

Appendix B

Transportation Analysis

B.1 Summary

This report presents the transportation analysis completed for the East Nassau Community Planning Area (ENCPA). The ENCPA is defined as 24,000 acres in Nassau County, generally located east of Interstate 95 and north of State Road 200/A1A.

The transportation analysis is intended to support the Detailed Special Area Plan (DSAP) submittal to Nassau County. The DSAP requires the following:

- List of transportation improvements to support development
- How those improvements will be funded

A transportation mobility approach was used to integrate the land use planning for the DSAP with the transportation system to support the area. The benefit of this approach is a more efficient transportation system. The mobility approach promotes the use of transportation options such as walking, bicycling and transit, and employs land use design standards to ensure that these options are viable. The transportation mobility approach accounts for the following elements:

- **Balance of housing and employment** – Per the approved ENCPA Sector Plan, the overall development program levels were identified to maintain a balance between housing units and employment square footage. In addition to strengthening the employment base for Nassau County, this balance maximizes the internal capture for the ENCPA and reduces impacts on surrounding roadways.
- **Mix of residential and non-residential land uses** – Each of the residential neighborhoods contains non-residential land uses such as small-scale retail, office, and schools. These uses are located within and adjacent to residential areas, allowing many of these trips to occur by walking or bicycling. The Employment Center and Regional Center areas contain similar requirements for maintaining a mix of uses and incorporating residential and civic uses.
- **Interconnected network of local streets** – The Sector Plan also provides guidelines for local streets to ensure that they form a connected system between and within neighborhoods. This reduces the need for internal traffic to use the primary street network.

- **Internal trails network** – The ENCPA is proposed to contain approximately 50 miles of multi-use trails that can accommodate pedestrians, bicyclists and golf carts. Within the DSAP area, 20 miles of trails are planned.
- **Transit-Oriented Development (TOD)** – As part of long-range plans for the First Coast region, commuter rail connecting Nassau County and downtown Jacksonville has been identified for the CSX and First Coast Railroad corridors. The ENCPA plan incorporates opportunities for TOD along the First Coast Railroad located next to US 17.

The remainder of this Appendix addresses the following:

- Existing Conditions and Level of Service
- Future Conditions (2035) Baseline Analysis without Project
- ENCPA Transportation Network and Development Program
- ENCPA Analysis Results and Recommended Mobility Improvements
- Employment Center DSAP Recommended Mobility Improvements

B.2 Existing Conditions

The following is a description of the existing primary roadways in the study area:

Interstate 95 generally serves as the western boundary of the ENCPA and connects Nassau County to Duval County to the south and Georgia to the north. Interstate 95 currently has two interchanges within Nassau County that bracket the ENCPA – one at US 17 to the south and the other at SR 200/A1A to the south. Interstate 95 currently has six lanes through Nassau County and is under the jurisdiction of FDOT.

SR 200/A1A is the primary east-west arterial roadway in Nassau County, connecting Interstate 95 to the population centers of Fernandina Beach and Amelia Island to the east. To the west of Interstate 95, SR A1A extends to the rural community of Callahan. SR A1A serves as the southern boundary for the of the Employment Center portion of the DSAP. SR 200 is currently a four-lane divided roadway and is under the jurisdiction of FDOT.

US 17 is a rural arterial roadway that, similar to Interstate 95, connects Duval County to the south with Georgia to the north. US 17 serves as the eastern boundary for the Employment Center portion of the DSAP. US 17 currently has two lanes through the ENCPA and is under the jurisdiction of FDOT. A rail corridor borders US 17 on the west.

Pages Dairy Road is a two-lane local roadway that parallels SR A1A between US 17 and Chester Road. The roadway provides access to adjacent residential areas, with some portions of the overall ENCPA fronting directly onto it. Pages Dairy Road is currently a two-lane roadway with a rural cross section. The roadway is under the jurisdiction of Nassau County.

Chester Road is a local collector roadway that forms the eastern boundary for the overall ENCPA. The roadway extends from SR A1A north to Blackrock Road and intersects with Pages Dairy Road. Chester Road currently has two lanes and is under the jurisdiction of Nassau County.

County Road 108 (CR 108) is a rural roadway that extends from US 17 west under Interstate 95 to the town of Hilliard. CR 108 currently has two lanes and is under the jurisdiction of Nassau County.

William Burgess Boulevard is a local roadway south of SR A1A that connects US 17 to SR A1A. The Nassau County Courthouse and Florida State College at Jacksonville complexes are located along the corridor. William Burgess Boulevard provides the primary access to the southern portion of the DSAP. William Burgess Boulevard currently has two lanes and is under the jurisdiction of Nassau County.

In addition to these primary roadways, other roadway segments were included in the analysis for consistency with the Comprehensive Plan Amendment analysis completed by Nassau County for the ENCPA.

Table B-1 summarizes the existing conditions for the study area roadways, including number of lanes, daily volumes and Level of Service (LOS). The traffic counts shown are from FDOT and Nassau County. **Table B-1** shows that all of the segments currently meet the County's adopted Level of Service standard for daily conditions.

It should be noted that Nassau County updated its roadway LOS standards in 2011, utilizing the provisions of HB 7207. Although SR A1A is part of the FDOT Strategic Intermodal System, the County is now able to establish the LOS standard for the roadway.

The analysis in **Table B-1** assumes an Urban Area Type for Interstate 95 and all roads to the east to account for the planned development and urbanization of the area through implementation of the ENCPA. The analysis presented is based on daily conditions instead of peak hour conditions, which is consistent with the mobility approach used by other jurisdictions such as Duval County and Alachua County.

East Nassau Employment Center DSAP

Table B-1
Existing Roadway Volumes and Level of Service

Nassau Co. Link ID	FDOT Count Location	Roadway	From/To	AADT	Count Year	No. of Lanes	Adopted LOS Standard	Service Volume (1)	Meets Standard?	
40	729923	I-95	Duval County Line to SR 200/A1A	62,333	2013	6D	D	110,300	Yes	
41A	740158		SR 200/A1A to E-W Interchange Rd	44,000	2013	6D	D	110,300	Yes	
41B	740158		E-W Interchange Rd to US 17	44,000	2013	6D	D	110,300	Yes	
42	740132		US 17 to GA State Line	55,500	2013	6D	D	110,300	Yes	
43/43A	745022	SR 200/A1A	Griffin Rd to I-95	10,000	2013	4D	D	58,800	Yes	
44	740182		I-95 to Old Yulee Rd	19,214	2013	4D	D	64,300	Yes	
44A	740182		Old Yulee Rd to US 17	19,214	2013	4D	D	36,700	Yes	
45/45A	740101		US 17 to Chester Rd	34,000	2013	4D	D	36,700	Yes	
46	740105		Chester Rd to Blackrock Rd	36,000	2013	4D	D	36,700	Yes	
47/48	740103		Blackrock Rd to Amelia Island Pkwy	37,500	2013	4D	D	64,300	Yes	
49		CR 200A/Pages Dairy Rd	US 17 to Chester Rd	3,004	2009	2U	D	16,500	Yes	
50	749127	CR 107N/Blackrock Rd	Chester Rd to SR 200/A1A	1,600	2013	2U	D	16,500	Yes	
51	740112	CR 107S/Old Nassauville Rd	SR 200/A1A to Amelia Concourse	8,400	2013	2U	D	16,500	Yes	
51A			Amelia Concourse to Santa Juana Rd	6,730	2009	2U	D	16,500	Yes	
51B		Roses Bluff Rd	Chester Rd to West	1,597	2013	2U	D	16,500	Yes	
52	749134	Chester Rd	SR 200/A1A to Pages Dairy Rd	10,600	2013	2U	D	16,500	Yes	
53A			749113	Pages Dairy Rd to Goodbread Rd Ext	4,800	2013	2U	D	16,500	Yes
53B			749113	Goodbread Rd Extension to Blackrock Rd	4,800	2009	2U	D	16,500	Yes
53A		Amelia Concourse	SR 200/A1A to CR 107S/Nassauville Rd	7,211	2009	4D	D	16,500	Yes	
54		Barnwell Rd	SR 200/A1A to Oyster Bay Dr	3,251	2009	2U	D	16,500	Yes	
54A		Miner Rd	Haddock Rd to SR 200/A1A	7,070	2013	2U	D	16,500	Yes	
55	740011	US 17	Duval County Line to Harts Rd	11,200	2013	2U	D	22,200	Yes	
			740011	Harts Rd to Sowell Rd	11,200	2013	2U	D	22,200	Yes
56	740011		Sowell Rd to SR 200/A1A	11,200	2013	4D	D	36,700	Yes	
57	740104		SR 200/A1A to Pages Dairy Rd	11,400	2013	4D	D	36,700	Yes	
58A	740104		Pages Dairy Rd to E-W Interchange Rd	11,400	2013	2U	D	16,500	Yes	
58B	745020		E-W Interchange Rd to CR 108	9,300	2013	2U	D	16,500	Yes	
59	745020		CR 108 to I-95	9,300	2013	2U	D	21,100	Yes	
60	740162		I-95 to GA State Line	3,100	2013	2U	D	21,100	Yes	
60A/60B		Harts Rd	US 17 to Haddock Rd	3,785	2009	2U	D	22,200	Yes	
62		William Burgess Blvd	SR 200/A1A to Harts Rd	1,192	2006	2U	D	16,500	Yes	

East Nassau Employment Center DSAP

Nassau Co. Link ID	FDOT Count Location	Roadway	From/To	AADT	Count Year	No. of Lanes	Adopted LOS Standard	Service Volume (1)	Meets Standard?
	742001	I-95/SR A1A Interchange (2)	NB I-95 to SR A1A Off-ramp	7,500	2013	1L	D	11,100	Yes
	742003		SR A1A to NB I-95 On-ramp	2,200	2013	1L	D	11,100	Yes
	742002		SB I-95 to SR A1A Off-ramp	1,700	2013	1L	D	11,100	Yes
	742000		SR A1A to SB I-95 On-ramp	7,700	2013	1L	D	11,100	Yes
	742004	I-95/US 17 Interchange (2)	NB I-95 to US 17 Off-ramp	300	2013	1L	D	11,100	Yes
	742005		US 17 to NB I-95 On-ramp	3,300	2013	1L	D	11,100	Yes
	742007		SB I-95 to US 17 Off-ramp	3,100	2013	1L	D	11,100	Yes
	742006		US 17 to SB I-95 On-ramp	200	2013	1L	D	11,100	Yes

(1) Capacity values are from the 2009 FDOT Quality/Level of Service Handbook

(2) Capacity values for ramps estimated as half the value for a 2-lane uninterrupted flow facility

Sources: FDOT Traffic Online, Nassau County Local Roads Traffic Counts (2009)

B.2.1 Programmed (Short-Term) Roadway Improvements

Improvements to SR A1A and Chester Road are currently in the adopted FDOT Five-Year Work Program. **Table B-2** summarizes these improvements along with their funding commitments and implementation timeframe. The widening of SR A1A from four to six lanes between US 17 and Chester Road is funded for construction in FY 2016 (Item #210712-4 in the table).

The segment of SR A1A around the US 17 intersection (Item #210712-3) is programmed for construction in FY 2015.

The segment of SR A1A immediately east of Interstate 95 adjacent to the DSAP (Item #210711-2) is programmed for construction in FY 2016.

In addition to these segments of SR A1A, the widening of Chester Road from two to four lanes is also in the adopted Work Program (Item #426031-2). The northern limit for this improvement is Green Pine Road, which corresponds to the planned connection point for the CR 108 Extension.

With the inclusion of these improvements in the Work Program, they will be constructed sooner than if tied to development activity within the ENCPA as part of the Mobility Network. The inclusion of the improvements to SR A1A and Chester Road in the Work Program also allows mobility fee funds received in the short term to go towards other improvements.

B.2.2 Planned (Long-Term) Roadway Improvements

Table B-3 lists the long-term roadway improvements for Nassau County that are in the adopted North Florida TPO Long Range Plan. These improvements were identified in 2009 as cost feasible based on existing revenue sources at that time.

Of the improvements included on the list, the widening of SR 200/A1A and Chester Road have already received funding commitments, as shown in Table B-2 and discussed above. Additional improvements within the study area include commuter rail service between Yulee and downtown Jacksonville.

East Nassau Employment Center DSAP

**Table B-2
Programmed Five-Year Roadway Improvements**

FDOT Item	Roadway and Limits	Description	Phase	Year	Funding
210712-3	SR 200/A1A from W. of Still Quarters Rd. to W. of Rubin Lane	Add Lanes	Preliminary Engineering	2015	\$2,068
			Right of Way	2015-2017	\$3,670,219
			Railroad and Utilities	2015	\$12,500
			Construction	2015-2016	\$586,378
210711-2	SR 200/A1A from I-95 to W. of Still Quarters Rd	Add Lanes	Preliminary Engineering	2015-2016	\$138,118
			Right of Way	2015-2018	\$4,559,954
			Railroad and Utilities	2016	\$245,056
			Construction	2016-2019	\$45,436,711
210712-4	SR 200/A1A from W. of Rubin Rd. to East of CR 107/Scott Rd	Add Lanes	Right of Way	2015-2016	\$1,318,907
			Environmental	2015	\$1,600,000
			Construction	2016-2018	\$42,606,078
426031-2	Chester Rd from SR A1A to Green Pine Rd	Add Lanes	Preliminary Engineering	2015	\$89,308
			Construction	2018	\$9,902,237

Source: FDOT FY2015 – FY2019 Work Program

September 19, 2014

**Table B-3
Adopted Year 2035 Cost Feasible Transportation Improvements**

Project ID	Roadway Corridor	From	To	Project Description	Cost in Millions (2009\$)
SIS/FIHS Cost Feasible Plan Projects					
112	SR 200/A1A	I-95	East of CR 107	Widen to 6 lanes	\$142.70
135	US 301/SR 200	North of Baldwin	South of Callahan	Widen to 4 lanes	\$258.70
Other Cost Feasible Projects (Local, Private, TRIP, Public Private Partnership)					
141	Chester Road	SR A1A	East Nassau Connector	Widen to 4 lanes	\$20.90
Transit Cost Feasible Projects					
G	Commuter Rail North	Downtown Jacksonville	Yulee (construct to River City/JIA)	Study and Construction of Limited Service (CSX)	\$125.00
I/J	Commuter Rail West	Downtown Jacksonville	Macclenney	Study of Limited Service (CSX)	\$2.00

Source: Northeast Florida TPO Envision 2035 Long Range Transportation Plan



B.3 Baseline (No-Build) Roadway Volumes

To establish background roadway volumes in the study area, the Northeast Florida Regional Planning Model (NERPM) was run for baseline conditions without the ENCPA development. The NERPM is the adopted MPO model and is recommended by both FDOT and the Northeast Florida Regional Council.

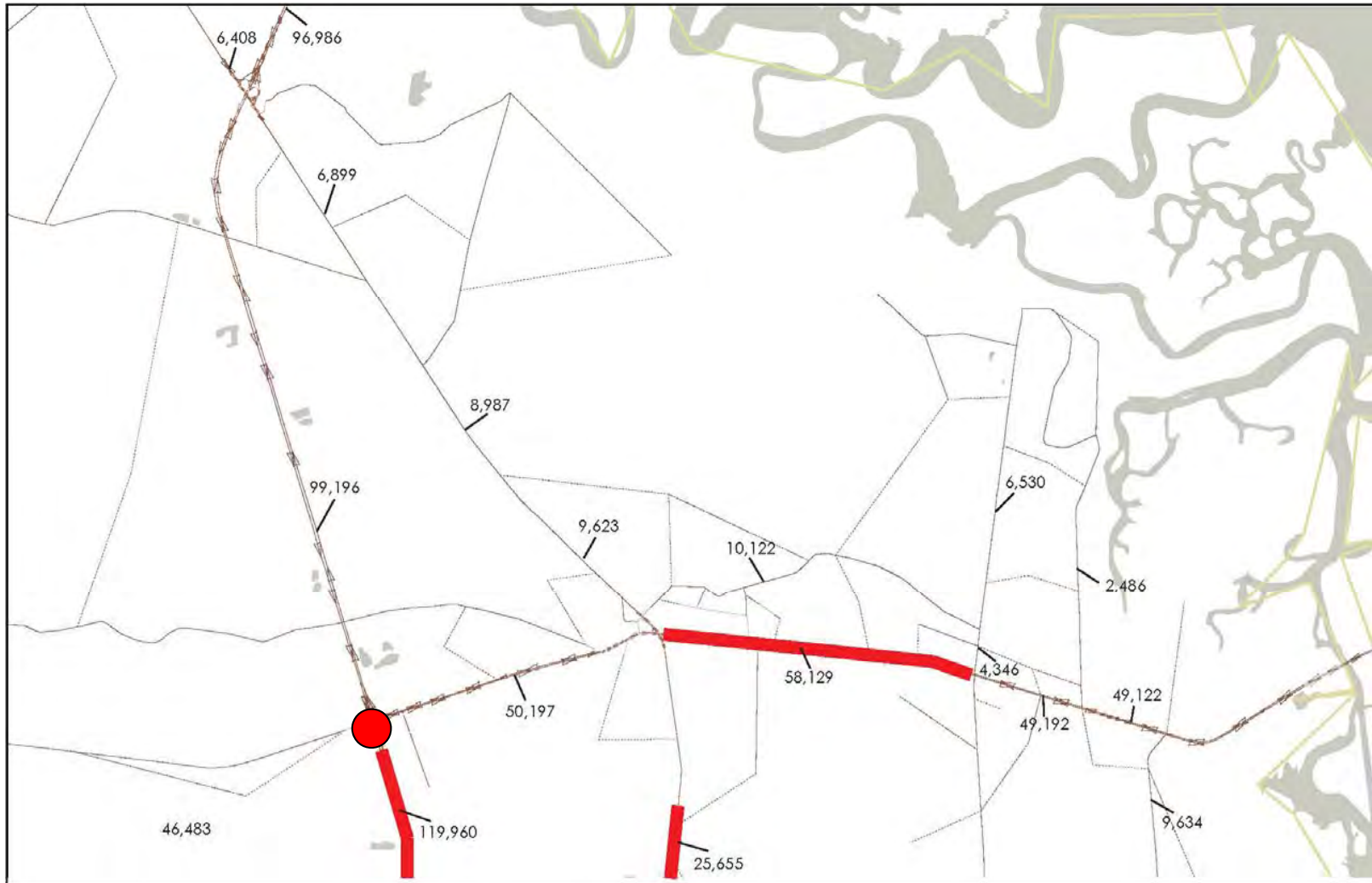
This model run reflects the 2035 Cost Feasible Model as adopted, with the long-term roadway improvements mentioned in the previous section. (The commuter rail system to Nassau County was not included in the model.)

In terms of land use, the baseline model run includes no development activity within the ENCPA. To reflect a true baseline condition, any development activity for the ENCPA within the adopted model was removed. (The adopted model included some additional development in the area, but the total number of units was less than 1,000, far less than the overall ENCPA approvals of 24,000 units.) **Figure B-1** shows the baseline volumes associated with this model run. **Table B-4** summarizes the roadway analysis based on the resulting daily volumes. This analysis concludes the following roadways are projected to operate over capacity without ENCPA development:

- Interstate 95 from Duval County Line to SR 200/A1A – over capacity as a 6-lane road
- SR 200/A1A from US 17 to Chester Road – over capacity as a 6-lane road
- US 17 from Duval County Line to Sowell Road – over capacity as a 2-lane road
- Interstate 95 / SR A1A interchange ramps – over capacity in single-lane diamond configuration

These volumes and deficiencies are used as a starting point for identifying transportation improvements associated with the ENCPA and DSAP. Per HB 7207, private development cannot be held responsible for addressing existing backlogs. Since these roadway segments are projected to operate over capacity based on other development approved within Nassau County (since the ENCPA development was removed), improvements to these segments are not included as part of the Mobility Network of funded improvements. Instead, the improvements needed to address these backlogs are assumed to be in place as part of the ENCPA analysis.

Figure B-1
Year 2035 Baseline Roadway Volumes (without ENCPA)



Segments in **RED** are projected to operate over capacity.

East Nassau Employment Center DSAP

Table B-4 REVISED
Year 2035 Baseline Roadway Analysis (without ENCPA)

Roadway	From/To	No. Lanes	Maximum Service Volume	2035 Baseline without ENCPA			Improvements to Address Backlog
				Raw Model Volume	Daily Volume MOCF =0.97	Capacity Exceeded?	
I-95	Duval County Line to SR 200/A1A	6D	110,300	119,960	116,361	Yes	Widen to 8 lanes
	SR 200/A1A to E-W Interchange Rd	6D	110,300	99,196	96,220		
	E-W Interchange Rd to US 17	6D	110,300	99,196	96,220		
	US 17 to GA State Line	6D	110,300	96,986	94,076		
SR 200/A1A	Griffin Rd to I-95	4D	58,800	46,483	45,089		
	I-95 to Old Yulee Rd	6D	55,300	50,197	48,691		
	Old Yulee Rd to US 17	6D	55,300	48,364	46,913		
	US 17 to Chester Rd	6D	55,300	58,129	56,385	Yes	Widen to 8 lanes
	Chester Rd to Blackrock Rd	6D	55,300	49,122	47,648		
	Blackrock Rd to Amelia Island Parkway	4D	64,300	49,073	47,601		
CR 200A/Pages Dairy Rd	US 17 to Chester Rd	2U	16,500	10,122	9,818		
CR 107N/Blackrock Rd	Chester Rd to SR 200/A1A	2U	16,500	2,486	2,411		
CR 107S/ Old Nassauville Rd	SR 200/A1A to Amelia Concourse	2U	16,500	9,634	9,345		
	Amelia Concourse to Santa Juana Rd	2U	16,500	3,698	3,587		
Chester Rd	SR 200/A1A to Pages Dairy Rd	4D	36,700	5,015	4,865		
	Pages Dairy Rd to CR 108 Extension	4D	36,700	6,530	6,334		
	CR 108 Extension to Blackrock Rd	2U	16,500	2,898	2,811		
Amelia Concourse	SR 200/A1A to CR 107S/Nassauville Rd	4D	36,700	13,097	12,704		
US 17	Duval County Line to Harts Rd	2U	22,200	25,655	24,885	Yes	Widen to 4 lanes
	Harts Rd to Sowell Rd	2U	22,200	24,090	23,367	Yes	Widen to 4 lanes
	Sowell Rd to SR 200/A1A	4D	36,700	12,967	12,578		
	SR 200/A1A to Pages Dairy Rd	4D	36,700	9,415	9,133		
	Pages Dairy Rd to Interchange Rd	2U	21,100	9,623	9,334		
	Interchange Rd to CR 108	2U	21,100	8,987	8,717		
	CR 108 to I-95	2U	21,100	6,899	6,692		
	I-95 to GA State Line	2U	21,100	6,408	6,216		
I-95/SR A1A Interchange	NB I-95 to SR A1A Off-ramp	1L	11,100	23,188	22,492	Yes	Widen to 3 lanes
	SR A1A to NB I-95 On-ramp	1L	11,100	12,112	11,749	Yes	Widen to 2 lanes
	SB I-95 to SR A1A Off-ramp	1L	11,100	12,106	11,743	Yes	Widen to 2 lanes
	SR A1A to SB I-95 On-ramp	1L	11,100	23,776	23,063	Yes	Widen to 3 lanes



East Nassau Employment Center DSAP

Roadway	From/To	No. Lanes	Maximum Service Volume	2035 Baseline without ENCPA			Improvements to Address Backlog
				Raw Model Volume	Daily Volume MOCF =0.97	Capacity Exceeded?	
I-95/US 17 Interchange	NB I-95 to US 17 Off-ramp	1L	11,100	4,192	4,066		
	US 17 to NB I-95 On-ramp	1L	11,100	2,420	2,347		
	SB I-95 to US 17 Off-ramp	1L	11,100	2,420	2,347		
	US 17 to SB I-95 On-ramp	1L	11,100	4,039	3,918		

Source: VHB

B.4 ENCPA Transportation Network and Development Program

The development program and transportation framework for the ENCPA were determined as part of the previous approvals for the ENCPA Sector Plan. **Figure B-2** shows the proposed transportation network and development areas.

A general description of the overall ENCPA development program is as follows:

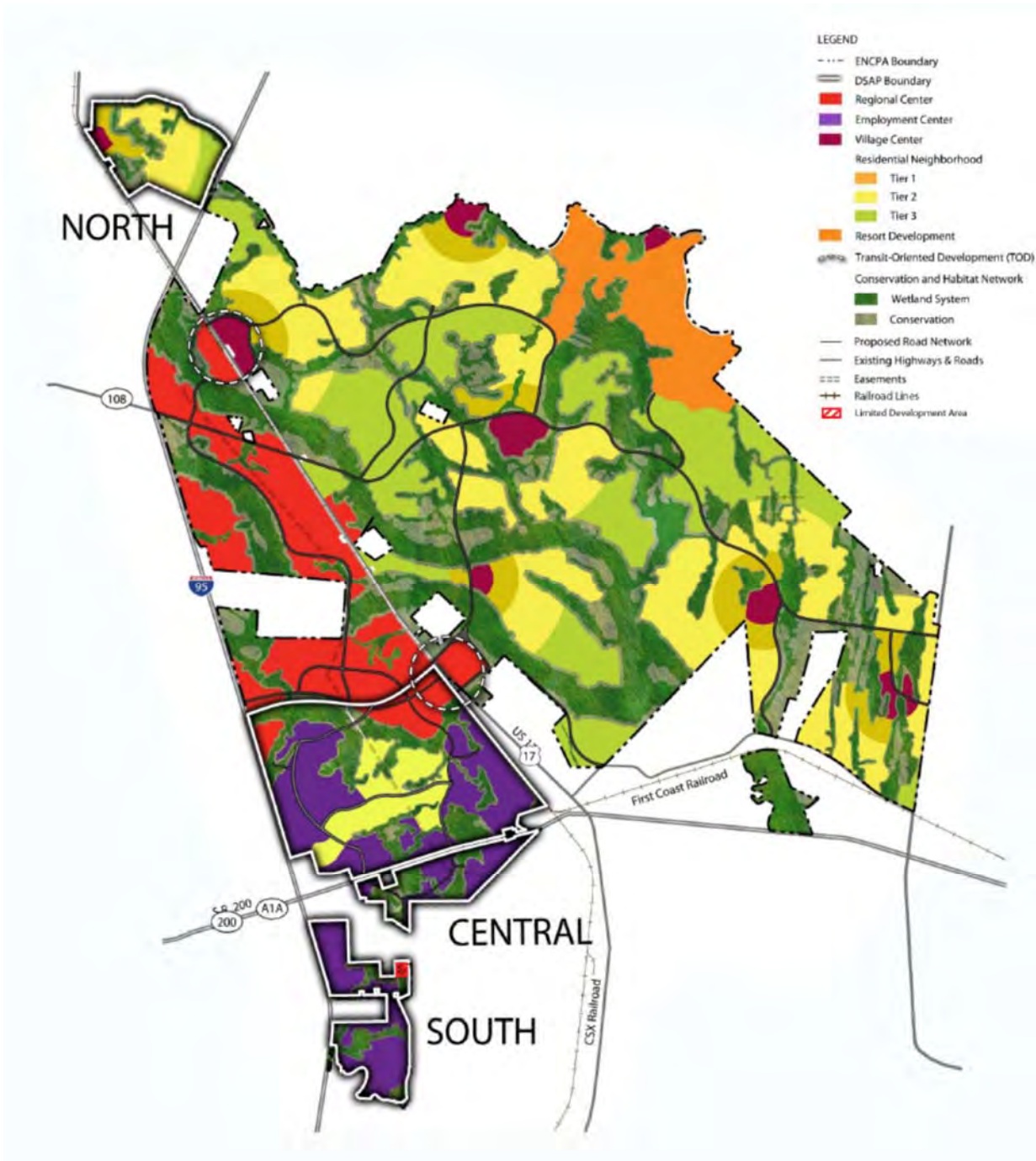
- The area east of US 17 consists of several residential neighborhoods, each with a neighborhood center containing retail and other non-residential uses.
- The area between US 17 and Interstate 95 contains the Employment Center and the Regional Center, which contains the majority of the regional employment and retail uses for the ENCPA. The Employment Center and Regional Center are also designed to accommodate residential units.
- A separate residential neighborhood is located north of the ENCPA. The northern neighborhood (Neighborhood A) is west of Interstate 95 along US 17.
- The southern planning area consists of an industrial park and is located south of SR A1A adjacent to Interstate 95.

Table B-5 summarizes the overall ENCPA development program by neighborhood and presents the total trip generation based on ITE 9th Edition rates. As shown in the table, the entire ENCPA is estimated to have a gross trip generation of 369,577 daily trips. Of this total, approximately half (185,808 trips, or 50.2% of the total) are generated by the Employment Center and Regional Center areas between US 17 and Interstate 95. The remaining trips are generated by the residential neighborhoods located east of US 17 and in the separate outparcels to the north and south.

Figure B-3 shows the ENCPA transportation network as entered into the model (2035 NERPM) for analysis. The major components included in the model are as follows:

- CR 108 Extension – The east-west spine of TerraPointe will be an extension of CR 108 east from US 17 to Chester Road. This roadway will provide access to neighborhood areas and also provide an alternate coastal evacuation route for eastern Nassau County. Due to the rail corridor adjacent to US 17, an overpass with interchange ramps is proposed where the CR 108 Extension crosses US 17. The CR 108 Extension is in the adopted Comprehensive Plan for Nassau County, but is not included in the adopted regional model, since it was not identified as a cost-feasible improvement at the time.

Figure B-2
Previously Approved ENCPA Master Plan and Transportation Framework



**Table B-5
ENCPA Daily Trip Generation**

Neighborhood	Land Use	ITE Category	Intensity		Daily Trips
A	SF Residential	210	769	d.u.	6,860
	Retail	820	75,000	s.f.	5,633
	<i>Subtotal</i>				<i>12,493</i>
B	SF Residential	210	1,624	d.u.	13,646
	Apartment	220	250	d.u.	1,639
	Retail	820	165,000	s.f.	9,404
	<i>Subtotal</i>				<i>24,689</i>
C	SF Residential	210	1,481	d.u.	12,537
	Apartment	220	250	d.u.	1,639
	Retail	820	140,000	s.f.	8,451
	<i>Subtotal</i>				<i>22,627</i>
D	SF Residential	210	1,936	d.u.	16,041
	Apartment	220	250	d.u.	1,639
	Retail	820	170,000	s.f.	9,588
	<i>Subtotal</i>				<i>27,268</i>
E	SF Residential	210	1,170	d.u.	10,093
	Retail	820	75,000	s.f.	5,633
	<i>Subtotal</i>				<i>15,726</i>
F	SF Residential	210	2,433	d.u.	19,794
	Apartment	220	250	d.u.	1,639
	Retail	820	140,000	s.f.	8,451
	<i>Subtotal</i>				<i>29,884</i>
G	SF Residential	210	1,439	d.u.	12,210
	Retail	820	95,000	s.f.	6,568
	<i>Subtotal</i>				<i>18,778</i>
H	Industrial Park	130	788,505	s.f.	5,386
Resort District	Condominium	230	1,513	units	6,836
	Timeshare (1)	265	1,513	units	7,588
	Apartment	220	157	d.u.	1,075
	Retail	820	125,000	s.f.	7,851
	Hotel	310	400	rooms	3,568
	<i>Subtotal</i>				<i>26,918</i>
Employment Center and TOD	Office	750	2,800,000	s.f.	29,585
	SF Residential	210	1,483	d.u.	12,553
	Apartment	220	1,461	d.u.	8,977
	Townhome	230	325	d.u.	1,794
	Retail	820	700,000	s.f.	24,058
	Industrial	130	2,736,495	s.f.	18,690
	<i>Subtotal</i>				<i>95,657</i>
Regional Center	SF Residential	210	5,696	d.u.	43,292
	Office	710	500,000	s.f.	4,461
	Office Park	750	490,000	s.f.	5,515
	Retail	820	1,200,000	s.f.	34,151
	Industrial Park	130	400,000	s.f.	2,732
	<i>Subtotal</i>				<i>90,151</i>
TOTAL GROSS TRIP GENERATION					369,577

Source: ITE Trip Generation, 9th Edition

September 22, 2014

(1) Trip generation for Timeshare is based on 50% occupancy.

Figure B-3
ENCPA Network and TAZs Added to Model



- North-South Regional Center Arterial – The north-south spine of the Regional Center and Employment Center will be a road connection between SR A1A and US 17. This roadway will also parallel Interstate 95 and is intended to provide capacity relief for local trips while minimizing the amount of project traffic that uses Interstate 95.
- New I-95 Interchange at Interchange Road – Within the Employment Center and Regional Center, a new interchange with Interstate 95 is proposed between SR A1A and US 17. The interchange will provide capacity for ENCPA traffic and minimize the traffic impacts to the existing interchanges to the north and south. Access to the interchange will be through a new east-west roadway that will cross US 17 (with an overpass and ramps) and connect to the CR 108 Extension.
- Employment Center Collector Roads – As part of the development of the Employment Center north of SR A1A, collector roadways are proposed to support internal circulation between parcels.

The following Mobility Network components are proposed but were not included in the model:

- Local Roadways (2 lanes) – In addition to the arterial and collector roadways included in the Mobility Network, a supporting network of local streets will be completed to provide access to parcels within the Central Planning Area. Connectivity standards for the network of arterial, collector and local streets are defined as part of the ENCPA Sector Plan.
- Trail System – A system of multi-use trails is planned to provide non-auto travel choices within the ENCPA. The trail system will accommodate pedestrians, bicyclists and golf carts. Approximately 100 miles of trails are included as part of the Mobility Network.

The development program and roadway network were added to the Year 2035 model to identify long-term conditions with the development of ENCPA. Each neighborhood as shown in the trip generation table (**Table B-5**) was assigned its own TAZ in the model. Given the geographic size of the Employment Center and Regional Center, these areas were divided into multiple TAZs, with the development program distributed evenly among them. Eight TAZs were used for the Employment Center and three TAZs were used for the Regional Center.

B.5 ENCPA Analysis Results and Recommended Improvements

Based on the addition of the overall ENCPA development program and roadway network to the Year 2035 model, the future year volumes were developed. As initial steps in developing the total roadway volumes, the following components were reviewed:

- Background traffic – The background (non-ENCPA) traffic was based on the baseline Year 2035 model run described earlier in this section.
- ENCPA project traffic from model – In evaluating the model results, the total volumes presented include both internally captured trips and regional external trips. This is because trips remaining within the ENCPA may still use roadways such as US 17 and the CR 108 extension for travel within the community.
- ENCPA trip distribution – The distribution of ENCPA trips was reviewed based on aggregate areas within Nassau County and the region, rather than on a segment by segment basis. **Figure B-4** shows the aggregate areas used to compare the trip distribution calculations. **Table B-6** shows the trip distribution produced by the model. The analysis showed that almost 71% of the trips associated with the ENCPA are expected to remain within Nassau County. This is consistent with one of the goals of the ENCPA Sector Plan to provide employment opportunities to support new and existing County residents. This trip distribution is also consistent with the project goals of maximizing internal capture through a balanced mix of uses.
- Total roadway volumes – The future conditions traffic volumes represent the total volumes projected by the model with the addition of the ENCPA development. In some instances, background trips from the baseline no-build scenario are expected to become project trips, as the employment base created within the ENCPA allows Nassau County residents to stay within the County for work trips. This approach of using total traffic volumes directly from the model is based on guidance from the *NCHRP report Evaluating and Communicating Model Results: Guidebook for Planners*.
- Vehicle Miles Traveled (VMT) – The daily VMT was calculated in order to assess the impact that the development will have on each roadway facility and on the roadway network as a whole. **Table B-7** shows the daily VMT for each segment and for the total ENCPA development area for the previous DSAP submittal. The previous cumulative VMT was 828,061 vehicle-miles. **Table B-8** shows the VMT for the DSAP Adjustment, which was calculated as 806,887 vehicle-miles. This is a decrease of approximately 2.5%. This reduction is a result of residential land uses relocating inside the employment center, thus allowing for shorter trips within the Central Planning Area.
- Impacts of local street connectivity – As mentioned earlier, the ENCPA Sector Plan provides guidelines for local streets to ensure that they form a connected system between and within neighborhoods. This reduces the need for internal traffic to use the primary street network. However, local

streets generally are not included in travel demand models. To account for this extra capacity, project traffic estimates for internal streets were reduced by 15 percent. This factor accounts for the share of trips within ENCPA that are shorter distance (less than two miles) and can occur through biking, walking, and/or local streets. The need for adjustment for these factors is also acknowledged in the NCHRP report mentioned above.

- Internal trails network – As mentioned earlier, the ENCPA is proposed to contain approximately 50 miles of multi-use trails that can accommodate pedestrians, bicyclists and golf carts. Similar to local streets, however, these trails are not included in the travel demand model. To estimate the benefit of this connectivity and extra capacity, project traffic estimates for internal streets were reduced by 5 percent.

Table B-9 presents the Year 2035 roadway volumes with the addition of ENCPA development. This analysis shows the following roadways are projected to operate over capacity with ENCPA development:

- Interstate 95 from Duval County Line to Interchange Road
- SR 200/A1A from I-95 to US 17
- SR 200/A1A from Chester Road to Blackrock Road

Figure B-4
Aggregate Areas for Trip Distribution Evaluation

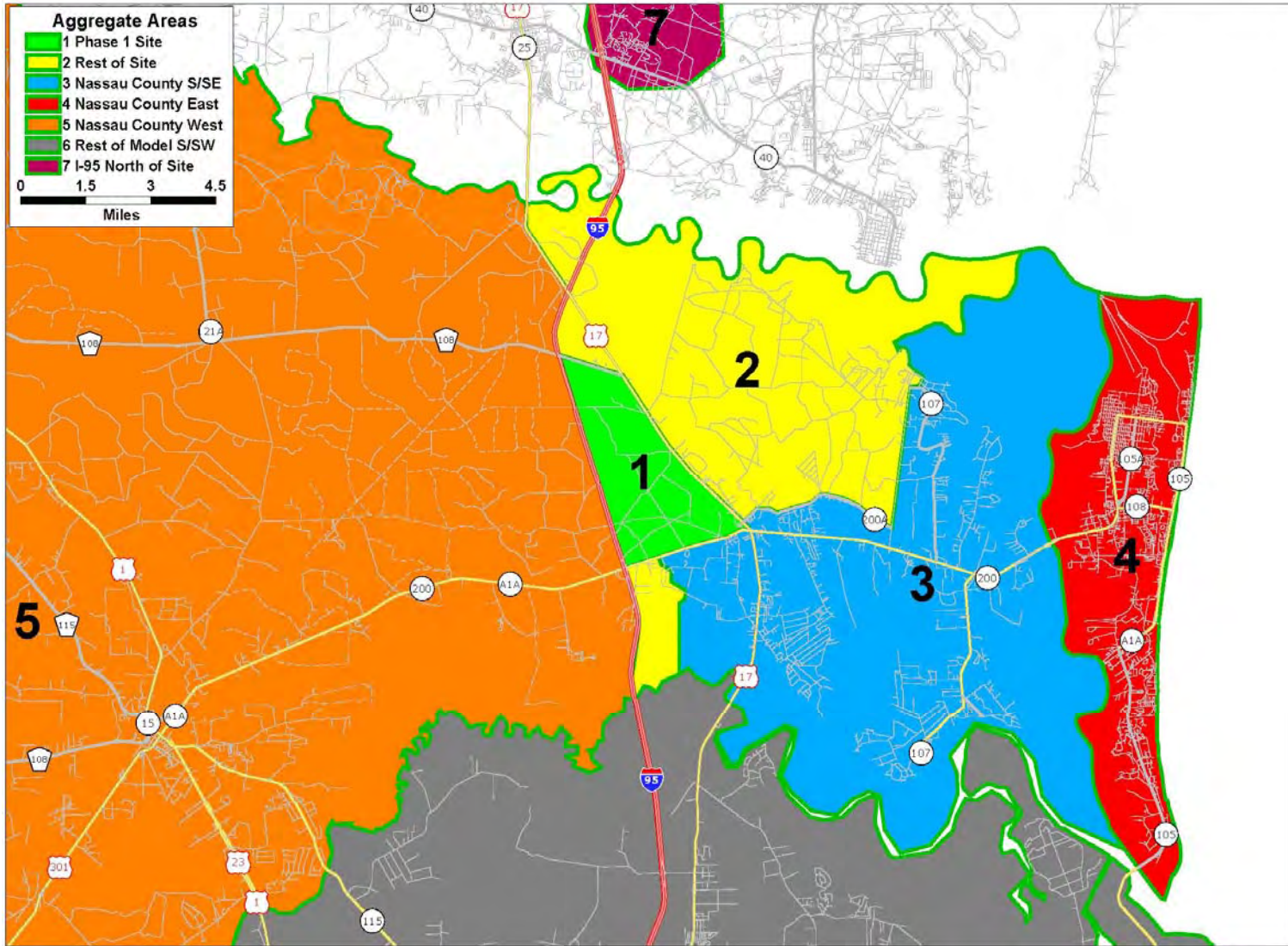


Table B-6
Trip Distribution Summary from Model

Area (from Figure B-4)	Trip Distribution
1 and 2 (ENCPA)	46%
3 and 4 (Eastern Nassau County)	19%
5 (Western Nassau County)	6%
6 (Duval County and points south)	27%
7 (Georgia and points north)	2%
TOTAL	100.00%
<i>Within Nassau County</i>	<i>71%</i>
<i>Outside Nassau County</i>	<i>29%</i>

**Table B-7
Vehicle Miles Traveled (VMT) Summary – Original Analysis**

Roadway	From/To	Net New ENCPA Trips	Segment Length (miles)	VMT
I-95	Duval County Line to SR 200/A1A	30,012	3.1	93,037
	SR 200/A1A to E-W Interchange Rd	37,979	2.0	75,959
	E-W Interchange Rd to US 17	10,752	4.7	50,537
	US 17 to GA State Line	4,216	2.5	10,539
SR 200/A1A	Griffin Rd to I-95	5,416	5.3	28,707
	I-95 to Old Yulee Rd	7,809	2.4	18,743
	Old Yulee Rd to US 17	5,147	0.7	3,603
	US 17 to Chester Rd	5,643	3.2	18,059
	Chester Rd to Blackrock Rd	7,664	1.1	8,430
	Blackrock Rd to Amelia Island Pkwy	5,904	3.8	22,437
CR 200A/Pages Dairy Rd	US 17 to Chester Rd	2,600	3.9	10,138
CR 107N/ Blackrock Rd	Chester Rd to SR 200/A1A	0	5.1	0
CR 107S/ Old Nassauville Rd	SR 200/A1A to Amelia Concourse	0	1.9	0
	Amelia Concourse to Santa Juana Rd	0	1.7	0
Chester Rd	SR 200/A1A to Pages Dairy Rd	14,750	0.5	7,375
	Pages Dairy Rd to CR 108 Extension	6,850	1.9	13,015
	CR 108 Extension to Blackrock Rd	1,835	1.4	2,569
Amelia Concourse	SR 200/A1A to Old Nassauville Rd	897	3.8	3,410
US 17	Duval County Line to Harts Rd	1,405	1.8	2,528
	Harts Rd to Sowell Rd	2,602	2.2	5,723
	Sowell Rd to SR 200/A1A	3,056	0.1	306
	SR 200/A1A to Pages Dairy Rd	6,291	0.2	1,258
	Pages Dairy Rd to Interchange Rd	6,781	1.8	12,206
	Interchange Rd to CR 108	7,104	2.7	19,182
	CR 108 to I-95	11,318	2.2	24,900
	I-95 to GA State Line	4,018	2.4	9,643
I-95/SR A1A Interchange	NB I-95 to SR A1A Off-ramp	0	0.3	0
	SR A1A to NB I-95 On-ramp	968	0.4	387
	SB I-95 to SR A1A Off-ramp	936	0.3	281
	SR A1A to SB I-95 On-ramp	0	0.4	0
I-95/US 17 Interchange	NB I-95 to US 17 Off-ramp	6,358	0.2	1,272
	US 17 to NB I-95 On-ramp	1,213	0.5	607
	SB I-95 to US 17 Off-ramp	1,194	0.3	358
	US 17 to SB I-95 On-ramp	6,471	0.2	1,294
CR 108 Extension	Chester Rd to Interchange Rd	17,275	5.3	91,556
	Interchange Rd to US 17	10,261	1.7	17,443
	US 17 to I-95 Overpass	13,683	1.5	20,524
N-S Regional Center Arterial	SR A1A to DSAP Collector Loop Rd	12,606	0.4	5,042
	DSAP Collector Loop Rd to Interchange Rd	6,200	1.5	9,300
	Interchange Rd to CR 108	25,872	3.6	93,139
	CR 108 to US 17	2,646	1.2	3,175
Interchange Rd	I-95 to N-S Regional Center Arterial	29,163	1.1	32,079

Roadway	From/To	Net New ENCPA Trips	Segment Length (miles)	VMT
Interchange Rd	N-S Regional Center Arterial to US 17	24,447	1.2	29,336
	US 17 to CR 108	21,871	2.1	45,928
DSAP Collector Loop Rd	N-S Regional Center Arterial to Interchange Rd	10,070	2.3	23,160
DSAP Collector	SR A1A to DSAP Collector Loop Rd	13,594	0.8	10,875
TOTAL				828,061

**Table B-8
Vehicle Miles Traveled (VMT) Summary – Revised Analysis (September 2014)**

Roadway	From/To	Net New ENCPA Trips	Segment Length (miles)	VMT
I-95	Duval County Line to SR 200/A1A	34,585	3.1	107,214
	SR 200/A1A to E-W Interchange Rd	38,069	2.0	76,138
	E-W Interchange Rd to US 17	12,052	4.7	56,644
	US 17 to GA State Line	4,498	2.5	11,245
SR 200/A1A	Griffin Rd to I-95	0	5.3	0
	I-95 to Old Yulee Rd	10,534	2.4	25,282
	Old Yulee Rd to US 17	10,426	0.7	7,298
	US 17 to Chester Rd	6,438	3.2	20,602
	Chester Rd to Blackrock Rd	9,569	1.1	10,526
	Blackrock Rd to Amelia Island Pkwy	9,130	3.8	34,694
CR 200A/Pages Dairy Rd	US 17 to Chester Rd	3,809	3.9	14,855
CR 107N/ Blackrock Rd	Chester Rd to SR 200/A1A	0	5.1	0
CR 107S/ Old Nassauville Rd	SR 200/A1A to Amelia Concourse	137	1.9	260
	Amelia Concourse to Santa Juana Rd	5,412	1.7	9,200
Chester Rd	SR 200/A1A to Pages Dairy Rd	15,847	0.5	7,924
	Pages Dairy Rd to CR 108 Extension	7,430	1.9	14,117
	CR 108 Extension to Blackrock Rd	2,328	1.4	3,259
Amelia Concourse	SR 200/A1A to Old Nassauville Rd	1,060	3.8	4,028
US 17	Duval County Line to Harts Rd	2,622	1.8	4,720
	Harts Rd to Sowell Rd	3,452	2.2	7,594
	Sowell Rd to SR 200/A1A	4,282	0.1	428
	SR 200/A1A to Pages Dairy Rd	7,717	0.2	1,543
	Pages Dairy Rd to Interchange Rd	7,159	1.8	12,886
	Interchange Rd to CR 108	6,140	2.7	16,578
	CR 108 to I-95	5,642	2.2	12,412
	I-95 to GA State Line	4,302	2.4	10,325
I-95/SR A1A Interchange	NB I-95 to SR A1A Off-ramp	0	0.3	0
	SR A1A to NB I-95 On-ramp	1,265	0.4	506
	SB I-95 to SR A1A Off-ramp	1,329	0.3	399
	SR A1A to SB I-95 On-ramp	0	0.4	0
I-95/US 17 Interchange	NB I-95 to US 17 Off-ramp	6,517	0.2	1,303
	US 17 to NB I-95 On-ramp	1,163	0.5	582

East Nassau Employment Center DSAP

Roadway	From/To	Net New ENCPA Trips	Segment Length (miles)	VMT
	SB I-95 to US 17 Off-ramp	1,172	0.3	352
	US 17 to SB I-95 On-ramp	6,724	0.2	1,345
CR 108 Extension	Chester Rd to Interchange Rd	15,218	5.3	80,655
	Interchange Rd to US 17	10,455	1.7	17,774
	US 17 to I-95 Overpass	13,145	1.5	19,718
N-S Regional Center Arterial	SR A1A to DSAP E-W Collector	13,782	0.6	8,269
	DSAP E-W Collector to Interchange Rd	15,293	1.3	19,881
	Interchange Rd to CR 108	15,745	3.6	56,682
	CR 108 to US 17	2,854	1.2	3,425
Interchange Rd	I-95 to DSAP Western Loop Collector	27,888	1.1	30,677
	DSAP Western Loop Collector to N-S Regional Arterial	24,004	0.8	19,203
	N-S Regional Center Arterial to US 17	24,234	0.4	9,694
	US 17 to CR 108	17,932	2.1	37,657
DSAP E-W Collector	DSAP Western Loop Collector to N-S Regional Arterial	3,397	1.3	4,416
DSAP Western Loop Collector	SR A1A to DSAP E-W Collector	10,481	0.6	6,289
	DSAP E-W Collector to Interchange Rd	10,161	1.8	18,290
TOTAL				806,887

Source: VHB

Table B-9 REVISED
Year 2035 Roadway Analysis with ENCPA

Roadway	From/To	2035 Baseline without ENCPA			Improvements to Address Backlog	No. of Lanes	Maximum Service Volume	Net New ENCPA Trips	Reductions		2035 Daily Roadway Volume	Roadway Capacity Used	Capacity Exceeded?	Mobility Recommendation
		Raw Model Volume	Daily Volume (MOCF=0.97)	Capacity Exceeded?					Local Street Connections	Internal Trails System				
I-95	Duval County Line to SR 200/A1A	119,960	116,361	Yes	Widen to 8 lanes	8D	146,500	34,585			150,946	103%	Yes	Additional capacity through N-S Regional Center Arterial and regional commuter rail.
	SR 200/A1A to E-W Interchange Rd	99,196	96,220			6D	110,300	38,069			134,289	122%	Yes	
	E-W Interchange Rd to US 17	99,196	96,220			6D	110,300	12,052			108,272	98%		
	US 17 to GA State Line	96,986	94,076			6D	110,300	4,498			98,574	89%		
SR 200/A1A	Griffin Rd to I-95	46,483	45,089			4D	58,800	0			45,089	77%		
	I-95 to Old Yulee Rd	50,197	48,691			6D	55,300	10,534			59,225	107%	Yes	Additional capacity through Interchange Rd
	Old Yulee Rd to US 17	48,364	46,913			6D	55,300	10,426			57,339	104%	Yes	Additional capacity through Interchange Rd
	US 17 to Chester Rd	58,129	56,385	Yes	Widen to 8 lanes	8D	73,800	6,438			62,823	85%		
	Chester Rd to Blackrock Rd	49,122	47,648			6D	55,300	9,569			57,217	103%	Yes	Additional capacity through intersection improvements
	Old Nassauville Rd to Amelia Island Pkwy	49,073	47,601			4D	64,300	9,130			56,731	88%		
CR 200A/Pages Dairy Rd	US 17 to Chester Rd	10,122	9,818			2U	16,500	3,809	-571	-190	12,866	78%		
CR 107N/Blackrock Rd	Chester Rd to SR 200/A1A	2,486	2,411			2U	16,500	0			2,411	15%		
CR 107S/ Old Nassauville Rd	SR 200/A1A to Amelia Concourse	9,634	9,345			2U	16,500	137			9,482	57%		
	Amelia Concourse to Santa Juana Rd	3,698	3,587			2U	16,500	5,412			8,999	55%		
Chester Rd	SR 200/A1A to Pages Dairy Rd	5,015	4,865			4D	36,700	15,847			20,712	56%		
	Pages Dairy Rd to CR 108 Extension	6,530	6,334			4D	36,700	7,430			13,764	38%		
	CR 108 Extension to Blackrock Rd	2,898	2,811			2U	16,500	2,328			5,139	31%		
Amelia Concourse	SR 200/A1A to Old Nassauville Rd	13,097	12,704			4D	36,700	1,060			13,764	38%		
US 17	Duval County Line to Harts Rd	25,655	24,885	Yes	Widen to 4 lanes	4U	64,300	2,622			27,507	43%		
	Harts Rd to Sowell Rd	24,090	23,367	Yes	Widen to 4 lanes	4U	64,300	3,452			26,819	42%		
	Sowell Rd to SR 200/A1A	12,967	12,578			4D	36,700	4,282			16,860	46%		
	SR 200/A1A to Pages Dairy Rd	9,415	9,133			4D	36,700	7,717			16,850	46%		
	Pages Dairy Rd to Interchange Rd	9,623	9,334			2U	21,100	7,159			16,493	78%		
	Interchange Rd to CR 108	8,987	8,717			2U	21,100	6,140			14,857	70%		
	CR 108 to I-95	6,899	6,692			2U	21,100	5,642			12,334	58%		
	I-95 to GA State Line	6,408	6,216			2U	21,100	4,302			10,518	50%		
I-95/SR A1A Interchange	NB I-95 to SR A1A Off-ramp	23,188	22,492	Yes	Widen to 3 lanes	3L	33,300	0			22,492	68%		
	SR A1A to NB I-95 On-ramp	12,112	11,749	Yes	Widen to 2 lanes	2L	22,200	1,265			13,014	59%		
	SB I-95 to SR A1A Off-ramp	12,106	11,743	Yes	Widen to 2 lanes	2L	22,200	1,329			13,072	59%		
	SR A1A to SB I-95 On-ramp	23,776	23,063	Yes	Widen to 3 lanes	3L	33,300	0			23,063	69%		
I-95/US 17 Interchange	NB I-95 to US 17 Off-ramp	4,192	4,066			1L	11,100	6,517			10,583	95%		
	US 17 to NB I-95 On-ramp	2,420	2,347			1L	11,100	1,163			3,510	32%		
	SB I-95 to US 17 Off-ramp	2,420	2,347			1L	11,100	1,172			3,519	32%		
	US 17 to SB I-95 On-ramp	4,039	3,918			1L	11,100	6,724			10,642	96%		
CR 108 Extension	Chester Rd to Interchange Rd					2U	16,500	15,218	-2,283	-761	12,174	74%		
	Interchange Rd to US 17					2U	16,500	10,455	-1,568	-523	8,364	51%		
	US 17 to I-95 Overpass					2U	16,500	13,145	-1,972	-657	10,516	64%		

East Nassau Employment Center DSAP

Roadway	From/To	2035 Baseline without ENCPA			Improvements to Address Backlog	No. of Lanes	Maximum Service Volume	Net New ENCPA Trips	Reductions		2035 Daily Roadway Volume	Roadway Capacity Used	Capacity Exceeded?	Mobility Recommendation
		Raw Model Volume	Daily Volume (MOCF=0.97)	Capacity Exceeded?					Local Street Connections	Internal Trails System				
N-S Regional Center Arterial	SR A1A to DSAP E-W Collector					4D	36,700	13,782	-2,067	-689	11,026	30%		
	DSAP E-W Collector to Interchange Rd					4D	36,700	15,293	-2,294	-765	12,234	33%		
	Interchange Rd to CR 108					4D	36,700	15,745	-2,362	-787	12,596	34%		
	CR 108 to US 17					4D	36,700	2,854	-428	-143	2,283	6%		
Interchange Rd	I-95 to DSAP Western Loop Collector					6D	55,300	27,888	-4,183	-1,394	22,311	40%		
Interchange Rd	DSAP Western Loop Collector to N-S Regional Center Arterial					4D	36,700	24,001	-3,601	-1,200	19,203	52%		
	N-S Regional Center Arterial to US 17					4D	36,700	24,234	-3,635	-1,212	19,387	53%		
	US 17 to CR 108					4D	36,700	17,932	-2,690	-897	14,345	39%		
DSAP E-W Collector	DSAP Western Loop Collector to N-S Regional Center Arterial					2U	16,500	3,397	-510	-170	2,717	16%		
DSAP Western Loop Collector	SR A1A to DSAP E-W Collector					2U	16,500	10,481	-1,572	-524	8,385	51%		
	DSAP E-W Collector to Interchange Rd					2U	16,500	10,161	-1,524	-508	8,129	49%		

Table B-9 REVISED, cont.
Year 2035 Roadway Analysis with ENCPA

North-South Cordon Line Analysis (Cordon Line located north of SR A1A – immediately south of Interchange Rd)

North-South Roadway	From/To	Maximum Service Volume	2035 Daily Roadway Volume	Roadway Capacity Used
I-95	SR 200/A1A to E-W Interchange Rd	110,300	134,289	122%
N-S Regional Center Arterial	DSAP E-W Collector to Interchange Rd	36,700	12,234	33%
DSAP Western Loop Collector	DSAP E-W Collector to Interchange Rd	16,500	8,129	49%
US 17	Pages Dairy Rd to Interchange Rd	21,100	16,493	78%
Chester Road	Pages Dairy Rd to CR 108 Extension	36,700	13,764	38%
Total – all North-South Routes		221,300	184,910	84%

East-West Cordon Line Analysis (Cordon Line located west of Chester Road)

East-West Roadway	From/To	Maximum Service Volume	2035 Daily Roadway Volume	Roadway Capacity Used
CR 108 Extension	Chester Rd to Interchange Rd	16,500	12,174	74%
CR 200A/Pages Dairy Road	US 17 to Chester Rd	16,500	12,866	78%
SR 200/A1A	US 17 to Chester Rd	73,800	62,823	85%
Total – all East-Est Routes		106,800	87,863	82%

An important component of the mobility approach is the provision of transportation capacity through network connectivity and alternate routes. **Table B-9** also summarizes the recommended mobility solution to address the capacity issues identified. In most cases, the recommended approach provides for additional capacity on parallel routes. In the case of SR A1A between I-95 and US 17, it is proposed that parallel capacity be provided through Interchange Road. For the section of SR A1A between Chester Road and Blackrock Road, intersection improvements are proposed in the form of additional left turn lanes at the Blackrock Road intersection. In the case of Interstate 95, it is proposed that parallel capacity be provided via the North-South Regional Center Arterial through the Regional Center and Employment Center. Similarly, ENCPA impacts at the existing I-95 interchanges at SR A1A and US 17 will be addressed through the construction of a new interchange. This interchange has been assumed in the transportation analysis and the costs are included in the Mobility Network discussed below.

Figure B-5 shows the recommended Mobility Network to support the buildout of the ENCPA. The numbers below correspond to the Figure.

- 1) CR 108 Extension
- 2) New I-95 Interchange at Interchange Road
- 3) Interchange Road
- 4) US 17 widening
- 5) N-S Regional Center Arterial
- 6) DSAP Western Loop Collector
- 7) Traffic signals at major intersections
- 8) SR A1A Intersection Improvements
- 9) I-95/SR A1A Interchange improvements
- 10) SR A1A and William Burgess Boulevard Intersection improvements
- 11) Internal multi-use trail system (not shown on exhibit)

These improvements will be funded and implemented over time based on the construction of development within the ENCPA and the trips generated by this development.

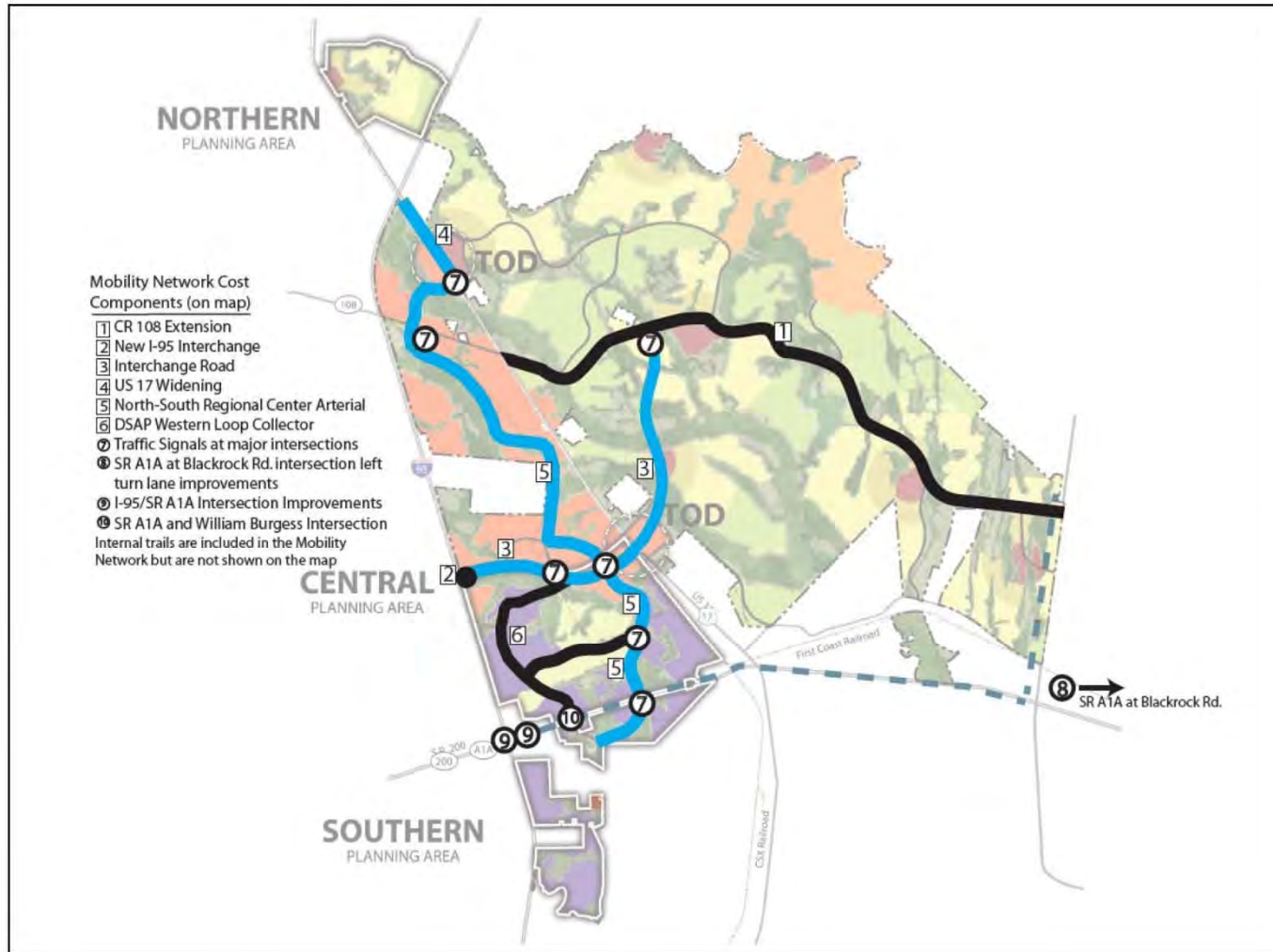
Table B-10 summarizes the estimated ENCPA costs for the Mobility Network in Year 2012. As shown in the table, the total estimated cost is **\$138.9 million**.

Key assumptions regarding the ENCPA costs are as follows:

- All costs are in Year 2012 Dollars.
- Transportation costs per mile are based on costs from improvements within the adopted FDOT Work Program within Nassau County and District 2.
- Right of way costs are estimated as \$15,000 per acre, with corridor widths consistent with the illustrative cross sections in the Mobility chapter.

The ENCPA share of the cost is assumed to be 100 percent.

Figure B-5 (REVISED 9/26/14)
Recommended ENCPA Mobility Network



Improvements

- █ 4-Lanes
- █ 2-Lanes w/ Turn Lanes at Major Intersections
- █ Committed Funding Roadway
- Interchange
- Traffic Signal

Notes

1. All 4-lane roadways are assumed to be implemented in phases, with 2 lanes constructed internally.
2. The cross-sections for all the Mobility Network roadways also include 12' multi-use trails.
3. In addition to the roadways shown, the Mobility Network includes 50 miles of separate multi-use trails.
4. Roadways shown in dashed lines have committed funding through FDOT for additional lanes. These roadways are not included in the costs for the recommended mobility plan.

East Nassau Employment Center DSAP

Table B-10 REVISED
Mobility Improvements Summary

Roadway/Segment	Length (miles)	Improvement	Design and Construction Cost per Mile			Design and Construction Subtotal	ROW Subtotal	Total Cost
			Roadway	Multi-Use Path (12')	Sidewalk			
CR 108 Extension								
US 17 to Interchange Rd	1.7	New 2-lane road	\$3,027,000	\$163,321	\$102,285	\$5,597,430	\$498,000	\$6,095,430
Interchange Rd to Resort Area	3.7	New 2-lane road	\$3,027,000	\$163,321	\$102,285	\$12,182,642	\$1,083,000	\$13,265,642
Resort Area to Chester Rd	1.6	New 2-lane road	\$3,027,000	\$163,321	\$102,285	\$5,268,170	\$468,000	\$5,736,170
Interchange Rd								
I-95 to DSAP Western Loop Collector	1.1	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$5,400,567	\$322,000	\$5,722,567
DSAP Western Loop Collector to N-S Regional Arterial	0.8	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$3,927,685	\$234,000	\$4,161,685
N-S Regional Center Arterial to US 17	0.4	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$1,963,842	\$117,000	\$2,080,842
US 17 to CR 108	2.1	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$10,310,173	\$615,000	\$10,925,173
Interchange Rd at I-95		New interchange				\$23,650,000	\$75,000	\$23,725,000
DSAP Western Loop Collector		New 2-lane road	\$3,027,000	\$163,321	\$102,285	\$12,182,642	\$787,000	\$12,969,642
N-S Regional Center Arterial								
US 17 to CR 108	1.2	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$5,891,527	\$351,000	\$6,242,527
CR 108 to Interchange Rd	3.6	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$17,674,582	\$1,054,000	\$18,728,582
Interchange Rd to SR 200/A1A	1.9	New 4-lane road	\$4,644,000	\$163,321	\$102,285	\$9,328,251	\$556,000	\$9,884,251
US 17								
N-S Regional Center Arterial to I-95	1.2	Widen to 4 lanes	\$5,676,000	\$163,321	\$102,285	\$7,129,927	\$87,000	\$7,216,927
Traffic Signals (at 8 major intersections)		Install new signal				\$2,800,000		\$2,800,000
SR A1A Intersection Improvements		Dual left lanes at Blackrock Rd				Cost included with Traffic Signals at major intersections		
SR A1A/I-95 Interchange Improvements		Interchange improvements				\$700,000		\$700,000
SR A1A/William Burgess Blvd Intersection Improvements		Intersection improvements				\$500,000		\$500,000
Internal multi-use trail system		New multi-use trail		\$163,321		\$8,166,050		\$8,166,050
TOTAL						\$132,673,488	\$6,247,000	\$138,920,488



B.6 Recommended Improvements – Employment Center DSAP

This section summarizes the Mobility Network improvements associated with the buildout of the DSAP. As stated earlier, these improvements were identified based on the components needed to support development of this portion of the ENCPA. The improvements are discussed for each of the three Planning Areas (Central, Northern and Southern) associated with the DSAP.

B.6.1 Central Planning Area

Figure B-6 summarizes the mobility improvements associated with the Central Planning Area. These improvements were identified based on the development program of 3,269 residential units and 6,236,495 square feet of non-residential uses (retail, office and industrial). This program for the Central Planning Area generates an estimated 95,657 daily trips at buildout. *Table B-11* summarizes the development program and its trip generation.

Within the Central Planning Area, the following transportation improvements have been identified:

- **North – South Regional Center Arterial (4 lanes)** – This roadway will extend through the Central Planning Area (the Employment Center) and continue north through the Regional Center and connect to US 17. This roadway will serve as the spine of the ENCPA for areas between US 17 and Interstate 95. A traffic signal is assumed at the intersection of this roadway and SR A1A.
- **Interchange Road (4 lanes)** – This roadway will provide access to the Central Planning Area from US 17. An interchange with Interstate 95 is assumed at the buildout of the Central Planning Area. As areas of the ENCPA east of US 17 are developed, the Interchange Road will be extended to the east.
- **Collector Roadways (2 lanes with turn lanes)** – The collector roadways for the Central Planning Area provide a second access point to and from SR A1A, as well as the East-West Interchange Road.
- **Local Roadways (2 lanes)** – In addition to the arterial and collector roadways included in the Mobility Network, a supporting network of local streets will be completed to provide access to parcels within the Central Planning Area. Connectivity standards for the network of arterial, collector and local streets are defined as part of the ENCPA Sector Plan.

**Table B-11
DSAP Trip Generation**

North Area – Neighborhood A

Land Use	ITE Category	Intensity		Daily Trips
SF Residential	210	769	du	6,860
Retail	820	75,000	sf	5,633
Gross Total – North Area				12,493

Central Area – Employment Center

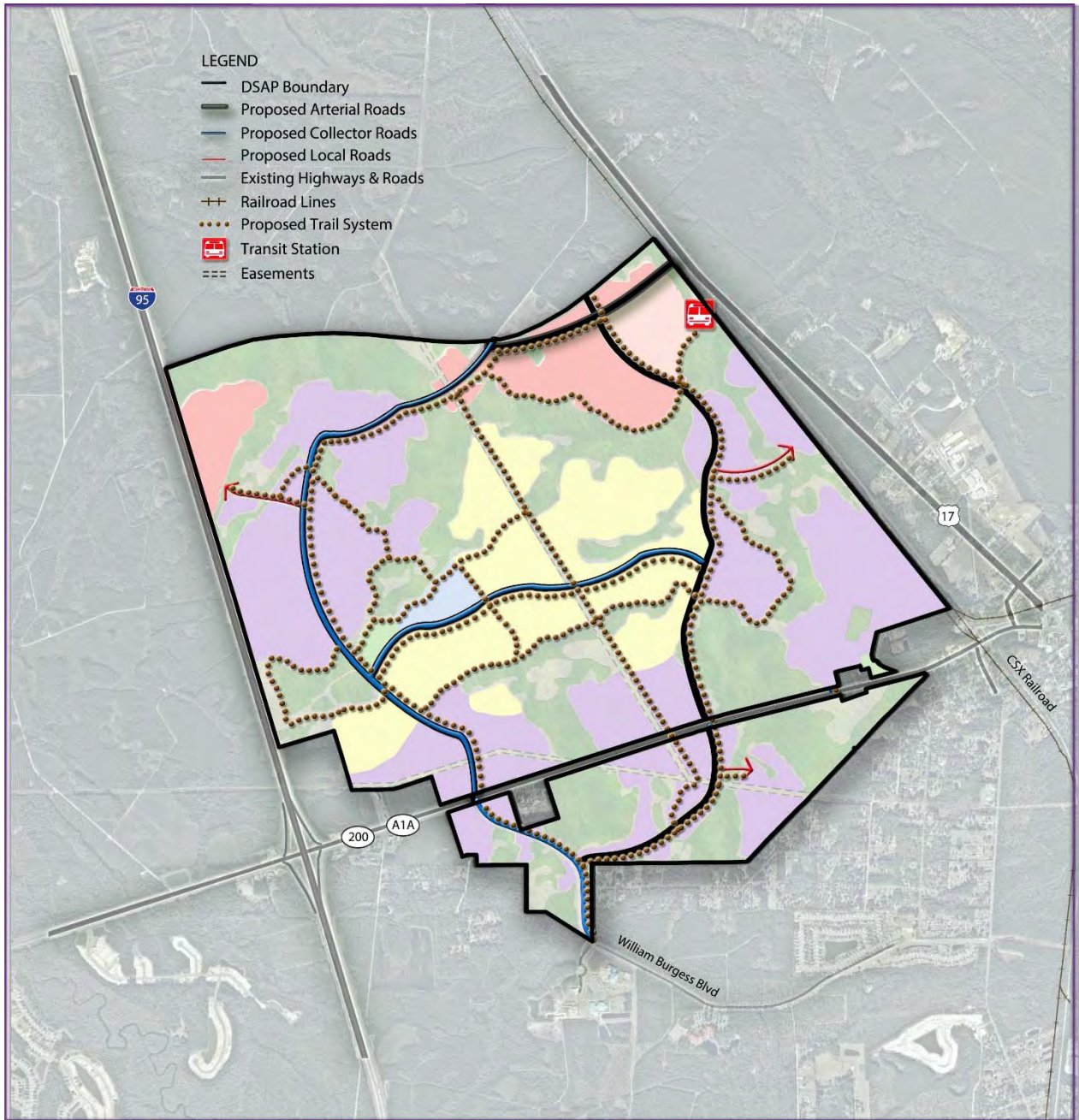
Land Use	ITE Category	Intensity		Daily Trips
Office Park	750	2,800,000	sf	29,585
SF Residential	210	1,483	du	12,553
Apartment	220	1,461	du	8,977
Townhome	230	325	du	1,794
Retail	820	700,000	sf	24,058
Industrial Park	130	2,736,495	sf	18,690
Gross Total – Central Area				95,657

South Area – Neighborhood H

Land Use	ITE Category	Intensity		Daily Trips
Industrial Park	130	788,505	sf	5,386
Gross Total – South Area				5,386

Source: ITE Trip Generation, 9th Edition

Figure B-6
DSAP Mobility Network



- **Trail System** – A system of multi-use trails is planned to provide non-auto travel choices within the Central Planning Area. The trail system will accommodate pedestrians, bicyclists and golf carts. Approximately 20 miles of trails are included as part of the Mobility Network for this area.
- **Transit Oriented Development** – The Central Planning Area provides opportunities for TOD around any future stations developed as part of a commuter rail system between Nassau County and downtown Jacksonville. Such a system has been included in the adopted MPO Long Range Transportation Plan, as discussed earlier in this section.

Since the Market Street Preliminary Development Plan (PDP) is being submitted in conjunction with this DSAP amendment, refer to the Market Street Transportation Impact Analysis for short-term (five-year) conditions.

B.6.2 Northern Planning Area

The transportation network to support the Northern Planning Area consists of local streets and internal trails. No regional roadways are proposed.

The total development program for the Northern Planning Area consists of 769 single-family residential units and 75,000 square feet of retail; this program produces an estimated 12,493 daily trips. Access to the Northern Planning Area is limited to a single roadway, US 17, with two access points recommended. Environmental constraints to the north and Interstate 95 to the east restrict the opportunity for additional connectivity.

For short-term (five-year) conditions, no development is projected within the Northern Planning Area. Therefore, no short-term transportation improvements have been identified for this area. However, given the current capacity availability on US 17 as documented in the existing conditions analysis earlier in this section, it is reasonable to expect that a small increment of development could be accommodated within the next five years without triggering any adverse roadway impacts.

B.6.3 Southern Planning Area

The transportation network to support the Southern Planning Area consists of local streets and internal trails. No regional roadways are proposed.

The total development program for the Southern Planning Area consists of 788,505 square feet of industrial development; this program produces an estimated 5,386 daily trips. Existing access to the Southern Planning Area is limited to a single

roadway, William Burgess Boulevard, to the northeast. Additional connections to the north to SR A1A have been identified as possible, but are not required to support development of this area. Environmental constraints to the south and Interstate 95 to the west restrict the opportunity for additional connectivity.

For short-term (five-year) conditions, no development is projected within the Southern Planning Area. Therefore, no short-term transportation improvements have been identified for this area. However, given the current capacity availability on William Burgess Boulevard as documented in the existing conditions analysis earlier in this section, it is reasonable to expect that a small increment of development could be accommodated within the next five years without triggering any adverse roadway impacts.