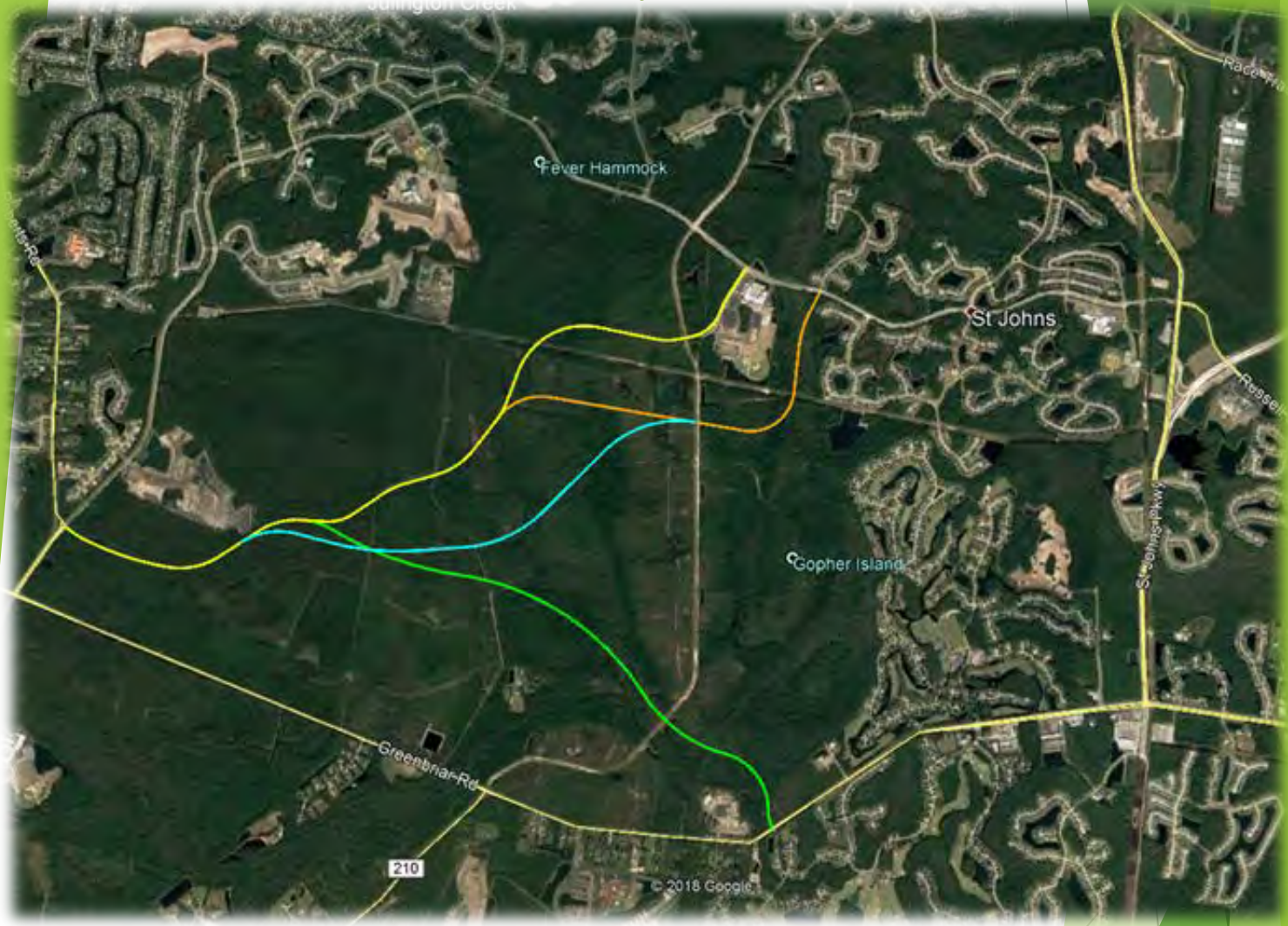
Northwest St. Johns County Corridor Study

UPWP Task 5.17 Northwest St. Johns County New Corridor



St. Johns County, FL
July 30, 2018

980 North Jefferson Street
Jacksonville, FL 32209
(904) 306-7500
Fax (904) 306-7501
TDD (904) 306-7502

North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Summary

This study's purpose is to determine the feasibility of constructing a new east-west corridor linking Longleaf Pine Parkway and the future Veterans Parkway extension. The following corridor alternatives were examined in the years 2030 and 2040 to assess the traffic benefits, environmental impacts, right of way impacts and costs.

Alternative 1 is approximately 3.5 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, travels east for 0.5 miles before turning northeast for about 2.0 miles. It then travels east again for 0.5 miles before crossing Veterans Parkway and follows the Knights Lane alignment for 0.6 miles. It ends at Longleaf Pine Parkway.

Alternative 2 is approximately 4 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway and follows the same alignment as Alternative 1 for 2 miles before turning east to intersect Veterans Parkway south of Knights Lane. The alignment continues east for approximately 1.2 miles, and crosses Veterans Parkway then turns north and intersects Longleaf Pine Parkway to the east of Creekside High School.

Alternative 3 is approximately 4 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, and follows the same path as Alternatives 1 and 2 for 0.8 miles before turning east for 1.2 miles, then generally north for 1 mile before intersecting Veterans Parkway 200 feet south of Knights Lane. The alignment continues east and then turns north along the same alignment as Alternative 2 and ends on the east side of Creekside High School at Longleaf Pine Parkway.

Alternative 4 is approximately 3.6 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, travels east for 0.5 miles, turns north for 0.5 miles, then travels generally southeast for approximately 2.6 miles and ends at the intersection of South Hampton Club Way and CR 210/Greenbriar Road in the southern portion of the study area.

The implementation of a new east-west corridor produces an equal or better Level of Service (LOS) result than No Build for the corridors in the study area. Alternative 1 is the recommended corridor based on planning level impacts such as overall project costs and benefit to cost ratio, as well as the level of environmental impacts (wetlands, floodplains, and protected species) associated with the various alternative corridor alignments evaluated for this project. Results are shown in Tables I and II.

The recommended alignment for the east-west corridor begins at the intersection of Roberts Road and Longleaf Pine Parkway, on the western end of the study area, and continues northeastward until it aligns with Knights Lane. The corridor terminates at the intersection of Knights Lane and Longleaf Pine Parkway.

Six networks were prepared for this project: 2017 Base Year, 2017 Planned Build, 2030 No Build, 2030 Build, 2040 Cost Feasible Plan No Build and 2040 Cost Feasible Plan Build Alternative network. Each Build network analyzed the four potential east-west corridor alternatives.

A base year model network of 2017 was developed and assignments were run to conduct reasonableness tests and to compare with the future No Build and Build alternatives.

The Planned Build scenario consists of the current (2017) residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

The No Build alternatives show the anticipated traffic volumes and travel patterns if no east-west corridor is considered. Developments considered in the model include future proposed and approved residential and commercial units. The Veterans Parkway southern extension is also included.

The 2030 Build scenario consists of current and future residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

The 2040 Build scenario consists of current and future residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

No Build and Build Alternative assumptions were the following:

- By 2030, all proposed and approved properties will be built as shown in Appendix B.
- By 2030, Rivertown DI will have extended the southern portion of Veterans Parkway as a 4-lane divided roadway with median.
    - Analysis was also done to show the impact of the extension and east-west corridor with present traffic for 2017 Planned Build.
- By 2030, Veterans Parkway will be 4-lanes to the north of Longleaf Pine Parkway.
- By 2030, Longleaf Pine Parkway will be 4-lanes from Tollerton Avenue to Veterans Parkway.
- By 2030, CR 210 will be 4-lanes from Cimarrone Boulevard to the Veterans Parkway extension.

Alternative 1 provides the best benefit to cost ratio, and Alternative 4 provides the worst benefit to cost ratio as shown in Table I. Based on the four preliminary alignments selected for this analysis, Alternative 1 will have the lowest estimated construction cost as well as the least amount of quantifiable environmental impacts associated with construction.

TABLE I: SUMMARY OF IMPACTS – NW CORRIDOR ALTERNATIVE ALIGNMENTS

	Alt. 1 (yellow)	Alt. 2 (orange)	Alt. 3 (blue)	Alt. 4 (green)
Total Project Length	3.55 mi	3.96 mi	3.64 mi	3.84 mi
Cost $ per Mile* (Millions)	$6.890	$6.890	$6.890	$6.890
Construction Only $ Estimate (Millions)	***$25.35M***	***$29.29M***	***$28.24M***	***$28.47M***
Parcel Review				
Residential (number)	0	0	0	0
Commercial (number)	0	0	0	0
Vacant (number)	10	12	11	9
Natural Resources				
Wetland (Freshwater Emergent) (ac)	1.85	1.84	6.3	7.5
Wetland (Freshwater forested/shrub) (ac)	9.31	23.25	33.24	17.7
Total Wetland (ac)	11.16	25.09	39.54	25.2
Floodplain Zone A (acres)	11.03	21.61	31.51	26.76
Protected Species Involvement[1]	ND[2]			
Wood Stork CFA	Present	Present	Present	Not Present
Community Resources	NP[3]			
Potential Contamination Sites	NP[3]			
Recommended Alternative Alignment (Yes/No)	**Yes**	**No**	**No**	**No**
Segments with Positive Change in LOS (2040)	Longleaf Pine Pkwy- Julington Lake Dr to Tollerton Ave St. Johns Pkwy- SR 9B to CR 210	Longleaf Pine Pkwy- Julington Lake Dr to Tollerton Ave St. Johns Pkwy- SR 9B to CR 210	Longleaf Pine Pkwy- Julington Lake Dr to Tollerton Ave St. Johns Pkwy- SR 9B to CR 210	-
Benefits/Cost Ratio (2040)	1.75	1.47	1.55	0.99
Job Creation/Preservation Benefits (Per Year-2040)	719	819	775	796

* Based on FDOT Cost per Mile Model, 2016, Urban 4-Lane Divided w/ 22' Median and Bike Lanes

[1] Protected species field surveys were not performed as part of this study. See Env. Narrative section 2.3.3.

[2] ND = Not Determined

[3] NP = Not Present

TABLE II: SEGMENT AADT AND LOS

Roadway Segment							2017 Level of Service Analysis						2030 Level of Service Analysis						2040 Level of Service Analysis						2040 AADT Differences	
							Model Volumes						Model Volumes						Model Volumes						Model Volumes	
Roadway	From	To	Roadway	Speed	Median	# of Lanes	Existing (2017)		2017 Planned Build Alt 1-3		2017 Alt 4		2030 No Build		2030 Alt 1-3		2030 Alt 4		2040 No Build		2040 Alt 1-3		2040 Alt 4		From No Build to Alt 1-3	From No Build to Alt 4
							AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS		
Greenbriar Road	Longleaf Pine Parkway	Old Palm Valley Road	Sig. Arterial	55	Undivided	2	3,800	C	3,400	C	2,100	C	9,800	C	7,000	C	6,400	C	12,100	C	8,000	C	7,000	C	(4,100)	(5,100)
CR 210	Old Palm Valley Road	South Hampton Club Way	Sig. Arterial	45	Undivided	2	21,000	F	19,300	F	18,600	F	33,400	D	30,300	C	32,000	C	37,300	F	34,800	F	36,200	F	(2,500)	(1,100)
	South Hampton Club Way	St. Johns Parkway	Sig. Arterial	45	Divided	4	27,300	C	25,900	C	26,700	C	37,000	F	34,400	D	38,000	F	42,100	F	39,200	F	43,500	F	(2,900)	1,400
Longleaf Pine Parkway	Greenbriar Road	Roberts Road	Sig. Arterial	45	Divided	4	10,300	C	9,200	C	9,300	C	15,300	C	20,200	C	14,500	C	18,500	C	25,800	C	19,700	C	7,300	1,200
	Roberts Road	Glenfiddich Way	Sig. Arterial	45	Undivided	2	1,400	C	4,000	C	1,400	C	5,000	C	400	C	1,900	C	7,500	C	1,100	C	2,300	C	(6,400)	(5,200)
	Glenfiddich Way	Glenlivet Way	Sig. Arterial	45	Divided	2	2,900	C	4,400	C	3,100	C	6,500	C	3,400	C	5,500	C	11,200	C	4,500	C	6,200	C	(6,700)	(5,000)
	Glenlivet Way	Julington Lake Drive	Sig. Arterial	45	Undivided	2	6,300	C	4,900	C	4,000	C	19,100	F	10,400	C	15,400	D	21,600	F	12,600	C	17,400	F	(9,000)	(4,200)
	Julington Lake Drive	Veterans Parkway	Sig. Arterial	45	Divided	2	6,300	C	4,900	C	4,000	C	19,100	F	10,400	C	15,400	C	21,600	F	12,600	C	17,400	F	(9,000)	(4,200)
	Veterans Parkway	Tollerton Avenue	Sig. Arterial	45	Divided	2	4,400	C	4,800	C	4,400	C	16,100	C	14,500	C	14,000	C	19,400	C	17,100	C	18,300	C	(2,300)	(1,100)
	Tollerton Avenue	Islesbrook Parkway	Sig. Arterial	45	Divided	4	5,200	C	6,100	C	5,700	C	15,400	C	13,500	C	14,000	C	20,500	C	27,500	C	19,700	C	7,000	(800)
	Islesbrook Parkway	St. Johns Parkway	Sig. Arterial	35	Divided	4	5,700	C	6,500	C	6,300	C	14,900	D	21,500	D	14,000	D	21,200	D	28,300	D	20,700	D	7,100	(500)
Veterans Parkway	Longleaf Pine Parkway	Greenbriar Rd/CR 210	Sig. Arterial	45	Divided	4	NA	NA	3,800	C	4,200	C	8,400	C	7,900	C	8,400	C	14,100	C	13,300	C	15,000	C	(800)	900
St. Johns Parkway	Longleaf Pine Parkway	SR 9B	Sig. Arterial	45	Divided	2	6,300	C	4,800	C	4,600	C	44,700	F	41,800	F	43,700	F	48,400	F	46,200	F	47,100	F	(2,200)	(1,300)
	SR 9B	CR 210	Sig. Arterial	45	Divided	4	5,200	C	4,000	C	4,000	C	34,000	C	31,000	C	33,900	C	38,500	F	35,600	D	38,300	F	(2,900)	(200)
E-W Corridor Alt 1	Roberts Road	Longleaf Pine Parkway	Sig. Arterial	45	Divided	4	NA	NA	1,700	C	NA	NA	NA	NA	12,800	C	NA	NA	NA	NA	20,700	C	NA	NA	NA	NA
E-W Corridor Alt 4	Longleaf Pine Parkway	CR 210	Sig. Arterial	45	Divided	4	NA	NA	NA	NA	5,000	C	NA	NA	NA	NA	10,400	C	NA	NA	NA	NA	14,600	C	NA	NA

LOS F, per Model AADT

LOS E, per Model AADT

LOS D, per Model AADT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1 Introduction

1.1 Purpose

This study's purpose is to determine the feasibility of constructing a new east-west corridor linking Longleaf Pine Parkway and the future Veterans Parkway extension. Four corridor alternatives were examined in the years 2030 and 2040 to assess the traffic benefits, environmental impacts, right of way impacts and costs.

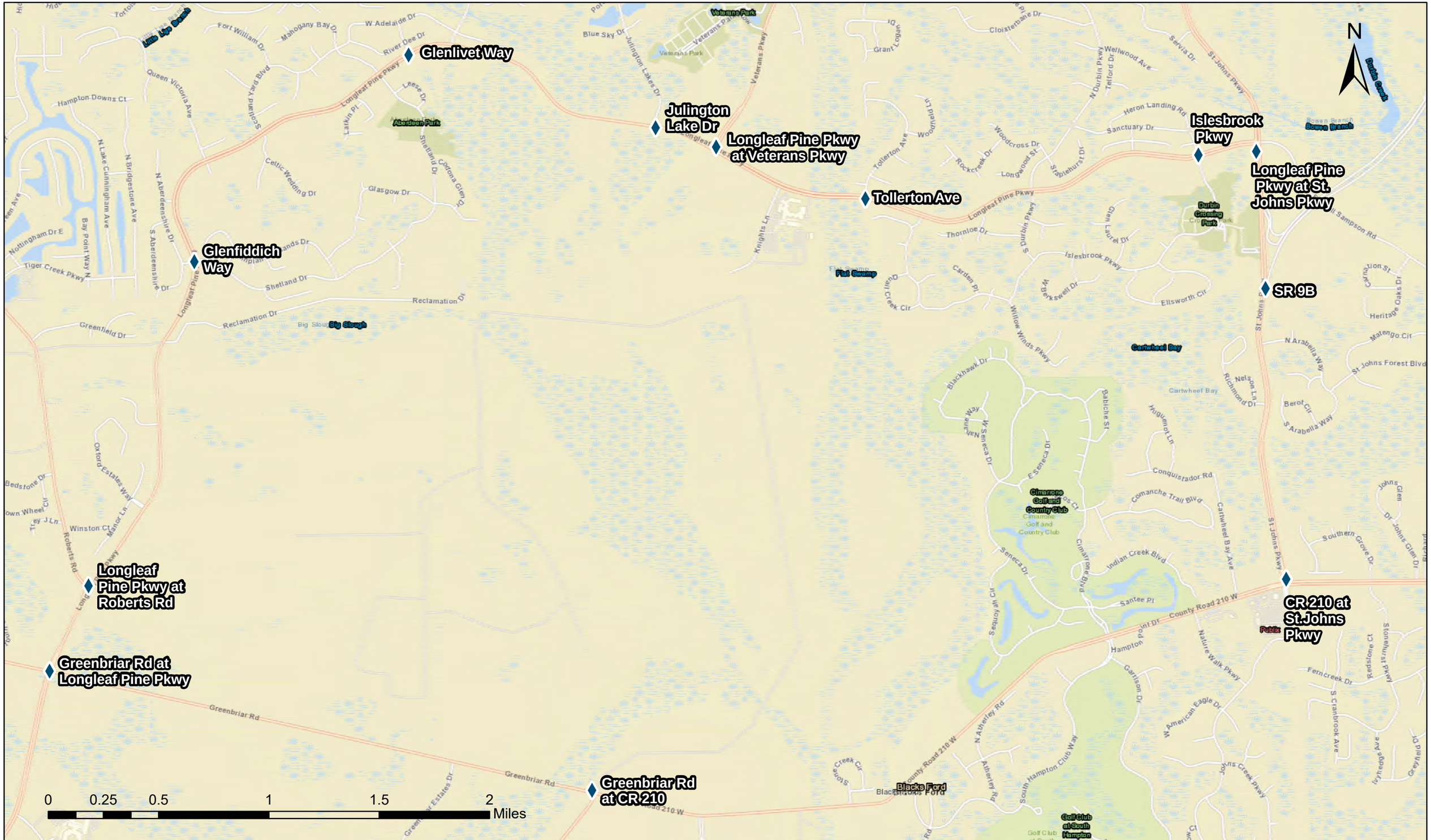
1.2 Background

The *Ponte Vedra/Palm Valley Traffic Study*, conducted in 2017, lead to a discussion about current and future traffic concerns in St. Johns County. Land in northwest St. Johns County is being rapidly developed into residential communities, office space and retail. Continued traffic growth is anticipated within this study area over the year 2040 design period for the project.

Due to the increased development and potential traffic concerns, it was determined that a new corridor connecting Longleaf Pine Parkway and the future Veterans Parkway extension should be assessed to increase connectivity and support planned development within the study area. Veterans Parkway, at the time of this study, terminates at the intersection with Longleaf Parkway. It is anticipated that developments east of Veterans Parkway will contribute towards the southern expansion of Veterans Parkway to CR 210. This expansion is included in the 2017 Planned Build and 2030 and 2040 Build and No Build scenarios for the east-west corridor.

1.3 Study Area

This project is located in northwest St. Johns County. The study area is bound by CR 210/Greenbriar Road to the south, St. Johns Parkway to the east and Longleaf Pine Parkway to the west and north. Figure 1 is a location map.



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Northwest St. Johns County Corridor Study Map

Figure 1

2 Existing Conditions

2.1 Existing Roadway Conditions

Three main roadways make-up the study area boundaries: CR 210/Greenbriar Road, Longleaf Pine Parkway and St. Johns Parkway. These roadways, conditions and major intersections are described in following subsections.

2.1.1 CR 210/Greenbriar Road

The southern boundary of the study area is CR 210/Greenbriar Road. CR 210 is an east-west roadway. Less than one-half mile west of Shearwater Parkway, CR 210 becomes north-south, and the roadway continuation west is known as Greenbriar Road. Table 1 shows the roadway characteristics.

TABLE 1: CR 210/GREENBRIAR ROAD ROADWAY CHARACTERISTICS

Roadway	From	To	Roadway	Speed	Median	Number of Lanes
Greenbriar Road	Longleaf Pine Parkway	Old Palm Valley Road	Sig. Arterial	55	Undivided	2
CR 210	Old Palm Valley Road	South Hampton Club Way	Sig. Arterial	45	Undivided	2
	South Hampton Club Way	St. Johns Parkway	Sig. Arterial	45	Divided	4

2.1.1.1 Longleaf Pine Parkway

Longleaf Pine Parkway and Greenbriar Road is a four-leg, signal-controlled intersection at the west end of the study area. The intersection is configured as follows:

Northbound: one left-turn lane, two through lanes and one right-turn lane
Southbound: one left-turn lane, two through lanes and one right-turn lane
Eastbound: one left-turn lane, one through lane and one right-turn lane
Westbound: two left-turn lanes, one through lane and one right-turn lane

2.1.1.2 CR 210

The CR 210 and Greenbriar Road intersection is three-legged and signal-controlled. The intersection is configured as follows:

Northbound: one left-turn lane and one right-turn lane
Eastbound: one right-turn lane and one through lane
Westbound: one left-turn lane and one through lane

2.1.1.3 St. Johns Parkway

St. Johns Parkway and CR 210 is a four-leg, signal-controlled intersection at the east end of the study area. The intersection is configured as follows:

Northbound: two left-turn lanes, two through lanes and one right-turn lane
Southbound: two left-turn lanes, two through lanes and one right-turn lane
Eastbound: two left-turn lanes, two through lanes and one right-turn lane
Westbound: two left-turn lanes, two through lanes and one right-turn lane

2.1.1.4 Longleaf Pine Parkway

The western and northern boundary of the study area is Longleaf Pine Parkway. Longleaf Pine Parkway runs north-south and then turns east-west until the intersection with St. Johns Parkway. Table 2 shows the roadway characteristics.

TABLE 2: LONGLEAF PINE PARKWAY ROADWAY CHARACTERISTICS

Roadway	From	To	Roadway	Speed	Median	Number of Lanes
Longleaf Pine Pkwy	Greenbriar Road	Roberts Road	Sig. Arterial	45	Divided	4
	Roberts Road	Glenfiddich Way	Sig. Arterial	45	Undivided	2
	Glenfiddich Way	Glenlivet Way	Sig. Arterial	45	Divided	2
	Glenlivet Way	Julington Lake Drive	Sig. Arterial	45	Undivided	2
	Julington Lake Drive	Veterans Parkway	Sig. Arterial	45	Divided	2
	Veterans Parkway	Tollerton Avenue	Sig. Arterial	45	Divided	2
	Tollerton Avenue	Islesbrook Parkway	Sig. Arterial	45	Divided	4
	Islesbrook Parkway	St. Johns Parkway	Sig. Arterial	35	Divided	4

2.1.1.5 Roberts Road

Roberts Road is a three-leg, signal-controlled intersection. The intersection is configured as follows:

Northbound: one left-turn lane and one through lane
Southbound: one shared through/right-turn lane
Eastbound: one left-turn lane and one channelized right-turn lane

2.1.1.6 Veterans Parkway

Veterans Parkway is a three-leg, signal-controlled intersection. The intersection is configured as follows:

Southbound: one left-turn lane and one through lane
Eastbound: one left-turn lane and one through lane
Westbound: one left/U-turn lane, one through lane and one right-turn lane

2.1.1.7 St. Johns Parkway

St. Johns Parkway and Longleaf Pine Pkwy is a four-leg, signal-controlled intersection. The intersection is configured as follows:

Northbound: one left-turn lane, one through lane and one shared through/right-turn lane
Southbound: one left-turn lane, one through lane and one channelized right-turn lane
Eastbound: one left-turn lane, one through lane and one channelized right-turn lane
Westbound: one left-turn lane and one shared through/right-turn lane

2.1.2 St. Johns Parkway

The eastern boundary of the study area is St. Johns Parkway. Table 3 shows the roadway characteristics.

TABLE 3: ST. JOHNS PARKWAY ROADWAY CHARACTERISTICS

Roadway	From	To	Roadway	Speed	Median	Number of Lanes
St. Johns Parkway	Longleaf Pine Parkway	SR 9B	Sig. Arterial	45	Divided	2
	SR 9B	CR 210	Sig. Arterial	45	Divided	4

2.2 Existing Environmental Conditions

A desktop analysis consisting of literature reviews and database searches was conducted to inventory the Environmentally Sensitive Areas (ESA) within the study area. A 200-foot wide corridor buffer was created in a Geographic Information System (GIS) to represent each alternative, and a preliminary evaluation was performed to estimate the total amount of each ESA feature identified within each buffer.

ESA's evaluated as part of this preliminary study include:

- Residential, Commercial and Vacant Parcels
- Wetlands and Surface Waters
- Floodplains
- Protected Species and Habitat
- Water Quality
- Historic and Archaeological sites
- Parks and Conservation areas
- Community Resources
- Potential Contamination Sites

Available literature and GIS data reviewed as part of this preliminary study include:

- Florida Natural Areas Inventory (FNAI)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)
- Environmental Systems Research Institute (Esri) World Imagery
- Florida Fish and Wildlife Conservation Commission (FWC) Eagle Nest Database Locator
- USFWS Wood Stork Rookeries and Core Foraging Areas
- Florida Geographic Data Library (FGDL)
- USFWS Information for Planning and Consultation (IPaC) database
- St. Johns County Planning available shapefiles
- St. Johns County Property Appraiser
- St. Johns County Unbuilt Residences Map
- Federal Emergency Management Agency (FEMA) Flood Map Service Center
- Florida Department of Environmental Protection (FDEP) Map Direct Contamination Locator Map
- FDEP Storage Tank Contamination Monitoring (STCM) Database

2.2.1 Parcel Review

Based on review of available St. Johns County property appraiser maps, the study area primarily consists of residential neighborhoods and vacant agricultural land.

2.2.2 Wetlands and Surface Waters

Preliminary wetland data was obtained from the USFWS NWI. Wetland field delineation and evaluation was not performed as part of this study.

The study area consists of a mix of freshwater forested and freshwater emergent wetland systems associated with Big Slough in the western and central portions of the study area and flat swamp in the eastern portion of the study area adjacent to Creekside High School. Numerous other isolated wetland systems scattered within the study area were also identified during the map review.

2.2.3 Floodplains

Available FEMA Digital Flood Insurance Rate Maps (DFIRM database 12109C, effective date September 1, 2004) were reviewed. A majority of the floodplain identified within the study area consists of 100-year floodplain, Zone A (no base flood elevations determined). An area of 100-year floodplain, Zone AE (base flood elevations determined) was identified in the northern portion of the study area. The base flood elevation at this location is 20 feet (NAVD 88). It should also be noted that a 100-year regulatory floodway is in the southwest corner of the study area, just south of Roberts Road. The base flood elevation of the floodway near the intersection of Longleaf Pine Parkway and Greenbriar Road is around 26 feet (NAVD 88). The FEMA floodplain map used for review is included in Appendix A.

2.2.4 Protected Species and Habitat

A desktop analysis of USFWS, FWC and FNAI literature was conducted to identify potential federal or state protected species that may exist within the study area. Protected species and habitat field surveys were not performed as part of this study. The study area consists of forested undeveloped land that may be suitable habitat for a variety of flora and fauna. Table 4 lists the federally protected species with the potential to be present in the study area.

Table 5 lists the state protected species with the potential to be present in the study area. A preliminary review of available USFWS GIS data for Critical Habitat did not identify any Critical Habitat areas within the study area.

It should be noted the eastern portion of the study area is located within the Core Foraging Area (CFA) of a federally threatened Wood Stork colony. During project development, coordination with USFWS would likely be required to determine if suitable foraging habitat is present and potential effects and identify mitigation, if required. In North Florida, the foraging buffer radius is 13 miles around an active Wood Stork colony. A map of the Wood Stork CFA is included in Appendix A.

TABLE 4: FEDERALLY PROTECTED SPECIES WITH THE POTENTIAL TO EXIST WITHIN THE STUDY AREA

Common Name	Species	Federal Listing
Anastasia Island Beach Mouse	*Peromyscus polionotus phasma*	Endangered
Piping Plover	*Charadrius melodus*	Threatened
Red-cockaded Woodpecker	*Picoides borealis*	Endangered
Wood Stork	*Mycteria americana*	Threatened
Red Knot	*Calidris canutus rufa*	Threatened
Gopher Tortoise	*Gopherus polyphemus*	Candidate Species
Eastern Indigo Snake	*Drymarchon corais couperi*	Threatened

TABLE 5: STATE PROTECTED SPECIES WITH THE POTENTIAL TO EXIST WITHIN THE STUDY AREA

Common Name	Species	State Listing
Sherman's Fox Squirrel	*Sciurus niger shermani*	Species of Special Concern
Gopher Tortoise	*Gopherus polyphemus*	Threatened
Bartram's Ixia	*Calydorea coelestina*	Endangered
Incised Groove-bur	*Agrimonia incisa*	Threatened
Variable-leaved India-plantain	*Arnoglossum diversifolium*	Threatened
Southern Milkweed	*Asclepias viridula*	Threatened
Pondspice	*Litsea aestivalis*	Endangered
Curtiss' Loosestrife	*Lythrum curtissii*	Endangered
Florida Spiny-pod	*Matelea floridana*	Endangered
Pygmy Pipes	*Monotopsis reynoldsiae*	Endangered
Celestial Lily	*Nemasytlis floridana*	Endangered
Florida Beargrass	*Nolina atopocarpa*	Threatened
Pineland Scurfpea	*Orbexilum virgatum*	Endangered
Giant Orchid	*Pteroglossaspis ecristata*	Threatened
Florida Mountain-mint	*Pycnanthemum floridanum*	Threatened
St. John's Black-Eyed Susan	*Rudbeckia nitida*	Endangered
Florida Willow	*Salix floridana*	Endangered
Variable-leaf Crownbeard	*Verbesina heterophylla*	Endangered

2.2.5 Other Protected Species

The Bald Eagle is no longer listed as a threatened species by the USFWS but is protected under the Bald and Golden Eagle Protection Act of 1940 and the Migratory Bird Treaty Act of 1918, as amended. In addition, FWC implemented a bald eagle management plan, adopted April 2008. The most recent FWC data available for nest locations is from the 2016-2017 nesting season. No active nests were identified during the database review of the study area.

2.2.6 Water Quality

The study area is in the Lower St. Johns River Basin, within the St. Johns River Water Management District (SJRWMD). The Water Body IDs associated with the study area are 2417, 2422, 2404, 2425, 2402. The study

area vicinity has a Basin Management Action Plan in progress, but does not currently have a Total Maximum Daily Load (TMDL) instituted. There were no special water designations identified in the study area (Outstanding Florida Waters, Outstanding Florida Springs or others.). All drainage and stormwater features considered during project development should be designed in accordance with applicable laws, regulations, and standards.

2.3 Cultural and Historic Resources

2.3.1 National Register of Historic Places

Review of the National Register of Historic Places database did not identify any historic listed properties within the study area.

2.3.2 Archaeological Resources

A Cultural Resource Assessment Survey (CRAS) was not performed as part of this study. In 2001, an Archaeological Predictive Model was developed by St. Johns County. This model identifies areas of high, medium and low probability for the presence of archaeological resources. Review of the model data within the study limit boundaries shows that there are areas of medium and high probability for the presence of archaeological resources within the study area; however, it does not provide any definitive information about the actual presence or absence of archaeological resources. Additional coordination and assessment will be needed during project development to determine if any known archaeological resources are present. The St. Johns County Zones of Archaeological Probability map is included in the Appendix A.

2.3.3 4(f) Properties

Review of the St. Johns County parks and recreational map did not identify any conservation lands within the study area. There are two recreational areas, Aberdeen Park and Durbin Crossing Park within the study area.

2.4 Community Resources

ArcGIS Desktop analysis did not identify any community resources located within the study area. There is an emergency room, a post office, a library and several other government offices located near the study area.

2.5 Potential Contamination Sites

A review of available FDEP STCM records did not identify any active FDEP cleanup sites within the study area. However, several registered underground and aboveground petroleum storage tank sites were identified within the study area.

Table 6 lists the registered tanks sites within and adjacent to the study area. A map of the FDEP registered petroleum storage tanks within and adjacent to the study area can be found in the Appendix A.

TABLE 6: FDEP STCM REGISTERED TANK SITES WITHIN THE STUDY AREA

FDEP Facility ID	Site Name	Impacted Corridors
9201148	Cimarrone Golf and Country Club	none
9201922	St Johns Cnty-Anastasia Mosquito Dist	none
9602142	Jea St Johns North WTP	none
9800827	Smith Trucking Site 1	none
9803109	Jea Blacks Ford WWTF	none
9803253	Jea St Johns Forest Mstr Lift Stat	none
9808320	Speedway #6905	none
9810510	Publix Super Market #1099	none
9814915	Jea Old CR 210 Lift	none

3 Traffic Forecasting Methodology

To determine future traffic demand for a new east-west corridor, a review of the Northeast Regional Planning Model – Activity Based1v3 (NERPM-ABv3), was performed. NERPM-ABv3 is the North Florida Transportation Planning Organization's (North Florida TPO) adopted model. The model has a validated base year of 2010 and a Cost Feasible Plan Year of 2040.

For this study's analysis, a 2017 Base Year Model, 2030 Model and 2040 Cost Feasible Plan Model were examined. A subarea model verification was performed to confirm the socio-economic data, land use data and network were appropriately updated for use in the study area.

3.1 Adopted Travel Demand Forecasting Model

The Northeast Regional Planning Model (NERPM) was used in assessing future travel demand in the study area. The 2030 and 2040 Cost Feasible Plan networks contain all updated model input information available at the time of the preparation of this report.

3.2 Socio-economic Data Verification

The NERPM-ABv3 2017, 2030 and 2040 socio-economic data files were utilized for this project. Development data was provided by St. Johns County and was utilized in the 2030 and 2040 network analysis.

3.3 Network Verification

Six networks were prepared for this project: 2017 Base Year, 2017 Planned Build, 2030 No Build, 2030 Build, 2040 Cost Feasible Plan No Build and 2040 Cost Feasible Plan Build Alternative network. Each Build network analyzed four potential east-west corridor alternatives.

Development of the 2017 Base Year network included confirming the network was accurately coded to best replicate 2017 conditions in the study area based on the existing conditions data collection. The 2030 and 2040 Cost Feasible Plan networks were reviewed and revised to ensure the NFTPO 2017 – 2021 Transportation Improvement Program (TIP) was reflected. These networks were used to develop the alternatives, which are further discussed in Section 4.

4 Traffic Operations Analysis

4.1 Alternatives Analyzed

The following alternatives were modeled.

4.1.1 Base Year

A base year model network of 2017 was developed and assignments were run to conduct reasonableness tests and to compare with the future No Build and Build alternatives. This model was built from the 2010 validated model.

4.1.2 No Build

This alternative showed the anticipated traffic volumes and travel patterns if no east-west corridor is considered. Developments considered in the model include future proposed and approved residential and commercial units. The Veterans Parkway southern extension is also included.

4.1.3 Build Alternatives

These scenarios include the future proposed and approved residential and commercial units, Veterans Parkway southern extension and a new east-west corridor.

No Build and Build Alternative assumptions were the following:

- By 2030, all proposed and approved properties will be built as shown in Appendix B.
- By 2030, Rivertown development will have extended the southern portion of Veterans Parkway as a 4-lane divided roadway with median.
    - Analysis was also done to show the impact of the extension and east-west corridor with present traffic for 2017 Planned Build.
- By 2030, Veterans Parkway will be 4-lanes to the north of Longleaf Pine Parkway.
- By 2030, Longleaf Pine Parkway will be 4-lanes from Tollerton Avenue to Veterans Parkway.
- By 2030, CR 210 will be 4-lanes from Cimarrone Boulevard to the Veterans Parkway extension.

5 Existing Traffic Volumes and Level of Service (LOS)

The travel demand model was prepared to include the existing traffic and residential and commercial units. The area is mostly residential and vacant agricultural. CR 210/Greenbriar Road in the study area is a two-lane rural typical section. Longleaf Pine Parkway is a two-lane urban typical section. From just west of Tollerton Avenue to the eastern study area boundary, Longleaf Pine Parkway is four lanes.

5.1.1 Existing Volumes and LOS

The Average Annual Daily Traffic (AADT) volumes were developed from the travel demand model's peak season weekday average daily traffic directional volume outputs. These outputs are included in Appendix C. A 0.97 model output conversion factor, from Florida Department of Transportation (FDOT) Transportation Statistics Office's Peak Season Factor Report, was applied to the volumes to calculate the AADTs per the FDOT *Project Traffic Forecasting Handbook* guidelines. The 2012 FDOT Quality/LOS Handbook Tables were then used in determining the LOS for each segment. It should be noted that 2018 FDOT Quality/LOS Handbook Tables are being drafted; however, at the time of this study the handbook and tables have not been finalized.

To ensure reasonability of the model forecast, the AADTs were compared to the St. Johns County historical traffic counts (Appendix E) at corresponding count stations. Year 2017 was interpolated from the counts and compared to the 2017 forecasted counts. Table 7 reports the forecasted AADTs and LOS. CR 210 from Old Palm Valley to South Hampton Club Way operates at LOS F during existing conditions.

TABLE 7: EXISTING SEGMENT AADT AND LOS

Roadway Segment							2017 Level of Service Analysis	
							Model Volumes	
Roadway	From	To	Roadway	Speed	Median	# of Lanes	Existing (2017)	
							AADT	LOS
Greenbriar Road	Longleaf Pine Parkway	Old Palm Valley Road	Sig. Arterial	55	Undivided	2	3,800	C
CR 210	Old Palm Valley Road	South Hampton Club Way	Sig. Arterial	45	Undivided	2	21,000	F
	South Hampton Club Way	St. Johns Parkway	Sig. Arterial	45	Divided	4	27,300	C
Longleaf Pine Parkway	Greenbriar Road	Roberts Road	Sig. Arterial	45	Divided	4	10,300	C
	Roberts Road	Glenfiddich Way	Sig. Arterial	45	Undivided	2	1,400	C
	Glenfiddich Way	Glenlivet Way	Sig. Arterial	45	Divided	2	2,900	C
	Glenlivet Way	Julington Lake Drive	Sig. Arterial	45	Undivided	2	6,300	C
	Julington Lake Drive	Veterans Parkway	Sig. Arterial	45	Divided	2	6,300	C
	Veterans Parkway	Tollerton Avenue	Sig. Arterial	45	Divided	2	4,400	C
	Tollerton Avenue	Islesbrook Parkway	Sig. Arterial	45	Divided	4	5,200	C
	Islesbrook Parkway	St. Johns Parkway	Sig. Arterial	35	Divided	4	5,700	C
Veterans Parkway	Longleaf Pine Parkway	Greenbriar Rd/CR 210	Sig. Arterial	45	Divided	4	NA	NA
St. Johns Parkway	Longleaf Pine Parkway	SR 9B	Sig. Arterial	45	Divided	2	6,300	C
	SR 9B	CR 210	Sig. Arterial	45	Divided	4	5,200	C

LOS F, per Model AADT
LOS E, per Model AADT
LOS D, per Model AADT

6 No Build Alternatives

6.1 2030 and 2040 No Build Traffic Volumes LOS

Analysis was performed to evaluate the study area by comparing the No Build segment LOS to the Build segment LOS. These results are discussed in detail in Section 7.

6.1.1 2030 and 2040 No Build Segment and LOS Evaluation

AADT volumes and roadway characteristics for each segment were used in performing the LOS analysis. These characteristics include roadway type, speed, number of lanes and the existence of medians. The roadways are classified as urban arterials. The 2012 FDOT Quality/LOS Handbook tables were used in determining the LOS for each segment. The forecasted AADTs and LOS are reported and compared to the Build Alternative analysis in Section 7. The AADT and LOS for the roadway segments were compered between Build and No Build scenarios in 2017, 2030 and 2040. The results are reported in Table 8.

The following segments are anticipated to operate at LOS F in the 2030 No Build: CR 210 from South Hampton Club Way to St. Johns Parkway, Longleaf Pine Parkway from Glenlivet Way to Veterans Parkway and St. Johns Parkway from Longleaf Pine Parkway to North Arabella Way.

The following segments are anticipated to operate at LOS F in the 2040 No Build: CR 210 from Old Palm Valley Road to St. Johns Parkway, Longleaf Pine Parkway from Glenlivet Way to Veterans Parkway and St. Johns Parkway from Longleaf Pine Parkway to CR 210.

TABLE 8: 2030 AND 2040 SEGMENT AADT AND LOS

Roadway Segment							2030 No Build Level of Service Analysis		2040 No Build Level of Service Analysis	
							Model Volumes		Model Volumes	
Roadway	From	To	Roadway	Speed	Median	# of Lanes	2030 No Build		2040 No Build	
							AADT	LOS	AADT	LOS
Greenbriar Road	Longleaf Pine Parkway	Old Palm Valley Road	Sig. Arterial	55	Undivided	2	9,800	C	12,100	C
CR 210	Old Palm Valley Road	South Hampton Club Way	Sig. Arterial	45	Undivided	2	33,400	D	37,300	F
	South Hampton Club Way	St. Johns Parkway	Sig. Arterial	45	Divided	4	37,000	F	42,100	F
Longleaf Pine Parkway	Greenbriar Road	Roberts Road	Sig. Arterial	45	Divided	4	15,300	C	18,500	C
	Roberts Road	Glenfiddich Way	Sig. Arterial	45	Undivided	2	5,000	C	7,500	C
	Glenfiddich Way	Glenlivet Way	Sig. Arterial	45	Divided	2	6,500	C	11,200	C
	Glenlivet Way	Julington Lake Drive	Sig. Arterial	45	Undivided	2	19,100	F	21,600	F
	Julington Lake Drive	Veterans Parkway	Sig. Arterial	45	Divided	2	19,100	F	21,600	F
	Veterans Parkway	Tollerton Avenue	Sig. Arterial	45	Divided	2	16,100	C	19,400	C
	Tollerton Avenue	Islesbrook Parkway	Sig. Arterial	45	Divided	4	15,400	C	20,500	C
	Islesbrook Parkway	St. Johns Parkway	Sig. Arterial	35	Divided	4	14,900	D	21,200	D
Veterans Parkway	Longleaf Pine Parkway	Greenbriar Rd/CR 210	Sig. Arterial	45	Divided	4	8,400	C	14,100	C
St. Johns Parkway	Longleaf Pine Parkway	SR 9B	Sig. Arterial	45	Divided	2	44,700	F	48,400	F
	SR 9B	CR 210	Sig. Arterial	45	Divided	4	34,000	C	38,500	F

LOS F, per Model AADT
LOS E, per Model AADT
LOS D, per Model AADT

6.1.2 2030 and 2040 No Build Systems Analysis

The Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) were calculated for the entire NERPM model. This analysis shows the impacts of Build Alternatives on the entire roadway system. The results of the No Build scenario were analyzed and compared to each build alternative. The comparative results are reported in Section 7.

7 Build Alternatives

The build alternatives examine the impact of a new east-west corridor in the study area during 2030 and 2040. This corridor would link Longleaf Pine Parkway to the future Veterans Parkway Extension.

Environmental and traffic impacts due to each corridor were examined. Segment daily directional volumes, daily VMT and daily VHT were calculated by the travel demand model (NERPM-ABv3 network). This information was used to analyze segments in the study area and impacts to the roadway system.

Calculations for the LOS of each study area segment were performed in accordance to the 2012 FDOT Quality/LOS Handbook Tables.

7.1 New East-West Corridor

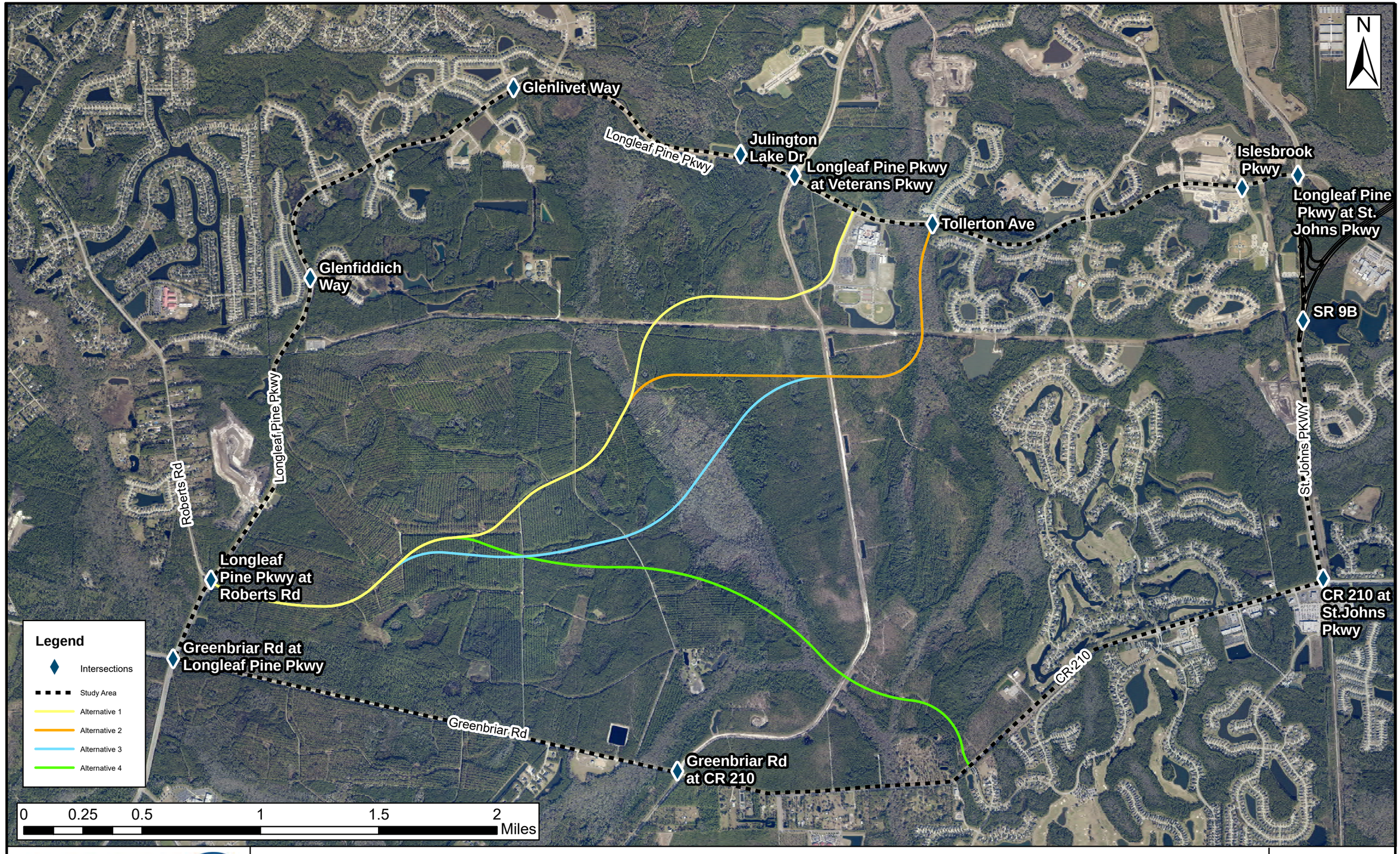
Four alternative alignments were evaluated and are depicted in Figure 2. The alignments were selected based on the need to service the study area and avoiding impacts to existing residential neighborhood parcels while providing a new connection to existing adjacent intersections and roadways. A brief description of the four alternatives evaluated as part of this study is as follows:

Alternative 1 (yellow) is approximately 3.5 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, travels east for 0.5 miles before turning northeast for about 2.0 miles. It then travels east again for 0.5 miles before crossing Veterans Parkway and follows the Knights Lane alignment for 0.6 miles. It ends at Longleaf Pine Parkway.

Alternative 2 (orange) is approximately 4 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway and follows the same alignment as Alternative 1 for 2 miles before turning east to intersect Veterans Parkway south of Knights Lane. The alignment continues east for approximately 1.2 miles, and crosses Veterans Parkway then turns north and intersects Longleaf Pine Parkway to the east of Creekside High School.

Alternative 3 (blue) is approximately 4 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, and follows the same path as Alternatives 1 and 2 for 0.8 miles before turning east for 1.2 miles, then generally north for 1 mile before intersecting Veterans Parkway 200 feet south of Knights Lane. The alignment continues east and then turns north along the same alignment as Alternative 2 and ends on the east side of Creekside High School at Longleaf Pine Parkway.

Alternative 4 (green) is approximately 3.6 miles long. It begins at the intersection of Roberts Road and Longleaf Pine Parkway, travels east for 0.5 miles, turns north for 0.5 miles, then travels generally southeast for approximately 2.6 miles and ends at the intersection of South Hampton Club Way and CR 210/Greenbriar Road in the southern portion of the study area.



North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Alternative Routes

Figure 2

7.1.1 Design Controls

The typical section used for the proposed roadway alignment is the St. Johns County design standard for a 4-lane urban divided major collector roadway which has the following characteristics:

- Four-Lane urban divided roadway
- 130-foot total right of way width
- 22-foot median
- Five-foot paved shoulder/bike Lanes and five-foot sidewalks on both sides

Figure 3 shows the urban typical section used in the new corridor design.

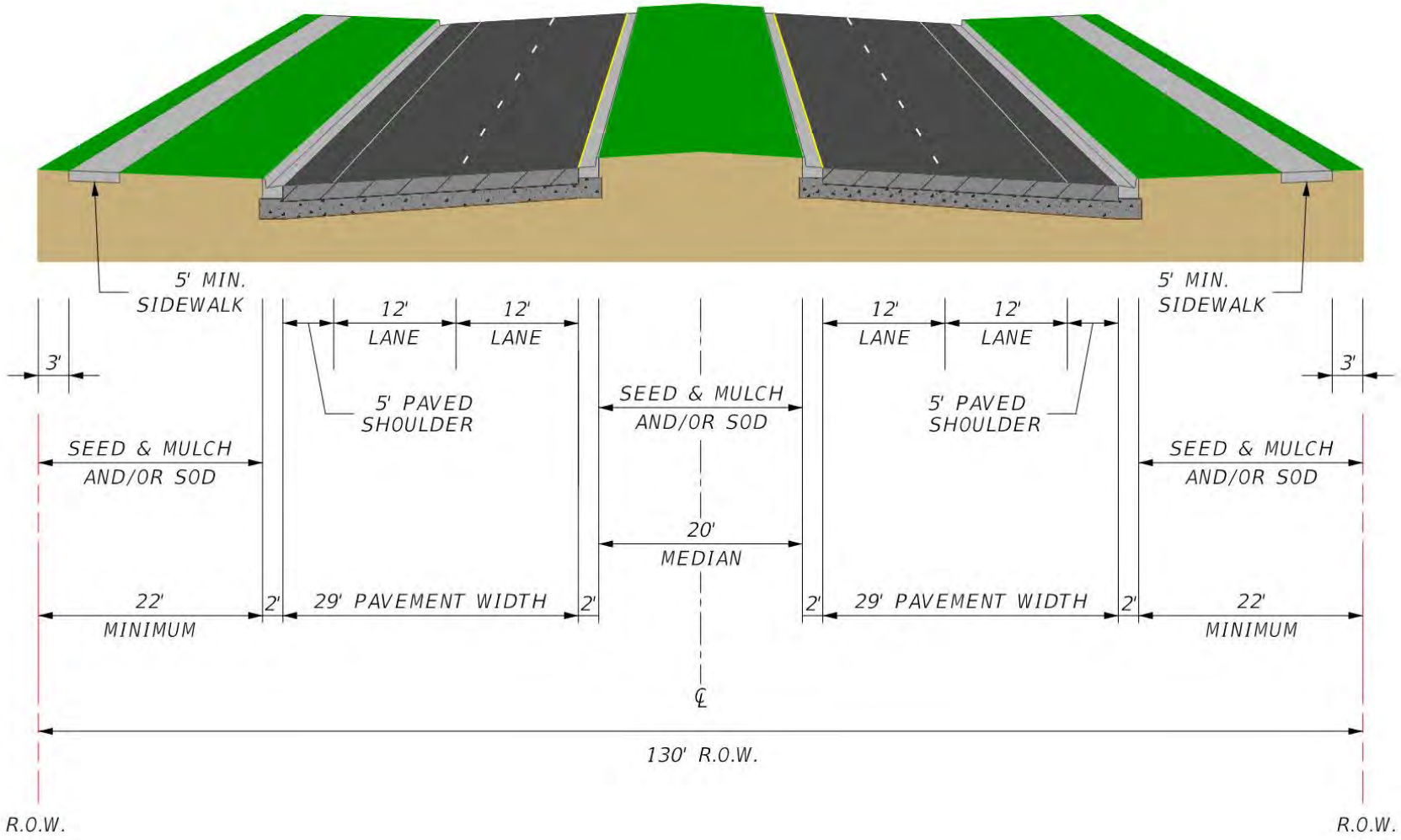


FIGURE 3 : FOUR-LANE URBAN TYPICAL SECTION (ST. JOHNS COUNTY DESIGN STANDARDS)

The overriding constraints identified as control features for all proposed alignments include several key factors, namely:

- Maintain minimum design standards for an urban major collector roadway such as appropriate design speed, horizontal curvature limitations and maximum deflection angles. The FDOT's Florida Design Manual (FDM) is the source for the design criteria chosen for this study
- Establish logical termini and intersection points on the east and west side of the study area.
    - For the east-side connection, several alternative terminus points were investigated, including using the existing Knights Lane alignment on the west side of Creekside High School as well as an alternative connection along Longleaf Parkway at the existing full median opening with Tollerton Avenue
    - For the west side connection, Roberts Road was selected as the logical terminus point. It provides an existing connection to developed areas west of the study site as well as direct connection to an existing signalized intersection
- No right of way impacts to established residential areas on the east of Veteran's Parkway. These existing neighborhoods provide an existing constraint and affect the logical pathway of potential alignment alternatives
- Establish a 90-degree (non-skewed) crossing where the proposed corridor alignment will cross under the existing overhead electric transmission easement, which runs east-west within the study area. This will minimize impacts to Utility Agency Owner's (UAO) existing poles and overhead electric lines
- Avoid, to the extent practical, any areas of wetlands and designated flood plain areas to minimize environmental impacts and associated costs
- Utilize internal dirt road alignments as guidelines for the potential corridor to help minimize impacts to environmentally sensitive areas to the greatest extent practical

Appendix D provides a summary of appropriate design criteria identified for this project. Context sensitive adjustments may be implemented during subsequent phases.

7.2 Environmental Impacts

No alternatives are expected to traverse any current residential or commercial parcels or approved future residential or commercial developments based on a review of St. Johns County property appraiser information and information from St. Johns County Growth Management Services. None of the study area's community resources, recreational areas, Aberdeen Park or Durbin Crossing Park are within the 200-foot corridor buffers of the alternatives being considered. The maps used for the impact review are included in Appendix A.

Review of the St. Johns County property appraiser map identified the following estimated vacant parcel crossings for each alternative:

- Alternative 1 = 10 vacant parcels
- Alternative 2 = 12 vacant parcels
- Alternative 3 = 11 vacant parcels
- Alternative 4 = nine vacant parcels

ESAs were identified during a desktop analysis of each of the corridors being considered. Environmental field surveys were not performed as part of this preliminary study.

Due to the presence of wetland and floodplain areas within the study area, all proposed alignments will create unavoidable impacts to these sensitive areas. To estimate impacts from construction of a new four-lane roadway alignment, a total project buffer width of 200 feet was selected to account for both permanent on-site and temporary impacts associated with construction activities such as the new pavement, ponds, waterways and floodplain impacts that would typically be included with new alignment projects. Review of the USFWS NWI map resulted in the following estimates for wetland acreage within each 200-foot corridor buffer:

- Alternative 1 = 11.16 acres
- Alternative 2 = 25.09 acres
- Alternative 3 = 39.54 acres
- Alternative 4 = 25.20 acres

A map of the impacted wetland areas in included in Appendix A.

Based on review of the FEMA floodplain map, only 100-year floodplain, Zone A (no base flood elevations determined) was identified within each of the alternative corridors. The map review (Appendix A) resulted in the following acreage estimates of 100-year floodplain, Zone A (no base flood elevations determined) within each 200-foot corridor buffer:

- Alternative 1 = 11.03 acres
- Alternative 2 = 21.61 acres
- Alternative 3 = 31.51 acres
- Alternative 4 = 26.76 acres

No registered underground and above ground petroleum storage tank sites were identified within the 200-foot corridor buffers of the alternatives being considered. The map used for the petroleum storage analysis is included in Appendix A.

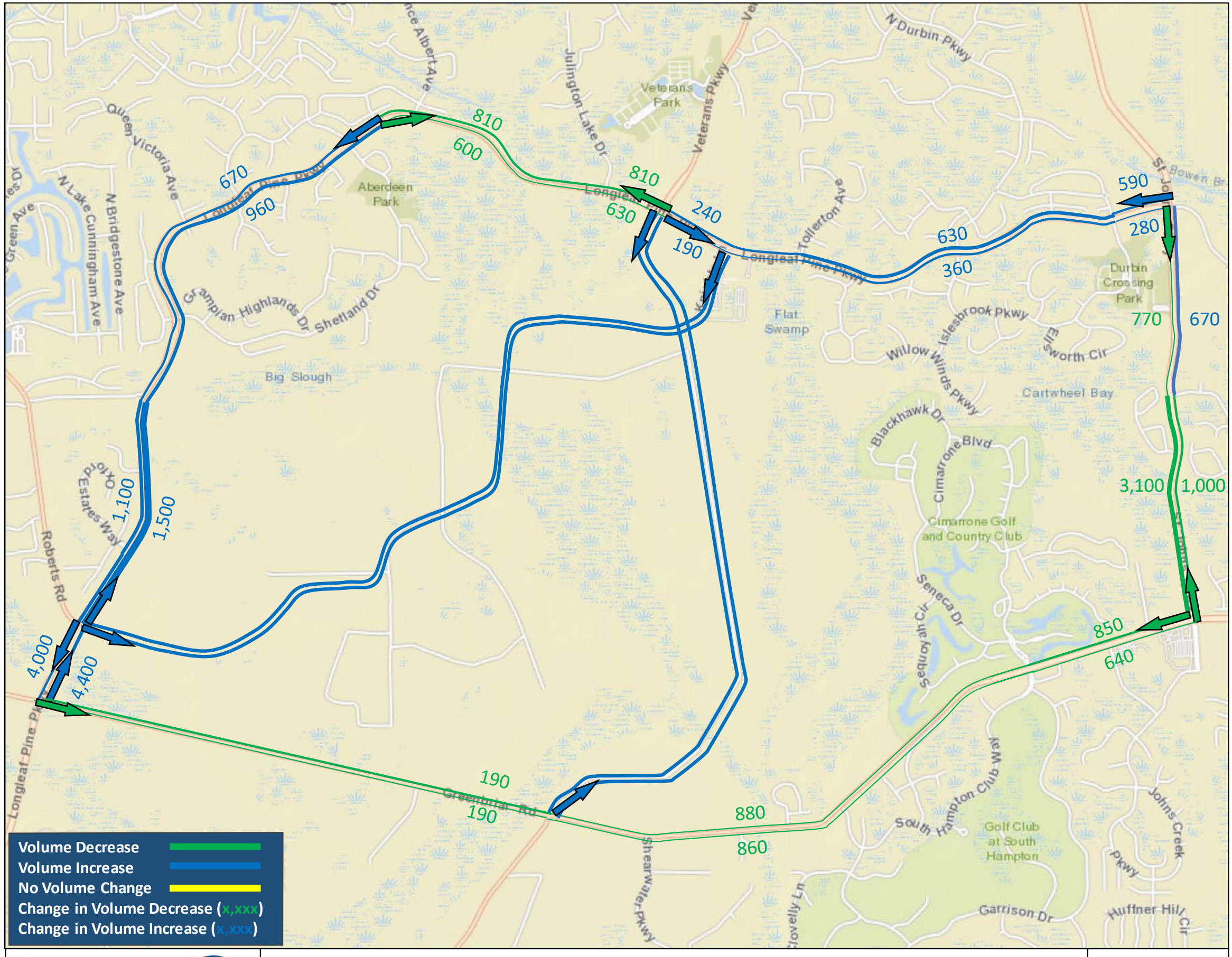
7.3 Planned Build Traffic Volumes

The Planned Build scenario consists of the current (2017) residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

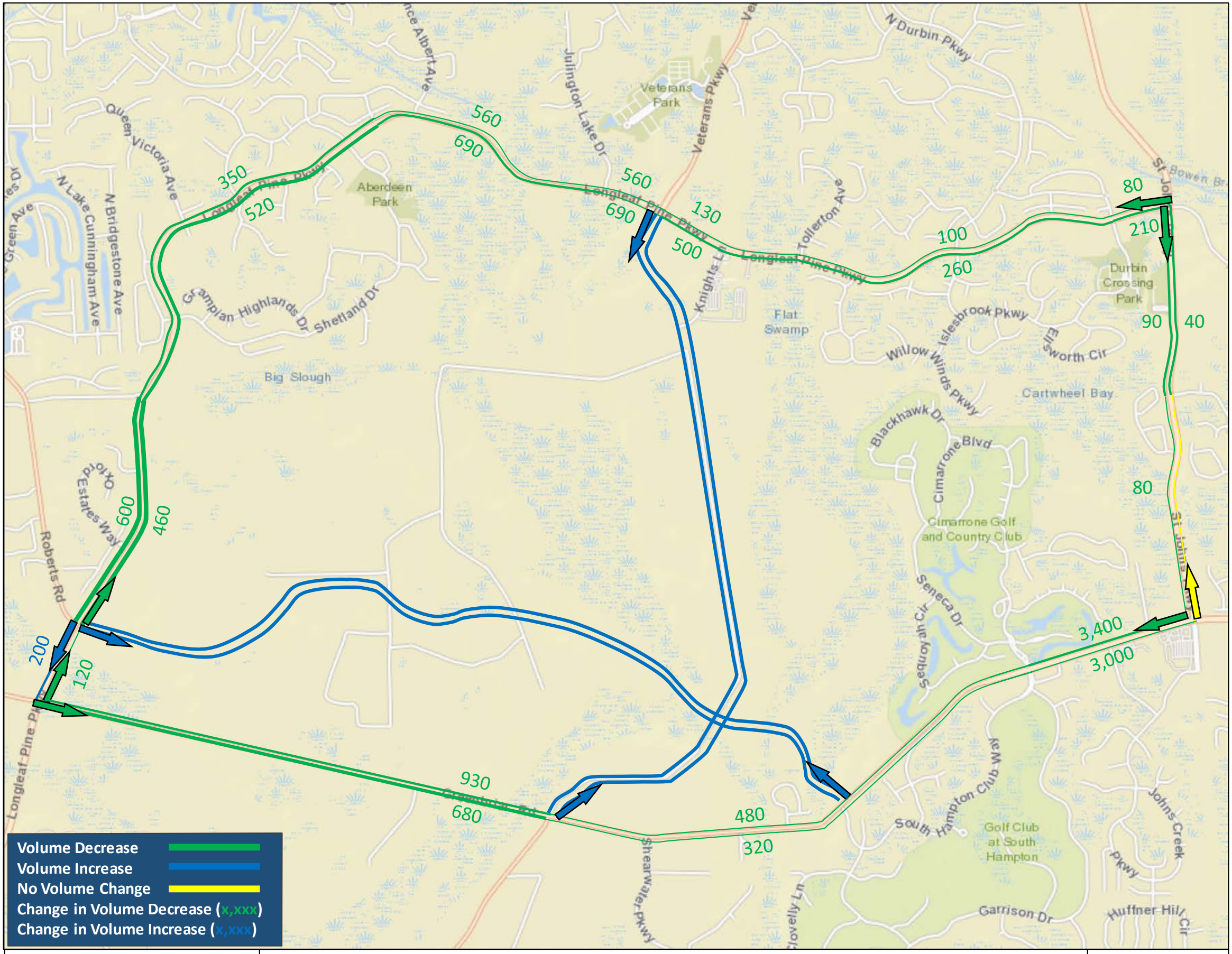
7.3.1 2017 Planned Build Segment Evaluation

The travel demand forecasts for Alternatives 1, 2 and 3 used the same alignment for modeling. The minor differences in the routes will not result in significant changes in the travel demand modeling results. Alternative 4 was analyzed separately from Alternatives 1, 2 and 3 since it has a significantly different alignment.

Figure 4 and Figure 5 depict the volume change from exiting to the Build Alternatives. The overall trend is a decrease in volume on CR 210 and St. Johns Parkway.



North Florida TPO Transportation Planning Organization PLAN · FUND · MOBILIZE	Segment Evaluation Change in Traffic Volume from 2017 No Build to 2017 Planned Build Alternatives 1-3	Figure 4 Page 23



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Segment Evaluation
Change in Traffic Volume from 2017 No Build to 2017 Planned Build Alternative 4

Figure 5

7.4 2030 Traffic Volumes

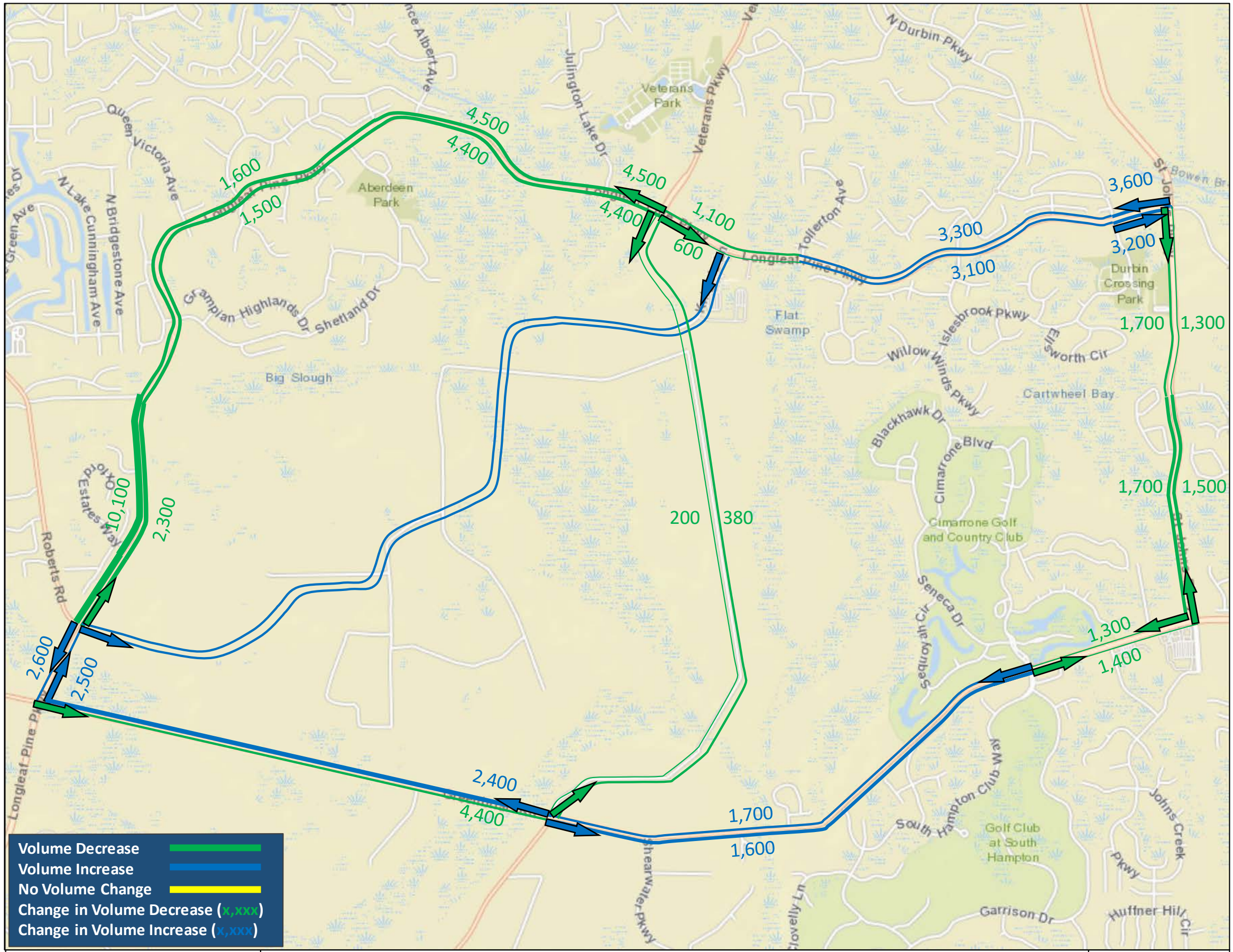
The 2030 Build scenario consists of current and future residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

7.4.1 2030 Segment Evaluation

Using the same approach as described for 2017 volumes, the volume changes from No Build to 2030 Build Alternatives are depicted in Figure 6 and Figure 7.

Traffic volumes in Alternatives 1, 2 and 3 decrease slightly along the Veterans Parkway extension and increase westbound on CR 210/Greenbriar Road. Longleaf Pine Parkway, overall, experiences less traffic than No Build conditions.

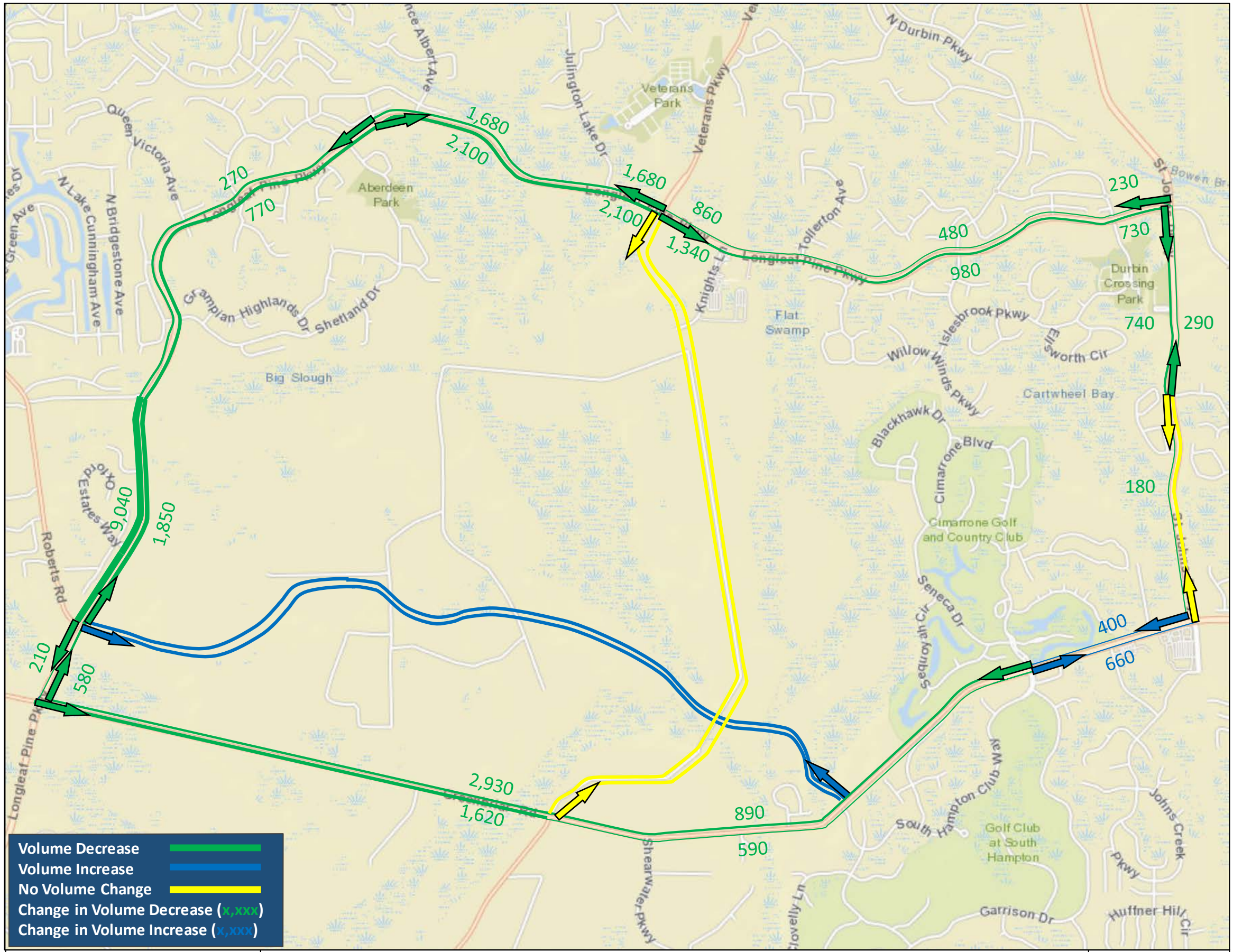
Traffic volumes in Alternative 4 generally decrease throughout the study area.



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Segment Evaluation
Change in Traffic Volume from 2030 No Build to 2030 Alternatives 1-3

Figure 6



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Segment Evaluation
Change in Traffic Volume from 2030 No Build to 2030 Alternative 4

Figure 7

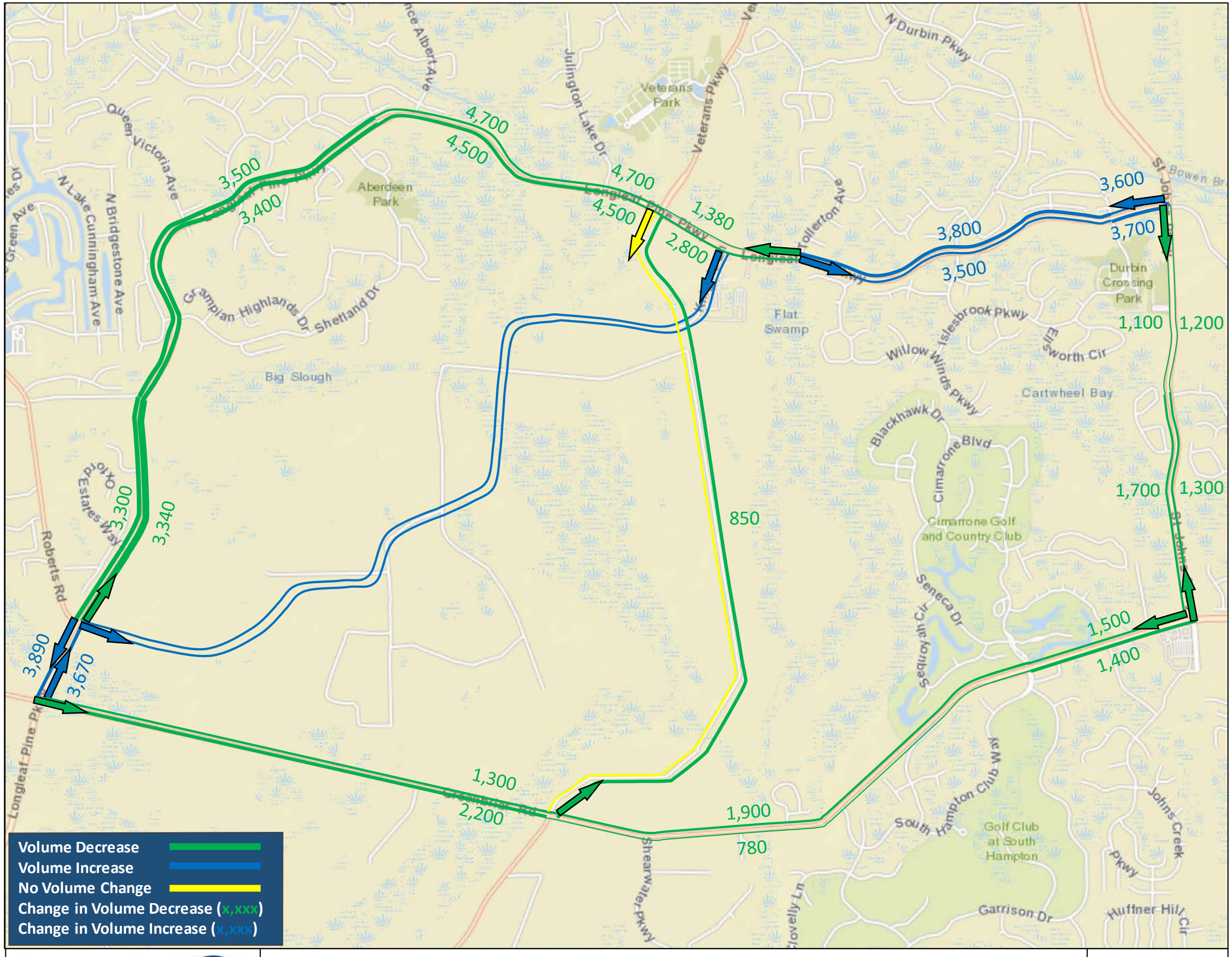
7.5 2040 Traffic Volumes

The 2040 Build scenario consists of current and future residential and commercial units, traffic volumes, Veterans Parkway southern extension and the new east-west corridor.

7.5.1 2040 Segment Evaluation

The volume changes from No Build to 2040 Build Alternatives are depicted in Figure 8 and Figure 9. The volumes in the study area show an overall decrease on the existing roadways. Traffic volumes increase on CR 210/Greenbriar Road with each Build Alternative.

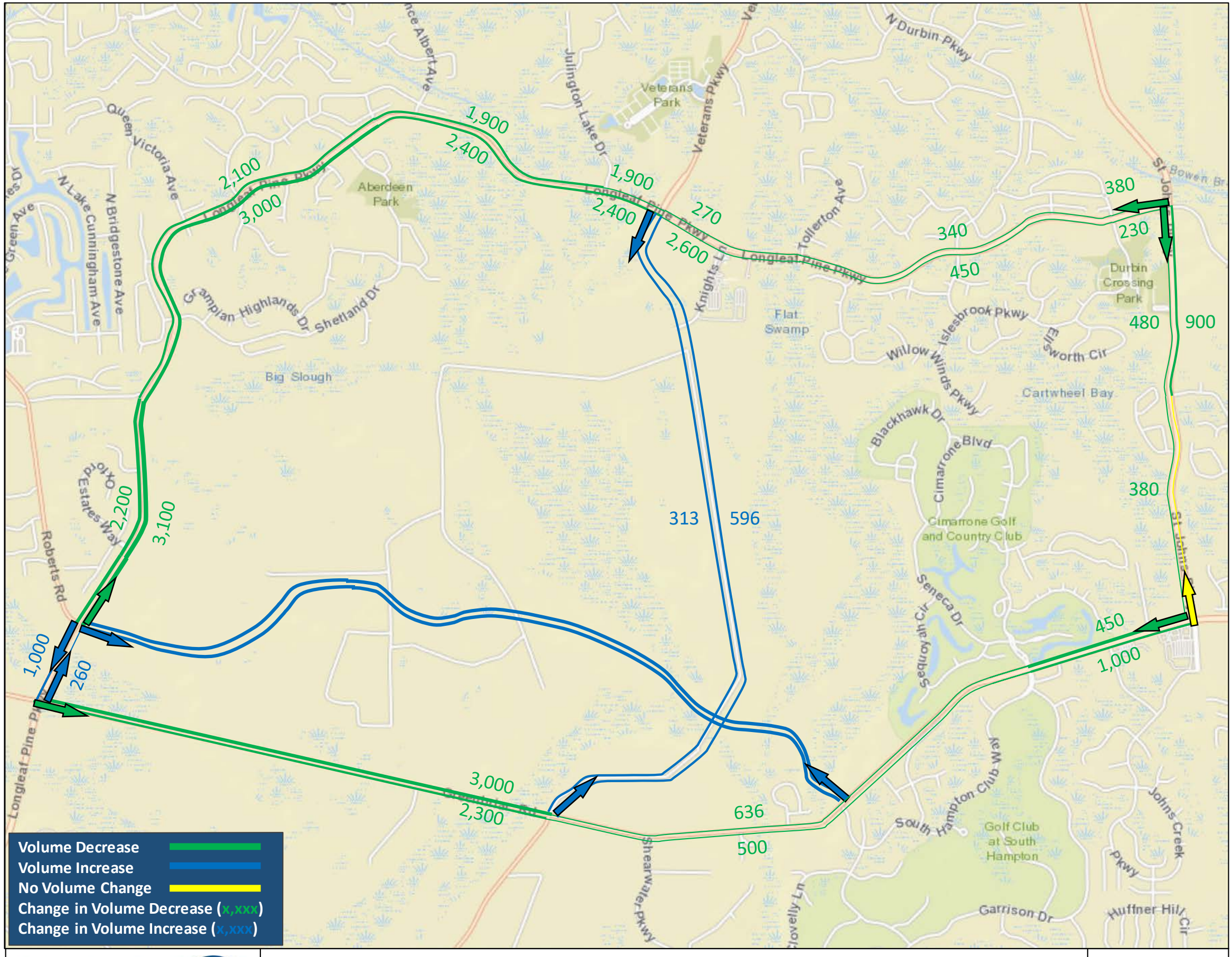
Volume increase along Longleaf Pine Parkway from Tollerton Avenue to St. Johns Parkway during Alternatives 1,2, and 3 was evaluated. This is consistent with vehicles utilizing the new corridor alternative instead of the existing roadways.



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Segment Evaluation
Change in Traffic Volume from 2040 No Build to 2040 Alternatives 1-3

Figure 8



North Florida TPO
Transportation Planning Organization
PLAN · FUND · MOBILIZE

Segment Evaluation
Change in Traffic Volume from 2040 No Build to 2040 Alternative 4

Figure 9

7.6 LOS ANALYSIS

The AADT and LOS for the roadway segments were compared between Build and No Build scenarios in 2017, 2030 and 2040. The results are reported in Table 9.

To ensure reasonability of the model forecast, the AADTs were compared to the St. Johns County historical traffic counts at corresponding count stations.

From existing conditions, CR 210 from Old Palm Valley Rd to South Hampton Club Way continues to operate at LOS F in the 2017 Build.

In 2030, St. Johns Parkway from Longleaf Pine Parkway to North Arabella Way and CR 210 from South Hampton Club Way to St. Johns Parkway continue to operate at LOS F in Alternative 4. CR 210 from South Hampton Club Way to St. Johns Parkway in Alternatives 1, 2 and 3, however, operates at LOS D.

In 2040 No Build, CR 210 from Old Palm Valley Road to St. Johns Parkway operates at LOS F and continues to operate at LOS F in Alternatives 1, 2, 3 and 4. Longleaf Pine Parkway from Glenlivet Way to Veterans parkway operates at LOS F in No Build and Alternative 4; however, the roadway improves operations to LOS C in Alternatives 1, 2 and 3.

St. Johns Parkway from Longleaf Pine Parkway to CR 210 operates at LOS F in No Build and Alternative 4. St. Johns Parkway from Longleaf Pine Parkway to North Arabella Way is also LOS F in Alternatives 1, 2 and 3. The LOS improves in Alternatives 1, 2 and 3 for St. Johns Parkway from North Arabella Way to CR 210.

TABLE 9: SEGMENT AADT AND LOS

Roadway Segment							2017 Level of Service Analysis						2030 Level of Service Analysis						2040 Level of Service Analysis						2040 AADT Differences	
							Model Volumes						Model Volumes						Model Volumes						Model Volumes	
Roadway	From	To	Roadway	Speed	Median	# of Lanes	Existing (2017)		2017 Planned Build Alt 1-3		2017 Alt 4		2030 No Build		2030 Alt 1-3		2030 Alt 4		2040 No Build		2040 Alt 1-3		2040 Alt 4		From No Build to Alt 1-3	From No Build to Alt 4
							AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS		
Greenbriar Road	Longleaf Pine Parkway	Old Palm Valley Road	Sig. Arterial	55	Undivided	2	3,800	C	3,400	C	2,100	C	9,800	C	7,000	C	6,400	C	12,100	C	8,000	C	7,000	C	(4,100)	(5,100)
CR 210	Old Palm Valley Road	South Hampton Club Way	Sig. Arterial	45	Undivided	2	21,000	F	19,300	F	18,600	F	33,400	D	30,300	C	32,000	C	37,300	F	34,800	F	36,200	F	(2,500)	(1,100)
	South Hampton Club Way	St. Johns Parkway	Sig. Arterial	45	Divided	4	27,300	C	25,900	C	26,700	C	37,000	F	34,400	D	38,000	F	42,100	F	39,200	F	43,500	F	(2,900)	1,400
Longleaf Pine Parkway	Greenbriar Road	Roberts Road	Sig. Arterial	45	Divided	4	10,300	C	9,200	C	9,300	C	15,300	C	20,200	C	14,500	C	18,500	C	25,800	C	19,700	C	7,300	1,200
	Roberts Road	Glenfiddich Way	Sig. Arterial	45	Undivided	2	1,400	C	4,000	C	1,400	C	5,000	C	400	C	1,900	C	7,500	C	1,100	C	2,300	C	(6,400)	(5,200)
	Glenfiddich Way	Glenlivet Way	Sig. Arterial	45	Divided	2	2,900	C	4,400	C	3,100	C	6,500	C	3,400	C	5,500	C	11,200	C	4,500	C	6,200	C	(6,700)	(5,000)
	Glenlivet Way	Julington Lake Drive	Sig. Arterial	45	Undivided	2	6,300	C	4,900	C	4,000	C	19,100	F	10,400	C	15,400	D	21,600	F	12,600	C	17,400	F	(9,000)	(4,200)
	Julington Lake Drive	Veterans Parkway	Sig. Arterial	45	Divided	2	6,300	C	4,900	C	4,000	C	19,100	F	10,400	C	15,400	C	21,600	F	12,600	C	17,400	F	(9,000)	(4,200)
	Veterans Parkway	Tollerton Avenue	Sig. Arterial	45	Divided	2	4,400	C	4,800	C	4,400	C	16,100	C	14,500	C	14,000	C	19,400	C	17,100	C	18,300	C	(2,300)	(1,100)
	Tollerton Avenue	Islesbrook Parkway	Sig. Arterial	45	Divided	4	5,200	C	6,100	C	5,700	C	15,400	C	13,500	C	14,000	C	20,500	C	27,500	C	19,700	C	7,000	(800)
	Islesbrook Parkway	St. Johns Parkway	Sig. Arterial	35	Divided	4	5,700	C	6,500	C	6,300	C	14,900	D	21,500	D	14,000	D	21,200	D	28,300	D	20,700	D	7,100	(500)
Veterans Parkway	Longleaf Pine Parkway	Greenbriar Rd/CR 210	Sig. Arterial	45	Divided	4	NA	NA	3,800	C	4,200	C	8,400	C	7,900	C	8,400	C	14,100	C	13,300	C	15,000	C	(800)	900
St. Johns Parkway	Longleaf Pine Parkway	SR 9B	Sig. Arterial	45	Divided	2	6,300	C	4,800	C	4,600	C	44,700	F	41,800	F	43,700	F	48,400	F	46,200	F	47,100	F	(2,200)	(1,300)
	SR 9B	CR 210	Sig. Arterial	45	Divided	4	5,200	C	4,000	C	4,000	C	34,000	C	31,000	C	33,900	C	38,500	F	35,600	D	38,300	F	(2,900)	(200)
E-W Corridor Alt 1	Roberts Road	Longleaf Pine Parkway	Sig. Arterial	45	Divided	4	NA	NA	1,700	C	NA	NA	NA	NA	12,800	C	NA	NA	NA	NA	20,700	C	NA	NA	NA	NA
E-W Corridor Alt 4	Longleaf Pine Parkway	CR 210	Sig. Arterial	45	Divided	4	NA	NA	NA	NA	5,000	C	NA	NA	NA	NA	10,400	C	NA	NA	NA	NA	14,600	C	NA	NA

LOS F, per Model AADT

LOS E, per Model AADT

LOS D, per Model AADT

7.7 2030 and 2040 Build Systems Analysis

The VMT and VHT were calculated for the entire NERPM model to show the impacts of Build Alternatives on the entire roadway system. The VMT and VHT results for No Build were analyzed and compared to the Build analysis to calculate the benefits from the project in 2030 and 2040. The comparative results for the capacity improvements are reported in Appendix F.

For the benefit to cost analysis, the benefits and lifecycle costs for 2030 and 2040 were calculated and are reported as the net present value. The comparative results are reported in Table 10.

Alternative 1 provides the best benefit to cost ratio, and Alternative 4 provides the worst benefit to cost ratio.

TABLE 10: BENEFIT COST ANALYSIS

Year	Description	Total Benefits	Total Costs	Job Creation/ Preservation Benefits (Per Year)	Benefits/Costs Ratio	Ranking
2030	No Build Alternative	-	-	-	-	**-**
2030	Alternative 1 (Yellow)	56,270,030	77,765,810	707	0.72	**1**
2030	Alternative 2 (Orange)	53,708,400	88,631,180	806	0.61	**3**
2030	Alternative 3 (Blue)	53,781,364	88,631,180	806	0.61	**2**
2030	Alternative 4 (Green)	18,112,840	86,076,190	783	0.21	**4**
2040	No Build Alternative	-	-	-	-	**-**
2040	Alternative 1 (Yellow)	138,238,360	79,039,280	719	1.75	**1**
2040	Alternative 2 (Orange)	132,011,600	90,047,840	819	1.47	**3**
2040	Alternative 3 (Blue)	132,201,480	85,233,050	775	1.55	**2**
2040	Alternative 4 (Green)	86,487,040	87,451,100	796	0.99	**4**

8 Cost Estimate

Construction cost estimates were prepared using the FDOT's per mile costs.

Table 11 summarizes the planning-level impacts associated with each alignment alternative using the 200-foot-wide buffer established for evaluation purposes.

Based on the four preliminary alignments selected for this analysis, Alternative 1 will have the lowest estimated construction cost as well as the least amount of quantifiable environmental impacts associated with construction.

TABLE 11: SUMMARY OF IMPACTS – NW CORRIDOR ALTERNATIVE ALIGNMENTS

	Alt. 1 (yellow)	Alt. 2 (orange)	Alt. 3 (blue)	Alt. 4 (green)
Total Project Length	3.55 mi	3.96 mi	3.64 mi	3.84 mi
Cost $ per Mile* (Millions)	$6.890	$6.890	$6.890	$6.890
Construction Only $ Estimate (Millions)	***$25.35M***	***$29.29M***	***$28.24M***	***$28.47M***
Parcel Review				
Residential (number)	0	0	0	0
Commercial (number)	0	0	0	0
Vacant (number)	10	12	11	9
Natural Resources				
Wetland (Freshwater Emergent) (ac)	1.85	1.84	6.3	7.5
Wetland (Freshwater forested/shrub) (ac)	9.31	23.25	33.24	17.7
Total Wetland (ac)	11.16	25.09	39.54	25.2
Floodplain Zone A (acres)	11.03	21.61	31.51	26.76
Protected Species Involvement[3]	ND[4]			
Wood Stork CFA	Present	Present	Present	Not Present
Community Resources	NP[3]			
Potential Contamination Sites	NP[3]			
Recommended Alternative Alignment (Yes/No)	**Yes**	**No**	**No**	**No**

* Based on FDOT Cost per Mile Model, 2016, Urban 4-Lane Divided w/ 22' Median and Bike Lanes

[3] Protected species field surveys were not performed as part of this study. See Env. Narrative section 2.3.3.

[4] ND = Not Determined

[3] NP = Not Present

9 Conclusion

Current and future traffic concerns due to increased growth in northwest St. Johns County prompted this traffic study. Continued traffic growth is anticipated within this study area over the year 2040 design period for the project.

Four alternatives were evaluated to determine the potential for right of way, natural resource, cultural resource and contamination involvement within a 200-foot buffer of each alternative.

There are only minor differences in the number of parcels impacted by each alternative. Because no potentially impacted parcels are occupied for either residential or commercial purposes, right of way impacts are expected to be generally similar between alternatives.

All alternatives impact wetlands and floodplains. Alternative 1 resulted in the lowest area of both wetland (11.16 ac.) and floodplain (11.03 ac.) involvement. Alternative 3 resulted in the highest area of both wetland (39.54 ac.) and floodplain (31.51 ac.) involvement. The northeastern portion of the study area, including portions of Alternatives 1, 2 and 3, overlap with a Wood Stork CFA. There are no known special designations for any of the water resources located in the study area, water quality involvement is expected to be generally the same between all alternatives.

There are no properties currently listed on the NRHP or any other community resources in the study area, therefore no alternatives are anticipated to impact these types of properties. There are two parks in the study area, but no alternatives are located near either of the parks, so no involvement is anticipated. An archaeological model is available for this area; however, agency coordination and field reviews are needed to determine the likelihood of involvement with archaeological resources. Based on the information available, all alternatives are equal in their potential for involvement with cultural resources.

A review of available resources did not result in the identification of any potentially contaminated sites within any of the alternative corridors. All alternatives are equal in their potential for involvement with contamination.

A cultural resource assessment survey, natural resource evaluation and location hydraulics report should be prepared during project development. Agency involvement may include the Florida Division of Historical Resources, FWC, USFWS, USACE, SJRWMD and FDEP.

The implementation of a new east-west corridor produces an equal or better LOS result than the No Build Alternative. All other known factors being generally similar among the alternatives, Alternative 1 is the preliminary recommended alternative alignment based on planning level impacts such as overall project costs and benefit to cost ratio, as well as the level of environmental impacts (wetlands, floodplains and protected species) associated with the various alternative corridor alignments evaluated for this project.

The recommended alignment for the east-west corridor starts at the intersection of Roberts Road and Longleaf Pine Parkway, on the western end of the study area, and continues northeastward until it aligns with Knights Lane. The corridor terminates at the intersection of Knights Lane and Longleaf Pine Parkway.

APPENDIX A: ENVIRONMENTAL IMPACTS

Legend

Intersections

Study Area

Alternative 1

Alternative 2

Alternative 3

Alternative 4

FEMA Flood Zones

A,100 year Floodplain, No Base Flood Elevations Determined

AE, 100 Year Floodplain, Base Flood Elevations Determined

AE, Floodway, Base Flood Elevations Determined

X, 0.2 Pct Annual Chance Flood Hazard, 500 Year Floodplain

Base Flood Elevations

11, 12, 13, 15, 16, 17, 18, 19, 19.2, 20, 21, 22, 23, 24, 25, 26

Glenlivet Way

Longleaf Pine Pkwy

Julington Lake Dr

Longleaf Pine Pkwy at Veterans Pkwy

Tollerton Ave

Islesbrook Pkwy

Longleaf Pine Pkwy at St. Johns Pkwy

SR 9B

St. Johns PKWY

CR 210 at St.Johns Pkwy

CR 210

Glenfiddich Way

Longleaf Pine Pkwy

Roberts Rd

Longleaf Pine Pkwy at Roberts Rd

Greenbriar Rd at Longleaf Pine Pkwy

Greenbriar Rd

Greenbriar Rd at CR 210

AE

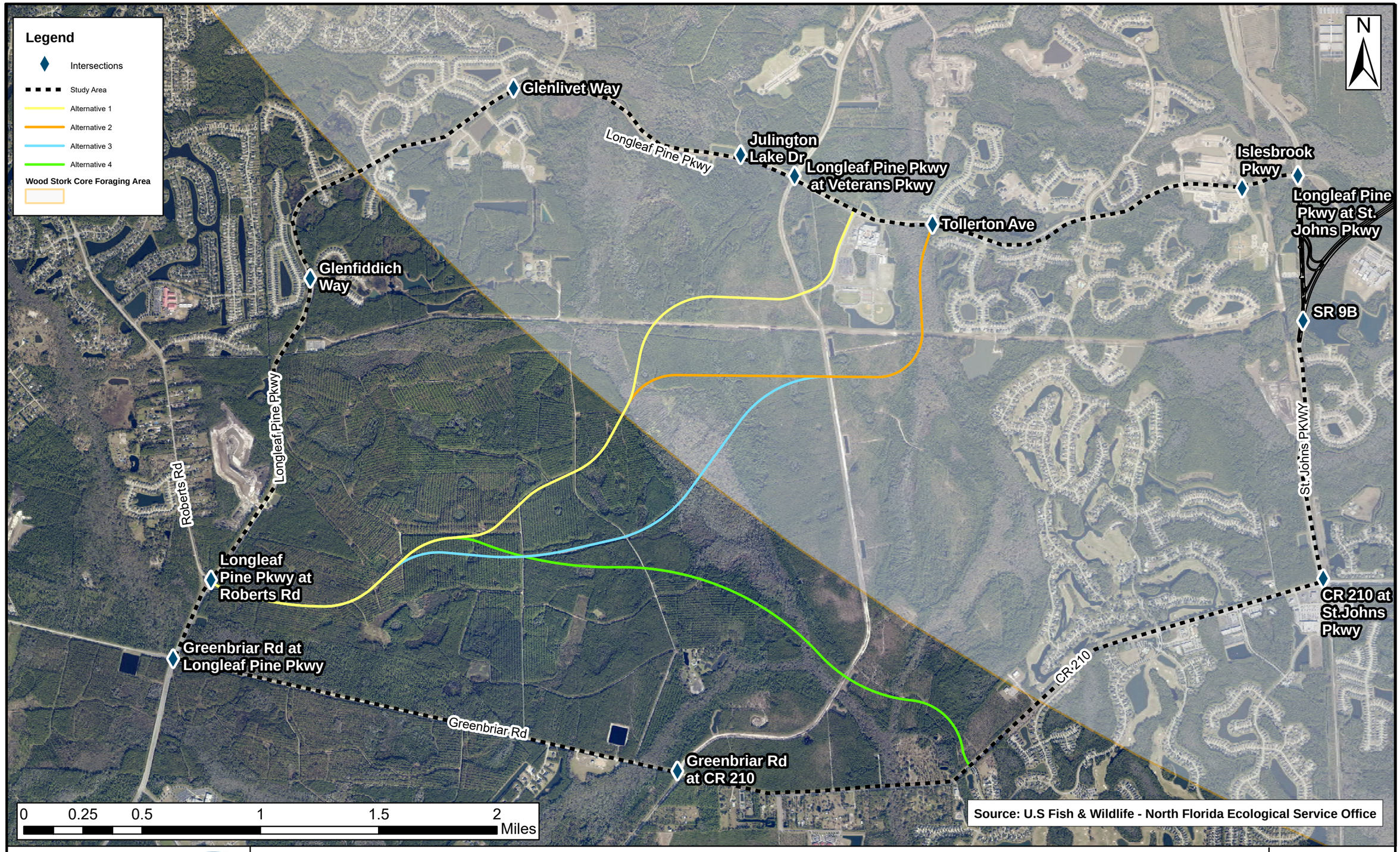
N

0 0.25 0.5 1 1.5 2 Miles

Note: Floodplain information obtained from FEMA DFIRM Database 12109C, Baseflood elevations are refrenced to NAVD 88.

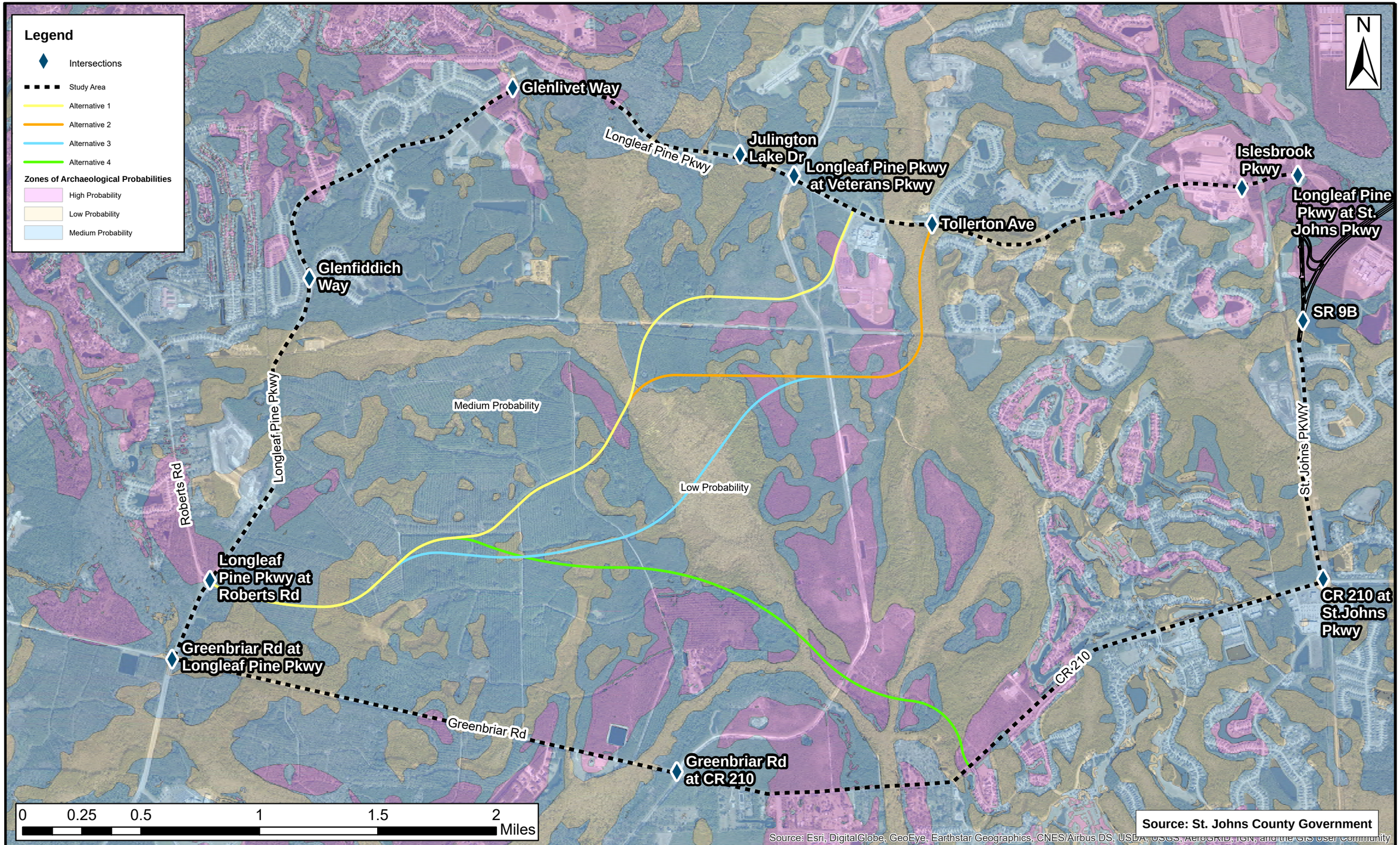
North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
FEMA Flood Zones



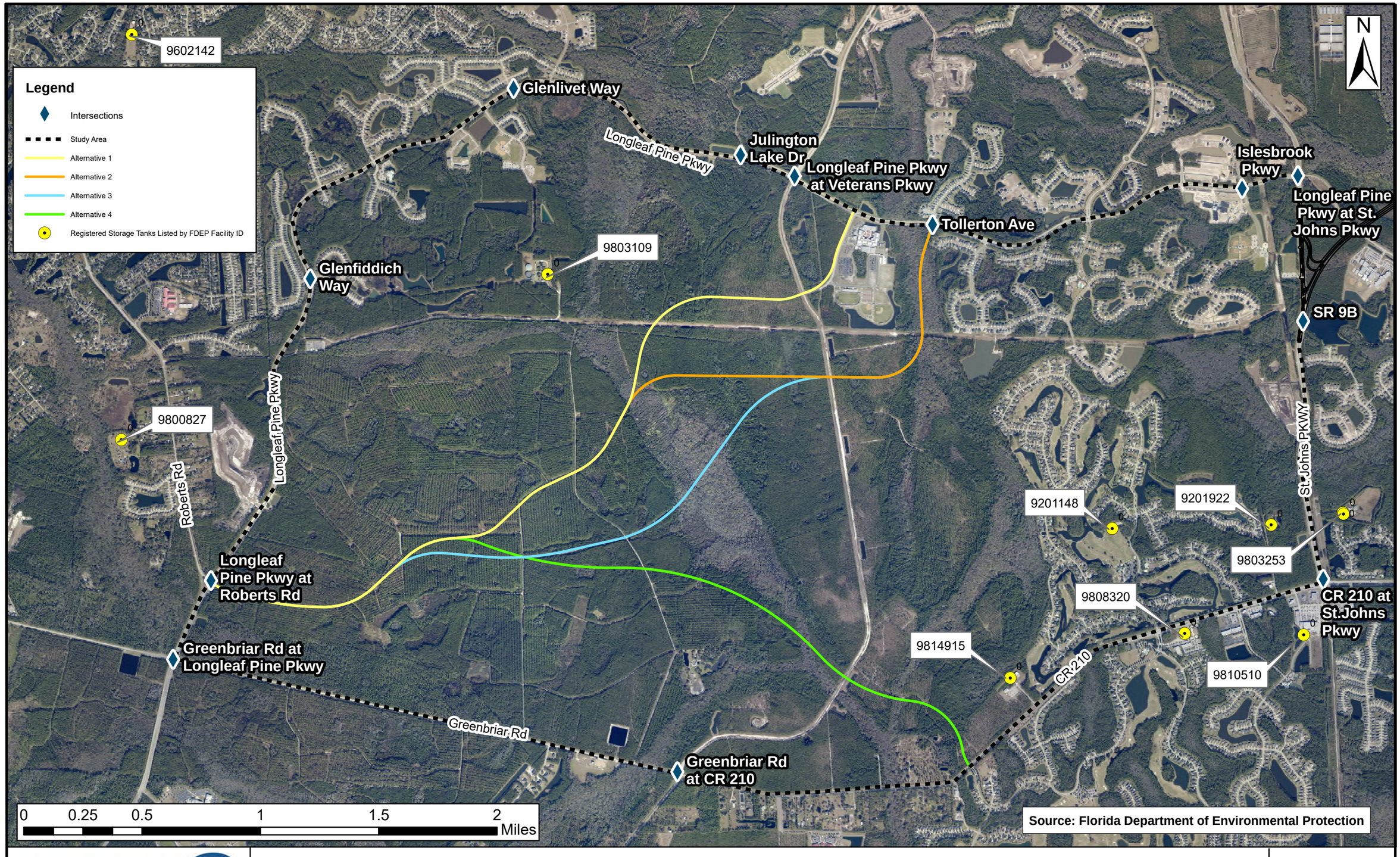
North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Wood Stock Core Foraging Area



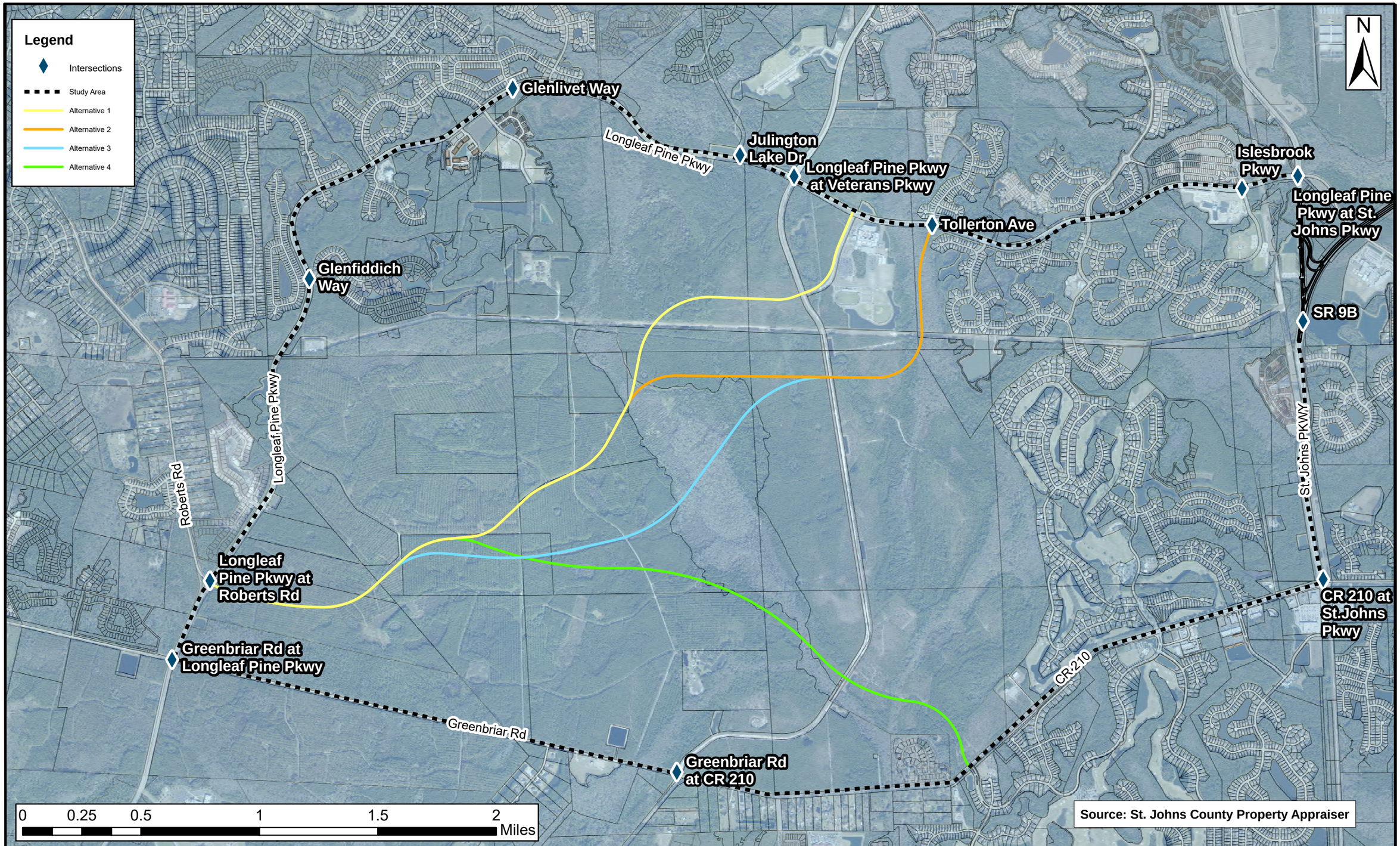
North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Zone of Archaeological Probability



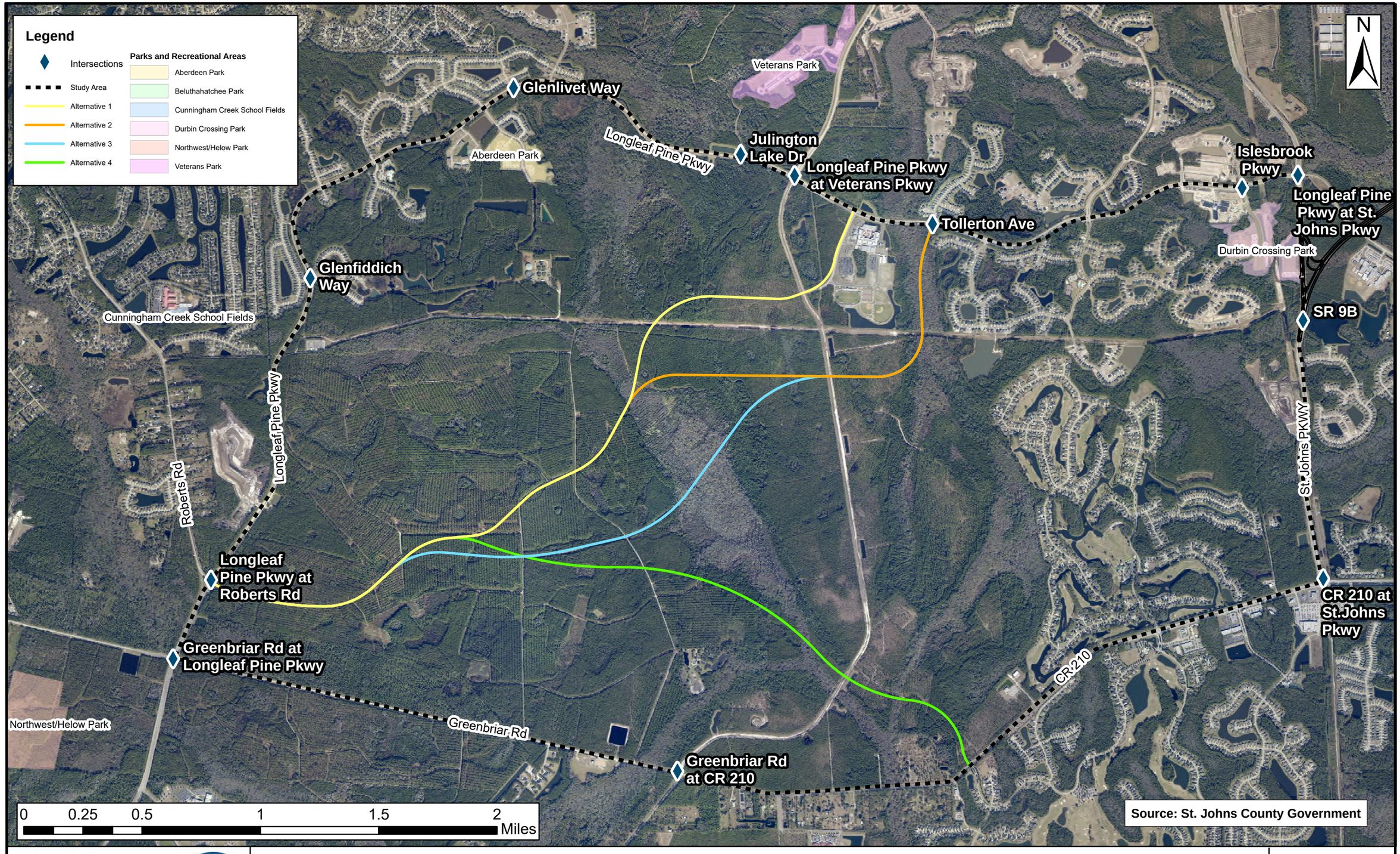
North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Registered Petroleum Storage Tanks



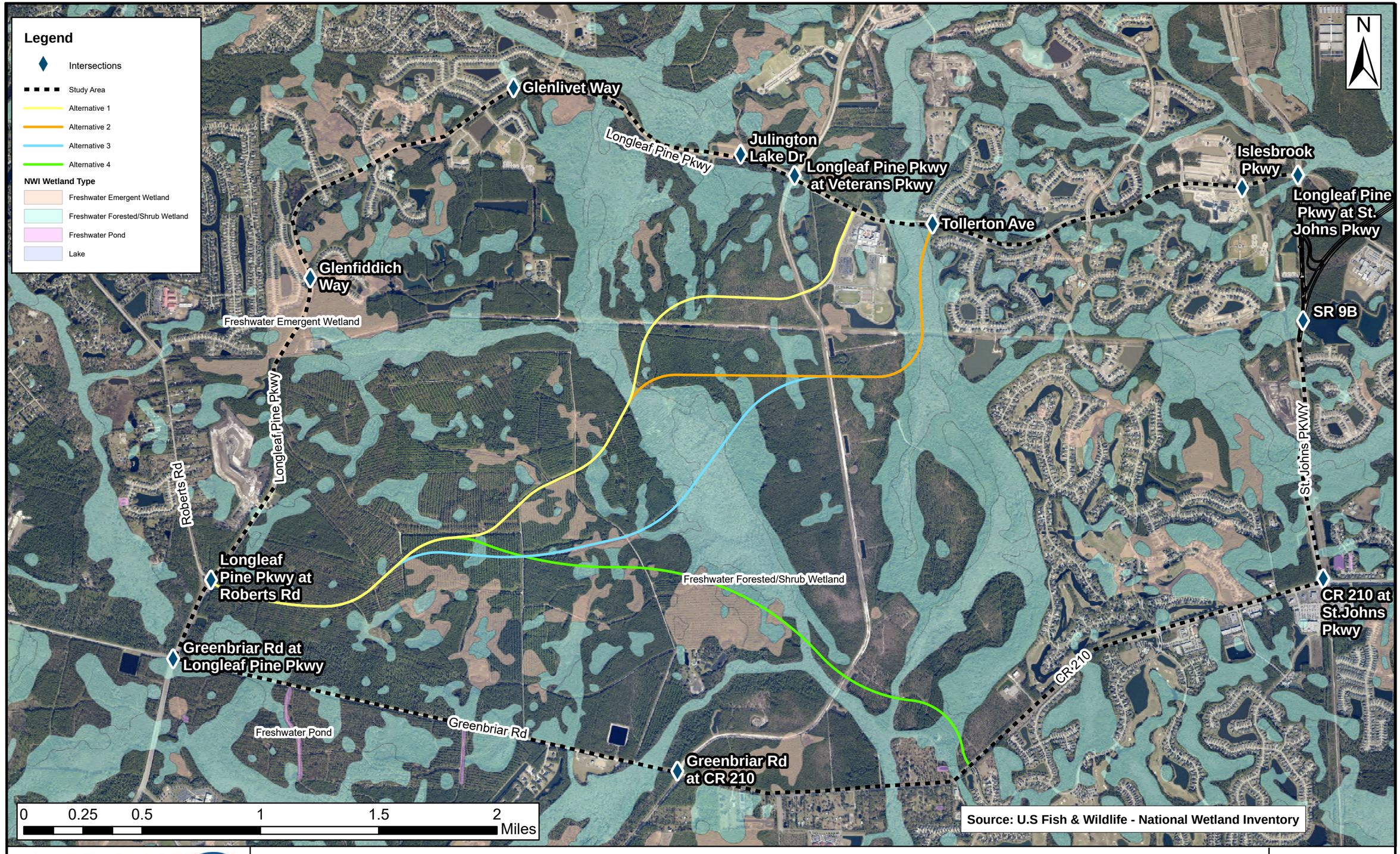
North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Existing Parcels



North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
Parks and Recreational Areas

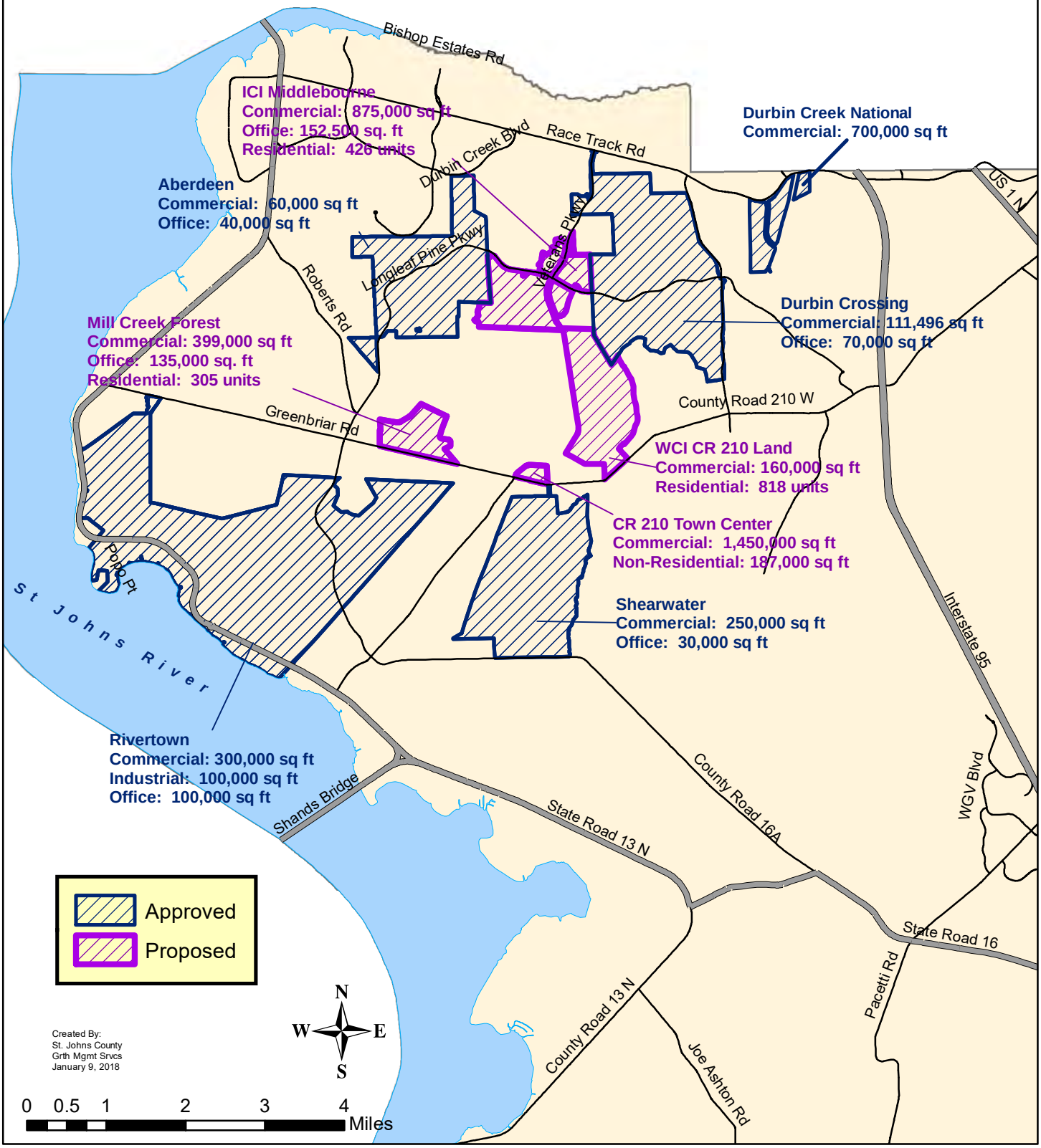


North Florida TPO
Transportation Planning Organization
PLAN • FUND • MOBILIZE

Northwest St. Johns County Corridor Study Map
National Wetland Inventory

APPENDIX B: PROPOSED AND APPROVED PROPERTIES

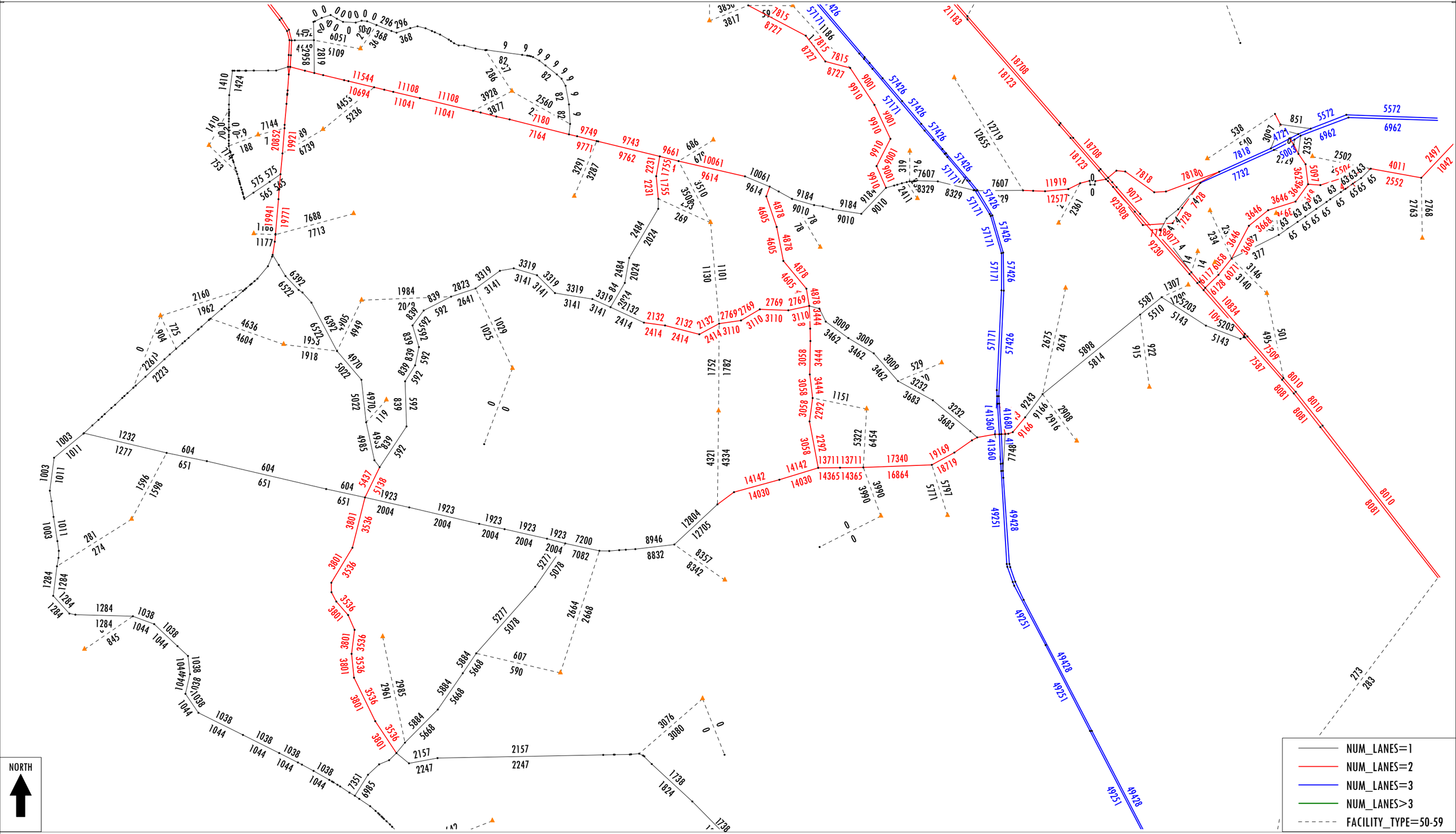
Approved / Proposed Commercial
Proposed Residential



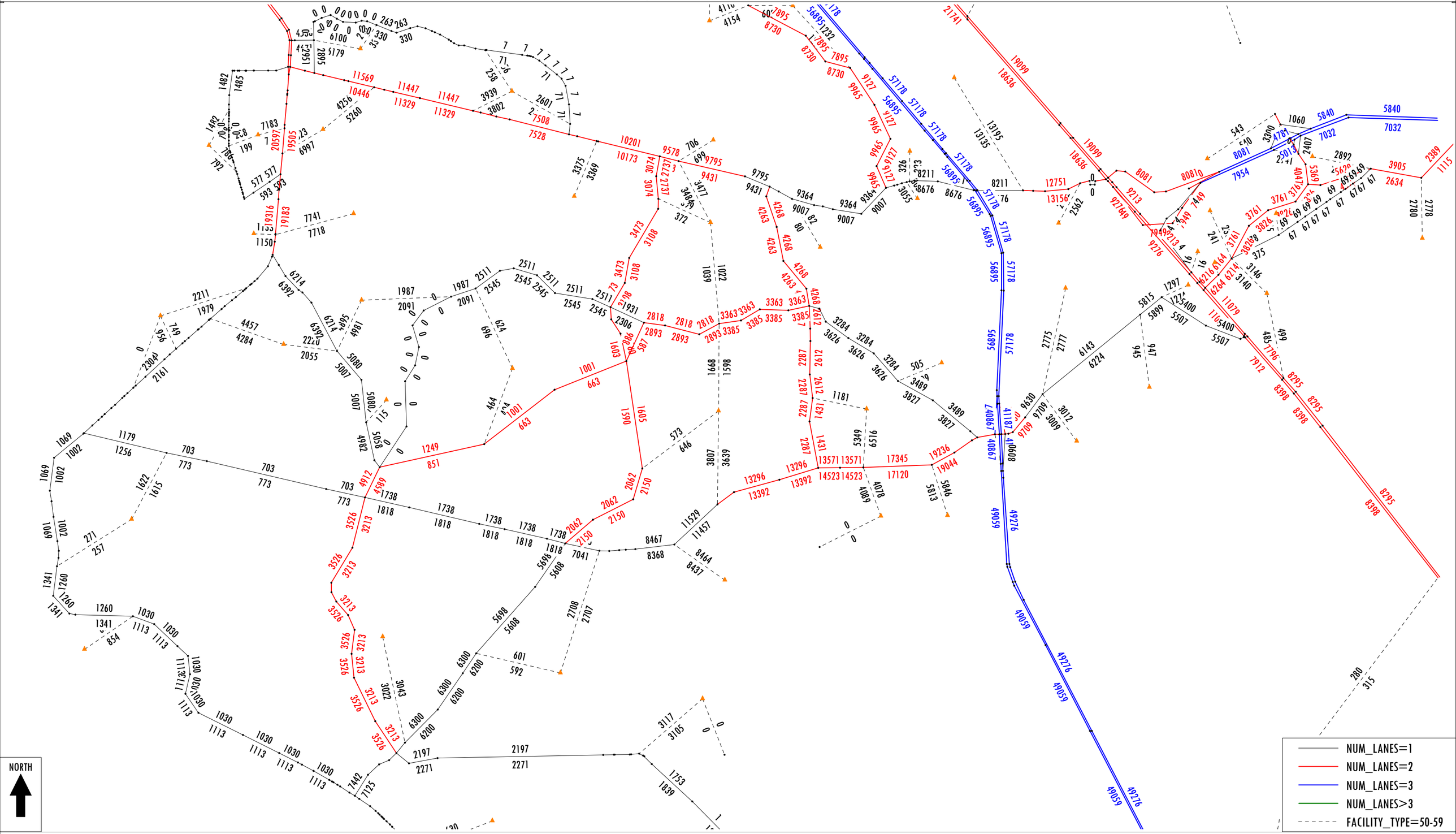
APPENDIX C: DAILY DIRECTIONAL VOLUMES

2017 Daily Directional Volumes

NERPMAB1_v3
2017 - No Build
(2017 SE Data)
Daily Directional Volume Posted

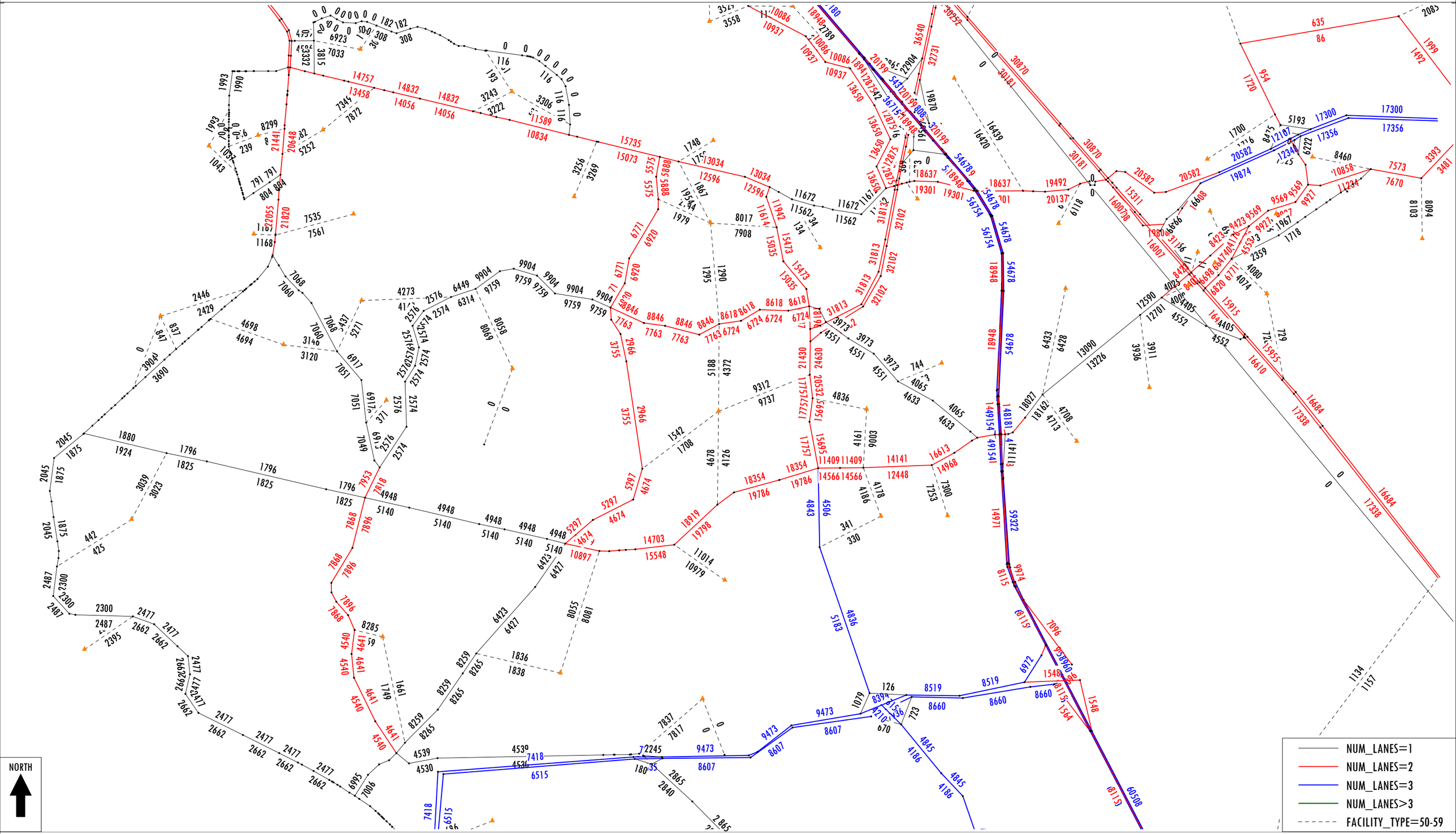


NERPMAB1_v3
2017 - Build
(2017 SE Data and Veteran's Parkway Southern Extension & New E-W Corridor)
Daily Directional Volume Posted

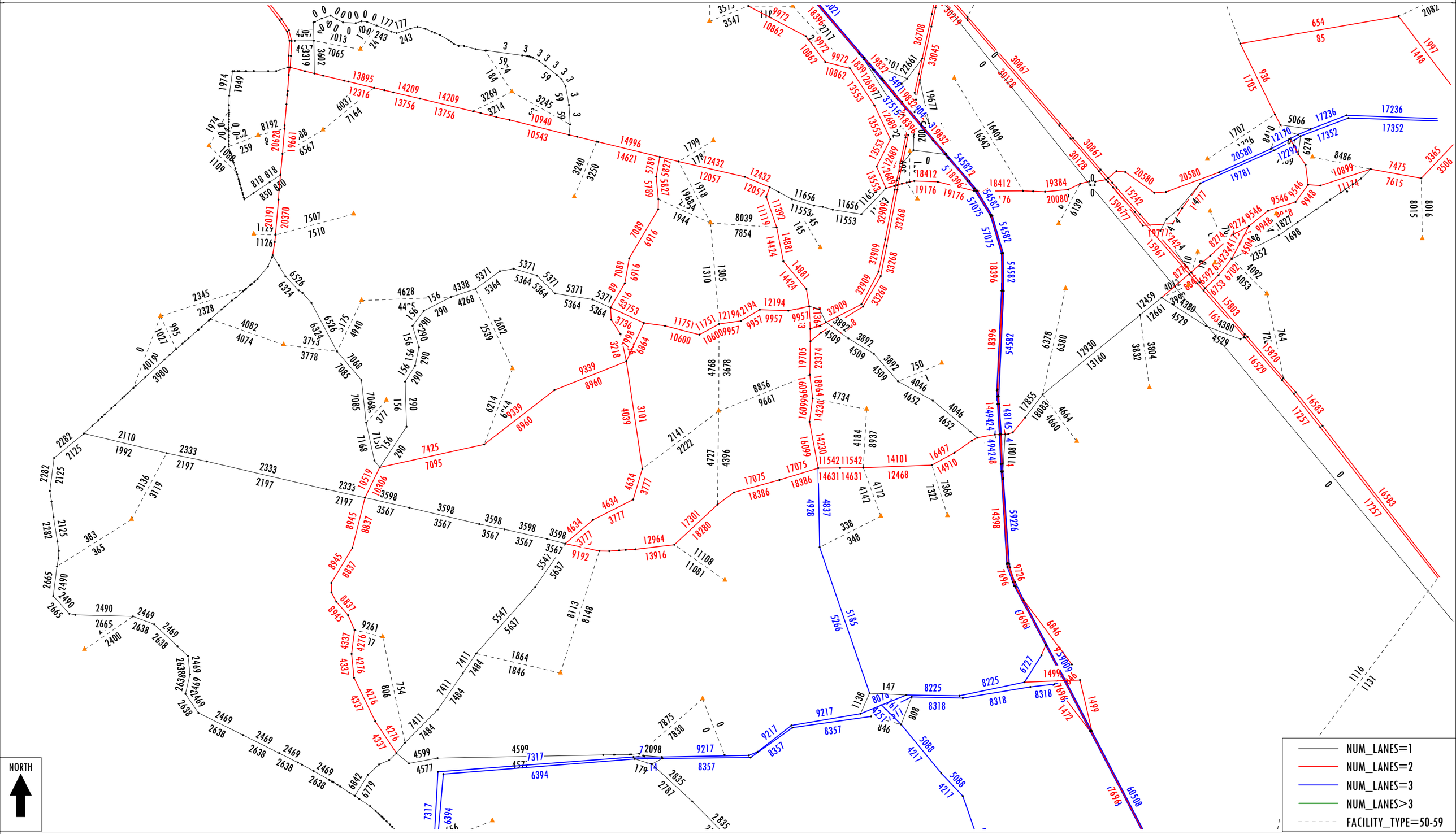


2030 Daily Directional Volumes

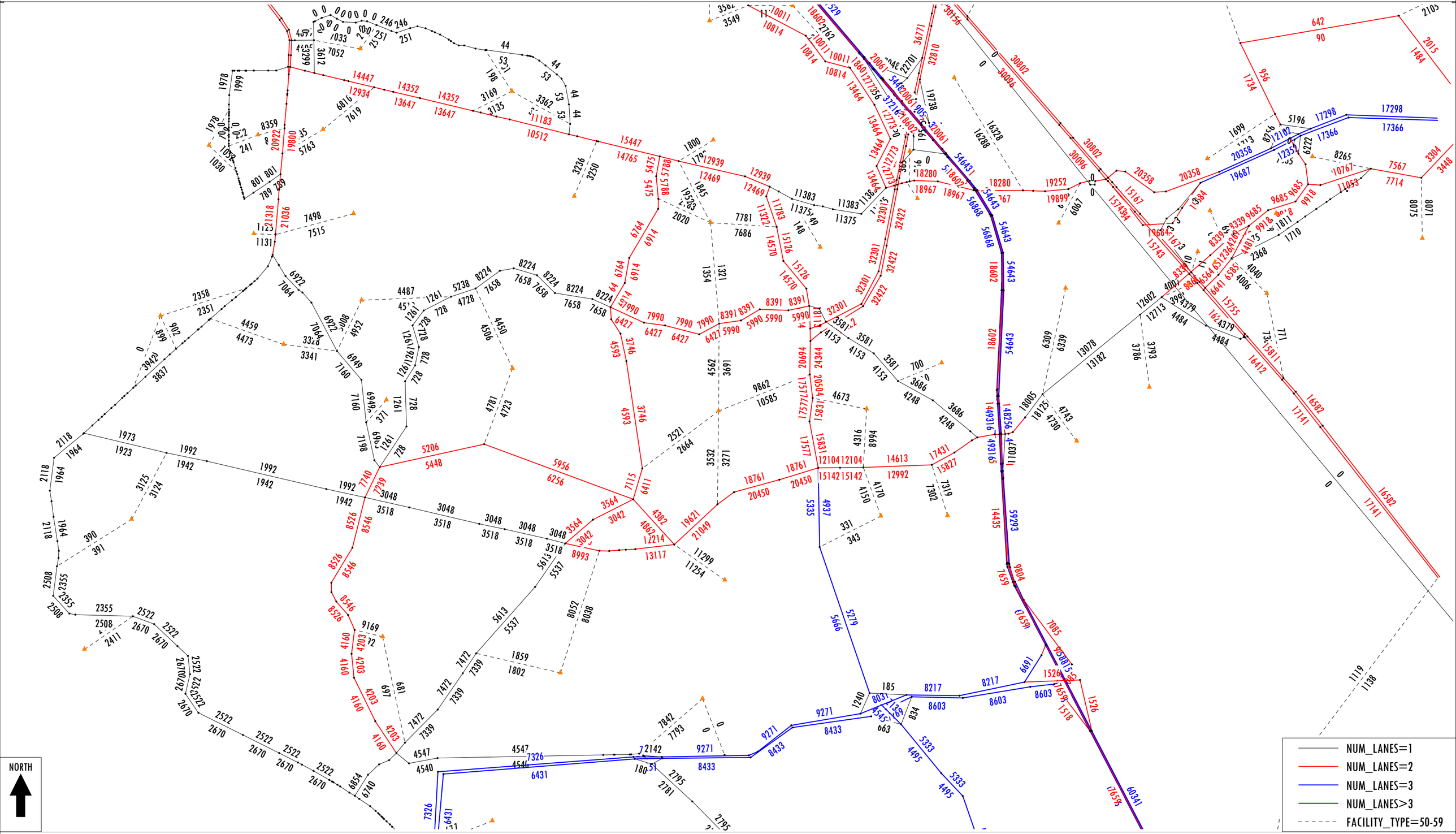
NERPMAB1_v3
2030 - No Build
(2030 SE Data and Veteran's Parkway Southern Extension)
Daily Directional Volume Posted



NERPMAB1_v3
2030 - Build Alternatives 1-3
(2030 SE Data and Veteran's Parkway Southern Extension & New E-W Corridor Alts 1-3)
Daily Directional Volume Posted

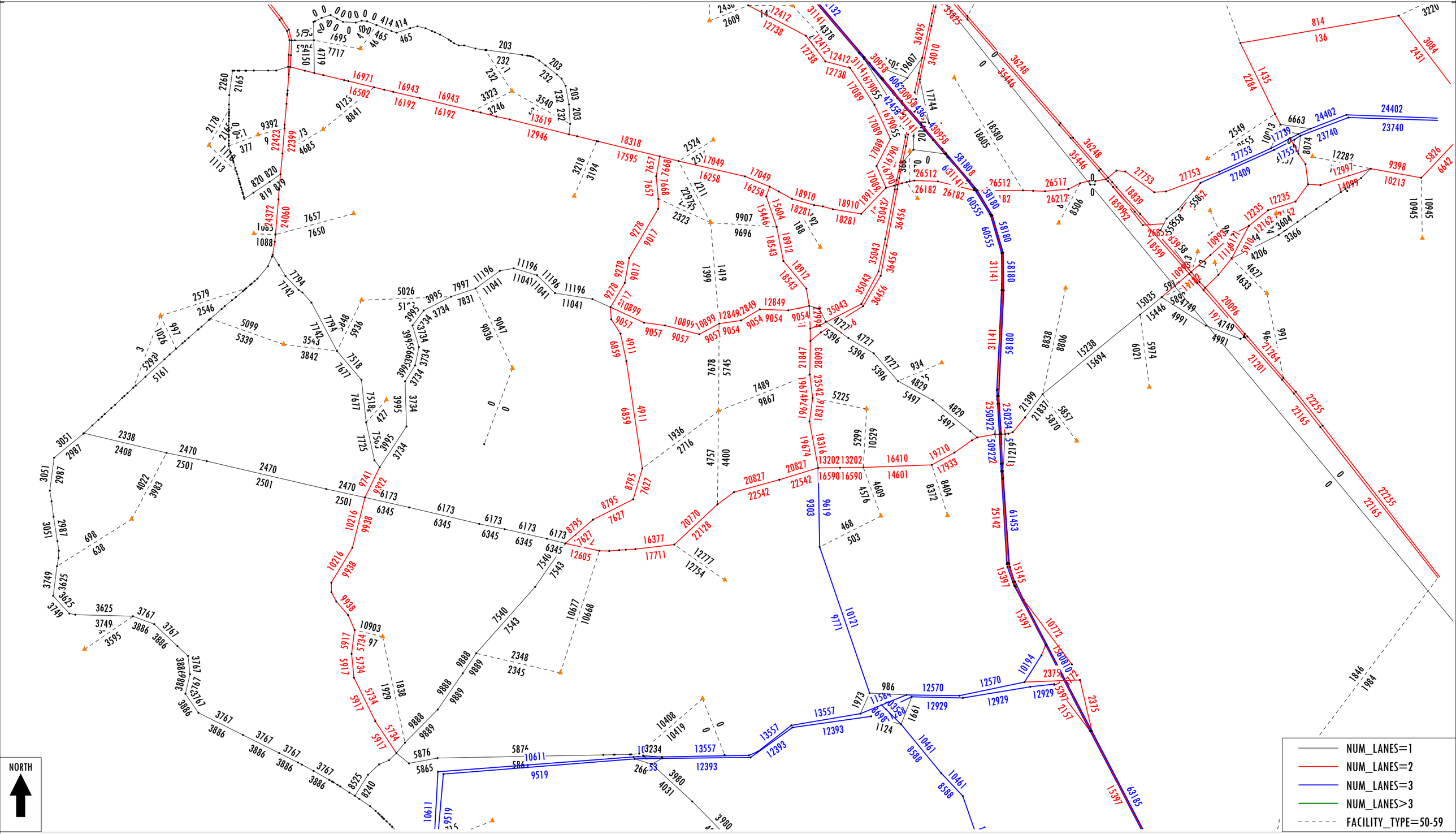


NERPMAB1_v3
2030 - Build Alternative 4
(2030 SE Data and Veteran's Parkway Southern Extension & New E-W Corridor Alt 4)
Daily Directional Volume Posted

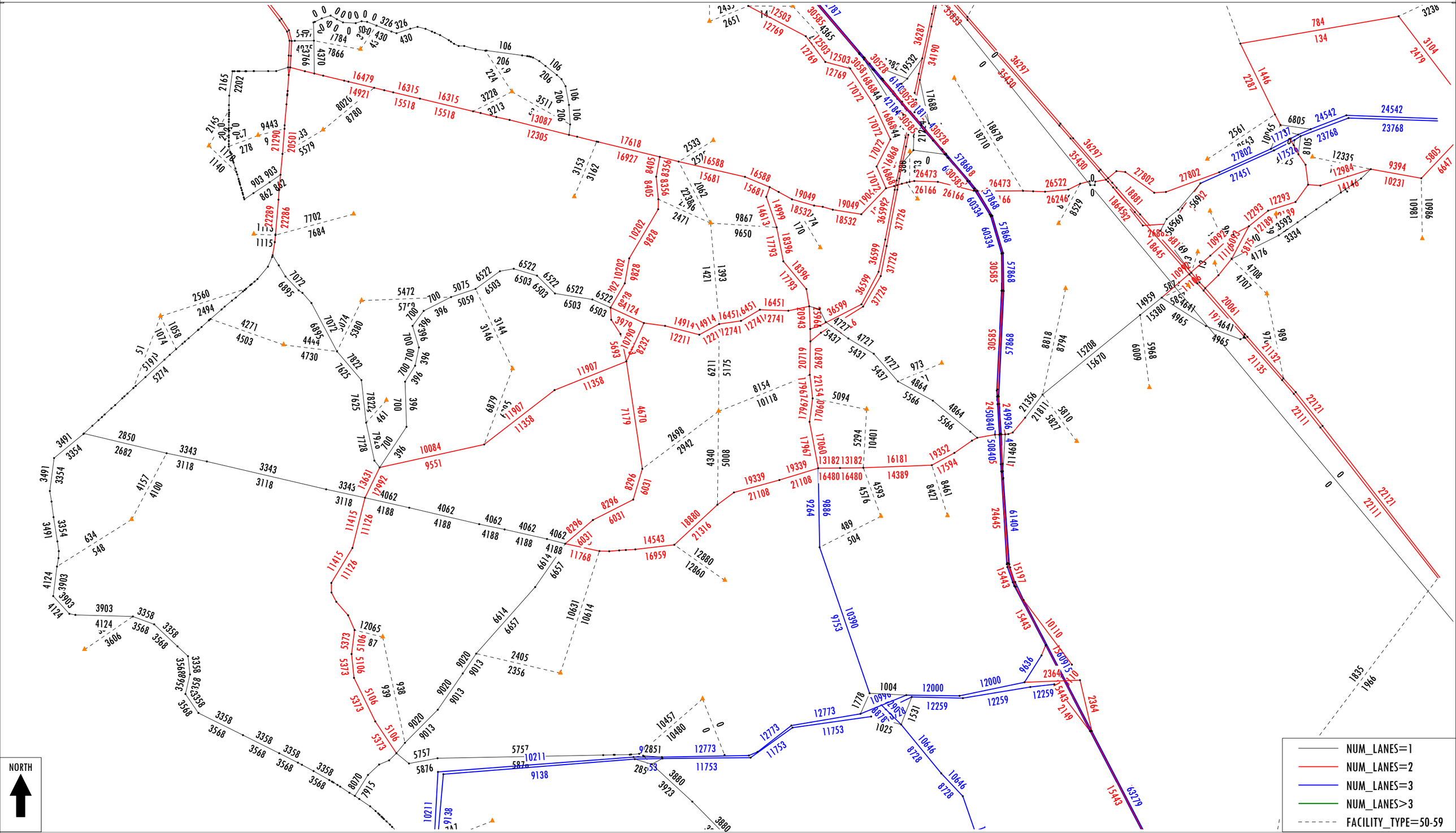


2040 Daily Directional Volumes

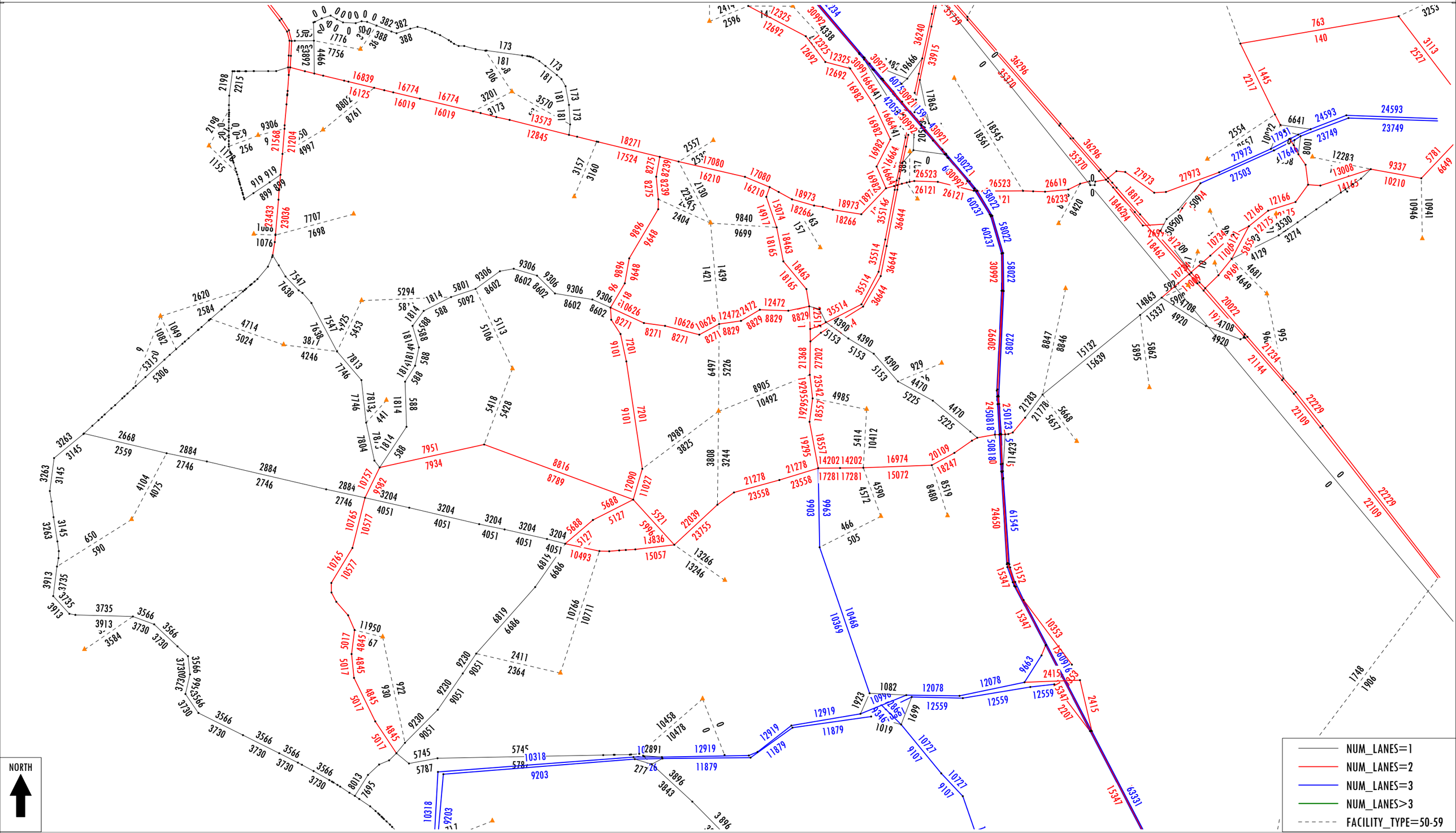
NERPMAB1_v3
2040 - No Build
(2040 SE Data and Veteran's Parkway Southern Extension)
Daily Directional Volume Posted



NERPMAB1_v3
2040 - Build Alternatives 1-3
(2040 SE Data and Veteran's Parkway Southern Extension & New E-W Corridor Alts 1-3)
Daily Directional Volume Posted



NERPMAB1_v3
2040 - Build Alternative 4
(2040 SE Data and Veteran's Parkway Southern Extension & New E-W Corridor Alt 4)
Daily Directional Volume Posted



APPENDIX D: ROADWAY DESIGN CRITERIA

Roadway Design Criteria

St Johns Alignment Corridor Study

NW St Johns County

Design Element	Design Standard	Florida Design Manual
Roadway Functional Classification	Urban Major Collector	FDM, Table 200.2.1
Context Classification	C3	FDM, Table 200.4.1
Design Speed	50	FDM, Table 201.4.1
Lane Widths		
Through or Travel Lanes	12'	FDM, Table 210.2.1
Auxiliary (Turn) Lanes	12'	FDM, Table 210.2.1
Bicycle lanes/Paved Shoulders	4' Minimum 7' Maximum	FDM, Section 223.2.1.1
Pavement Cross Slopes		
Cross Slope (travel lanes)	0.02 to 0.03	FDM, Figure 210.2.1
Maximum algebraic difference between adjacent through lanes	0.04	FDM, Figure 210.2.1
Maximum algebraic difference at turning roadway terminals	5.0	FDM, Table 210.2.2
Median Widths	30'	FDM, Table 210.3.1
Border Width	29'	FDM, Table 210.7.1
Horizontal Alignments		
Maximum deflection without horizontal curve	1° 00' 00" (with curb & gutter)	FDM, Section 210.8.1
Desirable length of horizontal curve	750'	FDM, Table 210.8.1
Minimum length of horizontal curve	400'	FDM, Table 210.8.1
Minimum length of full superelevation within curve	200'	FDM, Section 210.9
Maximum horizontal curvature using normal crown	0° 30' (e_{max} = 0.10)	FDM, Table 210.9.1
Superelevation		
Maximum superelevation rate	e_{max} = 0.05	FDM, Table 210.9.3
Desirable superelevation transition slope rate	1:200	FDM, Table 210.9.3
Minimum superelevation transition slope length	100'	FDM, Table 210.9.3
Grades		
Maximum grade	6%	FDM, Table 210.10.1
Maximum change in grade without vertical curve	0.6%	FDM, Table 210.10.2
Minimum distance between VPI's	250'	FDM, Section 210.10.1.1
Minimum grade	0.3%	FDM, Section 210.10.1.1
Vertical Curvature		
K value for crest curve	136	FDM, Table 210.10.3
Minimum length of crest curve	300'	FDM, Table 210.10.4
K value for sag curve	96	FDM, Table 210.10.3
Minimum length of sag curves	200'	FDM, Table 210.10.4
Minimum Clearance From Bottom of Roadway Base to Water Elevation	3' 2' Min.	FDM, Section 210.10.3
Sight Distance		
Minimum Stopping Sight Distance	425'	FDM, Table 210.11.1
Vertical Clearance		
Mast arm mounted	17'-6"	FDM, Section 210.10.3
Clear Zone (Minimum RecoverableTerrian)		
Travel Lanes	24'	FDM, Table 215.2.1

Roadway Design Criteria

St Johns Alignment Corridor Study

NW St Johns County

Design Element	Design Standard	Florida Design Manual
Auxiliary (Turn) Lanes	14'	FDM, Table 215.2.1
Lateral Offset		
Traffic control signs	Per design standards	FDM, Table 215.2.2
Light poles - Conventional Lighting	No closer than 20 feet from the travel lane or 14 feet from an auxiliary lane	FDM, Table 215.2.2
Utility Installations	Outside clear zone, as close to R/W line as practical	FDM, Table 215.2.2
Signal poles and Controller	Must be located outside of the clear zone & not in medians	FDM, Table 215.2.2
Trees (diameter greater than 4 inches, measured 6 inches above ground	Must be located outside of the clear zone	FDM, Table 215.2.2

APPENDIX E: TRAFFIC COUNTS

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
	11th Street	SR A1A to A1A Beach Blvd						983	730	1,161	869
1	11th Street	w of Beach Blvd	681		643	650					
	16th Street	SR A1A to A1A Beach Blvd						1,907	2,255	1,927	2,379
2	16th Street	e of SR 3	1,443		1,699	2,172					
3	A Street	SR A1A to A1A Beach Blvd	2,243		3,037	2,904	2,904	3,736	3,400	3,176	2,957
4	A. Nease Rd/Vermont Blvd	SR 207 to County Landfill Entrance	1,053		881	737	737	797	1,136	887	1,024
62	A1A Beach Blvd	11th St to CR 312			11,581	10,192	12,000		12,110	12,949	14,219
61	A1A Beach Blvd	SR A1A (S) to 11th St			8,309	7,452	8,549		8,498	7,788	8,521
5	Allen Nease Rd	s of CR 214 (King St)	771		846	665	665				887
	Allen Nease Road	Co. Landfill to CR 214						751	756	739	897
136	Bishop Estates Rd	e of SR 13	2,494								
	Canal Blvd	CR 210 (Roscoe Blvd) to CR 210 (Palm Valley						2,409	2,639	2,746	2,787
6	Canal Blvd	w of CR 210	1,897		2,264	1,864					
7	Cowpen Branch Rd	CR 13 to SR 206	194		282	599	599	790	718	300	300
	Cowpen Branch Rd	CR 13 to SR 206									887
13	CR 13	CR 305 to CR 214	890			888		1,171		1,115	1,390
11	CR 13	SR 207 W to SR 207 E	809			838	838	895	1,110	992	1,190
	CR 13	CR 13A to CR 214						703	927	677	797
	CR 13	George Miller Rd to SR 207 W	2,497			3,160	2,722	2,307	2,867	1,201	3,028
	CR 13	CR 214 to CR 208						631	55	577	898
9	CR 13	George Miller Rd to Cowpen Branch Rd.	3,935		3,160	3,869	2,387	3,302			
	CR 13	Joe Ashton Rd. to SR 16						10,581		9,716	9,677
	CR 13	CR 208 to Joe Ashton Rd							2,398	2,006	2,116

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
	CR 13	Joe Ashton Rd to SR 16							11,250	9,716	9,677
	CR 13	Cowpen Branch Rd to George Miller Rd						3,032	5,272	3,760	2,925
	CR 13	CR 204 to Cowpen Branch Rd						2,181	2,016	2,371	2,530
15	CR 13	CR 208 and SR 16	7,806		8,536	11,748					
	CR 13	SR 207 to CR 13 A						1,289	1,570	1,552	1,712
	CR 13 A	CR 13 to CR 305						841		930	1,161
18	CR 13A	CR 208 to Joe Ashton Rd	1,940		1,376	1,380	1,898	2,136			
17	CR 13A	CR 305 to CR 214	1,071			888	888		1,093	1,115	1,390
19	CR 13A	CR 208 to SR 16				7,314					
	CR 13A	Samara Lakes Parkway to SR 16						8,635	9,104	9,055	11,647
	CR 13A	CR 208 to Samara Lakes Parkway						2,387	2,257	2,408	2,579
143	CR 13A (Pacetti Rd)	CR 214 to CR 208	1,915		1,988	1,380	1,380	1,474	1,593	1,698	1,968
144	CR 13A (Pacetti Rd)	Samara Lakes Parkway to SR 16				7,036	8,373		9,014	9,055	11,647
	CR 13B (Fruit Cove)	SR 13 to SR 13						1,440	865	807	937
22	CR 16A	CR 210 to Leo Maguire Rd	1,643		1,823	1,679	1,665	2,120	2,287	2,991	3,853
	CR 16A	Leo Maguire Rd to SR 16									3,586
21	CR 16A	SR 13 to CR 210	7,223			7,036	9,728	8,513	7,326	8,348	9,049
26	CR 16A (Lewis Spdwy)	Woodlawn Rd to SR 5/US 1	6,562		4,774	5,924	6,312	6,469	6,722	7,736	8,237
25	CR 16A (Lewis Spdwy)	Varella Rd. to Woodlawn Rd.	4,789		6,025	5,225	4,837	4,786	4,927	5,229	5,654
24	CR 16A (Lewis Spdwy)	SR 16 to Varella Ave	5,768		5,980	6,249	5,006	5,541	5,545	5,745	6,161
23	CR 16A (Lewis Speedway)	n of SR 16	1,572							1,900	
29	CR 203 (Ponte Vedra Blvd)	CR 210 A (Solana Rd) to Duval County Line	2,951		2,976	2,773	2,773	895	2,883	3,098	3,550
27	CR 203 (Ponte Vedra Blvd)	CR 210 (Corona Rd) to CR 210A (Solana Rd)	2,074		2,247	2,670	2,670	2,915	3,024	3,419	3,053

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
30	CR 204	CR 13 to US 1 (SR 5)	2,502		2,276	2,083	1,999	2,161	2,341	2,405	2,906
31	CR 208	CR 13 to Joe Ashton Rd	393		401	972	972	427	441	503	477
33	CR 208	CR 13A to SR 16	4,123		4,600	5,302	4,517	4,695	4,638	4,476	4,445
169	CR 208	w of SR 16	4,123		4,600					4,200	4,600
32	CR 208	Joe Ashton to CR 13A	537		1,682	2,326	2,326	2,312	2,395	2,803	2,527
36	CR 210	Cimarrone Blvd to CR 2209	17,798		18,273	18,125	19,278	19,498	20,460	20,461	24,459
35	CR 210	Greenbriar Rd to Cimarrone Blvd.	14,221		11,320	11,752	12,500	12,086	11,493	14,546	17,158
34	CR 210	CR 16A to Greenbriar Rd	6,888		6,170	5,122	5,496	6,119	6,119	6,529	6,576
	CR 210	CR 2209 to Leo Maguire Prky								27,154	28,822
39	CR 210	I-95 to C.E. Wilson Road	21,800		19,006	16,877	17,219	10,666	10,666	15,015	17,573
40	CR 210	C. E. Wilson Rd to SR 5/US 1	7,128		7,019	7,039	7,629	12,327	12,327		
45	CR 210 (Corona Rd) E/W	SR A1A to CR 203 (Ponte Vedra Blvd)	6,888			6,574			7,589	7,568	6,298
43	CR 210 (Palm Valley Rd)	Mickler Rd to Canal Blvd.	12,348		12,338	13,975	12,413	14,304	14,890	15,440	14,210
41	CR 210 (Palm Valley Rd)	w of CR 210A (Roscoe Blvd)	12,855		13,240						
42	CR 210 (Palm Valley Rd)	CR 210 A (Roscoe Blvd) to Micklers Rd	12,056		13,240	14,110	14,345	15,235	16,135	17,532	21,049
44	CR 210 (Palm Valley Rd)	Canal Blvd. to SR A1A	15,437			14,495	13,919	16,526	14,741	14,855	16,079
	CR 210 W	C.E. Wilson Rd to Alternate CR 210								10,898	15,513
	CR 210 W	Alternate CR 210 to Valley Ridge Blvd								5,761	
	CR 210 W	Altt CR 210 to Valley Ridge Blvd									8,276
46	CR 210A (Roscoe Blvd)	Canal Blvd to (CR 210) Palm Valley Rd	4,905		3,870	4,202	4,089	5,398	4,387		5,613
47	CR 210A (Roscoe Blvd)	Canal Blvd to PGA Tour Blvd	5,563		4,522	3,966	4,727	8,611	5,982	5,338	6,517
49	CR 210A (Solana Rd)	SR A1A to CR 203 Ponte Vedra Blvd	6,882			5,714	8,564	5,666	5,939	5,366	6,499
48	CR 210A (Solana Rd)	PGA Tour Blvd to SR A1A	12,036		9,238	12,634	11,667	11,658	16,123	12,982	13,240

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
52	CR 214	Allen Nease Rd to Holmes Blvd	4,366		3,225	4,857	4,393	6,470	5,334	4,423	4,464
51	CR 214	CR 13 to CR 13A	1,175		1,023	843	843	929	947	845	853
50	CR 214	CR 13A to Allen Nease Rd	838		781	1,040	1,040	1,128	1,107	1,225	1,411
156	CR 214 (W King St)	Volusia St to Palmer St	10,742			11,021	8,843	9,135	10,010	13,096	14,229
53	CR 214 (W. King St)	Holmes Blvd to Volusia Blvd	4,154		3,699	11,021	4,340	5,967	4,112	4,685	4,215
56	CR 305 (Old Moultrie Rd)	CR 13 to SR 207	586			485	485	651	487		542
55	CR 305 (Old Moultrie Rd)	SR 206 to SR 207	470		483	501	501		524	503	620
157	CR 5 A (Old Moultrie Rd)	Between Walmart and Ponce Mall	15,695								
58	CR 5A (Old Moultrie Rd)	Lewis Point Road to Southpark Blvd.	10,449		11,925	14,877	14,263	15,838	15,974	14,854	15,908
59	CR 5A (Old Moultrie Rd)	Southpark Blvd to SR 312	18,500		19,937	18,328	19,928	18,655	24,268	28,659	21,059
57	CR 5A (Old Moultrie Rd)	US 1 to King Estates Rd	5,009		5,418	6,509	7,187	5,813	7,126	4,844	6,490
60	CR 5A (Old Moultrie Rd)	SR 312 to SR 207	10,228		10,244	13,117	10,563	9,713	9,761	11,452	11,504
63	Cracker Swamp Rd	Putnam County Line to CR 13	553			776	776	790	800	873	924
	Crosswater Parkway	Preservation Trail to Nocatee Parkway							7,369	9,404	12,322
65	Faver Dykes Rd	US 1 to State Park Entrance	297		291	302	302	410	408	388	354
66	Federal Point Road	Putnam Co Line to Hastings City Liimit (W)	497			503	503	693	473	798	561
158	Four Mile Rd	SR 16 to Holmes Blvd	8,370		8,753	9,787	10,634	11,701	11,446	10,470	12,781
	Four Mile Rd	CR 214 to Kenton Morrison Rd/Holmes Bkvd		3,900	4,700	4,900	5,600	4,473	4,841	6,284	6,436
68	George Miller Rd	CR 13 to CR 13	2,140		1,986	1,614	1,614	1,718	3,484	1,654	1,738
69	Greenbriar Rd	SR 13 to Longleaf Pine Pkwy	4,189			3,700	4,440	4,378	4,301	4,516	4,581
70	Greenbriar Rd	Longleaf Pkwy to CR 210	6,123			5,869	5,551	5,003	5,917	6,447	6,889
71	Hastings Blvd	Cracker Swamp Rd to CR 13			546	552	552	619	1,060	657	789
73	Holmes Blvd	CR 214 to Four Mile Rd	10,016		10,434	12,020	13,501	15,142	14,842	15,622	15,616

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
	Holmes Rd	SR 207 to CR214							17,145	18,752	16,616
	I-95	CR 210 to Duval Co Line						84,000		81,000	88,500
	I-95	International Golf Parkway to CR 210						72,500		78,000	86,500
	I-95	Flagler Co. Line to US 1						45,000		46,000	46,000
	I-95	SR 16 to International Golf Parkway						62,500		68,000	69,000
	I-95	US 1 to SR 208						44,000			50,500
	I-95	SR 206 to SR 207						46,000		53,500	51,000
	I-95	SR 207 to SR 16						58,000		63,000	65,000
	International Golf Parkway	I-95 to Center Place Way/Parkland Trail						7,334	9,068	12,929	
	International Golf Parkway	Parkland Trail/Center Place Way to St. Marks P							9,059	6,883	
	International Golf Parkway	Francis Road to St. Marks Pond Blvd.				6,196	6,377				9,202
82	International Golf Pkwy	St. Marks Pond Blvd to US1	5,906		6,639	6,352	7,427	7,175	7,175	8,959	9,656
79	International Golf Pkwy	SR 16 to Royal Pines Parkway	12,565		12,503	14,280	16,010	17,007	18,017	19,203	21,680
81	International Golf Pkwy	I-95 to Francis Road	7,230		10,519	10,035	10,246				13,168
80	International Golf Pkwy	I-95 to Royal Pines Parkway	15,004		12,503	14,531	15,997			16,784	21,230
	Internationational Golf Park	Royal Pines Parkway to I-95						15,733	18,603	16,784	21,230
75	Joe Ashton Rd	CR 208 to CR 13			1,064	1,205	1,205	1,330	2,557	1,598	1,456
74	Kenton Morrison Rd	Four Mile Rd to SR 16			6,511	6,989	8,236	7,571	7,978	11,643	14,064
64	Kings Estate Rd/Hilltop Rd	SR 207 to CR 5A				8,640			5,430	5,431	4,585
76	Leo Maguire Parkway	CR 16A to CR 210			3,277	4,012	4,845	4,900	4,608	4,851	5,368
	Longleaf Pine Parkway	CR 210/16A to Greenbriar Rd			3,195	1,433		2,194	2,486	3,361	3,631
	Longleaf Pine Parkway	Veterans Pkwy to Tollerton Ave			4,317	4,322		6,895	6,835	7,653	7,715
	Longleaf Pine Parkway	Greenbriar Rd to Roberts Rd			1,802	4,789		5,601	6,427	6,579	7,694

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
	Longleaf Pine Parkway	Tollerton Ave to St Johns Pkwy			3,752	4,010			9,385	9,943	10,561
	Longleaf Pine Parkway	Roberts Rd to Veterans Parkway				3,250		6,898	5,119	6,108	5,999
78	Mickler Rd	CR 210 to SR A1A			5,814	6,405	6,754	6,352	7,296	8,497	10,746
	Nocatee Parkway	US 1 to Duval County Line			7,046	6,632		10,261	9,657	14,590	16,357
	Nocatee Parkway	CR 210 (Palm Valley Rd) to CR 210 A (Roscoe			12,910						12,443
	Nocatee Parkway	Crosswater Pkwy to Palm Valley Rd			12,117	12,283		14,667	15,082	17,350	15,824
	Nocatee Parkway	Duval County Line to Crosswater Pkwy			10,196	12,032		14,645	14,239	19,233	20,982
	Palm Valley Rd (Old CR 21	Valley Ridge Blvd to Preservation Trail									4,428
	Palm Valley Rd (Old CR 21	Valley Ridge Blvd to Preservation Trail				6,291	3,015	3,411	3,707	3,994	
	Ponte Vedra Blvd (CR 203)	SR A1A to CR 210 (Corona Rd)								3,125	5,237
84	Pope Rd	SR A1A to A1A Beach Blvd.	3,078		3,717	3,230	3,230	3,372	3,753	3,359	3,151
88	Race Track Rd	Bartram Springs Pkwy to SR 5/ US 1	14,679		15,252	13,350	13,682	18,974	17,341	18,313	20,289
86	Racetrack Rd	Bishop Estates Rd to Veterams Pkwy	16,197			18,808	21,325	20,958	23,066	24,724	25,414
85	Racetrack Rd	SR 13 to Bishop Estates Rd	22,818			23,217	25,252	25,239	27,175	27,317	28,478
	Roberts Rd	SR 13 to Longleaf Pine Pkwy	10,203		10,435	11,322	13,029	13,705	12,613	11,009	12,475
	Rolling Hills Dr	Dobbs Rd to SR 207							4,209	5,010	4995
90	Russell Sampson Rd	CR 210 to St Johns Pkwy	2,071			3,094	4,429	8,223	8,223	5,462	7,228
175	SR 13	CR 16A to Greenbriar Rd	5,247		5,073	3,700	3,402	3,600	3,600	3,800	3,900
142	SR 13	Racetrack Rd to Duval County Line				44,000	42,000	41,500	41,500	42,500	47,500
177	SR 13	CR 13B (Fruit Cove Rd S) to Race Track Rd			24,440	23,788	25,000	23,776	23,776	24,702	25,816
	SR 13	Greenbriar Rd to Roberts Rd			8,678	7,100	5,897	7,100	7,100	7,700	7,900
174	SR 13	SR 16 w to CR 16A			10,079	8,600	7,897	8,400	8,400	8,600	9,100
91	SR 13	Roberts Rd to CR 13B (Fruit Cove Rs S)	21,760			25,000	23,691	25,500	25,500	27,000	27,000

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
173	SR 13 / 16	SR 16 e to SR 16 W	10,482			9,100	7,897	7,700	7,700	8,200	8,600
	SR 16	SR 13 to CR 16A	13,899		13,673	12,500	11,505	14,368	14,400	14,382	14,488
	SR 16	W mall entrance to I-95									33,123
	SR 16	CR 2209 to West Mall Entrance									16,026
	SR 16	International Golf Pkwy to CR 2209	11,606		10,050	12,716	12,500	13,222	16,652	13,901	15,430
178	SR 16	Clay County Line to SR 13				11,500	7,897	13,322	13,688	14,889	17,072
101	SR 16	Woodlawn Rd to Masters Rd	22,358		26,095	22,000	22,000	28,608	24,961	22,997	23,979
98	SR 16	I-95 to Inman Rd	28,472			27,606	37,050	35,787	36,000	33,852	41,378
96	SR 16	CR 16A to International Golf Parkway	10,628	11,500	10,950	13,500	13,804	15,821	15,733	17,328	18,243
99	SR 16	Inman Rd to Four Mile Rd	21,114		32,708	29,000	29,505	28,810	35,109	35,007	36,720
100	SR 16	Four Mile Rd to Woodlawn Rd.	29,780			20,000	21,000	28,810	23,717	23,586	25,273
103	SR 16	Lewis Speedway to St. Augustine City Limits	26,127			24,000	23,505	26,742	26,004	25,575	26,461
102	SR 16	Masters Rd to Lewis Speedway(CR 16A)	25,321		26,231	27,594	28,221	27,137	30,026	24,384	26,374
720	SR 206	I-95 to US 1	8,410		7,972	7,200		6,600	6,600	6,500	7,200
104	SR 206	CR 305 to I-95 overpass	7,662		3,508	5,213	3,857	5,433		5,061	4,376
	SR 206	SR 207 to CR 305						3,800	3,800	4,300	4,500
109	SR 207	Holmes Blvd to SR 312	29,492		29,328	28,000	26,495	31,425	31,688	34,721	36,776
105	SR 207	Vermont Blvd to Cypress Links Blvd	14,167		12,100	15,236	15,251	15,960	17,034	18,527	19,366
	SR 207	Wildwood Dr to Holmes Blvd.	22,664		21,107	23,215	21,716	24,328	22,926		29,064
110	SR 207	SR 312 to St. Augustine City Limits	10,908			9,700	8,598	11,675	11,500	13,156	13,818
147	SR 207	Hastings City Limits (E) to SR 206			15,300	17,200	15,361	15,400	15,400	16,700	17,700
106	SR 207	Cypress Links Blvd tof I-95	20,989			18,894	18,946	19,471	20,266	22,304	23,051
	SR 207	CR 305 to Vermont Blvd.						12,000	12,000	13,000	13,800

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
163	SR 207	SR 206 to CR 13	12,167		12,100	13,000	11,216	12,200	12,200	13,100	13,800
	SR 207	CR 13 to CR 305						10,800	10,800	11,800	12,400
162	SR 207	Putnam County Line to Hastings City Limit	16,199			14,400	12,835	12,400	12,400	13,600	14,300
	SR 207	I-95 to Wildwood Dr						25,492	26,440	28,584	28,998
112	SR 312	US 1 / SR 5 to Coke Rd	35,240		33,605	32,288					
111	SR 312	SR 207 to CR 5A (Old Moultrie Rd)	23,315	23,500		23,500	22,495	25,082	26,002	27,673	27,944
	SR 312	CR 5A to US 1						33,886	32,600	30,902	31,551
	SR 312	US 1 to Sgt. Tutten Dr.						34,052	35,282	36,139	38,173
	SR A1A	SR A1A Beach Blvd (S) to Pope Rd.	25,912		21,777	24,939	23,103	25,574	25,745	25,745	26,572
191	SR A1A	Ft Matanzas Ent. To SR 206			7,817	12,500	6,753	7,900		10,500	10,500
	SR A1A	Guana River Park Dam Use Entr. To Mickler Rd			6,595	4,900	5,546	7,200		7,233	8,101
	SR A1A	3rd St to Guana River Park Dam Use Entrance				5,269	5,415	5,289		5,772	6,157
	SR A1A	SR A1A (Vilano Rd) to 3rd St.				11,450	12,845	13,237		14,429	14,429
	SR A1A	Pope Rd to SR 312				29,753	27,688	35,424		30,310	32,167
196	SR A1A	St Augustine City Limits to SR A1A	13,794		13,951	13,200	14,000	16,719		14,860	14,386
	SR A1A	SR 312 to St Augustine City Limits	26,055		25,121	21,000		23,847		26,673	25,407
192	SR A1A	SR 206 to Owens Ave			10,234	12,300	11,701	11,169		13,369	14,819
126	SR A1A	PGA Blvd to CR 310 (Corona Blvd)	39,013			41,109	42,282	40,870		41,858	44,638
190	SR A1A	Flager County to Ft Matanzas Mon. Entrance	4,854		4,474	6,200	6,753	7,900		5,700	5,400
124	SR A1A	s of CR 210 (Palm Valley Rd)	13,698					18,900	20,300	21,000	21,000
127	SR A1A	CR 210 (Corona Blvd) to CR 210 A (Solana Rd)	39,034			40,000	39,000	41,163		41,641	45,389
125	SR A1A	CR 210 (Palm Valley Rd) to PGA Blvd.	31,166			37,500	36,000	34,867		37542	39,626
128	SR A1A	CR 210 A (Solana Rd) to Marlin Ave				47,500	47,000	51,503		50,073	55,648

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
129	SR A1A	Marlin Ave to Duval County Line	47,905			52,776	53,345	53,516	54,264	56,948	58,088
193	SR A1A	Owens Ave to A1A Beach Blvd	25,912		21,777	21,500	21,505	22,614		22,518	24,735
	St Ambrose Church Rd	CR 13A to SR 207	456		388	454	454		431	352	423
	St Johns Parkway	Longleaf Pine Pkwy to Race Track Rd			5,727	5,004	6,492	7,735	9,266	10.3003	11,461
	St Johns Parkway	CR 210 to future SR 9B Connection			5,734	5.669	6,686	7,720	9,140		3,300
	St. Johns Parkway	Future SR 9B Connection to Longleaf Pine Pkw			5,734	5,764	6,790	7,787	9,766	9,987	10,378
	US 1 / SR 5	I-95 (SR 9) to SR 206			10,925	11,400	10,402	10,400		11,900	12,800
	US 1 / SR 5	Lewis Point Rd to Shore Dr.						37,507		42,943	41,775
	US 1 / SR 5	CR 210 to Duval Co Line			46,000	20,500	17,052	18,159			
	US 1 / SR 5	International Golf Parkway to CR 210 (W)			17,508	17,900	17,402	19,376		25,050	25,724
	US 1 / SR 5	St. Augustine Limits (N) to CR 16A (Lewis Spee			18,632	19,600	19,404	19,952		22,726	26,461
	US 1 / SR 5	Gun Club Rd to International Golf Pkwy	17,096			16,443	16,637	17,264		21,169	21,961
	US 1 / SR 5	SR 206 to Shores Blvd			18,916	19,600	17,598	17,500		17,700	19,900
189	US 1 / SR 5	CR 210 E to Duval County Line				20,500	17,052	18,159			
184	US 1 / SR 5	Flager County to I-95 (SR 9)	11,326		11,025	11,300	10,814	10,600		11,600	13,200
115	US 1 / SR 5	Lewis Point Rd to CR 5A (Old Moultrie Rd)	38,686			34,993					
113	US 1 / SR 5	Shores Blvd S to Wildwood Dr	27,180			27,622	27,249	28,397		31,384	30,142
	US 1 / SR 5	CR 5A (Old Moultrie Rd) to Lewis Point Rd			37,530	34,993	36,122	38,455			41,419
114	US 1 / SR 5	Wildwood Dr to CR 5A (Old Moultrie Rd)	35,798		30,886	30,500	33,103	32,170		38,142	38,853
	US 1 / SR 5	SR 312 to St. Augustine City Limits	44,843		42,537	38,000	26,691	40,571		42,970	42,537
117	US 1 / SR 5	SR 312 to Shore Dr	39,314			44,040	48,648				
119	US 1 / SR 5	CR 16A (Lewis Spwy) to Gun Club Rd	10,785			19,788	19,463	21,324		23,658	23,821
121	US 1 / SR 5	CR 210 W to CR 210 E	19,833			18,561	20,416	20,357			

St Johns County Local Roads Traffic Counts - 2016

COUNT STATION	ROADWAY	LOCATION DESCRIPTION	2008 AADT	2009 AADT	2010 AADT	2011 AADT	2012 AADT	2013 AADT	2014 AADT	2015 AADT	2016 AADT
	US 1 / SR 5	Shore Dr to SR 312						41,262		45,178	44,475
	US 1/SR 5	Alt CR 210 to Valley Ridge Dr									23,877
	US 1/SR 5	Valley Ridge Blvd to Duval County Line									23,482
	Valley Ridge Blvd	US 1 to CR 210 W								8,932	8,762
	Valley Ridge Blvd	CR 210 to Nocatee Prky								7,648	10,697
	Valley Rridge Blvd	US 1 to Nocatee Pkwy			3,020	2,847	6,587	10,344	8,932		
131	Varella Ave	SR 16 to Lewis Speedway (CR 16A)	2,700		2,068	2,767	3,292		3,760	2,425	2,919
	Veterans Parkway	Longleaf Pine Pkwy to Race Track Rd			5,123	6,204	7,601	7,419		8,319	8,762
133	Wildwood Dr	Deerchase Dr to SR 207	7,041			7,154	7,360	7,831	8,270	9,456	8,308
	Wildwood Dr	US 1 / SR 5 to Deerchase Drive			10,245	10,828	9,421	11,478	10,461	14,180	11,225
	Woodlawn Rd	Heritage Park Dr N to Lewis Speedway			3,091	4,614	5,127	5,300	5,358	5,884	6,429
152	Woodlawn Road	s of Woodlawn Rd	2,599								
151	Woodlawn Road	SR 16 to Heritage Park Dr N	5,604		5,726	5,848	7,210	7,831		7,829	8,471

APPENDIX F: VMT/VHT CAPACITY IMPROVEMENT

NW St. Johns Corridor Study
Benefit Costs Analysis - Capacity Improvement Projects Performance Summary Reports

Year	Description	Vehicle Miles Traveled (VMT)				Vehicle Hours Traveled (VHT)				Benefits from the Project in Design Year
		Total VMT (Daily)	VMT Change (Daily)	VMT Change (Annual)	Change in Travel Costs	Total VHT (Daily)	VHT Change (Daily)	VHT Change (Annual)	Costs of Congestion	
2030	No Build Alternative	68,933,458	-	-	-	1,867,576	-	-	-	-
2030	Alternative 1 (Yellow)	68,933,646	-188	-49,256	**$ (26,844.52)**	1,865,156	2,420	634,040	**$ 11,412,720.00**	**$ 11,385,875.48**
2030	Alternative 2 (Orange)	68,935,668	-2,210	-579,020	**$ (315,565.90)**	1,865,204	2,372	621,464	**$ 11,186,352.00**	**$ 10,870,786.10**
2030	Alternative 3 (Blue)	68,935,594	-2,136	-559,632	**$ (304,999.44)**	1,865,203	2,373	621,726	**$ 11,191,068.00**	**$ 10,886,068.56**
2030	Alternative 4 (Green)	68,927,564	5,894	1,544,228	**$ 841,604.26**	1,866,703	873	228,726	**$ 4,117,068.00**	**$ 4,958,672.26**
2040	No Build Alternative	78,362,751	-	-	-	2,211,590	-	-	-	-
2040	Alternative 1 (Yellow)	78,365,629	-2,878	-754,036	**$ (410,949.62)**	2,208,220	3,370	882,940	**$ 15,892,920.00**	**$ 15,481,970.38**
2040	Alternative 2 (Orange)	78,368,251	-5,500	-1,441,000	**$ (785,345.00)**	2,208,286	3,304	865,648	**$ 15,581,664.00**	**$ 14,796,319.00**
2040	Alternative 3 (Blue)	78,368,155	-5,404	-1,415,848	**$ (771,637.16)**	2,208,284	3,306	866,172	**$ 15,591,096.00**	**$ 14,819,458.84**
2040	Alternative 4 (Green)	78,354,085	8,666	2,270,492	**$ 1,237,418.14**	2,207,601	3,989	1,045,118	**$ 18,812,124.00**	**$ 20,049,542.14**

Notes:
1) Total VMT & Total VHT from NERPM Models
2) 262 average weekdays per annum (2018)
3) $0.545/mile from IRS Mileage Allowance (2018)
4) $18/hr from Costs of Congestion Report, FHWA, 2008
7) Design Year = 2040

Average Weekdays per Annum (Days)	**262**
IRS Mileage Allowance (Dollars)	**0.545**
Cost of Congestion (Dollars)	**18**

APPENDIX G: COST ESTIMATE

NW St. Johns County Corridor Study - Alternatives Cost Estimate

Alternative	Length (mi)	CST $/M	CST $	ROW SF	$/SF	ROW* $	PE @ 8% $	CEI @ 8% $	O&M $/Yr	M&R $/M	M&R $	ENV (ac)	ENV $/ac	ENV
1	3.55	$ 6,889,753	$ 24,458,623	$ 4,498,560	$ 12	$ 53,982,720	$ 4,318,618	$ 4,318,618	$ 7,100	$ 517,985	$ 1,838,847	11.16	$ 80,000	$ 892,800
2	3.96	$ 6,889,753	$ 27,283,422	$ 5,018,112	$ 12	$ 60,217,344	$ 4,817,388	$ 4,817,388	$ 7,920	$ 517,985	$ 2,051,221	25.09	$ 80,000	$ 2,007,200
3	3.64	$ 6,889,753	$ 25,078,701	$ 4,612,608	$ 12	$ 55,351,296	$ 4,428,104	$ 4,428,104	$ 7,280	$ 517,985	$ 1,885,465	39.54	$ 80,000	$ 3,163,200
4	3.84	$ 6,889,753	$ 26,456,652	$ 4,866,048	$ 12	$ 58,392,576	$ 4,671,406	$ 4,671,406	$ 7,680	$ 517,985	$ 1,989,062	25.2	$ 80,000	$ 2,016,000

* ROW includes support costs.
http://www.fdot.gov/programmanagement/Estimates/LRE/CostPerMileModels/CPMSummary.shtm