Paratransit Service Analysis

DRAFT

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Prepared by

Tindale Oliver

Table of Contents

List of Figures

List of Maps

List of Tables

1.0 Introduction

This study was initiated by the River to Sea Transportation Planning Organization (R2CTPO) to take a closer look at the increasing local demand for both paratransit and transportation disadvantaged (TD) services in Flagler and Volusia counties. Over the past number of years, many transit agencies in Florida have been experiencing increases in demand for paratransit services. This has been prompted by the attraction of the state as a retirement destination, the significant presence of older "snowbird" residents during the temperate months, and the growing interest of people electing to age in place. These factors all contribute to a greater need for "on-demand" services that better fit the mobility needs of these individuals, thereby increasing local demand for both paratransit and TD services for those who qualify for these services.

Such impacts have been evident in both Volusia and Flagler counties, as the need for more door-to-door (or curb-to-curb) services in various areas of these counties are seemingly apparent. Increasing demand puts a strain on local budgets, making the efficient provision of services increasingly important. In addition, the State of Florida relies upon a Community Transportation Coordinator (CTC) to coordinate and manage the provision of transportation services for disadvantaged populations within its service area. The CTC program has changed over the years and understanding the effects of these changes, in addition to the increased demands overall, and budgets associated with providing services, is critically important to ensuring the most effective provision of services to the local community.

The primary purpose of this study is to identify changes in the industry that have had a negative or positive impact on efficiencies in service provision and on budgets. This is accomplished by assessing the evolution of paratransit service, both statewide and locally, the current state of practices in the industry, challenges to providing services, and potential trends for the future.

Organization of Report

This technical memorandum was prepared as part of the Paratransit Service Analysis to lay the foundation for developing a good understanding of various aspects of the paratransit operating environments in Flagler and Volusia counties, as well as in Florida, which will be assessed closely as part of the forthcoming mobility and service needs assessment.

This memorandum is organized into four sections, including this Introduction. The other five sections are briefly described below.

Section 2 includes a statewide performance trend analysis of key metrics for paratransit and demand response services using data from the National Transit Database (NTD) and from the Florida Commission for the Transportation Disadvantaged (FCTD) for the last nine years. Also presented is information about how Non-Emergency Medical Transportation (NEMT) is managed in Florida and how it has changed over the years. This research is used to determine the possibility that services have been impacted by the NEMT changes.

Section 3 summarizes the operating environment for Flagler and Volusia counties. This includes a physical description of the study area and a review of various population, employment, demographic, and socioeconomic data/characteristics such as age, income distribution, poverty levels, and disabilities, which provide the basis for more detailed analysis in subsequent tasks of the study. This section also includes a performance trend analysis at the county level for paratransit and demand response services using NTD data and data from Flagler and Volusia County staff.

Section 4 summarizes the existing transit services found in Flagler and Volusia counties, which includes a review of the local fixed-route, paratransit, and TD services offered in both counties. Also included is a performance trend analysis that presents a detailed examination over time of operating data for Flagler and Volusia's paratransit and TD services.

Section 5 summarizes the service gaps and needs identified for Flagler and Volusia counties and introduces examples of paratransit innovations implemented by other transit agencies across the country who are seeing similar trends in increasing paratransit demand and higher trip costs.

Section 6 presents short-term, mid-term, and long-term recommendations for paratransit and TD service efficiencies, modifications, and/or improvements. The recommendations are accompanied by an implementation plan and cost summary.

2.0 State-Level Research

This section examines the issue in question at the state level. Primarily, this research focuses on two areas: the impacts of NEMT changes, and the trend in key performance indicators over time to understand how both the provision of and demand for these services have evolved. Any local issues identified later on will be compared to the statewide results to determine whether local phenomena are atypical, or just a reflection of the greater trend.

Florida Trend Analysis

A review of the State of Florida's demand response service's indicators and measures was conducted to learn more about the providers across Florida and evaluate the overall trends of the services provided by these agencies. The trend analysis included 34 urban Florida agencies that provide paratransit services, both directly operated and purchased transportation.

Data collected from the Florida Transit Information System (FTIS), a comprehensive data repository of historical and the most recent validated NTD data for transit agencies in the U.S., was used to complete the analysis. However, as validated transit data in the NTD is typically two years behind the current operating year due to FTA's rigorous review and validation processes, performance data for 2020 was not available from NTD.

The trend analysis includes general indicators, effectiveness measures, and efficiency measures. These are described below:

- **General Indicators** - quantity of service supply, passenger and fare revenue generation, and resource input
- **Effectiveness Measures** - extent to which the service is effectively provided
- **Efficiency Measures** - extent to which cost efficiency is achieved

Table 2-1 provides the State trend analysis for 2011-2019. A summary of results and implications of the analysis can be found following the table, organized by indicator and measure.

Additionally, data from the FCTD were assessed to examine the statewide potential TD population and the passenger trips provided. The FCTD coordinates and contracts with a CTC and the respective planning agency in the area. The TD population is defined by the FCTD as older adults, those who have physical or mental disabilities, low income, children classified as handicapped or at-risk, or those that are unable to transport themselves.

Although 2020 data are available, the pandemic may have a significant effect on the data, making it not representative of a normal year. To ensure a comparable trend analysis, the same time period, 2011-2019, was used. Table 2-2 shows the trend analysis for the statewide TD population and passenger trips derived from FCTD data.

Table 2-1: Florida FTIS Trend Analysis, 2011-2019

Indicator/ Measure	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change
General Indicators										
Passenger Trips	7,081,072	7,201,580	6,861,923	6,733,292	6,584,907	6,870,012	7,060,639	7,393,198	7,586,311	7%
Service Area Pop.	17,012,185	17,027,660	17,237,291	17,609,831	19,251,157	18,232,914	18,230,253	18,589,611	19,250,960	13%
Revenue Miles	59,657,057	60,784,634	58,536,160	57,515,162	59,607,931	62,736,231	67,598,237	67,422,851	70,084,474	17%
Revenue Hours	3,765,304	3,809,185	3,706,485	3,614,588	3,778,216	4,067,719	4,378,671	4,455,531	4,728,249	26%
Total Operating Expense	$190M	$198M	$183M	$185M	$200M	$204M	$219M	$246M	$263M	38%
Effectiveness Measures										
Revenue Miles per Capita	3.51	3.57	3.40	3.27	3.10	3.44	3.71	3.63	3.64	4%
Revenue Miles per Revenue Hour	15.84	15.96	15.79	15.91	15.78	15.42	15.44	15.13	14.82	-6%
Passenger Trips per Capita	0.42	0.42	0.40	0.38	0.34	0.38	0.39	0.40	0.39	-5%
Passenger Trips per Revenue Hour	1.88	1.89	1.85	1.86	1.74	1.69	1.61	1.66	1.60	-15%
Passenger Trips per Revenue Mile	0.12	0.12	0.12	0.12	0.11	0.11	0.10	0.11	0.11	-9%
Efficiency Measures										
Operating Expense per Capita	$11.22	$11.60	$10.61	$10.48	$10.40	$11.22	$12.02	$13.23	$13.66	22%
Operating Expense per Passenger Trip	$26.94	$27.43	$26.65	$27.41	$30.41	$29.76	$31.03	$33.28	$34.66	29%
Operating Exp. per Revenue Mile	$3.20	$3.25	$3.12	$3.21	$3.36	$3.26	$3.24	$3.65	$3.75	17%
Operating Expense per Revenue Hour	$50.67	$51.86	$49.34	$51.07	$53.00	$50.27	$50.04	$55.22	$55.61	10%

Source: FTIS

Statewide Trend Analysis Summary

General Indicators

- All general indicators have increased over the nine-year period. The total operating cost increased the most, growing 38 percent. Although increases in operating cost is generally undesirable, the operating cost increased approximately four percent a year, on average. This is not a significant annual growth amount for this factor and much of it may be somewhat out of the agencies' control due to market impacts and other relevant inflationary factors. In tandem, agencies have been supplying more service as both revenue miles and revenue hours increased, 17 percent and 26 percent, respectively. A greater increase in revenue hours than revenue miles may suggest that agencies have extended their service spans, are providing more service within a concentrated area, or are providing more trips during peak periods of travel when congestion may be negatively impacting travel times. The service area populations have increased by 13 percent while passenger trips have increased by 7 percent. This implies that, although the population has grown, the demand for paratransit services has not grown in corresponding fashion.

Effectiveness Measures

- Most effectiveness measures have decreased throughout the state, with the exception of revenue miles per capita (4%). The greatest decrease is observed in the passenger trips per revenue hour measure (-15%). This may suggest that, although the agencies are supplying more service, they are unable to achieve improved efficiencies through multiloading on this additional service and/or passengers just are not utilizing the additional supply that is available. Furthermore, although there is a general decreasing trend, the passenger trips per revenue hour metric has fluctuated throughout the nine years. A similar general declining trend is observed in passenger trips per revenue mile (-9%), although it is less pronounced and the trend has remained more stable throughout the period. This seems to indicate that, overall, agencies are taking more time to provide a similar level of rider utilization per mile. Although passenger trips per capita (-5%) and revenue miles per revenue hour (-6%) have both declined, these represent marginal declines per year.

Efficiency Measures

- All efficiency measures have increased at various rates. Although all measures have experienced an overall increase, there was a general decline observed in the earlier years; most metrics have seen a sharper increase more recently, since 2016. These increasing efficiency measures can be attributed to the total operating expenses increasing the most. Operating expense per passenger trip (29%) experienced the greatest increase with a sharper increase observed beginning in 2016 after some previous fluctuation. The increase in operating expense per capita (22%) similarly corresponds more to the greater increase in operating expense than the overall service area population growth. Due to revenue miles increasing at a slower rate than total operating expense, the overall operating expense per revenue mile shows a 17 percent increase throughout the same

period. Although operating expense per revenue hour increased by approximately 10 percent over the nine-year period, this averages out to be approximately 1 percent per year, which could be explained by the unavoidable effects from inflation and other exogenous factors beyond the control of any service providers. Overall, the increasing trends in all of these measures indicate a general decline in cost efficiency, especially over the last three to four years.

Table 2-2: Florida FCTD Trend Analysis, 2011-2019

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change	2014-2019 Change
General Indicators											
Population	-	18,905,600	19,074,400	19,552,860	19,893,297	20,271,272	20,612,439	20,984,400	20,984,400	11.0%*	7.3%
Potential TD Population	-	7,682,786	7,682,786	7,865,157	8,247,091	8,447,071	8,653,338	8,866,128	-	15.4%**	12.7%
Total Passenger Trips	51,144,402	47,720,113	49,601,883	29,231,282	17,780,954	21,622,138	22,636,650	22,514,853	21,103,363	-58.7%	-27.8%
Expenses	$383M	$368M	$413M	$313M	$250M	$274M	$280M	$284M	$303M	-21.0%	-3.2%
Cost per Trip	$7.51	$7.70	$8.32	$10.70	$14.08	$12.66	$12.37	$12.62	$14.35	90.7%	34.1%
Vehicles	5,279	5,172	5,499	5,296	4,691	4,142	4,233	4,105	4,580	-13.2%	-13.5%
Vehicle Miles	134,066,891	127,393,559	127,393,559	117,941,581	88,717,630	93,048,270	95,945,735	99,057,595	95,241,016	-29.0%	-19.2%
Revenue Miles	111,453,268	106,904,343	107,058,636	97,732,682	74,892,108	75,642,955	79,702,553	-	-	-28.5%^	-18.4%^
Cost per Mile	$2.67	$2.70	$3.13	$2.56	$2.73	$2.78	$2.79	$2.87	$3.18	19.1%	24.2%
Passenger Trips by Type											
Medical	18,035,252	17,084,469	8,767,967	7,377,411	5,440,070	5,164,765	5,622,291	4,744,140	4,387,367	-75.7%	-40.5%
Employment	3,974,433	4,374,996	3,110,999	2,935,656	2,703,968	3,471,560	3,597,565	3,752,285	3,025,009	-23.9%	3.0%
Ed/Train/Daycare	10,582,927	9,531,237	6,335,775	3,264,670	3,210,375	3,433,064	5,331,015	2,805,745	3,232,580	-69.5%	-1.0%
Nutritional	10,610,550	9,994,108	1,601,448	1,365,147	1,322,867	2,022,764	3,496,933	3,925,897	1,908,632	-82.0%	39.8%
Life-Sustaining/Other	7,941,240	6,735,303	29,785,694	14,288,398	5,103,674	7,529,985	4,588,846	7,286,786	8,549,775	7.7%	-40.2%

**Data from 2011 are unavailable. Trend is 2012-2019.*

*** Data from 2011 and 2019 are unavailable. Trend is 2012-2018.*

^Data from 2018 and 2019 are unavailable. Trend is through 2017.

Source: FCTD

FCTD Trend Analysis Summary

In 2018, approximately 42 percent of Florida residents were considered to be transportation disadvantaged. Furthermore, the growth of potential TD residents (15.4%) has outpaced the overall population growth (11.0%). Despite the continuing increase in general population and potential TD populations, the number of passenger trips from 2011 to 2019 experienced a drastic decline, 58.7 percent. Another notable change was the cost per trip, with an increase of 90.7 percent between 2011 and 2019.

The extreme decrease in trips from 2013 to 2014 was found to be related to a change in methodology for allocating trips for monthly and weekly bus passes. The FCTD had previously allocated 40 trips for a monthly bus pass and 10 trips for a weekly pass. This was based on the assumption that TD transit users were utilizing public transportation for daily use, including transport to work and school. However, the FCTD found that most used public transit for medical appointments and other life sustaining trips; as a result, the total trip count allocation for monthly and weekly passes was altered to 12 and 3, respectively. Due to the previous allocation method, it was found that CTCs with large fixed-route systems were receiving a significant share of TD funds, but, since the adjustment, funding is now spread more equitably across CTCs of all sizes.

Due to this significant discrepency in data, additional comparisons were drawn for the 2014 to 2019 timeframe. These results show that, despite operating expenses decreasing more than 3 percent, cost per trip still increased by 34.1 percent because of a nearly 28 percent drop in passenger trips. Additionally, cost per mile increased 24.2 percent while the number of vehicles and vehicle miles decreased 13.5 percent and 19.2 percent, respectively. Helping to produce this sizeable decline in trips overall from 2014 to 2019, the largest decreases were observed in trips classified under the medical (-40.5%) and life-sustaining (-40.2%) purposes. Trips under the employment and nutritional purposes actually increased, by 3.0 percent and 39.8 percent, respectively.

NEMT Impact Assessment

NEMT is a benefit that is available to beneficiaries of Medicaid and Medicare. This service, as the name suggests, provides transportation to and from non-emergency medical appointments. Each state has the authority to decide how it will provide NEMT to its qualified residents. There are several models for NEMT provision:

- In-house management by the state Medicaid agency, usually based on a fee for service (FFS)
- Managed care organizations (MCOs)
- Brokers qualify and authorize Medicaid clients for NEMT and then contract with transportation providers to perform the NEMT service. Brokers may be for profit, not for profit, or public.
    - Statewide broker
    - Regional brokers

- MCO brokers
- Mixed models

In 2011, the Florida Legislature created the Medicaid Managed Care Program and, as of February 2015, Florida changed to the MCO model with "Carved-in NEMT." Prior to 2015, the State contracted with the FCTD to manage NEMT statewide, who then subcontracted out to CTCs to provide NEMT. Non-emergency medical transportation is now the responsibility of an individual's managed health care plan and is provided through brokers under contract with such healthcare plans.[1] Figure 2-1 shows how users are provided with transportation in the traditional NEMT broker model.

The Center for Medicare and Medicaid Services (CMS) recommends that states utilize the broker method of NEMT provision for several reasons, resulting in many states choosing the broker or MCO method of provision. With FFS NEMT, there is an incentive for overuse, which has been linked to program integrity problems in several states. In contrast, NEMT brokers and MCOs receive a capped amount of funding and, therefore, need to identify the most cost efficient and high-quality ride providers for their NEMT users.[2]

Figure 2-1: Traditional NEMT Broker Model

Source: Veyo[3]

However, while cost-efficient, the broker/MCO method has been criticized for resulting in inadequately prepared providers and decreased quality of services. Brokers are incentivized to pick the cheapest provider, which has reportedly resulted in a decrease in ride quality in some regions due

[1] Florida Commission for the Transportation Disadvantaged, 2015 Annual Progress Report.
[2] Adelberg, M., & Simon, M. (2017, September 20). Non-emergency medical transportation: Will reshaping Medicaid sacrifice an important benefit? Health Affairs: Leading Publication of Health Policy Research & Insight. https://www.healthaffairs.org/do/10.1377/hblog20170920.062063/full/
[3] Veyo. (n.d.). [Chart]. Veyo.com. https://veyo.com/what-is-nemt/

to either inexperienced providers, a decrease in coordination of services, and/or the effect on other public transit services.[4]

As a result of the shift from CTC-provided NEMT, CTCs have seen a decrease in their funding as the guaranteed financing from NEMT is either permanently removed or competed for on the free market against private brokers. This influences the cost-per-passenger and local tax burden for other services provided, including door-to-door transportation for the critically disabled population and bus passes for other transportation disadvantaged residents.[5]

Statewide Impact

As mentioned previously, the State moved the responsibility for the provision of NEMT from FCTD to MCO-contracted brokers in 2014. Table 2-3 shows that this change resulted in a decrease of the statewide allocation for NEMT to CTCs from almost $58 million dollars to just over $12 million dollars. Subsequently, the total number of trips drastically decreased from about 2.5 million in FY 2013-2014 to just 300,000 in FY 2014-2015. Additionally, the statewide trend anaylsis shows a 34 percent increase in cost per trip and a 28 percent decrease in rishership between 2014 and 2019. The transition from NEMT as a public service provided by local CTCs, to a private brokerage system, can likely be linked to the drastic ridership and cost per trip changes after 2014.

Table 2-3: Changes in NEMT, FY 2013-2014 to FY 2014-2015

NEMT	FY 2013-14	FY 2014-15	% Change
Funding	$57,949,027	$12,247,431	-78.9%
Total Trips	2,584,919	301,694	-88.3%
Unduplicated Passenger Count	64,021	12,389	-80.6%

Source: FCTD

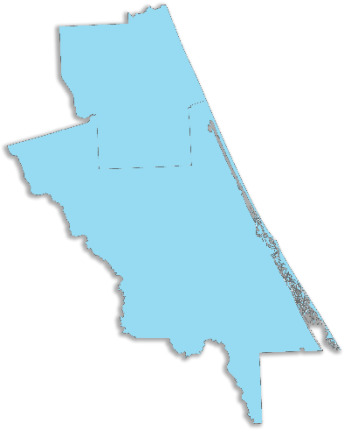
[4] American Public Transportation Association. (2020). Medicaid transportation benefits: Changes negatively impact recipients. https://www.apta.com/wp-content/uploads/APTA-NEMT-Policy-Brief-Mar-2020.pdf
[5] Cherrington, L., Edrington, S., Burkhardt, J., Raphael, D., Collette, P. W., Borders, S., ... & Garrity, R. (2018). Handbook for Examining the Effects of Non-Emergency Medical Transportation Brokerages on Transportation Coordination (No. Project B-44).

3.0 Local-Level Analysis

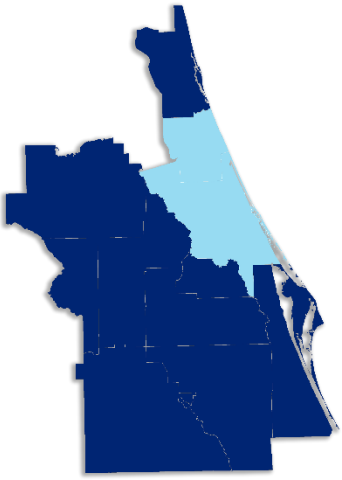
The purpose of this section is to analyze and present relevant baseline conditions data to help gain a better understanding of the environment in which the transit systems are currently operating in Flagler and Volusia counties. A review of recent local plans, studies, and reports that may have a direct bearing on the considerations for paratransit and TD services in Flagler and Volusia counties was also conducted.

Plans Review

Due to potential local and regional impacts from studies produced by other agencies and groups, this plans and policy review helps the R2CTPO understand and support existing frameworks and goals. The following relevant transportation planning and programming documents are summarized, with an emphasis on those elements having implications for the area that the R2CTPO oversees.



- City of Bunnell Comprehensive Plan
- City of Daytona Beach Comprehensive Plan
- City of DeLand Comprehensive Plan
- City of DeBary Comprehensive Plan
- City of Deltona Comprehensive Plan
- City of Flagler Comprehensive Plan
- City of Palm Coast Comprehensive Plan
- Flagler County Comprehensive Plan
- Volusia County Comprehensive Plan
- Flagler County Public Transportation 2016-2025 TDP Major Update
- Votran 2016-2025 TDP Major Update
- Flagler County Transportation Disadvantaged Service Plan (TDSP)
- Volusia County Transportation Disadvantaged Service Plan (TDSP)
- R2CTPO 2045 Long Range Transportation Plan (LRTP)
- R2CTPO Bicycle and Pedestrian Plan



- Central Florida Regional Transit Study
- LakeXpress 2019-2028 TDP Major Update
- LYNX 2018-2027 TDP Major Update
- Space Coast Area Transit (SCAT) 2018-2027 TDP Major Update
- St Johns County 2016-2025 TDP Major Update

Table 3-1: Local Plans

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications
City of Bunnell Comprehensive Plan	City of Bunnell	2011	City of Bunnell	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Provides goals to reduce greenhouse gas emissions by incorporating transit and paratransit service needs in the Land Development Code. The plan requires developers to provide supporting transit infrastructure. In addition to supporting FCPT, some policies are set to support the objective of strengthening the entire multimodal network, such as: • Implementing a city circulator for the City of Bunnell. • Providing connections with paratransit and transit connection points. • Encouraging complete streets projects. • Encouraging the use of transit and paratransit services.
City of Flagler Beach Comprehensive Plan	City of Flagler Beach	2019	City of Flagler Beach	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Goals emphasize the need for a multimodal network that focuses on conserving energy while maintaining the local cultural and historic integrity. Other policies and actions relevant to transit and paratransit include: • Maintaining facilities linked to public transit services. • Considering a Mobility Plan that supports alternative modes of travel and the associated infrastructure. • Supporting improved transit access to and from barrier islands and mainland parts of the city.
City of Palm Coast Comprehensive Plan	City of Palm Coast	2018	City of Palm Coast	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Identifies the need for future east-west and north-south connections and the intention to study the needs for transit and rail service. Goals and policies relevant to transit and paratransit services include: • Recognizing the need to integrate Intelligent Transportation Systems (ITS), transit, transit incentives, and other associated projects to mitigate traffic on arterial roads and other major roadways. • Identifying the need for transit alternatives to ease traffic and growing parking needs. Sets the goal to reduce traffic congestion by 5 percent. • Making an effort to coordinate with the County to develop a mass transit program that includes fixed-route/deviated route bus services, paratransit services, rideshares, and vanpooling. • Implementing a safe, convenient, and energy efficient system to reduce vehicle miles traveled and reduce greenhouse gas emissions. • Connecting future transit services by employment opportunities and mixed-use centers.
City of Daytona Beach Comprehensive Plan	City of Daytona Beach	2020	City of Daytona Beach	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Provides goals for a quality transportation system for all residents within the city. Key strategy identified is to increase transit service and reduce headways in areas with demonstrated need, such as areas with high density. In addition to supporting Votran, some policies are set to support the objective of strengthening the entire multimodal network, such as: • Supporting State efforts to develop a regional commuter rail system with a station in Daytona Beach. • Encouraging additional mass transit services during special events or tourist season. • Encouraging Votran to provide benches where there is demand.

Table 3-1: Local Plans (continued)

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications
City of DeLand Comprehensive Plan	City of DeLand	2020	City of DeLand	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Supports policies to encourage alternative transportation services by residents and tourists. Emphasizes the needs to keep up with existing and future transit demand. Other policies and actions mentioned to support transit growth include: • Improvement of pedestrian circulation in downtown DeLand. • Coordination of satellite park-and-ride locations. • Development of an incentive program that discourages reliance on single-occupant vehicles while supporting multimodal transportation options. • Support for bicycle and pedestrian infrastructure along with commuter rail efforts. • By 2035, achievement of 15-30-minute headways on all transit routes.
City of Deltona Comprehensive Plan	City of Deltona	2018	City of Deltona	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Encourages residents and visitors to use transit to mitigate traffic congestion along major roadways. Goals relevant to transit needs include: • Provide incentives for compact multimodal oriented urban development. • Develop and improve bicycle and pedestrian access. • Consider provision of mass transit in lieu of or as part of highway construction. • Ensure efficient mass transit availability by lowering headways in peak hours, evaluation of routes, and reorganization based on performance measures. • Require that projects include supporting infrastructure, such as bicycles, sidewalks, and passenger shelters.
City of DeBary Comprehensive Plan	City of DeBary	2019	City of DeBary	Primary policy document that addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for the city.	Highlights the need to synchronize the transit and land use patterns. Policies that are supportive of transit include: • Consider new transit facilities based on new developments and support of the development of facilities through the land development review process. • Encourage the private sector to provide services to the DeBary SunRail Station. • Maintain communication with transit providers and maintain an active role in the TPO process. • Support the expansion of the SunRail commuter rail system and encourage travel via SunRail. • Support the expansion of bus routes and park-and-ride facilities. Develop bicycle and pedestrian pathways to connect transit to transit oriented developments (TOD), mixed use areas, and village center areas.
Volusia County Comprehensive Plan	Volusia County	2020	Volusia County	Primary policy document that addresses land use, transportation, capital projects, public facilities, and economic development goals, among others, for the county.	Discusses transit services as a necessary service that provides both fixed-route and paratransit services. Emphasizes the need to coordinate with other local and regional transit agencies to meet regional mobility needs. Transit supportive policies include: • Coordinate with the County, TPO, and Daytona Beach International Airport to provide efficient public transportation services. • Coordinate with the Transit Development Design Guidelines to establish land use, site, and building design guidelines to assure accessibility to Votran services by new developments. • Direct municipalities to provide passenger amenities as outlined by Votran's latest TDP. • Consider public transportation as a part of major construction projects. • Provide convenient access between SunRail stations and downtown DeLand. • Encourage office and job centers to provide passenger amenities and encourage the transit pass program.

Table 3-1: Local Plans (continued)

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications
Flagler County Comprehensive Plan	Flagler County	2011	Flagler County	Primary policy document that addresses land use, transportation, capital projects, public facilities, and economic development goals, among others, for the county.	Emphasizes the need to protect the environment and use transit as a strategy to eliminate single occupant vehicle trips. Encourages high density uses to encourage transit use. Additionally, implores the Land Development Regulations (LDR) to consider multimodal transit improvements. Policies that are supportive of transit growth include: • Promote transit usage by increased densities and mixed uses. • Include park-and-ride facilities where necessary. • Allow developers to implement bus bays and shelters. • Integrate planned transit projects, pedestrian and bicycle facilities with road widening projects. • Consider transit services where service demand and financial subsidy make services feasible. • Consider the accompanying bus stop infrastructure where there is corresponding service demand. • Relieve traffic congestion with the provision of transit services.
Flagler County Public Transportation (FCPT) 2016–2025 TDP Major Update	Flagler County	2016	Flagler County Public Transportation	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	Flagler County Public Transportation does not currently provide fixed-route service or connect to any other county. The TDP reviews major service changes, including the addition of fixed-route service along with point-to-point services. Key transit alternatives proposed include: • Six fixed routes serving major roadways on the eastern portion of the county. • Point-to-point service to complement the fixed-route services with first mile and last mile connectivity. • Expanding vehicle fleet to include fixed-route vehicles. • Adding extra demand response vehicles to provide supportive point-to-point services.
Votran 2016-2025 TDP Major Update	Volusia County	2016	Votran	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	The Votran network currently has 27 routes and does not connect to Flagler County. The alternatives proposed focus on local improvements and include: • Increase frequency on Routes 1, 3A, 7, 10s, 11, 17b, 17s, 20, 21, 22, 23, 32, 33, and Route 60. • Extend service hours on Routes 4, 5, 10, 12, 18, 19, 22, 23, 32, and 33. • Add a SunRail limited stop express from Saxon Park-and-Ride to DeBary SunRail station. • Add the Lake Helen Connector from Ohio Avenue to Southpointe Commons in DeLand. • Add route from Saxon Park-and-Ride to Elkcam Boulevard. • Implement ISB Trolley along Nova Road with 15-minute frequencies. • Provide service on A1A via the New Smyrna Beach Trolley. • Add the Ormond Beach Trolley via Granada Boulevard, Beach Street, Oakridge, and A1A. • Supply service to Downtown DeLand via the DeLand Downtown Circulator on New York Avenue and Jacobs Road. • Provide service on US 1 in Edgewater with the Edgewater Circulator. • Add service between Howland, Elkcam, and Providence Boulevard via the Deltona Circulator.

Table 3-1: Local Plans (continued)

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications
R2CTPO 2045 Long Range Transportation Plan (LRTP)	Volusia County	2020	R2CTPO	The LRTP is the 25-year vision for Volusia County's transportation needs updated every five years. The LRTP responds to trends that the TPO and community have been discussing for several years.	Transit needs are based on input/analysis from public outreach, recent study efforts, transit markets, and regional coordination. Due to funding limitations, the plan does not assume any new routes or services in Flagler or Volusia counties. However, the plan does not rule out the opportunity to advance any projects identified in the needs plan if funds become available. Discussion relevant to Flagler and Volusia counties includes: • Addition of six fixed routes in Flagler County. • Votran's need to increase frequency, maintain SunRail feeder bus services, and express routes serving DeBary. • Implementation of Automated, Connected, Electric, and Shared-Use (ACES) Vehicles that will affect later transportation goals. • Projected reduction in revenues. • Extension of SunRail from DeBary to DeLand. • Increased frequency on Routes 1, 3a, 4, 5, 10, 10s, 12, 17s, 17b, 18, 19, 20, 21, 22, 23, 32, 33, 60. • Addition of Lake Helen Connector from Lake Helen to DeLand. • Addition of Route from Saxon Park and Ride to Howland Boulevard. • Addition of trolley from ISB Boulevard along Nova Road to Beville Road. • Addition of New Smyrna Beach Trolley via A1A from Atlantic Avenue to Flagler Avenue. • Addition of Ormond Beach Trolley beachside via Grenada Boulevard. • Addition of Downtown Circulator via New York Avenue. • Addition of service on US 1 in Edgewater.
Flagler County Transportation Disadvantaged Service Plan (TDSP)	Flagler County	2020	FCPT	The FCPT TDSP addresses the needs of elderly, disabled, or economically disadvantaged people within the county and reflects a careful review of various data, travel patterns, policies, agency responsibilities, and funding to define a five-year detailed implementation plan (which is updated annually) to help meet those needs.	Flagler County Board of County Commissioners is the Community Transportation Coordinator (CTC) for the Transportation Disadvantaged (TD) population in Flagler County. The TDSP discusses the different scenarios for population growth and current demographics. The TDSP also shows that 61 percent of the population is considered TD. Goals, objectives, and strategies include: • Maintain operations of deviated fixed-route services if funding permits. • Increase ridership and maximize passenger trips per vehicle to increase efficiency. • Utilize multiple service modes to best serve and maximize ridership efficiency. • Promote service availability to local agencies and increase advertising. • Emphasize safety and maintain a transit capital/replacement plan. • Coordinate with regional agencies to enhance service.
Volusia County Transportation Disadvantaged Service Plan (TDSP)	Volusia County	2021	Votran	The Volusia County TDSP addresses the needs of elderly, disabled, or economically disadvantaged people within the county and reflects a careful review of various data, travel patterns, policies, agency responsibilities, and funding to define a five-year detailed implementation plan (which is updated annually) to help meet those needs.	Anticipates the need for an increasing number of people who will be considered Transportation Disadvantaged (TD) such as people with disabilities, elderly, and low-income. Goals in the document include the following: • Maximize coordination with public and private agencies to ensure the most cost-effective service. • Explore group trips to areas with major attractions. • Review qualifications of customers every three years to ensure eligibility. • Disseminate information through the Votran website, MyStop app, and Vo-to-Go text system. • Encourage land use patterns that support transit services. • Provide opportunities for ADA and TD passengers to access multimodal transportation options. • Provide fixed-route training for TD riders that want to use fixed-route services. • Coordinate with County to secure a dedicated funding source. • Develop phased implementation plan to improve bus stop accessibility. • Implement a bus pass program for Gold users to allow use of fixed route when feasible.

Table 3-1: Local Plans (continued)

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
R2CTPO Bicycle and Pedestrian Plan	Volusia County	2018	R2CTPO	Master plan establishing network of bicycle and pedestrian facilities in Volusia County on major roads. This plan addresses connectivity issues and prioritizes improvements through the existing and future network.	Establishes the bicycle and pedestrian needs. Additionally, visions, goals, and objectives are discussed. Relevant goals, public input, and implications include: • Stresses coordination with Votran to enhance multimodal participation. • Discusses Complete Streets and the coordination with transit. • Indicates that public involvement shows the community would like to invest in multimodal transportation options as they are satisfied with existing roads and highways. • Highlights that the majority, almost 80 percent of participants, supported a dedicated funding source for public transit.
Votran 2022-2031 TDP Major Update	Volusia County	2021	Votran	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	The 10-year transit plan included short-term, mid-term, and long-term solutions: • Implement new route alignments/improvements redesigned during the COA process • Add MOD zones in Deltona, DeLand, and Ponce Inlet • Implement new North DeLand Circulator connecting SunRail station to DeLand ITF and City of DeLand • Implement new Volusia-Flagler Express

Table 3-2: Regional Plans

Plan Title	Geographic Applicability	Most Recent Update	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
St Johns County 2016–2025 TDP Major Update	Flagler County	2016	Flagler County Public Transportation	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	St. John's County Transportation does not currently provide service to Flagler or Volusia counties. The TDP does not identify planned regional services. However, the TDP includes major service changes, including the addition of fixed-route service. Key transit alternatives proposed include: • Addition of new St. Augustine/St. Augustine Beach line • Restructure of the Teal line. • Addition of Sunday service on all routes. • Increased weekday frequency and service span on the Orange, Blue, Red, and Green routes. • Extension of the Green line to the Sea Grove Main Street area. • Restructure of the Purple line and increased weekday frequency. • Addition of new route to Outlet Mall/World Golf Village Line.
Space Coast Area Transit (SCAT) 2018–2027 TDP Major Update	Brevard County	2018	Space Coast TPO	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	Space Coast Area Transit services do not currently serve or connect to Flagler or Volusia counties. Currently, there are no planned services to connect to the counties, with planned services focusing on enhancing current services and connection of surrounding neighborhoods within Brevard County. Other key alternatives include: • Implementing extended services and Sunday service on all routes. • Increasing frequency on all existing routes. • Adding flex route services in rural areas. • Adding circulators to connect municipalities.
LYNX 2018–2027 TDP Major Update	Seminole, Osceola, and Orange counties	2018	Central Florida Regional Transportation Authority's (CFRTA)	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	Currently, there are no connections or plans to connect with FCPT or Votran. Currently, there is fixed-route service that connects Seminole, Osceola, and Orange counties. There is an emphasized need for enhancing current service by increasing frequency, adding new fixed-route services, and increasing hours of service on existing routes. New services were recommended on Goldenrod Road, SR 423, SR 436, Orange Avenue, in Kissimmee, Lake Nona, Apopka, Orlovista, and additional connections to Sea World and UCF. Premium services, such as Bus Rapid Transit (BRT), on Kirkman Road, US 192, and SR 50 are also recommended.
LakeXpress 2019–2028 TDP Major Update	Lake County	2019	LakeXpress	The State of Florida Public Transit Block Grant (PTBG) Program, enacted by the Florida Legislature to provide a stable source of funding for public transit, requires public transit service providers to develop and adopt a 10-Year TDP per FDOT requirements. Major updates must be completed every five years and include an assessment of baseline conditions, a public involvement plan, and ridership estimates.	LakeXpress does not currently provide regional connections to FCPT or Votran. Update acknowledges need for regional connection, but does not identify any planned service needs that would connect to either county. Reviews major service changes, including enhancing services and reducing headways. Key transit alternatives proposed include: • Adding regional connections to Orange and Marion counties. • Adding 30-minute service on Routes 1, 1A, 2, and 3. • Extending service span until 9:00 pm on Routes 1, 1A, 2, and 3. • Adding limited Saturday service on Routes 1, 1A, 2, and 3.
Central Florida Regional Transit Study	Brevard, Flagler, Lake, Marion, Orange, Osceola, Polk, Seminole, Sumter, and Volusia counties	2018	Central Florida MPO Alliance	The study provides assistance for the analysis and decision-making of technical staff and policy makers regarding potential cross-jurisdictional transit projects. The study will help support transit agencies, MPO / TPOs, and FDOT with the coordination of transit planning efforts and to support long range transportation plan (LRTP) development.	The regional transit vision identifies high priority transit investment for 2040 and 2060. The study outlines both operational and capital needs in the ten-county area. The following suggested improvements relevant to FCPT or Votran are: • Extension of SunRail to DeLand in the Phase II North plan. • Express bus route from DeLand SunRail station to Daytona Beach. • Capital investment in an intermodal facility/park-and-ride in Daytona Beach. • Intercity bus route from Daytona Beach via I-4 through Orlando to Lakeland in 2040. • Express bus from Daytona Beach via I-4 to Orange County in 2060. • Additional intermodal facilities and park-and-rides in central Volusia County and Deltona.

Existing Conditions

Flagler and Volusia counties are located on the east coast of Florida and are bordered on the north by St. Johns County; on the west by Putnam, Marion, Lake, and Seminole counties; on the east by the Atlantic Ocean; and to the south by Orange and Brevard counties. The total land area of Flagler County is 486 square miles and Volusia County is 1,101 square miles. Map 3-1 illustrates the study area for the Paratransit Service Analysis.

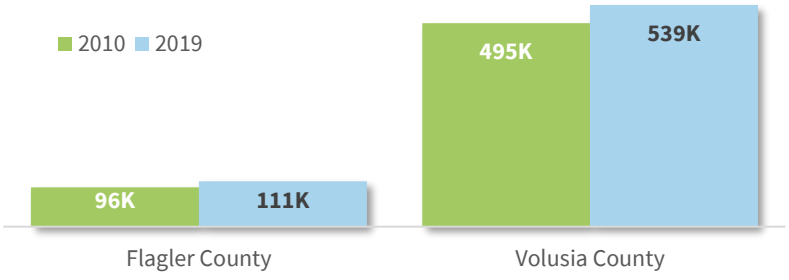
Flagler and Volusia counties are coastal counties known for their beaches, activity centers, and outdoor activities. Flagler County's incorporated areas include Beverly Beach, Bunnell, Flagler Beach, Marineland, and Palm Coast; Volusia County's incorporated cities and towns include Daytona Beach, Daytona Beach Shores, DeBary, DeLand, Deltona, Edgewater, Holly Hill, Lake Helen, New Smyrna Beach, Oak Hill, Orange City, Ormond Beach, Pierson, Ponce Inlet, Port Orange, and South Daytona. Eight major roadways intersect the study area: I-4, I-95, US 1, US 17, US 92, SR A1A, SR 5A, SR 40, SR 44, SR 46, SR 100, and SR 421.

The study area is home to a number of major post-secondary education institutions, including Bethune-Cookman University, Daytona State College, Embry-Riddle Aeronautical University, Flagler College, Flagler Technical College, Stetson University, and a satellite campus of the University of Central Florida.

Population Profile

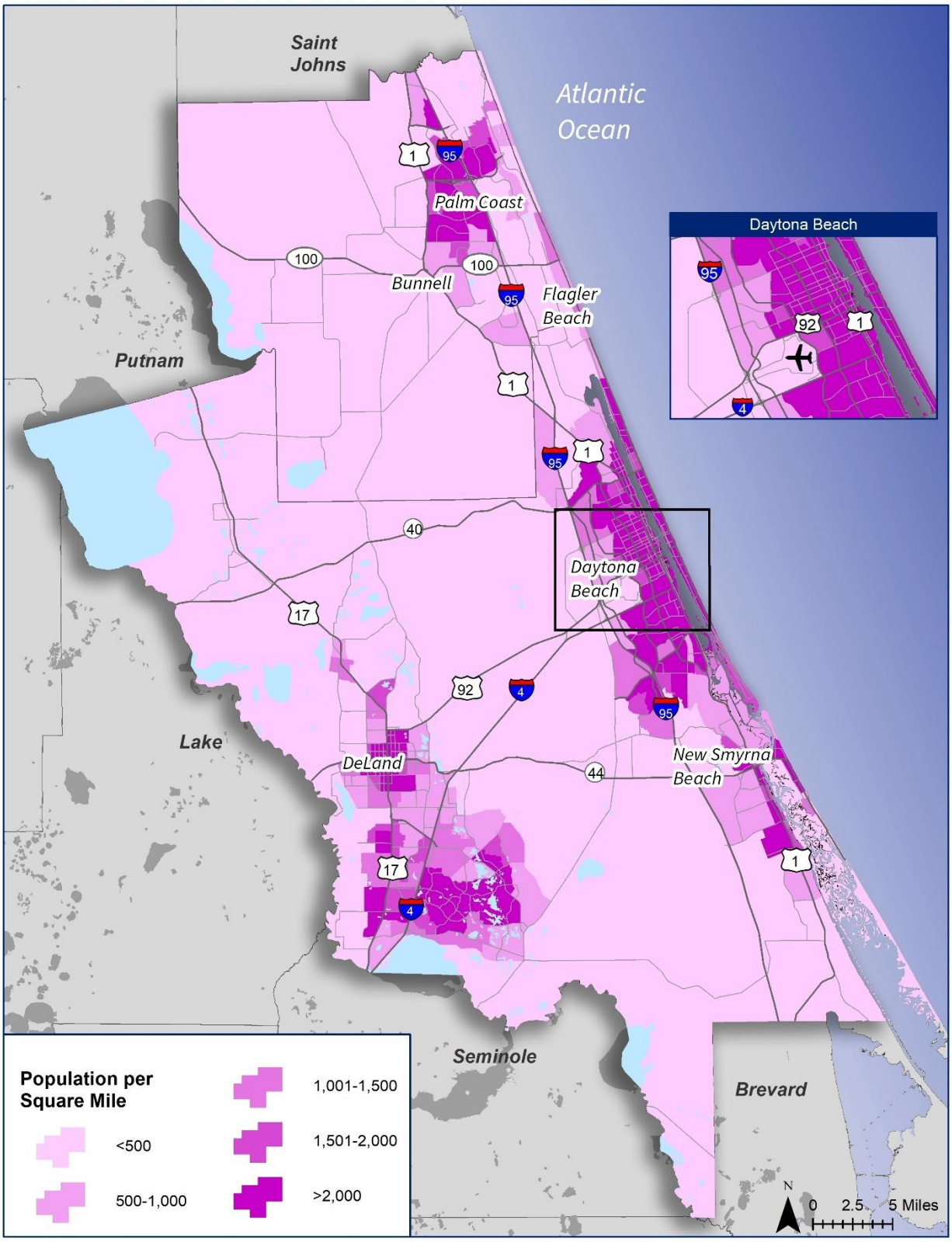
Flagler County has an average density of 237 persons per square mile, while Volusia County currently has a countywide average of 502 persons per square mile, with clusters of higher density areas in the east and lower densities in the western part of the county. Figure 3-1 shows the population change in the study area from 2010 to 2019 according to the Bureau of Economic and Business Research (BEBR). Volusia County grew approximately 16 percent from 2010 to 2019 while Flagler County added almost 15,000 people, a 15 percent increase. Map 2-2 shows the current population density, persons per square mile, derived from data by the 2015-2019 5-Year Estimates Census American Community Survey (ACS). Higher-density block groups (2,000 persons per square mile) are concentrated along the coastline in Daytona Beach and Ormond Beach, along US 17 in DeLand, in Deltona adjacent to Normandy Boulevard, and in Orange City between US 17 and Enterprise Road. Other areas with density greater than 1,500 persons per square mile are adjacent to the aforementioned areas with higher densities.

Figure 3-1: Population in Flagler and Volusia Counties, 2010-2019



Source: 2020 BEBR Estimates

Map 3-1: 2019 Flagler and Volusia Counties Population Density



Municipalities

As overall population has increased in the study area, population in most incorporated areas also has increased, with the exception of Marineland. Table 3-3 shows all municipalities with their corresponding 2010 and 2019 populations and population change. The Palm Coast and Deltona areas are the most populated with moderate growth in the past ten years. Bunnell and DeLand are the fastest growing areas although they only have moderate populations.

Table 3-3: Incorporated Population Characteristics in Flagler and Volusia Counties, 2010-2019

Municipality	2010 Population	2019 Population	Population %Change
Flagler County			
Bunnell	2,676	3,271	22.2%
Palm Coast	75,180	86,768	15.4%
Beverly Beach	338	372	10.1%
Flagler Beach	4,424	4,719	6.7%
Marineland	16	6	-62.5%
Volusia County			
DeLand	27,031	35,763	32.3%
New Smyrna Beach	22,464	27,173	21.0%
Orange City	10,599	12,103	14.2%
Oak Hill	1,792	2,041	13.9%
Edgewater	20,750	23,455	13.0%
Daytona Beach	61,005	67,351	10.4%
Port Orange	56,048	61,617	9.9%
DeBary	19,320	21,176	9.6%
Ormond Beach	38,137	41,289	8.3%
Deltona	85,182	91,520	7.4%
Lake Helen	2,624	2,773	5.7%
South Daytona	12,252	12,819	4.6%
Holly Hill	11,659	12,153	4.2%
Ponce Inlet	3,032	3,151	3.9%
Daytona Beach Shores	4,247	4,372	2.9%
Pierson	1,736	1,739	0.2%

Source: 2020 BEBR Estimates

Disability

Persons with disabilities may rely on transit service for their mobility needs if they cannot drive or walk long distances. Accessible paratransit services are provided for persons who cannot use accessible fixed-route services for some or all of their transportation needs. The 2019 ACS 5-Year Estimates reported that 14.8 percent of the population in Flagler and 17.6 percent of the population in Volusia have a disability categorized as a difficulty with hearing, vision, cognition, ambulation, selfcare, and/or independent living. These are both higher than the statewide average of 13.4 percent.

Map 3-2 illustrates the geographic distribution of persons with disabilities by block group in the study area.

Established areas, such as Daytona Beach and Bunnell, show a concentration of persons with disabilities. However, numerous block groups are scattered throughout the study area that show higher concentrations of persons with disabilities (exceeding 20% of the total block group population) in areas that have sparser populations, such as Seville and Pierson. Furthermore, most areas with significant concentrations of persons with disabilities are found in block groups that are adjacent to major roadways such as US 1, US 17, and I-95.

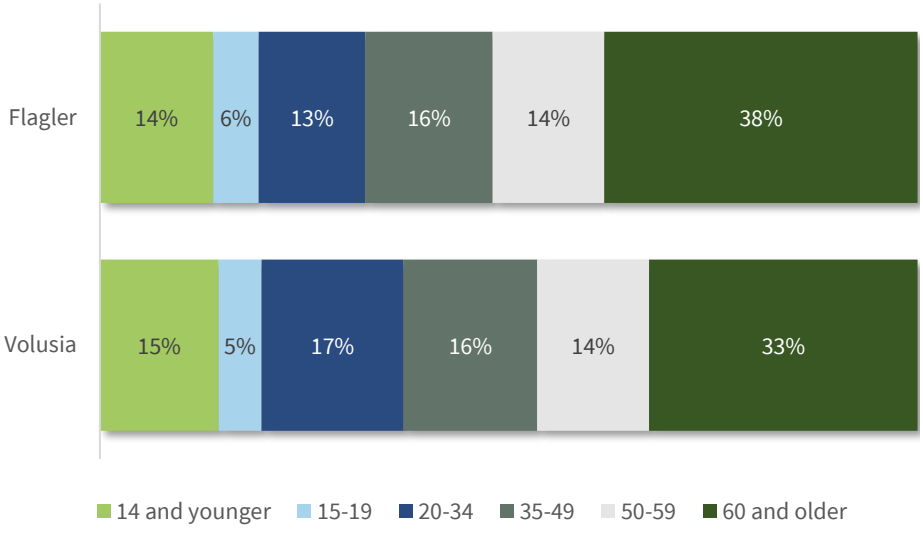
Older Adults

Figures 3-2 shows the existing age cohorts for the study area. The largest existing age group in Flagler and Volusia counties is 60 years and older, with 38 percent and 33 percent of total county population, respectively. Approximately 17 percent of Volusia County residents are between 20 and 34, while the same age group comprises 13 percent of population in Flagler County.

The two counties in the study area share similar distributions of all age cohorts with the exceptions of the 20-34 years old and 60 and older categories. The difference in the younger age cohort may be partially explained by the greater presence of major higher educational centers in Volusia County.

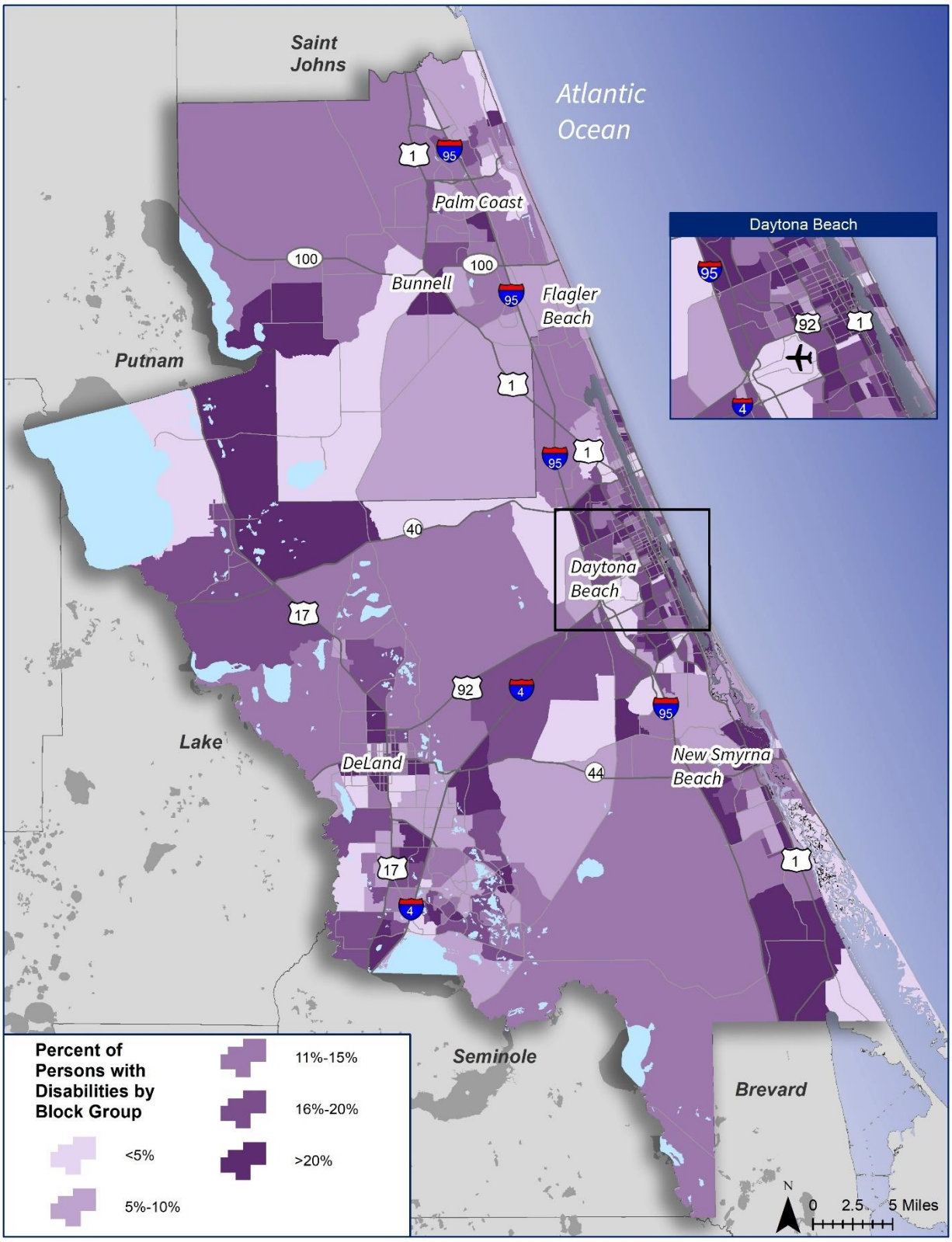
Higher concentrations of population age 60 and over are shown in Map 3-3. Areas within the region with the highest concentrations (over 60% of block group population) of this age group are mainly in established areas such as Deltona, Orange City, Edgewater, Flagler Beach, and the Palm Coast area.

Figure 3-2: Age Distribution in Flagler and Volusia Counties

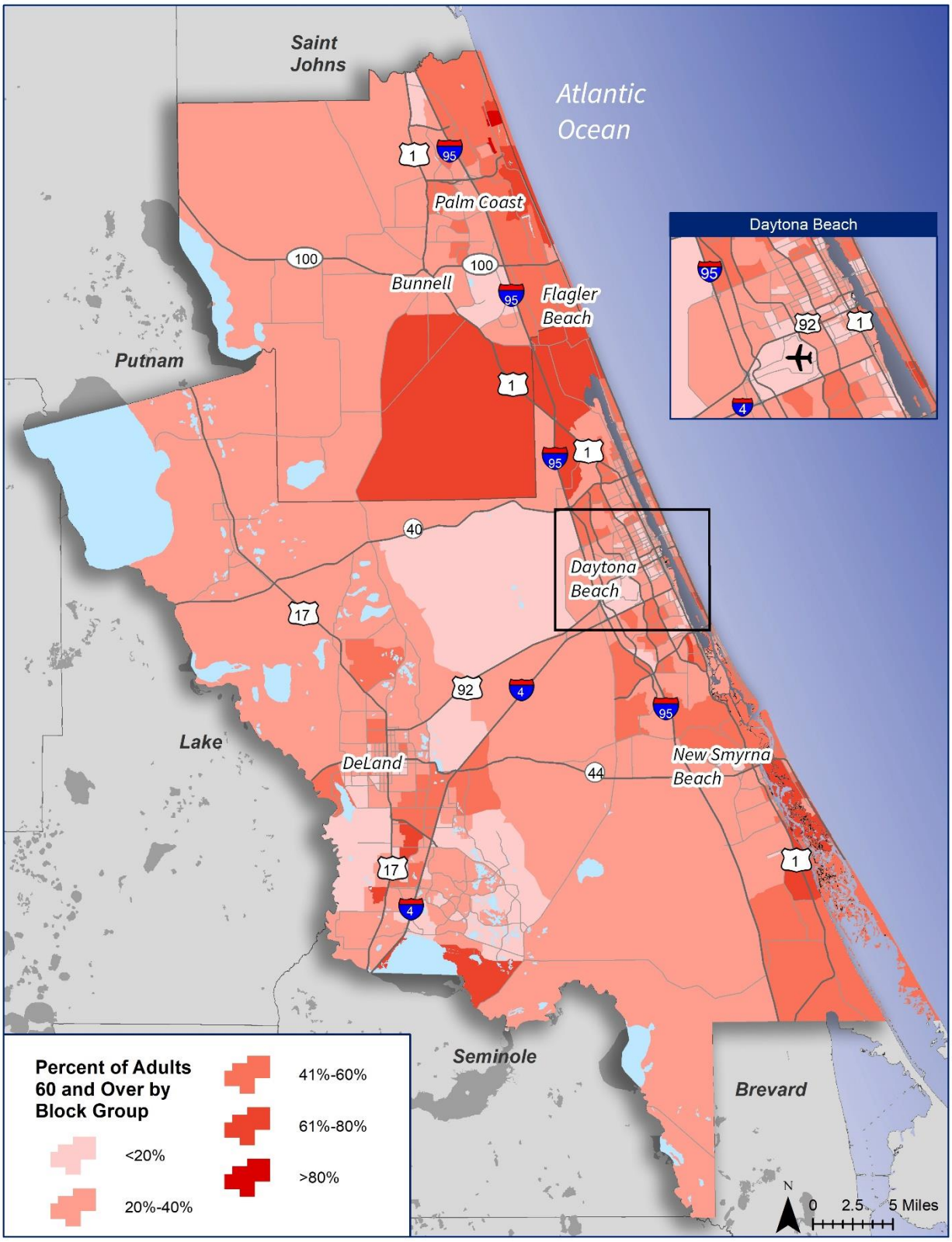


Source: American Community Survey 2019 5-year estimates

Map 3-2: 2019 Persons with Disabilities in Flagler and Volusia Counties



Map 3-3: 2019 Older Adults (60+) in Flagler and Volusia Counties



According to BEBR, the percentage of residents aged 65 or older is expected to increase approximately 50 percent by 2045 in both counties, while the total population is expected to grow 50 percent and 20 percent in Flagler and Volusia, respectively. Growth within this age cohort is an important consideration for transit, as a person's ability to drive is often reduced with age, leading to demand for other transportation options.

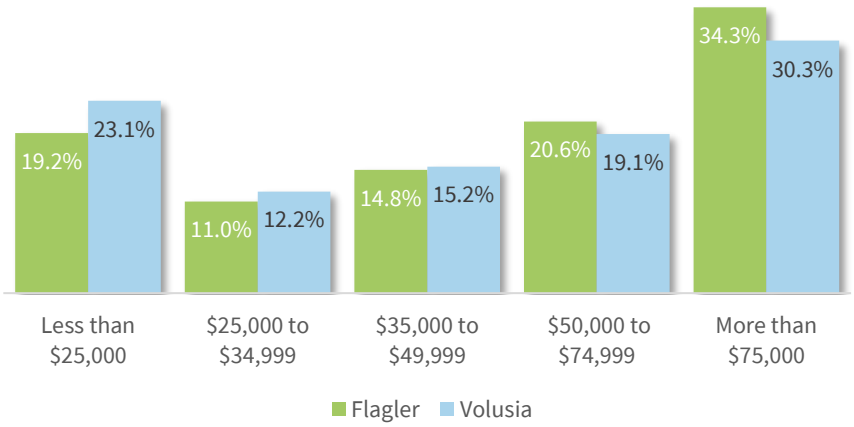
Zero-Vehicle Households

Households that do not own a functional vehicle are considered "zero-vehicle households" and are more likely to be dependent on transit services. Data available from the 2019 ACS with 5-Year Estimates (2015-2019) were also used to evaluate concentrations of zero-vehicle households in the study area. Approximately 1.9 percent of households were considered zero-vehicle households in Flagler County, while 5.8 percent of households in Volusia County fall into the same category. Both counties in the study area have lower rates of zero-vehicle households than the average in Florida, 6.6 percent. The study area has a below average percentage of zero-vehicle households with the greatest concentrations in downtown Daytona Beach, DeLand, Deltona, and Bunnell (Map 3-4).

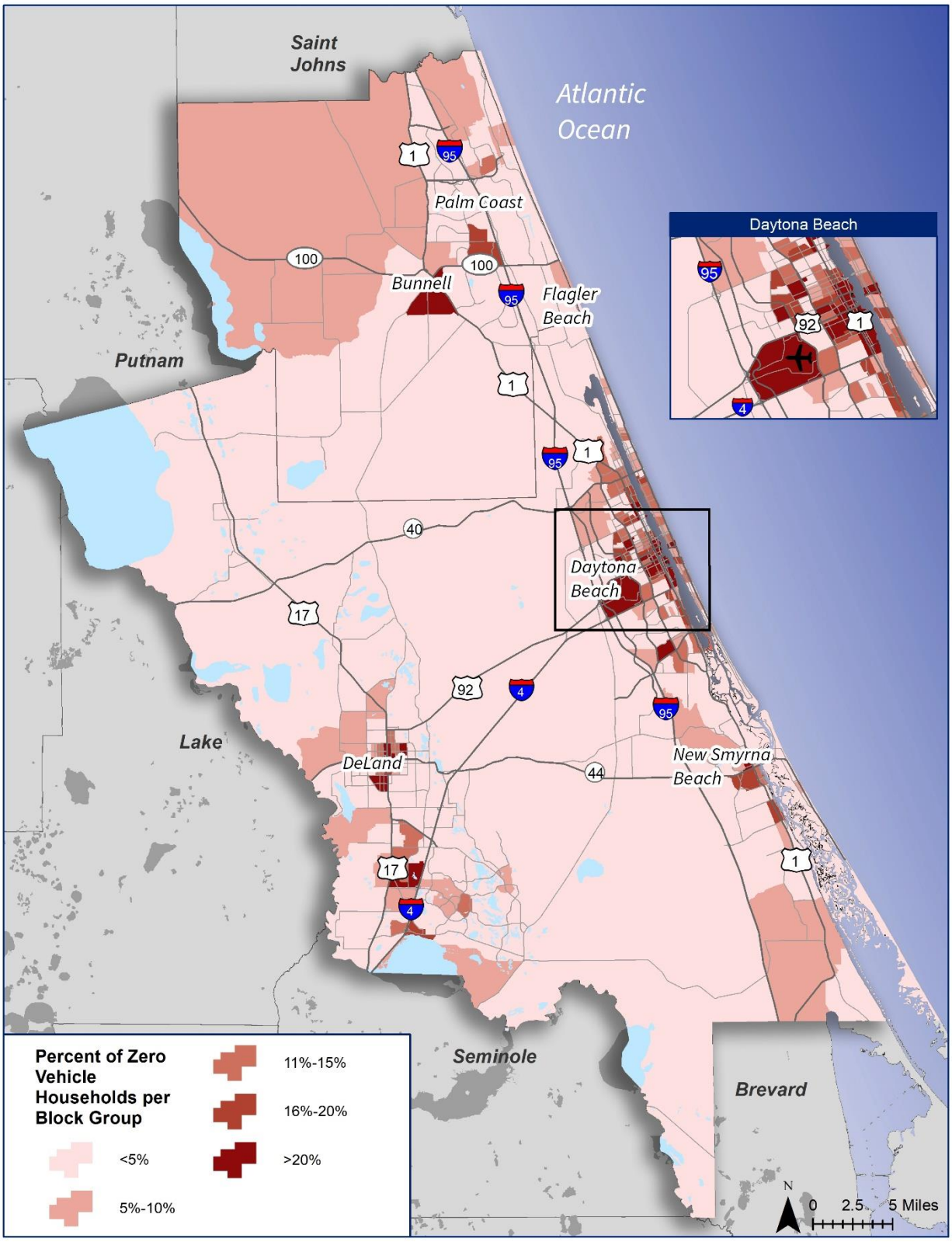
Income

Earned annual income also can be a key indicator for determining the potential transit needs of an area. As shown in Figure 3-3, over a third of the population, 34 percent, have a household income of more than $75,000 in Flagler County. This income bracket is also the largest for Volusia County with approximately 30 percent reporting their household income is more than $75,000 annually. However, the second most common income bracket is less than $25,000 in Volusia County and between $50,000 and $74,999 in Flagler County. The remaining income distributions are similar in the study area. Map 3-5 shows the geographic distribution of low-income households. The majority of these households can be found in Bunnell, northern unincorporated Flagler County, Daytona Beach, and parts of downtown DeLand near Stetson University.

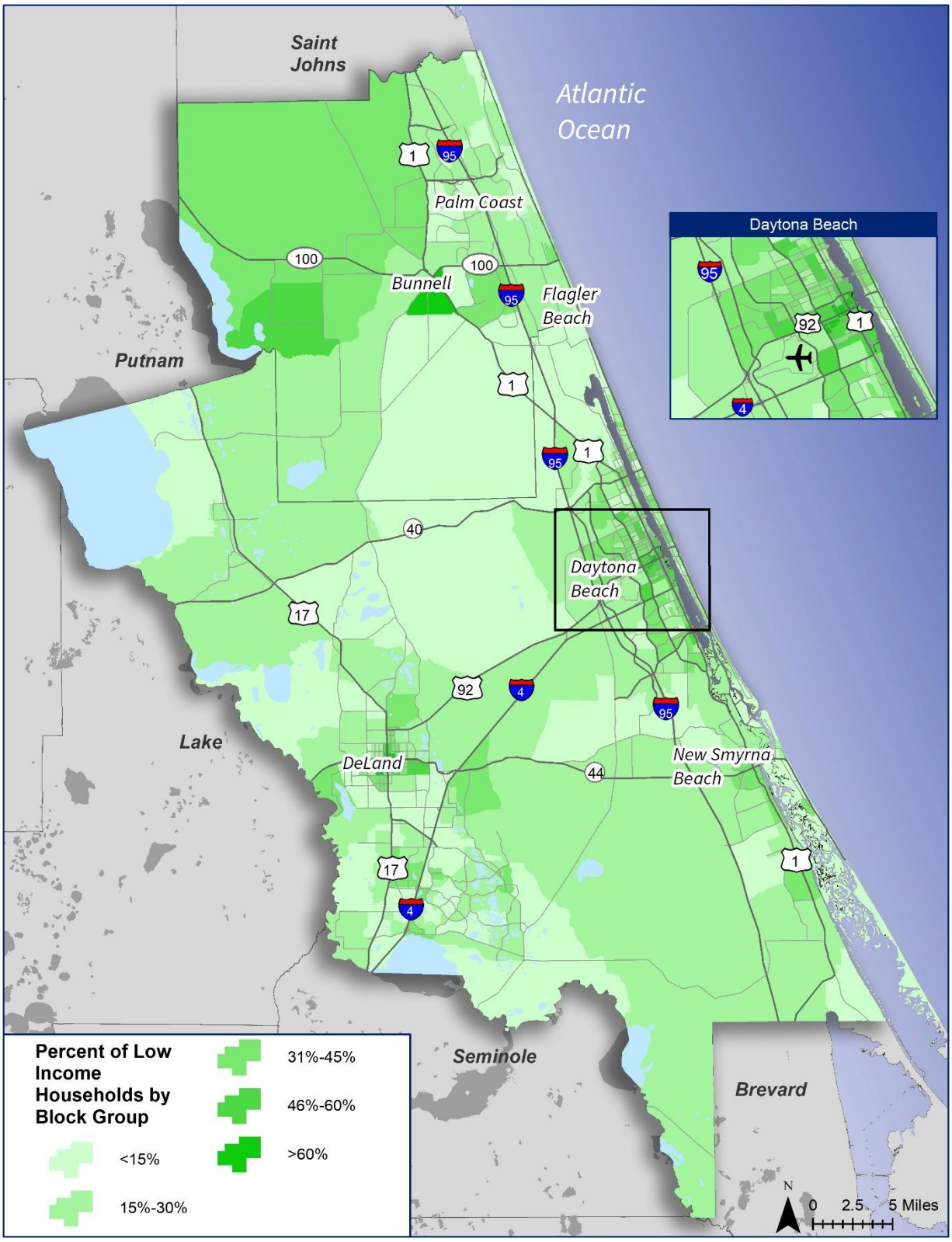
Figure 3-3: Income Distribution in Flagler and Volusia Counties



Map 3-4: 2019 Zero-Vehicle Households in Flagler and Volusia Counties



Map 3-5: 2019 Low Income Households in Flagler and Volusia Counties



Employment

Employment type may have an impact on the propensity to use transit, and transit service hours also may influence the employment of those that are transit dependent. A review of the type of employment present in Flagler and Volusia counties was conducted using the 2019 ACS Estimates. In Figure 3-4, the Volusia County economy is broken down by its business industries. Based on 2019 data, the largest sectors are Educational/Health care/Social assistance (21.5%); followed by Retail trade (13.8%); and Arts/Entertainment/Recreation/Accommodation/Food services (12.3%), making up almost half of the county's employment. After these, the next largest employment group is in the Professional/Scientific/Management/Administrative/Waste management (11.1%) sector.

Figure 3-5 shows the similar distribution of employment industries in Flagler County. Like Volusia County, Educational/Health care/Social assistance (21.5%), Retail trade (13.8%), and Arts/Entertainment/Recreation/Accommodation/Food services (12.3%) comprise approximately half of the economy's industries. For the most part, the rest of the industries follow the same distribution order as that for Volusia County.

Map 3-6 shows the concentration of jobs in Flagler and Volusia counties. Major employment centers include established areas in the study area, such as Daytona Beach, DeLand, Deltona, Flagler Beach, and Palm Coast.

Figure 3-4: Industries in Volusia County

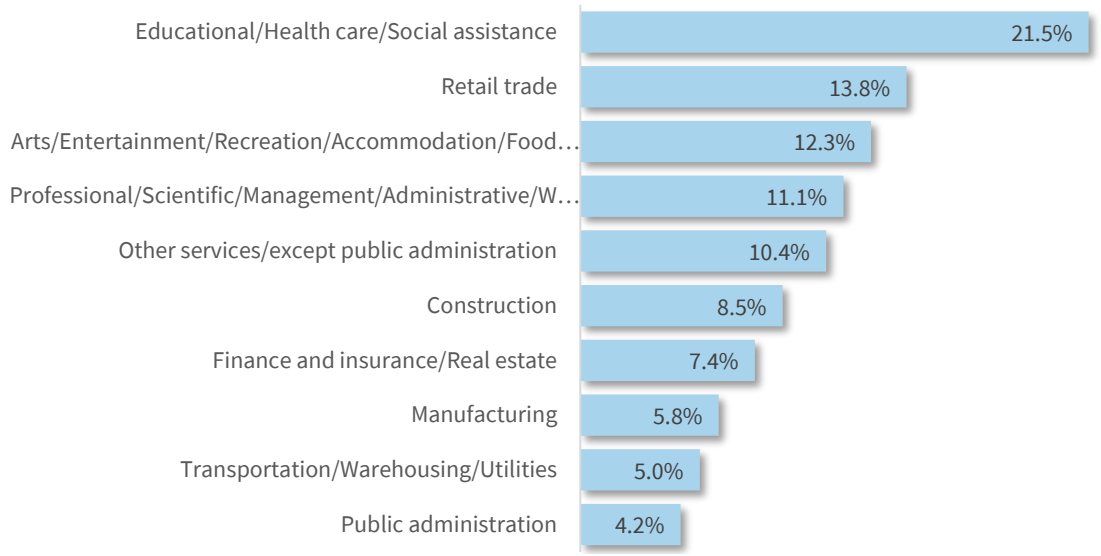
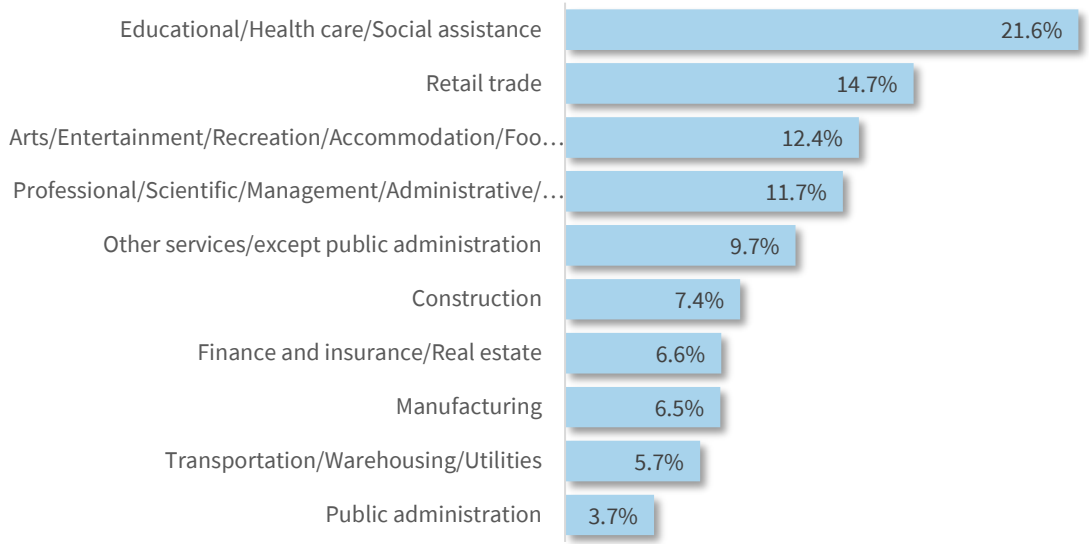


Figure 3-5: Industries in Flagler County

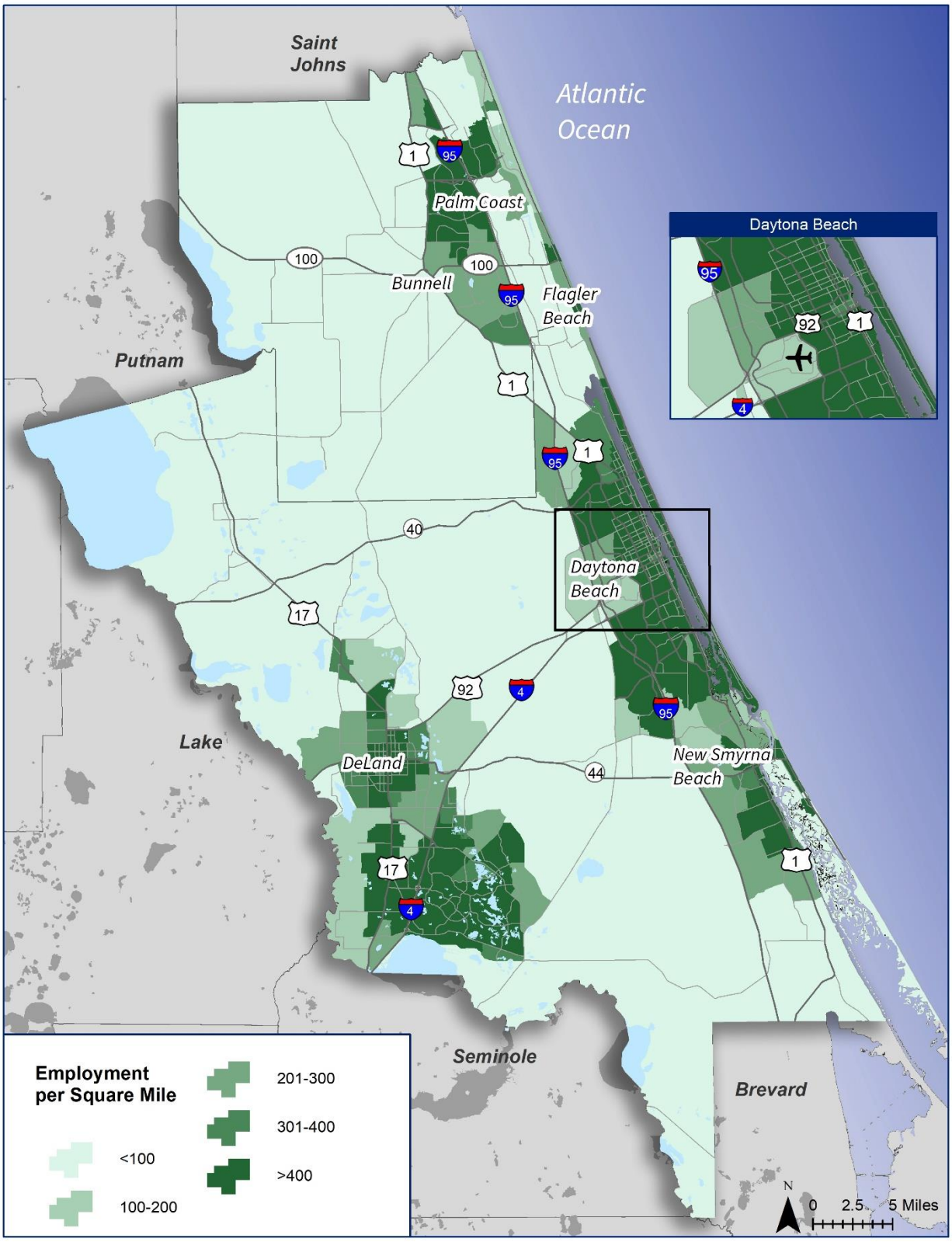


Activity Centers

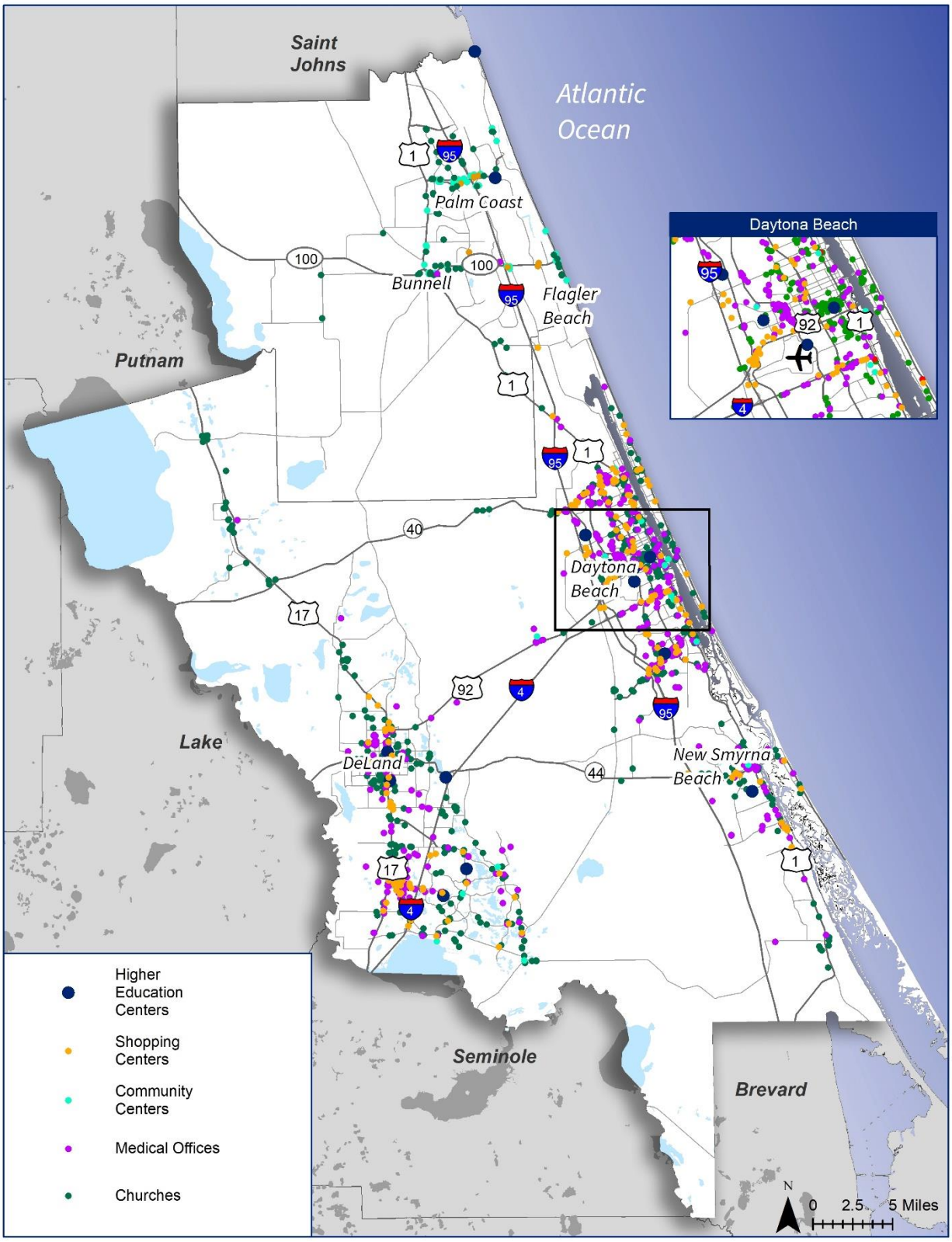
The location and concentration of key activity centers, such as churches, retail centers, universities, and major hospitals, is another important consideration for transit demand. In addition, destinations of interest to lower-income persons, older adults, and persons with disabilities, such as social services and community centers, are an important consideration.

Most key destinations identified on Map 3-7 are in eastern Volusia County and Palm Coast in Flagler County. There is a concentration of churches, shopping centers, community centers, medical offices, and higher education centers in Daytona Beach and DeLand. In Flagler County, the majority of churches, shopping centers, community centers, and medical offices are located in Palm Coast. Additionally, there are a concentration of churches and community centers near other incorporated areas such as Bunnell and Flagler Beach.

Map 3-6: 2019 Employment Density in Flagler and Volusia Counties



Map 3-7: Activity Centers in Flagler and Volusia Counties



Land Use

Reviewing and understanding future land use designations is important as it illustrates the vision at the county level for growth and development patterns. Demand for transit can be supported by land uses such as high-density multi-family residential, mixed-use areas, and major employment centers. Therefore, a review of future land uses was conducted for Flagler County and Volusia County to identify any land use patterns that may suggest the need for some or additional transit service.

Flagler County

Map 3-8 shows the future land use map for Flagler County. The following summarizes the land use trends identified during the review:

- The majority of the land uses in the county are devoted to agriculture (green) and agriculture and timberlands (light green).
- Primary residential uses on the west side of the county include low intensity and rural estate uses (yellow) adjacent to the agricultural and agricultural and timberland uses. This land use can also be observed on the eastern part of the county.
- Other prevalent uses include mixed use low intensity (pink), observed mainly along the coast and near the Volusia County line.
- Commercial uses (red) can be found along major roadways such as I-95, SR 100, and sporadically on A1A near the coast.

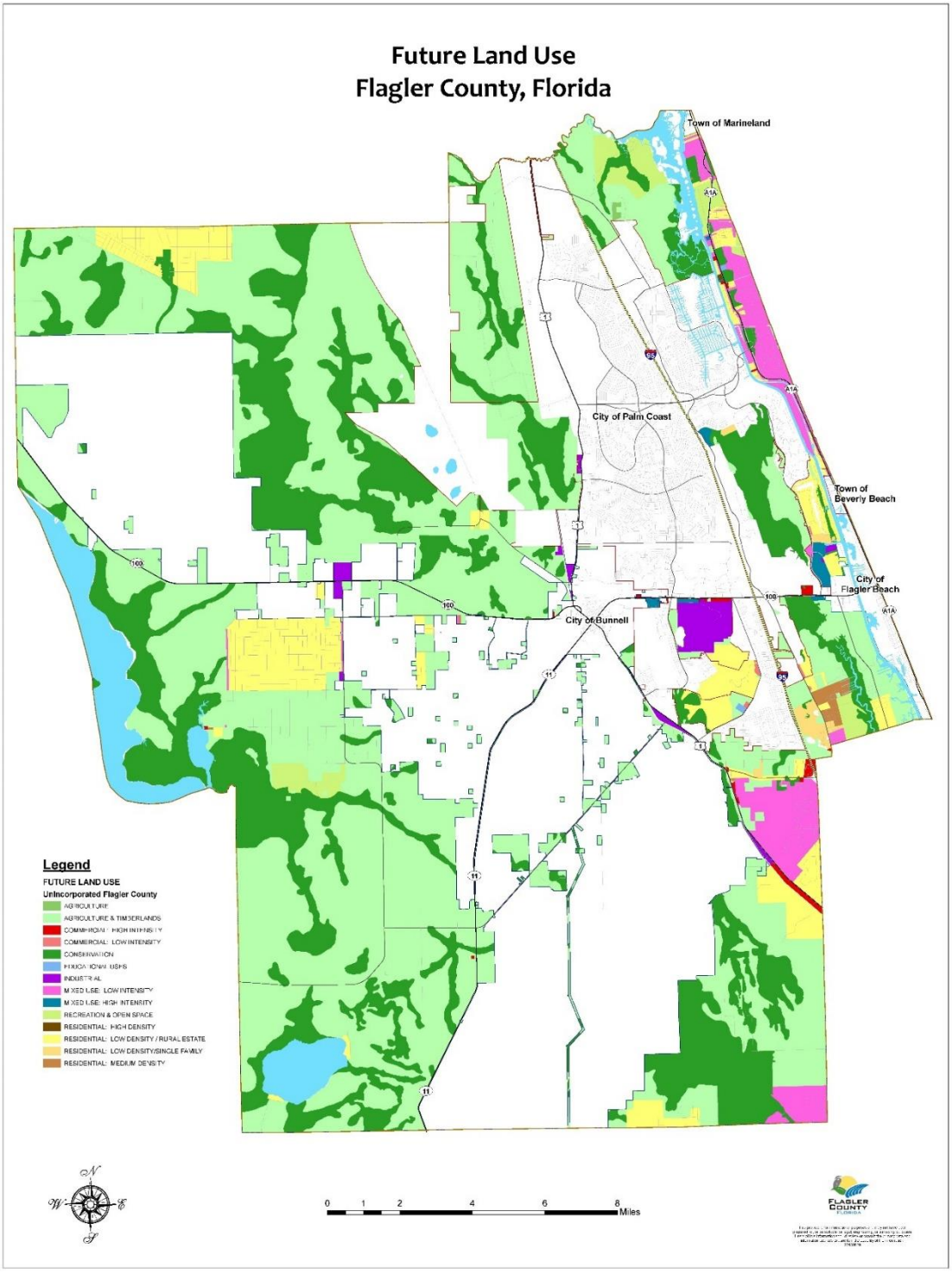
Volusia County

The Volusia County future land use map also was reviewed for key trends. The following land uses were observed from Map 3-9:

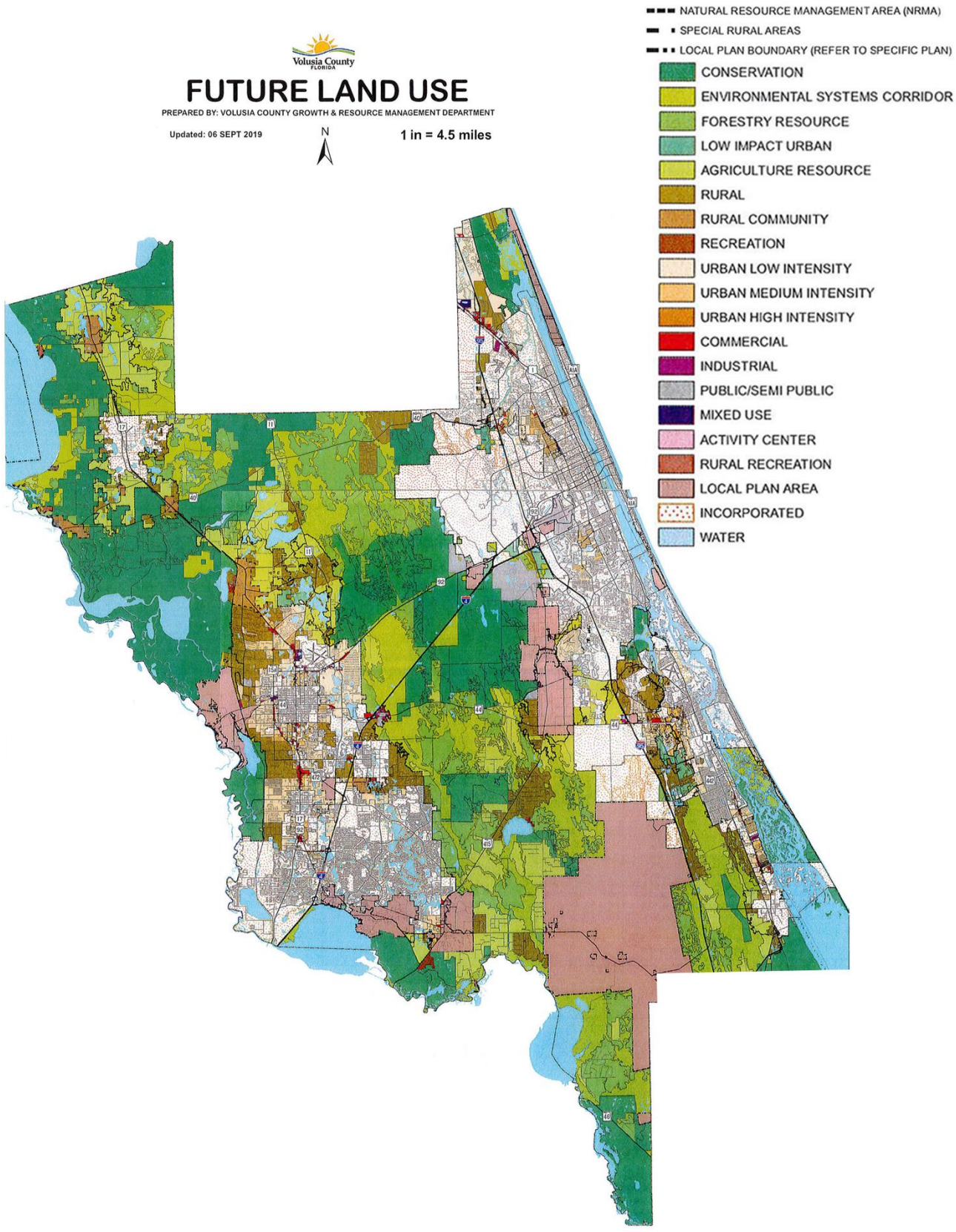
- Urban uses of all intensities (tan, orange, and dark orange) are concentrated near established and incorporated areas. Commercial uses (red) are found near interstates and major roadways.
- Environmentally sensitive areas are prevalent throughout the county. Conservation (dark green), environmental systems corridor (light green-yellow), and forestry resource (medium green) land uses are observed distributed throughout the county, but clustered in the central and western areas.
- The southern central area and some clustered areas in west Volusia County are devoted to local plan areas (salmon). Volusia County defines local plan areas as localized or detailed plans that address issues or areas that either require additional analysis due to changing circumstances from the original Comprehensive Plan or were required as part of implementing the Comprehensive Plan. Currently, there are 15 plan areas.

- Rural areas (brown) are distributed throughout the county, mainly concentrated in west Volusia with some areas in the east. This land use is found adjacent to environmentally sensitive areas.

Map 3-8: Flagler County Future Land Use



Map 3-9: Volusia County Future Land Use



Local Trend Analysis

The trend analysis reviews performance for FCPT and Votran paratransit services from 2011 to 2019. The combined individual metrics examined paint the picture of overall agency performance for the nine-year period.

Like the previously presented state trend analysis, data from FTIS were used. To assess how efficiently Votran and FCPT supply their paratransit transit services and how effectively those services meet the needs of the study area, the trend analysis used the same aforementioned key performance indicators and three types of measures, as summarized below.

- **General Indicators** - quantity of service supply, passenger and fare revenue generation, and resource input
- **Effectiveness Measures** - extent to which the service is effectively provided
- **Efficiency Measures** - extent to which cost efficiency is achieved

The trend analysis is organized by type of measure or indicator and includes statistics and tables to illustrate FCPT and Votran's performance. This analysis includes statistics that summarize selected general system performance indicators, effectiveness measures, and efficiency measures for the ten-year period.

The trend analysis for both agencies in the study area are presented here in Table 3-4 and 3-5. Tables 3-6 and 3-7 show the trend analysis for Flagler and Volusia TD population and passenger trips derived from FCTD data. Summarized trend findings and implications follow the aforementioned tables.

Table 3-4: Flagler County Public Transportation Trend Analysis, 2011-2019

Indicator/ Measure	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change
General Indicators										
Passenger Trips	100,125	110,401	113,646	97,995	n/a	108,705	113,927	109,590	103,139	3.0%
Service Area Pop.	95,969	96,200	97,200	n/a	99,121	99,121	105,157	105,157	110,510	15.2%
Revenue Miles	810,579	843,137	873,185	888,044	n/a	616,466	630,007	580,433	549,349	-32.2%
Revenue Hours	45,767	44,720	48,412	48,412	n/a	40,277	37,515	35,310	33,107	-27.7%
Total Operating Exp.	$1.19M	$1.31M	$1.53M	$1.51M	n/a	$1.40M	$1.53M	$1.45M	$1.50M	26.1%
Effectiveness Measures										
Revenue Miles per Capita	8.4	8.8	9.0	n/a	n/a	6.2	6.0	5.5	5.0	-41.1%
Revenue Miles per Revenue Hour	17.7	18.9	18.0	18.3	n/a	15.3	16.8	16.4	16.6	-6.3%
Passenger Trips per Capita	1.0	1.1	1.2	n/a	n/a	1.1	1.1	1.0	0.9	-10.5%
Passenger Trips per Revenue Hour	2.2	2.5	2.3	2.0	n/a	2.7	3.0	3.1	3.1	42.4%
Passenger Trips per Revenue Mile	0.1	0.1	0.1	0.1	n/a	0.2	0.2	0.2	0.2	52.0%
Efficiency Measures										
Operating Expense per Capita	$12.35	$13.64	$15.80	n/a	n/a	$14.09	$14.51	$13.83	$13.53	9.6%
Operating Expense per Passenger Trip	$11.84	$11.89	$13.52	$15.39	n/a	$12.85	$13.39	$13.27	$14.50	22.5%
Operating Exp. per Revenue Mile	$1.46	$1.56	$1.76	$1.70	n/a	$2.27	$2.42	$2.51	$2.72	86.1%
Operating Expense per Revenue Hour	$25.90	$29.35	$31.73	$31.16	n/a	$34.68	$40.66	$41.19	$45.17	74.4%
Farebox Recovery	7.9%	7.3%	5.6%	12.1%	n/a	13.2%	11.6%	11.2%	10.4%	31.1%
Average Fare	$1.12	$1.04	$0.91	$1.85	n/a	$1.69	$1.69	$1.69	$1.69	51.0%

Source: Rural and Urban FTIS
**Data unavailable for 2011-2015, so trend reflects 2016-2019*

Table 3-5: Votran Trend Analysis, 2011-2019

Indicator/ Measure	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change
General Indicators										
Passenger Trips	163,697	166,681	164,491	165,792	186,708	189,913	213,899	224,124	242,773	48.3%
Service Area Pop.	468,670	468,670	468,670	494,593	494,593	494,593	494,593	494,593	494,593	5.5%
Revenue Miles	1,214,914	1,283,544	1,299,359	1,285,442	1,459,211	1,525,423	1,613,139	1,729,019	1,998,660	64.5%
Revenue Hours	71,024	80,003	82,555	81,522	94,468	101,968	109,945	118,480	135,046	90.1%
Total Operating Exp.	$4.28M	$4.33M	$4.40M	$4.28M	$4.58M	$5.27M	$5.45M	$6.30M	$7.42M	73.3%
Effectiveness Measures										
Revenue Miles per Capita	2.6	2.7	2.8	2.6	3.0	3.1	3.3	3.5	4.0	55.9%
Revenue Miles per Revenue Hour	17.1	16.0	15.7	15.8	15.4	15.0	14.7	14.6	14.8	-13.5%
Passenger Trips per Capita	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	40.5%
Passenger Trips per Revenue Hour	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	-22.0%
Passenger Trips per Revenue Mile	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-9.8%
Efficiency Measures										
Operating Expense per Capita	$9.13	$9.24	$9.60	$8.65	$9.25	$10.65	$11.01	$12.73	$14.99	64.2%
Operating Expense per Passenger Trip	$26.14	$25.98	$27.34	$25.79	$24.50	$27.74	$25.47	$28.10	$30.55	16.9%
Operating Exp. per Revenue Mile	$3.52	$3.37	$3.46	$3.33	$3.14	$3.45	$3.38	$3.64	$3.71	5.4%
Operating Expense per Revenue Hour	$60.24	$54.13	$54.47	$52.46	$48.43	$51.66	$49.54	$53.16	$54.91	-8.9%
Farebox Recovery	12.2%	9.5%	11.4%	11.8%	9.9%	12.1%	11.8%	10.7%	12.8%	4.9%
Average Fare	$3.20	$2.47	$3.13	$3.05	$2.42	$3.36	$3.00	$3.00	$3.92	22.6%

Source: Rural and Urban FTIS

Trend Analysis Summary

General Indicators

- All metrics have increased with varying levels for Votran, with passenger trips increasing by 48.3 percent, revenue miles increasing by 64.5 percent, a 90.1 percent increase in revenue hours, and a 73.3 percent increase in total operating expense over the ten-year period. Although there has been a significant increase in revenue hours, the growth rate for revenue miles was less dramatic, implying that Votran's bus operating speeds are down, possibly due to a combination of increasing congestion in the county and the supply of more service in the more concentrated core areas. Although the agency's operating expense increased, it did not directly increase in tandem with the increase in revenue hours suggesting that Votran has implemented its service improvements in an efficient manner over the ten-year period.
- FCPT experienced similar increases in several of its general indicators, although there was a decrease in revenue miles (-32.2%) and revenue hours (-27.7%). Passenger trips increased by 3.0 percent, service area population experienced a 15.2 percent increase, while the total operating expense increased by 26.1 percent. The decreases in revenue miles and revenue hours combined with the increase in passenger trips suggests that FCPT is supplying service more efficiently.

Effectiveness Measures

- Although regional and national trends have shown effectiveness measurements declining over the past ten years, Votran experienced an increase in passenger trips per capita and revenue miles per capita. This suggests that Votran is providing a higher level of service resources per person in the community with a corresponding positive response in utilization of those resource levels. Conversely, Votran has experienced a decline in revenue miles per revenue hour (-13.5%), passenger trips per revenue hour (-22.0%), and passenger trips per revenue mile (-9.8%). Although these particular effectiveness metrics have decreased over the last decade, it is apparent that the trends have been more stable in the last three to four years, suggesting that Votran now is better balancing its resources with local service demand. The decline in revenue miles per revenue hour is consistent with the prior implication of Votran's bus operating speeds being more heavily impacted by increasing roadway congestion over time.
- FCPT also experienced some decline in its effectiveness measures but has seen an increase in passenger trips per revenue hour (42.4%) and passenger trips per revenue mile (52.0%). This suggests that FCPT is supplying service that is being more effectively utilized by its passengers over time. The decline in revenue miles per revenue hour suggests that FCPT bus speeds also may be impacted negatively by increasing congestion brought on by growth, similar to Votran. The declines in passenger trips and revenue miles per capita suggest that the County's population has increased, but the provision of service has not increased with it so per-person utilization in the county is dropping slowly.

Efficiency Measures

- Most efficiency measures have increased for Votran, indicating a decline in overall cost efficiency. The largest increase observed, operating expense per capita (64.2%), suggests that Votran has been increasing the resources it expends per person on transit service in the county, which is key to the increase noted for per-person utilization as measured by passenger trips per capita during the overall time period. While the overall trends for the operating expense per passenger trip and operating expense per revenue mile measures increased, they did so at low enough levels to suggest that much of the increases are related to inflationary factors outside the control of the agency. Similarly, the decrease in operating expense per revenue hour (-8.9%) also suggests that Votran generally has done well in controlling its costs. Additionally, there are positive trends noted with increased farebox recovery and average fare.
- All FCPT efficiency measures have increased at varying degrees. Operating expense per revenue mile and operating expense per revenue hour increased the most, suggesting that FCPT service provision may have become less efficient over time. The operating expense per passenger trip measure did not experience as much of a steep increase, suggesting that FCPT's service utilization by its customers is more efficient than its service provision. Like Votran, FCPT's farebox recovery and average fare both increased, which is expected with the increase in paying passengers.

Table 3-6: Flagler FCTD Trend Analysis, 2011-2019

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change	2014-2019 Change
General Indicators											
Population	-	96,200	97,200	99,956	102,408	105,392	108,310	110,510	109,801	14.9%*	10.6%
Potential TD Population	-	28,476	28,476	29,374	31,256	32,343	33,259	34,308	-	20.5%**	16.8%
Total Passenger Trips	83,430	91,518	93,906	97,995	101,896	102,252	110,453	108,175	101,089	21.2%	3.2%
Expenses	$1.19M	$1.38M	$1.50M	$1.48M	$1.58M	$1.39M	$1.52M	$1.47M	$1.45M	22.7%	-1.5%
Cost per Trip	$14.21	$15.08	$16.02	$15.07	$15.50	$13.56	$13.74	$13.58	$14.39	1.3%	-4.5%
Vehicles	29	34	35	37	37	37	40	34	33	13.8%	-10.8%
Vehicle Miles	899,995	939,387	981,750	967,365	752,114	708,186	709,122	652,884	617,365	-31.4%	-36.2%
Revenue Miles	810,579	843,137	873,185	888,044	653,435	614,012	636,795	-	-	-21.4%^	-28.3%^
Cost per Mile	$1.32	$1.47	$1.53	$1.53	$2.10	$1.96	$2.14	$2.25	$2.36	78.8%	54.2%
Passenger Trips by Type											
Medical	20,078	20,409	20,415	20,799	18,147	31,331	21,531	18,231	15,518	-22.7%	-25.4%
Employment	20,690	21,610	21,673	20,678	14,011	14,990	17,426	15,669	14,122	-31.4%	-31.7%
Ed/Train/Daycare	19,446	23,393	26,390	28,807	43,011	40,949	47,267	50,028	52,050	167.7%	80.7%
Nutritional	17,606	18,883	19,740	17,836	11,810	11,574	12,669	12,671	11,332	-35.6%	-36.5%
Life-Sustaining/Other	5,610	7,223	5,688	9,875	13,993	13,408	11,560	11,576	8,067	43.8%	3.2%

**Data from 2011 are unavailable. Trend is 2012-2019.*
*** Data from 2011 and 2019 are unavailable. Trend is 2012-2018.*
^Data from 2018 and 2019 are unavailable. Trend is through 2017.
Source: FCTD

Table 3-7: Votran FCTD Trend Analysis, 2011-2019

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2011-2019 Change	2014-2019 Change
General Indicators											
Population	-	495,400	497,100	500,800	507,531	517,887	529,364	538,692	538,692	8.7%*	7.6%
Potential TD Population	-	259,721	259,721	268,994	288,608	298,980	309,748	320,931	-	23.6%**	19.3%
Total Passenger Trips	757,712	780,234	786,666	725,672	582,698	598,403	567,916	611,404	507,977	-33.0%	-30.0%
Expenses	$6,633,073	$6,427,499	$6,555,281	$6,364,639	$6,680,772	$7,657,144	$6,937,738	$6,568,361	$9,733,713	46.7%	52.9%
Cost per Trip	$8.75	$8.24	$8.33	$8.77	$11.47	$12.80	$12.22	$10.74	$19.16	119.0%	118.5%
Vehicles	98	106	115	114	104	124	123	144	197	101.0%	72.8%
Vehicle Miles	2,507,966	2,802,889	2,889,107	2,665,157	2,804,938	2,859,280	2,918,524	2,916,800	2,700,465	7.7%	1.3%
Revenue Miles	2,276,335	2,484,515	2,555,235	2,362,900	2,395,425	2,523,891	2,531,007	-	-	11.2%^	7.1%^
Cost per Mile	$2.64	$2.29	$2.27	$2.39	$2.38	$2.68	$2.37	$2.25	$3.60	36.4%	50.1%
Passenger Trips by Type											
Medical	158,807	172,294	175,657	166,613	203,095	205,065	162,761	199,159	123,311	-22.4%	-26.0%
Employment	62,666	71,422	69,509	66,279	60,671	63,889	49,385	64,512	57,338	-8.5%	-13.5%
Ed/Train/Daycare	165,038	161,704	143,435	145,181	100,655	106,532	114,429	114,646	76,045	-53.9%	-47.6%
Nutritional	14,855	12,363	11,923	12,284	15,159	16,805	18,057	17,894	18,248	22.8%	48.6%
Life-Sustaining/Other	356,346	362,451	386,142	335,315	203,118	206,112	223,284	215,193	233,035	-33.0%	-30.5%

**Data from 2011 are unavailable. Trend is 2012-2019.*

*** Data from 2011 and 2019 are unavailable. Trend is 2012-2018.*

^Data from 2018 and 2019 are unavailable. Trend is through 2017.

Source: FCTD

FCTD Trend Analysis Summary

In 2018, approximately 31 and 60 percent of Flagler and Volusia residents, respectively, were considered to be transportation disadvantaged. Flagler County's TD population growth (20.5%) outpaced the general population growth (14.9%). Likewise, the growth of potential TD residents (23.6%) has greatly outpaced the overall population growth (8.7%) in Volusia County. Despite the continuing increase in general population and potential TD population, the number of passenger trips from 2011 to 2019 experienced a significant decline, -33.0 percent, in Volusia County. Conversely, passenger trips increased 21.2 percent in Flagler County.

Like with the statewide analysis, a portion of Volusia's decrease was largely due to the change in bus pass methodology between 2013 and 2014. However, the most significant drop in passenger trips in Volusia County occurred from 2014 to 2015, with a decrease of nearly 20 percent in a single year. This dramatic decrease in total trips can potentially be linked to the statewide switch to the MCO broker method for NEMT trips. Also similar to the statewide analysis, Volusia's cost per trip increased a staggering 118.5 percent between 2014 and 2019, while total passenger trips decreased by 30.0 percent. Flagler saw a 54.2 percent increase in cost per mile, with a 10.8 percent decrease in vehicles and a 36.2 percent decrease in vehicle miles. Volusia's vehicle fleet drastically increased by 72.8 percent, but its vehicle miles stayed relatively unchanged. Despite these changes, the cost per mile increased by 50 percent. Most trip purposes in Flagler decreased from 2014 to 2019, save for Education/Training/Daycare, which increased 80.7 percent, and Life Sustaining/Other, which increased 3.2 percent during this same period. Similarly, most trip purposes also saw a decrease in Volusia County, save for Nutritional, which increased 48.6 percent.

4.0 Evaluation of Existing Services

Transit Service Overview

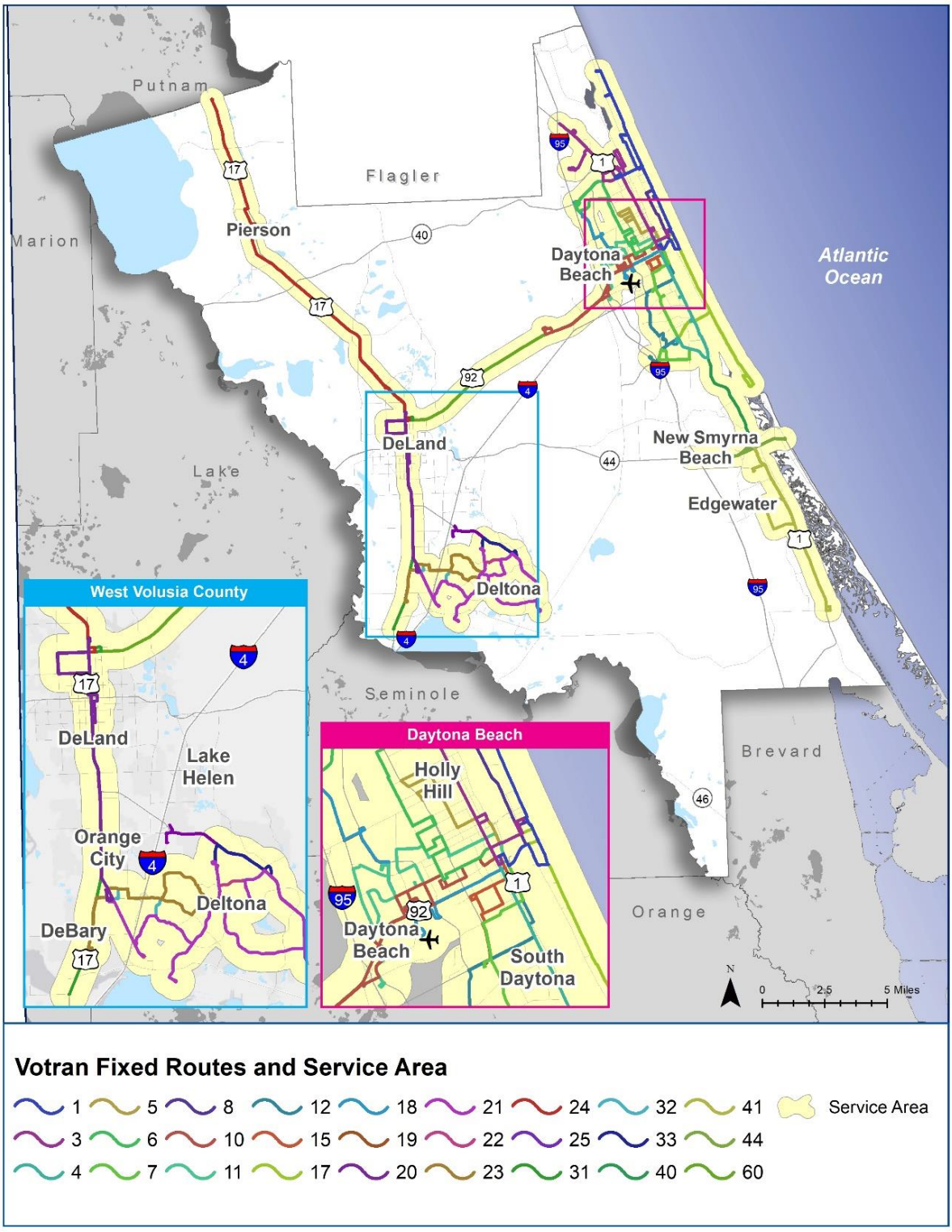
Votran Fixed-Route Transit

Votran has provided fixed-route service in Volusia County since 1975. Currently, there are 27 routes that serve all incorporated municipalities, with the exception of Lake Helen, and connect the eastern and western portions of the county. The service area is considered to be the ¾-mile radius from all fixed-routes.

The majority of routes operate from approximately 6:00 AM to 7:00 PM on weekdays and Saturday with frequencies ranging from 30 to 60 minutes, while some operate all seven days of the week. The routes that operate seven days a week have consistent frequencies and span Monday through Saturday with limited Sunday service. The earliest weekday service begins at approximately 4:22 AM on Route 31 and ends at 12:30 AM with Route 1. Although most route frequencies are 60 minutes, some routes operate every 30 minutes and some operate every two hours.

As shown in Map 4-1, most routes are located in the eastern portion of the county. Service begins there at 5:37 AM with Route 15 and ends at 12:30 AM on Route 1. The western portion of the county is served by nine routes, with Route 31 operating the longest span in the area from 4:22 AM to 8:48 PM. There is no service after that time in west Volusia County. Route 60, the route that connects the eastern and western parts of Volusia County, operates every 30 minutes Monday through Saturday from 5:15 AM to 7:48 PM.

Map 4-1: Votran Fixed-Routes and Service Area



Paratransit Services

Votran Gold

In addition to being the County's Community Transportation Coordinator (CTC), Votran also provides "Gold Service," which is paratransit service for eligible TD populations and eligible bus riders within ¾-mile of a fixed bus route. It is available to persons who, because of physical or mental disability or age, are unable to transport themselves and/or persons meeting requirements of the ADA who cannot use fixed-route bus service due to the distance to a route and/or the inaccessibility of the pathway to access the route.

The Gold Service schedules appointments for trips for those who meet the eligibility criteria either the day prior or up to one week in advance. To use the service, residents must apply, meet requirements, and be approved. Again, qualifying criteria include having a disability, inability to transport oneself, and/or inability to use fixed-route services. The current fare for this service is $3 per trip. Scheduled pickup times for the service correspond to the hours of service within the area.

Flagler County Public Transportation (FCPT)

FCPT is a service of Flagler County Government, providing non-emergency transportation within the county limits. FCPT is a door-to-door, shared-ride paratransit service. To become eligible for this special service, residents must complete an application that then is submitted to FCPT for processing and determination of eligibility. Transportation eligibility is limited to individuals who have little or no access to transportation due to income (150 percent of the Federal Poverty Level); are over the age of 60; or have a disability that prevents the individual from driving. FCPT does not provide Medicaid-supported transportation. The current fare is $2 per trip.

FCPT operates Monday through Friday, 5:00 AM to 6:00 PM, with pick-ups occurring one-hour before the desired arrival time. FCPT operates within Flagler County borders except for major medical appointments that cannot be completed within Flagler County. Service to Volusia County is offered on Tuesdays and Thursdays, 9:00 AM to 1:00 PM, and St. Augustine, Jacksonville, and Gainesville on Friday, 9:00 AM to 1:00 PM. Additional fares will apply depending on destination.

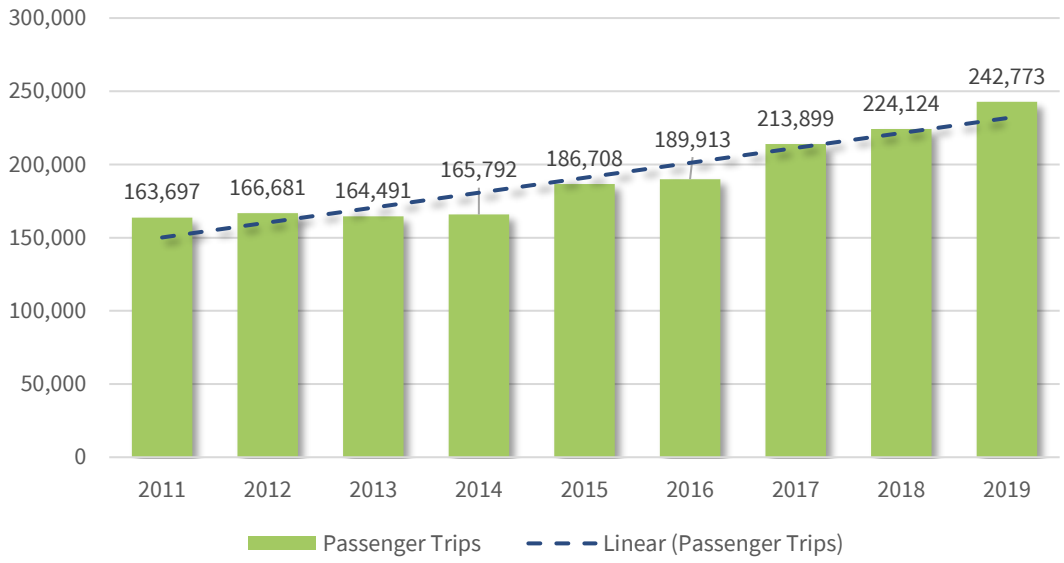
Service Profile

Ridership

Votran

Volusia County's Votran service has reported considerable demand growth since 2011. From 2011 to 2019, the transit service provider has experienced a 48.3 percent increase in passenger trips, with 163,697 trips in 2011, and 242,773 trips in 2019. This is especially impressive considering the service area population has increased by only 5.5 percent in the same nine-year period. Detailed passenger trip data can be found in Figure 4-1, below.

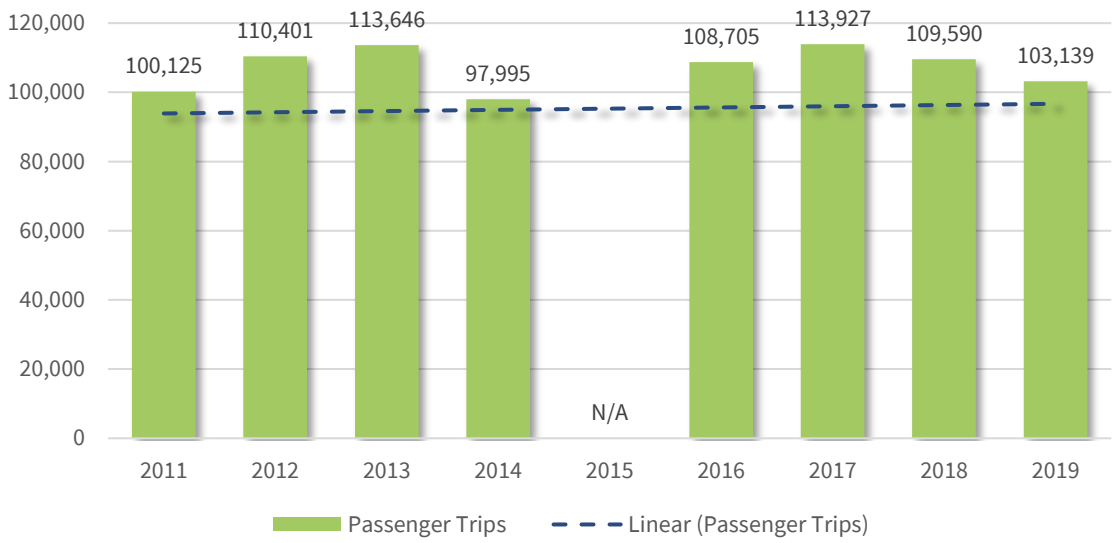
Figure 4-1: Votran Passenger Trips 2011-2019



FCPT

FCPT services have reported minimal growth over the observed nine-year period from 2011 to 2019, with only an overall three percent growth in number of passenger trips during this time. The largest growth was seen from 2014 to 2016, when passenger trips increased by 10 percent after a 16 percent decrease from 2013 to 2014. Data for 2015 passenger trips were unavailable for this trend analysis. Figure 4-2 shows the detailed FCPT passenger trip data.

Figure 4-2: FCPT Passenger Trips 2011-2019



Fare Structure

Votran

The current regular one-way adult cash fare on Votran fixed-route services is $1.75. In addition, there are multiple fare pass options including the All-Day Pass, 3-Day Pass, 7-Day Pass, 31-Day Pass, and Ten Fare Tokens, as shown in Table 4-1. Votran also offers reduced fares for students, adults 65 years and older, and individuals with disabilities, who may ride the services by just showing proof via Medicare card, agency ID, or valid government-issued ID. A Votran ID can be bought for $2.00 by showing proof of disability, age, or student status at the agency's main hub at the Votran administration office. Additionally, children under seven years of age ride for free.

Votran passes are available at multiple locations. At this time, bus passes can be purchased over the internet, at the Thomas C. Kelly Administration Center, Volusia County Council on Aging, Votran Transfer Plaza, and public libraries including Deltona Regional, Edgewater, New Smyrna Beach, and Ormond Beach Regional.

Table 4-1: Votran Fixed-Route Fares

Fare Category	Full Fare	Reduced Fare
One-Way Trip	$1.75	$0.85
All-Day Pass	$3.75	$1.85
3-Day Pass	$7.50	$3.75
7-Day Pass	$13.00	$6.50
31-Day Pass	$46.00	$23.00
Ten Fare Tokens	$16.50	$7.50

Source: Votran

FCPT

Flagler County does not operate or maintain any fixed-route services for the general population, and instead utilizes an on-demand, door-to-door transportation service that requires eligible Flagler County residents to complete an application to set up transportation services. As shown in Table 4-2, Costs for one-way regular bus trips are $2 per ride. Riders may also elect to bulk purchase 10 FCPT tokens at the same unit cost as a one-way ticket at the main FCPT office. Additionally, riders may use FCPT for non-emergency medical appointment transports into Volusia or St. Johns counties at $15 per ride, one-way.

Table 4-2: FCPT Fares

Fare Category	Fare
One-Way Trip	$2.00
Cross County Medical Trip, One-Way	$15.00
Ten Fare Tokens	$20.00

Source: FCPT

Other Transportation Providers

There are transportation providers that serve the general public and/or specific client groups such as persons with disabilities, older adults, and/or people needing medical care exclusively in Volusia and/or Flagler or in the whole region. These providers are documented in Table 4-3 along with various characteristics and other information about them and the services they provide.

Following are some of the transportation options available within Volusia and/or Flagler that were not included in the Table 4-3 provider inventory because of the scale and/or nature of their respective services. Instead, they are briefly identified herein to provide a more complete picture of the various public mobility options available for Volusia and Flagler residents and visitors.

Uber and Lyft

These popular app-based, on-demand transportation options are also available in Flagler and Volusia. These two Transportation Network Companies (TNCs) provide on-demand trips without much limitation, but their services are mostly available in urban areas where the demand (and driver supply) may be higher than the more rural areas of Volusia and Flagler.

Greyhound

Greyhound is a national over-the-road bus service that serves longer trips between communities and states. As such, it provides regional connections from Volusia and Flagler to other areas throughout Florida and in other areas throughout the U.S.

Embry-Riddle Shuttles

Embry-Riddle Aeronautical University provides three shuttle routes when classes are in session from August to late April. The routes connect surrounding student housing, such as the Eagle Landing Express, Bellamy, and the Chanute Eagle Landing, to the university and also circulate students to popular attractions on campus.

SunRail

The SunRail regional commuter rail service, which began its operations in 2014, has its northern terminus in DeBary and the southern terminus in Poinciana in Osceola County, spanning 49 miles with 16 rail stations in 4 counties. According to SunRail's ridership data, the commuter rail line provided over 1.5 million rides in FY 2019. The DeBary station is the third most popular stop, with approximately 105,000 riders in the same time period. SunRail has plans to expand north to DeLand. The 12-mile extension would need $34 million in federal funding. FDOT secured $41.95 million funding for the DeLand Station, which was approved by the Volusia County Council in January 2021.

Table 4-3: Other Transportation Providers

Provider	Types of Services Provided			Levels of Service		Fare Structure	Types of Vehicles	Phone	Email
	General Service Area (Counties)	Eligible Purposes	Eligible Riders	Days	Hours				
All Volusia Transport, LLC	Volusia County	Medical	Americans with Disabilities Act Eligible, Disabled, Elderly, Private Pay Consumer, Transportation Disadvantaged	Mon-Sat	7:00 AM - 6:00 PM	Wheelchair Van, within 10 miles, $35.00 one way; Stretcher Van, within 10 miles, $55.00 one way; 7-10 passenger HandiVan, $15.00 one way, within 10 miles	Non-Emergency Stretcher Van, Wheelchair Van	386-801-8156	allvolusiatransp@hotmail.com
Med One Shuttle, Inc.	Volusia County	Medical	All	Mon-Sun	24/7	Varies	Wheelchair Van, Ambulatory Van, Stretcher Van	386-255-8525	medoneshuttle@bellsouth.net
Yellow Cab (Kings Trans. Group)	Volusia County	All, Recreation	All	Mon-Sun	24/7	Varies	Sedan, Taxi, Limousine	386-255-5555	yellowcabking@msn.com
American Cancer Society Transportation Program	Florida	Medical	Cancer Patient	Mon-Fri	8:00 AM - 6:00 PM	Varies	Car, Taxi	800-227-2345	-
Mobility Works-Wheelchair Accessible Van Rentals	Florida	All, Recreation	Disabled	Mon-Fri	8:00 AM - 6:00 PM	Varies	Wheelchair Van	877-275-4915	-
4 Leaf Clover	Volusia County	All, Recreation	All	Mon-Sun	24/7	Varies	Taxi	386-252-9999	peterson812@hotmail.com
American Taxi	Volusia County	All, Recreation	All	Mon-Sun	24/7	Varies	Taxi	386-253-0303	-
Tri-Star Taxi	Volusia County	All, Recreation	All	Mon-Sun	24/7	Varies	Van/taxi	386-310-7945	tristarstaxi@yahoo.com

Provider	Types of Services Provided			Levels of Service		Fare Structure	Types of Vehicles	Phone	Email
	General Service Area (Counties)	Eligible Purposes	Eligible Riders	Days	Hours				
Tropical Transportation	US	All, Recreation	All	Mon-Sun	24/7	Varies	Van/sedan	386-281-3260	gotropicalshuttle@gmail.com
Classi Taxi and Shuttle	Orlando, Sanford, Daytona Beach, Jacksonville	All, Recreation	All	Mon-Sun	24/7	Varies	Van/sedan	386-255-8000	nsbcab@gmail.com
Alliance Taxi	Flagler County, Volusia County	All, Recreation	All	Mon-Sun	24/7	Varies	Van/sedan	386-259-3111	-
AllCare Medical Transport	Flagler County, Palm Coast, St. Augustine, and Daytona	Medical	Disabled	Mon-Sun	24/7	-	Wheelchair Van, Ambulatory Van, Stretcher Van	386-864-7145	info@allcaremedicaltransport.com
Spruce Creek Taxi	Flagler County, Orlando, Jacksonville, Daytona, and St. Augustine	All, Recreation	All	Mon-Sun	24/7	Varies	Van/sedan	386-275-9478	-

5.0 Industry Trends and Service Options

This section summarizes the service gaps and needs identified for Flagler and Volusia counties and introduces examples of paratransit innovations implemented by other transit agencies across the country who are seeing similar trends in increasing paratransit demand and higher trip costs. These potential options will be used as a framework to develop the recommendations in the following section.

Summary of Local Service Gaps and Needs

Service gaps and needs for Flagler and Volusia were identified from several sources, including the review of recent local and regional plans, and the trend and demographic analyses. A summary of the significant findings from the local and regional plans review is below:

- TD trips in Volusia are getting longer as development is occurring in rural areas where fixed-route service does not yet exist.
- Flagler does not provide any fixed-route service or service to other counties. The County's TDSP indicated that there is a need to utilize multiple transportation modes in order to maximize ridership efficiency.
- Flagler's TDSP also indicated that the longer trip distances to medical appointments are costly and difficult to multiload.
- Votran's TDP identified multiple service improvements that will bring fixed-route service to areas without transit and enhanced services where it already exists.
- Votran's TDSP identified multiple strategies to improve efficiency, which include implementing a bus pass program, regularly reviewing rider eligibility for using their services, and exploring group trips to major attractors.

The local trend analysis for Flagler and Volusia counties showed that TD trips have stayed relatively consistent in Flagler but declined in Volusia between 2014 and 2019, likely due to the statewide change in how NEMT service is delivered. This change also likely has impacted paratransit services in both areas, as some portion of the TD demand has shifted to paratransit use. As TD trips declined in Volusia, the county saw an almost 50 percent increase in paratransit trips since 2011, even though the county population increased by only 5 percent. Additionally, trips per mile and per hour decreased while operating cost per trip increased, indicating that Volusia needs more efficient solutions for keeping up with its growing paratransit demand. The trend analysis also revealed that most cost-related measures for both counties have increased, indicating a decline in paratransit cost efficiency. Overall, the local trend analysis identified a need to keep up with the demand of paratransit services in a more efficient manner.

Florida, as a whole, has the second largest proportion of older adults in the United States at 20.5 percent of its total population; at 13.7 percent, Florida also is one of the top 20 states in terms of proportion of population with a disability. The demographic analysis documented herein indicated that the proportions of older adults and persons with disabilities are currently higher in both Flagler and Volusia than the statewide average. The analysis also indicated that the region is

expected to see significant growth in older adults in the coming years. With improved healthcare services and the availability of programs for seniors that allow them to be more self-sufficient, today, older adults tend to prefer to "age in place." This means that they are more likely to continue to live alone as they age and will rely on paratransit or TD transportation resources to get around when they are unable to drive themselves anymore. If local paratransit services continue to maintain the current performance status quo, it is logical to expect that transportation resources in Flagler and Volusia increasingly will be stretched thin as mobility demand by these segments of the population continues to grow.

Industry Trends

As seen locally and statewide, similar issues affecting paratransit service are apparent in other communities across the country. Most notably, cost per trip continues to rise, even where ridership stays relatively consistent, and the unpredictable pick-up and arrival times cause issues for riders. Below are examples of paratransit innovations, including technology enhancements and incentivizing fixed-route usage, that other transit agencies have implemented in order to offset the costs and improve service efficiencies.

- **Deviated fixed-route transit services.** Flexible services can reduce the demand for paratransit service by providing an alternative form of transportation that TD passengers might find more convenient to use. If the deviations are available to all riders, the deviations do not have to meet ADA paratransit requirements. As an example, Middlesex County Area Transit (MCAT) developed a system of seven fixed-routes with deviations. Riders are able to request for pickups or drop-offs at other locations ¼-mile from the route if requested in advance. The routes are able to link more trips with residential origins and destinations and facilitate combined ridership from both older adults and people with disabilities with the general public to support routes at a lower cost than traditional bus operations. It also provides a lower-cost option to paratransit-eligible riders.
- **Enhanced paratransit scheduling technology.** Greater Richmond Transit Company (GRTC) uses a proprietary vendor software for paratransit scheduling and support. The software allows the agency to group more trips going to common destinations and also does not allow the scheduling of trips lasting more than 90 minutes, both of which enhance the efficiency of the paratransit service. Hence, enhancing or upgrading this technology can play an essential role in improving trip efficiencies and lowering costs per trip.
- **On-demand microtransit**. Hampton Roads Transit (HRT) in Virginia invested in new ADA-compliant technology that allows for pre-scheduling trips, with plans to introduce riders to the option of booking trips on-demand. Ideally, this technology will provide more efficient routing and dispatching, which will lead to a better rider experience and a higher vehicle utilization, resulting in lower operational costs.
- **Commingled paratransit and microtransit services**. In April 2020, StarTran in Lincoln, Nebraska, launched a commingled paratransit and non-paratransit microtransit service. This means that both on-demand services share the same vehicles and drivers. By implementing the service, the agency was able to double its ridership while eliminating the

need for three vehicles on the road. This also saved the agency 33 percent in operational costs and 25 percent of staff time per week in scheduling and dispatching costs by automating its scheduling services through a software application.

- **Partnering with transportation network companies (TNC).** In 2019, Regional Transportation Commission of Southern Nevada (RTC) launched a pilot program called "Ride On-Demand" with Lyft that provides a supplemental service to paratransit. Rides can be scheduled via the Lyft app at any time, or users may call RTC to request a ride if they do not have access to a smartphone. Users are also able to indicate if they will need a wheelchair-accessible vehicle. Riders pay $3 for a one-way trip, while RTC subsidizes the ride up to $15 each way. If the ride is more than $18, the user will have the option to pay the remaining balance or cancel the trip and use the existing paratransit service instead.
- **First mile/last mile programs.** Pinellas Suncoast Transit Authority's (PSTA) Direct Connect program partners with Uber, Lyft, and a local taxi service to offer trips to and from a PSTA bus stop. PSTA subsidizes up to $5 of the trip, with the rider responsible for the remaining cost. While not specifically targeted toward paratransit users, the program does appeal to populations who have trouble accessing bus stops by foot, bike, or wheelchair. The program also offers a wheelchair transport option with a $25 subsidy.
- **Partnering with TNCs for cross-county trips.** Traditional paratransit rarely provides direct, private, cross-county trips. St. Lucie County partnered with UZURV, an adaptive transportation company, to launch a pilot program to provide cross-county trips as an extension to local on-demand services. This service provides users with access to job training, employment, healthcare, and other activities within the region. St. Lucie also partnered with Senior Resource Associates (SRA), Indian River County's CTC, on the project to help keep costs low.
- **System regionalization.** Rabbittransit in Pennsylvania is currently a 10-county regional transportation provider that manages and delivers shared ride services in all 10 counties. Regionalization of the system has resulted in administrative efficiencies as it relates to staffing and services. There is currently one regional administrative center that contains a regional call center that facilitates reservations and application processing for all counties. Although there are nine transit depots, the vehicles are shared across the counties, which allows them to be serviced more efficiently when maintenance is needed. Removing the municipal boundaries has also resulted in more efficient operations, as it allows the closest vehicle to service a passenger.
- **Replacing fixed routes with Mobility-on-Demand (MOD) zones.** In 2020, Sarasota County Area Transit (SCAT) identified unproductive routes to replace with MOD zones. MOD service is designed to serve localized mobility and to provide connections to the fixed-route network for longer trips. Trips can be requested within an MOD zone via a smartphone app. The service is open to all mobility markets, including youth, discretionary riders, seniors, etc., but can be a supplement or replace growing demand for complementary paratransit services in certain areas.
- **Travel training programs**. Manatee County Area Transit (MCAT) offers travel training to individuals who need instruction on how to use the fixed-route system. Training is free and

customized to meet each individual's specific needs. The travel trainer will accompany the individual on the bus throughout the entire travel experience and is able to answer any questions the client might have regarding transit use. This service is especially beneficial to members of the TD population who may be physically able to do it but may be apprehensive about riding the bus.

Other Potential Strategic Options

In addition to the options described in the previous section, below are other potential strategies to strengthen local paratransit services.

- Expand the paratransit service area beyond the federally-required ¾-mile boundary around fixed routes
- Extend fixed-route service times or days of service
- Expand fixed-route services to serve popular TD trip destinations
- Develop accessibility improvements for fixed-route bus facilities to encourage TD populations to use fixed-route services
- Implement a bus pass program for paratransit customers
- Recruit more coordination contractors to help fill in service gaps
- Coordinate with medical practices to schedule certain procedures or certain patients on the same day to encourage multi-loading trips

6.0 Recommendations

This section presents a three-phased program of recommendations for paratransit and TD service efficiencies, modifications, and/or improvements to better match local market demand for this type of mobility need. The recommendations developed for this study effort are summarized below in terms of short-term, mid-term, and long-term timeframes. Following the descriptions of the recommendations is an implementation plan with a summary of potential costs for the various strategies.

Short-Term Recommendations

These recommended items are higher in priority, easier to implement, and/or lower-cost or cost-neutral in nature to facilitate implementation in the more immediate future. For the purposes of this study, short-term recommendations can occur within the next couple years.

Coordinate with other public and private transportation providers

Work with social service agencies that have vehicles to recruit more coordination contractors. Sharing Flagler's and Volusia's increasing paratransit trip demand with other agencies can help save on paratransit expenses. This is recommended in the short term as there is no cost associated with this strategy.

Coordinate with medical practices for better multiloading opportunities

Coordinate with doctor's offices with a high volume of paratransit or TD clientele to schedule door-to-door riders' appointments on the same day. This will make it easier for the transit agencies to multiload vehicles and provide group trips, especially for those patients coming from the same or proximate origins. This is recommended in the short term as there is no cost associated with this strategy.

Evaluate access to senior living facilities and programs

The TD population typically has a difficult time accessing the fixed-route system due to inaccessible pathway and/or bus stop conditions and lack of proximity to bus stops. Identify senior living facilities or senior programs that generate a lot of paratransit or TD demand and/or are close to the fixed-route system and determine the feasibility of extending fixed-route services to them or examine the possibility of implementing an MOD zone to connect to these facilities. This can help cut down on demand for paratransit and TD trips. This is recommended in the short term, even though the nature of the service solution may require staff time for planning and some associated cost for the enhanced services to the facilities/programs.

Participate in the land development process

While the previous recommendation addresses transit access to existing facilities/programs, it is also recommended that Volusia's and Flagler's transit staff participate in the land development process for new development projects, especially those geared toward the TD population. Being involved in land development or redevelopment decisions can help facilitate transit access for future facilities and programs from the beginning, which also may become a potential draw for

prospective residents. This is recommended in the short term as it only requires staff time and has no associated cost.

Mid-Term Recommendations

Mid-term recommendations are either not as immediate in terms of need or are sufficiently extensive enough to require some level of additional planning and time to implement. For the purposes of this study, mid-term recommendations occur in 2023-2024.

Develop a phased implementation plan to improve bus stop accessibility

For some older adults and persons with disabilities, the biggest barriers to riding the fixed-route system are issues related to accessing bus stops or a lack of bus stop amenities (i.e., shelters, benches, etc.). Investing in accessible pathway and bus stop improvements is one way to make fixed-route services more appealing to paratransit customers. The first step to providing these improvements is to develop a phased implementation plan to identify and evaluate priority bus stops for improvements. This can be considered a mid-term recommendation as timing may depend on funding.

Implement a free bus pass pilot program for paratransit eligible riders

For most transit agencies, the average cost per paratransit trip is significantly higher than the cost of a trip on fixed-route services. For example, Votran's average cost per paratransit trip in 2019 was $30.55, while the average cost for a fixed-route trip was $5.52. Opportunities for Gold Service users to use fixed-route service for free may help provide additional interest in and comfort with this mode and reduce reliance on Gold Service by individuals who choose to participate. This can be considered a mid-term recommendation as the timing may depend on funding.

Contract for TNC first mile/last miles services

Contract with TNCs to provide subsidized first mile/last mile connections between fixed-route origins and destinations. This is a flexible service that will improve access to bus stops for the TD population, thereby helping to make fixed-route transit more desirable. This can be considered a mid-term recommendation since it does not require purchasing new equipment or hiring new drivers, but timing may depend on funding due to the fare subsidies that would be involved.

Contract for TNC supplemental service

Contract with TNCs to provide subsidized service that can be used by ADA paratransit customers for specific trip purposes. The transit agencies can benefit by offering a more cost-effective option for some trips, lowering the total cost of ADA service. Riders can benefit by having the option for more flexible travel. This can be considered a mid-term recommendation since it does not require purchasing new equipment or hiring new drivers, but timing may depend on funding due to the fare subsidies that would be involved.

Conduct an MOD Study

Flagler and Volusia counties should explore additional opportunities to implement MOD services. An on-demand study can be conducted to identify potential areas that would benefit from these

services and propose service concepts of operation for each area. Studies can be conducted by county, or Flagler and Volusia can conduct a coordinated study in conjunction with the R2CTPO. This can be considered a mid-term recommendation as the timing may depend on coordination and funding availability.

Implement Votran's Phase II MOD Recommendations from the Short-Term Redesigned COA Network

Part of Votran's TDP recommendations include adding technology-based on-demand transit by converting the New Smyrna Beach Mainland and Beachside Flex zones to app- and phone-based MOD zones, in addition to creating new MOD zones in Deltona and Ponce Inlet. Three Deltona zones were recommended to cover service in north, south, and east Deltona for riders who may lose fixed-route service due to the Votran 2021 system COA redesign. While not specifically targeted to paratransit and TD riders, this service would offer a more flexible and enhanced on-demand service than the typical door-to-door paratransit service, as well as obviate the need for complementary ADA paratransit service within these areas if the MOD service meets all ADA compliance requirements.

Long-Term Recommendations

Long-term recommendations may necessitate changes in existing policies or operational philosophy that will require a greater period of time to introduce. For the purposes of this study, long-term recommendations should occur in 2025 and beyond.

Add MOD zone in South DeLand

Votran's 2021 TDP recommended an MOD zone to be implemented in South DeLand in 2027. The service would provide on-demand coverage to neighborhoods and businesses in south DeLand along with the Daytona State College campus. While not specifically targeted to paratransit and TD riders, this service would offer a more flexible and enhanced on-demand service than the typical door-to-door paratransit service, as well as obviate the need for complementary ADA paratransit service within these areas if the MOD service meets all ADA compliance requirements.

Implementation Plan and Cost Summary

Table 6-1, below, summarizes the recommendations detailed previously and includes estimates of possible cost and potential funding options. These recommendations were designed with the transit agencies and customers in mind to create more cost efficient, convenient, and reliable paratransit services. It should be noted that the schedule shown below does not preclude the opportunity to delay or advance any of the recommendations and the schedule can be adjusted as priorities change and funding is identified.

Table 6-1: Implementation Plan and Cost Summary

Recommendation	County	Implementation Year(s)	Estimated Initial Costs	Potential Funding Options
Short-Term				
Coordination with other public and private entities	Flagler/ Volusia	2022	Staff time	N/A
Coordination with medical practices	Flagler/ Volusia	2022	Staff time	N/A
Evaluate access to senior facilities and programs	Volusia	2022	Staff time	N/A
Agency involvement in land development	Volusia	2022	Staff time	N/A
Mid-Term				
Bus stop implementation plan	Volusia	2023	$200,000-$400,000	Federal funds
TNC first mile/last miles services	Volusia	2023	Flexible; depends on amount budgeted for subsidies	Federal funds
Bus pass pilot program	Volusia	2023	$50,000	Federal funds
Votran's Phase II MOD recommendations from the *Short-Term Redesigned COA Network*	Volusia	2023	Capital: $440,840 Operating: $1.28M Annually	Local funds
TNC supplemental paratransit service	Flagler/ Volusia	2024	Flexible; depends on amount budgeted for subsidies	Federal funds
MOD Study	Flagler/ Volusia	2025	TBD	Federal funds
Long-Term				
South DeLand MOD Zone	Volusia	2027	Capital: $132,000 Operating: $206,364 Annually	Local funds