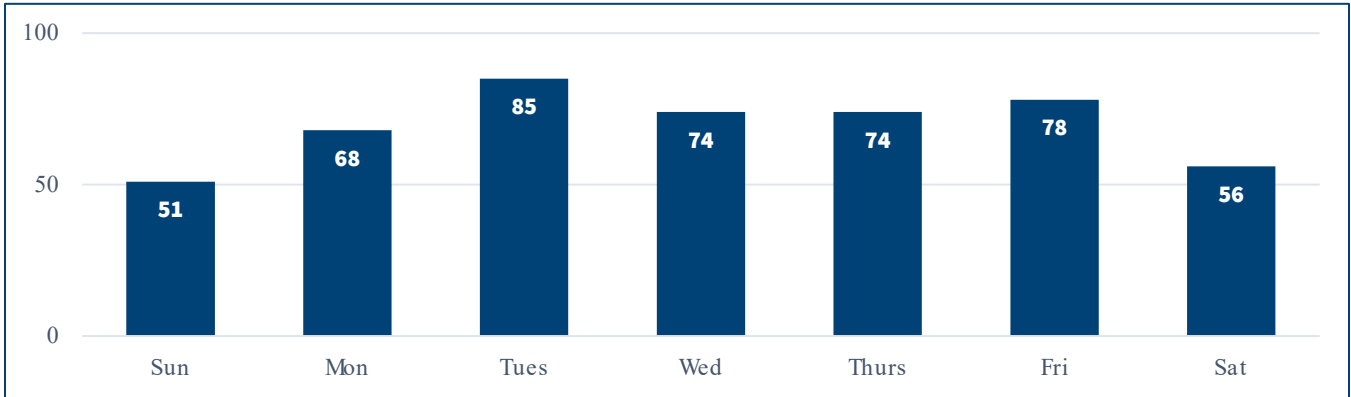
Figure 9 – Crashes by Type (Segment 4)

Crashes by month, day of the week and time of day are provided in Table 1, Table 2 and Table 3, respectively. Crashes peaked in September (51), followed by December (49) and November (46). Crashes were lowest in January (31), June (33) and May (36). During the week, crashes were highest Tuesday (85) and Friday (78), while they were lowest on weekends (56, 51). When reviewing times of the day, crashes were notably higher during the a.m. peak and early afternoon hours, between 7 a.m. and 8 a.m. and 2 p.m. and 4 p.m., and during the 11 a.m. hour.

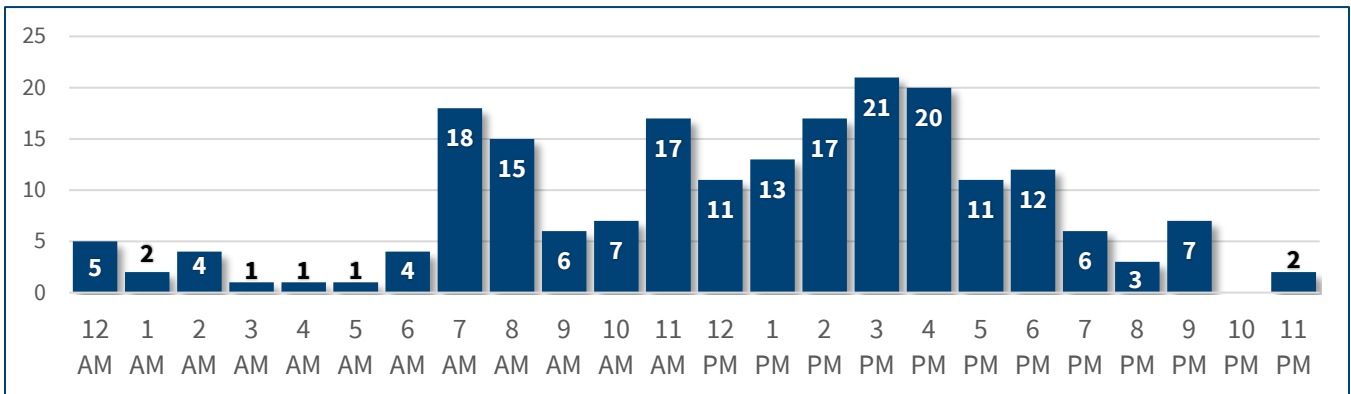
**Table 1 – Crashes by Month (2018-2022)**



**Table 2 – Crashes by Day of Week (2018-2022)**



**Table 3 – Crashes by Time of Day (2018-2022)**



## 1.2 CRASH SEVERITY

Crashes by severity are depicted by segment in Figure 10 through Figure 13. Most crashes (67%) resulted in property damage only (PDO), 19% resulted in a possible injury and about 13% resulted in a non-incapacitating injury.

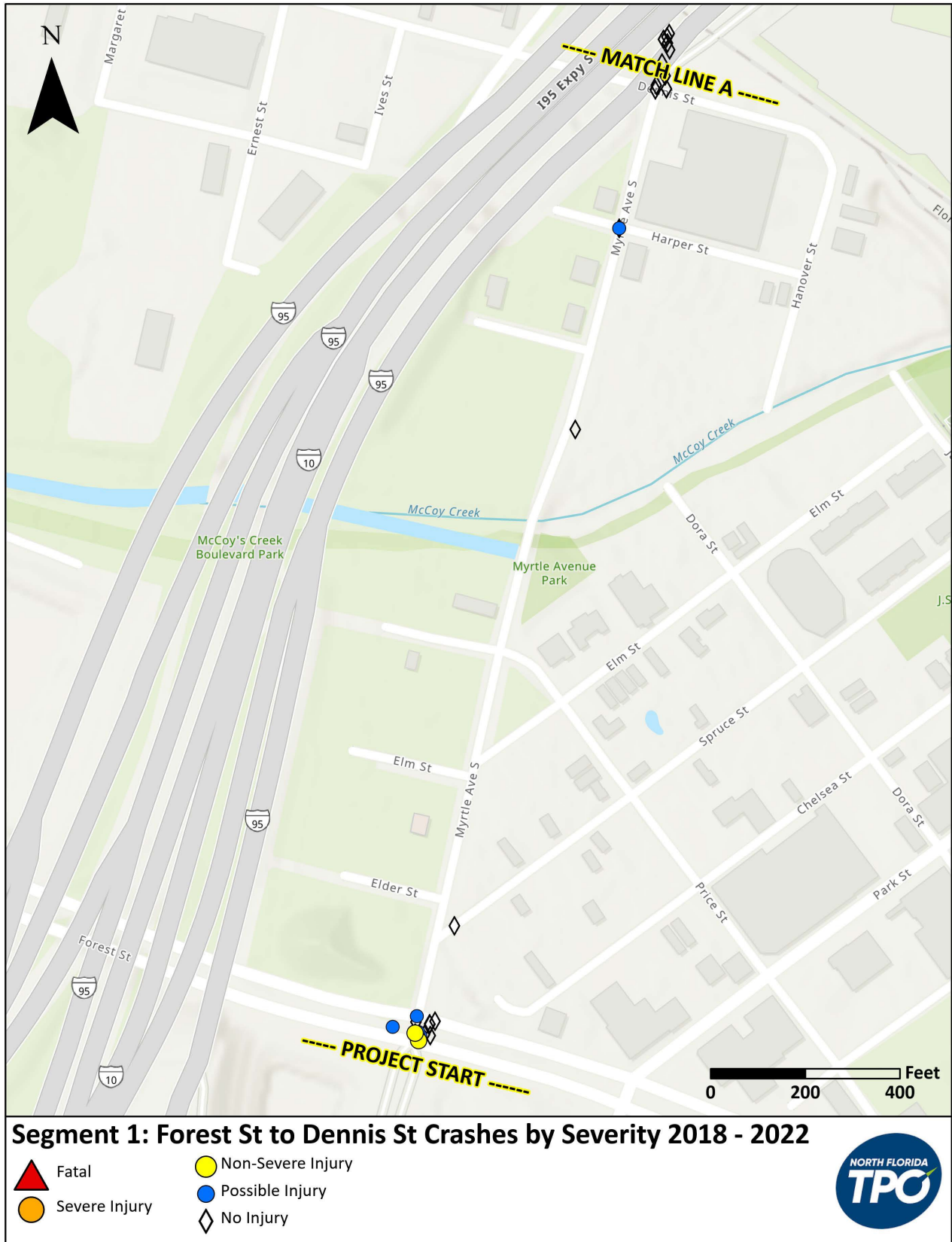
Crashes that result in serious injury or death are also referred to as Killed/Severely Injured (KSI) crashes. For the Myrtle Avenue corridor, we reviewed the fatal and incapacitating injury crash reports separately to verify the data and identify any trends and/or countermeasures that could be implemented to mitigate these types of crashes. For the study period, we identified one fatal and four incapacitating injury crashes. Two incapacitating injury crashes were pedestrians.

The fatal crash occurred in Segment 3, at West 21<sup>st</sup> Street after 2 a.m. on dry pavement in dark lighted conditions. In the single vehicle off road crash, the vehicle struck a tree in the center landscape island and flipped over. The driver was determined to be impaired.

The four incapacitating injury crashes are described below and further detailed in ,

- A southbound vehicle on Myrtle Avenue struck a tree in the median island near West 10<sup>th</sup> Street at dusk in dark, lighted conditions.
- A southbound vehicle on Myrtle Avenue was making a right turn onto MLK Parkway and was struck by an eastbound vehicle making a U-turn on red. The crash occurred in dark, lighted conditions.
- A pedestrian crossing Myrtle Avenue was struck outside a marked crosswalk at night in dark, not lighted conditions.
- A pedestrian was walking in the road while crossing Myrtle Avenue at MLK Parkway at night in dark, lighted conditions.

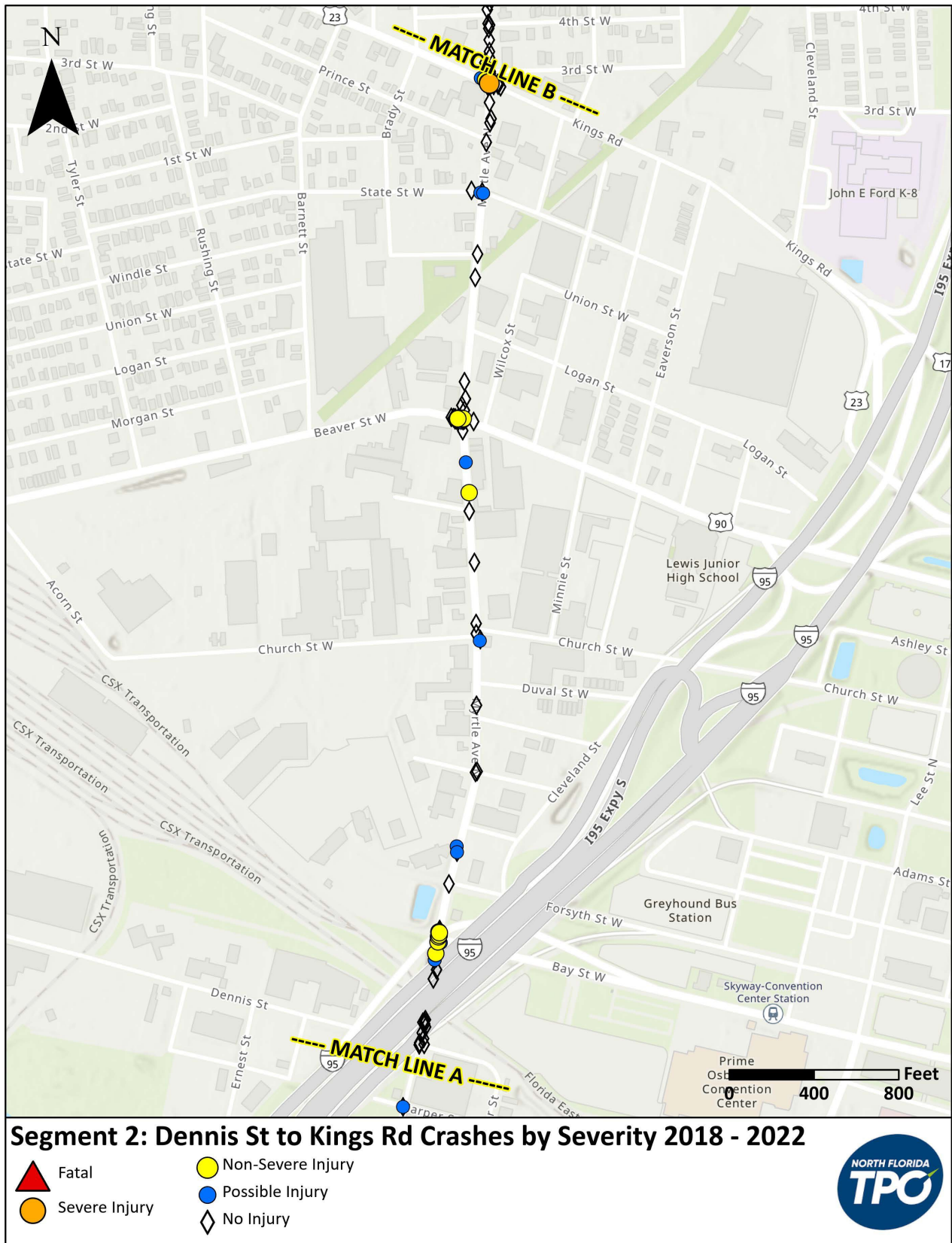
The KSI crashes all occurred at night or early morning hours. KSI crashes were split between Bike/Ped (2), Off Road (2) and Angle (1) crashes. Three of the four occurred outside of an intersection. There is no distinct trend present on an annual, weekly, daily or hourly basis.



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

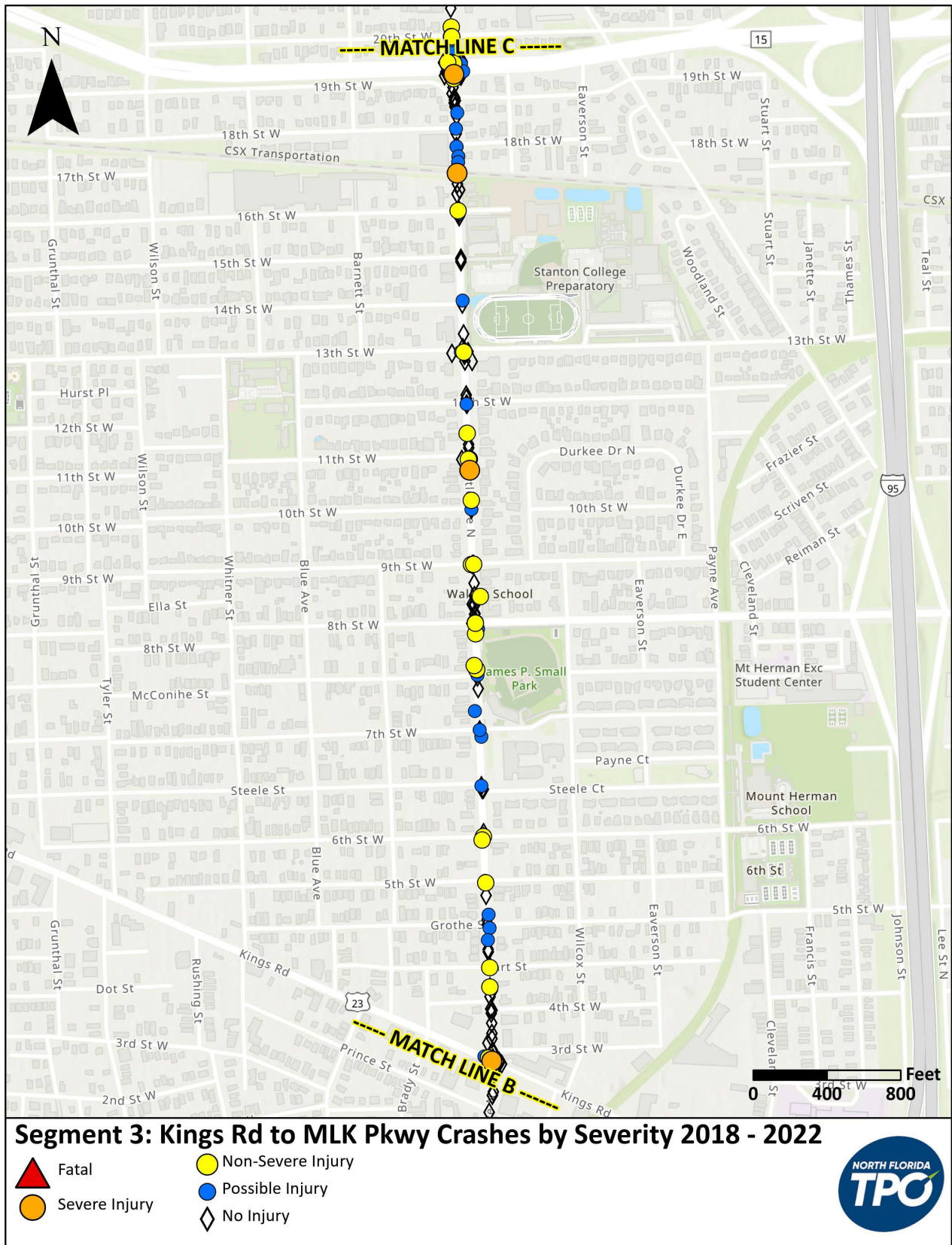
**Figure 10 – Crashes by Severity (Segment 1)**



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

Figure 11 - Crashes by Severity (Segment 2)



Date: 4/19/23

Source: Signal Four Analytics (2018 - 2022)

Figure 12 – Crashes by Severity (Segment 3)

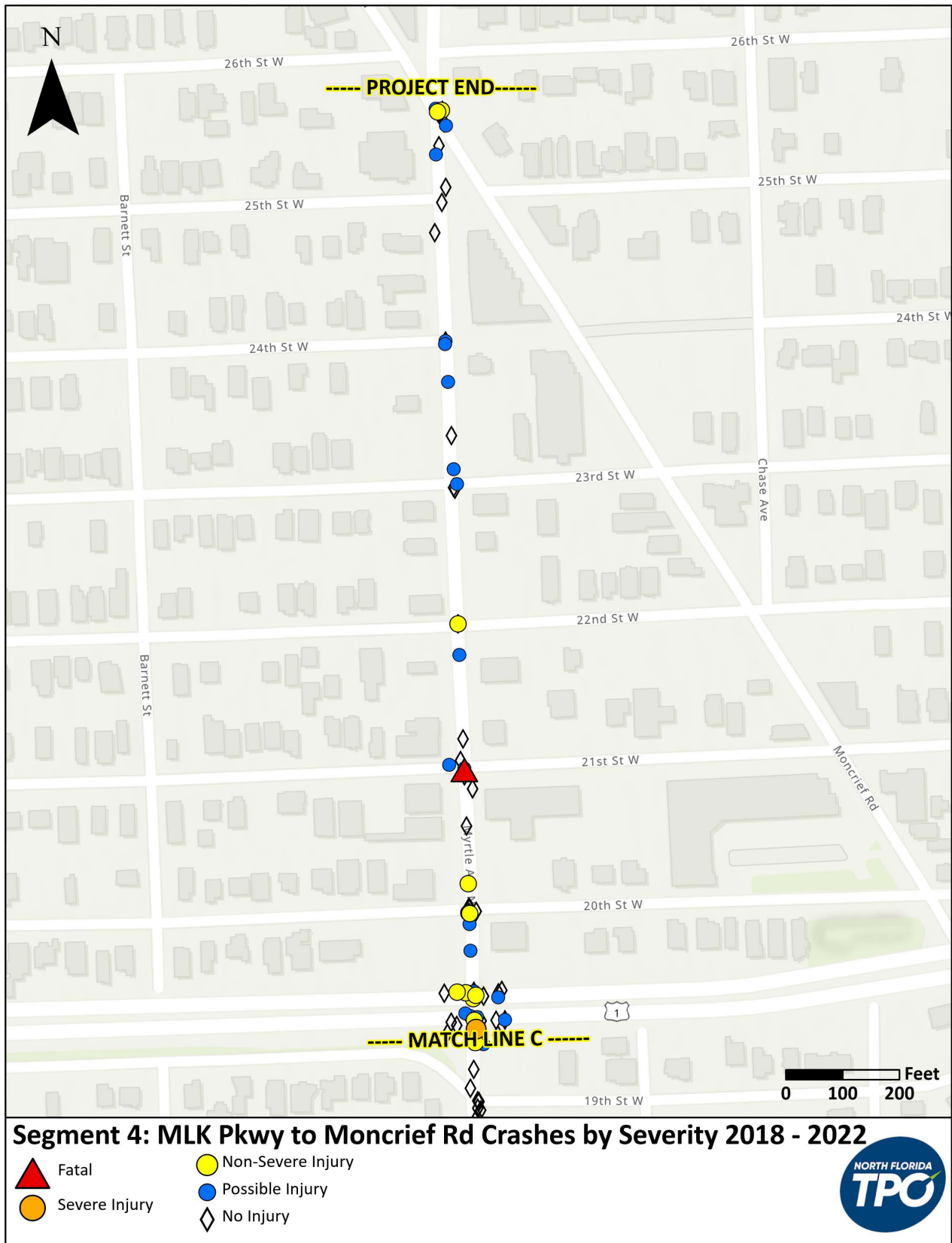


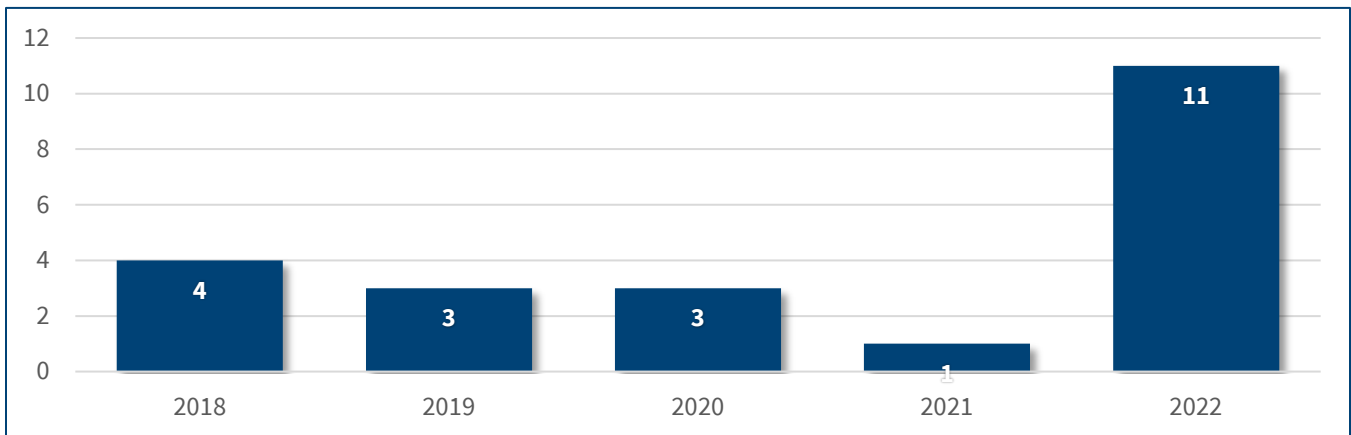
Figure 13 - Crashes by Severity (Segment 4)

### 1.3 BICYCLE AND PEDESTRIAN CRASHES

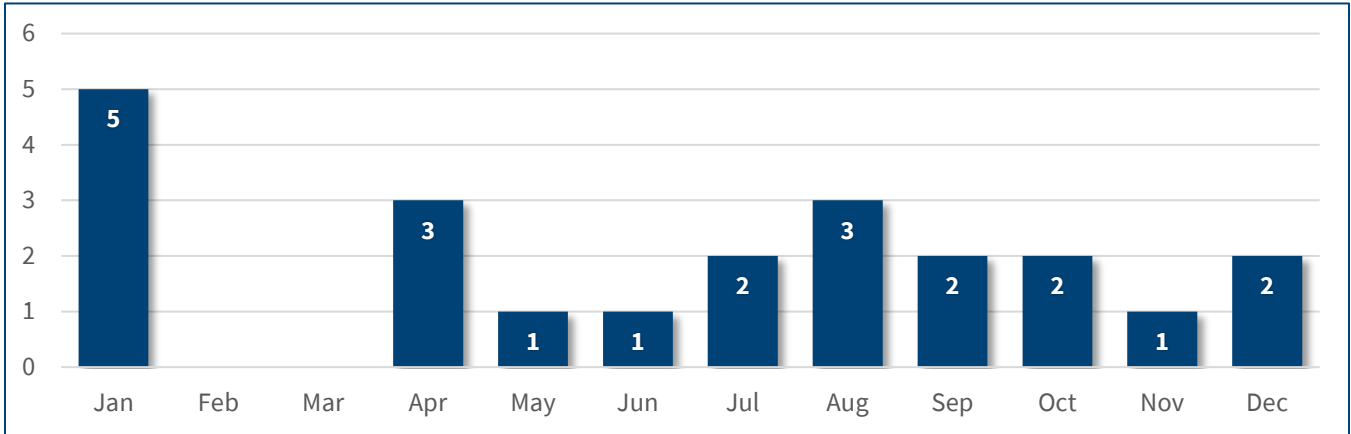
Non-motorists are especially vulnerable to impacts from heavy, fast-moving vehicles. As provided in Table 4 through Table 7, Benesch separately reviewed crashes involving people walking and biking to identify any potential trends and the appropriate countermeasures. Twenty-two (22) such crashes occurred during the analysis period, with 15 involving a person walking and seven involving a person riding a bicycle. Of this subset of crashes, four occurred in 2018, three each occurred in 2019 and 2020, one occurred in 2021 and 11 occurred in 2022. Seven (7) occurred in winter (December to February) and six in summer (June to August). Crashes occurred on all days of the week, with the most on Sunday (five). Three crashes each occurred at 11 a.m., 3 p.m. and 8 p.m. although there was no apparent time of day trend.

As detailed in Figure 14, the majority of pedestrian crashes occurred in Segment 3, from Kings Road to MLK Parkway with a grouping noted from Grothe Street to 9<sup>th</sup> Street. Based on the crash analysis provided in Figure 15, most bike and ped crashes (88%) resulted in a non-incapacitating injury (9) or possible injury (9). There were also two incapacitating injury crashes and two PDO crashes. Most crashes (59%) occurred at an intersection and during clear weather conditions (91%). The majority of crashes occurred during the day (55%), with 23% in dark-lighted conditions.

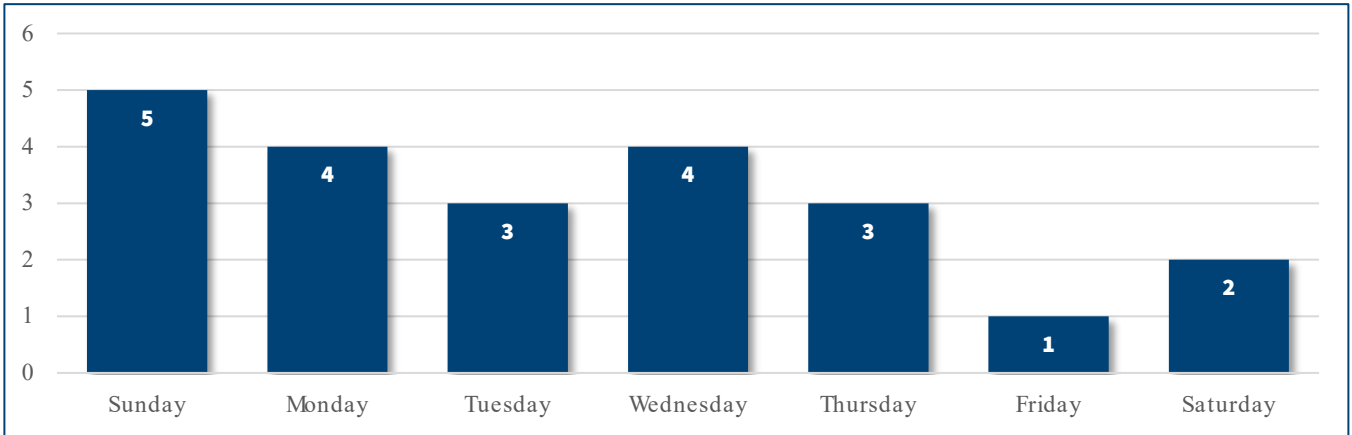
**Table 4 – Pedestrian and Bicycle Crashes by Year**



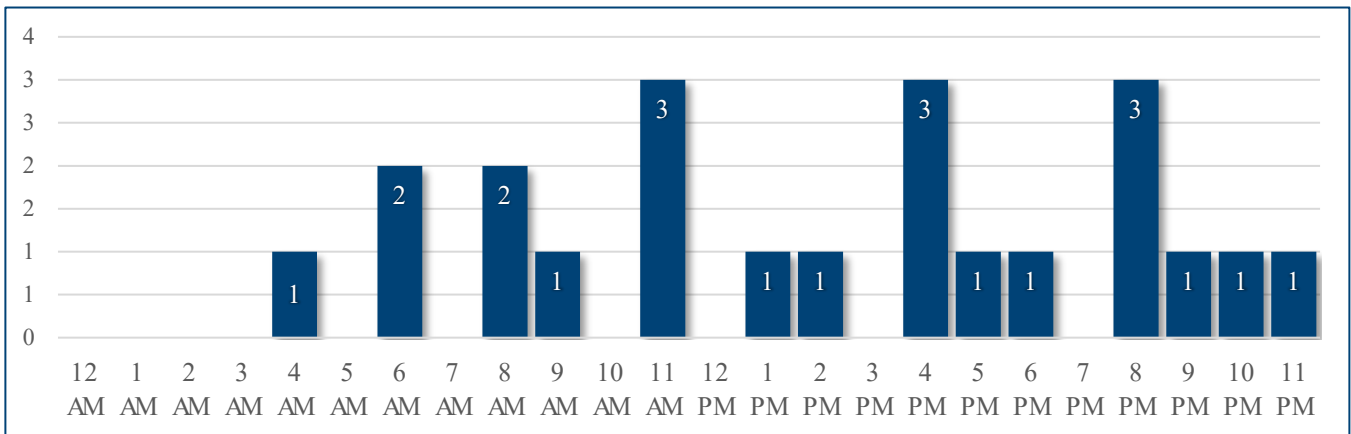
**Table 5 – Pedestrian and Bicycle Crashes Month**

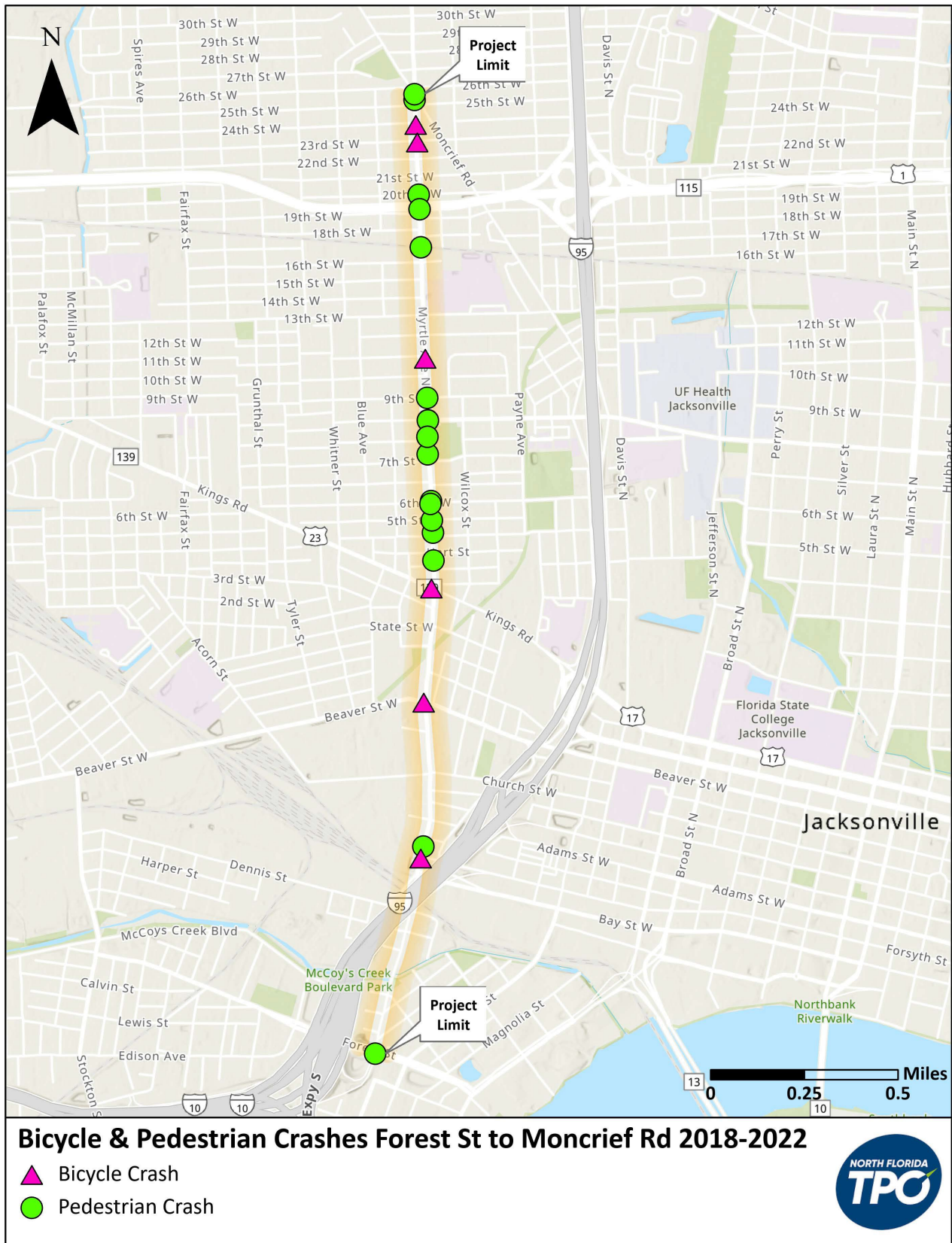


**Table 6 – Pedestrian and Bicycle Crashes by Day of Week**

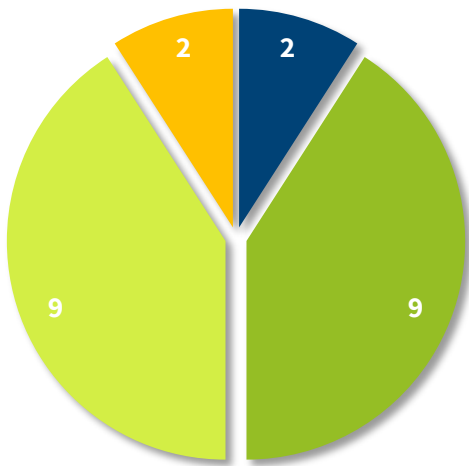


**Table 7 – Pedestrian and Bicycle Crashes by Time of Day**

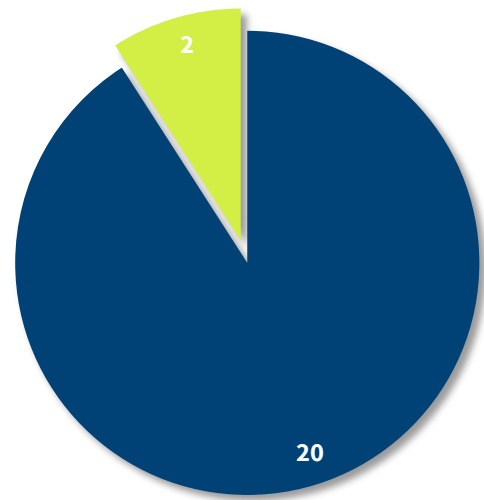




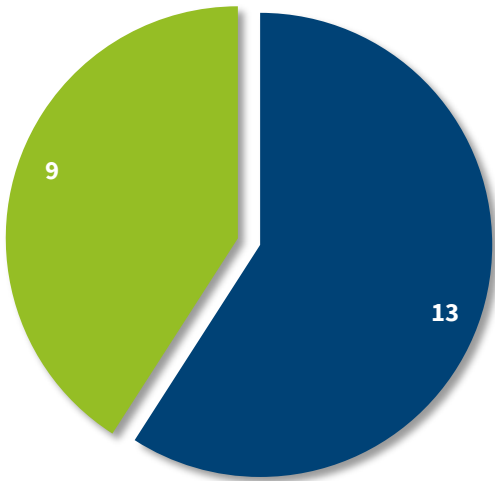
**Figure 14 – Bicycle and Pedestrian Crashes**



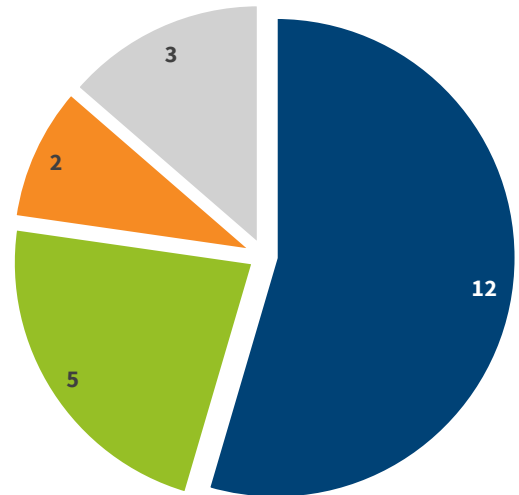
- No Injury
- Possible Injury
- Non-Incapacitating Injury
- Incapacitating Injury



- Clear
- Rain



- Intersection
- Non-Intersection



- Daylight
- Dark-Lighted
- Dark-Not Lighted
- Dusk

**Figure 15 – Bicycle and Pedestrian Crash Analysis**

# **APPENDIX E**

## **Cost Estimate**

# ENGINEER'S ESTIMATE

## NORTH FLORIDA TPO - SEGMENT 1

	<b>FINANCIAL PROJECT ID # :</b>
<b>PROJECT DESCRIPTION:</b>	Myrtle Avenue Corridor Concept - Forest St. to Dennis St.
<b>PAY ITEM SPEC YEAR:</b>	2022
<b>SUBMITTAL TYPE:</b>	Engineers Estimate (Initial)
<b>COUNTY:</b>	Duval
<b>DATE:</b>	September 13, 2023
<b>ENGINEERING CONSULTANT FIRM:</b>	Benesch
<b>CONTACT NAME:</b>	Martha Moore, PE, PTOE, RSP1
<b>PHONE NUMBER:</b>	904-491-2637
<b>FILE VERSION:</b>	EE_09/23
<b>PAGE NUMBER:</b>	1 of 3

### COMPONENT GROUPS

200 - ROADWAY		\$445,496.06
300 - SIGNING & PAVEMENT MARKINGS		\$168,390.64
<b>COMPONENT SUB-TOTAL</b>		<b>\$613,886.70</b>
(102-1) MOT (Maintenance of Traffic)	10%	\$61,388.67
	<b>SUB-TOTAL</b>	<b>\$675,275.37</b>
(101-1) MOB (Mobilization)	10%	\$61,388.67
	<b>SUB-TOTAL</b>	<b>\$736,664.04</b>
Contingency	10%	\$73,666.40
	<b>SUB-TOTAL</b>	<b>\$810,330.44</b>
CEI	15%	\$110,499.61
	<b>SUB-TOTAL</b>	<b>\$920,830.05</b>
<b>PROJECT GRAND TOTAL</b>		<b>\$920,830.05</b>

### NOTES:

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 06/01/2022 thru 05/31/2023

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 1**

FINANCIAL PROJECT ID:	
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**Roadway**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0104 18	INLET PROTECTION SYSTEM	EA	8	\$193.00	\$ 1,544.00
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	10538	\$2.45	\$ 25,818.10
0337 7 82	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22	TN	580	\$188.12	\$ 109,109.60
0425 5	MANHOLE, ADJUST	EA	6	\$1,500.16	\$ 9,000.96
0425 6	VALVE BOXES, ADJUST	EA	6	\$1,045.34	\$ 6,272.04
0520 1 10	CONCRETE CURB & GUTTER	LF	252	\$68.96	\$ 17,377.92
0520 70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY	336	\$333.54	\$ 112,069.44
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS , 4" THICK	SY	1630	\$100.80	\$ 164,304.00
<b>Roadway</b>				<b>COMPONENT TOTAL</b>	<b>\$ 445,496.06</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 1**

FINANCIAL PROJECT ID:	
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**Signing & Pavement Markings**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0523 3	PATTERNED PAVEMENT, VEHICULAR AREAS - GREEN BIKE LANES	SY	248	\$400.00	\$ 99,200.00
0654 211	MIDBLOCK CROSSWALK: RECTANGULAR RAPID FLASHING BEACON, FURNISH & INSTALL- AC, COMPLETE SIGN ASSEMBLY- SINGLE DIRECTION	AS	2	\$8,650.71	\$ 17,301.42
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	1467.4	\$3.75	\$ 5,502.75
0711 11124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	178	\$5.59	\$ 995.02
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	216	\$7.75	\$ 1,674.00
0711 11 170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	2	\$90.43	\$ 180.86
0711 11224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	168	\$6.16	\$ 1,034.88
0711 14125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	1249	\$16.18	\$ 20,208.82
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	19	\$548.68	\$ 10,424.92
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROWS	EA	19	\$153.16	\$ 2,910.04
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SOLID 6"	GM	1.0278	\$4,859.30	\$ 4,994.39
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW SOLID 6"	GM	0.838	\$4,729.76	\$ 3,963.54
<b>Signing &amp; Pavement Markings</b>				<b>COMPONENT TOTAL</b>	<b>\$168,390.64</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 2**

<b>FINANCIAL PROJECT ID # :</b>		
<b>PROJECT DESCRIPTION:</b>	Myrtle Avenue Corridor Concept - Dennis Street to Kings Road	
<b>PAY ITEM SPEC YEAR:</b>	2022	
<b>SUBMITTAL TYPE:</b>	Engineers Estimate (Initial)	
<b>COUNTY:</b>	Duval	
<b>DATE:</b>	September 13, 2023	
<b>ENGINEERING CONSULTANT FIRM:</b>	Benesch	
<b>CONTACT NAME:</b>	Martha Moore, PE, PTOE, RSP1	
<b>PHONE NUMBER:</b>	904-491-2637	
<b>FILE VERSION:</b>	EE_09/23	
<b>PAGE NUMBER:</b>	1 of 3	

**COMPONENT GROUPS**

200 - ROADWAY		\$594,879.67
300 - SIGNING & PAVEMENT MARKINGS		\$260,331.19
<b>COMPONENT SUB-TOTAL</b>		\$855,210.86
(102-1) MOT (Maintenance of Traffic)	10%	\$85,521.09
<b>SUB-TOTAL</b>		\$940,731.95
(101-1) MOB (Mobilization)	10%	\$85,521.09
<b>SUB-TOTAL</b>		\$1,026,253.03
Contingency	10%	\$102,625.30
<b>SUB-TOTAL</b>		\$1,128,878.34
CEI	15%	\$153,937.96
<b>SUB-TOTAL</b>		\$1,282,816.29
<b>PROJECT GRAND TOTAL</b>		<b>\$1,282,816.29</b>

**NOTES:**

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 06/01/2022 thru 05/31/2023

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 2**

FINANCIAL PROJECT ID:	
FILE VERSION:	EE_09/23
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**Roadway**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0104 18	INLET PROTECTION SYSTEM	EA	8	\$193.00	\$ 1,544.00
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	24764	\$2.45	\$ 60,671.80
0337 7 82	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22	TN	1362	\$188.12	\$ 256,219.44
0425 5	MANHOLE, ADJUST	EA	6	\$1,500.16	\$ 9,000.96
0425 6	VALVE BOXES, ADJUST	EA	6	\$1,045.34	\$ 6,272.04
0520 1 10	CONCRETE CURB & GUTTER	LF	268	\$68.96	\$ 18,481.28
0520 70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY	357	\$333.54	\$ 119,073.78
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS , 4" THICK	SY	1224	\$100.80	\$ 123,379.20
0570 1 2	PERFORMANCE TURF, SOD	SY	37	\$6.41	\$ 237.17
<b>Roadway</b>				<b>COMPONENT TOTAL</b>	<b>\$ 594,879.67</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 2**

FINANCIAL PROJECT ID:	
FILE VERSION:	EE_09/23
PAGE NUMBER:	3 of 3

**Signing & Pavement Markings**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0523 3	PATTERNED PAVEMENT, VEHICULAR AREAS - GREEN BIKE LANES	SY	341	\$400.00	\$ 136,400.00
0654 211	MIDBLOCK CROSSWALK: RECTANGULAR RAPID FLASHING BEACON, FURNISH & INSTALL- AC, COMPLETE SIGN ASSEMBLY- SINGLE DIRECTION	AS	2	\$8,650.71	\$ 17,301.42
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	2527	\$3.75	\$ 9,476.25
0711 11124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	871	\$5.59	\$ 4,868.89
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	726	\$7.75	\$ 5,626.50
0711 11 170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	17	\$90.43	\$ 1,537.31
0711 11224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	574	\$6.16	\$ 3,535.84
0711 14125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	2144	\$16.18	\$ 34,689.92
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	36	\$548.68	\$ 19,752.48
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROWS	EA	36	\$153.16	\$ 5,513.76
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SOLID 6"	GM	2.457	\$4,859.30	\$ 11,939.30
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW SOLID 6"	GM	1.999	\$4,729.76	\$ 9,454.79
0711 16231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6"	GM	0.114	\$2,059.05	\$ 234.73
<b>Signing &amp; Pavement Markings</b>				<b>COMPONENT TOTAL</b>	<b>\$260,331.19</b>

# ENGINEER'S ESTIMATE

## NORTH FLORIDA TPO - SEGMENT 3

	<b>FINANCIAL PROJECT ID # :</b>	
<b>PROJECT DESCRIPTION:</b>	Myrtle Avenue Corridor Concept - Kings Road to Marin Luther King Jr. (MLK) Parkway	
	<b>PAY ITEM SPEC YEAR:</b>	2022
	<b>SUBMITTAL TYPE:</b>	Engineers Estimate (Initial)
	<b>COUNTY:</b>	Duval
	<b>DATE:</b>	September 13, 2023
	<b>ENGINEERING CONSULTANT FIRM:</b>	Benesch
	<b>CONTACT NAME:</b>	Martha Moore, PE, PTOE, RSP1
	<b>PHONE NUMBER:</b>	904-491-2637
	<b>FILE VERSION:</b>	EE_09/23
	<b>PAGE NUMBER:</b>	1 of 3

### COMPONENT GROUPS

200 - ROADWAY		\$1,813,680.90
300 - SIGNING & PAVEMENT MARKINGS		\$84,457.94
<b>COMPONENT SUB-TOTAL</b>		<b>\$1,898,138.84</b>
(102-1) MOT (Maintenance of Traffic)	10%	\$189,813.88
<b>SUB-TOTAL</b>		<b>\$2,087,952.73</b>
(101-1) MOB (Mobilization)	10%	\$189,813.88
<b>SUB-TOTAL</b>		<b>\$2,277,766.61</b>
Contingency	10%	\$227,776.66
<b>SUB-TOTAL</b>		<b>\$2,505,543.28</b>
CEI	15%	\$341,664.99
<b>SUB-TOTAL</b>		<b>\$2,847,208.27</b>
<b>PROJECT GRAND TOTAL</b>		<b>\$2,847,208.27</b>

### NOTES:

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 3**

FINANCIAL PROJECT ID:	
FILE VERSION:	EE_09/23
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**Roadway**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0104 18	INLET PROTECTION SYSTEM	EA	8	\$193.00	\$ 1,544.00
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	32328	\$2.45	\$ 79,203.60
0337 7 82	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22	TN	1778	\$188.12	\$ 334,477.36
0425 5	MANHOLE, ADJUST	EA	6	\$1,500.16	\$ 9,000.96
0425 6	VALVE BOXES, ADJUST	EA	6	\$1,045.34	\$ 6,272.04
0520 1 10	CONCRETE CURB & GUTTER	LF	1255	\$68.96	\$ 86,544.80
0520 70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY	350	\$333.54	\$ 116,739.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS , 4" THICK	SY	4221	\$100.80	\$ 425,476.80
523-3	PATTERNED PAVEMENT, VEHICULAR AREAS - STAMPED PAVEMENT	SY	1840	\$400.00	\$ 736,000.00
0570 1 2	PERFORMANCE TURF, SOD	SY	2874	\$6.41	\$ 18,422.34
<b>Roadway</b>				<b>COMPONENT TOTAL</b>	<b>\$1,813,680.90</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 3**

FINANCIAL PROJECT ID:	
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**Signing & Pavement Markings**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0523 3	PATTERNED PAVEMENT, VEHICULAR AREAS - GREEN BIKE LANES	SY	54	\$400.00	\$ 21,600.00
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	4326	\$3.75	\$ 16,222.50
0711 11124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	51	\$5.59	\$ 285.09
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	756	\$7.75	\$ 5,859.00
0711 11 170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	40	\$90.43	\$ 3,617.20
0711 14125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	633	\$16.18	\$ 10,241.94
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	4	\$548.68	\$ 2,194.72
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROWS	EA	2	\$153.16	\$ 306.32
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SOLID 6"	GM	2.788	\$4,859.30	\$ 13,547.73
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW SOLID 6"	GM	2.188	\$4,729.76	\$ 10,348.71
0711 16231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6"	GM	0.114	\$2,059.05	\$ 234.73
<b>Signing &amp; Pavement Markings</b>				<b>COMPONENT TOTAL</b>	<b>\$ 84,457.94</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 3 - RAISED INTERSECTION**

<b>FINANCIAL PROJECT ID # :</b>		
<b>PROJECT DESCRIPTION:</b>	Myrtle Avenue Corridor Concept - Kings Road to Marin Luther King Jr. (MLK) Parkway	
<b>PAY ITEM SPEC YEAR:</b>	2022	
<b>SUBMITTAL TYPE:</b>	Engineers Estimate (Initial)	
<b>COUNTY:</b>	Duval	
<b>DATE:</b>	September 13, 2023	
<b>ENGINEERING CONSULTANT FIRM:</b>	Benesch	
<b>CONTACT NAME:</b>	Martha Moore, PE, PTOE, RSP1	
<b>PHONE NUMBER:</b>	904-491-2637	
<b>FILE VERSION:</b>	EE_09/23	
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**COMPONENT GROUPS**

200 - ROADWAY		\$1,853,750.46
300 - SIGNING & PAVEMENT MARKINGS		\$84,457.94
<b>COMPONENT SUB-TOTAL</b>		\$1,938,208.40
(102-1) MOT (Maintenance of Traffic)	10%	\$193,820.84
<b>SUB-TOTAL</b>		\$2,132,029.25
(101-1) MOB (Mobilization)	10%	\$193,820.84
<b>SUB-TOTAL</b>		\$2,325,850.09
Contingency	10%	\$232,585.01
<b>SUB-TOTAL</b>		\$2,558,435.09
CEI	15%	\$348,877.51
<b>SUB-TOTAL</b>		\$2,907,312.61
<b>PROJECT GRAND TOTAL</b>		<b>\$2,907,312.61</b>

**NOTES:**

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

Costs based on FDOT Area 5 (Duval County) 12 Month Moving Market Area Averages, 08/01/2022 thru 07/31/2023

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 3 - RAISED INTERSECTION**

FINANCIAL PROJECT ID:	
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**Roadway**

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0104 18	INLET PROTECTION SYSTEM	EA	8	\$193.00	\$ 1,544.00
0327 70 1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	SY	32328	\$2.45	\$ 79,203.60
0337 7 82	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22	TN	1778	\$188.12	\$ 334,477.36
0425 5	MANHOLE, ADJUST	EA	6	\$1,500.16	\$ 9,000.96
0425 6	VALVE BOXES, ADJUST	EA	6	\$1,045.34	\$ 6,272.04
0520 1 10	CONCRETE CURB & GUTTER	LF	1255	\$68.96	\$ 86,544.80
0520 70	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY	350	\$333.54	\$ 116,739.00
0522 1	CONCRETE SIDEWALK AND DRIVEWAYS , 4" THICK	SY	4221	\$100.80	\$ 425,476.80
523-3	PATTERNED PAVEMENT, VEHICULAR AREAS - STAMPED PAVEMENT	SY	1840	\$400.00	\$ 736,000.00
0570 1 2	PERFORMANCE TURF, SOD	SY	2874	\$6.41	\$ 18,422.34
	OPTIONAL RAISED INTERSECTION (8TH AVENUE)		213	\$188.12	\$ 40,069.56
					\$ -
					\$ -
					\$ -
					\$ -
<b>Roadway</b>				<b>COMPONENT TOTAL</b>	<b>\$1,853,750.46</b>

**ENGINEER'S ESTIMATE**  
**NORTH FLORIDA TPO - SEGMENT 3 - RAISED INTERSECTION**

FINANCIAL PROJECT ID:	
FILE VERSION:	EE_09/23
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## Signing & Pavement Markings

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0523 3	PATTERNED PAVEMENT, VEHICULAR AREAS - GREEN BIKE LANES	SY	54	\$400.00	\$ 21,600.00
0711 11123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	4326	\$3.75	\$ 16,222.50
0711 11124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	51	\$5.59	\$ 285.09
0711 11125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	756	\$7.75	\$ 5,859.00
0711 11 170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	40	\$90.43	\$ 3,617.20
0711 14125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	633	\$16.18	\$ 10,241.94
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	4	\$548.68	\$ 2,194.72
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROWS	EA	2	\$153.16	\$ 306.32
0711 16101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE SOLID 6"	GM	2.788	\$4,859.30	\$ 13,547.73
0711 16201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW SOLID 6"	GM	2.188	\$4,729.76	\$ 10,348.71
0711 16231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6"	GM	0.114	\$2,059.05	\$ 234.73
<b>Signing &amp; Pavement Markings</b>			<b>COMPONENT TOTAL</b>		<b>\$ 84,457.94</b>

