



Traffic Assessment of the Impacts of the First Coast Expressway in Northwest St. Johns County June 2022



Traffic Assessment
of the Impacts of the First Coast Expressway
in Northwest St. Johns County
(UPWP 5.13)

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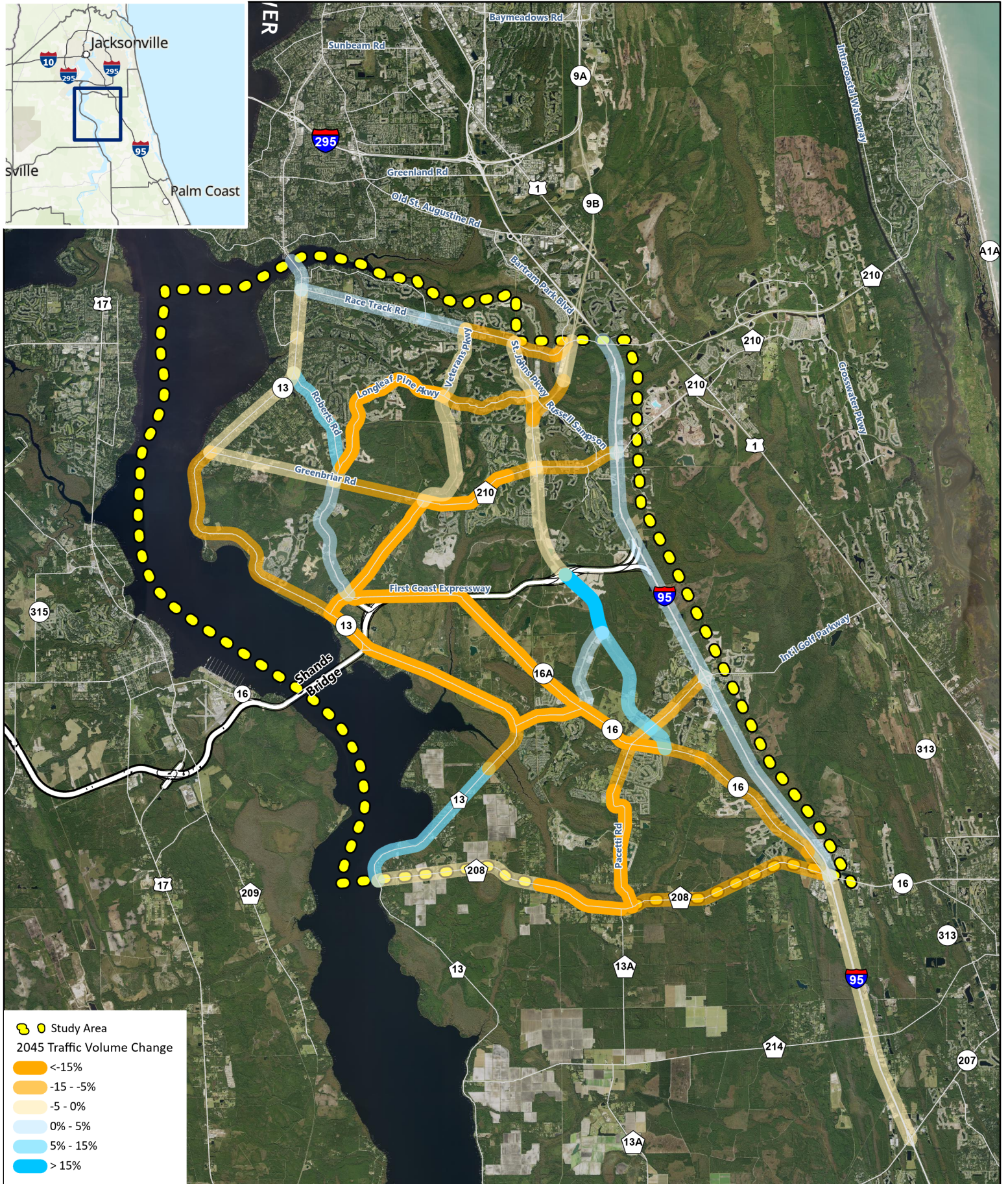
June 2022

EXECUTIVE SUMMARY

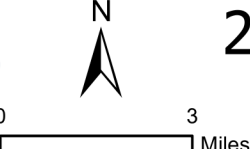
This study is being conducted for the North Florida Transportation Planning Organization (TPO) to provide St. Johns County an assessment of the impacts caused by the opening of the First Coast Expressway on the roadway network in the northwest portion of the County. The First Coast Expressway (FCE) is a toll facility being constructed by the Florida Department of Transportation and will provide a second beltway in the southwest quadrant of I-10 and I-95. The FCE will provide a high-speed connection between Clay County and I-95 and is expected to divert traffic that is currently using the existing roadway network in northwest St. Johns County. Figure ES-1 illustrates the proposed path of the FCE along the boundary of the study area.

The Northeast Regional Planning Model was used to quantify the impacts of the FCE after its connection to I-95 which is expected to be complete in 2030. A 2020 data set and roadway network were developed to provide a “reasonability” check of the model. When 2020 existing traffic count data was compared to model-generated volumes, total traffic entering and exiting the study area predicted by the model was within 5% of the counted volumes. Traffic volumes on surface roadways within the study area were also compared to counted volumes and the sum of the model volumes were within 8% of the counted volumes. Two additional model years, 2035 and 2040, were developed to provide a fuller picture of the impacts of the FCE. The 2030, 2035, 2040 and 2045 model files were modified to include two large Comprehensive Plan Amendments (CPAs) currently in process in the study area at the request of St. Johns County staff. These include a modification to the Silverleaf Development of Regional Impact (DRI) to bring the approved developments to 16,300 residential units and 3.53 million square feet of non-residential space, and the Greenbriar-Helow CPA which is capped at 3,500 residential units and 2.5 million square feet of non-residential development.

The results of the analysis indicate that the FCE will have significant positive impacts on parts of SR-13 (Bartram Scenic Trail), CR-16A, CR-210 and portions of SR-16 by reducing the traffic in some cases by over 50%. Figure ES-1 illustrates the percentage difference on the major roadway within the study area. The majority of traffic traveling to/from Clay County will use the FCE to access I-95, keeping through traffic off the surface roadway network. There will be minor increases on the roadway segments that provide access to the FCE including Longleaf Pine Parkway and St. Johns Parkway (CR-2209) with the biggest increase on St. Johns Parkway south of the FCE. Model volume forecasts for this section of St. Johns Parkway are well within the carrying capacity of the existing 4-lane roadway and should not cause significant delays to the traveling public. The FCE will provide a valuable transportation link between the residential areas in Clay County and the employment centers in Jacksonville, pulling traffic from the local roadway network. Table ES-1 depicts the estimated 2045 daily traffic volumes with and without the FCE along with the typical section needed to carry the volume based on the FDOT Generalized LOS Tables. As shown, the majority of roadways will need the same number of lanes with or without the FCE. Eight segments will require less lanes and two segments of I-95 and one section of Race Track Road will require additional lanes in 2045 with the FCE.



- Study Area
- 2045 Traffic Volume Change
- < -15%
- 15 - -5%
- 5 - 0%
- 0% - 5%
- 5% - 15%
- > 15%



2045 Traffic Volume Change

First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure ES-1

TABLE ES-1 - 2045 Required Lanage Comparison

Link ID	Roadway	Segment	Existing Lanage ¹	2045 Adjusted Daily Volumes ²		Future Lanage ⁴		
				Without FCE	With FCE	LRTP / TIP ³	Without FCE	With FCE
17.1	CR-13	CR-208 to Joe Aston Road	2-lanes	1,464	1,560	2-lanes	2-lanes	2-lanes
17.2	CR-13	Joe Ashton Road to SR-16	2-lanes	7,745	7,071	2-lanes	2-lanes	2-lanes
21.1	CR-13A	CR-208 to Samara Lakes Parkway	2-lanes	2,536	2,764	2-lanes	2-lanes	2-lanes
21.2	CR-13A	Samara Lakes Parkway to SR-16	4-lanes	7,777	8,338	4-lanes	2-lanes	2-lanes
23.1	CR-16A	SR-13 to CR-210	2-lanes	4,389	2,728	4-lanes	2-lanes	2-lanes
23.2	CR-16A	CR-210 to Leo McGuire Road	2-lanes	15,565	10,705	4-lanes	4-lanes	2-lanes
30	CR-208	CR-13 to Joe Ashton Road	2-lanes	971	948	2-lanes	2-lanes	2-lanes
31	CR-208	Joe Ashton Road to CR-13A	2-lanes	2,713	2,205	2-lanes	2-lanes	2-lanes
32	CR-208	CR-13A to SR-16	2-lanes	3,131	2,850	2-lanes	2-lanes	2-lanes
33	CR-210	CR-16A to Greenbriar Road	2-lanes	10,872	8,638	2-lanes	2-lanes	2-lanes
34.1	CR-210	Greenbriar Road to Cimarrone Boulevard	2-lanes	28,389	24,197	4-lanes	4-lanes	4-lanes
34.2	CR-210	Cimarrone Boulevard to CR-2209 (St Johns Parkway)	4-lanes	60,181	54,675	4-lanes	8-lanes	8-lanes
34.3,35	CR-210	CR-2209 (St Johns Parkway) to I-95	4/6-lanes	59,997	55,168	4/6-lanes	8-lanes	8-lanes
64	Greenbriar Road	SR-13 to Longleaf Pine Parkway	2-lanes	7,298	7,235	2-lanes	2-lanes	2-lanes
65	Greenbriar Road	Longleaf Pine Parkway to CR-210	2-lanes	16,077	15,236	2-lanes	4-lanes	4-lanes
73.1	International Golf Parkway	SR-16 to Royal Pines Parkway	4-lanes	24,701	23,503	6-lanes	4-lanes	4-lanes
73.2	International Golf Parkway	Royal Pines Parkway to I-95	4-lanes	46,285	43,222	6-lanes	6-lanes	6-lanes
76	Race Track Road	SR-13 to Bishop Estates Road	4-lanes	43,275	44,277	4-lanes	6-lanes	8-lanes
77.1	Race Track Road	Bishop Estates Road to Veterans Parkway	4-lanes	47,160	48,336	4-lanes	6-lanes	6-lanes
77.2	Race Track Road	Veterans Parkway to CR-2209 (St Johns Parkway)	4-lanes	43,055	40,828	4-lanes	6-lanes	6-lanes
77.3	Race Track Road	CR2209 (St Johns Parkway) to West Peyton Parkway	4-lanes	39,039	36,952	4-lanes	6-lanes	6-lanes
77.4	Race Track Road	West Peyton Parkway to Bartram Park Boulevard	4-lanes	24,751	23,137	4-lanes	4-lanes	4-lanes
79	Roberts Road	Longleaf Pine Parkway to SR-13	2-lanes	18,250	19,178	3-lanes	4-lanes	4-lanes
81	SR-13/16	SR-16 (East) to SR_16(West)	2-lanes	15,058	7,131	2-lanes	2-lanes	2-lanes
82	SR-13	SR-16 (West) to CR16A	2-lanes	20,777	9,579	2-lanes	4-lanes	2-lanes
83	SR-13	CR-16A to Greenbriar Road	2-lanes	10,584	9,848	2-lanes	2-lanes	2-lanes
84	SR-13	Greenbriar Road to Roberts Road	2-lanes	14,346	14,189	2-lanes	2-lanes	2-lanes
85	SR-13	Roberts Road to CR-13B (Fruit Cove Road S.)	4-lanes	36,184	35,324	4-lanes	6-lanes	4-lanes
86	SR-13	CR-13B (Fruit Cove Road S.) to Race Track Road	4-lanes	40,532	40,452	4-lanes	6-lanes	6-lanes
88	SR-13	Race Track Road to Duval County Line	4-lanes	69,690	70,072	4-lanes	8-lanes	8-lanes
90	SR-16	SR-13 to CR-16A	2-lanes	20,986	13,960	2-lanes	4-lanes	2-lanes
91.1	SR-16	CR-16A to International Golf Parkway	4-lanes	38,463	29,102	4-lanes	6-lanes	4-lanes
91.2	SR-16	International Golf Parkway to CR-2209	4-lanes	23,711	18,336	4-lanes	4-lanes	4-lanes
92.11	SR-16	CR-2209 to South Frances Road	4-lanes	42,801	37,121	4-lanes	6-lanes	4-lanes
92.12	SR-16	South Frances Road to West Mall Entrance	4-lanes	40,884	35,140	4-lanes	6-lanes	4-lanes
92.2	SR-16	West Mall Entrance to I-95	4-lanes	50,950	45,686	4-lanes	6-lanes	6-lanes
130	I-95	SR-207 to SR-16	6-lanes	96,259	96,196	10-lanes	6-lanes	6-lanes
131	I-95	SR-16 to International Golf Parkway	6-lanes	101,732	106,233	10-lanes	6-lanes	8-lanes
132	I-95	International Golf Parkway to FCE	6-lanes	131,171	135,944	10-lanes	8-lanes	8-lanes
132	I-95	FCE to CR-210	6-lanes	131,171	144,052	10-lanes	8-lanes	10-lanes
133	I-95	CR-210 to Duval County Line	6-lanes	168,209	175,623	10-lanes	10-lanes	10-lanes
		FCE to CR-16A/CR-210	4-lanes			4-lanes	4-lanes	4-lanes
153.1	Longleaf Pine Parkway	CR-16A/CR-210 to Greenbriar Road	4-lanes	10,546	10,555	4-lanes	2-lanes	2-lanes
153.2	Longleaf Pine Parkway	Greenbriar Road to Roberts Road	4-lanes	19,524	19,121	4-lanes	4-lanes	4-lanes
154	Longleaf Pine Parkway	Roberts Road to Veterans Parkway	2-lanes	19,092	16,069	4-lanes	4-lanes	4-lanes
155, 156	Longleaf Pine Parkway	Veterans Parkway to CR-2209 (St Johns Parkway)	4-lanes	33,623	31,279	4-lanes	4-lanes	4-lanes
170	Silverleaf Parkway	SR-16/CR-16A to St Johns Parkway	4-lanes	6,277	6,295	4-lanes	2-lanes	2-lanes
	St Johns Parkway	SR-16 to International Golf Parkway		15,595	16,685	4-lanes	4-lanes	4-lanes
	St Johns Parkway	International Golf Parkway to Silverleaf Parkway		7,079	7,970	4-lanes	2-lanes	2-lanes
171.2	St Johns Parkway	Silverleaf Parkway to FCE	4-lanes	22,465	30,607	6-lanes	4-lanes	4-lanes
171.3	St Johns Parkway	FCE to CR-210	4-lanes	35,340	33,748	6-lanes	4-lanes	4-lanes
157	St Johns Parkway	CR-210 to SR-9B	4-lanes	41,815	40,745	6-lanes	4-lanes	4-lanes
158	St Johns Parkway	SR-9B to Longleaf Pine Parkway	4-lanes	37,520	35,005	4-lanes	6-lanes	4-lanes
159	St Johns Parkway	Longleaf Pine Parkway to Race Track Road	4-lanes	10,894	10,726	4-lanes	2-lanes	2-lanes
152.1	Veterans Parkway	CR-210 to Longleaf Pine Parkway	4-lanes	11,263	11,169	4-lanes	2-lanes	2-lanes
152.2	Veterans Parkway	Longleaf Pine Parkway to Race Track Road	4-lanes	24,733	24,201	4-lanes	4-lanes	4-lanes

Notes:

- ¹ Existing number of lanes from St Johns County Traffic Analysis Spreadsheet Dated 4-12-2022
- ² Adjusted based on the difference between 2020 counted and model volumes
- ³ Improved number of lanes from the North Florida TPO 2045 LRTP or St Johns County TIP
- ⁴ Number of lanes to accomodate estimated traffic based on FDOT Quality and Level of Service Manual (2020)

of lanes decreased with FCE
 # of lanes increased with FCE

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1.0 INTRODUCTION

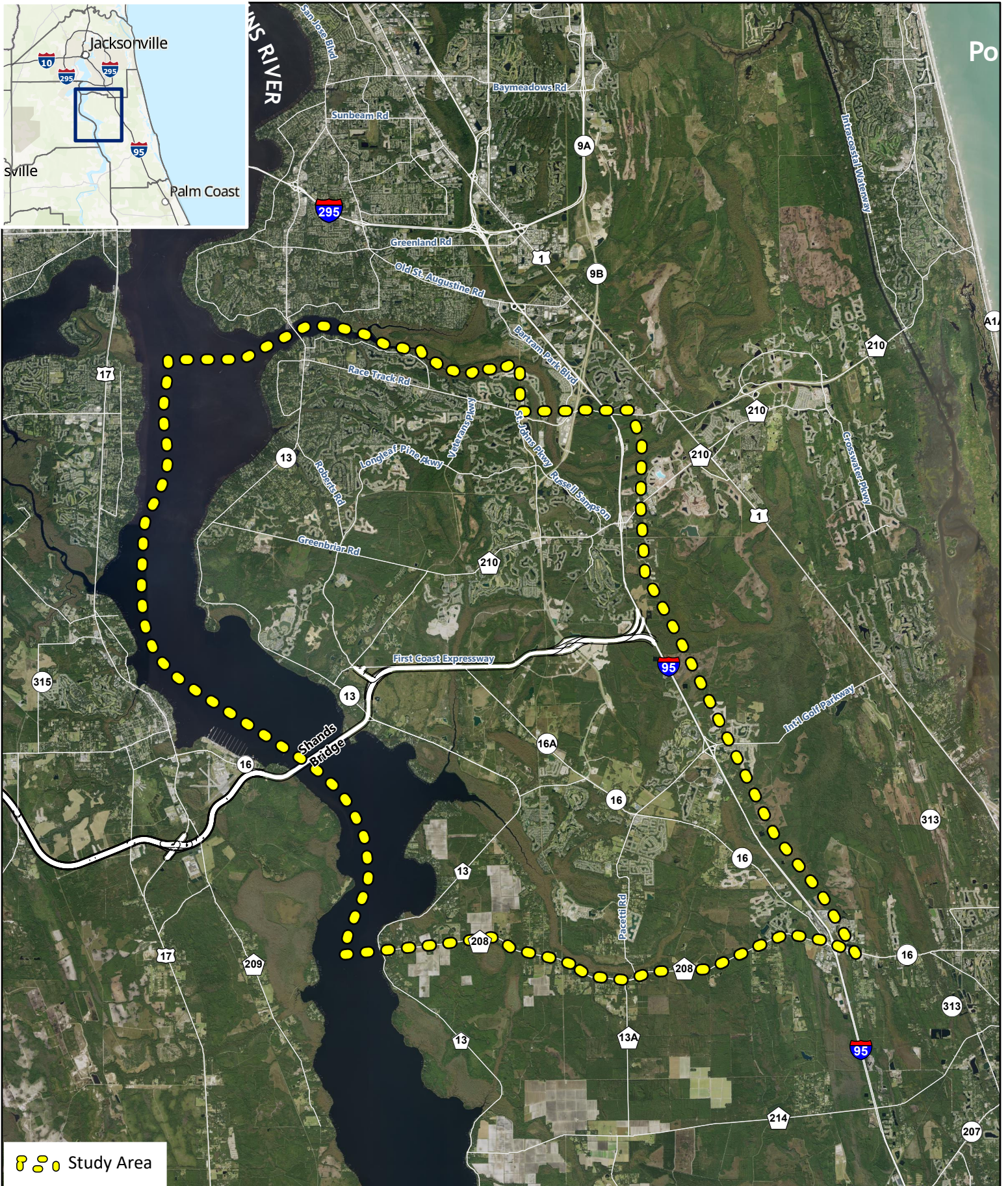
1.1 Background


This study is being conducted for the North Florida Transportation Planning Organization (TPO) to provide St. Johns County an assessment of the impacts caused by opening the First Coast Expressway on the roadway network in the northwest portion of the County. The First Coast Expressway (FCE) is a toll facility being constructed by the Florida Department of Transportation and will provide a second beltway in the southwest quadrant of I-10 and I-95. Figure 1-1 illustrates the proposed path of the FCE along with the boundary of the study area. The FCE will provide a high-speed connection between Clay County and I-95 and is expected to divert traffic that is currently using the existing roadway network in northwest St. Johns County.

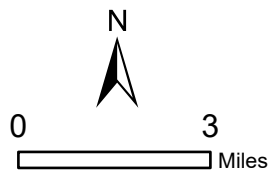
1.2 Methodology

Assessing the FCE's impact on local roadways was conducted using version 2.1.1 of the Activity-Based Northeast Regional Planning Model (NERPM-AB). The base model contains socio-economic data and roadway networks for the base year (2015), an interim year (2030) and planning horizon (2045). The model covers six counties in northeast Florida: Baker, Clay, Duval, Nassau, Putnam, and St. Johns. Additional interim years, 2020, 2025, 2035 and 2040 were developed for this analysis. The socio-economic data for the years 2020 and 2025 were calculated by interpolating socio-economic data for 2015 and 2030. Years 2035 and 2040 were developed by interpolating the 2030 and 2045 socio-economic data files. St. Johns County staff asked that a portion of the socio-economic data of two large developments (Greenbriar-Helow and Silverleaf Development of Regional Impact (DRI)) currently going through the approval process be included, along with their proposed transportation mitigation to the future model years. Figure 1-2 depicts the locations of these two developments along with the larger developments currently planned for Northwest St. Johns County. Several modifications were made to the centroid connectors to better represent the roadway network connecting the socio-economic data contained in Traffic Analysis Zones (TAZs). In addition, TAZ 2344 was divided into two TAZs (2340 and 2344) along Cunningham Creek to provide a more reasonable split of how development is able to access the roadway network. Table 1-1 lists the changes to the TAZ make-up of the model. A listing of the socio-economic data revisions is contained in Appendix A.

The roadway networks for the interim years were developed using the improvements that have occurred to date, the Florida Department of Transportation Work Program, local Transportation Improvement Plans for 2020 and 2025 roadway improvements, and the North Florida TPO Long Range Transportation Plan for the 2035 and 2040 improvements. The Cost-Feasible network was used for the 2045 model runs. Figure 1-3 illustrates the roadway improvements by model year included in the base highway network. A simulation of each model year was conducted with a roadway network that included the FCE and with a roadway network that did not. A model output correction factor (MOCF) was applied to the model volumes to calculate Average Annual Daily Traffic (AADT) for each scenario.



 Study Area

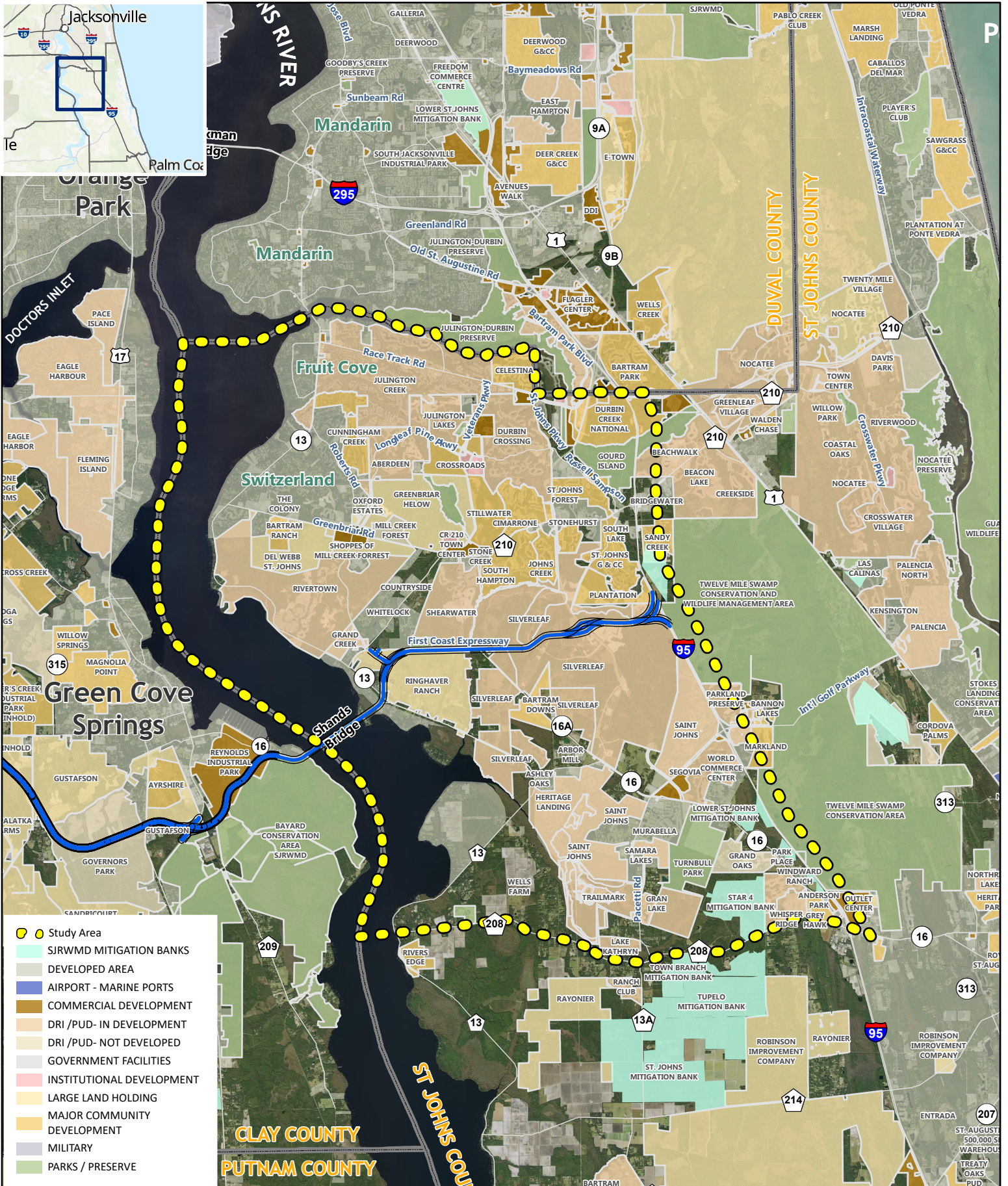


Study Area

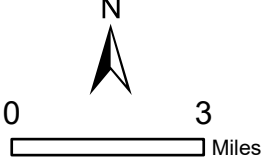
First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 1-1



- Study Area
- SJRWMD MITIGATION BANKS
- DEVELOPED AREA
- AIRPORT - MARINE PORTS
- COMMERCIAL DEVELOPMENT
- DRI /PUD- IN DEVELOPMENT
- DRI /PUD- NOT DEVELOPED
- GOVERNMENT FACILITIES
- INSTITUTIONAL DEVELOPMENT
- LARGE LAND HOLDING
- MAJOR COMMUNITY DEVELOPMENT
- MILITARY
- PARKS / PRESERVE



Major Development
 First Coast Expressway Impact Study
 Source: St. Johns County (2021)

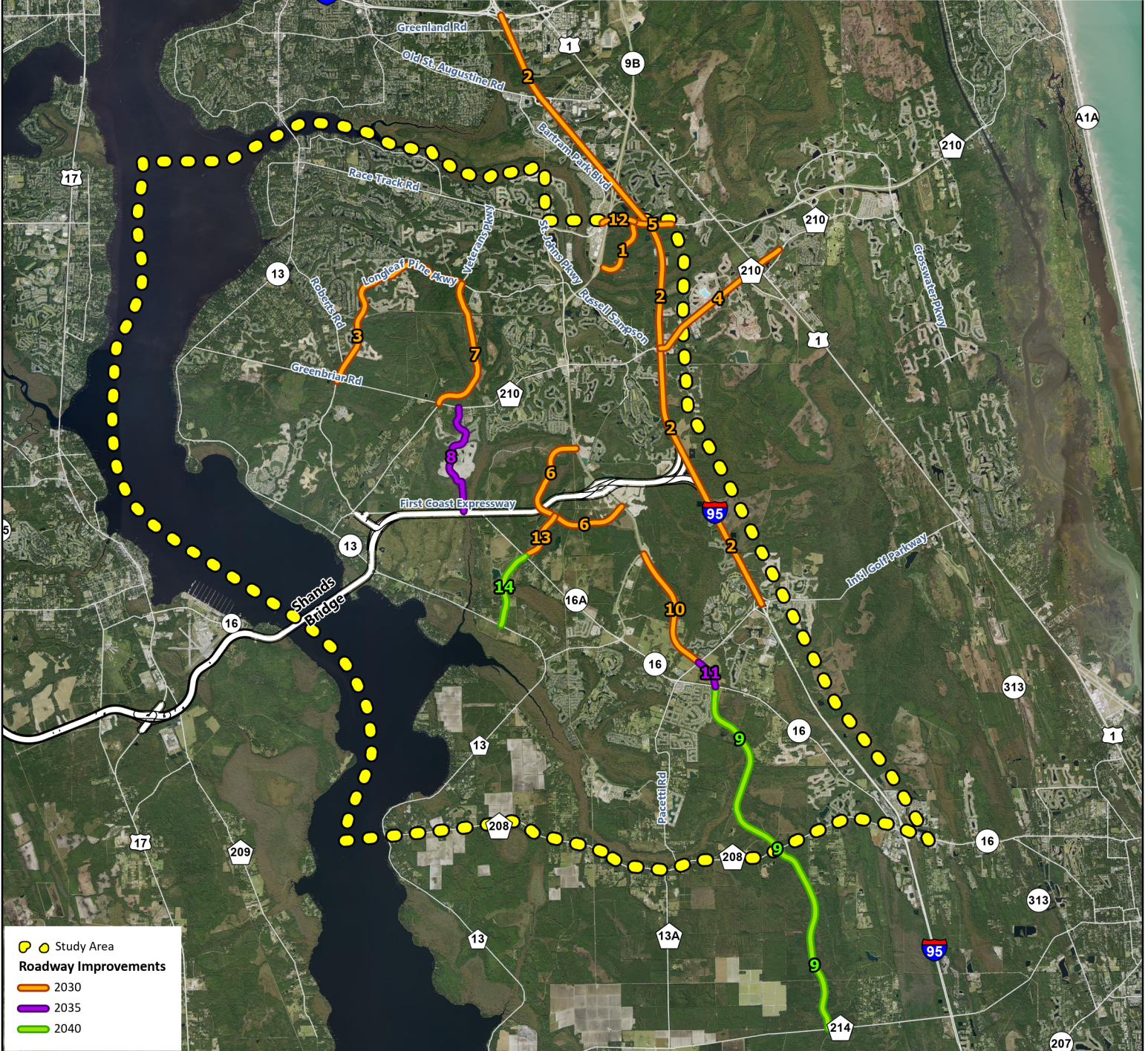
Figure 1-2

TABLE 1-1 - Model TAZ Modifications

TAZ	Changes
TAZ 1158 (Beachwalk)	Centriod Connector shifted to the east to align with Centroid Connector to TAZ 2334 (Beacon Lakes)
TAZ 1213 (Bannon Lakes/12 Mile Swamp)	Centroid Connector to US-1 deleted
TAZ 1232 (Durbin Crossing DRI)	Deleted Centroid Connector to Race Track Road and added a Centroid Connector to Long Leaf Pine Parkway
TAZ 1251 (Rivertown DRI)	Added a Centroid Connector to Long Leaf Pine Parkway
TAZ 2340 (Cunningham Creek/Aberdeen DRI)	Split TAZ 2340 into two TAZS (2324 and 2340). TAZ 2324 contains the MAZs associated with Aberdeen and was connected to Long Leaf Pine Parkway. TAZ 1340 contains the MAZs associated the the Cunningham Creek area and was connected to Roberts Road.
TAZ 2350 (Silverleaf DRI)	Centroid Connector was added to CR-2209
TAZ 1164 (Silverleaf DRI Parcel 40)	A new TAZ was added.
TAZ 1165 (Silverleaf DRI Parcels 41 and 42)	A new TAZ was added.
TAZ 1166 (Bridle Village -Greenbriar Helow)	A new TAZ was added.



Map Key	Year	Roadway	From	To	Improvements	County	Link Number
1	2030	East Peyton Pkwy	West Peyton Pkwy	Race Track Rd	New 6 lane road	St. Johns	N/A
2	2030	I-95	IGP	I-295	Widen to 10 lanes	St. Johns/Duval	132, 133
3	2030	Longleaf Pine Pkwy	Veterans Pkwy	Roberts Rd	Widen to 4 lanes	St. Johns	154
4	2030	CR-210	I-95	Valley Ridge Blvd	Widen to 4 lanes	St. Johns	36.1, 36.2, 36.4
5	2030	Race Track Rd	East Peyton Pkwy	Bartram Springs Blvd	Widen to 4 lanes	St. Johns	78.12
6	2030	Silver Lake Dr	CR-2209	CR-2209	New 2 and 4 lane road	St. Johns	N/A
7	2030	Veterans Pkwy	CR-210	Longleaf Pine Pkwy	New 4 lane road	St. Johns	132.1
8	2035	Shearwater Dr	CR-16A	CR-210	New 2 lane road	St. Johns	N/A
9	2040	CR-2209	CR-214	SR-16	New 4 lane road	St. Johns	N/A
10	2030	CR-2209	Silverleaf Pkwy	IGP	New 4 lane road	St. Johns	N/A
11	2035	CR-2209	IGP	SR-16	New 4 lane road	St. Johns	N/A
12	2030	Race Track Rd	Bartram Park Blvd	East Peyton Pkwy	Widen to 4 lanes	St. Johns	78.11
13	2030	Parcel 12 Connector	SR-16A	Silver Lake Dr	New 2 lane road	St. Johns	N/A
14	2040	SR-13 Connector (Silverleaf)	SR-13	CR-16A	New 2 lane road	St. Johns	N/A



Study Area
Roadway Improvements
 2030
 2035
 2040

0 3
 Miles

Roadway Improvements

First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 1-3

The base roadway networks for each model year are included in Appendix B.

The 2020 interim model results were compared to 2020 traffic volumes obtained Traffic Analysis Spreadsheet published by St. Johns County for roadways in the study area. The 2020 volumes were calculated based on "Pre-Covid" volumes expanded to 2020 using a historical growth rate calculated for each facility. Table 1-2 lists the model AADTs compared to the counted AADTs on the major roadways entering and exiting the study area. As shown, the model traffic entering and exiting the study area is within 5% of the counted volumes and therefore provides a reasonable approximation of traffic entering and exiting the study area. In addition, model and actual traffic volumes were compared for roadways within the study area. Table 1-3 depicts the comparison of 2020 counted and model traffic volumes on roadways within the study area. As shown, the overall difference between the actual counted volumes and model forecasts is less than 8%, demonstrating that the model is providing a good approximation of the conditions on the area roadway network.

TABLE 1-2 - Traffic Entering and Exiting the Study Area

Link ID	Roadway	Segment	2020 Daily Volumes	
			Counted	Model
130	I-95	South of SR-16	74,500	66,740
133	I-95	North of Duval County Line	96,500	93,513
88	SR-13	North of Duval County Line	48,100	47,983
89	SR-16	West of Clay County Line	19,890	22,430
90	SR-16	East of SR-13/CR-13	14,000	12,920
93.1	SR-16	East of I-95	40,835	44,690
36.1	CR-210	East of I-95	27,006	17,595
		Totals	320,831	305,871
		Difference		-4.7%

Daily model volumes were multiplied by a MOCF of 0.96

TABLE 1-3 - Traffic Volume Comparison within the Study Area

Link ID	Roadway	Segment	2020 Daily Volumes	
			Counted	Model
17.1	CR-13	CR-208 to Joe Aston Road	2,313	3,600
17.2	CR-13	Joe Ashton Road to SR-16	10,620	4,600
21.1	CR-13A	CR-208 to Samara Lakes Parkway	3,998	1,700
21.2	CR-13A	Samara Lakes Parkway to SR-16	15,781	5,800
23.1	CR-16A	SR-13 to CR-210	12,078	12,800
23.2	CR-16A	CR-210 to Leo McGuire Road	4,160	2,700
24	CR-16A	Leo McGuire Road to SR-16	5,835	3,500
30	CR-208	CR-13 to Joe Ashton Road	3,181	700
31	CR-208	Joe Ashton Road to CR-13A	520	1,500
32	CR-208	CR-13A to SR-16	3,181	3,000
33	CR-210	CR-16A to Greenbriar Road	10,657	9,600
34.1	CR-210	Greenbriar Road to Cimarrone Boulevard	24,096	16,600
34.2	CR-210	Cimarrone Boulevard to CR-2209 (St Johns Parkway)	32,282	23,400
34.3,35	CR-210	CR-2209 (St Johns Parkway) to I-95	23,114	21,500
64	Greenbriar Road	SR-13 to Longleaf Pine Parkway	5,128	2,000
65	Greenbriar Road	Longleaf Pine Parkway to CR-210	10,351	5,800
68	Joe Ashton Road	SR-16 to CR-13A	1,639	700
73.1	International Golf Parkway	SR-16 to Royal Pines Parkway	26,091	27,200
73.2	International Golf Parkway	Royal Pines Parkway to I-95	26,015	26,700
76	Race Track Road	SR-13 to Bishop Estates Road	26,668	19,500
77.1	Race Track Road	Bishop Estates Road to Veterans Parkway	28,909	19,500
77.2	Race Track Road	Veterans Parkway to CR-2209 (St Johns Parkway)	25,891	20,200
77.3	Race Track Road	CR2209 (St Johns Parkway) to West Peyton Parkway	24,565	15,100
77.4	Race Track Road	West Peyton Parkway to Bartram Park Boulevard	24,565	13,900
79	Roberts Road	Longleaf Pine Parkway to SR-13	13,616	8,900
81	SR-13/16	SR-16 (East) to SR_16(West)	10,500	13,800
82	SR-13	SR-16 (West) to CR16A	13,000	14,900
83	SR-13	CR-16A to Greenbriar Road	4,700	2,800
84	SR-13	Greenbriar Road to Roberts Road	9,000	10,200
85	SR-13	Roberts Road to CR-13B (Fruit Cove Road S.)	27,234	34,300
86	SR-13	CR-13B (Fruit Cove Road S.) to Race Track Road	28,500	33,900
88	SR-13	Race Track Road to Duval County Line	48,100	48,000
89	SR-16	Clay County Line to SR-13	19,890	22,400
90	SR-16	SR-13 to CR-16A	15,677	12,900
91.1	SR-16	CR-16A to International Golf Parkway	22,350	22,000
91.2	SR-16	International Golf Parkway to CR-2209	18,421	23,300
92.11	SR-16	CR-2209 to South Frances Road	18,186	17,600
92.12	SR-16	South Frances Road to West Mall Entrance	19,025	19,900
92.2	SR-16	West Mall Entrance to I-95	25,221	27,500
130	I-95	SR-207 to SR-16	75,500	66,700
131	I-95	SR-16 to International Golf Parkway	81,000	85,100
132	I-95	International Golf Parkway to FCE	91,000	96,500
132	I-95	FCE to CR-210	91,000	93,500
133	I-95	CR-210 to Duval County Line	97,000	94,800
153.1	Longleaf Pine Parkway	CR-16A/CR-210 to Greenbriar Road	5,325	6,200
153.2	Longleaf Pine Parkway	Greenbriar Road to Roberts Road	11,003	7,400
154	Longleaf Pine Parkway	Roberts Road to Veterans Parkway	11,318	4,600
155, 156	Longleaf Pine Parkway	Veterans Parkway to CR-2209 (St Johns Parkway)	18,195	12,300
170	Silverleaf Parkway	SR-16/CR-16A to St Johns Parkway	6,291	7,700
171.2	St Johns Parkway	Silverleaf Parkway to FCE	15,966	7,900
171.3	St Johns Parkway	FCE to CR-210	15,966	10,100
157	St Johns Parkway	CR-210 to SR-9B	29,024	28,700
158	St Johns Parkway	SR-9B to Longleaf Pine Parkway	20,347	14,300
159	St Johns Parkway	Longleaf Pine Parkway to Race Track Road	8,959	5,300
152.2	Veterans Parkway	Longleaf Pine Parkway to Race Track Road	9,828	6,300
166	SR-9B	St Johns Parkway to West Peyton Parkway	31,114	37,300
167	SR-9B	West Peyton Parkway to Duval County Line	45,260	47,700
Totals			1,309,154	1,206,400
Difference				-7.8%

2.0 FUTURE VOLUME FORECASTS

Future traffic volume forecasts were conducted the year the First Coast Expressway (FCE) is expected to open (2030) and at five-year increments until the model plan year (2045). The socio-economic data for the interim years was developed by interpolating between the interim year provided with the NERPM-AB model (2030) and the plan year (2045). Roadway improvements in the cost feasible long range transportation plan were added to the network for the appropriate years based on their anticipated construction schedule. In addition, several privately funded transportation improvements associated with large developments were also added to the roadway network. Model simulations were conducted for two roadway network alternatives for each model year. The first of the roadway networks did not include the FCE, while the second roadway network included the FCE as a tolled facility.

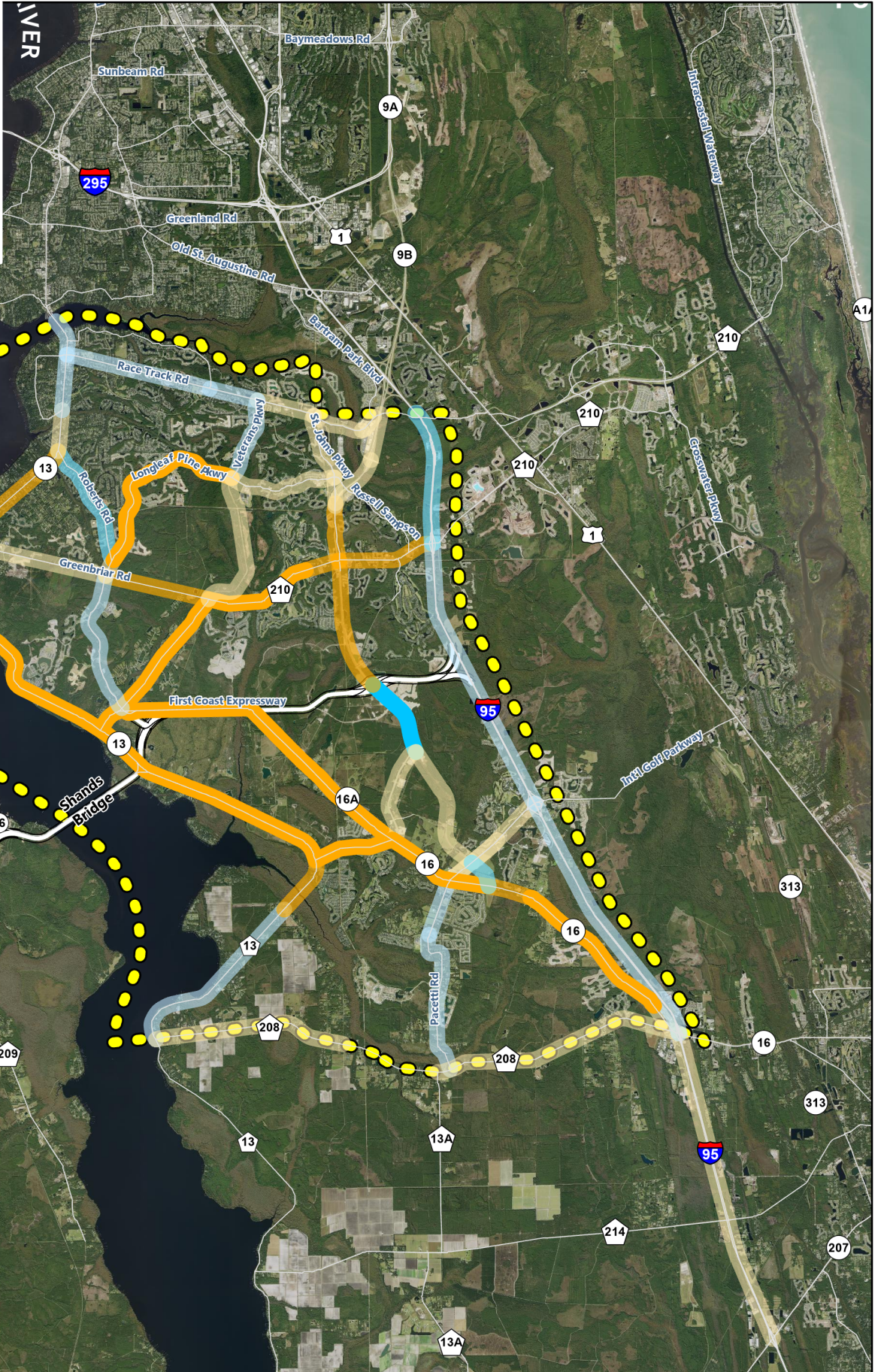
A third alternative included the FCE as a non-tolled facility, due to issues with the tolling model included in past versions of the NERPM model. The FCE was analyzed as a non-tolled expressway for 2040 in version 1v3 of the model and 2045 in the 2v1.1 version of the NERPM model and the traffic volume entering and exiting the FCE in St Johns County was compared to the volumes at the same locations when the FCE was tolled. The total entering and exiting traffic at the Longleaf Pine Parkway and CR-2209 interchanges increases by 152.4% for 2040 in the 1v3 version of the model when the tolls were removed from the FCE. The entering and exiting traffic at the same locations only increased by 52.5% when the tolls were removed from the FCE in the 2v1.1 version of the NERPM model. This equates to a 34.4% decrease in traffic entering and exiting the FCE from the local road network in St. Johns County associated with the addition of tolls in the latest version (2v1.1) of the NERPM model. A study by the Victoria Transport Policy Institute indicates demand is elastic depending on a large number of variables, that when a disincentive is added (parking fees or road toll), automobile trips decline 20% to 60% on the impacted facility. Although the study indicates these users will shift to transit, in this instance the shift would be to non-tolled facilities where transit is not available. Therefore, the current model seems to reflect the expected driver behavior and the third roadway scenario was not needed to assess the impacts of the FCE.

Table 2-1 depicts the AADTs for each of the model years with and without including the FCE as a toll road. Also shown is the percentage change associated with the changes in travel patterns due to the FCE construction. The percentage change in volume associated with the FCE construction ranged from a 16.5% increase to a 57.1% decrease in 2030, and from a 36.2% increase to a 53.9% decrease in 2045. The increases in traffic are generally on roadways feeding the FCE and the decreases are on sections of SR-13, SR-16 and CR-16A that were bypassed by traffic using the FCE with the first interchange in St. Johns County being at Longleaf Pine Parkway and those roads parallel to the FCE. Figure 2-1, Figure 2-2, Figure 2-3 and Figure 2-4 are heat maps showing the percentage volume change on roadways in the study area for the years 2030, 2035, 2040 and 2045.

TABLE 2-1 - Future Traffic Volume Comparison

Link ID	Roadway	Segment	2030 Daily Volumes			2035 Daily Volumes			2040 Daily Volumes			2045 Daily Volumes		
			Without FCE (vpd)	With FCE (vpd)	Change (%)	Without FCE (vpd)	With FCE (vpd)	Change (%)	Without FCE (vpd)	With FCE (vpd)	Change (%)	Without FCE (vpd)	With FCE (vpd)	Change (%)
17.1	CR-13	CR-208 to Joe Aston Road	3,661	3,723	1.7%	3,795	3,997	5.3%	4,089	4,243	3.8%	3,984	4,218	5.9%
17.2	CR-13	Joe Ashton Road to SR-16	5,708	5,295	-7.2%	6,399	6,008	-6.1%	7,184	6,513	-9.3%	7,308	6,505	-11.0%
21.1	CR-13A	CR-208 to Samara Lakes Parkway	2,302	2,408	4.6%	2,808	2,832	0.9%	2,719	2,872	5.6%	3,907	3,907	-35.8%
21.2	CR-13A	Samara Lakes Parkway to SR-16	9,184	9,423	2.6%	10,474	10,896	4.0%	10,624	10,995	3.5%	12,965	12,229	-5.7%
23.1	CR-16A	SR-13 to CR-210	17,758	9,771	-45.0%	17,984	10,279	-42.8%	18,441	11,445	-37.9%	19,946	12,412	-37.8%
23.2	CR-16A	CR-210 to Leo McGuire Road	3,442	2,161	-37.2%	3,703	2,330	-37.1%	3,662	2,797	-23.6%	5,396	3,648	-32.4%
30	CR-208	CR-13 to Joe Ashton Road	831	817	-1.7%	890	894	0.4%	936	943	0.7%	1,030	1,014	-1.6%
31	CR-208	Joe Ashton Road to CR-13A	1,765	1,102	-37.6%	2,271	1,888	-16.9%	2,070	1,855	-10.4%	3,012	2,249	-25.3%
32	CR-208	CR-13A to SR-16	3,718	3,644	-2.0%	4,014	3,904	-2.7%	3,999	3,998	0.0%	4,545	4,147	-8.8%
33	CR-210	CR-16A to Greenbriar Road	12,949	8,974	-30.7%	13,745	10,182	-25.9%	13,828	10,244	-25.9%	14,999	11,503	-23.3%
34.1	CR-210	Greenbriar Road to Cimarrone Boulevard	25,982	21,711	-16.4%	27,862	23,929	-14.1%	28,167	24,141	-14.3%	30,520	25,469	-16.5%
34.2	CR-210	Cimarrone Boulevard to CR-2209 (St Johns Parkway)	33,128	29,970	-9.5%	35,022	31,704	-9.5%	35,902	33,197	-7.5%	37,380	33,725	-9.8%
34.3,35	CR-210	CR-2209 (St Johns Parkway) to I-95	31,824	29,249	-8.1%	37,130	34,231	-7.8%	36,797	34,241	-6.9%	41,674	38,320	-8.0%
64	Greenbriar Road	SR-13 to Longleaf Pine Parkway	3,146	3,006	-4.5%	3,845	3,801	-1.1%	3,457	3,420	-1.1%	4,533	4,494	-0.9%
65	Greenbriar Road	Longleaf Pine Parkway to CR-210	9,457	8,820	-6.7%	9,738	9,555	-1.9%	10,568	9,907	-6.3%	11,167	10,583	-5.2%
73.1	International Golf Parkway	SR-16 to Royal Pines Parkway	20,791	20,336	-2.2%	23,826	22,584	-5.2%	23,773	23,798	-0.4%	25,798	24,546	-4.9%
73.2	International Golf Parkway	Royal Pines Parkway to I-95	38,588	37,263	-3.4%	41,881	39,888	-4.8%	44,070	42,182	-4.3%	47,537	44,391	-6.6%
76	Race Track Road	SR-13 to Bishop Estates Road	26,703	26,828	0.5%	29,450	29,827	1.3%	30,111	30,466	1.2%	34,107	34,897	2.3%
77.1	Race Track Road	Bishop Estates Road to Veterans Parkway	27,450	27,643	0.7%	30,767	31,030	0.9%	31,128	31,487	1.2%	35,580	36,467	2.5%
77.2	Race Track Road	Veterans Parkway to CR-2209 (St Johns Parkway)	27,793	27,212	-2.1%	31,018	29,740	-4.1%	31,496	30,890	-1.9%	35,297	33,471	-5.2%
77.3	Race Track Road	CR2209 (St Johns Parkway) to West Peyton Parkway	21,180	20,509	-3.2%	24,189	23,225	-4.0%	24,001	23,578	-1.8%	28,181	26,674	-5.3%
77.4	Race Track Road	West Peyton Parkway to Bartram Park Boulevard	11,044	10,900	-1.3%	13,931	13,290	-4.6%	13,045	12,791	-1.9%	17,258	16,133	-6.5%
79	Roberts Road	Longleaf Pine Parkway to SR-13	11,162	11,880	6.4%	13,590	14,118	3.9%	12,471	13,245	6.2%	13,555	14,244	5.1%
81	SR-13/16	SR-16 (East) to SR_16(West)	15,526	7,385	-52.4%	18,093	8,541	-52.8%	20,140	9,143	-54.6%	21,960	10,399	-52.6%
82	SR-13	SR-16 (West) to CR16A	21,183	9,087	-57.1%	21,748	9,558	-56.1%	21,721	10,613	-51.1%	24,333	11,219	-53.9%
83	SR-13	CR-16A to Greenbriar Road	5,409	4,496	-16.9%	6,237	4,961	-20.5%	5,855	5,190	-11.4%	7,537	7,013	-7.0%
84	SR-13	Greenbriar Road to Roberts Road	13,713	12,954	-5.5%	14,957	14,699	-1.7%	15,141	14,623	-3.4%	16,553	16,372	-1.1%
85	SR-13	Roberts Road to CR-13B (Fruit Cove Road S.)	42,035	41,326	-1.7%	45,823	44,957	-1.9%	46,576	46,200	-0.8%	48,861	47,700	-2.4%
86	SR-13	CR-13B (Fruit Cove Road S.) to Race Track Road	39,785	40,455	1.7%	41,455	41,277	-0.4%	43,496	43,491	0.0%	50,007	49,908	-0.2%
88	SR-13	Race Track Road to Duval County Line	58,474	58,982	0.9%	65,516	62,943	-3.9%	65,772	66,283	0.8%	69,545	69,927	0.5%
90	SR-16	SR-13 to CR-16A	14,973	9,287	-38.0%	14,913	9,920	-33.5%	16,399	9,896	-39.7%	11,859	9,707	-33.5%
91.1	SR-16	CR-16A to International Golf Parkway	30,428	23,033	-24.3%	33,405	25,755	-22.9%	35,580	26,795	-24.7%	37,870	28,653	-24.3%
91.2	SR-16	International Golf Parkway to CR-2209	25,167	19,152	-23.9%	27,913	21,930	-21.4%	29,782	22,485	-24.5%	32,254	24,942	-22.7%
92.11	SR-16	CR-2209 to South Frances Road	31,046	26,642	-14.2%	35,205	30,608	-13.1%	36,784	31,999	-13.0%	41,465	35,962	-13.3%
92.12	SR-16	South Frances Road to West Mall Entrance	31,070	26,149	-15.8%	36,069	30,631	-15.1%	37,714	31,976	-15.2%	42,855	36,834	-14.0%
92.2	SR-16	West Mall Entrance to I-95	40,758	39,214	-3.8%	46,446	42,268	-9.0%	52,673	44,251	-16.0%	56,011	50,224	-10.3%
130	I-95	SR-207 to SR-16	69,523	69,353	-0.2%	74,990	74,716	-0.4%	81,721	81,351	-0.5%	86,211	86,154	-0.1%
131	I-95	SR-16 to International Golf Parkway	94,826	98,447	3.8%	99,815	103,780	4.0%	108,373	112,128	3.5%	107,156	111,897	4.4%
132	I-95	International Golf Parkway to FCE	118,047	122,832	4.1%	126,031	130,064	3.2%	135,553	141,026	4.0%	139,609	144,689	3.6%
132	I-95	FCE to CR-210	118,047	127,665	8.1%	126,031	137,673	9.2%	135,553	146,345	8.0%	139,609	153,318	9.8%
133	I-95	CR-210 to Duval County Line	130,016	137,184	5.5%	142,550	150,481	5.6%	150,404	158,136	5.1%	162,351	169,507	4.4%
	Longleaf Pine Parkway	FCE to CR-16A/CR-210	0	13,059		0	16,048		0	18,084		0	21,777	
153.1	Longleaf Pine Parkway	CR-16A/CR-210 to Greenbriar Road	8,065	8,221	1.9%	11,062	10,819	-2.2%	9,220	9,292	0.8%	12,620	12,631	0.1%
153.2	Longleaf Pine Parkway	Greenbriar Road to Roberts Road	9,501	9,157	-3.6%	12,206	11,667	-4.4%	12,634	10,778	-14.7%	14,708	14,404	-2.1%
154	Longleaf Pine Parkway	Roberts Road to Veterans Parkway	6,136	5,050	-17.7%	8,718	7,219	-17.2%	7,643	6,728	-12.0%	11,533	9,707	-15.8%
155, 156	Longleaf Pine Parkway	Veterans Parkway to CR-2209 (St Johns Parkway)	18,131	17,630	-2.8%	21,822	20,512	-6.0%	21,100	20,382	-3.4%	25,395	23,625	-7.0%
170	Silverleaf Parkway	SR-16/CR-16A to St Johns Parkway	6,614	6,548	-1.0%	6,423	6,847	6.6%	6,707	6,968	3.9%	8,088	8,112	0.3%
	St Johns Parkway	SR-16 to International Golf Parkway	11,556	12,298	6.4%	13,253	13,998	5.6%	13,636	15,293	12.2%	15,595	16,685	7.0%
	St Johns Parkway	International Golf Parkway to Silverleaf Parkway	3,905	3,840	-1.7%	4,689	4,731	0.9%	4,886	5,370	9.9%	7,079	7,970	12.6%
171.2	St Johns Parkway	Silverleaf Parkway to FCE	11,055	12,874	16.5%	12,348	15,169	22.8%	12,339	15,794	28.0%	14,925	20,334	36.2%
171.3	St Johns Parkway	FCE to CR-210	17,953	16,274	-9.4%	23,421	21,628	-7.7%	22,252	20,270	-9.8%	27,085	25,865	-4.5%
157	St Johns Parkway	CR-210 to SR-9B	35,767	33,970	-5.0%	38,886	36,974	-4.9%	39,607	38,025	-4.0%	41,353	40,295	-2.6%
158	St Johns Parkway	SR-9B to Longleaf Pine Parkway	21,101	20,851	-1.2%	24,693	23,260	-6.0%	24,770	23,884	-3.6%	28,924	26,985	-6.7%
159	St Johns Parkway	Longleaf Pine Parkway to Race Track Road	6,758	6,754	-0.1%	7,072	6,910	-2.3%	7,686	7,602	-1.1%	7,735	7,616	-1.5%
152.1	Veterans Parkway	CR-210 to Longleaf Pine Parkway	4,771	4,855	1.8%	7,131	6,818	-4.4%	6,019	6,138	2.0%	11,263	11,169	-0.8%
152.2	Veterans Parkway	Longleaf Pine Parkway to Race Track Road	10,703	10,755	0.5%	13,973	13,589	-2.7%	12,845	12,730	-0.9%	18,200	17,808	-2.2%
166	SR-9B	St Johns Parkway to West Peyton Parkway	50,179	47,812	-4.7%	57,068	53,865	-5.6%	56,827	54,604	-3.9%	62,920	59,504	-5.4%
167	SR-9B	West Peyton Parkway to Duval County Line	67,556	64,949	-3.9%	74,808	71,529	-4.4%	76,721	74,118	-3.4%	84,989	82,584	-2.8%

Daily model volumes were multiplied by a MOCF of 0.96



● Study Area
 2030 Traffic Volume Change
— <-15%
— -15% - -5%
— -5% - 0%
— 0% - 5%
— 5% - 15%
— >15%

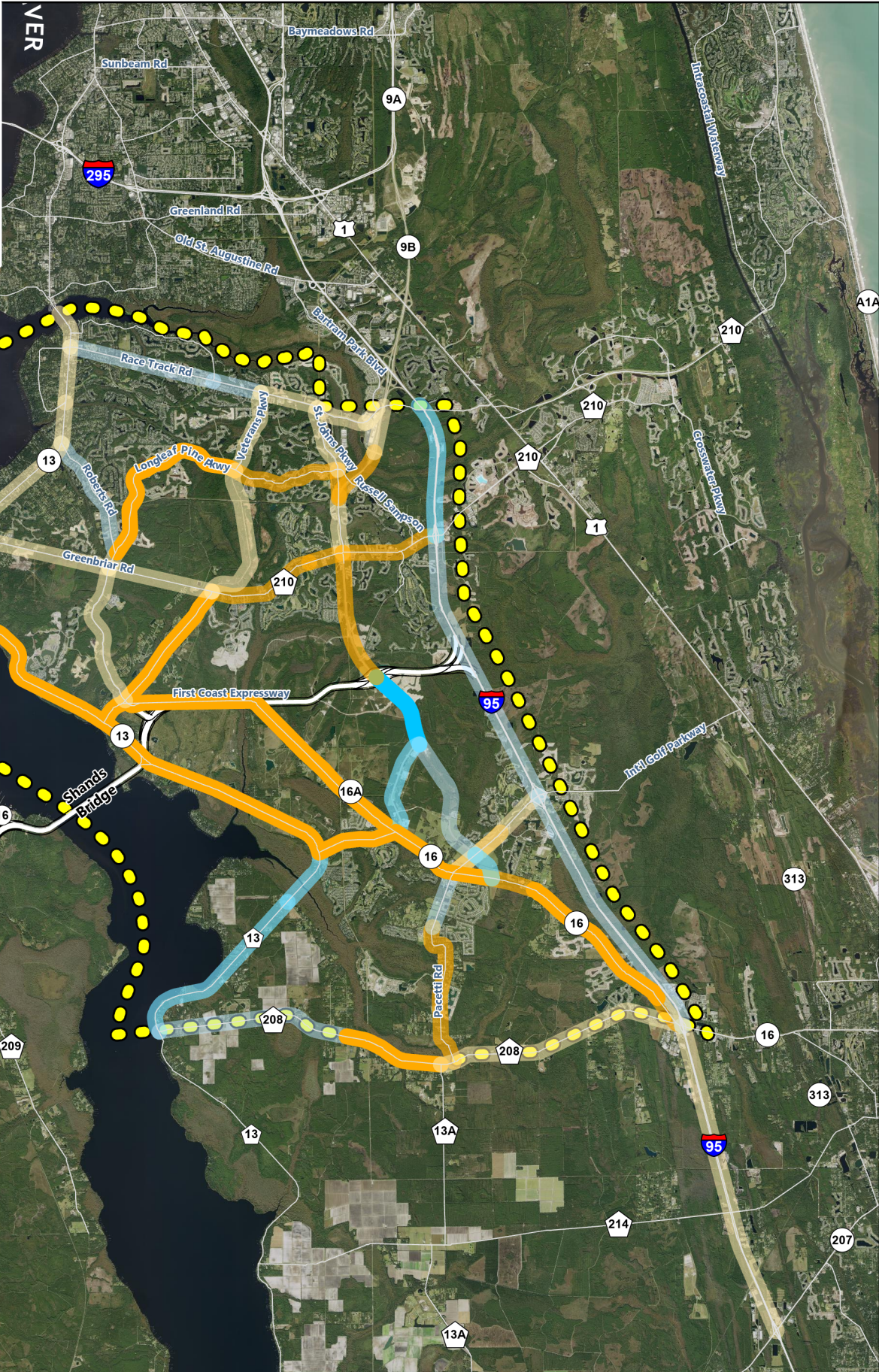
0 3 Miles

2030 Traffic Volume Change

First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 2-1



Study Area
 2035 Traffic Volume Change
 <15%
 -15% - -5%
 -5% - 0%
 0% - 5%
 5% - 15%
 >15%

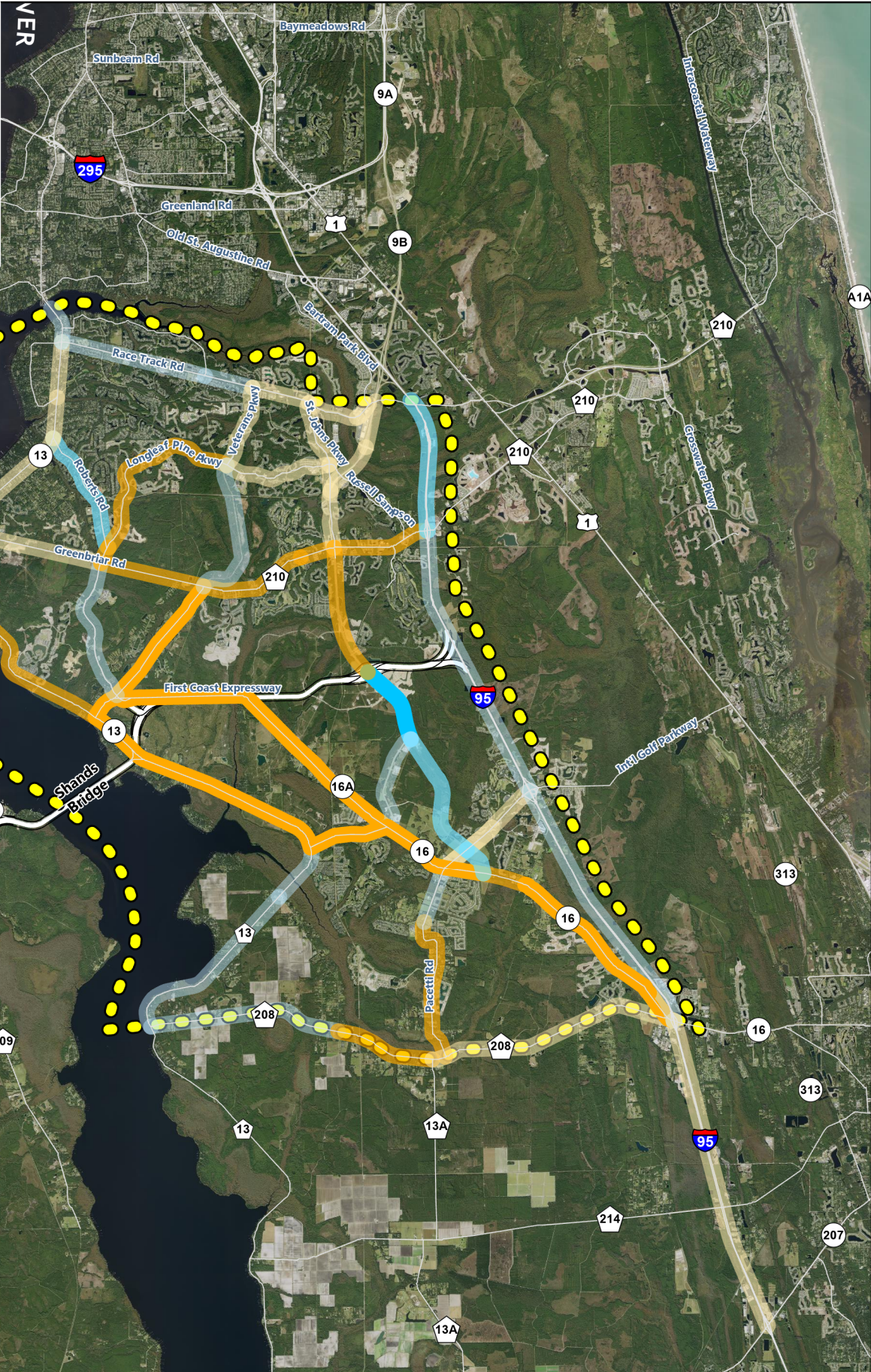
0 3 Miles

2035 Traffic Volume Change

First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 2-2



Study Area
 2040 Traffic Volume Change
 < -15%
 -15% - -5%
 -5% - 0%
 0% - 5%
 5% - 15%
 > 15%

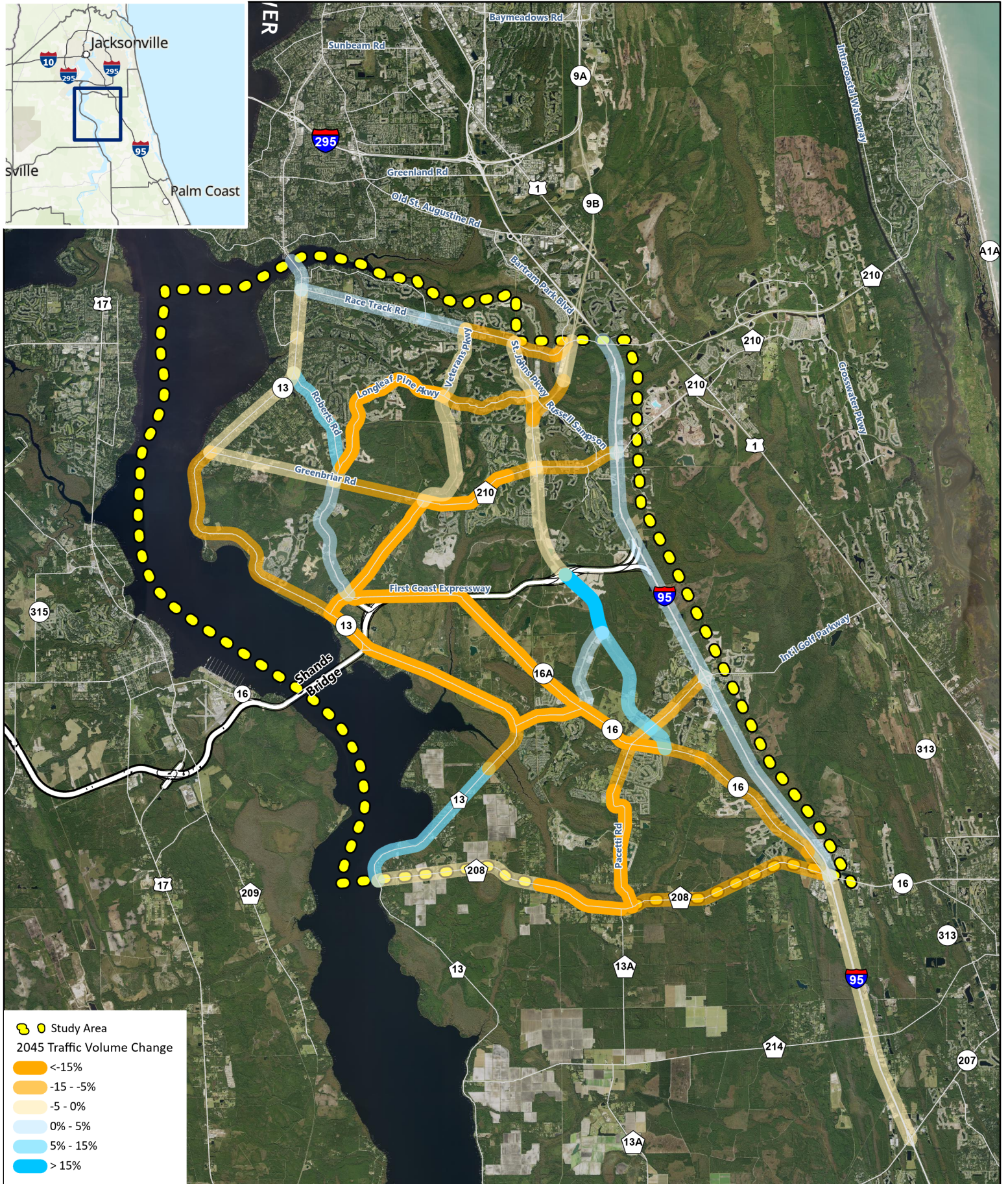









2040 Traffic Volume Change

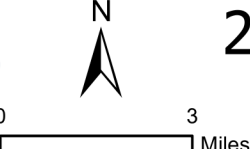
First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 2-3



 Study Area
 2045 Traffic Volume Change
 < -15%
 -15 - -5%
 -5 - 0%
 0% - 5%
 5% - 15%
 > 15%



2045 Traffic Volume Change

First Coast Expressway Impact Study

Source: St. Johns County (2021)

Figure 2-4

3.0 CONCLUSIONS

Based on the analysis contained in the previous section, the FCE will have significant positive impacts on parts of SR-13 (Bartram Scenic Trail), CR-16A, CR-210 and portions of SR-16 reducing the traffic in by over 50% on several roadway links. Most traffic traveling from/to Clay County will use the FCE to access I-95, keeping through traffic off the surface roadway network. There will be minor increases on the roadway segments that provide access to the FCE including Longleaf Pine Parkway and St. Johns Parkway (CR-2209) with the biggest increase on St. Johns Parkway (south of the FCE). Model volume forecasts for St. Johns Parkway are well within the carrying capacity of the existing 4-lane roadway and should not cause significant delays to the traveling public. Table 3-1 lists the number of lanes necessary for the roadway links within the study area to operate at the adopted level of service in 2045. Also shown in the table are the existing lanage and the lanage proposed in the 2045 Long Range Transportation Plan (LRTP). As shown, the lanage required on the majority of the roadways within the study area will remain the same with or without the FCE. Eight roadway segments will require fewer lanes while two segments of I-95 and one section of Race Track Road will require additional lanes in 2045 with the FCE.

The required lanage with the FCE was also lanage contained in the LRTP. The volumes on eight roadway segments indicate that they will require additional capacity over what is provided by the improvements in the LRTP. These include segments of CR-210, Greenbriar Road, Race Track Road, Roberts Road, SR-13 and SR-16. Two of these segments (Roberts Road and SR-13) have been designated as constrained facilities by St Johns County so the necessary improvements are not included in the LRTP.

The FCE provides a valuable transportation link between the residential areas in Clay County and the employment centers in Jacksonville. This is demonstrated by reduced traffic on a significant portion of the local roadway network.

TABLE 3-1 - 2045 Required Lanage Comparison

Link ID	Roadway	Segment	Existing Lanage ¹	2045 Adjusted Daily Volumes ²		Future Lanage ⁴		
				Without FCE	With FCE	LRTP / TIP ³	Without FCE	With FCE
17.1	CR-13	CR-208 to Joe Ashton Road	2-lanes	1,464	1,560	2-lanes	2-lanes	2-lanes
17.2	CR-13	Joe Ashton Road to SR-16	2-lanes	7,745	7,071	2-lanes	2-lanes	2-lanes
21.1	CR-13A	CR-208 to Samara Lakes Parkway	2-lanes	2,536	2,764	2-lanes	2-lanes	2-lanes
21.2	CR-13A	Samara Lakes Parkway to SR-16	4-lanes	7,777	8,338	4-lanes	2-lanes	2-lanes
23.1	CR-16A	SR-13 to CR-210	2-lanes	4,389	2,728	4-lanes	2-lanes	2-lanes
23.2	CR-16A	CR-210 to Leo McGuire Road	2-lanes	15,565	10,705	4-lanes	4-lanes	2-lanes
30	CR-208	CR-13 to Joe Ashton Road	2-lanes	971	948	2-lanes	2-lanes	2-lanes
31	CR-208	Joe Ashton Road to CR-13A	2-lanes	2,713	2,205	2-lanes	2-lanes	2-lanes
32	CR-208	CR-13A to SR-16	2-lanes	3,131	2,850	2-lanes	2-lanes	2-lanes
33	CR-210	CR-16A to Greenbriar Road	2-lanes	10,872	8,638	2-lanes	2-lanes	2-lanes
34.1	CR-210	Greenbriar Road to Cimarrone Boulevard	2-lanes	28,389	24,197	4-lanes	4-lanes	4-lanes
34.2	CR-210	Cimarrone Boulevard to CR-2209 (St Johns Parkway)	4-lanes	60,181	54,675	4-lanes	8-lanes	8-lanes
34.3,35	CR-210	CR-2209 (St Johns Parkway) to I-95	4/6-lanes	59,997	55,168	4/6-lanes	8-lanes	8-lanes
64	Greenbriar Road	SR-13 to Longleaf Pine Parkway	2-lanes	7,298	7,235	2-lanes	2-lanes	2-lanes
65	Greenbriar Road	Longleaf Pine Parkway to CR-210	2-lanes	16,077	15,236	2-lanes	4-lanes	4-lanes
73.1	International Golf Parkway	SR-16 to Royal Pines Parkway	4-lanes	24,701	23,503	6-lanes	4-lanes	4-lanes
73.2	International Golf Parkway	Royal Pines Parkway to I-95	4-lanes	46,285	43,222	6-lanes	6-lanes	6-lanes
76	Race Track Road	SR-13 to Bishop Estates Road	4-lanes	43,275	44,277	4-lanes	6-lanes	6-lanes
77.1	Race Track Road	Bishop Estates Road to Veterans Parkway	4-lanes	47,160	48,336	4-lanes	6-lanes	8-lanes
77.2	Race Track Road	Veterans Parkway to CR-2209 (St Johns Parkway)	4-lanes	43,055	40,828	4-lanes	6-lanes	6-lanes
77.3	Race Track Road	CR2209 (St Johns Parkway) to West Peyton Parkway	4-lanes	39,039	36,952	4-lanes	6-lanes	6-lanes
77.4	Race Track Road	West Peyton Parkway to Bartram Park Boulevard	4-lanes	24,751	23,137	4-lanes	4-lanes	4-lanes
79	Roberts Road	Longleaf Pine Parkway to SR-13	2-lanes	18,250	19,178	3-lanes	4-lanes	4-lanes
81	SR-13/16	SR-16 (East) to SR_16(West)	2-lanes	15,058	7,131	2-lanes	2-lanes	2-lanes
82	SR-13	SR-16 (West) to CR16A	2-lanes	20,777	9,579	2-lanes	4-lanes	2-lanes
83	SR-13	CR-16A to Greenbriar Road	2-lanes	10,584	9,848	2-lanes	2-lanes	2-lanes
84	SR-13	Greenbriar Road to Roberts Road	2-lanes	14,346	14,189	2-lanes	2-lanes	2-lanes
85	SR-13	Roberts Road to CR-13B (Fruit Cove Road S.)	4-lanes	36,184	35,324	4-lanes	6-lanes	4-lanes
86	SR-13	CR-13B (Fruit Cove Road S.) to Race Track Road	4-lanes	40,532	40,452	4-lanes	6-lanes	6-lanes
88	SR-13	Race Track Road to Duval County Line	4-lanes	69,690	70,072	4-lanes	8-lanes	8-lanes
90	SR-16	SR-13 to CR-16A	2-lanes	20,986	13,960	2-lanes	4-lanes	2-lanes
91.1	SR-16	CR-16A to International Golf Parkway	4-lanes	38,463	29,102	4-lanes	6-lanes	4-lanes
91.2	SR-16	International Golf Parkway to CR-2209	4-lanes	23,711	18,336	4-lanes	4-lanes	4-lanes
92.11	SR-16	CR-2209 to South Frances Road	4-lanes	42,801	37,121	4-lanes	6-lanes	4-lanes
92.12	SR-16	South Frances Road to West Mall Entrance	4-lanes	40,884	35,140	4-lanes	6-lanes	4-lanes
92.2	SR-16	West Mall Entrance to I-95	4-lanes	50,950	45,686	4-lanes	6-lanes	6-lanes
130	I-95	SR-207 to SR-16	6-lanes	96,259	96,196	10-lanes	6-lanes	6-lanes
131	I-95	SR-16 to International Golf Parkway	6-lanes	101,732	106,233	10-lanes	6-lanes	8-lanes
132	I-95	International Golf Parkway to FCE	6-lanes	131,171	135,944	10-lanes	8-lanes	8-lanes
132	I-95	FCE to CR-210	6-lanes	131,171	144,052	10-lanes	8-lanes	10-lanes
133	I-95	CR-210 to Duval County Line	6-lanes	168,209	175,623	10-lanes	10-lanes	10-lanes
153.1	Longleaf Pine Parkway	FCE to CR-16A/CR-210	4-lanes	10,546	10,555	4-lanes	2-lanes	4-lanes
153.2	Longleaf Pine Parkway	CR-16A/CR-210 to Greenbriar Road	4-lanes	19,524	19,121	4-lanes	4-lanes	2-lanes
154	Longleaf Pine Parkway	Greenbriar Road to Roberts Road	4-lanes	19,524	19,121	4-lanes	4-lanes	4-lanes
155, 156	Longleaf Pine Parkway	Roberts Road to Veterans Parkway	2-lanes	19,092	16,069	4-lanes	4-lanes	4-lanes
170	Longleaf Pine Parkway	Veterans Parkway to CR-2209 (St Johns Parkway)	4-lanes	33,623	31,279	4-lanes	4-lanes	4-lanes
171.2	Silverleaf Parkway	SR-16/CR-16A to St Johns Parkway	4-lanes	6,277	6,295	4-lanes	2-lanes	2-lanes
171.3	St Johns Parkway	SR-16 to International Golf Parkway	4-lanes	15,595	16,685	4-lanes	4-lanes	4-lanes
171.3	St Johns Parkway	International Golf Parkway to Silverleaf Parkway	4-lanes	7,079	7,970	4-lanes	2-lanes	2-lanes
157	St Johns Parkway	Silverleaf Parkway to FCE	4-lanes	22,465	30,607	6-lanes	4-lanes	4-lanes
158	St Johns Parkway	FCE to CR-210	4-lanes	35,340	33,748	6-lanes	4-lanes	4-lanes
159	St Johns Parkway	CR-210 to SR-9B	4-lanes	41,815	40,745	6-lanes	4-lanes	4-lanes
152.1	Veterans Parkway	SR-9B to Longleaf Pine Parkway	4-lanes	37,520	35,005	4-lanes	6-lanes	4-lanes
152.2	Veterans Parkway	Longleaf Pine Parkway to Race Track Road	4-lanes	10,894	10,726	4-lanes	2-lanes	2-lanes
152.2	Veterans Parkway	CR-210 to Longleaf Pine Parkway	4-lanes	11,263	11,169	4-lanes	2-lanes	2-lanes
152.2	Veterans Parkway	Longleaf Pine Parkway to Race Track Road	4-lanes	24,733	24,201	4-lanes	4-lanes	4-lanes

Notes:

- ¹ Existing number of lanes from St Johns County Traffic Analysis Spreadsheet Dated 4-12-2022
- ² Adjusted based on the difference between 2020 counted and model volumes
- ³ Improved number of lanes from the North Florida TPO 2045 LRTP or St Johns County TIP
- ⁴ Number of lanes to accommodate estimated traffic based on FDOT Quality and Level of Service Manual (2020)

of lanes decreased with FCE

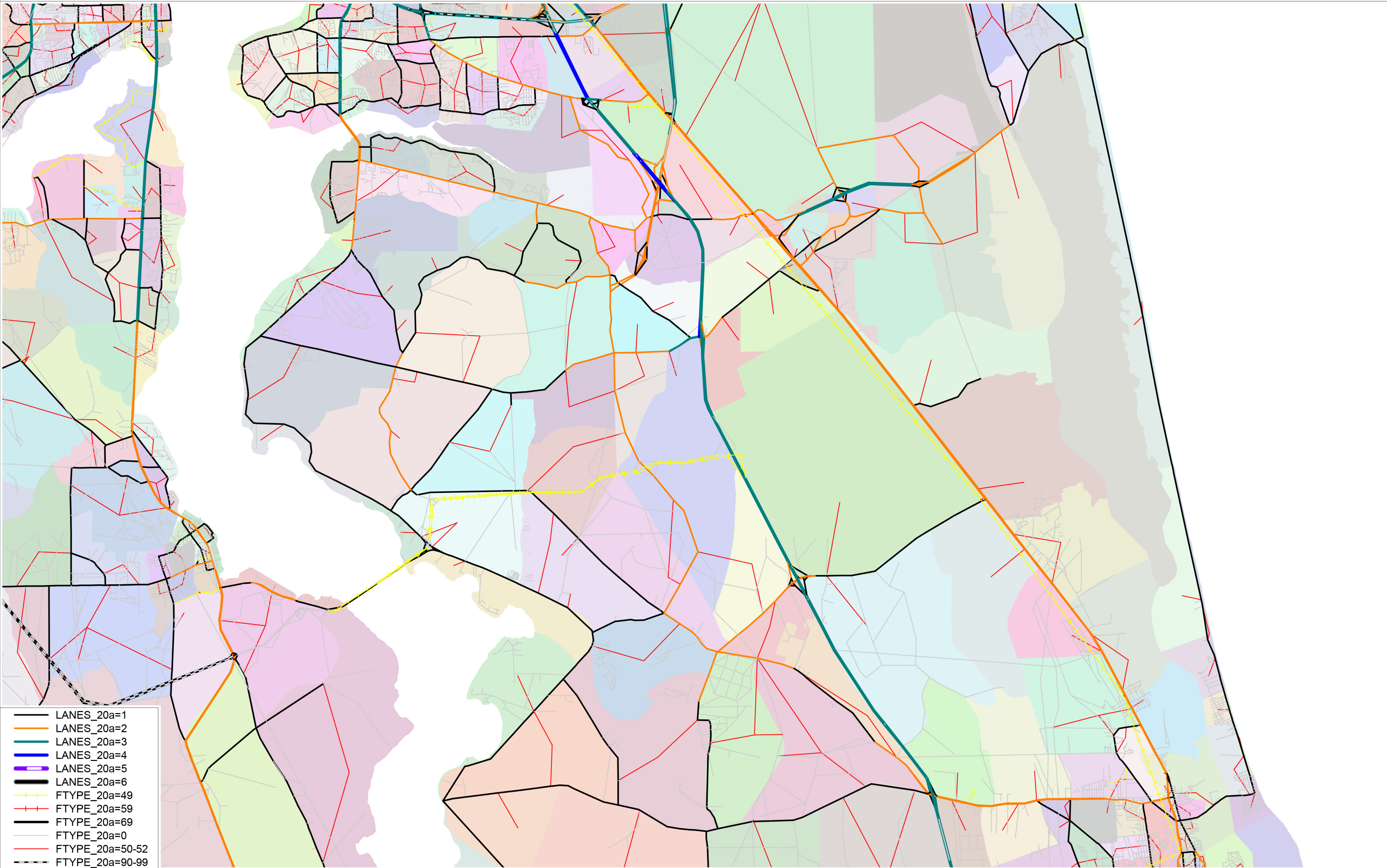
of lanes increased with FCE

Appendix A
(Socio-Economic Data Changes)

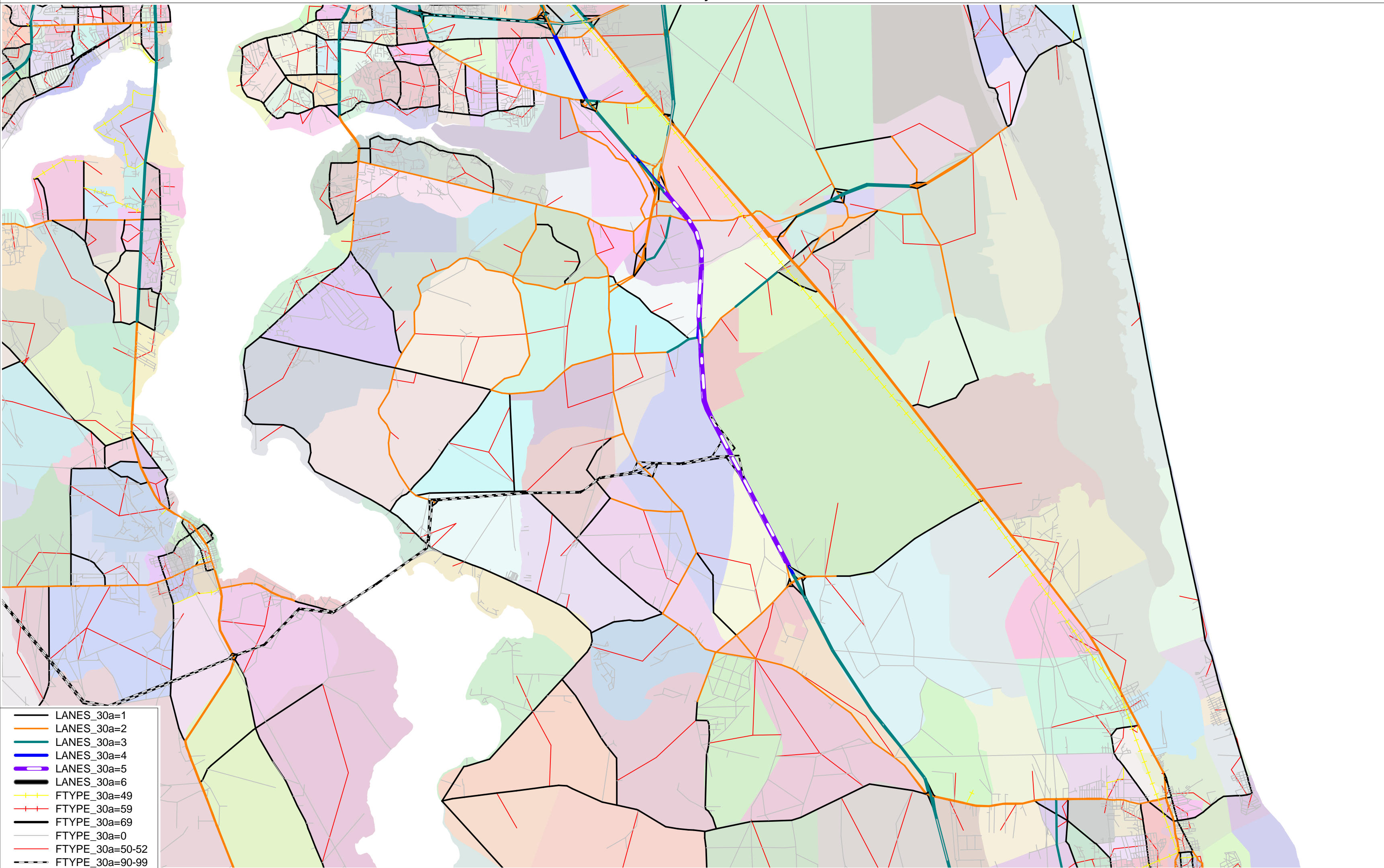
Old TAZ	New TAZ	District	Model	2015							2020							2030							
				HH	POP	Mfg	Ind	Ret	Service	Total	HH	POP	Mfg	Ind	Ret	Service	Total	HH	POP	Mfg	Ind	Ret	Service	Total	
1252	1164	Silverleaf Parcel 40	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				rev	15	27	0	0	0	0	0	0	15	27	0	0	0	0	0	0	15	27	0	0	0
2352	1165	Silverleaf Parcel 42	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				rev	19	46	0	0	0	0	0	19	46	0	0	0	0	0	0	19	46	0	0	0	0
1251	1166	Greenbriar/Helow Bridle	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				rev	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1251		Rivertown	19	orig	194	542	0	0	0	204	204	194	542	0	0	0	204	204	1341	3613	27	20	46	491	584
				rev	194	542	0	0	0	204	204	194	542	0	0	0	204	204	1341	3613	27	20	46	491	584
1256		Rivertown	19	orig	288	513	0	0	6	10	16	288	513	0	0	6	10	16	288	513	0	0	6	10	16
				rev	288	513	0	0	6	10	16	295	531	0	0	6	10	16	310	802	19	13	31	54	117
2340		Aberdeen	18	orig	1062	2969	0	0	8	133	141	1062	2969	0	0	8	133	141	1365	3816	1	1	57	394	450
				rev	1004	2807	0	0	0	0	0	1600	4473	0	0	0	0	0	2697	7540	1	1	57	394	450
2344	2340	Cunningham Creek Helow	18	orig	1323	3699	0	0	8	133	141	1323	3699	0	0	8	133	141	1365	3816	1	1	57	391	450
				rev	298	552	0	0	5	48	53	298	552	0	0	5	48	53	389	1253	0	0	5	48	53
2352		Silverleaf	19	orig	192	469	2	2	20	26	50	192	469	2	2	20	26	50	1600	4473	15	15	24	34	88
				rev	173	423	2	2	20	26	50	173	423	2	2	20	26	50	1630	4485	21	21	26	38	106
Old TAZ	New TAZ	District	Model	2035							2040							2045							
1252	1164	Silverleaf Parcel 40	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				rev	65	175	0	0	0	0	0	115	205	0	0	0	0	0	0	165	294	0	0	0	0
2352	1165	Silverleaf Parcel 42	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				rev	819	1459	0	0	0	0	0	1219	3408	0	0	0	0	0	0	1619	4526	0	0	0	0
1251	1166	Greenbriar/Helow Bridle	19	orig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				rev	0	0	0	0	200	100	120	200	370	0	0	40	200	240	400	1080	0	0	80	300	380
1251		Rivertown	19	orig	963	2600	18	13	31	396	458	963	2600	0	0	0	204	204	963	2600	18	13	31	396	458
				rev	1342	3725	0	0	0	204	204	1343	3843	0	0	0	204	204	1343	3957	0	0	0	204	204
1256		Rivertown	19	orig	288	513	0	0	6	10	16	288	513	0	0	6	10	16	288	513	0	0	6	10	16
				rev	316	818	0	0	6	10	16	322	834	0	0	6	10	16	327	850	0	0	6	10	16
2340		Aberdeen	18	orig	1446	4261	1	1	41	307	350	1446	4261	1	1	41	307	350	1446	4261	1	1	41	307	350
				rev	2862	4473	0	0	8	133	141	2862	4473	0	0	8	133	141	3016	4473	0	0	8	133	141
2344	2340	Cunningham Creek Helow	18	orig	1434	3699	1	1	33	174	209	1557	3699	0	0	0	0	0	1624	3699	1	1	33	174	209
				rev	407	1178	0	0	7	59	66	298	552	0	0	5	48	53	407	1178	0	0	7	59	66
2352		Silverleaf	19	orig	5	725	0	0	50	200	250	2105	725	0	0	100	400	500	2605	7675	0	0	150	800	950
				rev	1600	4473	15	15	24	34	88	1600	4473	15	15	24	34	88	1600	4473	15	15	24	34	88
				orig	1633	4501	15	15	24	34	88	1636	4515	15	15	24	34	88	1640	4523	15	15	24	34	88

Appendix B
(Base Roadway Networks)

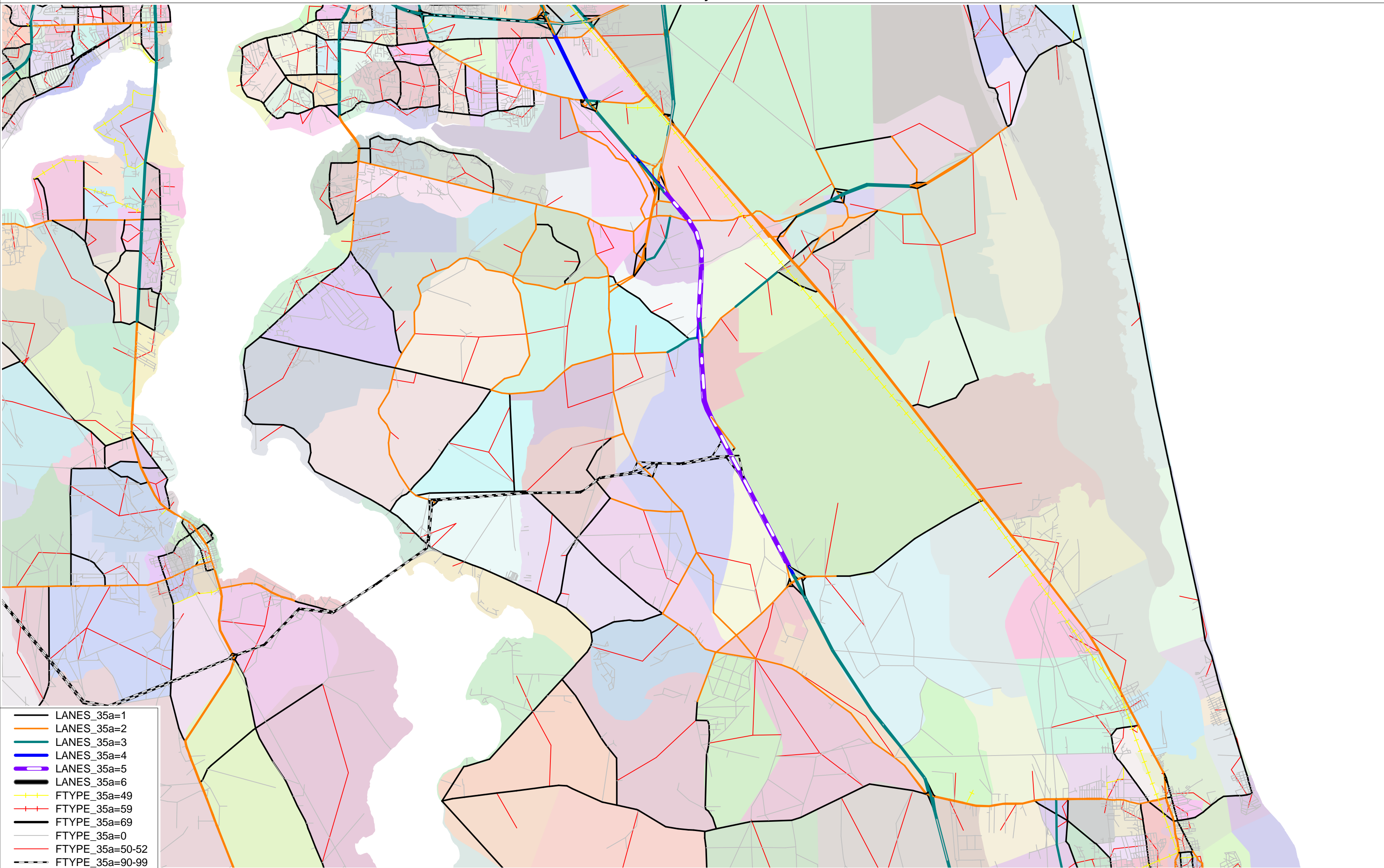
First Coast Expressway Impact Study
2020 Roadway Network



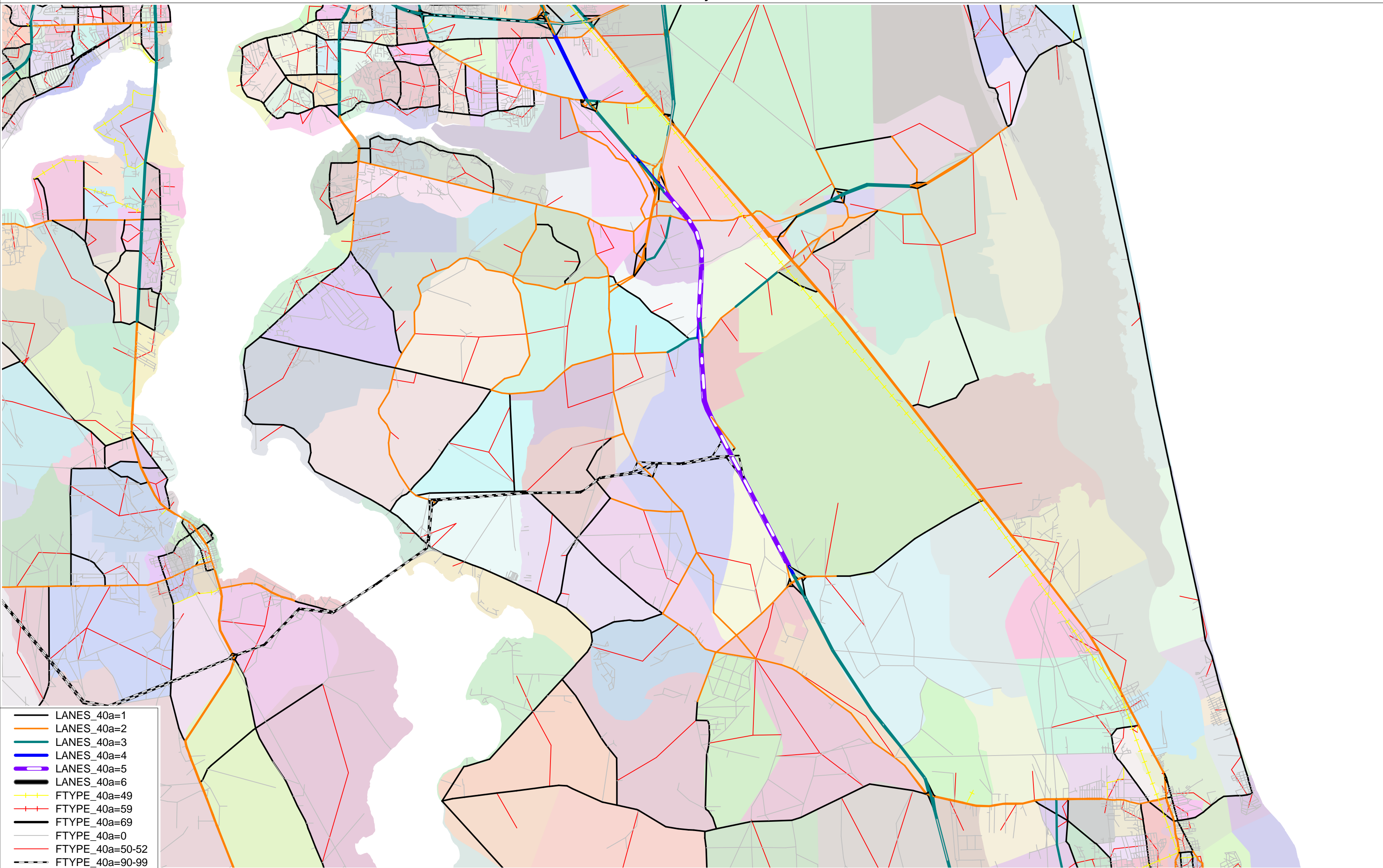
First Coast Expressway Impact Study
2030 Roadway Network



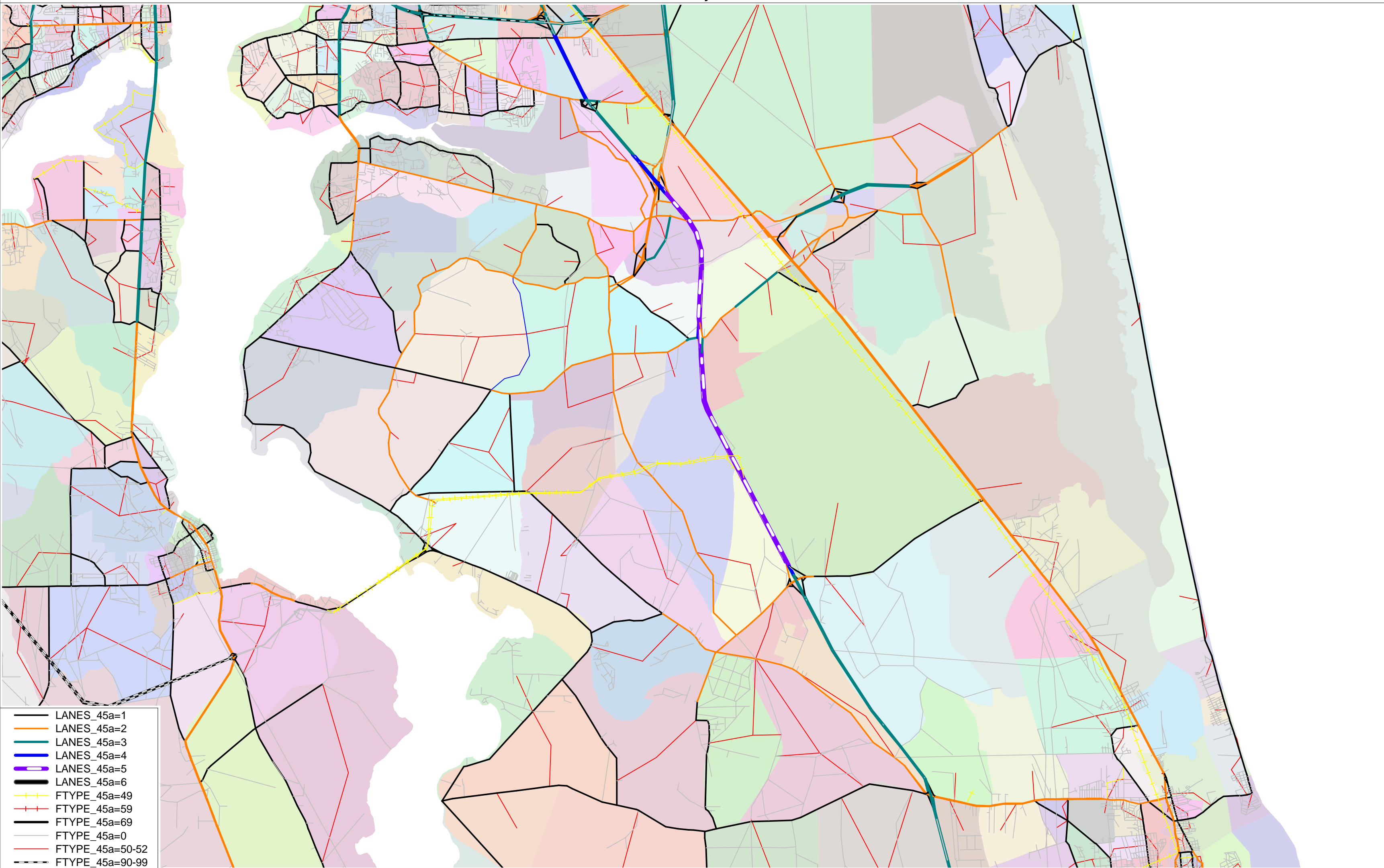
First Coast Expressway Impact Study
2035 Roadway Network



First Coast Expressway Impact Study
2040 Roadway Network



First Coast Expressway Impact Study
2045 Roadway Network



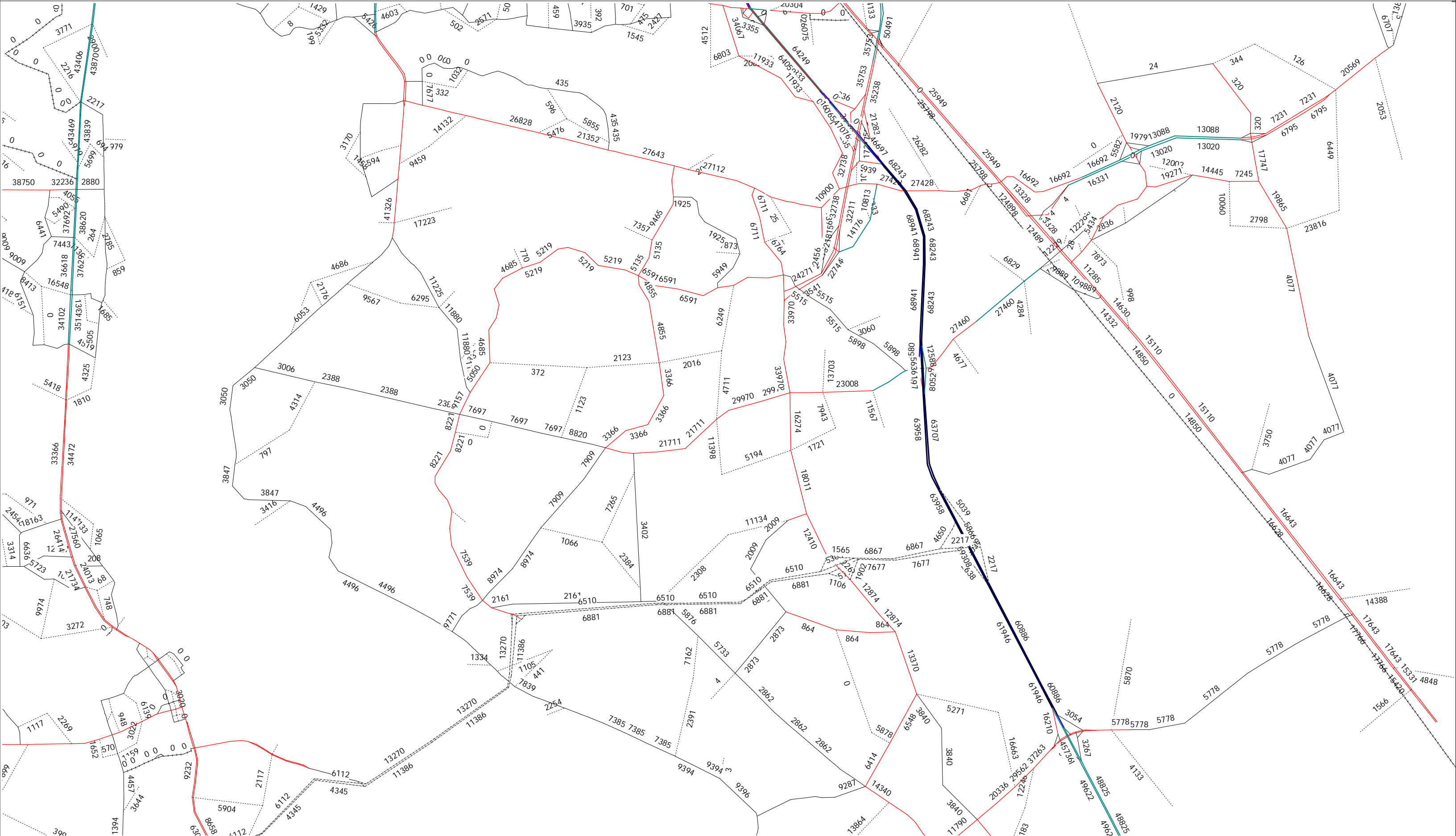
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- FTYPE_45a=90-99

Base Network Modifications

Silverleaf Parkway	4-lanes in 2020 and after
CR-2209 – Silverleaf Pkwy to CR-210	4-lanes in 2020 and after
CR-2209 – IGP to Silverleaf Pkwy	4-lanes in 2030 and after
CR-2209 – SR-16 to IGP	4-lanes in 2035 and after
CR-2209 – CR-208 to SR-16	4-lanes in 2040 and after
SR-9B at I-95 ramps and mainline	updated lanage to match existing conditions
SR-9B at Peyton Pkwy	Changed ramp facility types to 71 (entrance) and 75 (exit)
CR-210 - Leo McGuire Rd to I-95	6-lane in 2020 and after
FCE at CR-16A	Removed interchange ramps
FCE at Longleaf Pines Pkwy	Shifted first interchange from SR-13 to Longleaf Pine Parkway Extension
Veterans Pkwy - Longleaf Pine to Race Track	4-lanes in 2025 and after
Veterans Pkwy - CR-210 to Longleaf Pine	4-lanes in 2025 and after
Longleaf Pine Pkwy - Veterans to Tolerton	4-lanes in 2025 and after
East Peyton Parkway	6-lanes in 2025 and after
Shearwater Parkway	2-lanes in 2030 and after
Race Track Road - Bartram Park to Bartram Springs	4-lanes in 2030 and after
TAZ 1158 (Beachwalk)	Shifted centroid connector to the east to align with TAZ 2334 (Beacon Lakes)
TAZ 1213 (Bannon Lakes)	Deleted connection to US-1
TAZ 1232 (Durbin Crossing DRI)	Deleted centroid connector to Race Track Road and added centroid connector to Longleaf Pines Parkway
TAZ 1251 (Rivertown DRI)	Added centroid connector to Longleaf Pines Parkway
TAZ 2340 (Aberdeen DRI)	Added centroid connector to Longleaf Pines Parkway
TAZ 2350 (Silverleaf DRI)	Added centroid connector to CR-2209

Appendix C
(Model Volume Printouts)

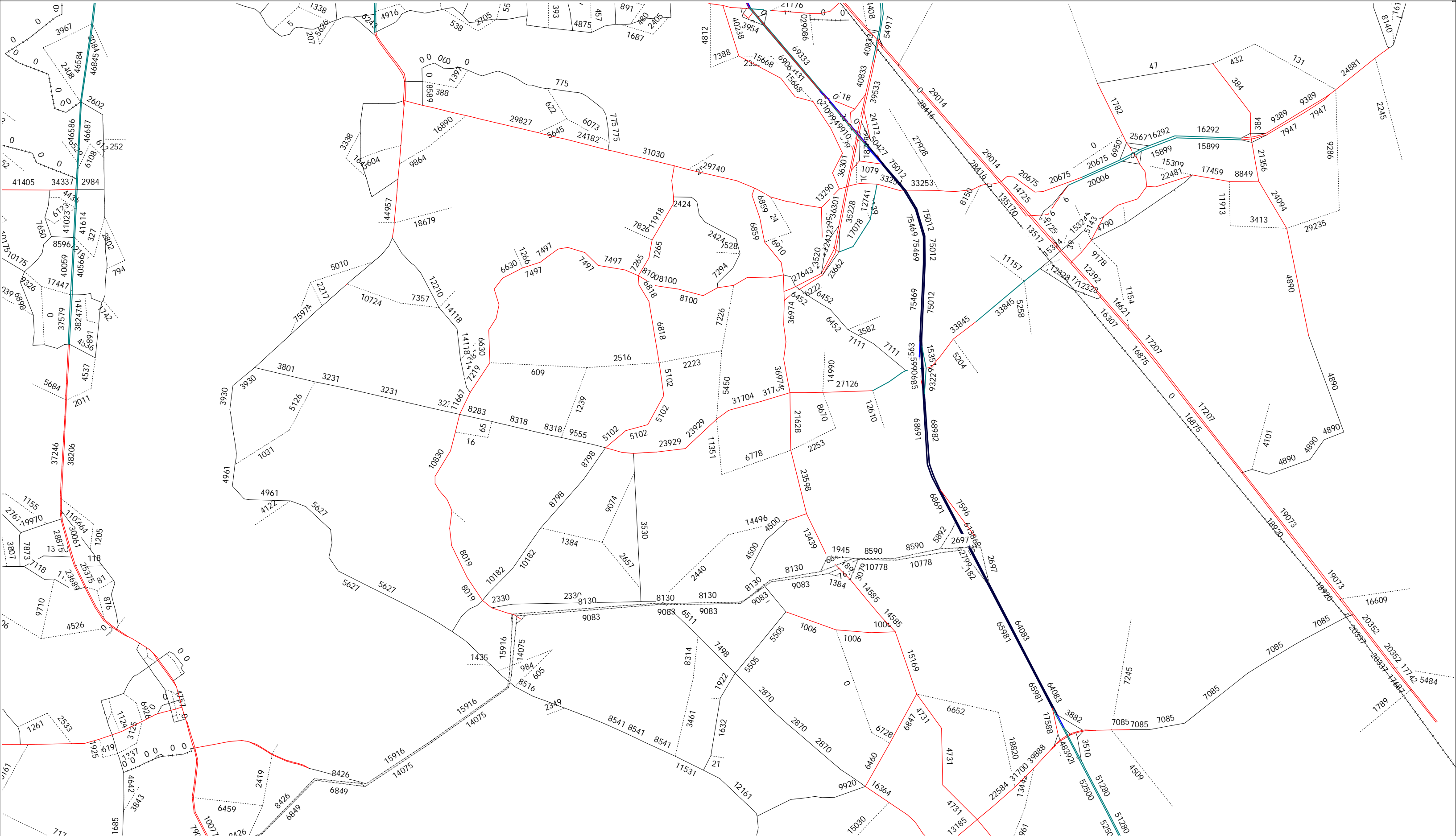
First Coast Expressway Study 2030 AADT With FCE



First Coast Expressway Study

2035 AADT

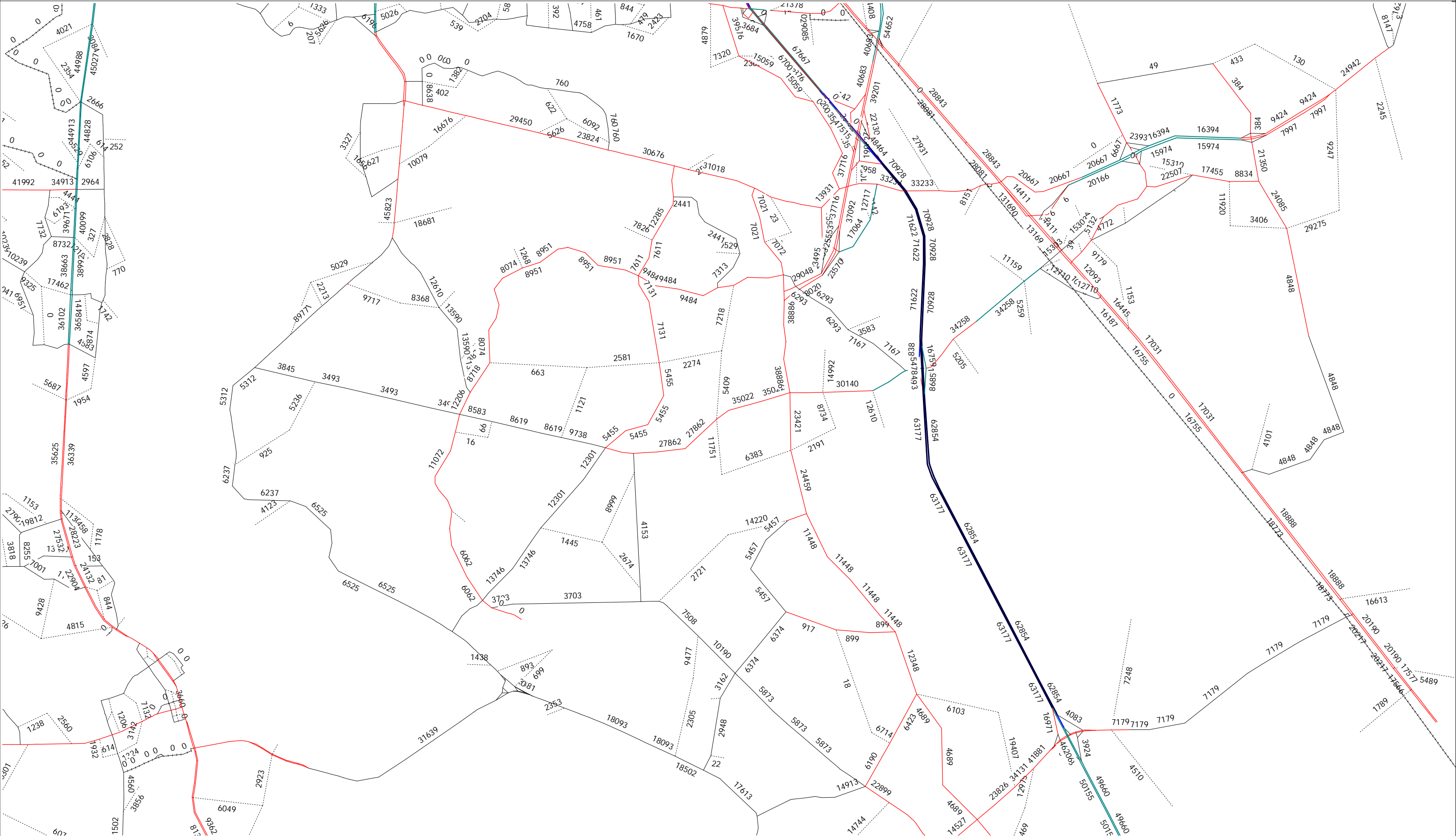
With FCE



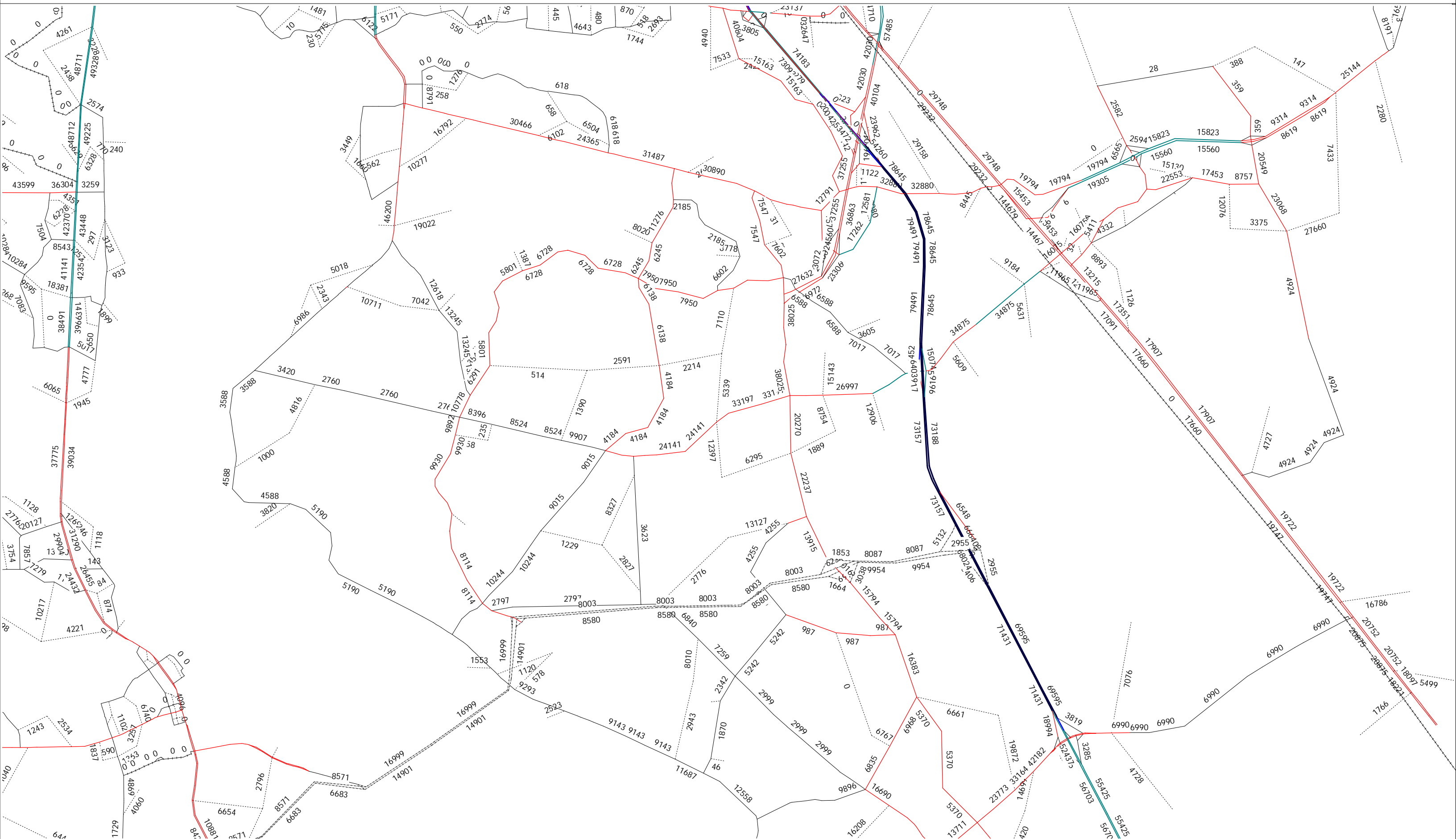
First Coast Expressway Study

2035 AADT

Without FCE



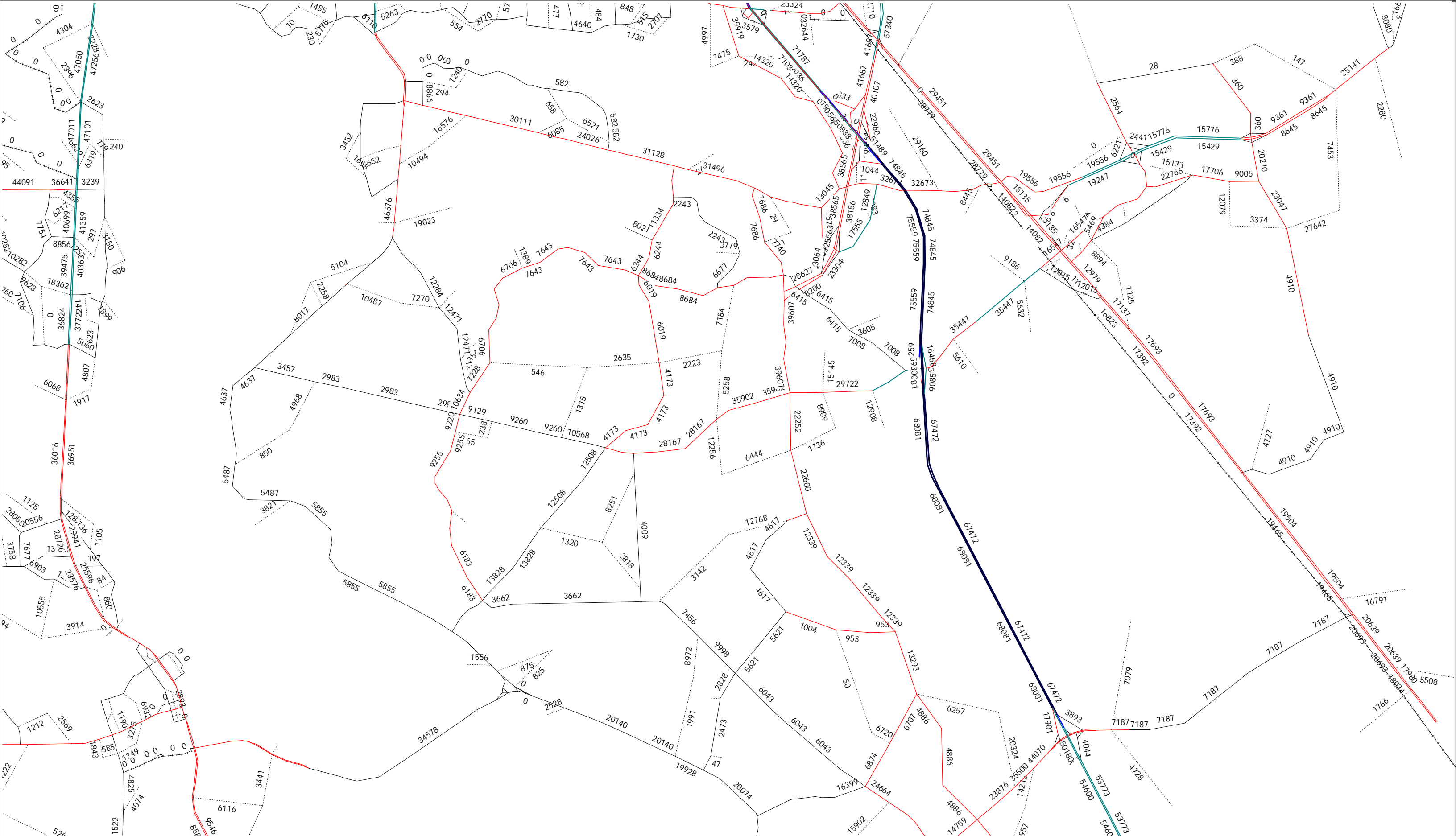
First Coast Expressway 2040 AADT With FCE



First Coast Expressway Study

2040 AADT

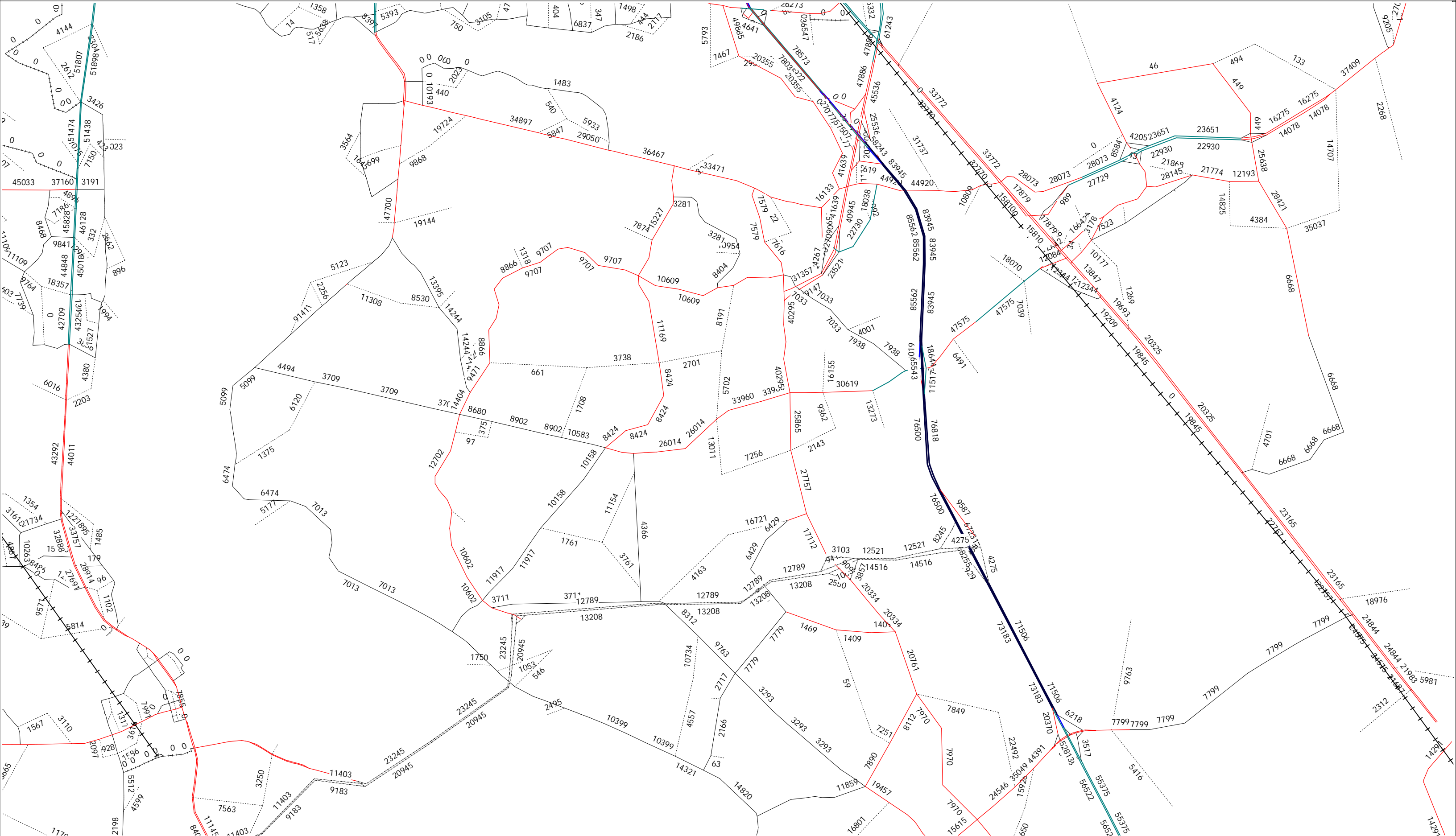
Without FCE



First Coast Expressway Study

2045 AADT

With FCE



First Coast Expressway Study

2045 AADT

Without FCE

