

Meeting Date
November 21, 2017



AGENDA	
Section	Consent
Item No.	II. B. 3.

AGENDA REPORT
 BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

SUBJECT:	Adoption of the 2018-2027 Transit Development Plan for Space Coast Area Transit
DEPT/OFFICE:	Transit Services Department/Space Coast Area Transit

Requested Action:
 It is requested that the Board adopt the 2018-2027 Transit Development Plan for Space Coast Area Transit.

Summary Explanation & Background:

The Transit Development Plan (TDP) is required by Florida Department of Transportation, Florida Administrative Rule 14-73.001 as a prerequisite to the receipt of State Public Transit Block Grant funds. The rule requires that the TDP be the provider's planning, development and operational guidance document.

This is Space Coast Area Transit's second TDP written under the updated rules issued in 2007. The rules required that the planning horizon increase from five years to ten years; an FDOT approved Public Participation Plan and; adoption by the transit agency's Board of Director as opposed to the Local Coordinating Board or Metropolitan Planning Organization.

There are three basic steps to the development of a TDP; (1) assessment of the current transit service, service area demographics and review of governmental plans; (2) public involvement and; (3) goal setting and 10 year service and budget projections. A Checklist of the FDOT requirements for a TDP is included on page 4 of the TDP.

The original due date of the TDP adoption to the FDOT was September 1, 2017, however, the FDOT extended the deadline to November 30, 2017 to accommodate the Board's meeting schedule and the twice cancellation of the September Space Coast Transportation monthly meeting in which a presentation of the TDP was scheduled. The presentation has been rescheduled for December.

(CONTINUED ON NEXT PAGE)

Clerk to the Board Instructions:

Exhibits Attached: Transit Development Plan, TPO Presentation

Contract /Agreement (If attached): Reviewed by County Attorney Yes No PR

County Manager Frank Abbate <i>FBA</i>	Assistant County Manager John Denninghoff	Department Director / Extension James Liesenfelt, Interim Assistant County Manager 633-2003
	Interim Assistant County Manager Jim Liesenfelt	<i>J. Liesenfelt</i>

Highlights of the 2018-2027 Transit Development Plan Service Alternatives

- Increase Frequency of service on all Routes
 - Weekday Service- 30 minute headways or less
 - Saturday/Sunday Service- 60 minute headways or less
- Extend service on all existing routes
- New Service
 - Melbourne/Palm Bay/Sebastian
 - Palm Bay
 - Minton Road/Malabar Road/St. Johns Heritage Parkway/US192
 - Flex Service in Port St John/Canaveral Grove
- Improve Stop Amenities and Infrastructure
- Call Center Capacity and Sensitivity Training

Since the Transit Development Plan is a planning document adoption of the Transit Development Plan does not require that Service Alternatives have to be implemented, however, any future service that is partially funded by the Florida DOT, must be included in the Transit Development Plan.

FISCAL IMPACT:

Adoption of a Transit Development Plan is required to draw the yearly Florida Department of Transportation Public Transit Block Grant Funds. The Fiscal Year 2017/2018 Block Grant allocation is \$1,568,183.

RECEIVED
NOV 06 2017
County Manager's Office



Tammy Rowe, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

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Tammy.Rowe@brevardclerk.us

November 22, 2017

MEMORANDUM

TO: Jim Liesenfelt, Interim Assistant County Manager

RE: Item II.B.3., Approval of 2018-2027 Transit Development Plan (TDP) for Space Coast Area Transit (SCAT)

The Board of County Commissioners, in regular session on November 21, 2017, approved the 2018-2027 TDP for SCAT.

Your continued cooperation is greatly appreciated.

Sincerely yours,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Rowe

Tammy Rowe, Deputy Clerk

/ds

cc: Finance
Budget



Space Coast Area Transit

Transit Development Plan (TDP)

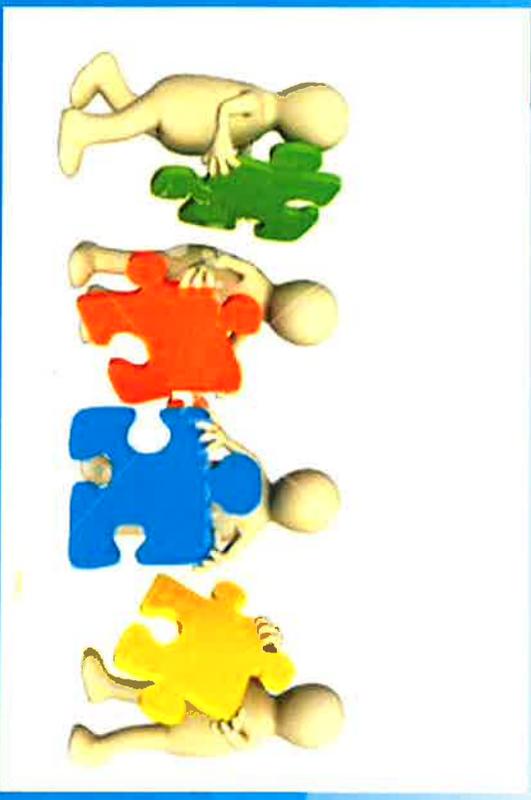
September 14, 2017

Space Coast TPO Board Meeting



- What's a TDP?
- Public Involvement
- Vision and Mission
- Service Improvements
- Finance Plan

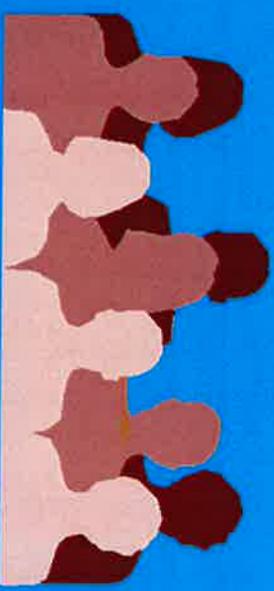
Agenda





What is a TDP?

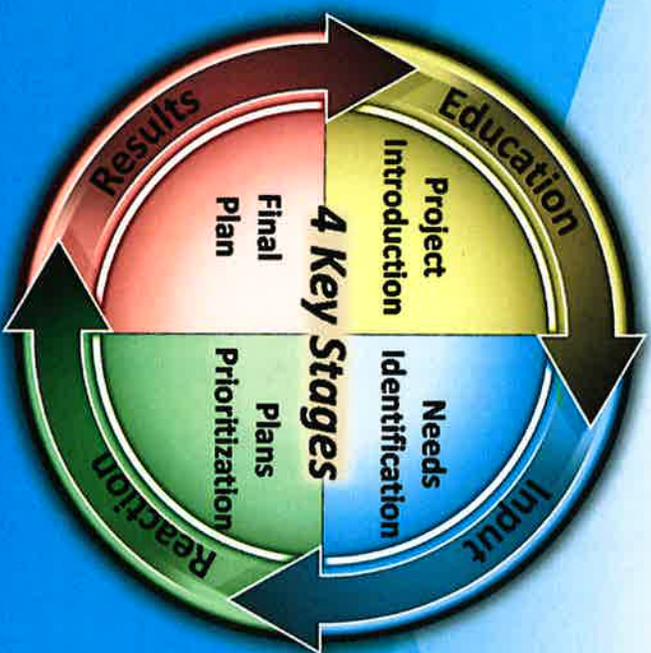
- **10-year Strategic Plan for Transit**
 - Evaluate demographics & travel behavior
 - Assess existing transit options
 - Conduct public involvement & outreach
 - Determine transit needs
 - Develop service & implementation plans
- **FDOT Requirement for Funding**
- **Major Update Every 5 Years**
 - Progress Report every Year





Public Involvement

Outreach Efforts	Completed
Review Committee Meetings	3
Stakeholder Interviews	7
Discussion Group Meetings	4
Public Meetings	3
On-board & Paratransit Surveys	2
TPO & Brevard BOCC Meetings	2





Vision & Mission

VISION

To maintain the current level of transit service in the county and expand service to better respond to the key emerging service market needs of students, commuters, seniors, and the tourism industry (including workers and visitors) by developing new routes, enhanced flexible services, partnerships, and/or other service enhancements, that target these unique markets and connect with transit providers in adjacent counties for improved regional accessibility.



MISSION

To continue to provide accessible and affordable transportation options to Brevard County residents of all ages and abilities by maintaining the current level of transit service in the county and gradually enhancing existing fixed-route service to extend hours of operation and increase frequency in the most productive corridors, and address increases in mobility demand in hard to serve areas and by disadvantaged populations with flexible services.



Existing Service Improvements

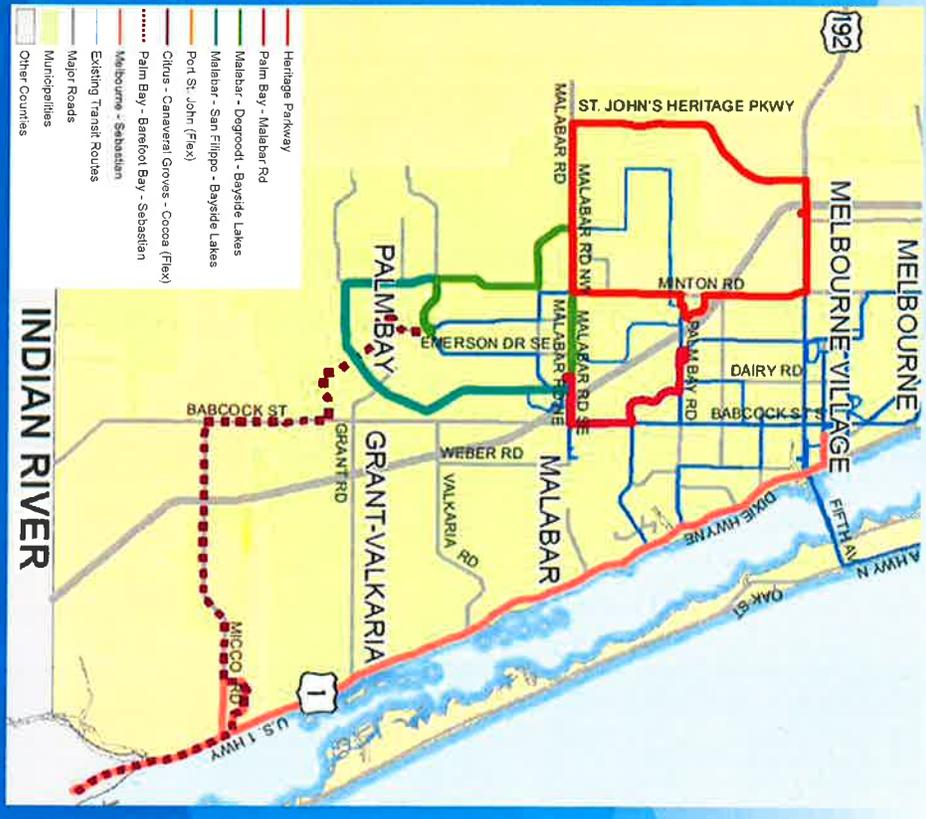
- Frequency Improvements Targets
 - Weekday service – 30 min or better
 - Weekend service – 60 min or better
- Day and Span of Service Improvement Targets
 - Weekday – 5:30am to 10:30pm – all routes*
 - Saturday – 6:00am to 10:00pm – all routes
 - Sunday – 8:00am to 8:00pm – all routes
- 2.6 million annual riders in 2027 if no changes
- 3.5 million annual riders w/improvements
- \$7.1 million added annual operating cost
 - * Routes 4 and 9 run later.





Transit Service Expansion

- Corridor Routes – at 2-hour headways
- Melbourne Sebastian via US 1 (Orange)
 - \$303,926 Annual operating cost
 - 135,844 Annual ridership
 - 50 mile round trip
- Palm Bay-Barefoot Bay-Sebastian (Purple)
 - \$328,011 Annual operating cost
 - 64,862 Annual ridership
 - 40 mile round trip





Transit Service Expansion

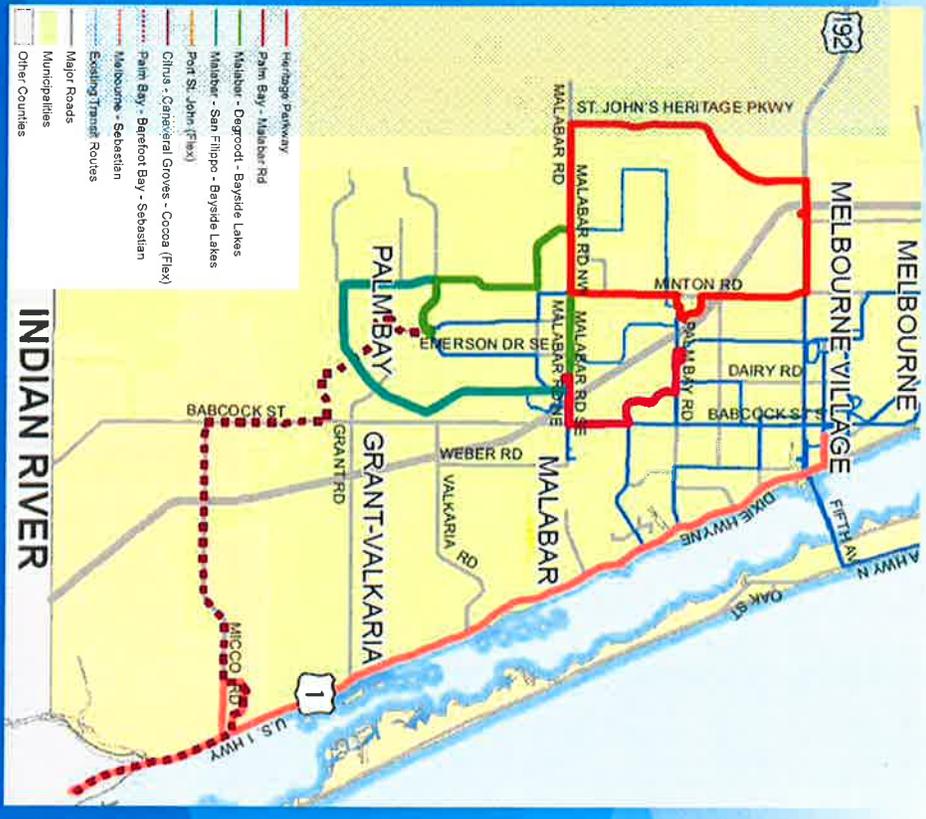
- Flex Service
- Port St. John
 - \$585,340 Annual operating cost
 - 29,933 Annual ridership
- Citrus-Canaveral Groves-Cocoa
 - \$496,340 Annual operating cost
 - 20,723 Annual ridership
- Serves general public and ADA trips
- Connects to fixed route bus network





Transit Service Expansion

- Circulator Routes
- Palm Bay-Malabar (**Magenta**)
 - \$315,819 Annual operating cost
 - 82,468 Annual ridership
- Malabar-Degroot-Bayside Lakes Plaza (**Green**)
 - \$593,231 Annual operating cost
 - 75,787 Annual ridership
- Malabar-San Filippo-Bayside Lakes Plaza (**Teal**)
 - \$708,428 Annual operating cost
 - 72,445 Annual ridership
- Minton-St. John's Heritage Parkway (**Red**)
 - \$528,588 Annual operating cost
 - 75,722 Annual ridership





Capital/Infrastructure Improvements

- Replace and add vehicles
- Bus stop inventory and assessment
- Improve bus stop safety and ADA accessibility
- Improve bus stop infrastructure – shelters, pads, signs
- Transit hubs where 3 plus routes routinely connect
- New bus operations and maintenance facility
- Technology improvements for users





Policy/Other Improvements

- Call center capacity and sensitivity training
- Corridor/Transit Signal Priority (TSP) studies
- Major TDP and Transportation Disadvantaged Service Plan updates
- Fare policy evaluation/Title VI analysis
- Shared use park-and-ride lot agreements
- Transit/multimodal land development regulations
- Partnerships with ridesourcing companies
- Comprehensive and route-level operations studies





Financial Plan

- Developed for Planning Purposes
- Annual Budget Approval Required
- 10-Year Operating Financial Plan
 - Existing services are funded with inflationary increases
 - Improvements over existing levels require new funding
 - Revenue estimates from new service for 10-year period
 - Fares revenue would increase with new service and ridership
 - FTA formula and grant funds increase depends on Congress
 - FDOT funding depends on grant awards and Legislature
 - Local funding levels depend on BOCC approval and availability of funds

Line Item	Description	Amount	Total Cost
1	Expanded Improvement	\$ 36,524,487	\$ 36,524,487
2	Expansion/Extension Existing Service	\$ 17,689,857	\$ 17,689,857
3	New Station/Route Service	\$ 3,299,323	\$ 3,299,323
4	New Express Service	\$ 8,738,352	\$ 8,738,352
5	Items Acquired/Lease	\$ 6,520,262	\$ 6,520,262
6	New Bus Service	\$ 3,821,940	\$ 3,821,940
7	New Transit Service	\$ 1,964,429	\$ 1,964,429
8	Total Operating Cost	\$ 72,312,648	\$ 72,312,648
9	Operating Revenue	\$ 45,394,611	\$ 45,394,611





Next Steps

- Submitted draft TDP
 - SCAT
 - FDOT
 - Review Committee
- Refine/Submit Final TDP document
- Adoption by Brevard County Commission
- Notification of final TDP





Feedback and Input

Randall Farwell
Senior Associate
Tindale Oliver
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Space Coast Area Transit

Transit Development Plan
Major Update FY 2018-2027

Transit Development Plan

August 2017



Prepared by





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Section 1: Introduction

The purpose of the Transit Development Plan (TDP) for Space Coast Area Transit is to develop a vision for transit in Brevard County over the next ten years. The development of the TDP is a requirement of the State of Florida Public Transit Block Grant Program for Space Coast Area Transit to access Block Grant funds from the Florida Department of Transportation (FDOT) for operating expenses. However, the document is an important planning tool for the transit agencies identifying the transportation needs of the community and the funds and resources that would be required to implement new services to meet those needs.

The TDP presents baseline conditions in Brevard County as a starting point for the remainder of the analysis into potential services to meet those needs and the necessary resources that would need to be obtained. In addition, the TDP explores and presents future conditions and potential alternative services and capital investments needed to access residential areas, employment centers, and other major travel generators to meet future travel demand.

Brevard County recently established the Transit One council for transit advocacy with the objective of providing a forum for members and other key stakeholders to interact, exchange information and ideas, and to continuously improve mobility services. Through this group, and other public engagement efforts, stakeholders are encouraged to identify mobility needs and potential resources to assist with improving public transportation services.

Objectives of the Plan

State Requirements

The main purpose of this study is to prepare the major update of Space Coast Area Transit's TDP, as currently required by State law. According to Rule 14-73.001, Public Transportation, of the Florida Administrative Code (F.A.C), "The TDP shall be the applicant's planning, development, and operational guidance document to be used in developing the Transportation Improvement Program and the Department's Five Year Work Program."

The current TDP requirements were adopted by FDOT on February 20, 2007, and include the following:

- Major updates must be completed at least once every five years, covering a ten-year planning horizon.
- A public involvement plan must be developed and approved by the FDOT or be consistent with the approved Metropolitan/Transportation Planning Organization's public involvement plan. The Space Coast Transportation Planning Organization is the TPO that serves Brevard County.
- FDOT, the Regional Workforce Development Board, and the TPO must be advised of all public meetings where the TDP is presented and discussed, and these entities must be given the opportunity to review and comment on the TDP during the development mission, goals, objectives, alternatives, and 10-year implementation program.
- Estimation of the community's demand for transit service (10-year annual projections) using the planning tools provided by FDOT or a demand estimation technique approved by FDOT must be included.

- Inclusion of the farebox recovery ratio report and strategies implemented and planned to improve the farebox recovery ratio. The summary report must be submitted annually in compliance with the Florida Statutes and House Bill 985.

Using the public participation activities developed for the Space Coast Area Transit TDP Major Update, a transit vision will be established that incorporates input from the public, stakeholders, and local leaders.

Identification of the Submitting Entity

Agency: Space Coast Area Transit

Telephone Number: (321) 635-7815

Website: www.321transit.com

Mailing Address: 401 South Varr Avenue, Cocoa, FL 32922

Authorizing Agency Representative: Jim Liesenfelt, Transit Director

Organization of Report

The Space Coast Area Transit 10-Year TDP Major Update is comprised of ten sections, including this introduction. Each section is briefly described below.

Table 1-1 is a list of TDP requirements from Rule 14-73.001. The table also indicates whether or not the item was accomplished in this TDP.

Section 2 summarizes the **Baseline Conditions** that set the framework for discussing and developing the future of public transportation in Brevard County. This includes a physical description of the study area, a population profile, and key demographics including employment and journey-to-work characteristics. It also includes a review of the major municipalities in Brevard County and economic trends, including tourism information and major employers, land use influences, and existing roadway conditions.

Section 3 reviews the **Existing Transit Services** within the county and ridership trends. Included in this section are two analyses undertaken to assess the performance of Space Coast Area Transit over time (trend analysis) and compare Space Coast Area Transit's fixed-route services with other systems that have similar agency features (peer review) using a range of performance measures.

Section 4 presents the **Public Involvement** efforts conducted to-date or planned as part of the Public Involvement Plan (PIP) prepared for Space Coast Area Transit's TDP Major Update. The PIP activities summarized in this section include stakeholder interviews and an on-board survey. Summaries of the discussion groups and public workshops will be presented in subsequent technical memorandums based on the schedule for conducting those events.

Section 5 includes a **Review of Local Plans and Documents**. Assessment of these plans will help to identify and assess applicable federal and state policies as well as local community goals and objectives relating to transit and mobility.

Section 6 presents the **Situation Appraisal**, which reviews the current overall planning and policy environment within the county to better understand transit needs. The appraisal exams the strengths and weaknesses of the system as well as any existing threats to the provision of service in the county and key opportunities for addressing those threats and/or enhancing the transit-friendliness of the operating

environment. Included in this section are reviews of existing socioeconomic trends, travel behavior, land use, public involvement, peer review/trend analysis, technology, and funding.

Section 7 includes an analysis of **Potential Service Gaps and Latent Demand** using the Transit Orientation Index (TOI) and Density Threshold Assessment (DTA) Geographic Information System (GIS)-based analyses. The findings from this assessment will be combined with the baseline conditions assessment, performance reviews as well as elements from the subsequent technical memorandums to yield a building block for evaluating the transit needs over the next 10 years.

Section 8 includes **Goals and Objectives** to serve as a policy guide for implementation of the Space Coast Area Transit 2018-2027 TDP. The existing goals and objectives were reviewed and updated based on input from the TDP Review Committee and the review of the local operating environment to match the goals of the local community with respect to transportation and land use.

Section 9 summarizes the potential **Transit Alternatives** developed as part of the development of this TDP Major Update using public, Review Committee, and Space Coast Area Transit staff input and the results of various demand analyses.

Section 10 includes the 10-year **Financial Plan** for Space Coast Area Transit. This section also identifies potential future improvements, their financial impact, and potential revenue sources that may be employed to implement the recommended improvements. A summary of the operating and capital assumptions is also presented as part of the financial plan.

Table 1-1: TDP Checklist

Public Participation	Complete	Location
Public Involvement Plan (PIP) submitted and approved by FDOT at TDP initiation.	✓	App. B
Comments solicited from Regional Workforce Board.	✓	App. B
Notification provided to FDOT and Regional Workforce Board of TDP-related public meetings.	✓	App. B
FDOT and Regional Workforce Board provided opportunity to review and comment during development of mission, goals, objectives, alternatives, and 10-year implementation program.	✓	App. B
Time limit established for receipt of comments.	✓	App. B
PIP and description of public involvement process documented in TDP.	✓	App. B
Situation Appraisal		
Consideration of land use/development forecasts.	✓	Pgs. 76-97
Consideration of state, regional, and local transportation plans.	✓	Secs. 5 - 6
Other governmental actions and policies.	✓	Secs. 5 - 6
Socioeconomic trends.	✓	Pg. 86
Organizational issues.	✓	Pg. 93
Technology.	✓	Pg. 94
10-year annual projections of transit ridership using approved model.	✓	Pg. 107
Assessment of whether land uses and urban design patterns support/hinder transit service provision.	✓	Secs. 5 - 6
Documentation of performance analysis (NTD data and peer review).	✓	Pgs. 32-56
Documentation of feedback from community (on-board surveys and other communication).	✓	Sec. 4/App. B
Calculation of farebox recovery.	✓	App. F
Mission and Goals		
Provider's vision.	✓	Pg. 109
Provider's mission.	✓	Pg. 109
Provider's goals.	✓	Pg. 110
Provider's objectives.	✓	Pg. 110
Alternative Courses of Action		
Development and evaluation of alternative strategies and actions.	✓	Pg. 114
Benefits and costs of each alternative.	✓	Pgs. 114-122
Examination of financial alternatives.	✓	Pgs. 123-133
Implementation Program		
10-Year implementation program	✓	Pg. 123
Maps indicating areas to be served	✓	Pg. 118
Maps indicating types and levels of service	✓	Pg. 118
Monitoring program to track performance measures	✓	Pg. 113
10-year financial plan listing operating and capital expenses	✓	Pg. 127
Capital acquisition or construction schedule	✓	Pg. 126
Anticipated revenues by source	✓	Pg. 129
Relationship to Other Plans		
TDP consistent with Florida Transportation Plan	✓	Pg. 77
TDP consistent with local government plan	✓	Pgs. 78-79
TDP consistent with regional transportation goals and objectives	✓	Pgs. 79-82
Submission		
Adopted by the Brevard County Board of County Commissioners		
Submitted to FDOT by September 30, 2017	✓	Yes

Section 2: Baseline Conditions

This section summarizes the existing conditions and demographic characteristics within the Space Coast Area Transit service area. A service area description, demographic characteristics, land use information, commuting patterns, and roadway conditions are described. Information and data presented in this section reflect the most recent data available. Sources used to complete the baseline conditions review include the U.S. Census Bureau's American Community Survey (ACS), University of Florida Bureau of Economic and Business Research (BEBR), local government comprehensive plans, the Space Coast 2040 Long Range Transportation Plan (LRTP), and Florida Commission for the Transportation Disadvantaged (FCTD).

Service Area Description

Brevard County is located along the Atlantic Ocean in Central Florida, and is bordered by Volusia County to the north, Indian River County to the south, and Seminole, Orange, and Osceola counties to the west. According to the 2010 U.S. Census Bureau, the county had a population of 543,376, making it the 10th largest county in Florida. It is comprised of 16 incorporated municipalities; among these incorporated municipalities, the largest city is Palm Bay with a population of 109,162. Melbourne is the second largest with a population of 80,419. Map 2-1 presents a physical representation of the county and its municipal areas.

Population Profile

Growth

Table 2-1 shows the population levels for Brevard County and the State of Florida for 2000, 2010, and 2015. From 2000 to 2015, the population growth of Florida, as a whole, outpaced the population growth of Brevard County, with growth occurring at 26.8 percent and 19.3 percent, respectively. Households in Brevard County grew by 13.9 percent while households in the state grew at 17.8 percent over the same timeframe. However, growth in the number of workers for Brevard County grew at 5.5 percent compared to the state growth of 3.4 percent. Brevard County's population density also grew by 19 percent from 2000 to 2015. According to the Census data, the land area for Brevard County decreased from 2010 to 2015, while the square miles of area covered by water increased by nearly the same amount as the land decreased.

Map 2-1: Study Area and Existing Transit Routes

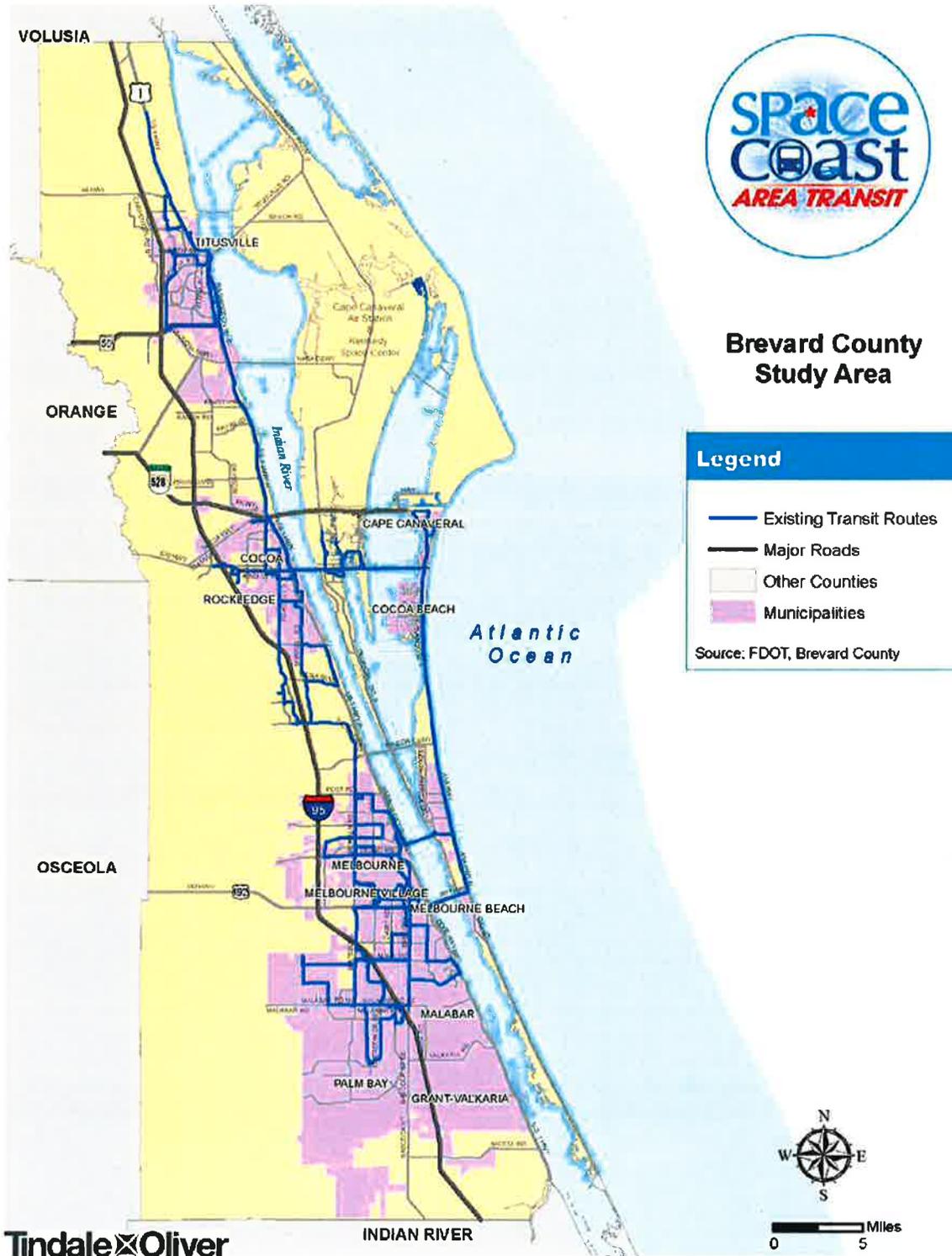


Table 2-1: Brevard County Population Characteristics (2000, 2010, and 2015)

Population Data	2000		2010		2015		Percent Change 2000-2015	
	Brevard County	Florida	Brevard County	Florida	Brevard County	Florida	Brevard County	Florida
Persons	476,230	15,982,824	543,376	18,801,310	568,088	20,271,272	19.3%	26.8%
Households	198,195	6,337,929	229,692	7,420,802	225,682	7,463,184	13.9%	17.8%
Number of Workers	207,366	7,221,000	221,945	7,035,068	225,682	7,463,184	8.8%	3.4%
Land Area (square miles)	1,015.7	53,926.8	1,015.7	53,926.8	1015.4	53,926.8	0.0%	0.0%
Person per Household	2.4	2.5	2.4	2.5	2.5	2.7	4.8%	7.7%
Workers per Household	1.0	1.1	1.0	0.9	1.0	1.0	-4.4%	-12.2%
Person per Sq. Mile of Land Area	468.9	296.4	535.0	348.6	559.5	375.9	19.3%	26.8%
Workers per Sq. Mile of Land Area	204.2	133.9	218.5	130.5	222.3	138.4	8.9%	3.4%

Source: 2000-2010 Census, and 2011-2015 ACS 1-Year Estimates

Shown in Table 2-2, according to BEBR 2016 population estimates, the estimated population in 2016 was 568,919. The county population was 543,376 in 2010. From 2000 to 2016, Brevard County is estimated to have experienced a 4.7 percent population growth. The BEBR projections are estimated based on a low, medium, and high estimates, with the population likely falling within the range of low to high. Therefore, the medium estimate was used for this analysis. The medium projections prepared by BEBR estimate that Brevard County's population will grow to 593,500 by 2020 (4.3% from 2016), and to 641,200 by 2030 (8.0% from 2020).

Table 2-2 also presents population and population change data between 2000, 2010, and 2016 for incorporated and unincorporated areas in Brevard County. Cities with a population of more than 10,000 residents in 2016 include Cape Canaveral, Cocoa, Cocoa Beach, Melbourne, Palm Bay, Rockledge, Satellite Beach, Titusville, and West Melbourne. Among the municipalities, West Melbourne, Cocoa, and Palm Shores are the three cities that have experienced the largest percentage of growth from 2010 to 2016 at 12.4 percent, 9.9 percent, and 8.8 percent, respectively.

Table 2-2: Population Growth for Brevard County and Municipalities (2000-2016)

Municipality/Town	Population				Percent Change	
	2000	2010	2016	% of County Population	2000-2010	2010-2016
Cape Canaveral	8,829	9,912	10,171	1.8%	12.3%	2.6%
Cocoa	16,412	17,140	18,833	3.3%	4.4%	9.9%
Cocoa Beach	12,482	11,231	11,276	2.0%	-10.0%	0.4%
Grant Valkaria*	-	3,850	4,073	0.7%	-	5.8%
Indialantic	2,944	2,720	2,811	0.5%	-7.6%	3.3%
Indian Harbour Beach	8,152	8,225	8,446	1.5%	0.9%	2.7%
Malabar	2,622	2,757	2,817	0.5%	5.1%	2.2%
Melbourne	71,382	76,205	80,419	14.1%	6.8%	5.5%
Melbourne Beach	3,335	3,101	3,076	0.5%	-7.0%	-0.8%
Melbourne Village	706	662	666	0.1%	-6.2%	0.6%
Palm Bay	79,413	103,190	109,162	19.2%	29.9%	5.8%
Palm Shores	794	900	979	0.2%	13.4%	8.8%
Rockledge	20,170	24,926	26,303	4.6%	23.6%	5.5%
Satellite Beach	9,577	10,109	10,485	1.8%	5.6%	3.7%
Titusville	40,670	43,761	46,022	8.1%	7.6%	5.2%
West Melbourne	9,824	18,355	20,640	3.6%	86.8%	12.4%
Incorporated	287,312	337,044	356,179	62.6%	17.3%	5.7%
Unincorporated	188,918	206,332	212,740	37.4%	9.2%	3.1%
Total Brevard County	476,230	543,376	568,919	100.0%	14.1%	4.7%

Source: Bureau of Economic and Business Research, University of Florida

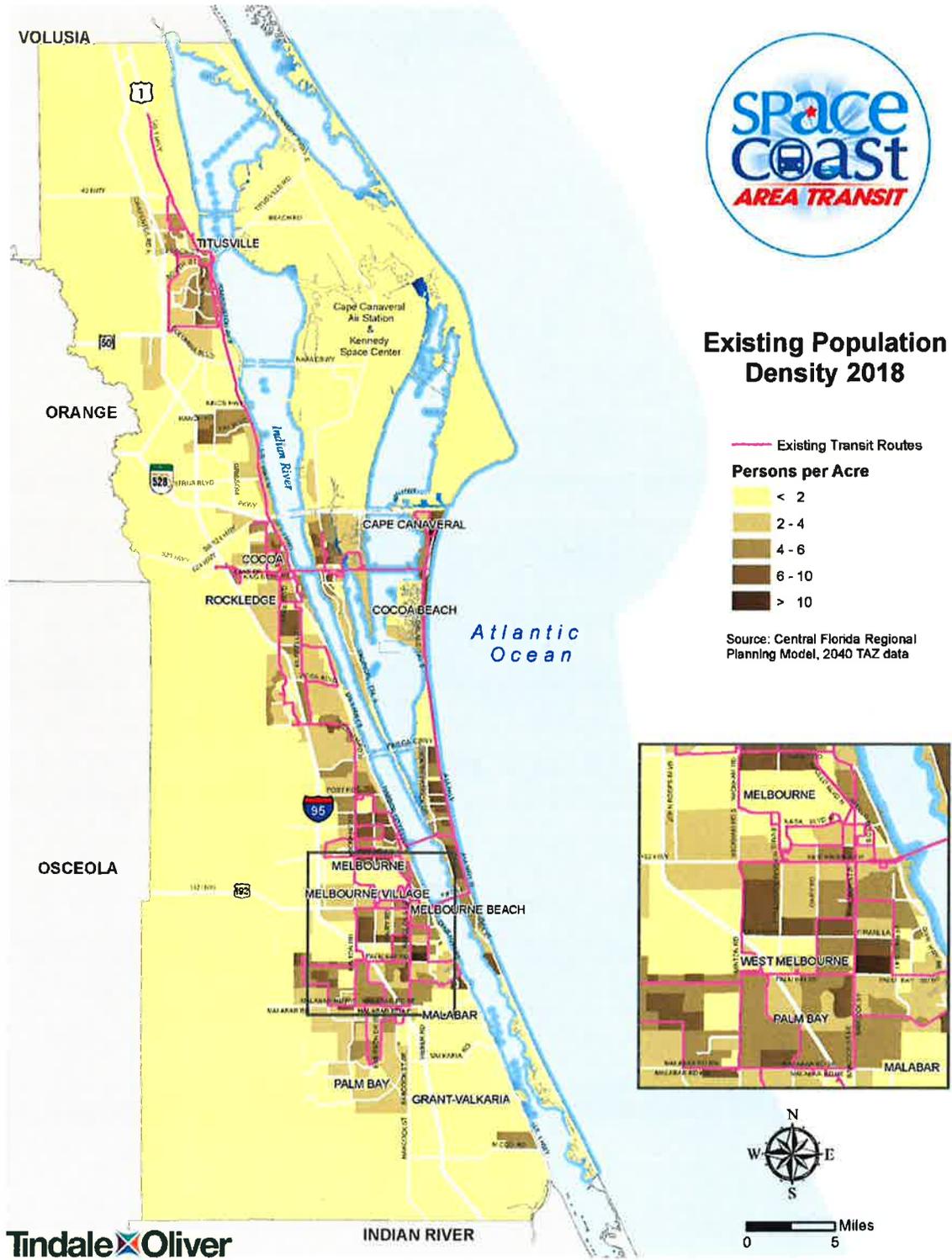
*Incorporated in 2006

Maps 2-2 and 2-3 illustrate the 2017 population density and employment density by Traffic Analysis Zone (TAZ) for Brevard County.

Maps 2-4 and 2-5 illustrate the population density and employment density in 2027. TAZs are geographic units in the transportation planning process used to assist in forecasting travel demand. In all scenarios, the locations with the highest population and employment density are located near the Indian River along the eastern portions of the county.

Maps 2-6 and 2-7 display total existing (2018) and projected (2027) dwelling unit densities. The highest dwelling unit densities in 2018 were found in Melbourne/Palm Bay area and in neighborhoods along A1A in Cape Canaveral, Cocoa Beach, and Satellite Beach.

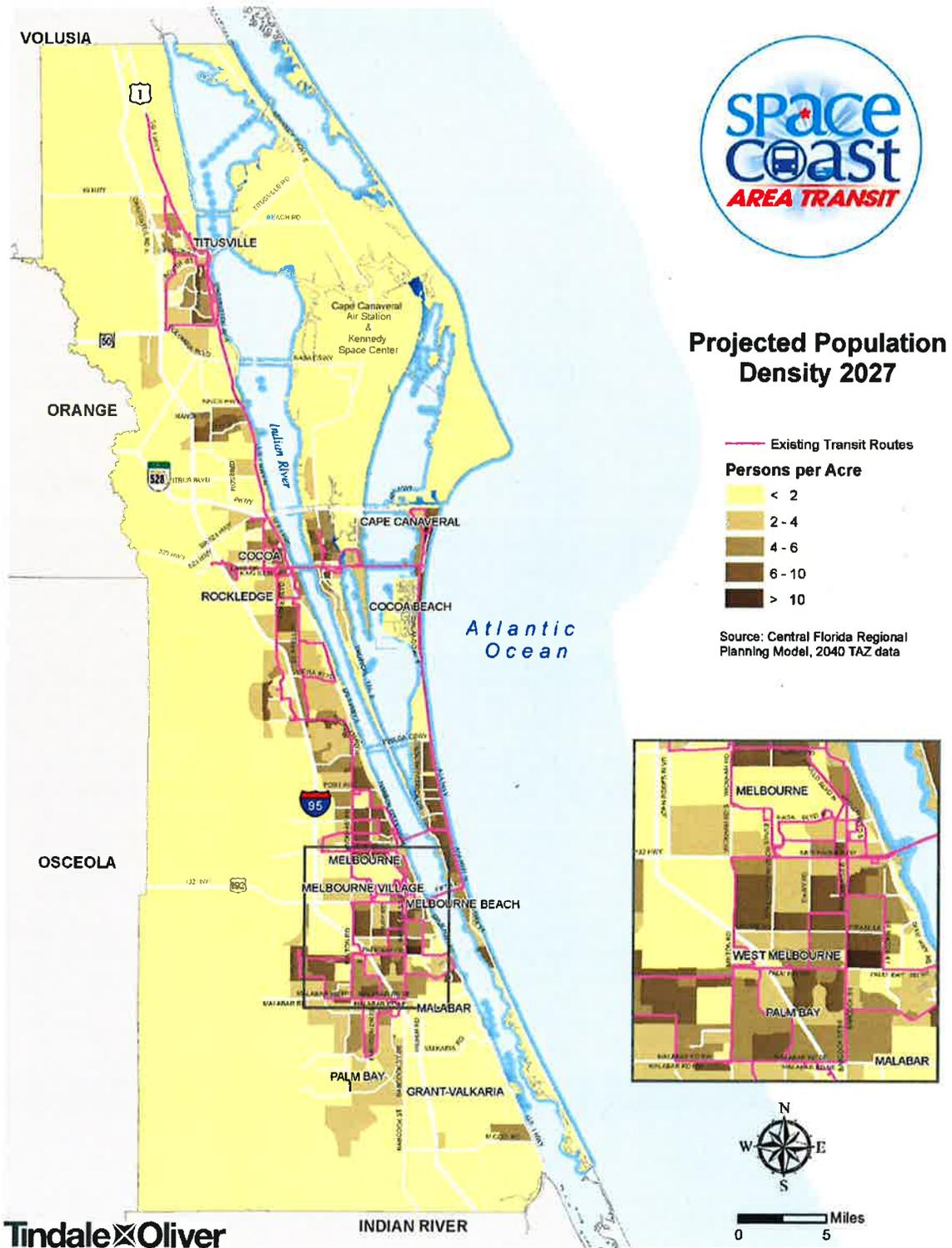
Map 2-2: Existing Population Density (2018)



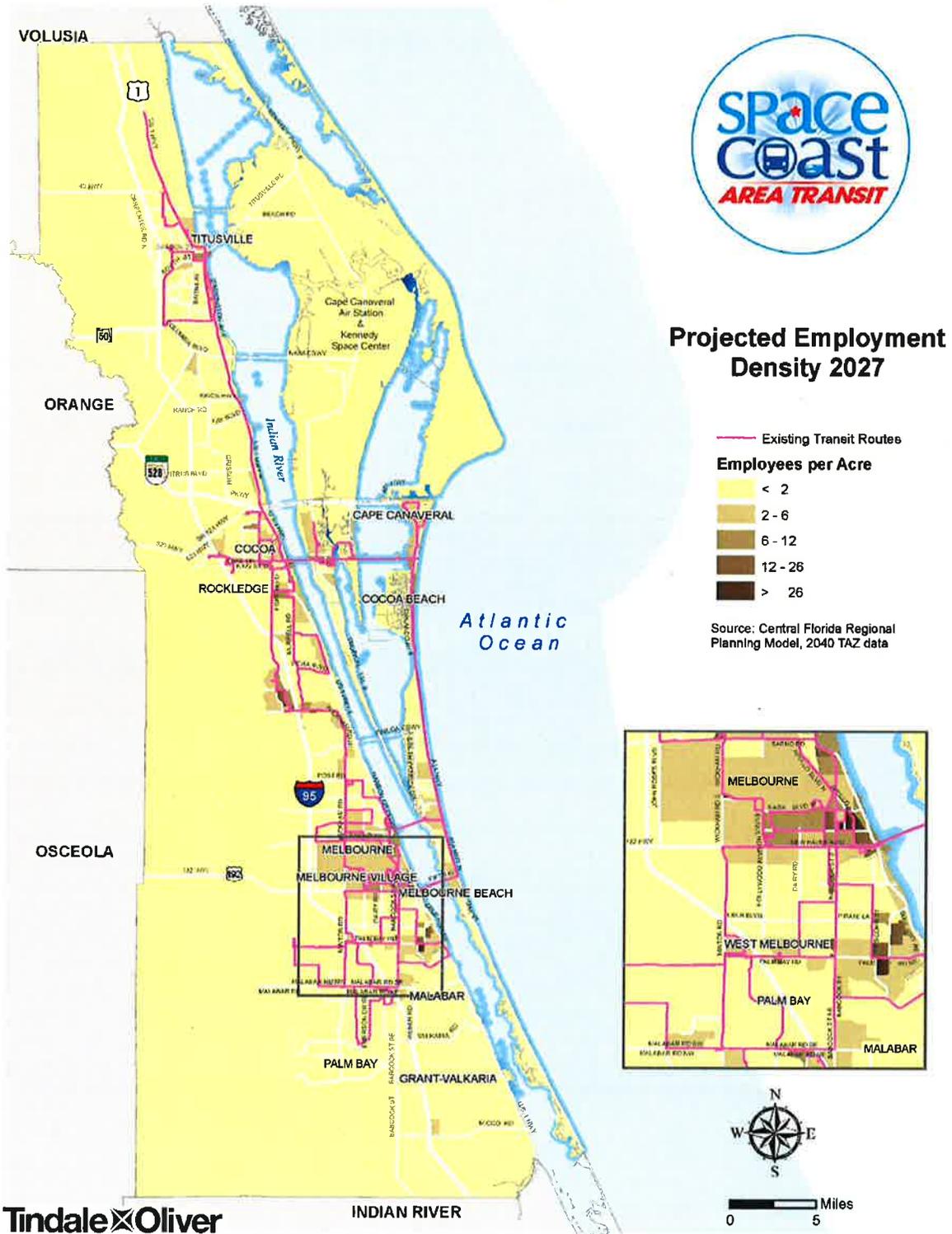
Map 2-3: Existing Employment Density (2018)



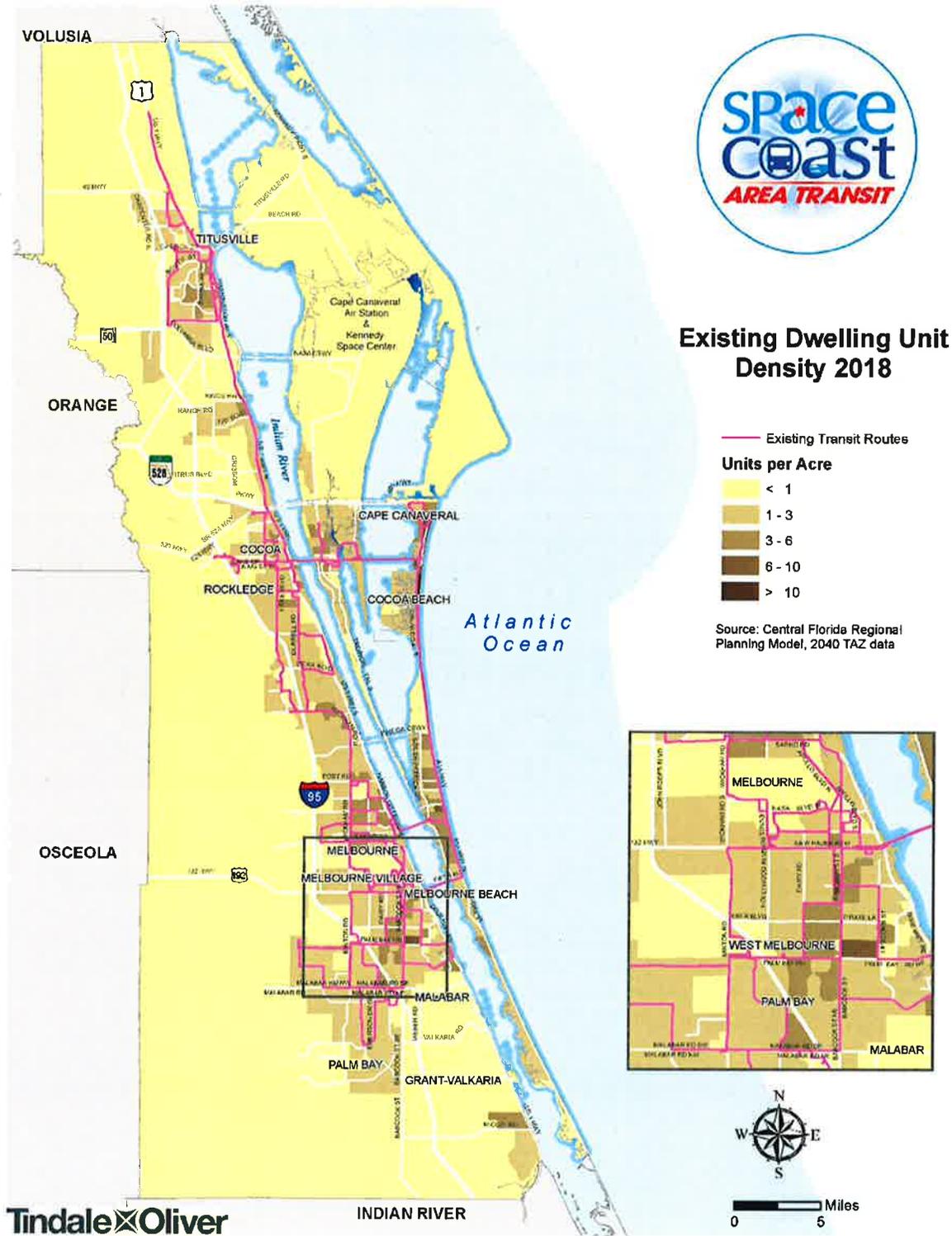
Map 2-4: Projected Population Density (2027)



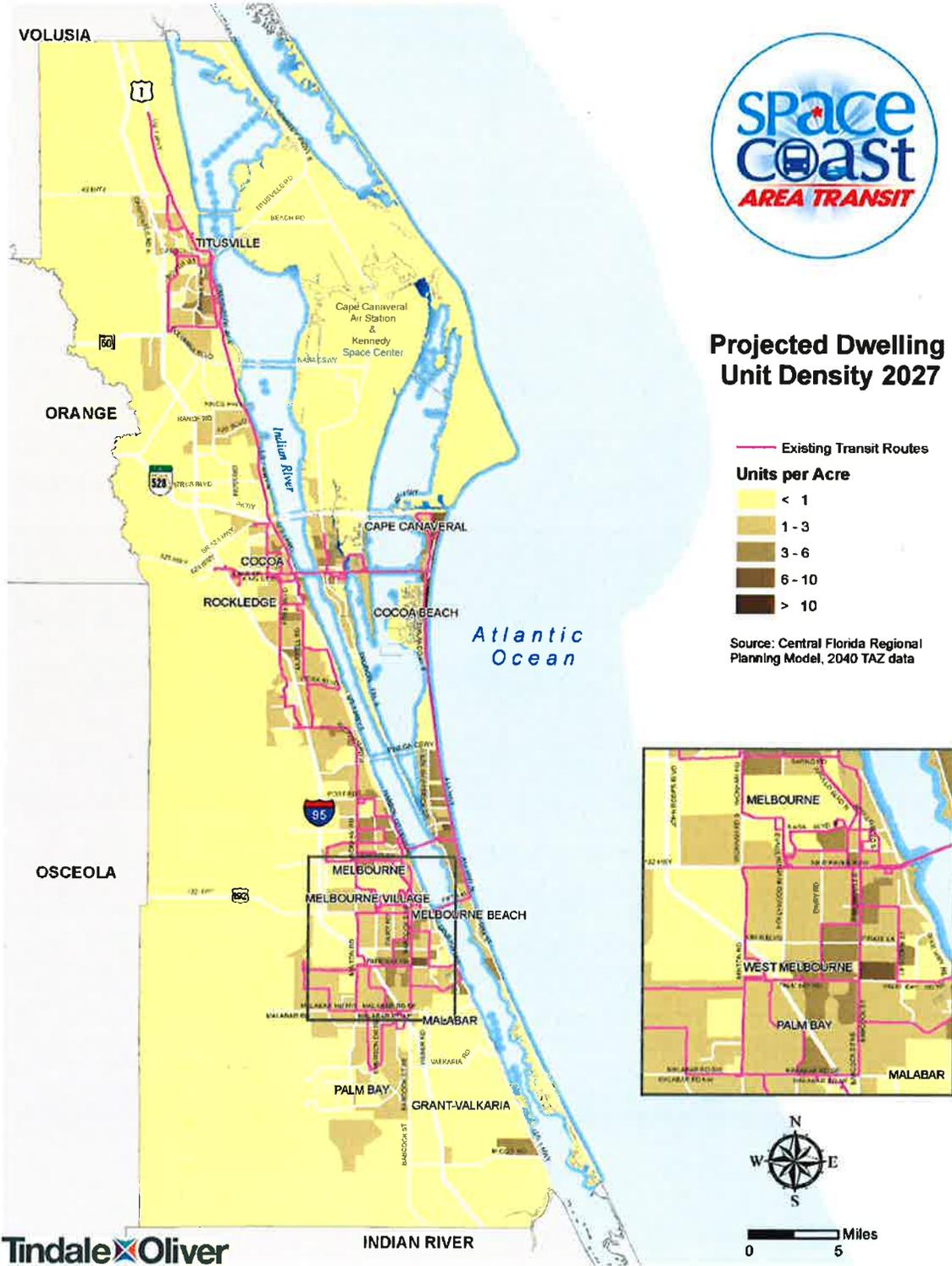
Map 2-5: Projected Employment Density (2027)



Map 2-6: Existing Dwelling Unit Density (2018)



Map 2-7: Projected Dwelling Unit Density (2027)



Tindale Oliver

Community Profiles

This section presents demographic and existing condition profiles for Brevard County's major municipalities. To better understand the individual communities within the study area, a series of community profile maps representing each of the 16 municipalities can be found in Appendix A. Within the community profile are six sections containing detailed information for each municipality:

- Community Description
- Community Characteristics
- Transit Facilities
- Major Attractors
- Developments of Regional Impact (DRI)
- Major Employers (300+ employees)

The community characteristics section provides 2015 demographic information obtained from the American Community Survey 2011-2015 five-year estimates. These estimates were used to provide current demographic data on population, median household income, and median age based on the five year period, 2016 ACS estimates are still not available from the U.S. Census Bureau. Major employers are those that employ 300 people or more based on 2016 data from Enterprise Florida. Among the municipalities with a population of over 10,000 persons, Satellite Beach, Rockledge, and West Melbourne all have a household median income of over \$55,000. The municipalities with the lowest household median income among the group are Cocoa, Melbourne, and Palm Bay.

Demographic and Journey-to-Work Characteristics

Table 2-3 presents and compares key demographic characteristics of Brevard County and Florida using 2015 ACS data, with highlights including:

- The proportions of male and female residents in Brevard County closely mirror the gender distribution for the entire state.
- Brevard County's population is 83% White with 90% not of Hispanic or Latino Origin. The percent white population is higher than the average for the state and the percent Hispanic is lower than the average for the state.
- The majority of the population is between the ages of 35-64, similar to the demographics of Florida, however Brevard County is older with a median age of 47.3 compared to 41.8 for the state.
- The educational level of residents 25 years and older is just above the state average, with 39% of Brevard County residents obtaining some level of degree from an Associate degree to professional school, compared to 38% of Florida residents.
- Approximately 30% of Brevard County residents earn \$75,000 or more per year, which is just below the Florida average of 31%. Median income in Brevard County is above the state average (\$50,416 versus \$49,426, respectively).
- On average, residents of Brevard County tend to be better off financially compared to the state. There are fewer zero-vehicle households in Brevard County compared to the state (5.8% and 6.8%, respectively) and the county's percent of the population below the poverty level is lower in comparison to the state (13% in Brevard County versus 16% for the State of Florida).

- Brevard County has a higher percent of retirees than the average for the state. Only 51% of the labor force was employed in 2015, consistent with a higher percentage of older adults with sources of income not directly from current employment.

Table 2-3: Demographic Characteristics, Brevard County (2015)

	Characteristics	Brevard County	Florida
Gender	Male	48.8%	48.8%
	Female	51.2%	51.2%
Race	White	83.0%	75.8%
	Black or African American	10.1%	16.2%
	Other	9.9%	10.5%
Ethnicity	Not of Hispanic/Latino Origin	90.4%	75.5%
	Hispanic or Latino Origin	9.7%	24.5%
Age	<15 years	15.0%	16.7%
	15-34 years	22.1%	25.1%
	35-64 years	39.9%	38.8%
	65+ years	23.0%	19.5%
	Median Age	47.3	41.8
Education Level (25 years and over)	Less than 9th grade	2.7%	5.2%
	9th-12th grade, no diploma	5.5%	7.2%
	High school graduate	29.5%	29.2%
	Some college, no degree	22.8%	20.4%
	Associate's degree	11.1%	9.6%
	Bachelor's degree	17.3%	18.2%
	Professional school, Master's or Doctorate	11.0%	10.2%
Household Income	Under \$10,000	5.6%	7.4%
	\$10,000-\$14,999	4.6%	5.2%
	\$15,000-\$24,999	12.0%	11.8%
	\$25,000-\$34,999	10.6%	11.3%
	\$35,000-\$49,999	16.8%	14.8%
	\$50,000-\$74,999	20.3%	18.5%
	\$75,000+	30.1%	31.1%
	Median Income	\$50,416	\$49,426
Poverty Status	Above poverty level	86.8%	84.3%
	Below poverty level	13.2%	15.7%
Auto Ownership by Household	No vehicle available	5.8%	6.8%
	One vehicle available	42.4%	41.0%
	Two vehicles available	37.9%	38.0%
	Three or more vehicles available	14.0%	14.1%
Labor Force	% of population in labor force	54.4%	58.4%
	% of labor force employed	50.8%	54.0%

Source: 2015 ACS 1-Year Estimates

Table 2-4 presents information related to journey-to-work data, or where workers work in relation to where they live. Within Florida, the majority (nearly 99%) of Florida residents who are employed work within the state. In Brevard County, approximately 92 percent of residents both live and work within the county, with only 7 percent traveling to other counties for employment (primarily Orange County).

The primary mode of transportation to work in Brevard County is driving alone in a private vehicle, with 81 percent of the residents choosing that means of transportation. In comparison to the statistics for the State of Florida, few Brevard County residents are choosing to use public transportation (0.6%); however, more of the county's residents are choosing other means of transportation (3.6%) including working from home (6.4%).

The distribution of travel times to work shows that the highest distribution of travel time for Brevard County residents is a distance of 30 minutes or more. However, in comparison to the State of Florida, the travel times for residents in Brevard County are lower than the state, with over 40 percent of the population in the State of Florida traveling 30 minutes or more to work.

Table 2-4: Journey-to-Work Characteristics, Brevard County (2015)

Characteristics	Brevard County	Florida
Place of Work		
Worked in Florida State	98.8%	98.8%
Worked inside county of residence	92.2%	81.3%
Worked outside county of residence	6.6%	17.5%
Worked outside Florida State	1.2%	1.2%
Means of Transportation to Work (Workers 16 years and over)		
Car, truck, or van- drove alone	81.0%	79.7%
Car, truck, or van- carpooled	7.2%	8.9%
Public transportation	0.6%	2.2%
Walked	1.3%	1.4%
Other means	3.6%	2.2%
Worked at home	6.4%	5.6%
Travel Time to Work (Workers 16 years and over who did not work at home)		
Fewer than 10 minutes	11.0%	9.0%
10-14 minutes	16.3%	12.0%
15-19 minutes	20.7%	15.3%
20-24 minutes	16.0%	16.4%
25-29 minutes	6.9%	6.5%
30 or more minutes	29.0%	40.8%

Source: 2015 ACS 1-Year Estimates

Labor Force and Employment

Table 2-5 presents the most recent employment data available for Brevard County and Florida, providing a snapshot of the employment trends for November 2016. As shown, Brevard County's unemployment rate (5.2%) is slightly higher than Florida (4.8%).

Table 2-5: Labor Force Statistics (November 2016), Not Seasonally Adjusted

Area	Labor Force	Number Employed	Number Unemployed	Unemployment Rate
Brevard County	258,729	245,223	13,506	5.2%
Florida	9,896,000	9,417,000	479,000	4.8%

Source: Labor Market Statistics, Local Area Unemployment Statistics Program

Commute Patterns

An analysis of commuting patterns for Brevard County residents and employees was completed using the U.S. Census Bureau's "OnTheMap" tool. As shown below in Table 2-6, a comparison of 2008 and 2014 data indicates that the total number of Brevard County residents commuting to Orange County for employment experienced the largest increase at 16.3 percent. Brevard County residents commuting greater distances to counties including Duval and Miami-Dade experienced the greatest declines. The trend for Brevard County residents who also work in the county remained consistent with less than a one percent decrease from 2008 to 2014.

Table 2-6: County of Work for Workers Residing in Brevard County (2008-2014)

Brevard County Residents		2008		2014		Percent Change (2008-2014)
		# of Workers	% Distribution	# of Workers	% Distribution	
County of Work	Brevard County	140,788	66.0%	139,469	65.6%	-0.94%
	Orange County	16,283	7.6%	18,936	8.9%	16.29%
	Hillsborough County	4,489	2.1%	4,457	2.1%	-0.71%
	Seminole County	4,106	1.9%	4,160	2.0%	1.32%
	Duval County	5,304	2.5%	4,088	1.9%	-22.93%
	Indian River County	3,664	1.7%	3,672	1.7%	0.22%
	Palm Beach County	3,884	1.8%	3,660	1.7%	-5.77%
	Broward County	3,674	1.7%	3,534	1.7%	-3.81%
	Miami-Dade County	3,776	1.8%	3,287	1.5%	-12.95%
	Volusia County	3,159	1.5%	3,236	1.5%	2.44%
	All Other Locations	24,195	11.3%	24,089	11.3%	-0.44%
	Total	213,322	100.0%	212,588	100.0%	-0.34%

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination work destination analysis

As shown in Table 2-7, a similar analysis was completed to examine the percentage of employees residing outside of Brevard County who commute to Brevard County for employment. The largest number of employees commuting to Brevard County reside in Orange County and “All Other Locations,” with the “All Other Locations” category including employee living outside of the top ten counties listed in Table 2-7. From 2008 to 2014, the largest growth in commuters to Brevard County for work included residents from Osceola and Indian River counties. The largest decreases in commuters were employees traveling greater distances from counties, including Broward and Palm Beach.

Table 2-7: Commuting from Other Counties to Brevard County (2008-2014)

Brevard County Residents		2008		2014		Percent Change (2008-2014)
		# of Workers	% Distribution	# of Workers	% Distribution	
County of Work	Brevard County	140,788	75.5%	139,469	74.3%	-0.94%
	Orange County	6,719	3.6%	7,235	3.9%	7.68%
	Volusia County	3,539	1.9%	3,634	1.9%	2.68%
	Osceola County	2,414	1.3%	2,985	1.6%	23.65%
	Indian River County	2,430	1.3%	2,957	1.6%	21.69%
	Seminole County	2,768	1.5%	2,657	1.4%	-4.01%
	Hillsborough County	2,478	1.3%	2,434	1.3%	-1.78%
	Palm Beach County	2,521	1.4%	2,212	1.2%	-12.26%
	Polk County	1,946	1.0%	2,091	1.1%	7.45%
	Broward County	2,346	1.3%	1,862	1.0%	-20.63%
	All Other Locations	17,855	9.6%	20,085	10.7%	12.49%
	Total	186,490	100.0%	187,621	100.0%	0.61%

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination home destination analysis

Brevard County Economic Trends

Major Employers

As part of the baseline conditions analysis, data for major employers in Brevard County were reviewed and summarized. The major industries in Brevard County include healthcare and social assistance, education services, and services related to the aeronautics industry. With 9,000 employees, Brevard Public Schools, is the largest employer in Brevard County. The next largest employer in the county is the Harris Corporation with over 6,500 employees, followed by Health First, Inc. The top 15 public and private employers, are listed below in Table 2-8.

Table 2-8: Top 15 Public and Private Employers in Brevard County

Rank	Company	Sector	Number of Employees
1	Brevard Public Schools	Education	9,000
2	Harris Corporation	Manufacturing	6,700
3	Health First, Inc.	Healthcare	6,400
4	Northrop Grumman Corporation	Manufacturing	3,299
5	Publix Supermarket	Retail	2,850
6	Wal-Mart	Retail	2,620
7	Brevard County Government	Government	2,500
8	Holmes Regional Medical Center	Healthcare	2,500
9	Wuesthoff Health Systems	Healthcare	2,400
10	Winn Dixie Supermarket	Retail	1,830
11	NASA/Kennedy Space Center Contractors	Technology	1,800
12	Space Gateway Support	Technology	1,750
13	Rockwell-Collins	Technology	1,450
14	Parrish Medical Center	Healthcare	1,050
15	MIMA Physician Group	Healthcare	1,000

Source: 2016 Space Coast Economic Development Commission

Tourism

Brevard County is home to 72 miles of accessible ocean beaches, and Port Canaveral, one of the largest cruise ports in the world with Disney Cruise Lines, Royal Caribbean, and Carnival Cruise Lines. The Kennedy Space Center Visitor Complex attracts millions of visitors annually. In 2016, the average hotel occupancy rate increased 4.9% compared with 2015. As of September 2016, there were over 3 million multi-day passengers who departed from Port Canaveral, an 8 percent increase compared with 2015.

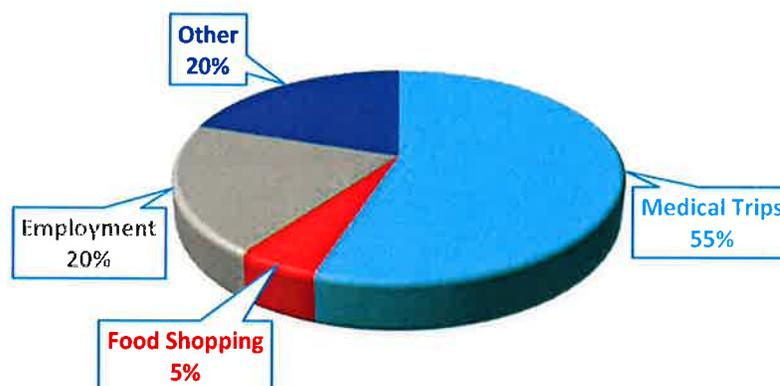
Transportation Disadvantage Population

Florida Statutes, Chapter 427, 427.011(1), defines TD persons as:

Those persons who because of physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are therefore, dependent upon other to obtain access to health care, employment, education, shopping, social activities, or children who are handicapped or high-risk or at risk as defined in s. 411.202.

As the Community Transportation Coordinator (CTC) for Brevard County, Space Coast Area Transit is responsible for arranging transportation for the transportation disadvantaged. The State of Florida TD Trust Fund subsidizes non-sponsored trips. Clients pay \$3.00 per one-way trip (\$1.50 for senior citizens (60+), persons with disabilities, veterans, and students). The remainder of the trip costs is paid by the TD Trust Fund (TDTF) according to a base plus mileage formula. Because the demand for TD non-sponsored, general purpose transportation service is greater than the funds available, a set of trip priorities has been established. The current trip priorities for TD non-sponsored trips are shown in Figure 2-33 and monitored through the Space Coast Area Transit's Passenger Management System, internal review in customer service, and through reporting to the LCB.

Figure 2-1: TD Trip Priority



The 2015 potential TD population was estimated at 258,313 persons, and the unduplicated passenger head count (UDPHC) of persons provided paratransit transportation services was 17,048 according to the Florida CTD. Table 2-9 presents the trend in the TD population and TD passengers between 2012 and 2015 in Brevard County. The potential TD population increased by 8.9 percent during this period, while the number of TD passengers served experienced an increase of 23.5 percent.

Table 2-9: Brevard County TD Population and Passenger Trends

Year	2012	2013	2014	2015	Percent Change (2012-2015)
Potential TD Population	237,280	237,280	244,067	258,313	8.9%
TD Passengers Served (UDPHC)	13,801	14,569	17,248	17,048	23.5%

Source: Florida CTD 2013-2015 AOR

Table 2-10 summarizes the TD trips by purpose and passenger type that occurred between 2012 and 2015. Employment and life-sustaining/other are the most frequent trip purposes. As for passenger type, elderly (46.7%), low-income (24.5%), and passengers with disabilities (14.0%) were the top three that made the most trips.

Table 2-10: Transportation Disadvantaged Trips by Purpose and Passenger Type, (FY 2015)

Trip Purpose	Trips	Percent Distribution
Medical	110,602	10.4%
Employment	342,162	32.3%
Educational/Training	267,880	25.3%
Nutritional	23,367	2.2%
Life-sustaining/Other	316,510	29.8%
Total	1,060,521	100.0%
Passenger Type	Trips	Percent Distribution
Elderly	495,125	46.7%
Children	55,153	5.2%
Low-Income	260,224	24.5%
With Disabilities	147,970	14.0%
Low-Income/with Disabilities	61,229	5.8%
Other	40,820	3.8%
Total	1,060,521	100.0%

Source: Florida CTD 2015 AOR

Land Uses and Densities

Land Use Trends

As a part of the baseline conditions assessment, a review of current and emerging land uses also was conducted. For this effort, existing and future land use maps from Brevard County and municipal comprehensive plans were reviewed. For reference, the Future Land Use Maps for Brevard County are shown in Figure 2-33 through 2-35.

Brevard County's goal is to provide a "safe, convenient and energy efficient transportation system... that supports the community ... and enhances the mobility of people and goods while reducing reliance upon the automobile and minimizing impacts to neighborhoods, cultural resources and natural habitats."

Within its Transportation Element (TE), Brevard County has adopted Objective 4 to encourage multimodal transportation alternatives to accommodate existing and proposed major trip generators/attractors, Objective 6 to recognize the interrelationship of land use patterns and transportation needs, and Objective 11 to establish complete streets policies to enable safe access for the community.

Pursuant to Objective 1, the performance of roadways and other modes (including transit) is to be routinely monitored as appropriate. To achieve Objective 4, the County routinely considers transit as a supplement to road improvements (Policy 4.2), cooperatively works with municipalities to establish parking strategies and park-and-ride sites (Policy 4.3), and continues to promote expansion of vanpool programs and services to the transportation disadvantaged to the extent practicable (Policies 4.4 and 4.5). The County also participates in the "welfare-to-work" plan, which recognizes the important role that transit plays in assisting citizens in the transition from welfare to employment. Brevard County also encourages land use patterns and site planning activities that can be conveniently and economically served by transit, bicycle, and pedestrian modes (Policy 6.6). Furthermore, the County encourages streets, bridges, and transit stops to be planned, designed, operated, and maintained in a way that pedestrians, bicyclists, transit users, and motorists can travel safely (Policy 11.4). Transit vehicles, facilities, and routes are elements of the County's Complete Streets Program (Policy 11.5). An essential component of transit planning is public participation. Objective 7 stipulates that the County shall encourage public involvement in the transportation planning process, and Policies 7.1 through 7.4 define the guidelines for obtaining public input.

Within its Future Land Use Element (FLUE), Policy 2.13 allows residential developments within Neighborhood Commercial and Community Commercial land use designations. The integration of residential into commercial developments is encouraged to utilize public transit and neo-traditional development techniques. In Objective 9, the County has adopted standards and incentives for large-scale, mixed-use projects – termed the New Town Overlay (NTO). An example of such a new town is Viera. The NTO encourages the use of transit and addition of transit corridors. The Future Land Use Element also contains redevelopment and re-gentrification provisions (Objective 11) that encourage the coordination of redevelopment activities with transportation improvements, including mass transit (Policies 11.1.B, 11.8.E, and 11.9.H).

Figure 2-2: Future Land Use – Conservation Area - 2025

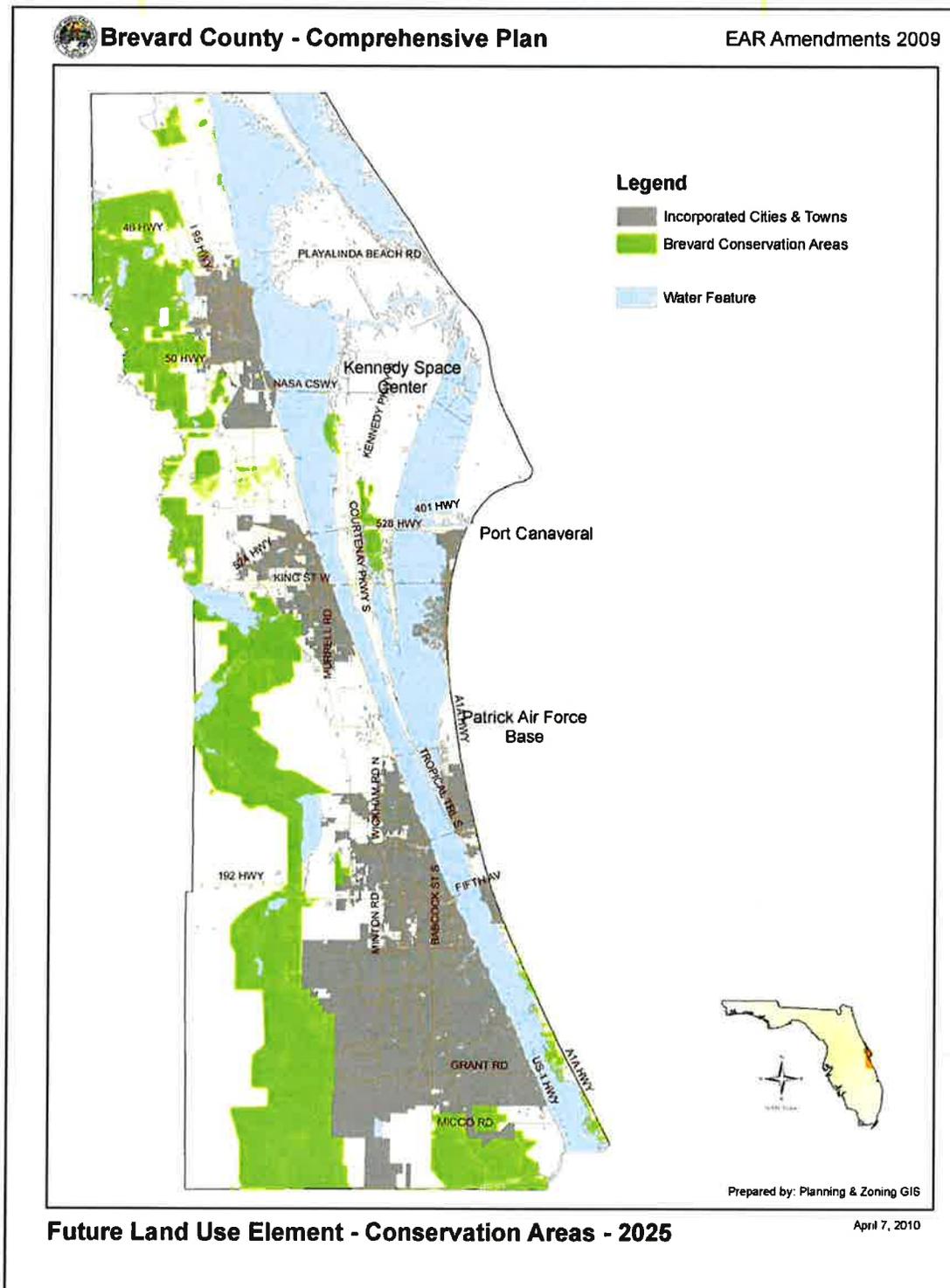


Figure 2-3: Land Use Planning Areas - 2025

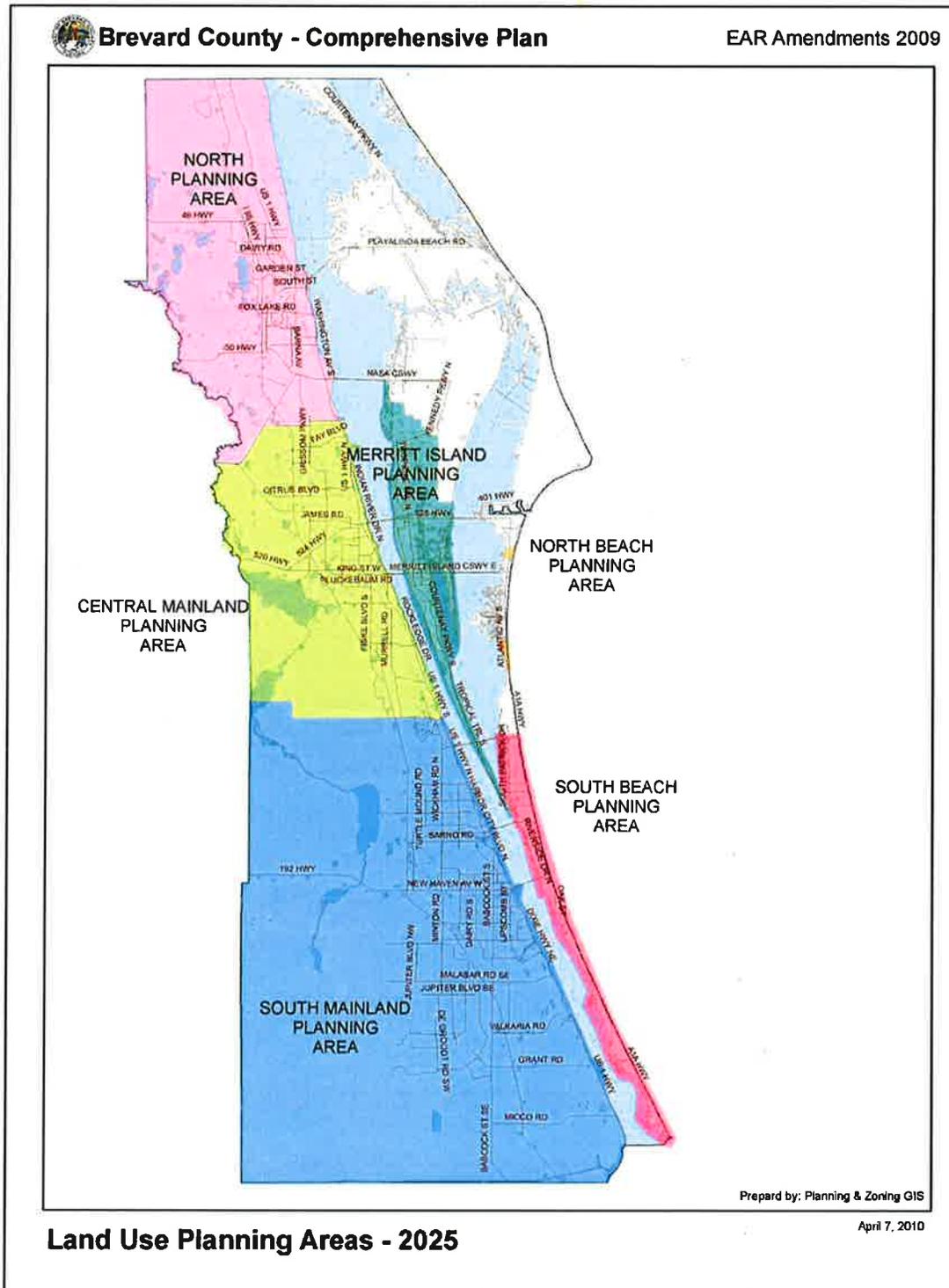
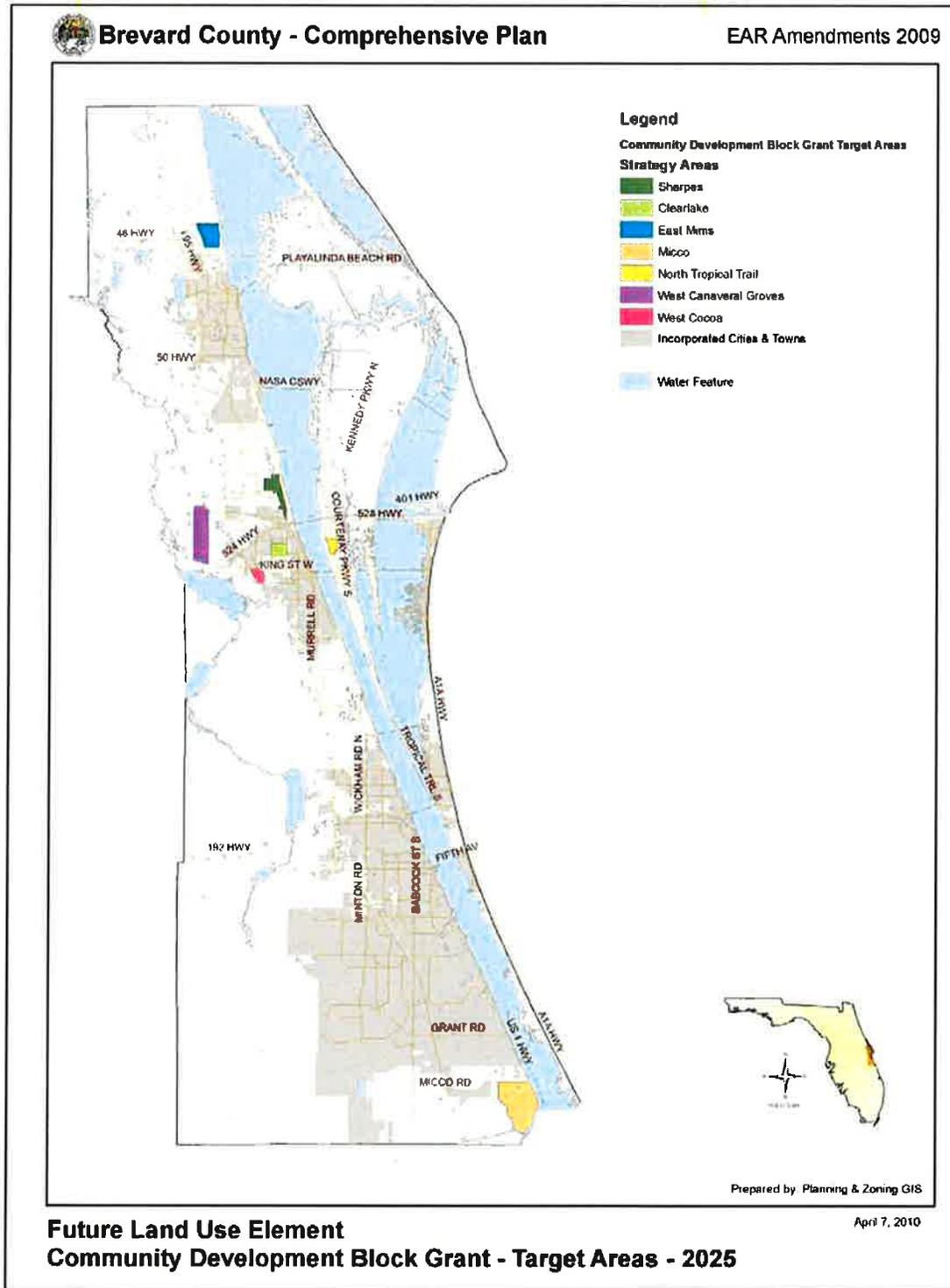


Figure 2-4: Community Development Block Group - Target Areas - 2025



Section 3: Existing Transit Services

This section provides a review of existing Space Coast Area Transit service levels. This section addresses Existing Service, Operating Statistics Performance Evaluation and Trends, and Peer Review. The review of existing service includes a general description of the structure of Space Coast Area Transit and its system characteristics. The operating statistics and performance evaluation and trends sections render a detailed examination of route-by-route operating performance. The peer review is presented for the fixed-route system and provides an opportunity for Space Coast Area Transit to determine how well it is performing compared to similar peer transit agencies.

Transit Service Overview

Space Coast Area Transit currently operates buses on 19 local routes, one dial-a-bus, paratransit service, vanpools, and the Volunteers-In-Motion program. A majority of the routes operate Monday through Saturday. Service spans from approximately 6:00 a.m. to 11:30 p.m., with an average of 60-minute frequencies and seven of those routes operating at 30-minute frequencies during the peak period. Space Coast Area Transit operates limited Sunday service and limited later evening routes. Table 3-1 presents the span of service and frequency of Space Coast Area Transit's fixed-route service.



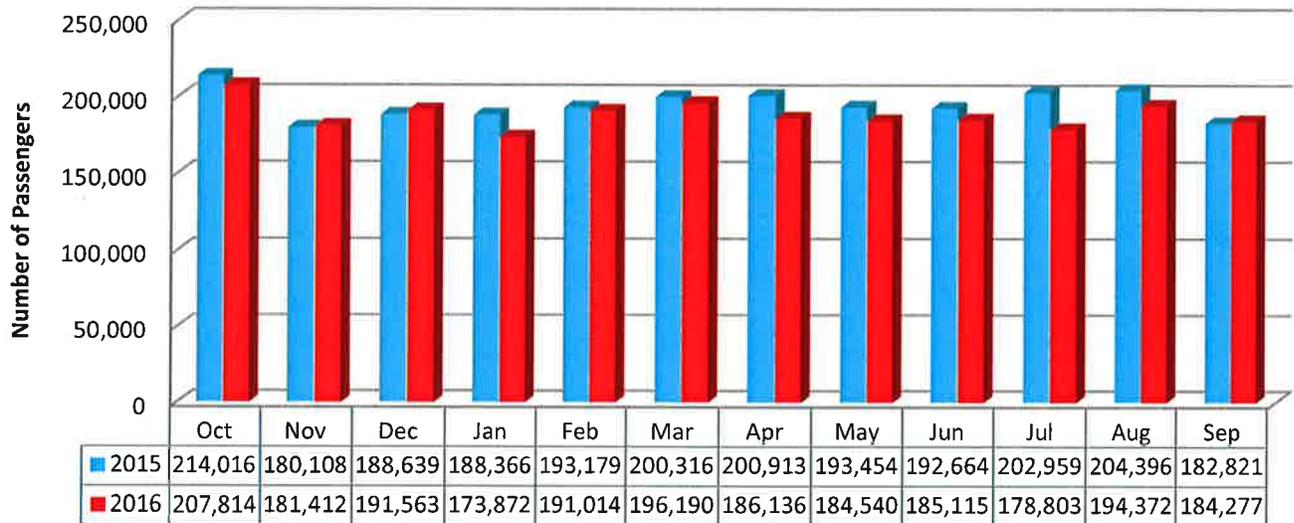
Table 3-1: Existing Bus and Dial-A-Bus Operating Characteristics (Routes Effective December 16, 2016)

Route #	Description	Monday-Friday	Saturday	Sunday	Frequency
Route 1	Titusville/Viera	5:10am-8:30pm	7:10am-6:30pm	N/A	30-60 Min. (Mon-Fri.)/60-120 Min. (Sat.)
Route 2	Titusville	6:14am-7:55pm	8:23am-6:35pm	N/A	60 Min. (Mon-Fri.)/ 60 Min. (Sat.)
Route 3	Merritt Island	7:49am-6:02pm	8:16am-5:02pm	N/A	60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 4	520 Connector	5:50am-11:35pm	5:50am-1:35pm	8:00am-5:55pm	10-30 Min (Mon-Fri.)/ 30-60 Min. (Sat.)/60 Min. (Sun.)
Route 5	Titusville/Mims	8:00am-4:55pm	8:00am-4:55pm	N/A	60 Min. (Mon-Fri.)/60-180 Min. Mid-Day (Sat.)
Route 6	Cocoa/Rockledge	5:45am-8:12pm	7:15am-6:12pm	N/A	15-30 Min. (Mon-Fri.)/ 30-60 Min. (Sat.)
Route 7	Rockledge/Viera	7:24am-5:50pm	7:24-5:50pm	N/A	60 Min.-120 Min. Mid-Day (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 8	West Cocoa	6:45am-6:14pm	6:45am-6:14pm	N/A	30-150 Min. (Mon-Fri.)/ 30-120 Min. (Sat.)
Route 9	Cape Canaveral/Cocoa Beach	6:00am-11:13pm	6:00am-1:13pm	7:45am-5:40pm	15-30 Min./60 Min PM (Mon-Sat.)/ 60 Min.-90 Min. Mid-Day (Sun.)
Route 21	Downtown Melbourne	7:15am-8:19pm	7:15am-6:19pm	10:00am-3:03pm	30 Min.-60 Min. Evening (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)/ 60 Min. (Sun.)
Route 22	South Palm Bay	7:35am-8:30pm	7:35am-5:30pm	N/A	60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 23	West Palm Bay	6:35am-8:30pm	7:35am-5:30pm	N/A	60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 24	Melbourne/Eau Gallie	6:55am-8:50pm	7:55am-5:50pm	N/A	60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 25	Palm Bay Connector	6:07am-9:07pm	8:07am-6:07pm	N/A	30-60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 26	South Beach	7:00am-7:52pm	8:00am-6:05pm	N/A	120/180 Min. (Mon-Fri.)/ 120/180 Min. (Sat.)
Route 27	East Palm Bay	6:35am-8:30pm	7:35am-5:30pm	N/A	60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 28	North Melbourne	6:55am-8:50pm	7:55am-5:50pm	N/A	30-60 Min. (Mon-Fri.)/ 60 Min.-120 Min. Mid-Day (Sat.)
Route 29	Melbourne/Viera	5:57am-8:02pm	8:00am-6:02pm	N/A	30-60 Min. (Mon-Fri.)/30-60 Min.-120 Min. Mid-Day (Sat.)
Route 32	South Mainland Dial-A-Bus (Viera Complex to Sebastian Super Wal-Mart)	8:00am-4:00pm (Monday, Tuesday, Friday)	N/A	N/A	Call before 2pm the day before your trip for home pickup
Route 33	Eau Gallie Arts District	10:30am-2:20pm	N/A	N/A	Two AM and two PM trips with flag stops along the route

Ridership Trends

Figure 3-1 provides ridership data for FY 2015 and FY 2016. Space Coast Area Transit experienced a 5 percent decrease in ridership from 2,341,831 trips in FY 2015 to 2,255,109 trips in FY 2016.

Figure 3-1: FY 2015 and FY 2016 Ridership Data



Vehicle Inventory

Table 3-2 provides a summary of the fixed-route transit vehicles operated by Space Coast Area Transit. As shown in the table, the entire fleet used to operate both fixed-route and paratransit service, and consists of 67 vehicles. All of the fixed-route vehicles are equipped with security cameras.

Table 3-2: Space Coast Fixed-Route Vehicle Inventory (2016)

# of Vehicles	Year	Make	Description	Seats	Wheelchair Capacity
3*	2003	Thomas	SLF 30'	28	2
4	2007	Gillig LF	Low Floor 35'	30	2
2	2007	Gillig LF	Low Floor 35'	33	4
2	2007	Gillig LF	Low Floor 40'	34	2
3	2009	Champion Int'l LF	Low Floor 31'	24	2
8	2011	Glaval	Titan II 23'	14	6
12	2011	Gillig LF	Low Floor 35'	30	2
2	2011	Gillig LF	Low Floor 35'	33	4
2	2011	Gillig LF	Low Floor 40'	37	2
9	2012	Glaval	Titan II 23'	15	4
9	2013	Champion Int'l-Def	Defender 28'	20	6
2	2013	Gillig LF	Low Floor 35'	31	2
2	2013	Gillig LF	Low Floor 40'	38	2
1	2015	Gillig LF	Low Floor 35'	29	3
3	2015	Gillig LF	Low Floor 40'	35	3
5	2016	Gillig LF	Low Floor 35'	29	3

*2016 scheduled retire date

Other Transportation Service Providers

Other private and public agencies also offer transportation services for specific client groups. These providers are comprised of taxis and shuttles that provide service for tourists and residents in Brevard County. The current rates for these providers vary on the type of service, which can range from one-way travel per person, group packages, flat rate per vehicle, and tour packages. The most common service is providing transportation from major airports to the cruise line terminals located in Port Canaveral. The inventory of vehicles for each provider varies depending on the service each provides. Table 3-3 provides an inventory of transportation providers and general information about their services.

Table 3-3: Brevard County Transportation Providers Inventory

Name	Service Type	Fare	Vehicles/Passengers	Service Area
AA Access Transportation	Charter	Starts at \$25 per person one-way. Range depends on vehicle and distance	Vans, Mini-Bus, Buses, Motor Coach	Orlando, Melbourne, Sanford, and Miami Airports, Cocoa Beach, Cape Canaveral, Cruise Lines, Cocoa Beach Hotels
AA Cruise Line Connection	Charter	Starts at \$38 per person roundtrip shuttle service	Mini-Buses, Buses, Coach Buses, Shuttles, Sedans, SUV's	Orlando Theme Parks, International Drive, Orlando Hotels, Kennedy Space Center, Cocoa Beach, Port Canaveral
Around the Clock Transportation	Charter	Starts at \$100, two people one-way	Mini-Bus, Shuttle, Sedans, SUV's, Vans	Orlando Airport to Port Canaveral, Cocoa Beach Hotels
Bay Hill Transportation	Charter	Starts at \$28 per-vehicle	Mini-Bus, Bus, SUV's, Town Car, Van, Limo	Brevard County, Orlando Hotels, Port of Miami, Miami Airport
Luxury Rides	Charter	Varies	Mini-Bus, Coach, Sedan, SUV, Vans, Limo	Orlando, Kissimmee, and Sanford Airports, Port Canaveral, all Florida Attractions
Lake Limo	Charter	Varies	Mini-Bus, SUV, Town Car, Van, Limo	Florida, mostly Miami and surrounding areas
Kennedy Tours	Charter	\$60-\$105 (depending on distance)	Mini-Bus, Coach, Sedan, SUV, Vans, Limo	Orlando, Kennedy Space Center
Executive Shuttle Service	Charter	Varies	Vans	Orlando and Melbourne Airports, Port Canaveral
Franco Transportation	Charter, Taxi	Varies	10-Passenger Taxi Vans	Orlando Airport, Amtrak Station, UCF, Downtown Orlando, International Drive, Port Canaveral
Port Canaveral Connection	Charter	Starts at \$25 per person one-way	Buses, Sedans, SUV's, Vans	Port Canaveral, Orlando Hotels and Resorts
Uber	Ridesource	Varies, based on real-time rates	Sedans, SUV's, LX Vans	Brevard County
Lyft	Ridesource	Varies, based on real-time rates	Sedans, SUV's, Vans	Brevard County

Ridesourcing

Ridesourcing companies, like Uber and Lyft, provide similar services to a taxi except they connect drivers to consumers strictly using a mobile app. Consumers use their smartphone to make a trip request, which is then routed to the nearest driver. The drivers then use their personal car to transport consumers to their destination. These types of ridesourcing services are growing popularity, especially among young adults and, in many locations, complement gaps in transit services by helping riders complete the last leg of their trip or by providing late service when transit is not operating. The American Public Transportation Association (APTA) reported that Uber and Lyft users are more likely to use public transit more frequently. Uber drivers began providing service to Brevard County in 2014, and according to Uber Hot Spots the most frequent request for weekend service is Friday, Saturday, and Sunday from 1 a.m. to 4 p.m. The locations with the most demand include:

- Cape Canaveral
- Cocoa Beach
- Indian Harbour Beach
- New Haven Avenue
- Indian Harbour Beach
- Melbourne International Airport
- Florida Institute of Technology

Trend and Peer Reviews

To assess how efficiently Space Coast Area Transit supplies fixed-route transit service and how effective those services meet the needs of the area, a trend analysis of critical performance indicators was conducted to examine the performance of Space Coast Area Transit's fixed-route services over a five-year period. In order to complete this trend and peer analysis, data from the Florida Transit Information Systems (FTIS) were used, which includes validated National Transit Database (NTD) data for fiscal years 2011-2015, the most recent data available. The performance measures are used to present the data that relate to overall system performance. Three categories of performance measures were analyzed for the trend analysis of the existing transit service:

- **General performance measures**, which measure the quantity of service supply, passenger and fare revenue generation, and resource input.
- **Effectiveness measures**, which review the extent to which the service is effectively provided. These measures can be used to implement goals towards improving the quality of service and customer satisfaction, and increasing the market share of transit.
- **Efficiency measures**, which indicate the extent to which cost efficiency is achieved, i.e. costs in relation to benefit. These measures can be used to implement goals towards long-term viability and stability of service.

In conjunction with the trend analysis, a peer review analysis was conducted to compare various Space Coast Area Transit's fixed-route performance characteristics to a group of transit peers using 2015 data from the National Transit Database (NTD). The trend and peer review analyses are organized by the type of measure or indicator and include statistics, figures, and tables to illustrate Space Coast Area Transit's performance over the past five years and how Space Coast Area Transit compares to selected peers. The

selection process for the peer review is described first, followed by a presentation of highlights from the trend and peer review analyses. Summary results are provided at the conclusion of this section.

Peer System Selection Methodology

The Transit Cooperative Research Program (TCRP) methodology, as reported in *TCRP Report 141: A Methodology for Performance Measurement and Peer Comparison in the Public Transportation Industry*, was used to identify transit agencies that are similar to Space Coast Area Transit using an assessment of the following variables:

- Total Vehicle Miles Operated
- Total Operating Budget
- Percent Demand Response
- Percent Service Purchased
- Service Area Type
- Urban Area Population
- Population Growth Rate
- Population Density
- State Capital
- Percent Population with College Degree
- Percent Poverty
- Annual Delay (hrs.) per Traveler
- Freeway Lane-Miles per Capita
- Distance to Peer System

Likeness scores are calculated for each individual factor based on the percentage difference between the potential peer's value and Space Coast Area Transit's value. A score of 0 indicates that the peer and Space Coast Area Transit's value are exactly alike, and a score of 1 indicates that the potential peer's value is twice that of Space Coast Area Transit. For the factors that cannot be compared by percentage difference (e.g., state capital or distance), likeness scores are based on formulas that are designed to produce similar results; a score of 0 indicates identical characteristics, a score of 1 indicates a difference, and a score of 2 or more indicates a substantial difference.

After the screen factor scores and peer-grouping factors scores are determined, the total likeness score for an individual potential peer agency is calculated using a sum of all likeness scores divided by a count of the peer-grouping factors. The total likeness score is interpreted as follows:

- Less than 0.50: Good Match
- 0.50-0.74: Satisfactory Match
- 0.75-0.99: Poor Match
- Greater than 0.99: Unmatched

Based on the TCRP Report 141 methodology, Table 3-4 shows the eight peer agencies that were selected to serve as comparable transit systems to the Space Coast Area Transit. The peer comparison is a requirement of the FDOT in preparing Transit Development Plans and serves as a reliable means for benchmarking transit system performance.

Table 3-4: Selected Peer Systems for Space Coast Area Transit Peer Review Analysis

Peer System	Location
Sarasota County Area Transit	Sarasota, FL
Manatee County Area Transit (MCAT)	Bradenton, FL
Polk County Transit Services Division	Bartow, FL
Escambia County Area Transit (ECAT)	Pensacola, FL
Piedmont Authority for Regional Transportation	Greensboro, NC
York County Transportation Authority	York, PA
Wichita Transit	Wichita, KS
Worcester Regional Transit Authority	Worcester, MA

Selected Performance Measures

Table 3-5 lists the performance measures by category used in the peer and trend analysis. A review of Space Coast Area Transit trends and how Space Coast Area Transit compares to its peers is presented next, by performance measure type, beginning with General Performance Measures, followed by Effectiveness Performance Measures and Efficiency Performance Measures, respectively.

Table 3-5: Performance Measures by Category

General Performance Measures	Effectiveness	Efficiency
Service Area Population	Vehicle Miles per Capita	Operating Exp. per Capita
Service Area Population Density	Passenger Trips per Capita	Operating Exp. per Passenger Trip
Passenger Trips	Passenger Trips per Rev Mile	Operating Exp. per Passenger Mile
Passenger Miles	Passenger Trips per Rev Hour	Operating Exp. per Rev Mile
Vehicle Miles	Average Age of Fleet	Operating Exp. per Rev Hour
Revenue Miles	Average Headway	Average Fare
Revenue Hours	Revenue Miles Between Failures	Farebox Recovery Ratio (%)
Total Operating Expense		Revenue Miles per Vehicle Mile
Vehicles Operated in Max Service		Vehicle Miles per Gallon
Passenger Fare Revenues		
Federal/State/Local/Other Contributions		

General Performance Measures

General performance indicators are used to gauge the overall system operating performance. Figures 3-2 through 3-15 present the performance indicators for Brevard County from FY 2011 through FY 2015 (trend analysis) as a well as its performance relative to its peer systems (peer review).

Service Area Population and Population Density

Service area population and density are used as a way to measure the potential demand for service. Service area population is determined using a ¾-mile buffer around the transit route. From 2011 to 2015 Space Coast Area Transit’s service area population has remained constant at 554,354, showing a 0 percent change, and is 0.2 percent below the peer group mean. In comparison to the peer groups, Space Coast Area Transit’s service area population density is 11.1 percent above the peer group mean.

Figure 3-2: Trend and Peer Comparison for Service Area Population (000)

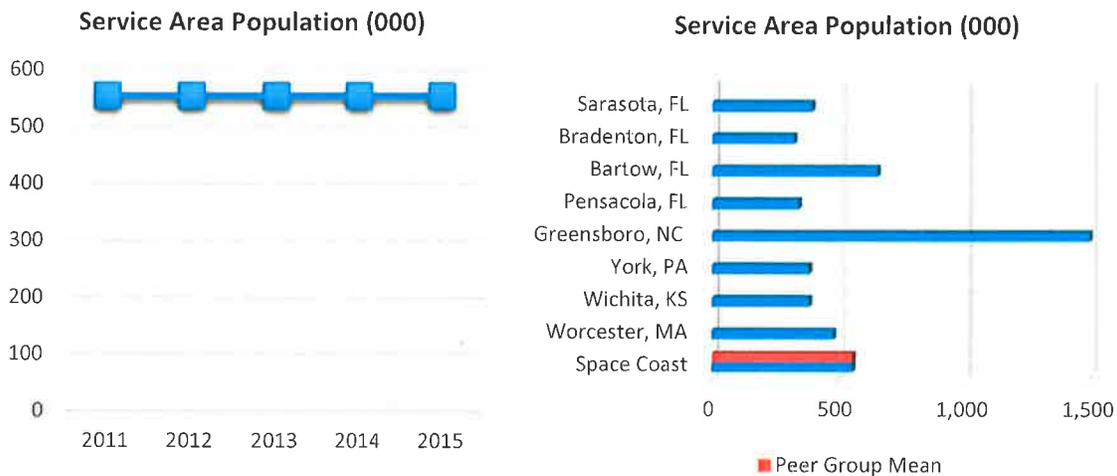
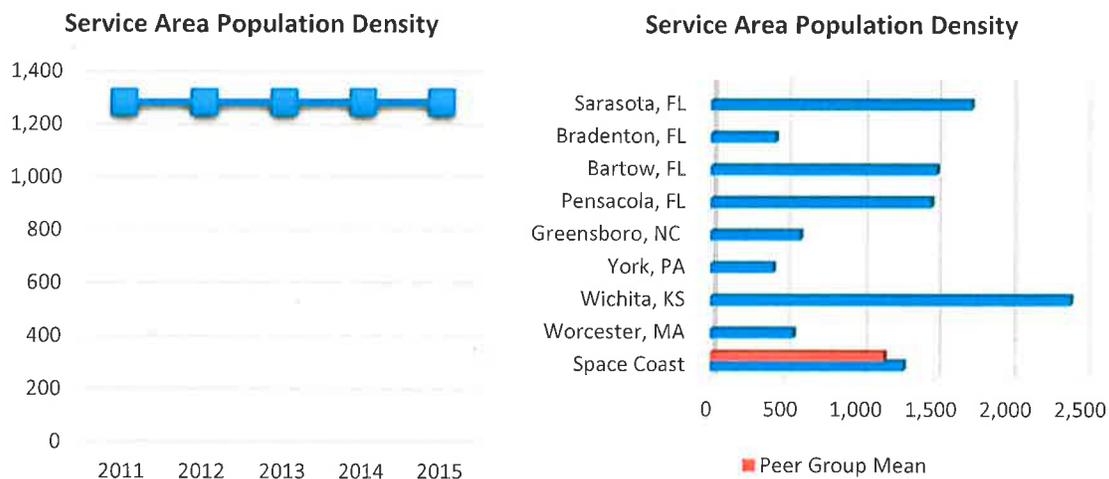


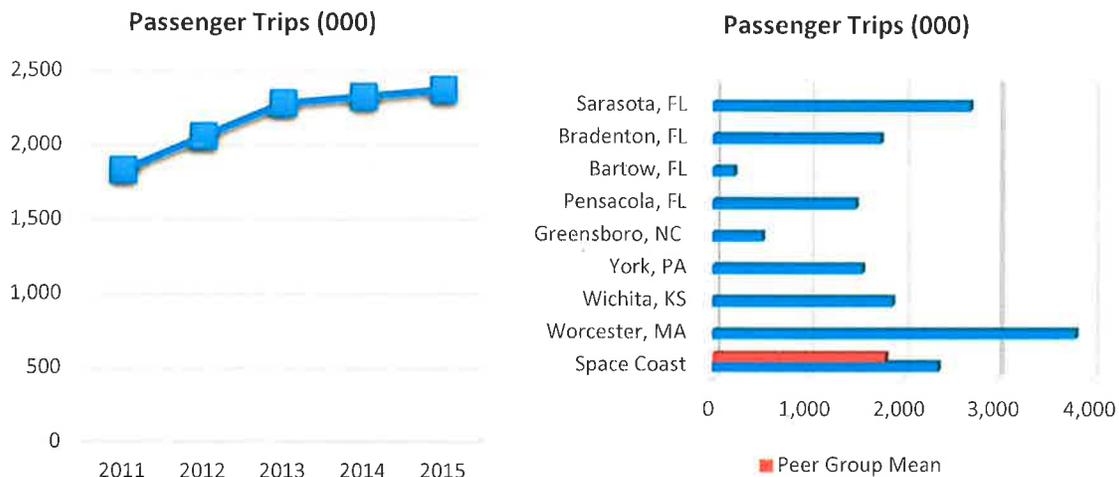
Figure 3-3: Trend and Peer Comparison for Service Area Population Density



Passenger Trips (Ridership)

Passenger trips, also known as ridership, is the number of passengers who board the public transit vehicles and is a measure of the market demand for service. Passengers are counted each time they board the vehicles no matter how many vehicle transfers may be necessary to travel from their origin to their destination. The total number of passenger trips Space Coast Area Transit provided increased from 1.84 million in 2011 to 2.38 million in 2015, or 29.4 percent. When compared to its peers, Space Coast Area Transit is 30.9 percent above the peer group mean.

Figure 3-4: Trend and Peer Comparison for Passenger Trips (000)



Passenger Miles

Passenger miles are calculated by multiplying the number of passenger trips by the average passenger trip length to estimate the total number of miles passengers traveled. The average trip length is usually determined by survey sampling. Passenger miles have shown a continuous upward trend from 2011 to 2015, 33.3 percent overall. Space Coast Area Transit is 55.6 percent above the peer group mean for passenger miles.

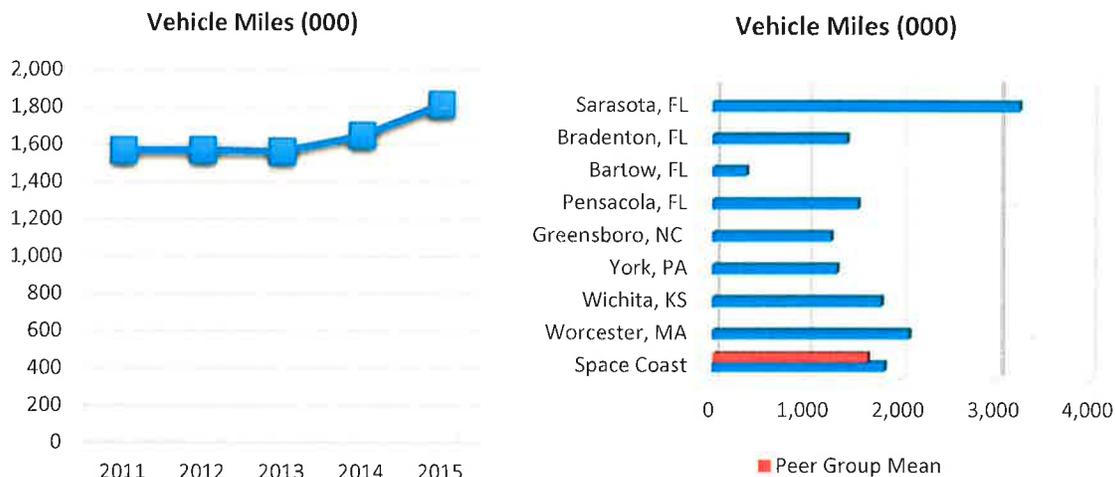
Figure 3-5: Trend and Peer Comparison for Passenger Miles (000)



Vehicle Miles

Vehicle miles are the miles that the transit vehicles travel while in revenue service plus deadhead miles. This is a measure of how much service coverage is provided, or the supply of service. Total vehicle miles of service increased 15.9 percent from 2011 to 2015 indicating that Space Coast Area Transit has increased the amount of service provided over the five-year trend period. When comparing Space Coast Area Transit to the peer group and the peer group average for 2015, the number of vehicle miles provided for Space Coast Area Transit is 10.5 percent above the mean of 1.64 million.

Figure 3-6: Trend and Peer Comparison for Vehicle Miles (000)



Revenue Miles and Revenue Hours

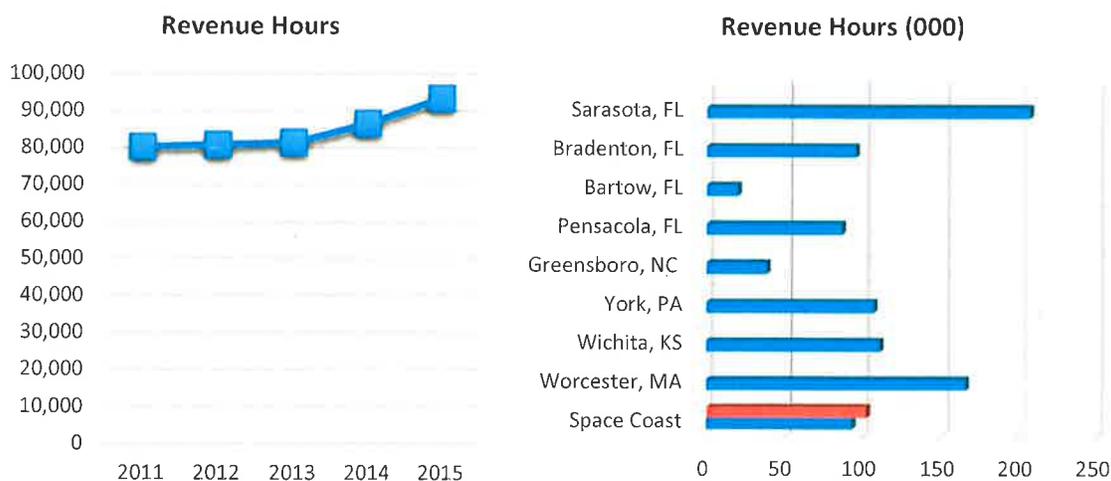
Different from the vehicle miles variable discussed in the previous section, revenue miles are the total number of miles that the public transit service is actually operated while in revenue service. This measure does not include the number of miles the vehicle travels without passengers onboard (deadhead travel). When revenue miles are increasing faster than total vehicle miles, this measure generally indicates a positive operational trend. Revenue miles for Space Coast Area Transit increased 16.6 percent over the five-year trend, from 1,504,620 in 2011 to 1,754,475 in 2015, which when compared to total vehicle miles is a slightly higher increase indicating a positive operational trend. In 2015, Space Coast Area Transit was providing a greater amount of service in comparison to the peer group, with revenue miles at 14.0 percent above the peer group mean of 1,538,763.

Revenue hours are another measure of the amount of service provided. Revenue hours also increased over the five-year trend period by 16.3 percent from 80,255 in 2011 to 93,326 in 2015. However, in comparison to the peer group, Space Coast Area Transit is 9.1 percent below the mean. This measure indicates that Space Coast Area Transit is providing more service within fewer hours compared to the peer mean.

Figure 3-7: Trend and Peer Comparison for Revenue Miles (000)



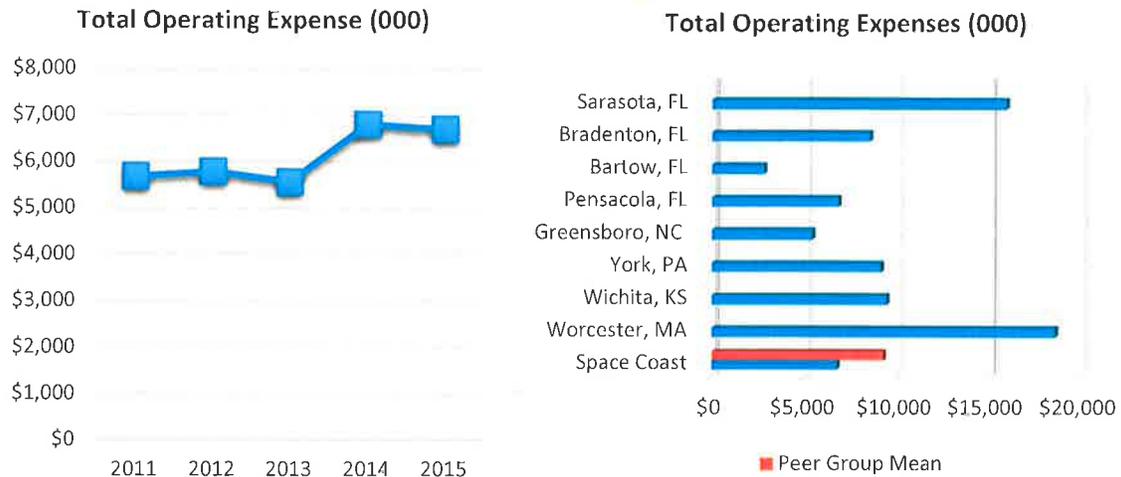
Figure 3-8: Trend and Peer Comparison for Revenue Hours (000)



Total Operating Expense

Total operating expense includes all operating costs associated with the transit agency (vehicle operations, maintenance, and administration costs). Total operating expense increased from \$5.68 million in 2011 to \$6.69 million in 2015, or 17.9 percent. The increase in operating expense is a result of Space Coast Area Transit adding additional buses to the network to address overcrowding issues in 2014. The additional buses accommodated additional trips and passengers and helped to increase frequency on several routes. While expenses increased over the five-year trend period, when compared to the peer group, Space Coast Area Transit is 27.5 percent below the mean for total operating expense.

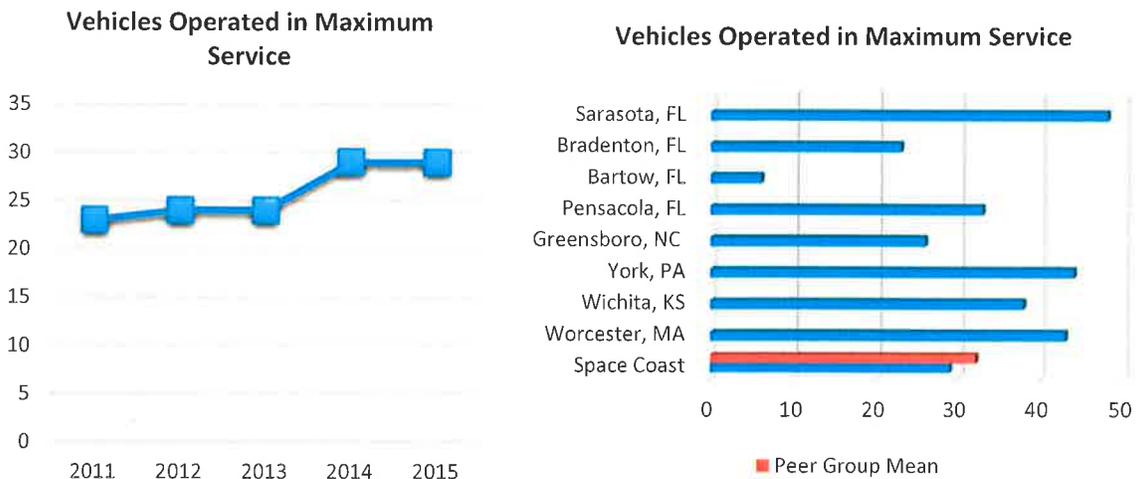
Figure 3-9: Trend and Peer Comparison for Operating Expense (000)



Vehicles Operated in Maximum Service

Vehicles operated in maximum service is an indication of the supply of service. The trend analysis shows that Space Coast Area Transit’s vehicles operated in maximum service increased 26.1 percent from 23 in 2011 to 29 in 2015, but is 10.0 percent below the peer group mean of 32 vehicles.

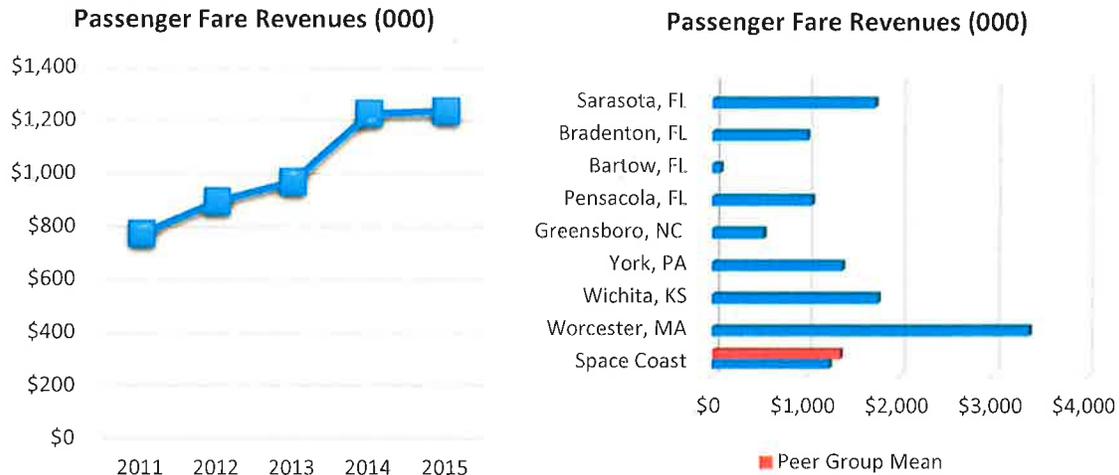
Figure 3-10: Trend and Peer Comparison for Vehicles Operated in Maximum Service



Passenger Fare Revenue

Passenger fare revenue is the total amount of funds generated from passenger fares. Passenger fare revenue for Space Coast Area Transit increased from \$773,583 in 2011 to \$1.24 million in 2015, or 59.8 percent. Among the peer group, Space Coast Area Transit is 8.4 percent below the mean.

Figure 3-11: Trend and Peer Comparison for Passenger Fare Revenue (000)



Total Funding Source

Federal and state funding is the financial assistance obtained to assist with paying the costs of providing transit services. Local funding is the financial assistance from local governments (below the state level) to help cover the costs of providing transit services. Local funding does not include funds generated directly by the transit agency unless they are dedicated taxes levied by the Transit Agency. Other funding sources are any funds where revenues are generated by or donated directly to the transit agency including; auxiliary revenue, park and ride revenues, contract revenues, and so forth.

Over the five-analysis periods the amount of funding received by Space Coast Area Transit shows a positive trend, with the exception of federal funding, which has decreased by 14.9 percent. The largest increase has come from “other” funding sources with an overall increase of 64.5% from FY 2011 to FY 2015.

Among the peer group, Space Coast Area Transit is below the peer group mean for federal (-0.2%), local (-50.2%), and other (-4.2%) funding sources, and are 1.2% above the peer group mean when it comes to state funding. The significant outlier in this peer comparison of funding sources is the lack of local funding support that is provided to Space Coast Area Transit, less than 50% of the average for the peer group. This is significant because local funding tends to be the primary source for revenue for transit operations.

Figure 3-12: Trend and Peer Comparison for Federal Funding (000)

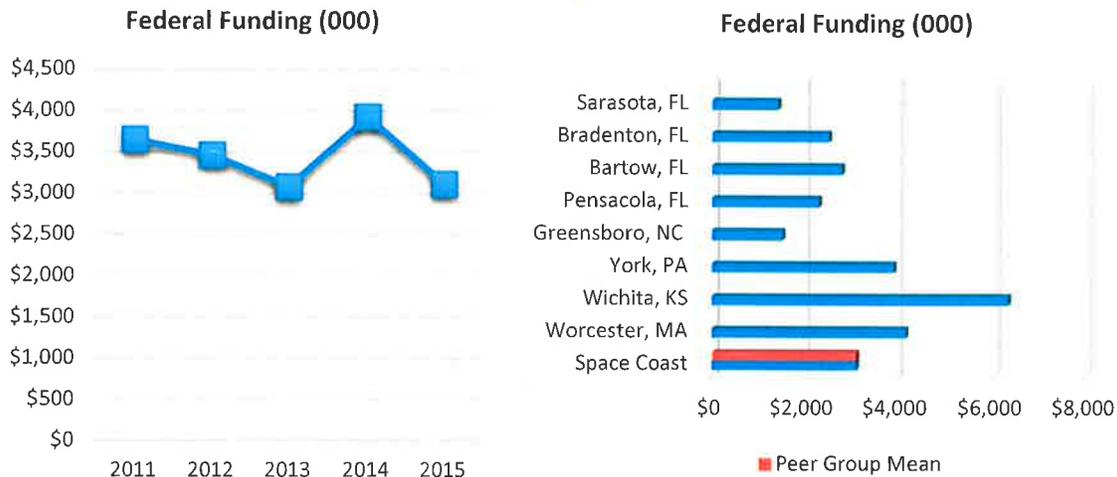


Figure 3-13: Trend and Peer Comparison for State Funding

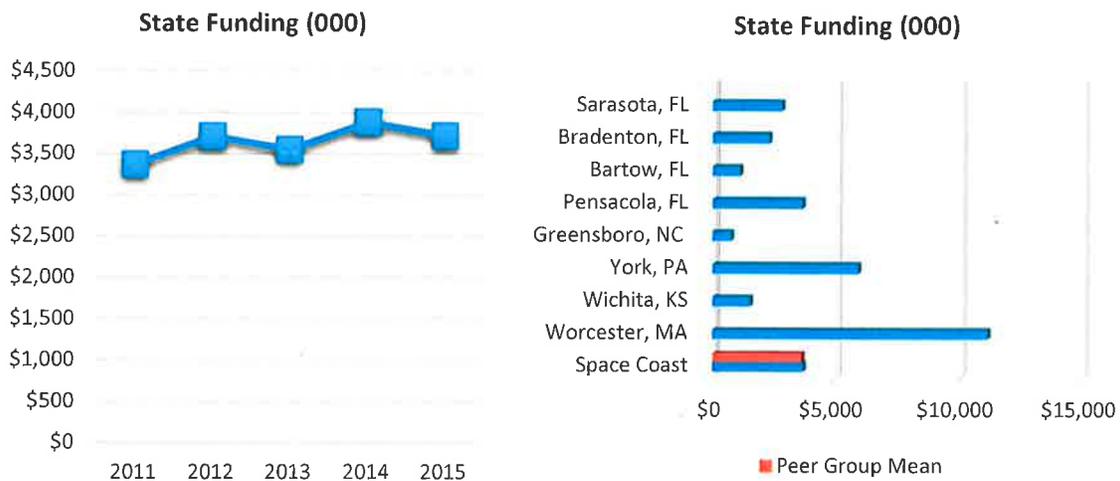


Figure 3-14: Trend and Peer Comparison for Local Funding (000)

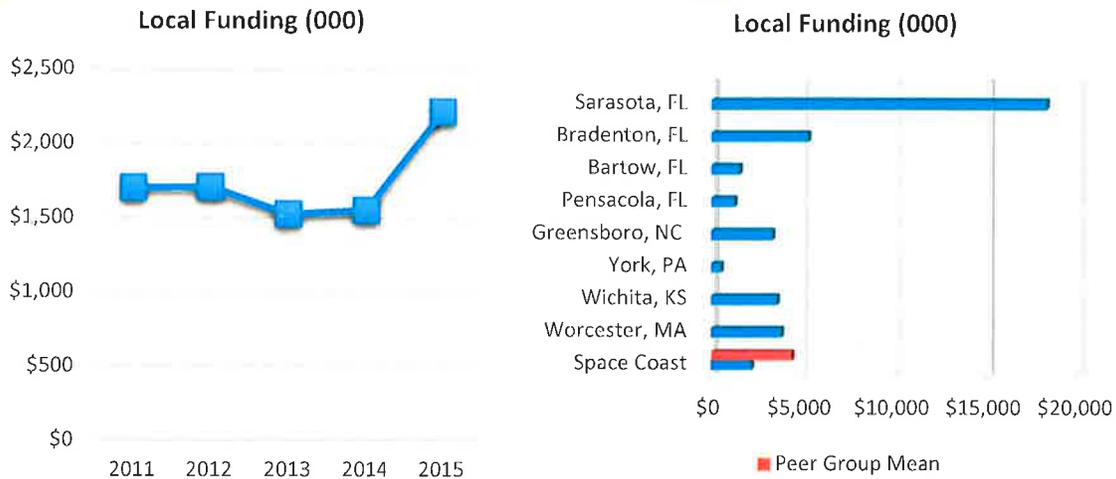
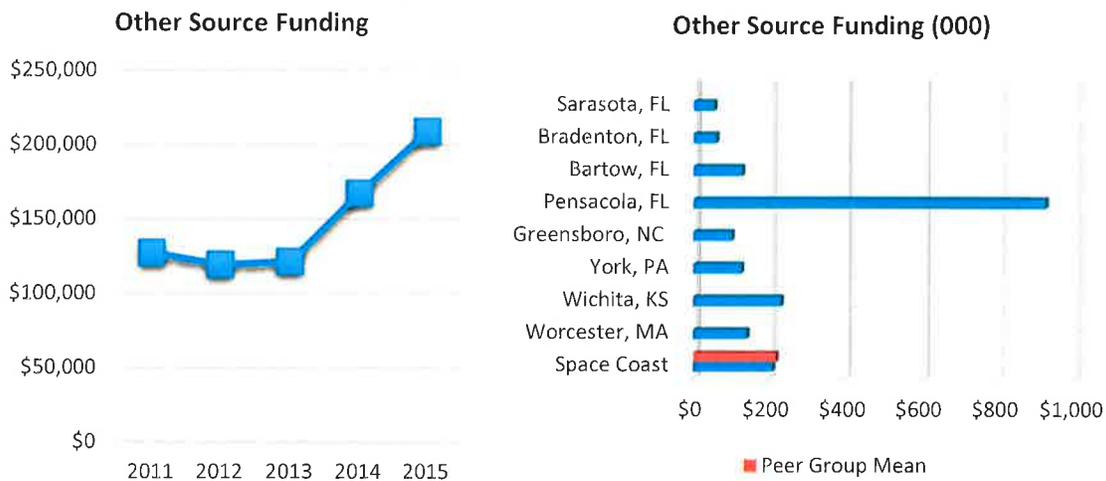


Figure 3-15: Trend and Peer Comparison for Other Source Funding



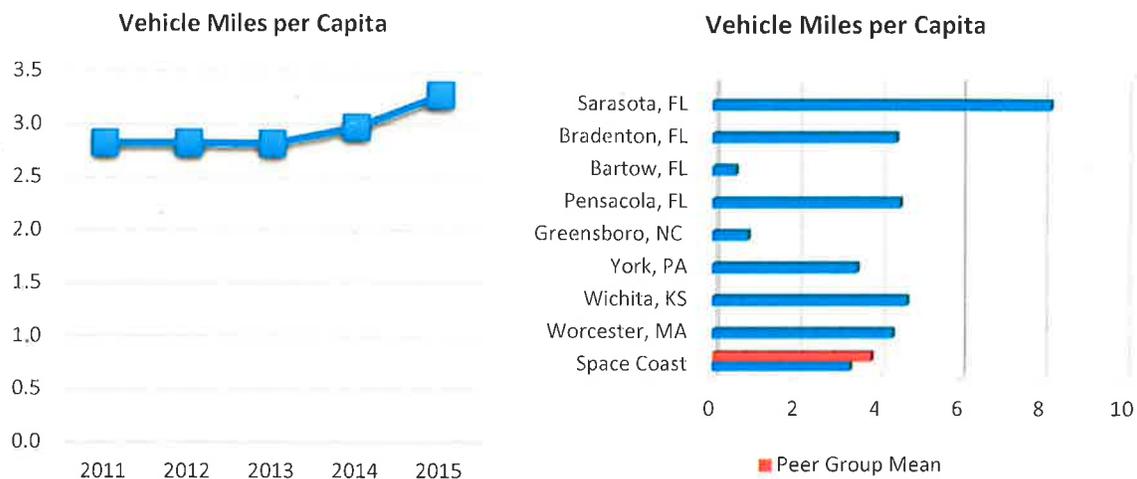
Effectiveness Measures

Effectiveness measures review the extent to which service-related goals are being met. Effectiveness measures include service supply, service consumption, and quality of service, and are represented by variables such as vehicle miles per capita, passenger trips per revenue hour, and average age of fleet. Figures 3-16 through 3-22 illustrate Space Coast Area Transit’s trend and peer analysis for the selected effectiveness performance measures.

Vehicle Miles per Capita

Vehicle miles per capita is derived from the total system vehicle miles and service area population within a ¼-mile distance of service provided. It measures the supply of service provided based on the demand within the service area. For Space Coast Area Transit, vehicle miles per capita increased 16.0 percent from 2011 to 2015. Vehicle miles per capita began an upward trend after 2013 when it increased from 2.82 miles (2013) to 3.28 miles (2015). Among the peer group, Space Coast Area Transit is 13.8 percent below the mean; however, there is a range among the peers as the minimum is 0.5 while the maximum is 8.0 miles per capita.

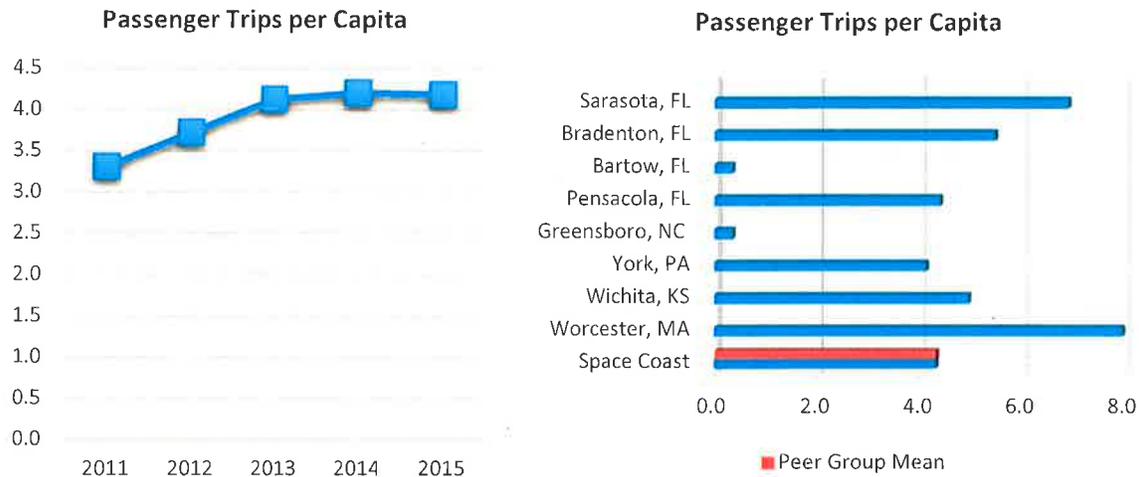
Figure 3-16: Trend and Peer Comparison for Vehicle Miles per Capita



Passenger Trips per Capita

Passenger trips per capita is calculated by dividing the total transit boardings by service area population. This measure of service effectiveness quantifies transit utilization within the service area. In Brevard County passenger trips per capita increased 29.4 percent from 2011 to 2015, and is 0.3% below the peer group mean.

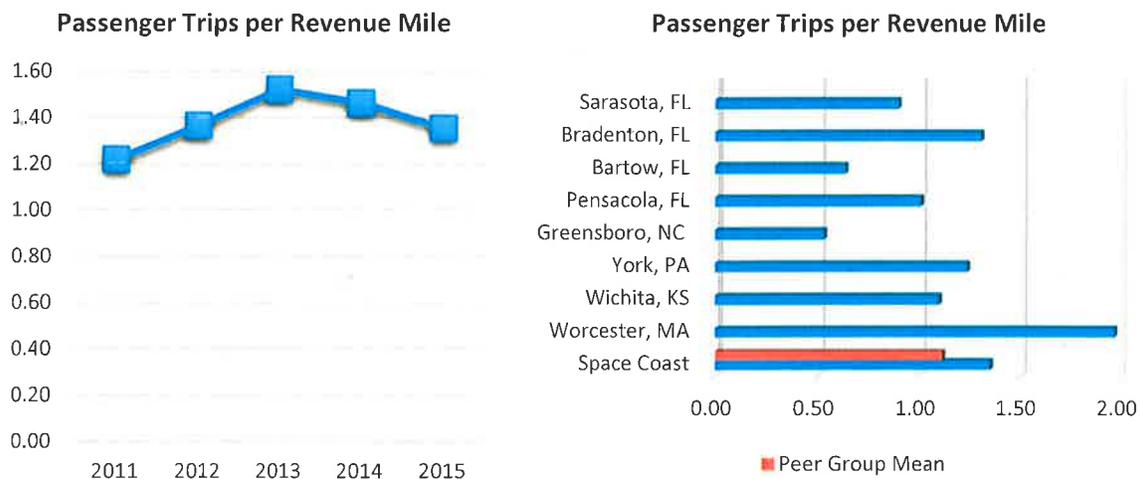
Figure 3-17: Trend and Peer Comparison for Passenger Trips per Capita



Passenger Trips per Revenue Mile

Passenger trips per revenue mile is calculated by dividing transit boardings by revenue miles. It is a measure for the supply of revenue service provided based on the level of demand. Space Coast Area Transit’s passenger trips per revenue mile experienced an increase of 11.0 percent from 2011 to 2015, and is 21.5 percent above the peer group mean. With an increase over the five-year period and over 20 percent above the peer group mean, this measure indicates that Space Coast Area Transit is effectively moving more people for each mile of service provided. As a result, buses may become more crowded since passenger trip growth is outpacing service growth.

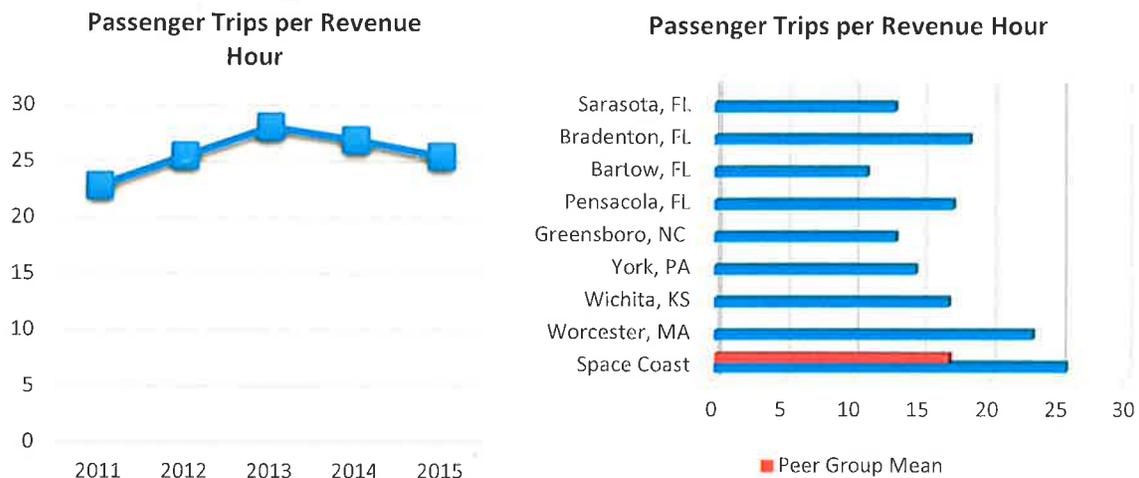
Figure 3-18: Trend and Peer Comparison for Passenger Trips per Revenue Mile



Passenger Trips per Revenue Hour

The purpose of passenger trips per revenue hour is to quantify service consumption. It can help evaluate the productivity of service supplied. From 2011 to 2015, Space Coast Area Transit's passenger trips per revenue hour increased by 11.3 percent. This measure indicates the system was achieving improved ridership productivity during the five-year period. Space Coast Area Transit ranks first in this measure among its peer group at 49.5 percent above the group mean.

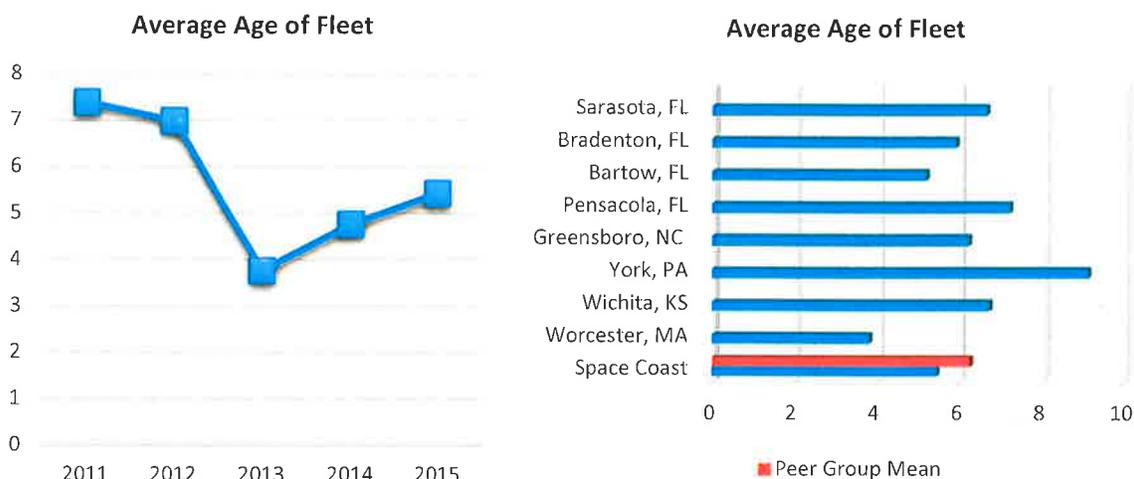
Figure 3-19: Trend and Peer Comparison for Passenger Trips per Revenue Hour



Average Age of Fleet

The average age of fleet is a measure of the quality of service. It can indicate the reliability or condition of the fleet. The average age of Space Coast Area Transit’s fleet decreased 26.6 percent during the five-year period, and is 13.0 percent below the peer group mean. This downward trend indicates that the system is operating with newer buses, which can increase the reliability of service provided.

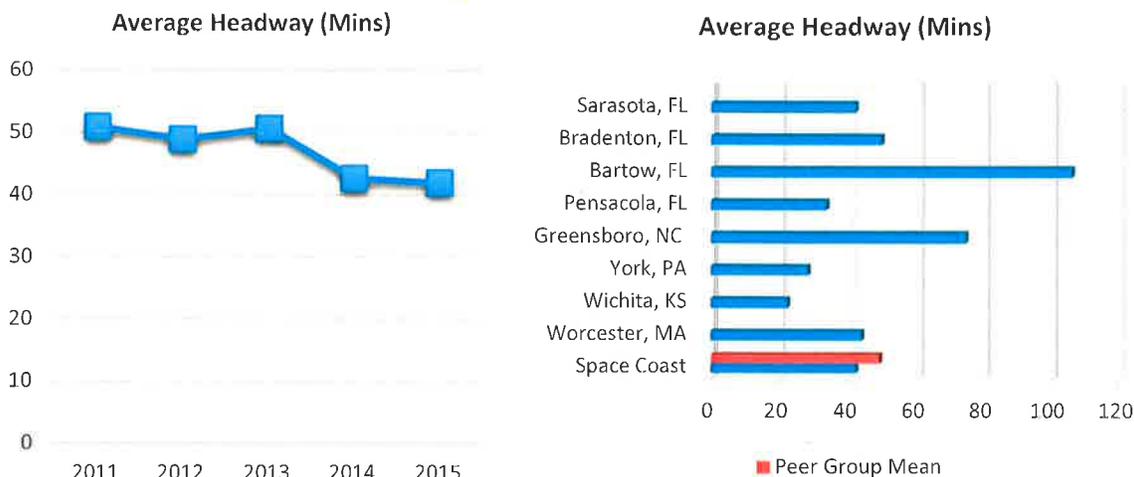
Figure 3-20: Trend and Peer Comparison for Average Age of Fleet



Average Headway

Average headway is a measure of the quality of service that indicates how frequently a transit service is provided. The average headway for all routes decreased from 50.93 minutes in 2011 to 41.93 minutes in 2015, indicating a continuous improvement of increasing quality for Space Coast Area Transit users. Overall the average headway decreased 17.7 percent, and when compared to the peer group mean Space Coast Area Transit is 14.3 percent below its peer agencies.

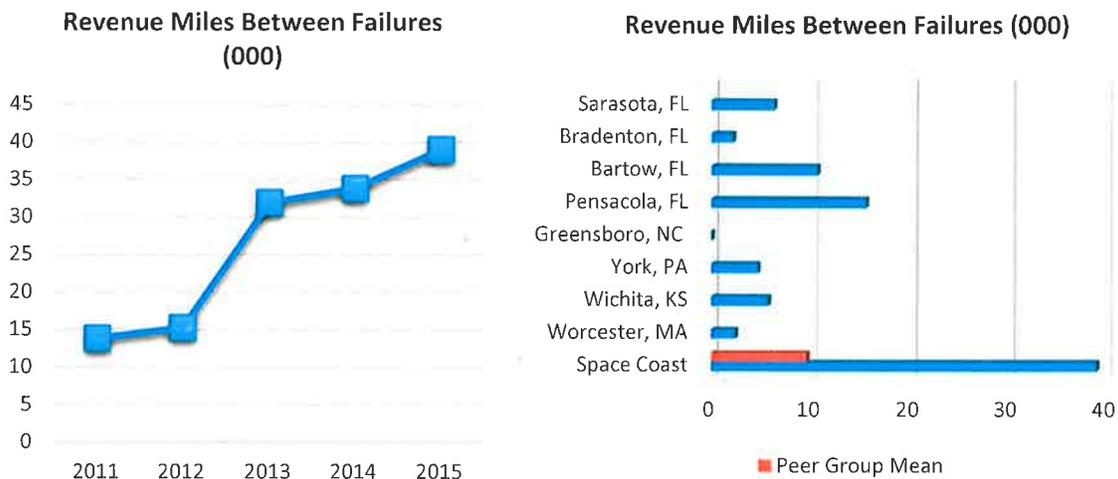
Figure 3-21: Trend and Peer Comparison for Average Headway (Mins)



Revenue Miles between Failures

Revenue miles between failures reflects quality of maintenance as well as loss in revenue due to operational failures and service shortages. A higher value can indicate a higher quality passenger experience. For Space Coast Area Transit, this effectiveness measure increased from 13,804 miles in 2011 to 39,988 miles in 2015, a 182.5 percent increase overall. The increase in revenue miles between failures corresponds with the decrease for the average age of the fleet. Space Coast Area Transit is also 307.0 percent above the peer group mean.

Figure 3-22: Trend and Peer Comparison for Revenue Miles between Failures (000)



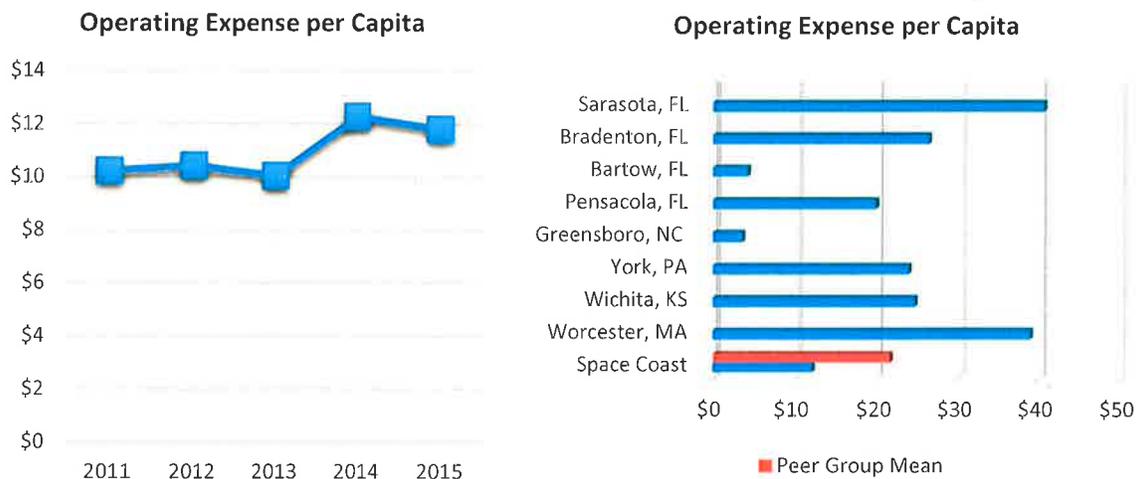
Efficiency Measures

Categories of efficiency measures include cost efficiency and operating ratios. Figures 3-23 through 3-31 present the efficiency measures for Space Coast Area Transit’s trend analysis and peer review. The following summarizes the trend and peer analysis by efficiency measure type.

Operating Expense per Capita

The purpose of the operating expense per capita measure is to reflect the resource commitment to the transit community. It is determined by dividing operating expense by the service area population. Over the five-year period reviewed, the operating cost per capita for Space Coast Area Transit increased by 18 percent from \$10.24 per person in 2011 to \$12.08 per person in 2015; however, this is still 43.9 percent below the peer group mean. It is important to note the variation in operating expense per capita among the group, which ranges from \$3.57 to \$40.55 per person. The low level of operating expense per capita is consistent with the low share of local funding for Space Coast Area Transit and reflects a significant limitation on potential for Space Coast Area Transit ability to enhance and expand service operations.

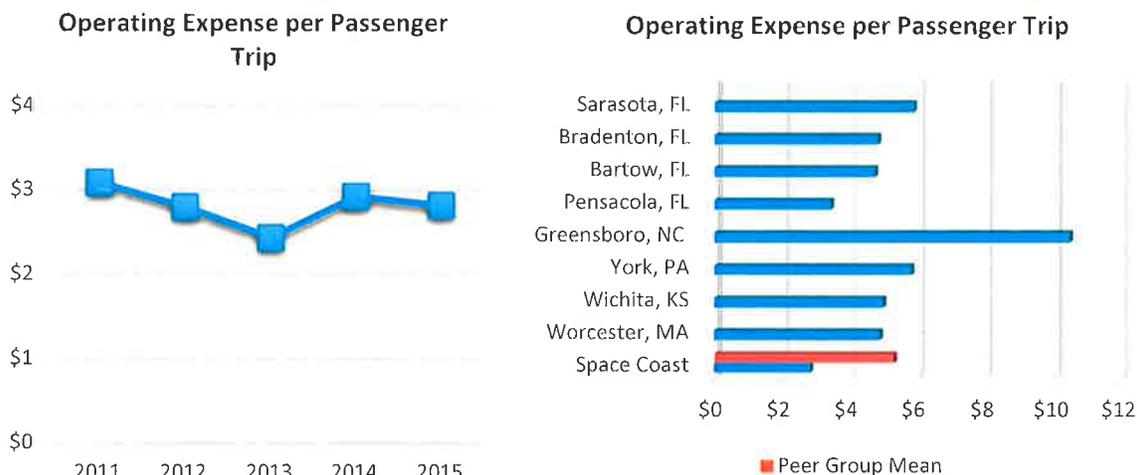
Figure 3-23: Trend and Peer Comparison for Operating Expense per Capita



Operating Expense per Passenger Trip

Operating expense per passenger trip measures the efficiency of transporting riders, both on how service is delivered and the market demands for the service. Space Coast Area Transit’s operating expense per passenger trip decreased from \$3.09 in 2011 to \$2.82 in 2015, an 8.9 percent decrease. Space Coast Area Transit was 55.2 percent below the peer group mean. This low figure for operating cost per passenger trip reflects service efficiency and cost-effectiveness on the part of Space Coast Area Transit but also highlights significant funding limitation for needed service enhancements and expansion.

Figure 3-24: Trend and Peer Comparison for Operating Expense per Passenger Trip



Operating Expense per Passenger Mile

Operating expense per passenger mile measures the impact of trip length on the system’s performance. Space Coast Area Transit’s operating expense per passenger mile decreased 11.6 percent from 2011 to 2015, and was 57.0 percent below the peer group mean.

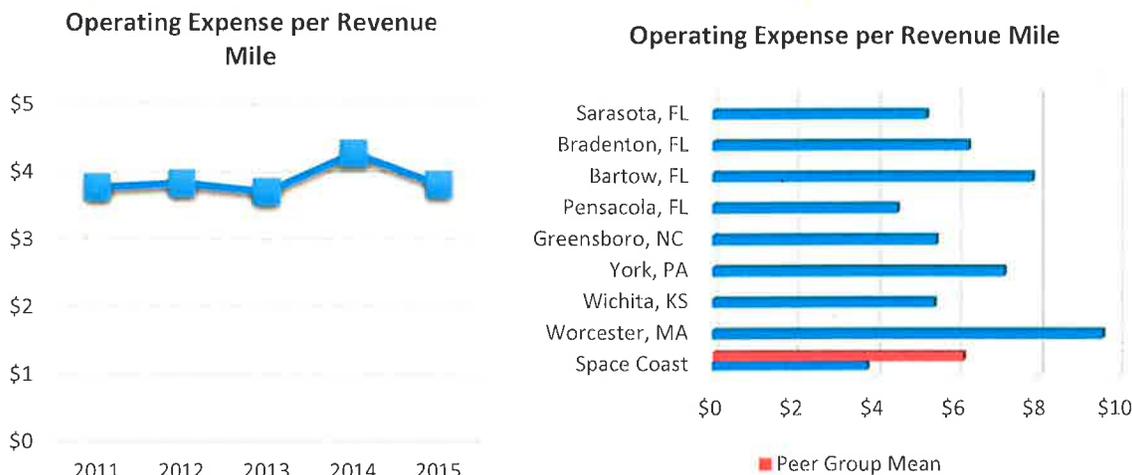
Figure 3-25: Trend and Peer Comparison for Operating Expense per Passenger Mile



Operating Expense per Revenue Mile

Operating expense per revenue mile can indicate how efficiently a transit service is delivered. The operating expense per revenue mile has increased 1.1 percent over the five-year period. In comparison to the peer systems, the operating expense per revenue mile for Space Coast Area Transit is 38.3 percent below the peer group mean indicating a greater efficiency on Space Coast Area Transit’s part.

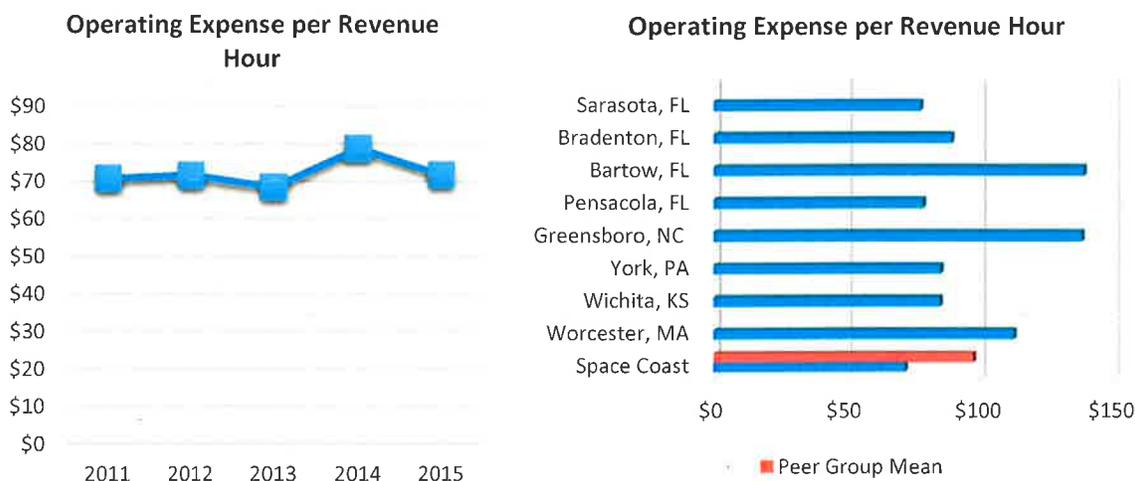
Figure 3-26: Trend and Peer Comparison for Operating Expense per Revenue Mile



Operating Expense per Revenue Hour

The operating expense per revenue hour measures the efficiency of transporting riders factoring vehicle speed. Space Coast Area Transit’s operating expense per revenue hour increased by 1.4 percent over the five-year period, from \$70.75 in 2011 to \$71.73 in 2015. The slight increase demonstrates that Space Coast Area Transit has maintained its operating efficiently while increasing the amount of revenue hours provided. In comparison to the peer group, Space Coast Area Transit is also demonstrating efficiency with an operating expense per revenue hour that is 26.1 percent below the peer group mean.

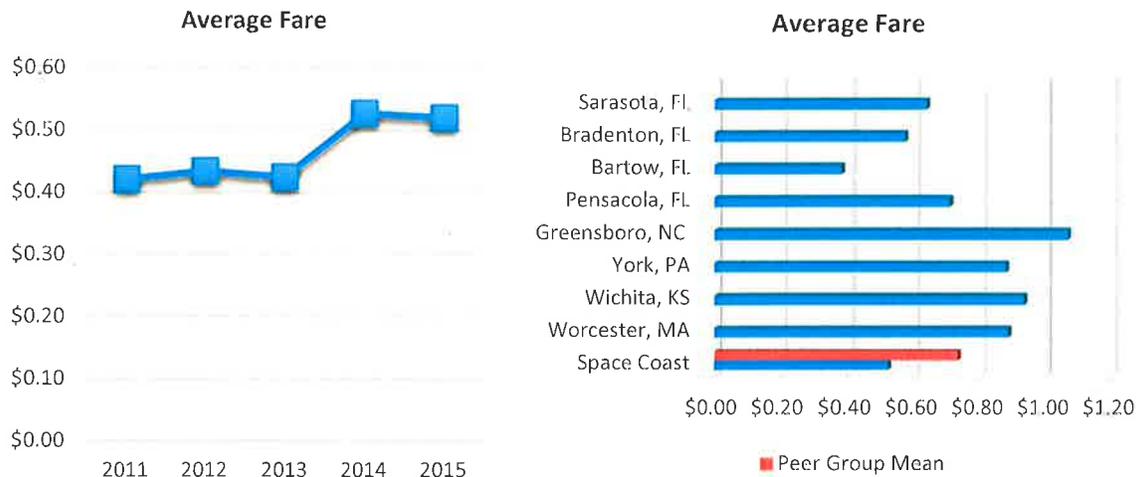
Figure 3-27: Trend and Peer Comparison for Operating Expense per Revenue Hour



Average Fare

Average fare is calculated by dividing the total passenger fare revenue by the total number of passenger trips. The average can be lowered by systems that offer free transfers. Space Coast Area Transit's average fare increased from \$0.42 in 2011 to \$0.52 in 2015, a 23.5 percent increase overall, and was 28.7 percent below the peer group mean.

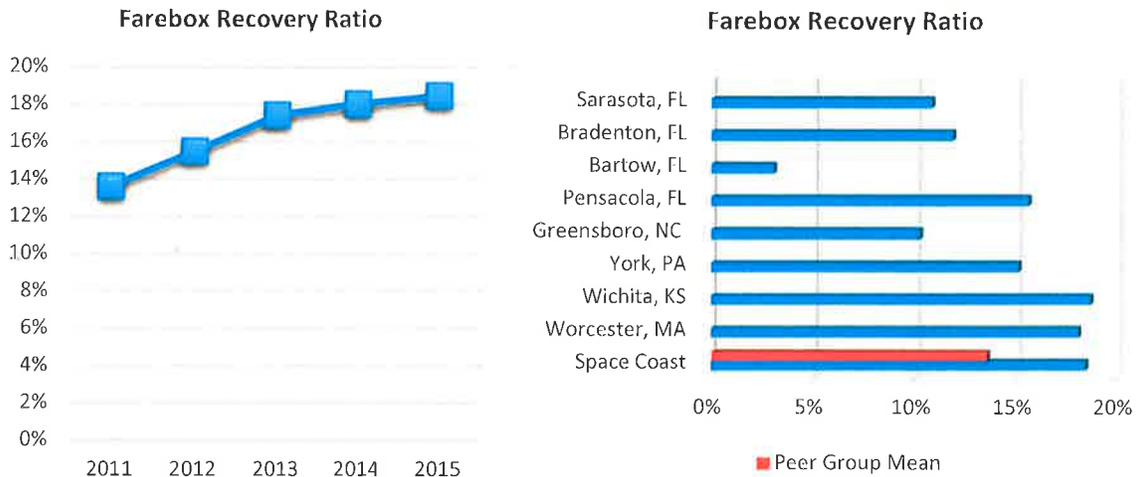
Figure 3-28: Trend and Peer Comparison for Average Fare



Farebox Recovery

Farebox recovery is the fare revenue divided by total operating expenses. It measures the percentage of direct operating costs that are recovered through the fares paid by the riders. Space Coast Area Transit's farebox recovery increased by 35.6 percent over the five-year trend period, from 13.62 percent farebox recovery in 2011 to 18.5 percent farebox recovery in 2015. Among the peer group, Space Coast Area Transit was 36.4 percent above the mean, indicating that the system relies less on non-fare revenue than the peer systems and that riders are paying a higher share of the cost of service than is the case in peer communities.

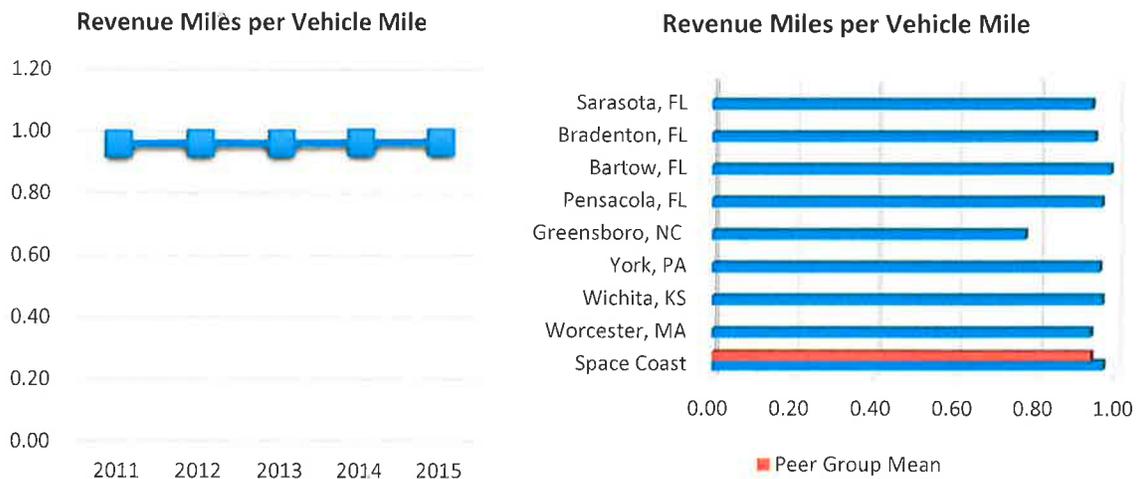
Figure 3-29: Trend and Peer Comparison for Farebox Recovery



Revenue Miles per Vehicle Mile

A higher ratio of revenue miles traveled to total vehicle miles generally indicates a higher system productivity. For Space Coast Area Transit, revenue miles per vehicle mile remained relatively stable over the five-year period with only a 0.6 percent increase. Among the peer group, Space Coast Area Transit was 3.2 percent above the mean for this measure.

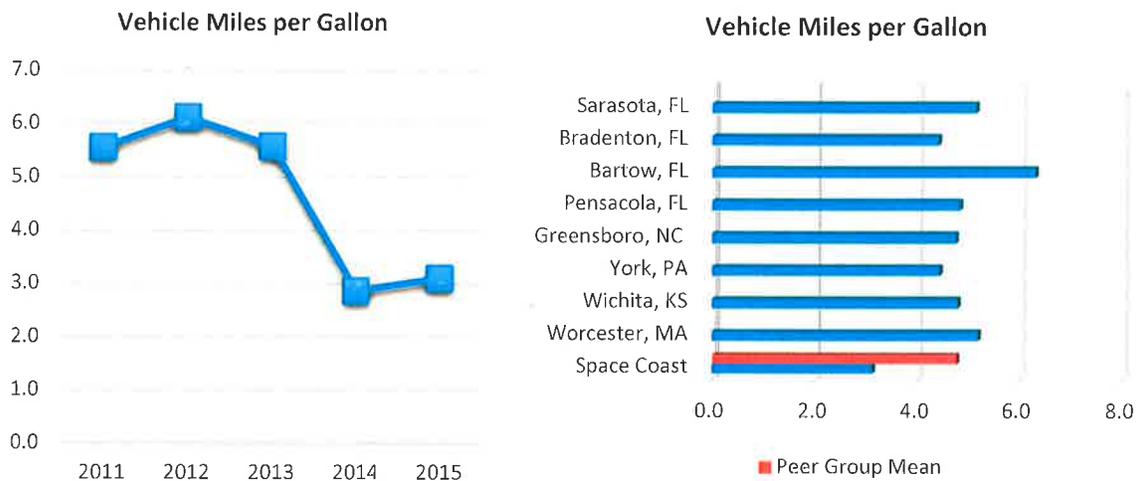
Figure 3-30: Trend and Peer Comparison for Revenue Miles per Vehicle Mile



Vehicle Miles per Gallon

Vehicle miles per gallon, or the ratio between fuel consumed and distance traveled, is an indication of fuel efficiency and applies only to the diesel and gasoline powered vehicles. For Space Coast Area Transit, vehicle miles per gallon has decreased by 44.3 percent from 2011 to 2015. Among the peer group, Space Coast Area Transit was 35.0 percent below the group mean.

Figure 3-31: Trend and Peer Comparison for Vehicle Miles per Gallon



Summary Results of Fixed-Route Peer and Trend Analysis

Although the trend analysis is only one aspect of overall transit performance evaluation, when combined with the peer review analysis, the results provide a starting point for understanding the efficiency and effectiveness of a transit system. Highlights from both analyses are provided in this section.

Trend Analysis Summary

- **Service Consumption** – Passenger trips per capita, per revenue mile, and per revenue hour have all shown an increase during the five-year analysis period. This positive trend reflects improvements in overall system effectiveness that Space Coast Area Transit has put in place during this period. The socioeconomic trends and the higher median age in Brevard County portend a significant and continual increase in demand for mobility services.
- **Service Supply** – Vehicle miles per capita (service supply) increased 16.0% over the five-year period. While service supply is increasing per capita, it is still significantly lower than peers.
- **Quality of Service** – The decrease in the average age of fleet and increase in revenue miles between failures indicates the system's service quality is functioning efficiently. In addition, the average headway decreased by 17.7% during the five-year analysis period.
- **Cost Efficiency** – The operating expense per capita, per revenue mile, and per revenue hour variables each increased between 2011 and 2015. However, the operating expense per passenger trip and operating expense per passenger and mile variables decreased by 8.9% and 11.6%, respectively, indicating an increased cost efficiency.
- **Funding** – The level of local funding support is significantly less (50%) for Space Coast Area Transit than compared to peers and passengers pay a much higher share of the cost of service than is the case for peers. This significant degree of local funding underinvestment in transit services limits the ability and fiscal capacity of Space Coast Area Transit to respond to increasing demand for mobility services and to enhance and expand existing services.

Table 3-5 summarizes the trend and peer analyses of Space Coast Area Transit’s existing fixed-route system in terms of the percent that each performance measure changed between 2011 and 2015 and compared to peers.

Table 3-6: Summary of Space Coast Area Transit Trend and Peer Analysis

Measure	% Change (2011-2015)	Indicator*	Deviation from Peer Group Mean	Indicator*
General Performance				
Service Area Population	0.0%	o	-0.2%	o
Service Area Population Density	0.0%	o	11.1%	+
Passenger Trips	29.4%	+	30.9%	+
Passenger Miles	33.3%	+	55.6%	+
Vehicle Miles	15.9%	+	10.5%	+
Revenue Miles	16.6%	+	14.0%	+
Revenue Hours	16.3%	+	-9.1%	-
Total Operating Expense	17.9%	-	-27.5%	+
Vehicles Operated in Maximum Service	26.1%	+	-10.0%	-
Passenger Fare Revenue	59.8%	+	-8.4%	-
Federal Funding	-14.9%	-	-0.2%	-
State Funding	10.4%	+	1.2%	+
Local Funding	30.0%	+	-50.2%	-
Other Funding	64.5%	+	-4.2%	-
Effectiveness Measures				
Vehicle Miles per Capita	16.0%	+	-13.8%	-
Passenger Trips per Capita	29.4%	+	-0.3%	o
Passenger Trips per Revenue Mile	11.0%	+	21.5%	+
Passenger Trips per Revenue Hour	11.3%	+	49.5%	+
Average Age of Fleet	-26.6%	+	-13.0%	+
Average Headway	-17.7%	+	-14.3%	+
Revenue Miles Between Failures	182.5%	+	307.0%	+
Efficiency Measures				
Operating Expense per Capita	18.0%	-	-43.9%	+
Operating Expense per Passenger Trip	-8.9%	+	-55.2%	+
Operating Expense per Passenger Mile	-11.6%	+	-57.0%	+
Operating Expense per Revenue Mile	1.1%	o	-38.3%	+
Operating Expense per Revenue Hour	1.4%	o	-26.1%	+
Average Fare	23.5%	+	-28.7%	-
Farebox Recovery	35.6%	+	36.4%	+
Revenue Miles per Vehicle Mile	0.6%	+	3.2%	+
Vehicle Miles per Gallon	-44.3%	-	-35.0%	-

Source: 2011-2015 FTIS

*"+" represents positive, "-" represents negative, and "o" represents "neutral."

Section 4: Public Involvement

The goal of the public involvement activities is to increase the likelihood of active participation from citizens and stakeholder agencies during the development of the updated plan. Input from the public is critical since the TDP provides a strategic guide for public transportation in the community over the next 10 years. Meaningful public participation is required by FDOT to update the TDP. This section summarizes the public involvement activities completed to-date for Space Coast Area Transit's major TDP update.

Public Involvement Plan

Current State law effective February 20, 2007, requires that Space Coast Area Transit document its public involvement plan to be used in the TDP development process. Pertinent language from the TDP rule is as follows:

The TDP preparation process shall include opportunities for public involvement as outlined in a TDP public involvement plan, approved by the Department, or the local Metropolitan Planning Organization's (MPO) Public Involvement Plan, approved by both the Federal Transit Administration and the Federal Highway Administration. —Florida Rule 14-73.001

Public involvement is an ongoing process that includes continuously receiving and accumulating feedback about transit in Brevard County. One of the first activities in this process was to prepare a Public Involvement Plan (PIP) to identify all of the public outreach activities to be undertaken during the TDP update process. The PIP provides numerous opportunities for involvement by the general public and representatives of local agencies and organizations. A copy of the PIP developed for this TDP is included in Appendix A.

In accordance with current Florida Rule 14-73.001, the PIP developed for the TDP is consistent with the Space Coast Area TPO's Public Participation Plan (PPP). The remainder of this section outlines the public involvement activities planned for Space Coast Area Transit's TDP and summarized the input received from the activities that have occurred to-date.

Direct Involvement and Information Distribution Techniques

A variety of public involvement techniques are documented in the Space Coast Area Transit TDP PIP to ensure the opportunity for a range of community stakeholders to actively participate in the plan development process. The public involvement techniques used in developing Space Coast Area Transit's TDP are identified by two major categories: direct involvement techniques and information distribution techniques.

Direct Involvement Techniques

Direct involvement techniques include activities that directly engage the public and stakeholders in “hands-on” workshops and/or discussions about the project. Direct involvement techniques included in the PIP include the following:

- Review Committee Meetings
- Passenger (On-Board) Surveys
- Stakeholder Interviews
- Discussion Group Workshops
- Public Workshops
- Presentations to the Brevard County Board of County Commissioners and/or the TPO Board/Committees

Information Distribution Techniques

Information distribution techniques include the use of materials or methods used to inform the general public and stakeholders about the project. Information distribution techniques used for the TDP Update will be coordinated by the project team and performed by Space Coast Area Transit.

- Notification of General Public – The general public will be notified of public meetings through a number of methods: legal advertisement, Space Coast Area Transit website, flyers, and/or press releases. See Appendix B for flyers and press releases related to public meetings.
- Notification of State and Local Agencies – The TPO and the FDOT, will be advised of all public meetings via email. In addition to notifying these agencies of public meetings, project deliverables will also be submitted to them in order to solicit feedback and comments.

Summary of Public Involvement Activities

Table 4-1 summarizes the number of persons reached or contacts made through the various public involvement activities completed for this major TDP update effort. The remainder of this section describes the activities completed and provides more detail on the information collected from each.

Table 4-1: Summary of Public Involvement Contacts

Activity	Date	Approximate # of Participants
On-Board Survey	November 3-6, 2016	667 respondents/ 649 completed
Stakeholder Interviews	January 4-February 15, 2017	7 completed interviews
Discussion Group #1	January 27, 2017	Over 150 guests/ 43 respondents
Discussion Groups #2-4	May 3-4, 2017	27 participants
Public Workshops (Round 1)	June 13, 2017	5 participants
Review Committee Meetings	February 22, 2017	8 participants
	June 13, 2017	6 participants
	August 3, 2017	5 participants
Public Workshops (Round 2)	August 2-3, 2017	24 participants

Review Committee Meetings

A Review Committee to provide input on the TDP recommendations was formed and includes project Team members (consultant and Space Coast Area Transit staff) as well as other agency representatives. Review Committee meetings were held on February 22, 2017, June 13, 2017, and August 3, 2017

The primary objectives of the review committee meetings were to receive plan direction, collect participant insights, and to review the proposed TDP alternatives. The review committee meeting discussions assisted with advancing the plan and were a vital part of the development process.

Passenger (On-Board) Survey

As part of the TDP public involvement process, an on-board survey of bus passengers was conducted on Thursday, November 3; Saturday, November 5; and Sunday, November 6, 2016, to collect travel characteristics, rider demographics, and customer service and satisfaction information. On-board surveys are an important service assessment tool employed by public transportation agencies as a way to assess how efficiently Space Coast Area Transit supplies fixed-route transit service, and how effective those services meet the needs of the rider. Feedback from the on-board survey efforts will assist Space Coast Area Transit in planning for immediate service improvements and in determining future transit needs in Brevard County. The results from the survey will provide Space Area Transit with insight on the demographic make-up and travel characteristics of its existing customer base. In addition, the results from this on-board survey were compared to the results of on-board surveys previously completed in 2008 and 2012 when the same questions were included on the different surveys to determine the historical trends for passenger demographics and travel characteristics.

Survey Approach

An on-board survey instrument was prepared and administered to bus riders. The survey was translated into Spanish to assist those who were not able to complete the English version. The English and Spanish versions of the survey instrument can be found in Appendix E. The on-board survey was conducted on the fixed-route service, with the use of portable electronic tablets by a team of trained survey personnel. Prior to sending surveyors onto Space Coast Area Transit buses, a training session was conducted to train and instruct personnel on the use of the portable devices, their duties and responsibilities while administering the on-board survey, and to address any issues or concerns that may arise during the survey process.

On-Board Survey Key Results

The following section documents a few key results of the on-board survey. A total of 667 surveys were collected, with 649 surveys fully completed. The survey collected socio-demographic information of the survey respondents. The survey respondents were majority white (52.5%), male (53%), between the ages of 25-44 (41.4%), and make under \$15,000 (21.3%).

Travel Characteristics

Travel characteristic questions were designed to gather information about trip attributes and travel behavior. Topics covered in the travel characteristic questions included the following:

- Travel origin (type and location)
- Trip destination (type and location)
- Transit stop/station access and egress travel mode
- Frequency of use
- Transit alternative travel mode
- Fare type used

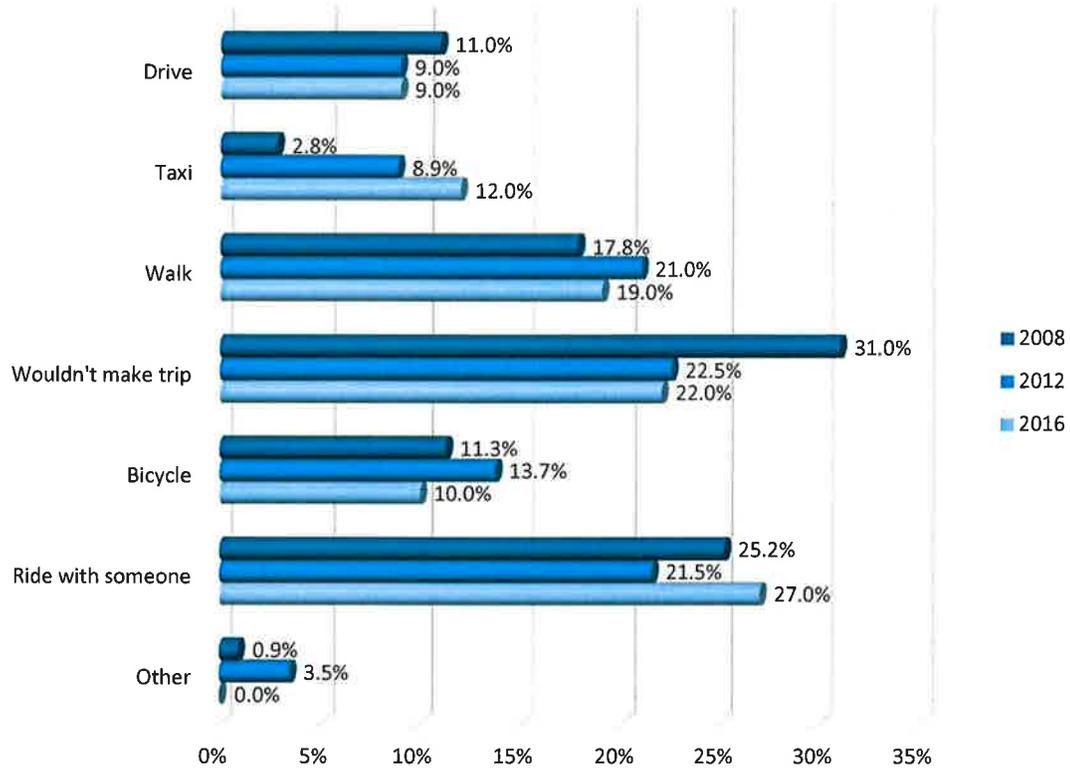
The input was reviewed, tabulated, and some key highlights/major themes of the survey findings are summarized below. A more detailed summary can be found in Appendix E.

Origin and Destination of Trip- The survey respondents were asked the starting place of their one-way trip. The majority of the respondents indicated their trip started from either home (43.2 %) or work (22.7%). The majority of the respondents likewise indicated their trip destination was either home (40.3%) or work (19.4%). Other common origins and destinations were for shopping/errands, social/personal, and recreation.

The majority of Space Coast Area Transit bus customer's access and egress from the bus/station by walking (77%), with most having traveled approximately 1 to 2 blocks. The second most common mode of travel used was to be either dropped off or picked up (12%).

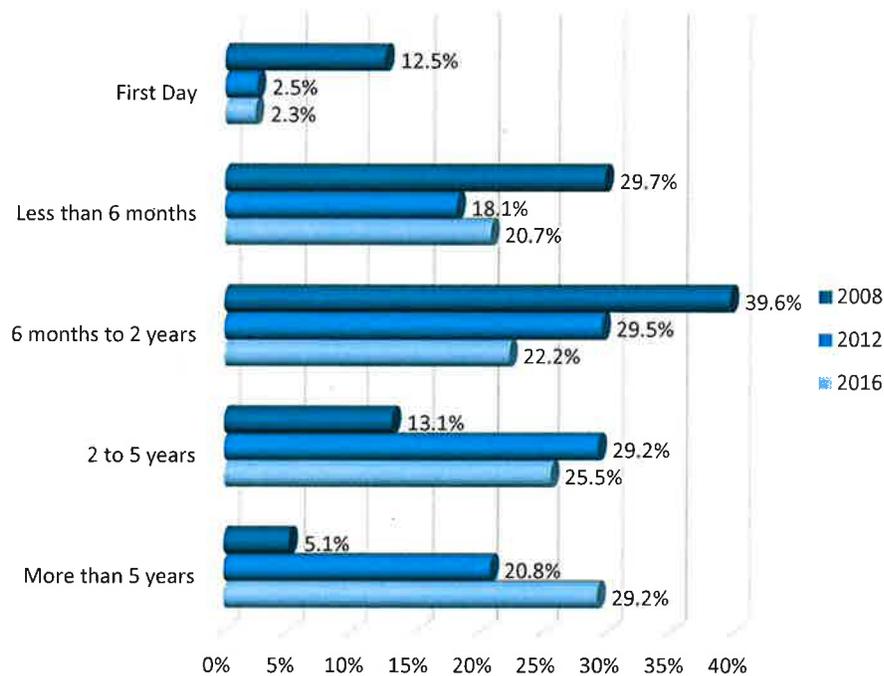
Method of Travel if not by Bus- A high percentage of respondents do not have access to a vehicle (81.1%). Respondents were asked how they would make the trip if not by bus, as shown in Figure 4-1. The results were compared with those from the on-board survey efforts conducted in 2008 and 2012. The most common response provided in 2008 and 2012 was "Wouldn't make the trip," followed by "Ride with someone else." In 2016, the results differ from the historical trend in which respondents indicated "Ride with someone else" more frequently than "Wouldn't make the trip." The percentage of respondents who indicated they would either bike or walk has declined from 2012 and 2008, while 12 percent in 2016 indicated they would take a taxi. With the change in technology from 2008 to the present, there has been an increase in applications that connect passengers with drivers also known as ridesourcing. Through the use of online reservations and payments, ridesourcing provides an alternative mode of travel for people wishing to get to their destination and has increased mobility options in Brevard County. Therefore, it is unclear whether respondents would have answered that they used a taxi or rode with someone else, if they had used a ridesourcing service, such as Uber.

Figure 4-1: Mode Choice



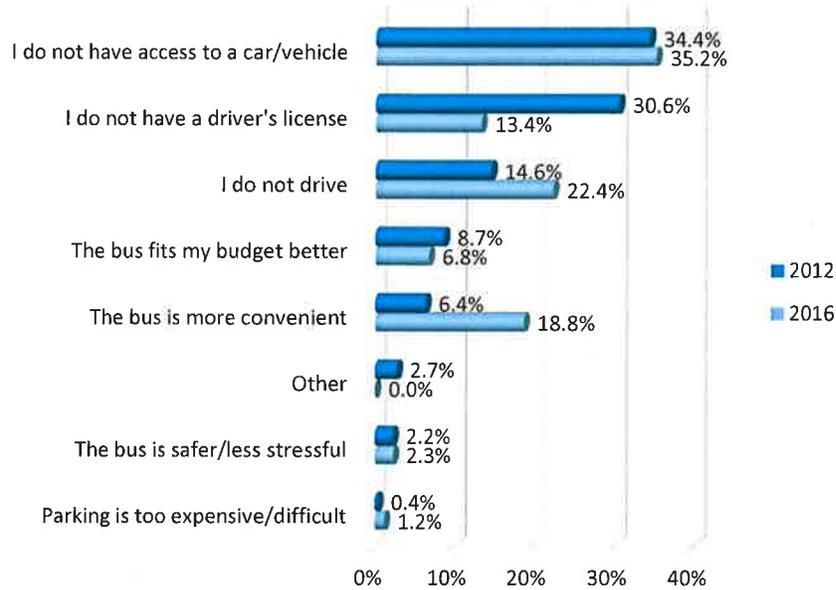
How long they have been using Space Coast Area Transit- Most respondents are frequent users, indicating transit use of 4 or more days a week (68.9%). Most riders are long time users, Based on the results shown in Figure 4-2, the percentage of respondents who have been using Space Coast Area Transit service for more than five years increased from 20.8 percent in 2012 to 29.2 percent in 2016. At the same time, the percentage of respondents who have been using service for two to five years has decreased since 2012. This decrease would indicate that those who responded in 2012 are now part of the group that has been loyal to Space Coast Area Transit for over five years.

Figure 4-2: History of Space Coast Area Transit Service Use



Reason why they ride the bus- Respondents were asked to indicate the most important reason why they ride the bus as shown in Figure 4-3. The number one reasons selected by respondents is “I do not have access to a car/vehicle” (35.2%), followed by “I do not drive” (22.4%), and “The bus is more convenient” (18.8%). The responses suggest that the majority of Space Coast Area Transit riders have limited transportation options and, therefore, rely heavily upon bus service. However, it is important to note that while not the most selected category, the number of responses for “The Bus is More Convenient” increased from 6.4 percent in 2012 to 18.8 percent in 2016. The increase in this category indicates that the service improvements implemented by Space Coast Area Transit since the 2012 on-board survey effort may have improved the passengers’ perception of bus reliability. It may also indicate a greater number of “choice” riders within the ridership base.

Figure 4-3: Reasons for Using Space Coast Area Transit Service

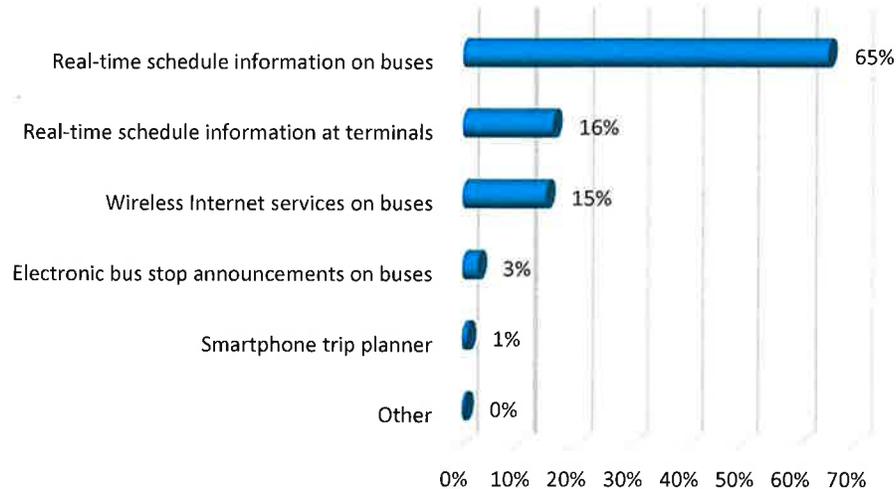


Recommended Service Improvements- Respondents were asked to select from a list of eight potential service improvements they felt would make Space Coast Area Transit service better for them to use as show in Figure 4-4. The highest indicated service improvements were:

- More frequent service on existing routes (50%)
- More benches and shelters at bus stops (23%)
- Earlier service on existing routes (11%)
- Later service on existing routes (6%)

Recommended technology improvements- Respondents were provided with a list of five technology improvements, and asked to select three technology improvements that would make Space Coast Area Transit better for them to use. As shown in Figure X, the top three most preferred technology improvements from respondents were real-time schedule information on buses (65%), real-time schedule information at terminals (16%), and wireless internet services on buses (15%).

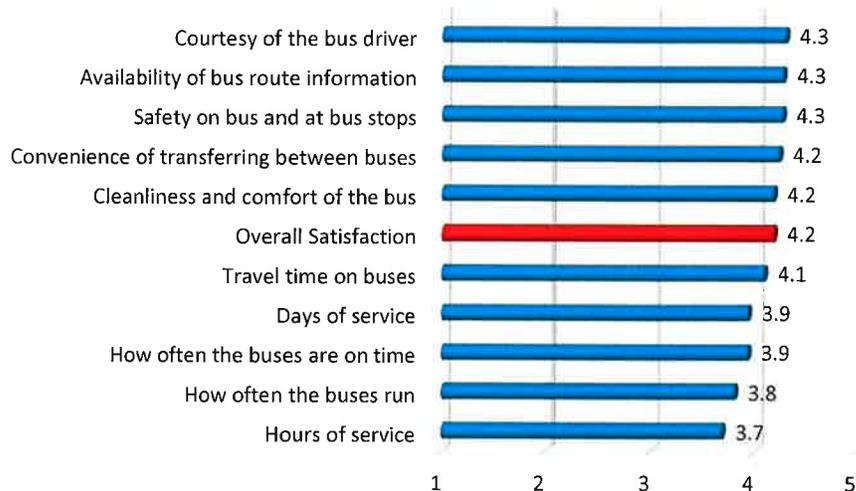
Figure 4-4: Preferred Technology Improvements



Customer Satisfaction- Respondents were asked to indicate their satisfaction levels with various aspects of the bus service provided by Space Coast Area Transit. Respondents were given a list of 11 service-related criteria to rate as either “Very Unsatisfied,” “Unsatisfied,” “Neutral,” “Satisfied,” or “Very Satisfied,” with 1 being “Very Unsatisfied” and 5 being “Very Satisfied.” The ratings of all the respondents were then averaged to obtain a final overall satisfaction score for each criterion.

Although scores for these type of criteria are typically high, understanding customer satisfaction levels assist Space Coast Area Transit in prioritizing which potential issues need the most attention, and which areas of service require the most improvement. The highest overall scores of 4.3 were given to courtesy of the bus driver, availability of bus route information, and safety on bus and at bus stops. There were seven out of the 11 service-related criteria that were above the average rating score of 4.1. Days of service, how often the buses are on time, how often the buses run, and hours of service each received ratings below 4.0. Figure 4-5 shows all 11 service-related categories and their respective average rating scores.

Figure 4-5: Service Satisfaction Level



On-Board Regular Survey General Conclusions

The following section draws upon the conclusions from the 2016 on-board survey analysis. The results included in this section provide insight into the various aspects of the service that Space Coast Area Transit provides.

- Space Coast Area Transit riders are loyal, 55% of customers have been using Space Coast Area Transit service for two or more years, and 69% of respondent indicated utilizing transit service four or more days per week.
- Bus riders rely on Space Coast Area Transit for their service, with 81% of respondents indicating that they do not have access to a car, and 35% indicating that the most important reason to ride the bus is due to not having access to a vehicle.
- Survey respondents rated “real-time schedule information on buses” as the most desirable technology improvement to be implemented by Space Coast Area Transit. In the 2012 on-board survey, respondents also rated this technology improvement to be the most desirable.
- The highest satisfaction rating given by respondents were for “courtesy of the bus driver,” “availability of bus route information,” and “safety of bus and at bus stops.”
- Space Coast Area Transit riders indicated that they prefer to receive information about Space Coast Area Transit service, schedules, and changes from the Space Coast Area Transit website (36%).

Stakeholder Interviews

Stakeholder interviews provide a one-on-one forum to gather input from the policy leaders and agency/community representatives concerning the vision for public transportation in their community. Interviews were conducted from January 4, 2017 through February 15, 2017. Interviews were conducted with the following representatives:

- Wendy Ellis, Marketing Coordinator for Space Coast Area Transit
- Commissioner Rita Pritchett, District 1
- Commissioner Jim Barfield, District 2
- Commissioner Kristine Isnardi, District 5
- Cindy Dittmer, Community Development Director of the City of Melbourne
- Courtney Barker, City Manager of City of Satellite Beach
- Venetta Valdengo, Assistant County Manager

A list of 25 questions was developed for the interviews, with each stakeholder being asked similar questions from the list. A copy of the interview script is provided in Appendix D. The input received during these interviews was reviewed and major themes identified are summarized below:

Table 4-2: Stakeholder Interview Summary

Question	Wendy Bill, Marketing Coordinator	Commissioner Rita Fritchett District 1	Commissioner Ian Burfield District 2	Commissioner Kristiane Board District 3
How much do you know about Space Coast Area Transit and its services?	I know a substantial amount about Space Coast Area Transit. Been advertising for 22 years with the agency, and also familiar with TDPs.	Not a lot before you sent the questions, however in pretty good shape with background due to aide looking up information.	Quite a bit, as I am involved with trying to get extra routes and more weekend and holidays for people who work.	Know a lot, a former member of the TPO as a council member for Palm Bay.
In your opinion, what is the primary role of Space Coast Area Transit's service?	Transport workers, primarily.	Right now it is serving low income and elderly, which is a little more expensive. The overall goal would be an avenue for everyone to use across the County, instead of their car.	All of the above. It offers transportation for people that need it, just that simple. The system is convenient when available, and meets the needs of the community.	Transport people to work primarily, and also transport those that either cannot drive or those with low income.
What are the most significant issues facing transit users	Frequent	Through research, there seems to be a problem with frequency and buses being on time.	Frequency of service, with bus stops as a good second.	Access to bus stops; not enough routes in southern portion of the county, and coverage of service.
Do you believe that Space Coast Area Transit adds economic value to Brevard County?	Absolutely. We cannot continuously add more infrastructure, as we can't maintain what we have. With SCAT having over 1M trips a year, having those trips transferred to cars would have a huge impact.	We believe it has the potential for economic value. It is serving a need for getting people around to where they need to be.	Yes.	Yes, for people going to work. We want to keep people working and they need service to get there.
Do you believe technology changes will impact transit service in Brevard County?	This technology will not likely impact our market segment. The vast majority of Space Coast Area Transit riders are service and blue collar workers. Technology changes will impact more single-occupancy vehicles (SOV) and not really transit in this area.	I think it could, where people can pull up real-time data, and see how buses are moving on routes. Technology could definitely come into play.	Maybe some. Not an awful lot. Perhaps more after 10 years.	A possibility. People that ride the bus are a unique population, and would likely not be able to afford an Uber. These are different audiences. So do not think that this is a huge issue.
Do you believe a universal, reloadable smart card or mobile payment options would benefit existing users? Encourage new users?	Absolutely and absolutely.	Yes, if available, that would be helpful for those that don't carry cash or for college kids that can purchase passes at the beginning of the month.	Absolutely.	Possibly, it could. Definitely would be convenient and would make it easier for drivers and the younger population, than dealing with cash, possibly with an automatic reload option.
Are there specific areas that need additional transit service? If yes, what specific area and why.	Tourism is one area that has not been touched. Getting from the airport to the port. Getting to the Kennedy Space Center. We need to serve the residents first, however there is a whole new market of people which could ride transit, and tourism is an untapped segment.	Not at this time, until they expand the number of riders. Maybe having a bus route in Central Florida in Orlando, as there are a lot of students going through. This would be a good destination to look into.	Yes. Some areas include Viera, Merritt Island, and Cocoa Beach.	Yes, in the southern part of the County and in Palm Bay. Along Malabar Road West was a bottleneck during Hurricane Matthew, which is an evacuation area. Overall, the major roadways need better and more service, as they currently have little to no service.
Should local funding be used to increase transit service in the future?	Yes	Yes, public partnerships.	Yes.	Yes.
Do you believe that a strong transit system could attract more businesses, including Fortune 500 companies and jobs to Brevard County?	Yes, a lot of people are coming from areas with large transit systems, and are shocked at the level of transit here as we are behind the times with transit. We need to attract the millennials with engineering degrees.	We do believe that a lot of companies do like easy access for their employees to get to jobs. Places that have good transportation are strong attractors for these types of companies.	Yes, I do.	Yes, could be possible.
What additional steps do you feel Space Coast Area Transit should consider to increase the use of public transit in Brevard County and attract additional riders including those that may have their own vehicles?	Implement more frequent service, weekend and evening service. Wi-Fi on buses, real-time data. All those things would be more helpful.	Promotional offers for transit. Increased marketing could help. An Uber-like service would be very beneficial for younger generations, as they like to get around on their own and have their independence, maybe offering a payment plan online with no cash or bus pass needed. Also more weekend and night hours would be helpful to get to local events throughout the county.	There is a lot needed to change the culture of our citizens to think more of public transportation, which is tough to do. There is a stigma on buses. More of a public relations effort is required to make that change.	Marketing and advertising. Make the buses nicer, perhaps offering different advertisers and more pleasing advertisement when on buses, and improve the interior as well.
Is the public perception of Space Coast Area Transit good, satisfactory, or poor? Is your perception of Space Coast Area Transit good, satisfactory, or poor?	Satisfactory.// Awesome. There are a lot of problems that Space Coast Area Transit has no control over like frequent service, and more evening and weekend service. What they do provide with the money available is awesome, however the public is not aware of that.	Fair, from the research conducted.// The system serves a purpose. However there are ways of making it more attractive. The cute trolleys on the beach are fun. An idea is make the system more an experience, though that could be more expensive. More vanpools and Uber projects could potentially pick up more ridership and funding.	Good, overall.// Very good actually. When you look at ridership and the number of stops and how they continue to change things to meet the needs of the community. There is great leadership with Jim, who is really on the ball.	Good, have not heard any bad things, other than service.// Good



Table 4-3: Stakeholder Interview Summary (cont.)

Question	Andy Dittmer Community Development Director	Courtney Barker Manager of Satellite Beach	Venetta Valdengo Assistant County Manager
How much do you know about Space Coast Area Transit and its services?	Quite a bit, work with Jim every couple of months.	Quite a bit.	I have a fairly good understanding. It is one of the departments that I oversee that I have been running for the past five years. I am familiar with the budget, services offered, and the bus terminals.
In your opinion, what is the primary role of Space Coast Area Transit's service?	Primarily transporting workers. Also have an elderly and low income population that utilize services. For the future, you would hope that service would reduce congestion and emissions.	All of them.	All of them. The primary one would be transporting workers.
What are the most significant issues facing transit users	Frequency of service is needed to make it more of a viable alternative.	Frequency of service.	Frequency of service.
Do you believe that Space Coast Area Transit adds economic value to Brevard County?	Absolutely.	Absolutely.	Absolutely.
Do you believe technology changes will impact transit service in Brevard County?	Absolutely. Saw that Space Coast Area Transit has an app now, which will definitely affect transit offerings going forward.	Yes. I can see autonomous vehicles being a part of the transit system. Can see that technology being incorporated into our transit system as part of the service, whether private or publicly provided, and as part of the overall transit system.	Yes, it has to. What we can't do through the public transportation system, we will have to see other options increase, such as Uber and Lyft.
Do you believe a universal, reloadable smart card or mobile payment options would benefit existing users? Encourage new users?	Definitely. Thought they may have already had that. That would make it easier and more convenient to travel.	Oh yeah, for both groups.	Absolutely. I think we are seeing that in so many other services now. It's much safer that way, paying by phone or app. Especially because most people don't carry cash. There are so many safety checks, and I feel more comfortable linking it to my bank account.
Are there specific areas that need additional transit service? If yes, what specific area and why.	The only area that would likely need and/or want additional transit services would be the Eau Gallie area, which is the smaller of our two downtowns in Melbourne.	Yes, especially in most of the bigger cities, including Titusville, Cocoa, Palm Bay, and Melbourne. A priority should be to broaden the routes and shorten the headways in these areas, and make the connections to those places where people want to go. Having evening and weekend service would be helpful. These services and improvements are things which would make people want to use the bus. It would also be helpful for tourists when visiting.	The only area that would likely need and/or want additional transit services would be the Eau Gallie area, which is the smaller of our two downtowns in Melbourne.
Should local funding be used to increase transit service in the future? If yes, what types?	Yes, definitely. The City of Melbourne currently funds two routes. Other cities within the County should continue to increase funding for transit.	Absolutely. I can see a gas tax, tourist tax, and ad valorem tax would really fund the system. The others would likely not be a very viable source of revenue.	Yes, in general. Fare increases are never self-sustaining for operations, so would be sensitive on fare increases. Big on public-private partnerships and advertising revenue. A gas tax would be fantastic; we had one shot at one where a penny would have been dedicated to transportation, but it didn't pass. Happy to say that we are currently using the tourist tax to fund the first bikeshare, which is a key linkage in alternative transportation. Would like to see that continue, especially to help fill the gap in tourism here.
Do you believe that a strong transit system could attract more businesses, including Fortune 500 companies and jobs to Brevard County?	Torn on this question. Had a lot of big companies coming into Melbourne, with high paying jobs. Would think that a lot of those individuals would be reluctant to take transit. However it could be a draw.	Absolutely.	Yes.
What additional steps do you feel Space Coast Area Transit should consider to increase the use of public transit in Brevard County and attract additional riders including those that may have their own vehicles?	Things like this app Space Coast Area Transit is advertising, and other things that are more user-friendly will help. Millennials are especially into technology. Space Coast Area Transit is heading in a good direction with technology through the marketing of their services. Overall transit rides should be comparable to driving, with frequent service and timely arrivals/departures to get to work and shopping.	The County needs to invest in more routes with 15 min headways. Service that would be convenient, so if you miss the bus, the rider does not have to wait an hour. Once that is implemented and marketed, the riders will come. Could also market that as an economic stimulus, as families could drop excess vehicles, and use that extra money in the County.	We are kind of stuck, until you can get more frequent service. Until then, there is not much you can do until you have the system running on Sundays, weekends, and at nights. Most people are likely using the system as they have no other alternative mode of transportation.
Is the public perception of Space Coast Area Transit good, satisfactory, or poor? Is your perception of Space Coast Area Transit good, satisfactory, or poor?	Good. Don't hear anything negative about it.// Good.	People think it is good. However, they likely view the bus system as a social service. It is important to change the perception in that it could be better to ditch the car and get on the bus.// Very good with what they have and their current resources. They definitely need more resources, though.	Satisfactory for fixed route.// Outstanding what they do with the money they have. Especially compared to the other transit systems in the state. Kudos for the team for accomplishing what they have with the existing budget.

Discussion Group Workshops

A total for four (4) discussion groups were held, the first was conducted at the Tourism and Transit Summit with approval from Space Coast Area Transit. The Summit which was co-sponsored by Space Coast Area Transit, the Space Coast Office of Tourism, Courtyard by Marriot, Brevard County, Transit One, and re-Think Your Commute, was held on January 27, 2017 in Cocoa Beach. Invited guests included community stakeholders, local, regional and statewide transit officials, tourism leaders and hoteliers from throughout the county. Staff from Tindale Oliver attended the event and had an information booth in which attendees at the summit were asked to complete the 10 question survey. The survey questions are provided in Appendix C. The other three discussion groups were held on May 3-4, 2017, with participants representing the following groups:

- Business and Health Communities
- Senior and Community Services
- Education Community

At each meeting, attendees were advised that it was an open format meeting where topics would be suggested related to Space Coast Area Transit and they could jump in and provide input based on the Discussion Group Agenda. The agenda is included at the conclusion of the discussion group summaries.

A detailed summary of each discussion group, as well as the materials provided to attendees, is included in Appendix C. A brief summary of each meeting and the common themes from comments received are noted below.

Tourism and Transit Summit

The Transit + Tourism summit was held on January 27, 2017 at Cocoa Beach, FL 32931. The summit is an annual event co-sponsored by Space Coast Area Transit, the Space Coast Office of Tourism, Courtyard by Marriot, Brevard County, Transit One, and re-Think Your Commute. The summit brings together county and city officials, and representatives from the hospitality and tourism industry within the County. A 10-question survey was distributed to guests to obtain their opinion on transit. The summit was attended by over 150 guests, with 43 surveys completed. Highlights from the surveys include the following:

Use of Space Coast Area Transit services- Most of the respondents do not use Space Coast Area Transit services (83.7%), however a majority believe their employees use transit (81.8%).

Attractions to serve via transit- Survey respondents were asked which attractions they believe tourists would access via transit, and were allowed to provide multiple responses. The main attractions were found to be the Port Canaveral (88.1%), Local beaches (85.7%), Kennedy space Center (81%), and downtown markets (81.0%).

Service Frequency for Tourists- Respondents were asked how frequent bus service would need to be for tourists to use public transit. A majority of respondents indicated more frequent service with 15 minutes or less (45.2%), and 16 to 30 minutes (42.9%).

Transit Amenities- Respondents were asked what amenities would be necessary to encourage tourist use of transit. The majority of respondents (67.4%) indicated that shelters, information regarding the next

bus arrival, and alternative fare media (credit card, smartphone, online) would be needed to encourage transit use.

Transit's role in tourism- Respondents were asked whether they believe transit service can play any role in encouraging tourism. This was an open-ended question. The most common responses are found below:

- Yes, if it was readily accessible and provided easy access to amenities and destinations
- Yes, more advertising is needed
- Yes, as it can provide a cost savings when vacationing

Business and Health Community

The discussion group included six representatives of the Brevard County business and health community, including Cocoa Beach Regional Chamber of Commerce, Career Source Brevard, Brevard County Health Department, Canaveral Port Authority, Parrish Medical Center, and Titusville Area Chamber of Commerce. Highlights from the workshop discussion topics and questions include the following:

Perception of Transit in Brevard County- Workshop attendees were asked their perception of transit, some of the main findings included:

- Female patients attending clinics are more likely to use transit to get to their appointments than males are. There is a definite need for mobility to transport patients to health clinics.
- Mobility for individuals with disabilities; transportation becomes more difficult.
- When individuals become more in tuned with transit they are more likely to use it.
- Titusville clinic (Route 5) is a concern.

Experience with Space Coast Area Transit - Workshop attendees were asked if the people they represent use transit, and what they think their experience has been. Some of the main findings included:

- People accessing clinics have no issue with mobility needs, other than the amount of the transfers that need to be completed in order to get to their final destination. They use transit because they have to.
- Sidewalks are an issue when it comes to accessibility, not having sidewalks makes it difficult to access transit.

Opinion of Transit- Workshop attendees were asked their opinion of existing transit, some of the main findings included:

- Implementation of a mobile app that tells you when your bus will arrive would be nice. If the budget is approved, an application will be developed that will provide real time information. The current app only provides the bus schedule.
- There is a need for more park and rides. Is the county looking at areas to purchase land where park and rides can be put in place?

Space Coast Area Transit Service- Workshop attendees were asked how Space Coast Area Transit can better service the people they represent. Some of the main findings included:

- Coordinate more with key stakeholders such as the government, health and EFSC.

- Provide a special bus route or service when there is a county commissioner's meeting. This would allow transit users a way to attend these meetings. Otherwise they are left out from attending these meetings.

Additional Local Funding for Transit Service- Workshop attendees were told that Space Coast Area Transit has a \$12M budget, with 66% from state and federal sources, 20% from fares, and 13% from local government. They were asked if additional local funding should be found to increase future services, and if so in what forms. Some of the main findings included:

- Creating a specialized license plate for Brevard County residents that show Space Coast pride, the money from the purchase of these plates would go toward transit services.
- Incorporate major business partners to help with raising donations by asking customers to donate to transit. For example, they can round to nearest dollar of their total bill and that portion would go to help transit. "Donate to help someone get to work."

Additional Comments- Workshop attendees were provided the option to provide additional comments within the workshop, some of the main findings included:

- Add a stop at the Exploration Area where industrial workers can access transit.
- Efforts are in place to establish service to Heritage H.S. and Bayside H.S., but no other measures are in place to provide transit to school activities.
- Expanding more to the public through outreach.
- Linking SCAT website to local medical websites. People who use the medical website will be drawn into the SCAT website and look into the service they offer.
- Create a library card that has a GPS chip in it. The card will also be used to board the bus. Children have to keep the card on them at all times because that is the only way they can get on the bus, plus it will allow parents to track their location. Sell the card for \$20.00 and donate a portion of the funds to transit.

Senior and Community Services

The discussion group included seven representatives of the Brevard County senior and community services community including, Brevard Housing and Human Services, Brevard County Libraries, One Senior Place, Seniors Helping Seniors, Aging Matters in Brevard, 211 Brevard, and Brevard County on Aging. Highlights from the workshop discussion topics and questions include the following:

Perception of Transit in Brevard County- Workshop attendees were asked their opinion of existing transit, some of the main findings included:

- Increase service and efficiency, and more people would use the service.
- Challenge is the economy, between paying for transportation or rent.

Experience with Space Coast Area Transit- Workshop attendees were asked if the people they represent use transit, and what they think their experience has been. Some of the main findings included:

- Is there a way to incorporate other transportation services such as Lyft or Uber?

Opinion of Transit- Workshop attendees were asked their opinion of existing transit, some of the main findings included:

- Has any research or comparison been done to find out how other transit services are operating compared to SCAT? Agencies with the same geographical setbacks like Brevard County.
- For seniors, the summers are very hot. The heat prohibits them from being able to stand and wait at a stop for the bus to arrive.
- Establish areas that incorporate the health community just like the schools system where stops are in place to make accessing health care more accessible.

Space Coast Area Transit Service- Workshop attendees were asked how Space Coast Area Transit can better service the people they represent. Some of the main findings included:

- Provide a route that runs to Barefoot Bay and Palm Bay. Not having a route to these areas makes it difficult for seniors to access these areas.
- Review the population density of age 65 and over in these areas.
- Is there a possibility of having a route that would connect to Lynx in order to get to Orlando?
- Sunflower House provides education for seniors for different services, and having someone come out and educate the seniors on how to use transit would be beneficial.
- Provide more outreach to senior centers, this would increase awareness and what options they have available for accessing transit.

Additional Local Funding for Transit Service- Workshop attendees were told that Space Coast Area Transit has a \$12M budget, with 66% from state and federal sources, 20% from fares, and 13% from local government. They were asked if additional local funding should be found to increase future services, and if so in what forms. Some of the main findings included:

- Bringing educated folks from the senior center to partner with SCAT and help provide training to senior citizens.
- Shifting the cultural mentality through the commissioner's office.
- Creating a Space Coast specialty license plate, the funding of sales would go towards transit. Must have 1,000 pre-sale vouchers before plates can be printed.

Increase Transit Use- Workshop attendees were asked what additional steps could be taken to increase the use of public transit within the County and attract additional riders. Some of the main findings included:

- Create a mobile application for people to use.

Additional Comments- Workshop attendees were provided the option to provide additional comments within the workshop, some of the main findings included:

- Are there any plans for service expansion in the Mims area?
- Provide better accessibility from Cocoa Beach to Rockledge without having so many transfers.

Education Community

The discussion group included four representatives of the Brevard County education community including, Barry University, Florida Institute of Technology, Brevard Public Schools, and Viera Charter School. Highlights from the workshop discussion topics and questions include the following:

Perception of Transit in Brevard County- Workshop attendees were asked their opinion of existing transit, some of the main findings included:

- There is no service or accessibility for students attending night classes, night classes generally end at 9:30 pm, nights, evenings and weekends.
- More bus shelters should be put in place to protect against the inclement weather conditions.
- There are some apartment settings that provide transit access, but having direct accessibility from these areas would attract choice riders if they knew it were available.
- Some of the schools in the county were built in the 60's and cannot accommodate the mass influx of vehicles from parents dropping off their children.
- For public and charter schools, increase service to students within 2 miles of the school. Provide service 180 days out of the year. Parents would be onboard with this concept, because it would mean that for some parents they would be able to work and not have to worry about transporting their child to and from school. It would also help reduce poverty, since two parents would be working and not just one.
- Dedicate one bus to service a neighborhood 180 days out of the year.

Experience with Space Coast Area Transit- Workshop attendees were asked if the people they represent use transit, and what they think their experience has been. Some of the main findings included:

- Establish partnerships with other schools, the cost alone is too expensive for just one entity.
- 33% of students are international and cannot use transit because it's not available to them. This makes it difficult for them to get around, and also makes it difficult for them to attend medical appointments (Barry University).
- More promotion of transit service needs to be done
- Expand partnerships with local community centers, such as beach centers, Brevard County Zoo, etc.

Opinion of Transit- Workshop attendees were asked their opinion of existing transit, some of the main findings included:

- Having a mobile application is a definite must. Having a mobile application will work, only if the word is spread and there is enough marketing to inform people.
- Provide trial rides for people to get a feel for what it's like to ride the bus.

Additional Local Funding for Transit Service- Workshop attendees were told that Space Coast Area Transit has a \$12M budget, with 66% from state and federal sources, 20% from fares, and 13% from local government. They were asked if additional local funding should be found to increase future services, and if so in what forms. Some of the main findings included:

- With 2,300 students living on campus, is there a way that SCAT would be able to provide transportation for a local trip? No, a charter company would need to be contracted.
- Do not increase fares, this would only cause problems and would decrease ridership
- Implement a tourist tax
- Melbourne residents ride for free, can something similar be worked out with private entities as well?

Marketing and Space Coast Area Transit- Workshop attendees were asked if Space Coast Area Transit has done an effective job marketing transit service options, and if they believe further branding is needed. Some of the main findings included:

- One concept would be for employers to modify the work schedule of their employees to work with the fixed-route schedule, partnership would need to be done with these companies.

Public Workshops

Three public workshops were held to gather input on existing services as part of the TDP update process. A fourth workshop will be held later in the TDP development process to review the draft recommendations with the public.

The first workshop was held on June 13, 2017, from 4:30 PM to 6:30 PM at the Viera Government Center. The second workshop was held on August 2, 2017, from 4:30 PM to 6:30 PM at the Cocoa Beach Library. The third workshop was on August 3, 2017, from 4:30 PM to 6:30 PM at the Martin Luther King, Jr. Library in Melbourne. All three locations were accessible by public transportation.

All three workshops opened with a presentation that provided an overview of the meeting agenda, elements of a TDP, analysis completed to date, and an update on public involvement. Attendees were informed that some focus areas for these documents would be on major corridors and improving existing transit service.

A brief summary of each meeting and the common themes from comments received concerning Space Coast Area Transit's fixed-route and paratransit service are noted below.

Public Workshop #1 (June 13, 2017)

Areas in Need of Service - Workshop attendees provided input that Miracle City Mall and Titusville were big tourist areas, which require additional service.

Transit Amenities - Workshop attendees indicated that they would appreciate more shelters and shade at bus stops to improve their experience.

Paratransit - Workshop attendees indicated that they would appreciate expanding paratransit service as elderly people are driving further than they need to because paratransit service is not available to them. They wanted to ensure that funding and service is in place to expand service to meet the needs of the County residents. In regards to service, the following comments were recorded:

- Customer service wait time with operators
- Users still have the same issue dealing with customer service
- Ridership will not improve until customer service improves (visually impaired is most affected)
- What is being done to improve customer service for paratransit users??
- 9,000 visually impaired in Brevard County (only about 120 actually use paratransit)

It was noted to attendees that Space Coast Area Transit is in procurement to provide email reservations for paratransit scheduling within next year's budget.

Customer Service - Workshop attendees indicated the following comments regarding customer service:

- Sensitivity training needed for customer service employees
- Reduce wait times for Call Center for riders to make an appointment

It was noted to attendees that Space Coast Area Transit has implemented quality assurance of customer service with the call center through 6 months of training, monitoring of phone calls, and providing disciplinary actions for infractions to ensure quality service.

Public Workshop #2 (August 2, 2017)

Mission and Vision-Include the disabled population as part of the vision of the vision statement.

Transit Amenities- Workshop attendees indicated that there is a need for more bus shelters, especially along Wickham Road.

Customer Service-Attendees indicated that creation of a riders guide for paratransit users would be helpful. The guide would assist them in understanding what services are available to them from Space Coast Area Transit.

Public Workshop #3 (August 3, 2017)

Service Improvements-Workshop attendees provided the following recommendations to improve service:

- The service concept routes going to Sebastian are a good idea and should be implemented.
- On Saturday's, bus service on Routes 25 and 21 should continue to operate through the lunch period by having a supervisor or another driver provide lunch relief. This will alleviate overcrowding of buses after the buses resume service.
- More bus buildings on 192 east of the mall on Route 25,
- Add more bus building and make them wider front and back on Wickham Road southbound where Route 28 runs.
- Have Routes 25, 28, and 24 operate every 30 minutes.
- Is there a future plan to provide service connection with LYNX.

Funding Resources-Workshop attendees indicated the following comments regarding funding resources:

- Request funding resources from the visually impaired group
- There are organizations that are willing to help with providing funding for additional bus shelters.

Workshop attendees also indicated that for future public meetings a public notice should be issued three weeks to a month before. Also, that a receipt of should be provided to attendees who provide comments, concerns, or suggestions to ensure there are no misunderstandings.

Section 5: Plans Review

This section presents the findings from the review of select existing federal, regional, and local plans and programs to identify relevant transit policies with potential implication that may influence transit operations, infrastructure, and policy for Space Coast Area Transit service. Findings from this review will help to ensure that development of the TDP is consistent with other local planning efforts and will help Brevard County to better understand its transit operating environment.

Federal Plans

Fast Act

Fixing America's Surface Transportation (FAST) Act was signed into law on December 4, 2015, and supports funding through 2020 for public transportation. Though there is an annual funding increase from the previous long-term transportation bill Moving Ahead for Progress in the 21st Century (MAP-21), this increase is subject to the annual appropriation process through Congress. Several changes of interest include the following:

- Advertising and concession revenue can now be used to cover the non-federal share for projects;
- Allows for discretionary spending on a project-specific basis of the Bus and Bus Facilities program which was previously eliminated in MAP-21 with a portion set aside for low- to no-emission vehicles and facilities;
- Long range plans must consider facilities to support intercity transportation;
- Retains the formula funding for the State of Good Repair program, and
- Reduces the maximum federal New Starts share from 80% to 60% for Section 5309.

Other initiatives from FAST include:

- The availability of \$5.3 million in competitive grants for transportation options that would increase mobility and access to health services through the Federal Transit Administration (FTA) Rides to Wellness Demonstration and Innovative Coordinated Access and Mobility Grants.
- The availability of \$60 million per year in competitive grants for the deployment, installation, and operation of advanced transportation technologies through the Advanced Transportation and Congestion Management Technologies Deployment Program. This program could be used for implementation of a universal smart card, dynamic ridesharing opportunities to support services for elderly and transportation disadvantaged individuals, advanced safety systems, and other advanced mobility offerings.
- The availability of \$268 million for the procurement of new vehicles and replacement of aging fleets and facilities through the 5339 Bus and Bus Facilities program. Of that amount, \$55 million has been earmarked for low- or no-emission bus procurement.
- The availability of \$275 million in 2016 to support transit oriented developments (TOD) through the Transportation Infrastructure Finance and Innovation Act (TIFIA). Of that amount, 25% is reserved for projects in rural areas.

Grow America Act

The Grow America Act was proposed in federal fiscal year (FY) 2016 with a budget of \$478 billion as a six-year surface transportation reauthorization proposal focused on modernizing transportation infrastructure. This bill included a \$115 billion for transit investments and expanded transportation

options. The funding bill also included funds for transit improvements aimed at reducing fleet breakdowns in an effort to reduce delays and increase customer reliability. The Grow America Act also included language to strengthen regional coordination and decision making. For the State of Florida, specifically the Grow America Act included approximately \$2.2 billion in highway funding and \$538 million in transit funding, which were significant increases over transportation bills with flat funding.

State Plans/Programs

2060 Florida Transportation Plan

The 2060 Florida Transportation Plan (FTP) was finalized in December 2010 with a 50-year horizon and is currently being updated. This document creates a shared vision for the future of transportation in Florida and its goals, objectives, and strategies to achieve the vision during the 50-year timeframe. The plan calls for a profoundly different transportation system from today's system, including the following:

- A statewide, multimodal transportation system that supports Florida's economic and livability goals by providing better connectivity to both urban and rural areas.
- Greater reliance on public transportation systems for moving people, including statewide passenger rail network and enhanced transit systems in Florida's major urban areas.
- A statewide, multimodal system of trade gateways, logistics centers, and transportation corridors to position Florida as a global hub for commerce and investment.
- An evolving air and space transportation system enabling Florida to remain a global leader for moving people and cargo between Florida and destinations in other states, nations, and orbit.
- A new generation of infrastructure, vehicles, fuels, and technologies to enable travel with fewer crashes, reduced delay, and fewer emissions.

Based on these core values of the 2060 FTP, public transportation plays an important role in shaping the Florida's transportation systems in the future. This implicates the necessities for Space Coast Area Transit to comply with the 2060 FTP by implementing more rigorous public transportation development approach.

State of Florida Transportation Disadvantaged (TD) 5-Year/20-Year Plan

Developed by the Commission for the Transportation Disadvantaged (CTD), this plan is required under the Florida Statutes and includes the following elements:

- Explanation of the Florida Coordinated Transportation System
- Five-Year Report Card
- Florida Office of Program Policy Analysis and Government Accountability Review
- Strategic Vision and Goals, Objectives, and Measures

The five-year and long-range strategic visions were reviewed and used for guidance and are indicated below.

Long-Range Strategic Vision

The long-range strategic vision seeks to create a strategy for the Florida CTD to support the development of a universal transportation system with the following features:

- A coordinated, cost-effective multimodal transportation system delivered through public-private partnerships.

- A single, uniform funding system with a single eligibility determination process.
- A sliding scale of fare payment based on a person's ability to pay.
- Use of electronic fare media for all passengers.
- Services that are designed and implemented regionally (both inter-county and inter-city) throughout the state.

Five-Year Strategic Vision

The five-year strategic vision seeks to develop and field-test a model community transportation system for persons who are transportation disadvantaged by incorporating the following features:

- Statewide coordination of community transportation services using Advanced Public Transportation Systems including Smart Traveler Technology, Smart Vehicle Technology, and Smart Intermodal Systems.
- Statewide coordination and consolidation of community transportation funding sources.
- A statewide information management system for tracking passenger eligibility determination.
- Integration of Smart Vehicle Technology on a statewide multimodal basis to improve vehicle and fleet planning, scheduling, and operations. This effort includes vehicle and ridership data collection, electronic fare media, and geographic information system (GIS) applications.
- Development of a multimodal transportation network to optimize the transportation system as a whole using Smart Intermodal Systems. This feature would be available in all areas of the state via electronic access.

State Growth Management Legislation

House Bill (HB) 7207 repealed most of the State-mandated growth management planning laws that have governed development activities within Florida since the original Growth Management Act of 1975, including transportation concurrency.

HB 7207 provides local governments the opportunity to develop a more localized concurrency program that aligns with the development and mobility goals of the community and strengthens legislative language that supports multimodal approaches to transportation by stating that Comprehensive Plan Transportation Elements "shall provide for a safe, convenient multi-modal transportation system."

Regional and Local Plans/Programs

Space Coast Transit Development Plan (2013-2022)

According to the 2013-2022 TDP, Space Coast Area Transit's mission was to provide accessible and affordable transportation options to all Brevard County residents by maintaining the current level of transit service in the County and gradually enhancing existing fixed-route service to extend hours of operation and increase frequency in the most productive corridors. The following goals and objectives to support the mission were prepared based on the review of the 2008-2013 TDP, other local planning documents, and the public involvement process.

Goal 1: Implement a transit system fully integrated with other transportation modes and Brevard County's complete streets principles.

- Communicate and coordinate with other counties and agencies to promote ride-sharing practices (Objective 1.3).

- Encourage the connection between transit, land uses, and Complete Street principles through coordination with the Transportation Planning Organization (TPO), Brevard County, and municipalities in the growth management process (Objective 1.4).

Goal 2: Enhance citizen mobility by increasing availability of public transportation service.

- Continue to provide fixed-route, vanpool, and paratransit service to the transportation disadvantaged (Objective 2.1) and to expand evening and weekend fixed-route service (Objective 2.2).

Goal 3: Improve the experience of those riding Space Coast Area Transit.

- Research new methods to improve and streamline passenger fare collection (Objective 3.1) and investigate Intelligent Transportation Systems technologies to improve customer experience and scheduling (Objective 3.2).
- Develop a smart phone application for SCAT services, including system-wide information, service updates, and real-time vehicle locations (Objective 3.3).

Goal 4: Ensure program accountability.

- Adhere to procedures, rules and regulations established by federal and state agencies (Objective 4.1) and collect data necessary for the evaluation of service including rider surveys (Objective 4.2).

Goal 5: Secure the funding necessary to meet service needs.

- Continue to pursue local government and private sector funding partnerships (Objective 5.1) and investigate alternative funding sources to provide continuing operating revenue for services currently funded through FDOT programs (Objective 5.2).

Goal 6: Build on SCAT's marketing strategies to increase ridership, use of park and ride lots, vanpool program, and participation in the Volunteers in Motion program.

- Make information and materials available in accessible media formats (Objective 6.1), actively engage the community in promoting transit by calling attention to services through sponsorships, editorials, and advertisements (Objective 6.2), and distribute information at community events (Objective 6.3).

Space Coast TPO 2040 Long Range Transportation Plan (2015)

The 2040 Long Range Transportation Plan (LRTP) was developed in coordination with a technical advisory committee of staff from local, regional, and state agencies as well as citizen advisors, the general public, and local decision-makers. Key components of the plan development process included identifying anticipated Year 2040 system capacity, system needs, cost estimates for the identified needs, and the projection of financial resources and revenues anticipated to be available by the Year of Expenditure (YOE). The resulting 2040 Cost Feasible Plan reflects an array of projects and goods in a cost-efficient manner.

Key projects within the Cost Feasible Plan (CFP) include a select number of critical highway expansion projects, such as additional lanes along major corridors, supported by an array of multimodal strategies to improve traffic and transit operations, including roadway connectivity, and pedestrian/bicycle route development. However, the CFP does not address any transit needs. Funding restraints do not allow for the expansion of transit in the near future. The portion of state Transportation funding is supplemented with other State/Federal/Local funding reflected in SCAT Transit Development Plan to sustain current transit services.

The plan development process afforded an opportunity for the TPO, SCAT, and local governments to work together to identify needs and desired outcomes and establish policy and planning directives that many of the local governments have adopted into their comprehensive plans. The summary of Local Government Comprehensive Plans below support and, in some instances, reiterate the value and benefit in coordinating land use development activities with transportation planning efforts in order to optimize existing public transportation infrastructure and promote and encourage infill developments and developments.

Transportation Disadvantaged Service Plan Major Update (2016)

The TPO TDSP is the region's Locally Developed Coordinated Public Transit-Human Services Transportation Plan for delivering public transportation services to meet the needs of individuals with disabilities, older populations, and individuals with limited income. It was developed through a collaborative process by the members of the TPO, local government officials, Brevard County Local Coordination Board, FDOT, Space Coast Area Transit, and citizens to ensure that the TDSP is consistent with the goals and objectives of locally adopted comprehensive and transportation plans.

The potential TD population, which includes disabled, elderly, low-income persons, is expected to grow to 232,218 by 2019. Additionally, TD persons who are unable to transport themselves or purchase transportation are expected to increase to 35,051 by 2019.

Barriers to coordination that were identified in the 2016-2020 TDSP include:

- The inability to obtain local matching funds for federal and state grants is a barrier to implementing new transportation services.
- Funding has been reduced within the draft budget and Space Coast Area Transit will be tasked with removing one bus from an existing route to operate within the budget constraints.
- Ridership growth and overcrowding on the buses is resulting in on-time performance issues and a need to improve existing services rather than expand service to new areas.
- Bus stop accessibility and maintenance improvements are needed at the bus stops.
- Vehicle operator retention has become an issue for Space Coast Area Transit based on the operator's pay grades.

The five goals below were also identified.

Goal 1: Secure funding necessary to meet the service needs of the Transportation Disadvantaged and improve mobility in Brevard County.

Goal 2: Implement a fully coordinated transportation system integrated with other transportation modes and Brevard County's Complete Streets principles.

Goal 3: Enhance citizen mobility by increasing availability of public transportation service to the county's citizens.

Goal 4: Improve the rider experience and responsibility.

Goal 5: Ensure program accountability and continued planning efforts for the Transportation Disadvantaged individuals.

Brevard County Comprehensive Plan (2015)

Brevard County's goal is to provide a "safe, convenient and energy efficient transportation system... that supports the community ... and enhances the mobility of people and goods while reducing reliance upon the automobile and minimizing impacts to neighborhoods, cultural resources and natural habitats."

Within its Transportation Element (TE), Brevard County has adopted Objective 4 to encourage multimodal transportation alternatives to accommodate existing and proposed major trip generators/attractors, Objective 6 to recognize the interrelationship of land use patterns and transportation needs, and Objective 11 to establish complete streets policies to enable safe access for the community.

Pursuant to Objective 1, the performance of roadways and other modes (including transit) is to be routinely monitored as appropriate. To achieve Objective 4, the County routinely considers transit as a supplement to road improvements (Policy 4.2), cooperatively works with municipalities to establish parking strategies and park-and-ride sites (Policy 4.3), and continues to promote expansion of vanpool programs and services to the transportation disadvantaged to the extent practicable (Policies 4.4 and 4.5). The County also participates in the "welfare-to-work" plan, which recognizes the important role that transit plays in assisting citizens in the transition from welfare to employment. Brevard County also encourages land use patterns and site planning activities that can be conveniently and economically served by transit, bicycle, and pedestrian modes (Policy 6.6). Furthermore, the County encourages streets, bridges, and transit stops to be planned, designed, operated, and maintained in a way that pedestrians, bicyclists, transit users, and motorists can travel safely (Policy 11.4). Transit vehicles, facilities, and routes are elements of the County's Complete Streets Program (Policy 11.5). An essential component of transit planning is public participation. Objective 7 stipulates that the County shall encourage public involvement in the transportation planning process, and Policies 7.1 through 7.4 define the guidelines for obtaining public input.

Within its Future Land Use Element (FLUE), Policy 2.13 allows residential developments within Neighborhood Commercial and Community Commercial land use designations. The integration of residential into commercial developments is encouraged to utilize public transit and neo-traditional development techniques. In Objective 9, the County has adopted standards and incentives for large-scale, mixed-use projects – termed the New Town Overlay (NTO). An example of such a new town is Viera. The NTO encourages the use of transit and addition of transit corridors. The Future Land Use Element also contains redevelopment and re-gentrification provisions (Objective 11) that encourage the coordination of redevelopment activities with transportation improvements, including mass transit (Policies 11.1.B, 11.8.E, and 11.9.H).

City of Cape Canaveral Comprehensive Plan (2014)

The City of Cape Canaveral's transportation goal is to "continue to develop and coordinate a comprehensive transportation system that: serves the needs of all segments of its population; ... provides adequate and safe access to adjacent land uses; ... and promotes the efficient utilization of energy resources."

Within the Transportation Element, the City will support alternative forms of transportation to single occupancy vehicle use (Policy T-1.1.8) by creating better pedestrian/bicycling links between trip generators, and/or develop Transit Oriented Development regulations, and/or develop strategies to increase transit use (Policy T-1.1.12). The City will also evaluate policies allowing golf carts and EV (electric vehicle) access to beach end parking as a means of easing use of motorized vehicles and available parking (Policy T-1.1.13).

City of Cocoa Comprehensive Plan (2010)

The City of Cocoa's transportation goal is to provide a safe, efficient, and comprehensive multimodal transportation system that is available to all residents and visitors. In addition to the mobility strategies established in TE Objective 2.1.3, the City also adopts public transit provisions (Objective 2.1.12) that require the City to coordinate with Brevard County, Space Coast TPO, Space Coast Area Transit, and neighboring municipalities to determine public transportation demands and establish new public transportation management solutions and routes (including transit stops, terminals, maintenance, and improvements) to serve the general population and special needs populations (Policies 2.1.12.1 and 2.1.12.3). The City routinely considers transit as an alternative to roadway improvements (Policy 2.1.12.5) and periodically reviews its Land Development Regulations and offers incentives to developers to ensure that development allows and encourages accessibility to public transit (Policies 2.1.12.6 and 2.1.12.7). Cocoa also requires, within its FLUE Objective 1.2.1, that new developments incorporate "Smart Growth" principles, including requiring new developments and infill developments to provide connectivity to public transit (Policy 1.2.1.6).

City of Cocoa Beach Comprehensive Plan (2015)

The purpose of the Mobility Element (formally known as the Transportation Element) in the City of Cocoa Beach's Comprehensive Plan is to plan for a multimodal transportation system that places emphasis on public transportation systems, where feasible. The City's goal is to provide "a functional transportation network to ensure safe, convenient, and sustainable accessibility and mobility to all users through a variety of transportation modes." Through the Plan's objectives and policies, the City continually looks for opportunities to accommodate bicyclists, pedestrians, transit, and other travel modes (Policy I.1.1) and strives to provide as many modal options as practically possible (Policy I.1.2). The City will also continue to support local bus service provided by SCAT (Policy I.1.17) in addition to encouraging private transit services, such as, carpooling, shuttles and taxis (Policy I.1.19). By 2017, the City will request that the TPO and SCAT research developing Park-and-Ride lots at major commercial and recreational facilities to reduce automobile-based traffic during tourist season (Policy I.1.20).

Town of Grant-Valkaria Comprehensive Plan (2011)

The goal, with respect to transportation within the Town of Grant-Valkaria, is to provide a safe convenient and energy efficient transportation system that supports the community and enhances the mobility of

people and goods while minimizing impacts to neighborhoods, cultural resources and natural habitats. The Town will continue to encourage multi-modal transportation alternatives that accommodate existing and proposed major trip generators and attractors (Objective 2) by emphasizing safety and convenience in the location, design and construction of bicycle and pedestrian facilities (Policy 2.1) and promoting a vanpool program (Policy 2.2). The Town also recognizes the inter-relationships of land use patterns and transportation needs (Objective 4) and will encourage land use patterns and site planning that can be economically and conveniently served by transit, bicycle and pedestrian modes (Policy 4.4). Policy 7.4 also establishes measures for acquisition and preservation of public transit rights-of-way and corridors when necessary.

City of Melbourne Comprehensive Plan (2011)

The goal of the City of Melbourne in regard to transportation is to provide a safe, efficient and convenient system for motorized and non-motorized users of the Melbourne transportation network. The City will develop strategies through transportation decisions and planning to address the reduction of greenhouse gas emissions and energy conservation (Objective 1.4) by encouraging the use of transit and other alternate modes of transportation (Policy 1.4.3) in addition to promoting bicycle, pedestrian and other non-motorized transportation options to reduce vehicle miles traveled (Policy 1.4.4).

The City will promote alternative modes of transportation to provide a safe and efficient multi-modal system and to provide for a possible reduction of individual motor vehicle travel (Objective 1.7). All major roadways will be designed as complete transportation corridors providing transit, bicycle and pedestrian features (Policy 1.7.1). Bike paths will be established along arterial and collector streets in accordance with the City's Greenways, Blueways, and Trails Plan (Policy 1.7.5) and sidewalks will be established on all arterial and collector streets on both sides of the right-of-way (Policy 1.7.6) in addition to being mandatory on all new roadway construction (Policy 1.7.7).

Per Objective 3.1 of City Goal 3 – Mobility Districts, *the City of Melbourne shall support mobility within five mobility districts throughout the City with strategies that address alternative modes of transportation by providing context-appropriate sidewalks, bikeways, transit facilities, parking management and improvements that will contribute to specific and identified needs within the City.* The five mobility districts include: Melbourne International Airport Area, Community Redevelopment Areas/U.S.1 Corridor Area, South Babcock Street Area, West Eau Galle Boulevard Area, and North Wickham Road Area.

City of Palm Bay Comprehensive Plan (2006)

The Transportation Element (TE) addresses the transportation needs and plans for the City of Palm Bay, the largest City by population in Brevard County. The City's goal is to "provide a safe, balanced, efficient and comprehensive transportation system". The TE identifies an objective to increase ridership for mass transit and paratransit service within the City (Objective 1.5). Policies associated with this objective include making car/van pool information available to all citizens of the City (Policy TCE-1.5B), and incorporating provisions requiring facilities such as bus benches, shelters, park-and-ride lots be included in design plans for new or revised development projects which include major trip generators and/or attractors (Policy TCE 1.5C). Additionally, to promote multiple modes of transportation, Objective TCE-1.8 states that the City will provide bicycle/pedestrian facilities on all reconstructed or expanded arterial and collector roadways.

City of Rockledge Comprehensive Plan (2011)

The Transportation Element states that the City shall provide a safe and efficient transportation system that offers a variety of transportation mode options. Provisions have been adopted to ensure safe and adequate movement of pedestrians and bicyclists in a plan to lower bicycle and pedestrian accidents (Objective 2.5). Policy 2.5.3 also states that streets shall be designed to accommodate a mix of travel modes including vehicles, bikes, transit and pedestrians. The City also plans to investigate the possibility of establishing increased density bonuses for transit oriented development projects built within 1,320 feet of a bus stop or rail station (Policy 2.12.1).

City of Satellite Beach Comprehensive Plan (2014)

The Satellite Beach Transportation Element (TE) establishes the long-term end toward which transportation programs and activities are ultimately directed. The City's goal is to provide a transportation system that ensures safe and efficient movement of people and goods based on major trip generators, safe public facilities and the special needs of the transportation disadvantaged, at minimum cost and minimum detriment to the environment. The City requires interface with the Space Coast Area Transit (SCAT) personnel and the Brevard County Commission to inform them of Satellite Beach's transportation needs (Policy 1.4.2). Additionally, Policy 1.5.3 states the City shall designate the Planning and Zoning Advisory Board to review the impact of permit requests on public transit and to encourage land uses that promote public transportation within designated public transportation corridors.

City of Titusville Comprehensive Plan (2014)

The City's transportation goal is to provide a safe, convenient and energy efficient transportation system that shall promote multiple modes of transportation for goods and people to encourage stability and an improved quality of life. According to Objective 1.3, the City will strive to provide variety of transportation options that include bicycle, pedestrian, and public transit facilities to promote alternative modes of transportation by promoting "Complete Streets" that are designed, built, and maintained in a manner that accommodates not only automobiles, but transit vehicles and non-motorized modes of travel (Policy 1.3.1), in addition to, improving the bicycle/pedestrian infrastructure and amenities (Policy 1.3.2). Objective 1.5 speaks to examining the need for transit services based on existing and proposed major trip generators and projected growth.

City of West Melbourne Comprehensive Plan (2010)

The City adopted a Multi-Modal Transportation Element (MMTE) with implementing goals, objectives, and policies. The MMTE's goal is to provide varied transportation alternatives, improve connectivity, and enhance the quality of life of the community. This goal is to be achieved through implementation of a sequence of planning directives and objectives. Objective 1 fosters a comprehensive multi-modal system that provides for the needs of pedestrians, bikers, public transportation riders, and motorists. Objective 2 establishes user based financing strategies as the preferred means to fund new transportation improvements and programs. Objective 3 utilizes transportation land use master planning strategies to coordinate future land use practices with the expansion and improvement of a comprehensive multi-modal transportation system. Objective 4 ensures the City and the larger Brevard County area is connected together through coordinated multi-modal transportation. The implementing policies under these objectives provide specific standards and guidelines addressing roadway alternatives to connect

community centers, neighborhoods, schools, and the pedestrian network to increase opportunities for walking and shopping, services, schools, employment, and other destinations.

Summary

This section reviewed related transportation planning and programming documents to assess existing transit policies, along with their relationship to Space Coast Area Transit. Policies were reviewed at the federal, state, and local levels of government to determine guidance for the subsequent development of the Situation Appraisal for the TDP Update. The review of federal, state, and local transportation policies indicates that no conflicts are expected with regard to consistency with other plans and programs.

Section 6: Situation Appraisal

Transit systems function best in an environment when they intimately understand the regulatory, geographic, environmental, land use, development, political, and other factors that can and do impact the provision of their services. To this end, a situation appraisal for Space Coast Area Transit was done to help assess and document the key aspects of the transit agency's operating environment. The appraisal examines the strengths and weaknesses of the system as well as any existing barriers or threats to the provision of service in the county and key opportunities for addressing those threats and/or enhancing the transit friendliness of the operating environment.

A situation appraisal is a requirement during a major Transit Development Plan (TDP) update under the TDP Rule, which provides an evaluation of the local environment and critical issues in which the transit agency operates. The appraisal examines the strengths and weaknesses of the system as well as any existing threats to the provision of service in the county and key opportunities for addressing those threats and/or enhancing the transit-friendliness of the operating environment. Included in this section are reviews of existing socioeconomic trends, travel behavior, land use, public involvement, organizational attributes, technology, and regional transit issues.

This appraisal assesses the factors which will provide Space Coast Area Transit a better understanding of the factors which could impact its programs over the next decade. The following elements will be reviewed:

- Socioeconomic Trends
- Travel Behavior
- Land Use
- Public Involvement
- Organizational Attributes
- Technology
- Regional Transit Issues

The assessment of these elements resulted in the identification of possible implications for Space Coast Area Transit. The assessment and resulting implications are drawn from the following sources:

- Results of technical evaluations performed as part of the Brevard County TDP planning process (documented in Sections 2 and 3).
- Input gathered through public involvement activities (documented in Section 4).
- Review of relevant plans, studies, and programs prepared at all levels of government (documented in Section 5).

The trends, issues and implications are summarized in the remainder of this report for each of the major elements.

Socioeconomic Trends

To better assess the impact of the growth in population on public transportation needs, it is important to understand the trends and markets that could be impacted or may benefit from public transportation services. A few key socioeconomic comparisons are found in the 2014-2015 American Community Survey.

The table below compares the county to the state for traditional socioeconomic factors that influence the need for transit services.

Table 6-1: Socioeconomic and Demographic Trends

Key Socioeconomic and Demographic Trends		
<i>Source: 2015 American Community Survey</i>		
Description	Brevard	Florida
Average Age	47.3	41.8
Persons in Poverty	13.2%	15.7%
Hispanic Population	9.7%	24.5%
Persons Aged 65 and older	23.0%	19.5%
Persons Aged 16-64	72.6%	76.3%
Persons Under 16 Years Old	16.1%	17.9%
Median Household Size	2.49	2.66
Median Household Income	\$50,416	\$49,426
Households with Zero Automobiles	5.8%	6.8%
Persons Who Commute by Transit	0.6%	2.2%
Civilian Labor Force	54.1%	58.1%
Employed Civilian Labor Force	54.4%	58.4%
Unemployment Rate	6.1%	7.0%
Persons Not in the Labor Force	45.6%	41.6%

Key finding from an assessment of socioeconomic trends are summarized as follows:

- The cities of West Melbourne and Cocoa are the fastest growing municipalities in the county, with 12.4 % and 9.9 % growth respectively from 2010 to 2016.
- Brevard County has a larger proportion of older persons compared to the statewide average. A growing need for public transit within Brevard County can be assumed, considering the growing share of age groups that are more likely to use transit.
- While Brevard’s Hispanic population is lower than the average for the State of Florida, the Hispanic population in Brevard grew at a much faster rate than the state, 18.3% compared to 7.7%. This faster growth likely represents increases upon the smaller base Hispanic population in Brevard County coupled with influence from the significant Hispanic population in neighboring counties such as Orange and Osceola, and an expanding labor market.
- Households with no vehicles have increased from 4.7% to 5.8% between 2010 and 2015. This decrease is consistent with national trends in places where transportation-network companies (TNCs) have entered the market place, with users postponing purchase of a car, not purchasing one, or not replacing one, as reported in the Shared Mobility and the Transformation of Public Transit, by the American Public Transportation Association (APTA) in March 2016. The current survey of transit riders in Brevard County reflect a significant increase in those who use transit for reasons other than not having access to a vehicle, implying a greater degree of choice in the decision to use transit rather than drive.
- The 2014-2015 ACS indicated that 56.6% of Brevard County workers who use transit for commute purposes are adults between the ages of 25 to 44. At 20.7% of commuters using transit, the second largest group are older adults from 45 to 54 years of age. ACS data indicates that over

87.4% of Brevard County commuters who use transit as a means of getting to work are considered “low-income” as they make less than \$25,000 annually.

- The main industries within Brevard County are education, professional services, retail, and tourism. The tourism industry in Brevard County employs approximately 19,500 persons in the arts, entertainment, and recreation industry and nearly 52,000 persons in the accommodation and food services industry. The median earnings for persons working in education was reported as \$32,589, professional services was reported as \$38,028, retail was reported as \$21,749, and the tourism industry was reported as \$21,749.
- The largest employers in the county are listed below. In addition, there has been a significant increase in aerospace activity with private space companies. This trend is expected to increase. The recent State of the System Report produced by the TPO reflects that launches per year are expected to exceed 50 within the near future.
 - Brevard Public Schools
 - Harris Corporation
 - Health First, Inc.
 - Publix Supermarket
- Brevard County has a higher population of veterans (14.1%) compared to the state (9.1%). Nationally, the availability of transportation is a major issue for veterans and military families in accessing employment and health care services¹.
- According to the forecast ridership projections, overall average annual ridership on the existing transit network is expected to increase by 8.4% by 2027, or an annual growth rate of about 0.63% with the most on Routes 27, 25, 23, 26, and 22.
- With respect to occupation according to the 2014-2015 ACS data, the majority of the commuters who reported using public transportation work in tourism (41.2%); and to a lesser extent in retail (12.2%) and professional services (11.2%).
- The discretionary transit market is based on residential and employment density. In reviewing the Density Threshold Analysis (DTA) and population growth rates from 2018-2027, residential density is expected to increase in Melbourne, Melbourne Beach, Melbourne Village, as well as Cocoa and Palm Bay. However, significant dwelling unit density is not forecast to increase above existing levels. The forecast is that further population growth will occur within the allowable density thresholds. Employment density thresholds are forecast to remain largely unchanged throughout the County from 2018-2027.
- Examination of the Transit Orientation Index (TOI), an indexing of household and population characteristics that are strongly associated with transit use propensity, suggests the highest transit propensity is found in the municipalities within Brevard County, primarily Cocoa, Titusville, Melbourne, Palm Bay.
- Results from the recent on-board survey indicate a strong preferential element for many riders currently using Space Coast Transit. While 35% of respondents cited they do not have access to a vehicle, about the same in 2012, only 13% in 2016 said they do not have a driver’s license compared to 30% in 2012 and 22% in 2016 said they do not drive compared to 14% in 2012.

¹ “Supporting the Employment of Veterans & Military Families.” Institute for Veterans and Military Families at Syracuse University at Syracuse University

Further, in 2016, 19% of riders stated the bus was a more convenient option compared to 6% in 2012.

Implications – *It is anticipated that Space Coast Area Transit will continue to fill a need for the traditional transit market. The existing transit market users such as the elderly, those working in tourism and retail industries, and those considered “low-income” will continue to rely on the service.*

It is noted that the growing older population will likely require more paratransit service or greater accessibility to reduce their travel distance to bus stops. Brevard County is home to a large population of retired and elderly which directly translates into an increasing demand for mobility services, including and increasingly more common, mobility services for persons who are aging-in-place. This market is important to track and understand because as people age-in-place, their ability to access traditional fixed route transit declines and their need for curb-to-curb or more expensive door-to-door services increases. This changing demand portends a greater need for SCAT to have capacity (vehicles, drivers, funding) to provide for this more expensive and operationally demanding mobility service demand. Two potential opportunities for addressing this demand include: the first is an introduction of Flex service that serve general public riders at fixed bus stops as well as curb-to-curb services based on pre-scheduled (booked) rider requests; second is through partnerships with taxi and Transit Network Companies. Both of these options would be coordinated through the paratransit services with the purpose of shifting more ambulatory paratransit trips onto lower cost curb-to-burb services and thus expanding paratransit service capacity for persons who require more specialized door-to-door service.

Workers in the service industry will continue to need later evening and weekend service to meet the demands of their work schedule. Brevard County’s high population of veterans also reflect a potential need for more trips to and from key locations including the military bases and the Viera Outpatient Clinic. Brevard County should continue to maintain its current service by targeting the traditional markets and those areas with high density, especially the Palm Bay area. To attract discretionary “choice” riders, greater frequency of service and more choice transit amenities will be needed. Space Coast Area Transit will need to balance resource allocation between these needs.

Travel Behavior

An assessment of trends in travel behavior for Brevard County indicated the following:

- Based on 2015 ACS data, Brevard County had 238,952 employed residents, of which over 92% lived and worked within the County, indicating a high demand for local home-based employment trips.
- The primary mode of commuting to work is driving alone (81%).
- At 29.9%, the largest percentage of commuters depart for work between 7:00 AM to 7:59 AM. The second most popular departure time (23.3%) is between 9:00 AM and 11:59 PM.
- Over 48% of commute times are less than 20 minutes. The average commute time is 23.8 minutes, indicating that most commuters travel a moderately short distance, which is still outside the typical walking distance between home and work.
- There are some congested sections along I-95, US-1, US-192, SR 528, and A1A within Brevard County, however most corridors operate within capacity.
- Space Coast Area Transit serves four park-and-ride facilities; Titusville, Viera, Eau Gallie, Palm Bay.

- Major trip attractors in Brevard County are the beaches (primarily Cocoa Beach and Playalinda), the John F. Kennedy Space Center, Port Canaveral, and outdoor recreation. The county is home to several wildlife refuges, conservation areas, and national parks including; Indian River lagoon and Banana River, St. Johns River, Canaveral National Seashore, Archie Carr National Wildlife Refuge, River Lakes Conservation Area, and the Sebastian Inlet State Recreation Area for nature and eco-tourism.

Implications – *Space Coast Area Transit serves many key trip generators and attractors throughout the County, and should consider increasing frequencies and service hours to these locations. With the exception of Route 1 and Route 29, there are limited connectivity opportunities between the Northern and Southern portions of the County. A more robust transit service with higher frequencies and later hours of service with more connectivity could make transit more accessible for service workers and tourists.*

Land Use

Effective land use planning can support public transit by implementing strategies to reshape land use to increase mobility, accessibility, and quality of life for the community. Coordination between land use and transportation is essential to create an efficient, effective, and balanced multimodal transportation system and living environment. An analysis of land use is provided below:

- Large portions of unincorporated North and South Brevard County is undevelopable land, zoned as agricultural land and public conservation within the Future Land Use. Large portions of unincorporated land in Middle Brevard County is zoned residential.
- The economic and employment centers are disbursed across the County and are found primarily in the urban areas; particularly in the municipalities of Titusville, Cocoa along SR 528 and I-95, and in Melbourne extending north to the Orlando-Melbourne International Airport and in the industrial area off of Wickham Road. The economic centers also include the Kennedy Space Center, Port Canaveral, and the Space Coast Regional Airport.
- There are several studies and initiatives to coordinate land use and transportation in Brevard County.
 - Space Coast is implementing a bike-sharing program, with the pilot starting in Cocoa Beach. The program is being implemented through Transit One, a not-for-profit organization to promote and strengthen public transportation and mobility options in the County, and Space Coast Office of Tourism. The pilot is anticipated to start with 10 stations, with 5 bikes each. The program is funded through a portion of the Tourist Development Tax on hotel rooms and other short-term rentals.
 - FDOT, in partnership with the City of Cocoa and the Space Coast Transportation Planning Organization (TPO), has completed a corridor study along SR 520, a one-mile long segment in Brevard County. The study involves a planning and concept development study to mitigate conflicts between pedestrians and bicyclists and automobiles, for the corridor within the limits of the City of Cocoa.
 - The Space Coast TPO implemented a Bicycle and Pedestrian Mobility Plan in 2013, to provide a framework towards the development of a multimodal transportation network for the region. The plan emphasizes regional connections to existing Space Coast Area Transit transfer points, the Florida East Coast Railways stations and Florida East Coast

Greenway, beaches and bridge crossings, and several existing trails, parks, and economic centers.

Implications – *Land use and transportation, when planned concurrently, can lead to more effective land use and transportation networks, which can increase mobility and walkability. There are several opportunities, including public-private partnerships through consensus building, and multi-modal transportation connections through coordination with other transportation providers, for Space Coast Area Transit to coordinate with local municipalities and key economic centers on transit connectivity with future development, as outlined in the 2040 Long Range Transportation Plan (LRTP) by the Space Coast TPO. With concurrent trends in demographics, residential development, and employment growth, transit policies and service strategies should reflect expected demand in work and school based trips, need to serve a growing population of persons aging in place, and a shifting expectation of travel choice from a growing younger more technologically savvy work force.*

Public Involvement

Feedback from current users and non-users of transit services provided valuable input for deciding how to enhance existing transit service in Brevard County. Input was obtained from stakeholder interviews, discussion group and public workshop meetings, an on-board survey for fixed-route riders, and a phone survey for paratransit users.

Stakeholder Input

A 25-question survey was developed in coordination with Space Coast Area Transit. Phone interviews were conducted with stakeholders which represented various agencies, organizations, and community leaders throughout the County. Key input is identified below:

- The most significant issue facing transit users was indicated to be frequency of service.
- Additional Transit Service- The types of transit service they would most like to see over the next 10-years include more frequent service, weekend/evening service, and more fixed routes throughout the county.
- Areas highlighted that need more fixed-route service include Palm Bay, Cocoa Beach, Viera, and Melbourne. Areas highlighted which could present opportunities for express service include connections to the Kennedy Space Center, Melbourne Airport, to and from Orlando, and access to the beach.
- With regards to customer amenities suggested for encouragement of transit service, respondents mentioned technology including Wi-Fi and real-time data, bus shelters, and associated transit-supportive infrastructure including bike racks.
- Feedback regarding potential local funding indicated sources including private partnerships, advertising revenues, sales tax, gas tax, and city contributions.
- With regards to perception of Space Coast Area Transit, respondents indicated that public perception was satisfactory overall, and that amongst themselves perception was that the agency was very good, especially in light of current resources.

Discussion Group, Review Committee and Public Workshop Meetings

Discussion group meetings, review committee meetings and public workshop meetings were held to identify and assess general community perceptions of transit and obtain input about the TDP update process. Key input is identified below:

Discussion Group Meetings

- An 11-question survey was disseminated to attendees at the Tourism and Transit Summit held on January 27, 2017 in Cocoa Beach. The survey related to the relationship between tourism and transit within the County. The respondents generally indicated that more frequent service, shelters, and real-time information were needed for transit to have a positive impact in tourism.
- Three additional discussion group meetings were held on May 3-4, 2017 at the Viera Government Center and addressed comments and concerns related to mobility for the following: education and students; seniors and community development; and employment and health services.

Review Committee Meetings

- A Review Committee was established to monitor and provide input throughout the study and to evaluate the deliverables produced for the effort. The first kick-off Review Committee meeting was held February 23 where the TDP purpose, progress to date, and remaining schedule of activities was discussed. Key input received at the meeting found that the need for shelters and improved span of service were concerns. SCAT rebranded was mentioned for consideration. The changing expectations of the younger transit rider, a desire for greater choice in mobility options, was also discussed. Additional Review Committee meetings were held in June and August to review and discuss changing socioeconomic and demographics impacts on mobility needs, existing services and service performance, as well as proposed service and capital improvements.

Public Workshop Meetings

- Four public workshops were conducted between June 2017 and August 2017 to obtain input from the general public about existing and proposed mobility services and the TDP update process.

On-Board Survey

A 24-question on-board survey was conducted in early November 2017. The survey sought to identify information pertaining to travel characteristics, rider demographics, and customer service and satisfaction.

- The survey results found that most trips are home to work; that approximately 77% of users walk to access the bus; riders were most pleased with the courtesy of the bus drivers, safety on bus and at stops, and the availability of bus route information; and the lowest satisfaction was with hours of service.
- In regards to service improvements, respondents generally indicated the desire for more frequent service on existing routes, more benches and shelters, and earlier service on existing routes. The strong demand for more frequent service, and earlier service speaks to home to work/school demand and the desire to travel more by bus if service was more readily available. The desire for more benches and shelters reflects the importance of amenities for riders, especially given infrequent service.
- In regards to technology improvements, respondents generally indicated the preference for real-time schedule information on buses, real-time schedule information at terminals, and wireless internet services on the vehicles, which reflect a desire for better and more timely information about service as well as the importance on online information in today's life.

Paratransit Phone Survey

A 14-question customer satisfaction phone survey was conducted with paratransit users in January and February 2017. The survey collected information on the established performance measures relating to customer satisfaction, passenger wait times, trip scheduling, and on-time performance.

- Overall, paratransit users were found to use service once a week or less (65%), and consequently most of the trips are not subscription trips (75%). The highest satisfaction was found with on-time arrival for trips (an overall average rating of 4.4 out of 5.0), and the lowest satisfaction involved the ease of making a reservation and the wait time for the reservation to be completed (an overall average rating of 4.2 out of 5.0).
- From results, it was found that Space Coast Area Transit does a good job in managing service delivery and focusing on trips on an as needed basis rather than loading up manifests with subscription trips which can have adverse impacts on scheduling and service delivery.
- In regards to what respondents liked most about paratransit service, service availability was the highest response, indicating an appreciative customer base and the favorable interactions Space Coast Area Transit has with its customers. When asked what they liked least about paratransit service, the highest reported response was “Nothing”, indicating a highly satisfied customer base. The second highest response was scheduling, which reflects on the difficulty in booking trips and may indicate demand.

Implications – Common recommendations heard during the public involvement process included the need for increased frequency, expanding night and weekend hours, adding more routes to underserved and dense areas, improving regional and east/west connections, and improving the customer experience through the addition of amenities.

Providing shelters has been shown to be one relatively small investment that yields strongly positive responses from riders. Strategic investments in bus stop safety, accessibility, and amenities has been shown to increase ridership system-wide.

The paratransit survey reveals that customers very much appreciate and like the service. They would like more service and note that booking trips (the process of calling in to schedule rides) takes too long. This likely indicates a need to improve call center capacity.

Organization Attributes

Space Coast Area Transit operates as a department of Brevard County and is the only public transit provider in the County. Space Coast Area Transit operates the fixed-route and paratransit services, and has one of the largest commuter and non-profit agency vanpool programs in the state. As recommended in the last Major Update, Space Coast Area Transit has yet to complete an assessment to evaluate the effectiveness of the current transit operations and identify opportunities for improvements through changes to its operations, marketing and administration.

Implications – Brevard County should begin to explore opportunities to manage operational efficiencies. Space Coast Area Transit should consider pursuing a Comprehensive Operational Analysis (COA) or an internal assessment to assess the system and identify any operational changes which could enhance efficiency.

The demographic shifts indicating both a growth in aging in place and in younger riders looking for more choice in mobility options, suggests SCAT should look at use of more flexible service models as a means to expand coverage without expanding complementary paratransit services.

Technology

Brevard County has implemented some key technology components/improvements to its system and bus fleet, including:

- Space Coast Area Transit has uploaded its google transit feed specification (GTFS) to Google Maps for easy trip planning for users available through Google Maps or on its website, www.321transit.com; and has a mobile application available to smartphone users with an Android or iPhone operating system.
- All vehicles in Brevard County are equipped with a mobile video surveillance system, which provides safety and security for passengers and the transit agency.

Implications – *Technology improvements can significantly enhance the rider experience and quality of service. Space Coast Area Transit should consider equipping its buses and paratransit vehicles with Intelligent Transportation Systems (ITS) technologies, including Computer Aided Dispatch/ Automatic Vehicle Location (CAD/AVL), Automatic Passenger County (APC) system, and information dissemination as indicated in the Space Coast TPO ITS Master Plan. These technologies are generally funded by federal/state capital grants and can contribute to ridership data collection/performance monitoring efforts, improving system effectiveness and efficiency.*

While Space Coast Area Transit operations could benefit from the addition of ITS technologies, it is important to recognize prior to implementation, these technologies produce volumes of data that would be useless without sufficient staff with the skill set and capacity to manage the outputs. With the implementation of any new technology, consideration should be given to implementing an effective training program to equip staff with the necessary skills to effectively use the technology to its full benefit. In addition, significant advances have occurred in the technology required to track vehicles and provide data communications. In particular, the advent of tablet computing no allows transit systems to acquire and use AVL data at a fraction of the cost of standard CAD/AVL systems just a few years ago. SCAT would benefit from examining options for securing CAD/AVL functionality.

Expanded use of technologies would support SCATs ability to more cost-effectively expand service coverage for general public and ADA services.

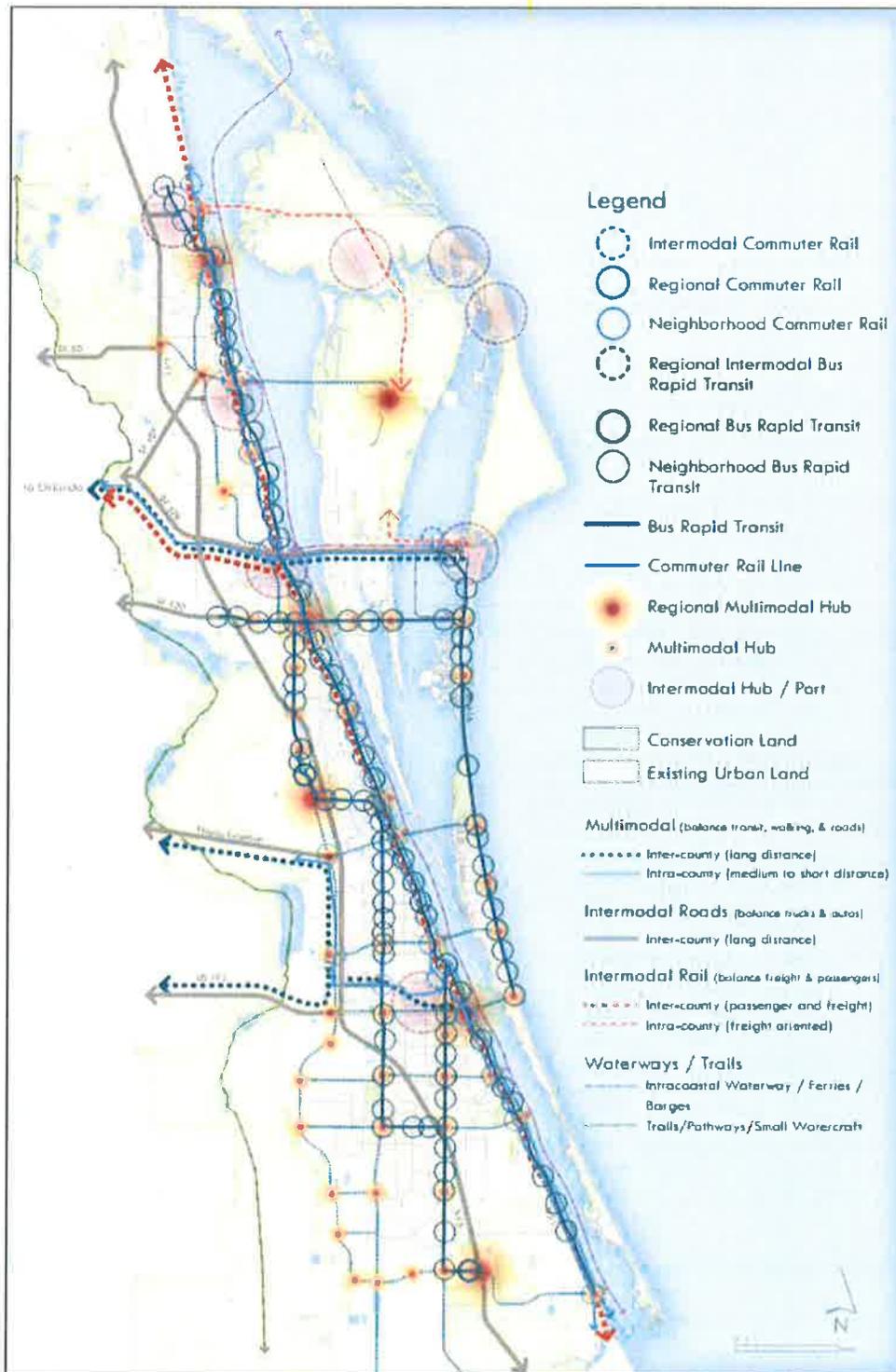
Regional Transit Issues

The regional transit findings are detailed below:

- The majority of the total workforce who live in Brevard County work within the County, at 65.6%.
- For those living in Brevard County and commuting outside, most commute to Orange County at 8.9%, with 4.9% commuting as far to Palm Beach, Broward, and Miami-Dade Counties in South Florida.
- Orange County had the highest percentage of commuter inflow into Brevard County in 2014 at 3.9%, with Volusia County as the next highest at 1.9%.
- An influx of 48,152 workers living outside of Brevard County work within the County.

- All Aboard Florida's Brightline in coordination with the Space Coast TPO, has shown interest in a station to be located in north Cocoa. The proposed station would be conveniently located to key highways and Port Canaveral.
- In the Space Coast TPO 2040 Long Range Transportation Plan (LRTP), several potential areas of expansion for corridor-based multimodal services were identified, including intermodal roads and rail, and premium public transportation service, including Bus Rapid Transit (BRT) and rail, and planning for automated vehicles. The plan includes a countywide transit system with connections to passenger rail along the US-1 corridor, a potential station via the Florida East Coast (FEC) Railroad rail line near Cocoa for All-Aboard Florida's Brightline, and potential passenger service to Jacksonville on the FEC line, with the Cocoa station as a transfer point.
- Uber, a ridesourcing company, launched in the Space Coast region in December 2014. Lyft, also a ridesourcing company, currently serves the region as well.

Map 6-1: 2040 Strategic Plans - Transit System Plan



Source: Brevard County TPO's 2040 Long Range Transportation Plan

Implications – Work commuter trips flowing into and out of the county are dispersed throughout North, Central, and South Florida. This makes it difficult to create an efficient route for public transit to service these neighboring areas, as Space Coast Area Transit primarily serves the more “captive” market for more local trips. The need for regional connection by bus transit has not been identified in recent Brevard County plans or programs. Service expansion through flexible mobility on demand service strategies that use technology provides an opportunity for Brevard County to expand service coverage and connectivity cost-effectively for general public and ADA customers. As indicated in the 2040 LRTP, rail was identified as the best mode for future development within the county and region, which is beyond the ten-year horizon for Space Coast Area Transit. However, as the County continues to grow and after All-Aboard Florida is operational from Miami to Orlando, this issue should be revisited and coordinated with neighboring MPOs and transit providers.

Summary

The Space Coast Area Transit TDP situation appraisal was conducted to document the current transit operating environment and identify potential implications that should be considered by Brevard County in preparing its 10-year TDP update. The policy implications summarized in this section were used to guide the TDP process, including the development and evaluation of transit service and infrastructure alternatives and the prioritization of planned improvements and unfunded needs.

Section 7: Potential Service Gaps and Latent Demand

This section summarizes the demand and mobility needs assessment conducted as part of this major TDP update for Space Coast Area Transit. Three assessment techniques were used to assess demand for transit services in Brevard County, which include:

- Discretionary Market Assessment
- Traditional Market Assessment
- Forecast ridership analysis using transit planning modeling

The summary of the assessment techniques are presented and followed by the results of each analysis. When combined with the situation appraisal, performance reviews, and public involvement feedback, the demand assessment yields the building blocks for evaluation the transit needs for the next 10 years.

Market Assessment

The transit market assessment for Brevard County includes an evaluation from two different perspectives: the discretionary market and the traditional market. Analysis tools used to conduct each market analysis were a Density Threshold Assessment (DTA) and Transit Oriented Index (TOI). These tools were used to determine whether existing transit routes are serving areas of the county considered to be transit-supportive for the corresponding transit market. The transit markets and the corresponding market assessment tool used to measure each are described in detail below.

Discretionary Market

A discretionary transit market refers to potential riders living or working in higher-density areas of the county who may choose to use transit as a commuting or transportation alternative. The Millennial generation is another relatively new transit market of choice riders that make up one-third of the total U.S population, according to the U.S. Executive Office Council of Economic Advisors. The Urban Land Institute America in 2015 report on survey views of housing, transportation, and community reported that just over half of all Americans and 63 percent of the millennial generation would like to live in a place where they do not need to use a car very often.

A Density Threshold Assessment (DTA) was conducted based on industry-standard relationships between transit levels and dwelling unit/employment densities to identify the areas of Brevard County that are currently experiencing or projected to experience transit-supportive residential and employee density levels in the future. Dwelling unit and employment data by Traffic Analysis Zone (TAZ) were obtained from the Central Florida Regional Planning Model and used to conduct both the existing (2018) and future (2027) DTA analyses.

Three density thresholds were developed to indicate whether an area contains sufficient density to sustain some level of fixed-route transit operations:

- Minimum – Reflects minimum population or employment densities to consider basic fixed-route transit services (i.e., fixed-route bus service).
- High – Reflects high population or employment densities that may be able to support higher levels of transit investment than areas that meet only the minimum density threshold (i.e., increased frequencies, express bus).

- Very High – Reflects very high population or employment densities that may be able to support higher levels of transit investment than areas that meet the minimum or high density thresholds (i.e., premium transit services, etc.).

Table 7-1 presents the dwelling unit and employment density thresholds (in terms of TAZ) associated with each threshold of transit investment.

Table 7-1: Transit Service Density Thresholds

Level of Transit Investment	Dwelling Unit Density Threshold ²	Employment Density Threshold ³
Minimum Investment	4.5-5 dwelling units/acre	4 employees/acre
High Investment	6–7 dwelling units per acre	5–6 employees/acre
Very High Investment	≥8 dwelling units/acre	≥7 employees/acre

Maps 7-1 and 7-2 illustrate the results of the 2018 and 2027 DTA analyses conducted for Brevard County, identifying areas that support different levels of transit investment based on existing and projected dwelling unit and employment densities. These maps also illustrate the existing Space Coast Area Transit route networks to gauge how well the current transit networks cover the areas of Brevard County that are considered supportive of at least a minimum level of transit investment.

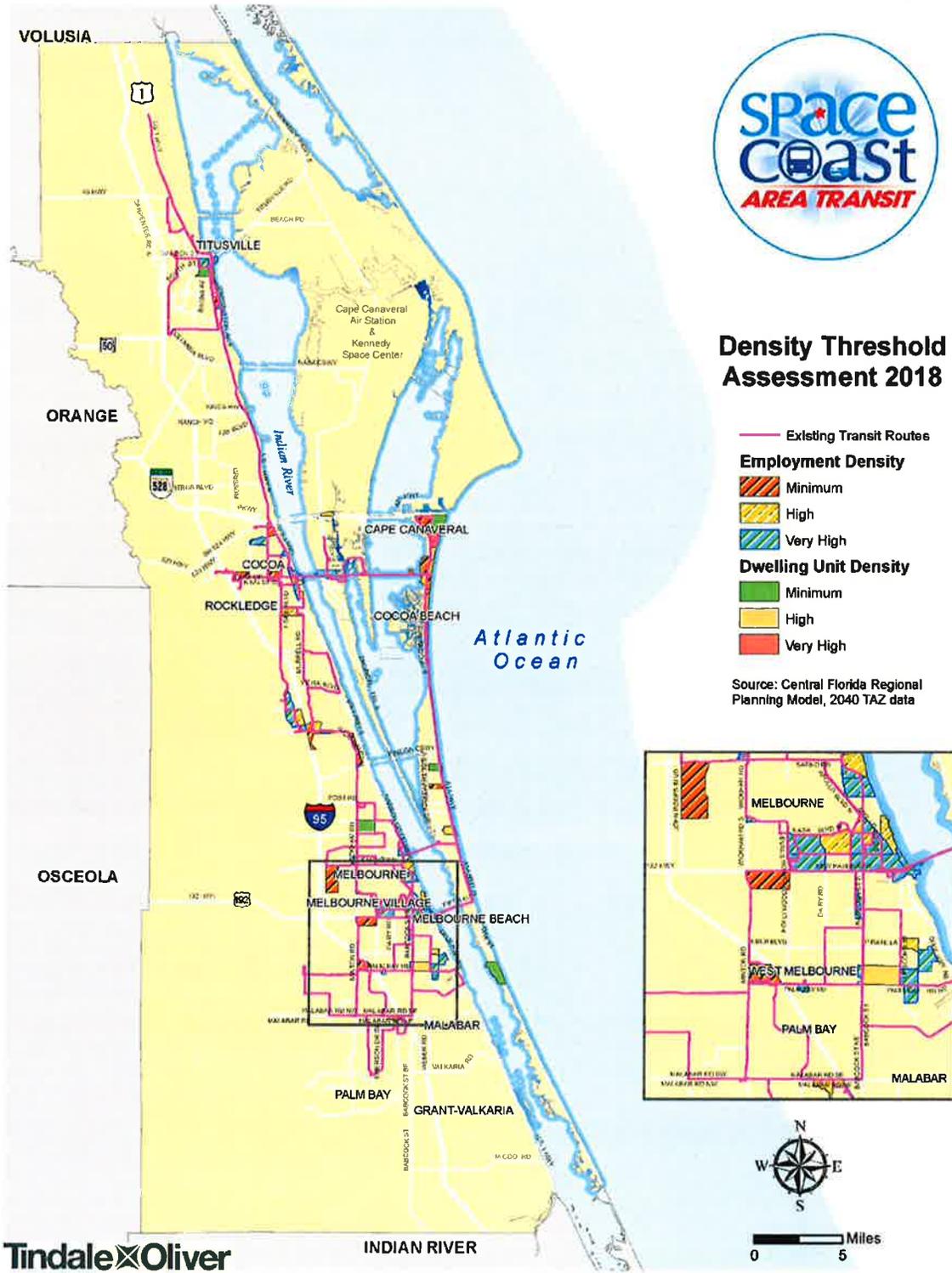
As shown on the 2018 DTA map, the transit supportive areas are located in Melbourne, Cape Canaveral, Merritt Island, Cocoa, Patrick Air Force Base, and Titusville. Of the block groups that are supportive of bus service, all are located near a fixed-route with the exception of a small area located east of I-95 and north of U.S. 192 in Melbourne.

In 2027, several block groups within Brevard County are anticipated to become more transit-supportive including areas in Melbourne, Cape Canaveral, and Palm Bay; however, there are still few areas with transit-supportive density thresholds. The 2027 transit-supportive block groups currently are served by transit, with the exception of a small block group in Palm Bay along Degroodt Road and the area east of I-95 and north of U.S. 192 in Melbourne. Employment density is anticipated to increase along Malabar Road in Malabar and along Wickham Road east of I-95.

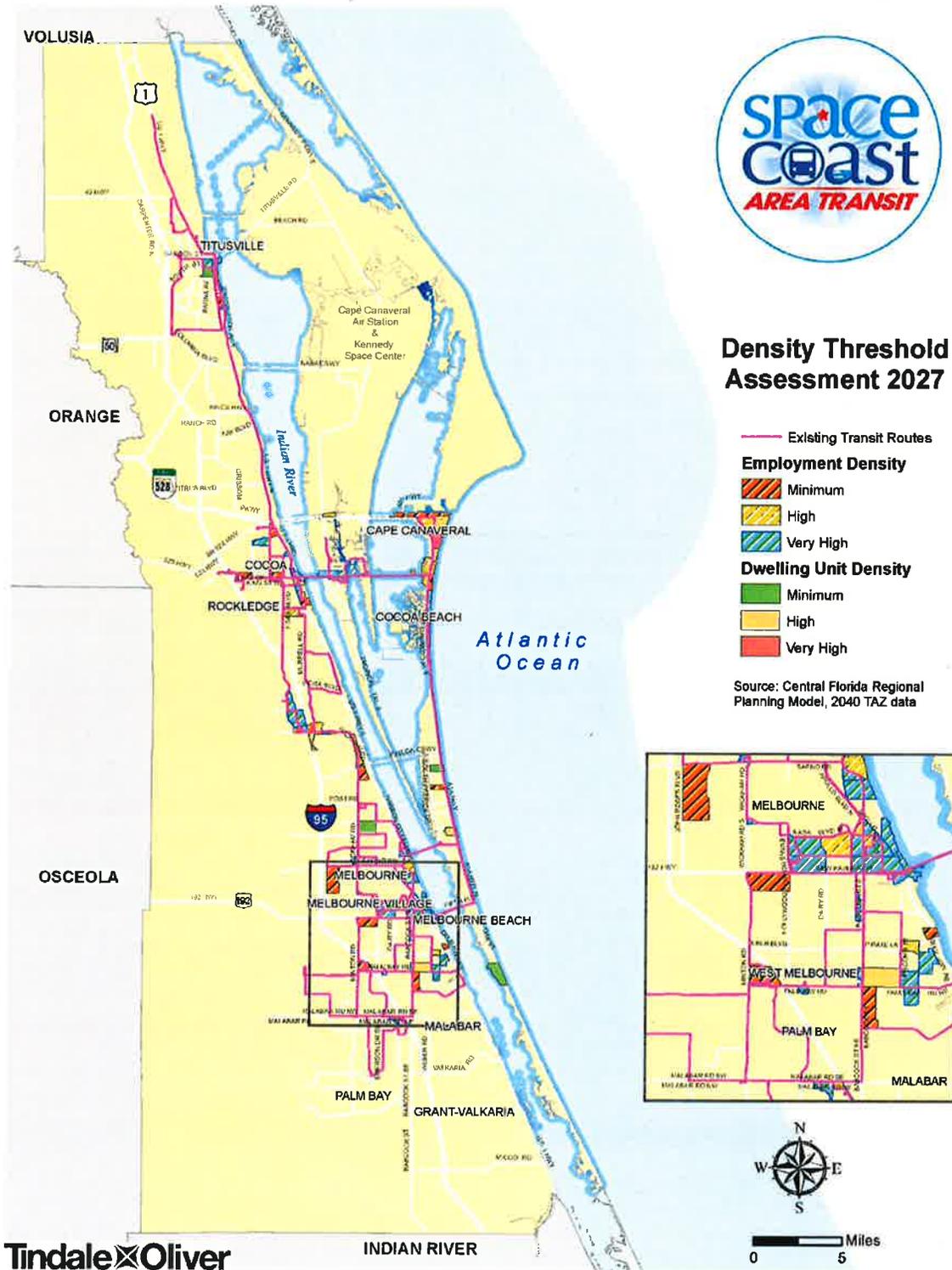
² TRB, National Research Council, TCRP Report 16, volume 1 (1996), Transit and Land Use Form, November 2002, MTC Resolution 3434 TOD Policy for Regional Transit Expansion Projects.

³ Findings from research on the relationship between transit technology and employment densities

Map 7-1: 2018 Density Threshold Analysis



Map 7-2: 2027 Density Threshold Assessment



Tindale Oliver

Traditional Transit Market Assessment

The traditional transit market refers to population segments that historically have a higher propensity to use or depend on transit for their transportation needs. For some individuals, their ability to drive is greatly diminished with age and they must rely on others for their transportation needs. Likewise, younger persons not yet driving age but who need to travel to school, employment, or for leisure may rely more on public transportation until they reach driving age. For lower-income households, transportation costs are particularly burdensome, as a greater proportion of income is used for transportation-related expenses than it is for higher-income households. Households with restricted income, particularly those with no private vehicle, are more likely to rely on public transportation for travel. Therefore, traditional transit users include older adults, youth, and households that are low-income and/or have zero vehicles.

A Transit Orientation Index (TOI) assists in identifying areas of the county in which a traditional transit market exists. To create the TOI, five-year demographic data estimates from the 2015 ACS were analyzed at the census block group level (the most detailed level of data available from ACS) for the following demographic and economic variables:

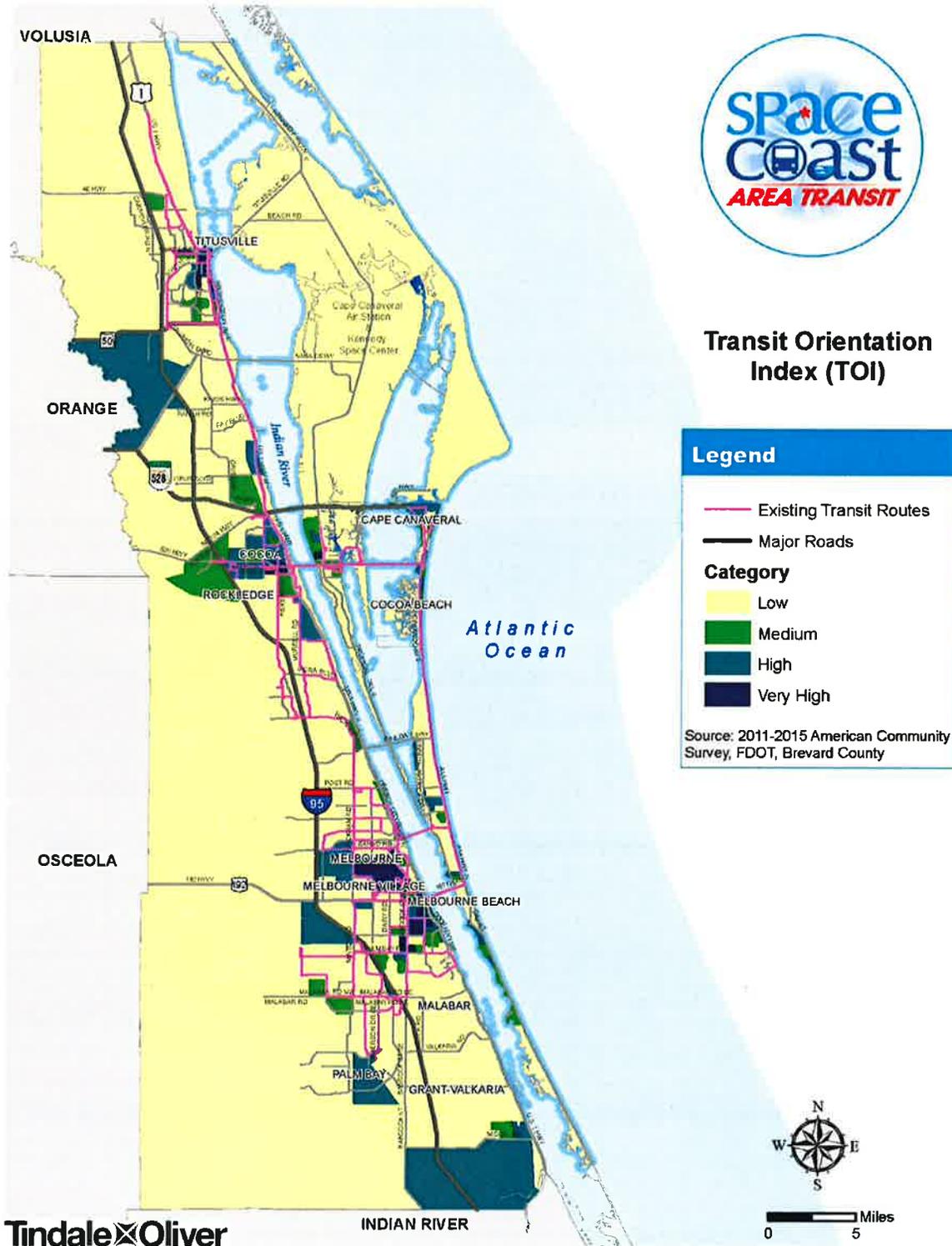
- Population age 65 and older
- Population under age 15 (youth)
- Population living below the poverty level (\$25,000 or less annual income for a 4-person household)
- Households with no vehicles available (zero-vehicle households)

The ACS data layers were overlaid to develop a composite ranking for each census block group of “Very High,” “High,” “Medium,” and “Low,” with respect to the level of transit orientation. The areas that ranked “Very High” reflect a very high transit orientation, i.e., a high proportion of transit-dependent populations, and those ranked “Low” indicate much lower proportions of transit-dependent populations.

Map 7-3 illustrates the 2015 TOI prepared for Brevard County, reflecting areas with varying traditional market potential. For the most part, block groups in portions of developed areas of Brevard County have “Low” or “Medium” transit orientation. In addition, the existing Space Coast Area Transit routes are located in most portions of the study area with “High” or “Very High” transit orientation. Areas with “High” or “Very High” transit orientation that may benefit from additional transit service include West Melbourne south of U.S. 192, Palm Bay near Babcock Street, and South of Micco Road to the border of Indian River County.

Based on existing demographics and trends in Brevard County, the senior population, already a significant share of the County population, will continue to increase over the next 10 years and add substantial demand for public transportation as this cohort ages-in-place and their ability to drive is compromised. Currently, the average age in Brevard County is 47.3 compared to 41.8 for the state and persons aged 65 and over comprise 23% of the county population compared to 19% for the state. The projected increase in elderly population, will manifest as increased demand for fixed route and paratransit service.

Map 7-3: Transit Orientation Index



TBEST Modeling Ridership Forecasting

Ridership forecasts were prepared using the FDOT-approved transit demand forecasting tool, Transit Boardings Estimation and Simulation Tool (T-BEST), Version 4.2.2. T-BEST is a comprehensive transit analysis and ridership-forecasting model that is capable of simulating travel demand at the individual route level. The software was designed to provide near- and mid-term forecasts of transit ridership consistent with the needs of transit operational planning and TDP development. In producing model outputs, T-BEST also considers the following:

- *Transit network connectivity* – The level of connectivity between routes within a bus network – the greater the connectivity between bus routes, the more efficient the bus service becomes.
- *Spatial and temporal accessibility* – Service frequency and distance between stops – the larger the physical distance between potential bus riders and bus stops, the lower the level of service utilization. Similarly, less frequent service is perceived as less reliable and, in turn, utilization decreases.
- *Time-of-day variations* – Peak period travel patterns are accommodated by rewarding peak service periods with greater service utilization forecasts.
- *Route competition and route complementarities* – Competition between routes is considered. Routes connecting to the same destinations or anchor points or that travel on common corridors experience decreases in service utilization. Conversely, routes that are synchronized and support each other in terms of service to major destinations or transfer locations and schedule benefit from that complementary relationship.

The following section outlines the model inputs and assumption, includes a description of the TBEST scenario performed using the model, and summarizes the ridership forecasts produced by TBEST.

Transit Network

The transit route network for all Space Coast Area Transit routes was created to reflect 2016 conditions, the validation year for the model. The transit network in GTFS format was verified and updated as needed. Data in the network include:

- Current service span
- Existing headways (the frequency at which a bus arrives at a stop – e.g., 1 bus every 60 minutes)
- Passenger travel times on board a bus
- Special generators
- Observed average daily ridership

For the new Route 29 and new Saturday service on Routes 7 and 8, the ridership base was calibrated using partial year observed ridership. Ridership on these routes should be monitored and projections adjusted based on actual manifest demand over the course of the first 18 -24 months of service.

Model Inputs/Assumptions and Limitations

TBEST uses various demographic and transit network data as model inputs. The inputs and the assumptions made in modeling the Space Coast Area Transit system in TBEST are presented below. The Space Coast Area Transit model used the recently-released T-BEST Land Use Model structure (TBEST Land Use Model 2016), which is supported by parcel-level data developed from the Florida Department of Revenue (DOR) statewide tax database. The DOR parcel data contains land use designations and

supporting attributes that allow the application of Institute of Transportation Engineers (ITE)-based trip generation rates at the parcel level as an indicator of travel activity.

It should be noted, however, that the model is not interactive with roadway network conditions. Therefore, ridership forecasts will not show direct sensitivity to changes in roadway traffic conditions or speeds.

Demographic Data

The demographics used as the base input for the TBEST model were derived from Census 2010 geography and population characteristics, ACS Five-Year Estimates (2009–2013), 2014 InfoUSA employment data, and 2015 parcel-level land use data from the Florida DOR. Varying data sets were used for TBEST because demographic data in TBEST is hard-coded and cannot be modified by end-users. Using the data inputs listed above, the model captures market demand (population, demographics, employment, and land use characteristics) within ¼ mile of each stop.

Population and Employment Growth Rates

TBEST uses a socio-economic data growth function to project population and employment data. A population growth rate and an employment growth rate were calculated using the 2045 TAZ forecasts developed for Brevard County. As indicated previously, population and employment data are hard-coded into the model and cannot be modified by end-users. As applied, the growth rates do not reflect fluctuating economic conditions as experienced in real time.

Special Generators

The special generators were determined to evaluate locations with opportunities for high ridership. Space Coast Area Transit special generators include the following:

- Malls/Shopping Centers/Super Walmart, including:
 - Searstown Mall
 - Sears
 - Melbourne Square Mall
 - Merritt Square Mall
 - Miracle City Mall
 - St. John's Plaza
 - Cocoa Commons Shopping Center
 - Canaveral Plaza
 - Banana River Square
 - Cornerstone Plaza
 - Melbourne Shopping Center
 - Hammock Landing
 - Fisher Park
 - Indian Harbour Place
 - Palm Bay Plaza
 - Viera Regional Park
 - Ocean Springs Plaza

- Transfer Centers, including:
 - Cocoa Transit Center
 - Melbourne Square Mall
- Hospitals, including:
 - Veterans Clinic
 - Parrish Medical Center
 - Cape Canaveral Hospital
 - Holmes Regional Hospital
 - Wuesthoff Hospital
 - Health First Physicians
 - Palm Bay Hospital
- Universities and Colleges, including:
 - Florida Institute of Technology
 - Eastern Florida State College (Titusville, Cocoa, Melbourne, Palm Bay)
 - Keiser University
 - South Lake Education Center
- Event Centers and Recreational Parks, including:
 - Shepard Park
 - Space Coast Stadium
- Airport
 - Melbourne International Airport
- Park & Ride
 - Titusville Park & Ride Lot
 - Palm Bay Park & Ride Lot
 - Viera Park & Ride
- Military Installations:
 - Patrick Air Force Base

TBEST Model Limitations

It has long been a desire of FDOT to have a standard modeling tool for transit demand that could be standardized across the state similar to the Florida Standard Urban Transportation Model Structure (FSUTMS) model used by MPOs in developing LRTPs. However, while TBEST is an important tool for evaluating improvements to existing and future transit services, model outputs do not account for latent demand for transit that could yield significantly higher ridership, and, correspondingly, model outputs may over-estimate demand in isolated cases. In addition, TBEST cannot display sensitivities to external factors such as an improved marketing and advertising program, changes in pricing service for customers, and other local conditions.

Although TBEST provides ridership projections at the route and bus stop levels, its strength lies more in its ability to facilitate relative comparisons of ridership productivity. As a result, model outputs are not absolute ridership projections but, rather, are comparative for evaluation in actual service implementation decisions. TBEST has generated interest from departments of transportation in other states and continues to be a work in progress that will become more useful as its capabilities are enhanced in future updates to the model. Consequently, it is important for Space Coast Area Transit to integrate sound planning judgment and experience when interpreting TBEST results.

Ridership Forecast

Using these inputs, assumptions, and actual ridership data, the TBEST model was validated. Using the validation model as the base model, TBEST ridership forecasts for this TDP major update with a starting year of 2018 and horizon year of 2027, were developed. The generated annual ridership forecasts reflect the estimated level of service utilization if *no changes* were to be made to any of the fixed-route services.

Table 5-2 shows the projected number of annual riders by route in 2018 and 2027 as well as average ridership growth rates from 2018 to 2027 derived from TBEST. The baseline ridership growth rate is 8.4%.

Table 7-2: Annual Ridership and Growth Rates with No Improvements, 2018-2027*

Route	Annual Ridership, 2018	Annual Ridership, 2027	Absolute Change, 2018-2027	Growth Rate, 2018-2027
Route 1	361,924	388,945	27,021	7.5%
Route 2	97,469	106,397	8,928	9.2%
Route 3	51,957	56,035	4,078	7.8%
Route 4	347,037	370,656	23,619	6.8%
Route 5	37,263	40,095	2,832	7.6%
Route 6	261,784	277,970	16,186	6.2%
Route 7	37,390	40,473	3,083	8.2%
Route 8	27,047	28,718	1,671	6.2%
Route 9	254,907	270,739	15,832	6.2%
Route 21	157,921	175,988	18,067	11.4%
Route 21S	4,130	4,386	256	6.2%
Route 22	68,872	75,700	6,828	9.9%
Route 23	89,479	98,186	8,707	9.7%
Route 24	86,585	94,258	7,673	8.9%
Route 25	149,542	167,509	17,967	12.0%
Route 26	41,007	45,096	4,089	10.0%
Route 27	110,201	125,899	15,698	14.2%
Route 28	111,850	121,296	9,446	8.4%
Route 29	128,171	138,933	10,762	8.4%
Route 33	776	845	69	8.9%
Total	2,425,312	2,622,984	197,672	8.4%

*Based on TBEST Model.

Forecast Ridership Analysis Summary

Based on the TBEST model results shown in Table 5-2, maintaining the status quo will result in a slight increase in Space Coast Area Transit ridership over time. According to the projections, overall ridership is expected to increase by 8.4 percent (from 2,425,312 to 2,628,124 riders) by 2027. The model results show that the most significant ridership growth in the existing Space Coast Area Transit network will occur on the following routes within the next 10 years.

- Route 27
- Route 25
- Route 21
- Route 26

For Space Coast Area Transit to increase its market share for transit, service expansion will need to strategically occur in growing areas. The service improvements identified in this plan, other transit planning efforts, and from the public feedback received combined will provide better transit services for the service area.

Section 8: Goals and Objectives

This section presents Space Coast Area Transit’s Mission, Vision, and transit goals, objectives, and strategies for the next 10 years. Goals, objectives, and strategies are an integral part of any transportation plan because they provide the policy direction to achieve the community’s vision. Below are the existing and proposed changes to the current Transit Vision and Transit Mission statements.

Table 8-1: FY 2017 TDP - Mission and Vision Statements

Current Vision and Mission Statements	Proposed Statements
<p>Transit Vision - To maintain the current level of transit service in the county and expand service to better respond to the key emerging service market needs of students, commuters, and the tourism industry (including both workers and visitors) by developing new routes and /or service enhancements that target these unique markets and connect with transit providers in adjacent counties for improved regional accessibility.</p>	<p>Transit Vision - To maintain the current level of transit service in the county and expand service to better respond to the key emerging service market needs of students, commuters, <u>seniors, the disabled,</u> and the tourism industry (including workers and visitors) by developing new routes, <u>enhanced flexible services, partnerships,</u> and/or other service enhancements, that target these unique markets and connect with transit providers in adjacent counties for improved regional accessibility.</p>
<p>Transit Mission - To continue to provide accessible and affordable transportation options to Brevard County residents of all ages and abilities by maintaining the current level of transit service in the county and gradually enhancing existing fixed-route service to extend hours of operation and increase frequency in the most productive corridors.</p>	<p>Transit Mission - To continue to provide accessible and affordable transportation options to Brevard County residents of all ages and abilities by maintaining the current level of transit service in the county and gradually enhancing existing fixed-route service to extend hours of operation and increase frequency in the most productive corridors, <u>and address increases in mobility demand in hard to serve areas and by disadvantaged populations with flexible services.</u></p>

The goals and objectives identified in the Space Coast Area Transit 2013 - 2022 TDP Major Update provide the policy direction to achieve the community’s vision. A goal is a long-term end toward which programs or activities are ultimately directed. An objective is a specific, measurable, intermediate end that is achievable and allows measurement of progress toward a goal. A strategy is the course of action or way in which programs and activities are conducted to achieve an identified objective.

The goals, objectives, and strategies presented in this section were prepared based on the review of the goals and objectives adopted in the 2013-2022 TDP Major Update (last major update) and reviews of subsequent TDP Annual Updates. Additional factors contributing to the review and update of the Space Coast Area Transit goals and objectives include: the assessment of existing conditions, feedback received during the public involvement process, and the review of local planning documents.

The TDP major update process provides an opportunity to refresh the agency’s goals and objectives. The six goals from the TDP Major Update are presented below along with proposed changes.

Table 8-2: FY 2017 TDP - Goal Statements

Current Goal Statements	Proposed Goal Statements
1. Implement a transit system fully integrated with other transportation modes and Brevard County's Complete Street Principles.	No Change
2. Enhance citizen mobility by increasing availability of public transportation service	2. Enhance citizen mobility <u>and access to opportunity</u> by increasing availability of public transportation service.
3. Improve the experience of those riding Space Coast Area Transit.	3. Improve the experience of those riding Space Coast Area Transit <u>through technology and related services</u> .
4. Ensure program accountability.	No Change
5. Secure the funding necessary to meet service needs.	No Change
6. Build on Space Coast Area Transit's award-winning marketing and outreach strategies to increase ridership, use of park and ride lots, the ReThink vanpool program, and participation in the Volunteers In Motion program.	6. Build on Space Coast Area Transit's award-winning marketing and outreach strategies to increase ridership, use of park and ride lots, the ReThink vanpool program, <u>through partnerships, technology</u> , and participation in the Volunteers in Motion Program.

The table below includes the Space Coast Area Transit's current goals and objectives (from the 2014 Annual Update) and reflects proposed changes for the 2017 TDP. The proposed changes add focus to means to leverage partnerships, technology, and flexible service delivery strategies to address increasing mobility demand, especially in hard to serve areas and by seniors, and other customers typically served by paratransit. These proposed changes recognize the value in partnering to leverage funding and in managing mobility service delivery to increase less expensive shared ride applications in place of traditionally expensive paratransit services where appropriate. This strategy offer to improve localized mobility and provide first-last-mile connections to the fixed route network.

Table 8-3: FY 2017 - Proposed TDP Objectives

Objective	Description	FY 2017 Objective
Objective 1.1	Maximize coordination with public and private agencies and other transportation operators in Brevard County.	No Change
Objective 1.2	Coordinate with the Space Coast Transportation Planning Organization (TPO) in the utilization of transit planning funds to support and improve transit service.	No Change
Objective 1.3	Communicate and coordinate with other counties and agencies such as LYNX, Votran, and Indian River Transit to promote ride-sharing practices and transportation arrangements.	Communicate and coordinate with other counties, agencies such as LYNX, Votran, and Indian River Transit, <u>major employers, hospitals, educational institutions</u> to promote ride-sharing practices and transportation arrangements.

Objective 1.4	Maintain existing coordination contracts and execute new ones, where feasible, needed, and cost effective.	No Change
Objective 1.5	Encourage the connection between transit, land uses, and Complete Streets principles through coordination with the TPO, Brevard County, and municipalities in the growth management process including comprehensive plans, land development codes, corridor studies, and site review of development.	No Change
Objective 2.1	Ensure that the fixed-route, vanpool, and paratransit systems continue to remain responsive to the needs of the transportation disadvantaged.	Ensure that the fixed-route, vanpool, and paratransit systems continue to <u>provide high quality service and</u> remain responsive to the needs of the transportation disadvantaged.
Objective 2.2	Continue the implementation of expanded evening and weekend fixed-route service.	Continue the implementation of expanded evening and weekend fixed-route service <u>and flexible services.</u>
Objective 2.3	Continue maximizing the use of the fixed-route bus service for the transportation disadvantaged.	Continue maximizing the use of the fixed-route bus service <u>and flexible services</u> for the transportation disadvantaged.
Objective 2.4	As feasible, implement increased paratransit service and expanded fixed-route service as outlined by the 10-year vision.	As feasible, implement increased paratransit service and expanded fixed-route <u>and flexible services</u> as outlined by the 10-year vision.
Objective 3.1	Research new methods to improve and streamline passenger fare collection.	Research new methods to improve and streamline passenger fare collection, <u>including mobile pay applications.</u>
Objective 3.2	Investigate Intelligent Transportation Systems (ITS) technologies to improve customer experience and scheduling.	Investigate Intelligent Transportation Systems (ITS) technologies, <u>including dynamic scheduling,</u> to improve customer experience and scheduling.
Objective 3.3	Develop a smart phone application for Space Coast Area Transit services, including system-wide information, service updates, and real-time vehicle location.	Develop a smart phone application for Space Coast Area Transit services, including system-wide information, service updates, and real-time vehicle location, <u>and mobile pay.</u>
Objective 4.1	Adhere to the procedures, rules, and regulations established by the Commission for the Transportation Disadvantaged, Florida Department of Transportation, State of Florida, Federal Transit Administration, and Brevard County.	No Change
Objective 4.2	Collect and compile the data necessary for the evaluation of service including rider surveys. These data will be repeated in the Annual Operating Report (AOR), National Transit Database (NTD), and the Annual Community Transportation Coordinator (CTC) evaluation.	No Change
Objective 4.3	Continue to provide and review performance reports at the Local Coordinating Board meetings.	No Change

Objective 5.1	Continue to pursue local government and private sector funding partnerships to provide operating assistance to maintain existing service levels and expand service to meet future needs.	Continue to pursue local government and private sector funding partnerships to provide operating assistance to maintain existing service levels and expand service to meet future needs <u>for operations, operating funds, capital funds, customer amenities, ADA accessible ways, and service delivery.</u>
Objective 5.2	Investigate alternative funding sources to provide continuing operating revenue for services currently funded through FDOT Transit Corridor Grants and the FDOT Transportation Regional Incentive Program (TRIP).	No Change
Objective 5.3	Work with the Commission for the Transportation Disadvantaged, Florida Department of Transportation, and the Federal Transit Administration to continue to obtain funding necessary to meet service demands of transportation disadvantaged citizens.	No Change
Objective 5.4	Work with local and state agencies to secure sufficient funding to provide social service agency trips.	No Change
Objective 6.1	Maximize availability of service information; ensure that material is available in accessible formats including print, radio, and video media.	No Change
Objective 6.2	Actively engage the community in promoting transit by calling attention to Space Coast Area Transit services through sponsorships, editorials, advertisements, and the like.	No Change
Objective 6.3	Participate in community events and meetings where information can be distributed to potential participants.	No Change
Objective 6.4	Develop a core group of transit advocates including elected officials, community advocates, agency heads, education leaders, and business leaders from the Economic Development Council of Florida's Space Coast, Florida's Space Coast Office of Tourism, and the Space Coast Economic Development Commission.	No Change



Annual Goals and Objectives Reporting

The following checklist can be used as a reporting mechanism for the TDP's annual progress report update and is provided to encourage Space Coast Area Transit to evaluate its progress toward achieving each goal.

Fiscal Year	2018		2019		2020		2021		2022	
Goal Status	In Progress	Achieved								
Goal 1										
Goal 2										
Goal 3										
Goal 4										
Goal 5										
Goal 6										
Fiscal Year	2023		2024		2025		2026		2027	
Goal Status	In Progress	Achieved								
Goal 1										
Goal 2										
Goal 3										
Goal 4										
Goal 5										
Goal 6										

Section 9: Transit Alternatives

This section identifies the potential transit improvements developed for the Space Coast Area TDP. Those proposed improvements, or alternatives, for fixed-route service represent the transit needs for the next 10 years without consideration of funding constraints. These improvements in no way establish a financial commitment for Brevard County; they have been developed only for transit planning purposes and do not reflect the actual budget or expenses of Space Coast Area Transit.

Development of Alternatives

The alternatives identified in this TDP consist of improvements to enhance existing Space Coast Area Transit routes as well as provide additional services within several areas of the county. The alternatives reflect transit needs identified by the community and have been developed based on the information gathered through the following methods:

- Public Workshops and Stakeholder Discussions- Public workshops and stakeholder discussions have been an effective technique for obtaining substantive public input on transit needs throughout the Transit Development Plan process. Outreach was conducted to gather input from a series of three market segment focused discussion groups. The topics of these discussions were to identify mobility needs, service gaps, and ideas to improve mobility services to support: business, healthcare, education, tourism, seniors, and access to community services. In addition, a public meeting is scheduled for mid-June to review and discuss initial service concept alternatives considered for the next 10 years. Based on comments received from the public meeting, the service concepts will be refined. A second public meeting will be held to review the refined service concepts included in the Draft TDP document to be submitted for FDOT review.
- Transit Surveys – An on-board survey targeting bus passengers was conducted as part of the TDP planning process to obtain input from riders.
- Interviews – Interviews were conducted with policy leaders and agency/community representatives to gather input on Space Coast Area Transit’s role in the community, economic development goals and funding policy, transit service, technology, and infrastructure needs, potential future investment in transit, among others.
- Transit Demand Assessment – An assessment of transit demand and needs was conducted for Brevard County using various GIS-based analysis tools. These technical analyses, together with the baseline conditions assessment and performance reviews conducted previously, also were used in developing the list of transit alternatives by identifying areas that have characteristics shown to be supportive of transit.
- Situation Appraisal – Requirements for a 10-year TDP in Florida include the need for a situation appraisal of the environment in which the transit agency operates. The purpose of this appraisal is to help develop an understanding of the transit operating environment in Brevard County in the context of the following elements:
 - Socioeconomic trends
 - Travel behavior
 - Land Use
 - Public involvement
 - Organizational attributes
 - Technology

- Regional transit issues
- Assessment of the plans reviewed

From the above, several improvement alternatives were developed and grouped into the following three main categories:

- Service
- Capital/Infrastructure
- Policy/Other

Specific recommendations within each of these categories are summarized below.

Service Improvements

Service improvements include enhancements to existing routes related to frequency, extended service hours, and/or providing additional days of service. This also includes service expansion, including new routes for operating in areas not currently served by Space Coast Area Transit.

Improvement to Existing Routes

Expanding hours and increasing frequencies on existing bus routes are significant needs identified through the public involvement efforts performed as part of the development of the Space Coast Area Transit TDP.

- **Increase Frequency on all Routes** - Based on comments received during public outreach efforts, direction from the Review Committee, and transit best practices data, increasing frequencies on the existing routes was identified as the most important improvement to be implemented. Over the next ten years as resources become available and potential efficiencies can be identified, implementing service frequency improvements on all routes should be a primary objective. Recognizing that many existing routes operate at headways more than 60-minutes, adopting a target headway of at least 30-minutes weekday and 60-minutes weekend is recommended to implement service over the next ten years. However if funding is not secured these improvements may occur outside of the planning horizon or not be implemented. The following service frequency targets are proposed and are tested for existing services in the 2027 service improvement concepts:
 - *Sunday Service – maximum headway of at least every 60-minutes or less; exception Route 26;*
 - *Saturday Service – maximum headway of at least every 60-minutes or less; exceptions are Route 4 and Route 26; and*
 - *Weekday Service - maximum headway of at least every 30-minutes or less; exceptions are Route 1 and Route 26*
- **Extend service on all existing routes** - From the various activities during the public involvement process, a need for adding later service for students who take later classes and for workers with non-traditional schedules was identified as a priority. To address this need, service on all regular routes (with the exception of Routes 4, 9, and 26) could be standardized and provide service from 5:30 AM to 10:30 PM on weekdays, from 6:00 AM to 10:00 PM on Saturdays, and from 8:00 AM to 8:00 PM on Sundays.

- **Implement Sunday Service on all routes** - Currently Routes 4, 9, and 21 provide service on Sunday with service ending no later than 6 PM. Sunday service could be implemented on all routes with service from 8 AM to 8 PM, and could be provided at 60-minute headways.
- **Route 26** – the route 26 is very long (47 miles round trip) and poses operational challenges. Our recommendation is for Space Coast Area Transit to consider splitting the Route 26 into two routes. One would serve the western portion of the Route 26, from Airport/NASA Boulevard, to the Publix at Indian Harbour Shopping Center on E. Eau Gallie Boulevard. This segment of the route would be 23 miles round trip and currently is scheduled to run a 65-minute cycle time. The second route would operate from the Indian Harbour Shopping Center north along A1A to 13th Street, a round trip distance of 24 miles and a current operating cycle time of 52 minutes. The running times on these routes may be adjusted because of the reduced risk of delays associated with the long combined routing. These changes at 60-minute existing headways would require two vehicles. Operating at a 30-minute headway, these routes would require 4 vehicles. Given the extra running time on the north leg of the proposed Route 26 change, this route may be made to overlap, supplement, or interline with the Route 9.
- **Route 33** – the route 33 is not proposed to change at this time. This service operates as a Flagdown service due to the unique characteristics of the service area.

New Service Expansions

Based on the transit demand assessment, and the public involvement activities, recommendations are proposed for new services. Map 9-1, at the end of this section, presents the existing fixed route transit network plus the service concepts alternatives proposed. The following new services are designed to capture emerging and underserved transit markets, and provide connectivity throughout Brevard County:

New Fixed-Routes

Input from the public involvement process and the 2040 LRTP indicated a need to provide service to Barefoot Bay and Sebastian. These new services would travel along US 1 and into Indian River County with service ending at the Walmart Supercenter on US 1 in Sebastian, and operate 7 days a week with a 120 minute headway.

- **Melbourne-Sebastian via US 1** - Service for this route would begin at the Melbourne Shopping and would provide stops along US 1, and will also connect to existing routes 21, 26, and 27. Total roundtrip distance for this service is 50 miles. Because of route length, the headway is estimated to be 120-minutes.
- **Palm Bay-Barefoot Bay-Sebastian via US 1** – This 40 mile roundtrip route would begin service at the Publix Super Market at Bayside Lakes Plaza with connection to Route 21, and would provide stops along Cogan Dr., Babcock St., Micco Rd., and Barefoot Bay Blvd with continuing service along US 1. The majority of the population residing in Barefoot Bay is 65 and over, and currently do not have access to transit. Because of route length, the headway is estimated to be 120-minutes.

Circulator Service

- **Palm Bay-Malabar** – Provide service from the Walmart Supercenter on Palm Bay Rd to the Walmart Supercenter on Malabar Rd with stops along Port Malabar Blvd., and Babcock St. Frequency for this service will be 30-minutes weekdays and 60-minutes weekends, and would connect to existing Routes 21, 22, 23, 25, and 27.
- **Malabar-Degroodt-Bayside Lakes Plaza** – Provide service from the Walmart Supercenter on Malabar Rd to the Publix Super Market at Bayside Lakes Plaza via Jupiter Blvd. This service would

provide connection to Routes 22 and 23 with 30-minute frequency weekdays and 60-minutes weekends.

- **Malabar-San Filippo-Bayside Lakes Plaza** – Provide service from the Walmart Supercenter on Malabar Rd to Publix Super Market at Bayside Lakes Plaza via San Filippo Dr. Service for this route would be seven days a week with a 30-minute frequency weekdays and 60-minutes weekends, and connections to Routes 22 and 23.
- **Minton-St. John's Heritage Parkway** – Space Coast Area Transit has been approached over the past few years by the Brevard County School, City of West Melbourne and the City of Palm Bay to provide bus service west of Minton Blvd, specifically Heritage High School on Malabar Rd. Service would begin at Hammock Landing and would serve the area west of Minton Blvd south of SR 192 and provide service along the newly constructed St. John's Heritage Parkway. The St. John's Heritage Parkway is a 5 mile arterial roadway extending from Palm Bay city limits north to Ellis Rd. The service frequency for this fourth Palm Bay route would be 30-minutes weekday, and 60-minutes on Saturday. This route would connect to existing Routes 23, 25, and 27.

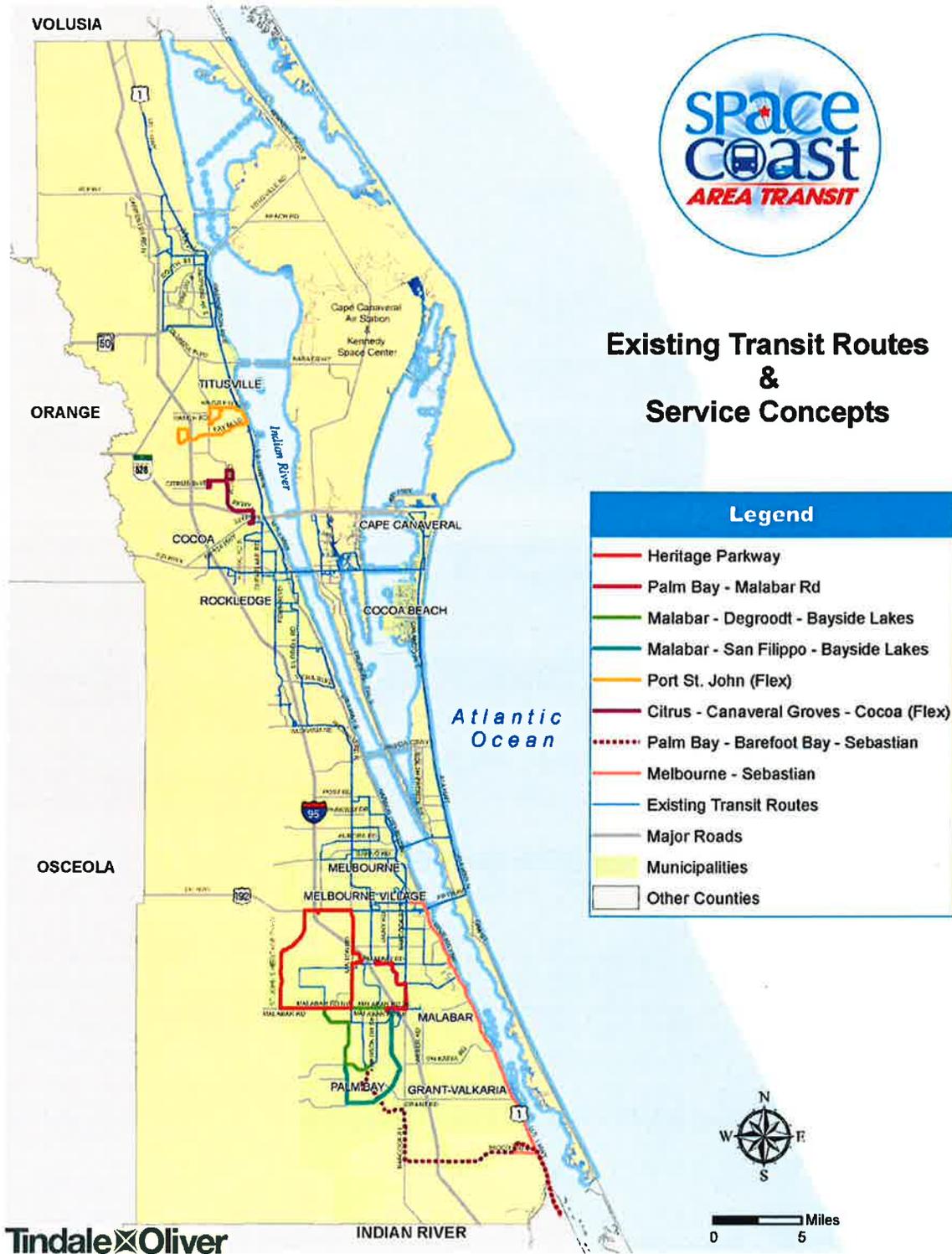
Flex Service

This proposed service is designed in rural areas and would provide connections to existing transit service. The noted service is proposed as a deviated fixed-route service with a maximum number of deviations per round trip. Each deviation will be limited to a maximum of $\frac{3}{4}$ mile distance away from the trunk line. Route deviation is a hybrid public transportation service with features of a fixed-route, fixed-schedule transit service and demand responsive and, therefore, meets all requirements for complementary paratransit service required by ADA; no separate complementary ADA paratransit service is required. The service frequencies for this service will be 30-minutes weekdays and 60-minutes weekends.

- **Port St. John** – Providing service along Grissom Pkwy., Kings Hwy., US 1, and Fay Blvd with connection to Route 1 via US 1.
- **Citrus Blvd-Canaveral Grooves-Cocoa** - This route would provide connection to existing Route 6 at Cocoa Commons, and provide service along Grissom Pkwy and Industry Rd.

The proposed service improvements represent enhancements and additions to existing services that may be implemented based on demand and fiscal capacity. In addition to the service improvements identified, Space Coast Area Transit will continue to seek opportunities to enhance transit services in particular travel corridors consistent with strategic transportation plan. As funding opportunities arise, the potential for converting key routes into Bus Rapid Transit services will be examined.

Map 9-1: Service Concepts Alternatives



Tindale Oliver

Capital/Infrastructure Improvements

Potential capital/infrastructure improvements include the following:

- **Replace/add new vehicles** – Continue the existing vehicle fleet replacement program and add new vehicles to serve the proposed service improvements and new routes.
- **Expand and improve bus stop infrastructure** – The TPO and SCAT can continue to improve infrastructure at bus stops with coordination from the municipalities, including benches, shelters, bicycle storage facilities and other infrastructure. This would enhance the rider's experience while waiting for the bus and could potentially attract new riders. Bus stop infrastructure above existing budgetary levels will need to be accompanied by an appropriate funding source to advance. Federal and state funding are the primary sources for bus stop infrastructure improvements, but local matching funds may be necessary.
- **New Bus Operations Center** – SCAT needs to plan for and design a new operating base to accommodate growing demand and related need for expanded fleet storage and maintenance activities. The new operating base may also serve as a training facility and administrative offices for SCAT employees.
- **Transit Hubs** – the SCAT transit network is heavily dependent on bus route connections and passenger transfers between routes for riders to reach their destinations. SCAT should examine and plan to develop – either through agreements with existing parcel owners such as shopping centers, or via direct acquisition of property – a series of transit transfer hubs (superstops) at locations where more than 3 routes connect on a frequent basis. These transit hubs will provide infrastructure for vehicle staging, transfers, passenger waiting amenities, real-time service information, and locations for transit pass sales. These transit hubs may include TOD elements consistent with improved mobility access for the surrounding communities. These elements may take the form of retail and other development partnerships with public and private entities – shopping, community services, healthcare, education, employment, residential, and other potential uses that benefit community livability and access to opportunities.
- **Improve bus stop safety and ADA accessibility** – Ensuring the safety of all riders while accessing bus stops and waiting for the bus, as well as guaranteeing that ADA requirements are fulfilled for all transit facilities is important to the overall safety and accessibility of the transit system. Bus stop safety and accessibility improvements above existing budgetary levels will need to be accompanied by an appropriated funding source to advance. In 2013 a bus stop safety and ADA accessibility plan was developed to prioritize bus stop improvements and improve ADA accessibility. All new bus stops are required to be ADA accessible. The provision of an accessible path to/from the bus stop and adjacent land uses is a requirement of the ADA however, to provision of sidewalks is typically the responsibility of the municipality, county, or FDOT and these improvements should be programmed to be part of roadway improvements and improvements to adjacent properties.
- **Call Center Capacity and Sensitivity Training** – The ability to access mobility information and make reservations for paratransit trips (ADA and TD) is essential to serving customers and meeting mobility demand. To assure call center user hold, call abandonment, and wait times are acceptable and call center capacity and is sufficient for call volumes. Assuring adequate capacity equates to right sizing the call center. This has direct and positive implications for providing and maintaining high levels of customer service. Space Coast Area Transit should assess call center capacity and conduct routine sensitivity training for call center staff.

- **Establish park-and-ride-lots** – Park-and-ride facilities provide collection points for travelers to transfer from auto to transit or between autos (from a single-occupant vehicle to a carpool or vanpool). When conveniently located and carefully planned and implemented, park-and-ride facilities are integrated into the overall transportation network and can encourage a shift from single-occupant vehicles to transit or other alternative modes. Current park-and-ride locations within Brevard County that are supported by public and private partnerships include:
 - Titusville on SR 50 (Cheney Hwy)
 - Viera near Stadium Parkway and Viera Boulevard
 - Eau Gallie on Eau Gallie Boulevard
 - Palm Bay on Emerson Drive and C.R. 509
- **Technology improvements** – Several technology based improvements are available for SCAT consideration.
 - Acquisition of CAD/AVL functionality to track vehicle location and manage vehicle operations. In addition to traditional CAD/AVL systems, SCAT should examine new generation systems that are largely tablet based, open source, and significantly less expensive.
 - The acquisition of CAD/AVL functionality will permit SCAT to also provide a web-based and mobile application that provides real time bus information directly to customers.
 - SCAT should consider is the acquisition of mobile payment application to permit riders (fixed route and paratransit) to use their phone for fare payment. The industry already seen the proliferation of many mobile payment applications that incorporate base, reduced, express fares as well as a range of passes.
 - The industry is seeing the development of transit e-hailing applications that support mobility-on-demand service models which SCAT might consider for Flex services as well as some fixed routes that could be modified to operate as point deviation services to better serve low density markets and serve both general public riders and appropriate ADA riders (depending on trip purpose and customer needs).

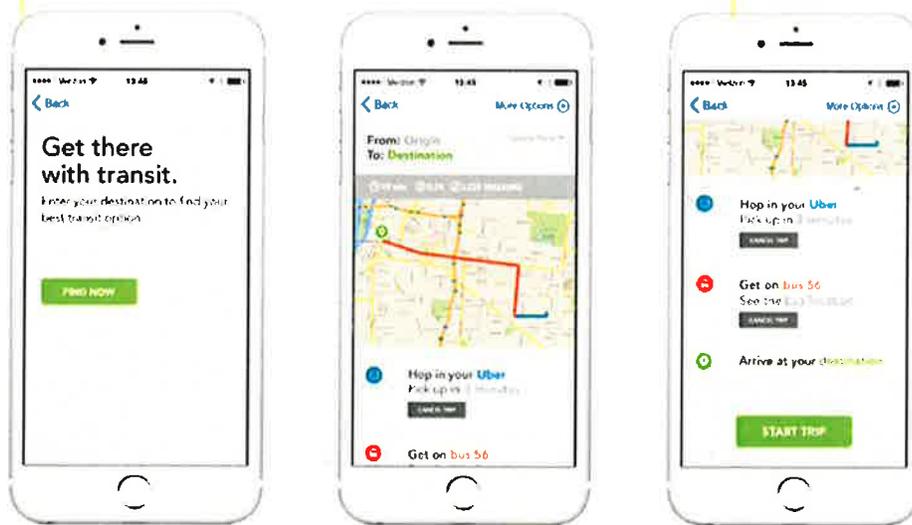
Policy/Other Improvements

Other potential improvements include various general improvements that are not necessarily route-specific or capital related. These improvements are drawn primarily from the input on public involvement efforts performed as part of the TDP development process. Other needed improvements identified for the next 10 years are as follows:

- **Transit Signal Priority (TSP) Studies** – TSP aims to improve service and reduce delay for transit vehicles at signalized intersections. As congestion increases in Brevard County, a need for TSP in certain locations may be identified. In this instance, Space Coast Area Transit should coordinate with FDOT and local governments responsible for traffic signals concerning future studies or pilot projects that evaluate potential locations for and appropriate applications of TSP.
- **Major TDP and TDSP Update** – The FDOT requires that a major TDP update be completed for the fifth year of this 10 year plan. In addition, the FDOT requires that TDP progress reports are submitted annually. Space Coast Area Transit has historically updated its TDSP concurrent with the major TDP update.

- **Bus Stop Inventory and Assessment** – The TPO has plans to conduct an ADA Assessment beginning in Fall 2017. Space Coast Area Transit should coordinate with the MPO and continue collecting bus stop data to develop and complement the TPO’s inventory and prioritize ADA bus stop improvements along corridors.
- **Fare Policy Evaluation** – The existing fare structure should be assessed from time to time to ensure that Space Coast Area Transit is maintaining farebox recovery ratio and that the fare are consistent with the fare of other similar transit agencies. To ensure a fair and equitable fare structure, implementation of a tourism tax is recommended to potentially avoid an increase in fare. The fare policy evaluation should include examination of mobile payment application.
- **Shared park-and-ride lot agreements** – Agreements with private or public landowners that allow parking spaces to be shared by transit passengers in underutilized and/or off-peak private lots are another way to provide park-and-rides at a lower or no cost, especially where real estate cannot feasibly be purchased.
- **Land development regulations** – Land use and transportation, when planned for concurrently, can lead to more efficient land use and transportation networks. Brevard County should encourage and guide other local governments in modifying their policies and regulations by adopting more multimodal supportive land uses and land development regulations to enhance the overall transportation network and connectivity within the county. If local governments are on board to participate in a transit-supportive framework, this will help Brevard County make rapid and significant progress in integrating transit into such major developments. Land development regulations can drastically shape the walkability of an urbanized area, which, in turn, can promote higher transit ridership. For instance, minimum parking requirements and road design standards that are automobile-oriented can negatively impact walkability, thereby negatively impacting a transit-supportive environment.
- **Improve route-level performance monitoring** – Implement performance monitoring program to include a comparative analysis of route performance. Route performance metrics are currently supported through collection of ridership, farebox, and operating data obtained through scheduling, dispatch, and farebox functions as well as through ride-checks and routine National Transit Database surveys. The acquisition of technologies – CAD/AVL, mobile payment, and e-hailing functions – provide a significant additional source of valid and reliable data for SCAT to use to augment performance monitoring and service planning.
- **Partnerships with ridesourcing companies** – Transit agencies around the U.S. have started pilot programs to partner with ridesourcing companies such as Uber and Lyft. Space Coast Area Transit should establish a partnership with a ridesourcing company with an established presence. While these partnerships hold promise for expanding mobility to both choice and dependent riders, the cost-effectiveness of this approach and obstacles with regard to compliance with ADA and Title VI suggest caution. Applying similar technological functionality to transit services to facilitate greater mobility-on-demand offers a more robust service option to transit providers. Figure 9-1 illustrates an example mobile application that integrates Uber and transit services.

Figure 9-1: Example Ridesourcing-Transit Partnership Application



- Operational studies** – Space Coast Area Transit from time to time may conduct planning studies such as a comprehensive operations analyses for paratransit and fixed-route services to ensure these services are being supplied in the most efficient and effective manner. Market research studies may also be effective for increasing partnerships throughout the community and gaining information that could provide direction for future marketing efforts.

Section 10: Financial Plan

This section outlines the recommended 10-year cost feasible implementation plan developed for the Space Coast Area Transit 2027 TDP. First, the recommended transit services and capital plan to support the funded service plan (Cost Feasible Plan) for the next 10 years is summarized. Thereafter, a summary of the assumptions for capital and operating costs used in developing the 10-year costs and revenues for the recommended plan are presented. Finally, the financial and implementation plans for the recommended 10-year period are presented and the unfunded needs are identified.

10-Year Cost Feasible Plan Improvements

The funded improvements included in the Space Coast Area Transit 2027 TDP were determined after an extensive public outreach program. Improvements were identified for both transit service improvements and capital improvements, which are summarized below and listed in the tables that follow.

Service Improvements

- **Heritage Parkway Route** – The Cost Feasible Plan includes the addition of the Heritage Parkway route based on the expected award of FDOT service development grant funds. The Heritage Parkway route will add service in western Palm Bay. The estimated annual cost of the Heritage Parkway route is \$528,600 (2018\$) and will include additional complementary paratransit service (\$393,300).

Capital/Infrastructure Improvements

- **Replacement and Additional Vehicles** – Replacement buses, replacement paratransit vehicles and vanpool vehicles, replacement support vehicles (\$6,868,800).
- **Operating and Maintenance Facility** – Engineering and design associated with facility upgrades (\$45,000) may include preliminary design for new operating base.
- **Bus Stop Infrastructure Program** – Improved infrastructure at bus stops, including benches, shelters, bicycle storage facilities, ADA accessibility, and other infrastructure (\$865,500) improves customer experience, accessibility, and attracts new riders.
- **Update and Improve Security** – Improvements to security at facilities and assets (\$447,800).
- **Facilities and Maintenance Rehabilitation** – Improvements to existing operations and maintenance facilities (\$1,073,200).
- **Computer Hardware and Software** – Update and replace hardware and software systems used in the administration, operation, planning, management, and maintenance of transit services (\$549,100).
- **ITS/CAD/AVL System** – Fund procurement of an integrated information system to support vehicle location, operations and dispatch management, and provide data and information to be used to inform customers of the status of service (where's my bus?) and operations planning and management with detailed and specific information about service operations (\$1,200,000).
- **Operations and Planning Studies** – Fund operations planning studies designed to provide both focused service improvements as well as comprehensive restructuring of the existing transit network to achieve better, more cost-effective service to meet growth in mobility demand – fixed route, paratransit, and mobility on demand (\$602,900).
- **Capitalized Operations Support** – Federal capital funds used to support the cost of transit service operations (\$3,305,800). These funds are used in place of local funding traditionally programmed to support operations.

- **Preventive Maintenance / Administrative and Indirect Costs** – Funding to support on-going preventive maintenance on vehicles and facilities as well as associated administrative and indirect costs (\$4,951,300).

Cost and Revenue Assumptions

This section presents the capital and operating costs assumptions, along with the costs and revenues associated with the 10-year Cost Feasible Plan.

Operating Cost Assumptions

Numerous cost assumptions were made to forecast transit costs for the time period from 2018 through 2027. These operating costs assumptions are based on a variety of factors, including service performance data from SCAT, and information from other recent Florida TDPs. These assumptions are summarized as follows:

- An average annual inflation rate of 1.88% was used for all operating costs projections, based on discussions with SCAT staff.
- Annual operating costs for existing services are based on SCAT's FY2018 budget and inflated at 1.88% for each year thereafter.
- Annual operating costs for future service enhancements are based on the projected annual service hours and cost per revenue hour of \$69.85 for fixed-route service and \$98.75 for paratransit service. The cost per hour was provided by SCAT staff based on actual costs. The operating cost per hours figures are inflated annually using the 1.88% factor.

Table 10-1 illustrates the cost-feasible and costs associated with additional services over the 10-year period (2018-2027). Existing services are funded with cost of living adjustments to the existing revenue base, including fare revenue. Additional services are assumed to be funded with added fare box revenue associated with expanded services. In addition, expanded services are expected to generate additional federal formula funding and state grant funds. The remaining unfunded service expansion costs are assumed to be funded through additional (new) state and local sources. Additional information is provided in the Revenue Assumptions section below.



Table 10-1: 10-Year Operating Plan

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	10-Year Total
Operating											
Operating Cost											
Maintain Existing Fixed-Route	\$6,592,933	\$6,712,325	\$6,833,879	\$6,957,654	\$7,083,631	\$7,211,909	\$7,342,510	\$7,475,476	\$7,610,650	\$7,748,676	\$71,589,824
Maintain Paratransit	\$4,628,847	\$4,712,671	\$4,798,013	\$4,884,901	\$4,973,362	\$5,063,425	\$5,155,119	\$5,248,474	\$5,343,519	\$5,440,286	\$50,248,677
Service/Frequency Improvements to Existing Services	\$0	\$0	\$6,943,208	\$7,068,943	\$7,196,955	\$7,327,286	\$7,459,976	\$7,595,070	\$7,732,609	\$7,872,640	\$59,196,688
New Local/Express Service	\$528,588	\$538,160	\$547,906	\$557,828	\$567,930	\$578,244	\$588,761	\$599,481	\$610,404	\$621,528	\$5,429,177
Complementary ADA Paratransit for New Fixed-Route Services	\$393,256	\$400,377	\$407,628	\$415,010	\$422,525	\$430,166	\$437,934	\$445,825	\$453,839	\$461,967	\$3,888,253
Total Operating Cost	\$12,143,624	\$12,383,534	\$19,530,634	\$19,884,316	\$20,244,403	\$25,820,933	\$26,288,527	\$26,764,568	\$27,249,270	\$27,742,730	\$216,033,000
Operating Revenues											
Federal 5307 for Operating	\$4,304,328	\$4,362,276	\$4,461,635	\$4,542,431	\$4,624,690	\$4,708,439	\$4,793,705	\$4,880,514	\$4,968,696	\$5,058,678	\$46,725,791
Federal Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Aux Park and Ride - Advertising Revenues	\$127,251	\$129,555	\$131,901	\$134,290	\$136,722	\$139,197	\$141,718	\$144,285	\$146,897	\$149,558	\$1,381,373
Other Directly Generated Funds	\$159,397	\$162,283	\$165,222	\$168,214	\$171,260	\$174,361	\$177,519	\$180,734	\$184,007	\$187,339	\$1,730,335
Local Government Transit Contributions	\$1,859,453	\$1,893,126	\$1,927,409	\$1,962,312	\$1,997,848	\$2,034,027	\$2,070,862	\$2,108,363	\$2,146,544	\$2,185,416	\$20,165,360
Fare Revenue from Existing Services	\$1,574,758	\$1,603,273	\$1,632,306	\$1,661,866	\$1,691,961	\$1,722,601	\$1,753,795	\$1,785,555	\$1,817,890	\$1,850,810	\$17,094,812
State Govt Sources - Transit Allocation	\$4,118,440	\$4,193,021	\$4,268,953	\$4,346,260	\$4,424,967	\$4,505,089	\$4,586,682	\$4,669,743	\$4,754,308	\$4,840,404	\$44,107,677
Fare Revenue from Expanded Service (based on FRR)	\$59,771	\$121,707	\$1,024,289	\$1,042,838	\$1,061,723	\$1,081,723	\$1,102,837	\$1,125,065	\$1,148,408	\$1,172,876	\$12,417,038
New FTA 5307 (based on 50% of FTA formula / oper costs)	\$0	\$179,997	\$1,514,857	\$1,542,289	\$1,570,219	\$2,597,837	\$2,644,861	\$2,692,778	\$2,741,541	\$2,791,166	\$21,066,775
New FDOT Block Grant (50% unfunded balance)	\$0	\$0	\$2,202,031	\$2,241,908	\$2,282,507	\$4,091,406	\$4,165,497	\$4,240,931	\$4,317,730	\$4,394,928	\$26,542,337
New Local Match - Operations (50% of unfunded balance)	\$0	\$0	\$2,202,031	\$2,241,908	\$2,282,507	\$4,091,406	\$4,165,497	\$4,240,931	\$4,317,730	\$4,394,928	\$26,542,337
Total Operating Revenue	\$12,203,395	\$12,865,238	\$19,530,634	\$19,884,316	\$20,244,403	\$25,820,933	\$26,288,527	\$26,764,568	\$27,249,270	\$27,742,730	\$216,394,035
Revenues Minus Costs	\$89,771	\$301,704	\$0	\$61,475							

Capital Cost Assumptions

Several assumptions were developed to project the costs for capital needs identified previously.

These capital cost assumptions are summarized as follows:

- New vehicles planned to be purchased under this Cost Feasible Plan included those necessary to replace vehicles within the existing fleet that have reached the end of their useful life and vehicles to implement new service.
- Vehicles are assumed to cost \$430,000 for a heavy duty fixed route passenger bus, \$100,000 for a paratransit vehicle, and \$50,000 for a support vehicle and vanpool/volunteers in motion vehicle. The vehicle unit costs are based on information provided by Space Coast Area Transit.
- An annual growth rate of 1.88% was used for capital cost projections, based on the data available from recent regional cost of living index.

Tables 10-2 and 10-3 illustrate the capital costs and funding requirements included in the 10-year Capital Cost Plan.



Table 10-2: 10-Year Capital Cost Plan

Capital Costs	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	10-Year Total
Vehicles											
Replenish Buses - Maintain Existing Service - Fixed Route	\$6,888,842	\$3,359,780	\$7,722,269	\$865,382	\$3,286,892	\$514,126	\$3,619,508	\$3,741,745	\$3,638,345	\$3,396,618	\$37,011,463
Replacement Buses - Maintain Existing Service - Paratransit	\$4,718,842	\$1,751,148	\$1,762,859	\$0	\$0	\$0	\$2,873,331	\$2,825,364	\$2,876,340	\$2,452,872	\$19,482,754
Replacement of Support and VM vehicles	\$2,000,000	\$476,511	\$487,177	\$495,999	\$504,981	\$514,128	\$523,436	\$532,915	\$542,566	\$552,391	\$6,632,102
Expand Weekly Service from 6:30 AM to 10:30PM - 30 minute Hwy	\$150,000	\$254,527	\$103,655	\$369,361	\$53,721	\$0	\$222,739	\$283,466	\$115,440	\$411,355	\$1,964,263
Vehicles for Expanded Fixed Route	\$0	\$875,574	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$875,574
Vehicles for Expanded Paratransit	\$0	\$0	\$0	\$0	\$2	\$1,898,852	\$0	\$0	\$0	\$0	\$5,348,578
Other Capital/Infrastructure											
Transfer Hubs where three plus routes connect - Cocoa, Melbourne	\$13,040,848	\$10,114,407	\$10,588,304	\$10,842,347	\$37,831,821	\$11,157,609	\$9,880,774	\$11,111,832	\$10,342,808	\$11,459,181	\$135,955,710
Bus stops - signage, maps, shelters, bus stop upgrades	\$865,484	\$407,244	\$897,114	\$1,266,380	\$0	\$437,554	\$0	\$0	\$0	\$0	\$2,525,756
New Bus Operations and Maintenance Base	\$0	\$0	\$0	\$0	\$23,900	\$946,740	\$0	\$981,339	\$0	\$1,017,204	\$5,637,781
Park and Rides - 4 locations - FDOT Lead	\$0	\$0	\$0	\$0	\$26,860,697	\$0	\$0	\$0	\$0	\$0	\$26,860,697
CADAVLITS System - operations and public	\$1,200,000	\$0	\$0	\$0	\$0	\$54,694	\$55,685	\$56,663	\$57,720	\$0	\$224,792
Mobile Payment Application	\$66,734	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$66,734
Transit E-hailing MOD Application	\$308,433	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$308,433
Comprehensive Operations Analysis and Short Range Planning	\$590,581	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$590,581
Major TOP and TDSP Updates	\$0	\$0	\$0	\$0	\$268,607	\$0	\$0	\$0	\$0	\$0	\$268,607
Bus Stop Inventory and ADA Assessment - with Digital Dashboard	\$0	\$183,260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$183,260
Fare Policy Evaluation and Title VI Assessment	\$0	\$81,449	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,449
Shared use Park and Ride Lot Agreements	\$0	\$0	\$82,324	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$82,324
Land Use and Transit Zoning Overlay Regulations	\$0	\$0	\$62,193	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62,193
Mobility Partnership Agreements	\$0	\$91,630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$91,630
SCAT Call Center Capacity and Training/Update Riders Guide	\$0	\$76,358	\$0	\$79,149	\$0	\$82,041	\$0	\$85,040	\$0	\$88,148	\$410,735
Rehab/Renovate Security System	\$55,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,000
Engineering & Design Admin Building	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,000
ADP Hardware and ADP Software	\$342,226	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$342,226
Security Equipment	\$334,776	\$340,838	\$347,011	\$353,295	\$359,693	\$366,206	\$372,838	\$379,590	\$386,464	\$393,452	\$3,634,173
Support Equipment	\$51,585	\$52,519	\$53,470	\$54,439	\$55,424	\$56,428	\$57,450	\$58,490	\$59,549	\$60,628	\$559,983
Rehab/Renovate Admin Facility	\$1,068,121	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,068,121
Lease Support Equipment	\$6,430	\$6,546	\$6,665	\$6,786	\$6,909	\$7,034	\$7,161	\$7,291	\$7,423	\$7,557	\$69,801
Radio/Communication Equipment Purchase	\$130,090	\$132,446	\$134,844	\$137,286	\$139,772	\$142,303	\$144,880	\$147,504	\$150,175	\$152,895	\$1,412,197
Rehab/Renovate Radios	\$10,000	\$10,181	\$10,365	\$10,553	\$10,744	\$10,939	\$11,137	\$11,339	\$11,544	\$11,753	\$108,955
Real Estate Appraisal	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000
Administrative/Indirect Costs	\$400,061	\$407,306	\$414,682	\$422,191	\$429,837	\$437,621	\$445,546	\$453,614	\$461,829	\$470,192	\$4,342,877
Employee Education/Training	\$12,369	\$12,993	\$13,621	\$13,053	\$13,290	\$13,550	\$13,776	\$14,028	\$14,279	\$14,537	\$134,272
Purchase landscaping/scenic	\$7,124	\$7,253	\$7,384	\$7,518	\$7,654	\$7,793	\$7,934	\$8,078	\$8,224	\$8,373	\$77,335
Preventive Maintenance	\$4,551,245	\$4,633,654	\$4,717,575	\$4,803,006	\$4,889,984	\$4,978,538	\$5,068,694	\$5,160,464	\$5,253,936	\$5,349,000	\$49,406,206
Route-level Operational Performance Analysis	\$0	\$0	\$0	\$0	\$107,443	\$0	\$0	\$0	\$115,440	\$0	\$222,882
50% Federal share operating (Titusville and non-Titusville)	\$3,905,822	\$3,965,687	\$3,426,637	\$3,468,690	\$3,551,987	\$3,616,188	\$3,681,674	\$3,748,346	\$3,816,228	\$3,885,334	\$35,886,471
Total Costs	\$19,908,490	\$13,474,187	\$18,310,573	\$11,507,709	\$40,918,713	\$11,871,735	\$13,488,280	\$14,853,577	\$13,979,151	\$14,655,779	\$172,967,173



Table 10-3-10-Year Capital Revenue Plan

Capital Revenue	2018	2019	2020	2021	2022	2023	2024	2025	2028	2027	10-Year Total
Federal Capital Grants (at 50% of non-veh capital)											
Federal Capital - 5339 (at 50% of veh capital)											
TD Trip Equipment (escalation based on CPI)											
FDOT Block Grant (escalation based on CPI)											
Local Government (at 25% of Federal share)											
Other Local (escalation based on CPI)											
FDOT Capital Grant Funds (60% unfunded balance)											
Local Match - Capital Grants (60% unfunded balance)											
Total Capital Revenue	\$19,909,490	\$13,474,167	\$18,310,573	\$11,507,709	\$40,918,713	\$11,871,735	\$13,489,280	\$14,853,877	\$13,979,151	\$14,855,779	\$172,987,173
Revenue Minus Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

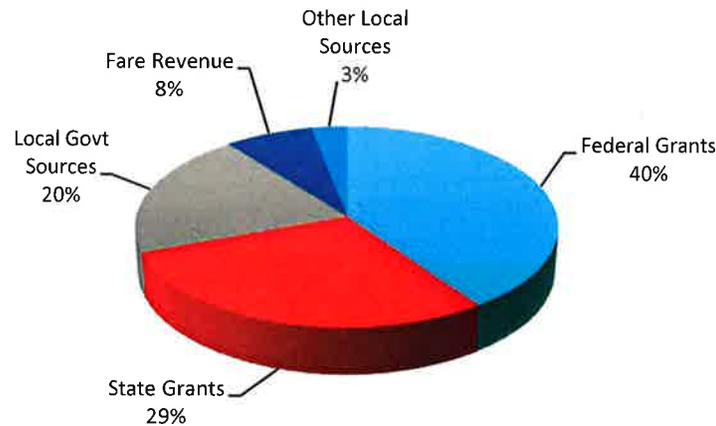
Revenue Assumptions

Revenues for fixed-route service are based on information from previous National Transit Database and the FY2018 operating budget provided by SCAT staff. Annual revenues from federal, state, and local sources are based on SCAT’s FY 2018 budget and discussions with SCAT staff.

Annual operating and capital budgets are based on funding levels approved annually by the Brevard County Board of County Commissioners as well as funding sources, such as formula and discretionary grants, approved and secured by SCAT from FDOT, the Federal Transit Administration, and other public and private sources.

Figure 10-1 shows the distribution of revenues included in the 10-year Cost Feasible Plan.

Figure 10-1: Total Revenues Operating and Capital



The “Other Local Revenue” category includes advertising revenues and other directly generated funds. Existing and additional local, state, and federal funding sources are identified in Table 10-1, operating revenue, and Table 10-3 capital revenue. Revenue assumptions are further described below.

- Farebox revenues for existing service are escalated at an annual rate of 1.88%. Fare box revenue based on expanded services is based on the overall farebox recovery ratio based on FY2018 budget (13%). While it is recommended that SCAT review its fare structure periodically throughout the TDP horizon year, farebox revenue was not arbitrarily increased to account for fare increases.
- Federal Section 5307 urbanized area formula funds can be used for operating expenses and capital expenditures. In the FY2018 operating budget, SCAT reflects Section 5307 revenues to equate to 38% of overall operating costs. Fifty percent of this ratio has been assumed to continue in the future to estimate 5307 funding associated with new services. While SCAT has the flexibility to use up to 45% of Section 5307 funds for operations, diverting funds from capital purchases can result in deferred vehicle replacement as well as investments in other infrastructure, technology

needs. Delayed vehicle replacement typically leads to increased maintenance related operating costs.

- FTA Section 5339/State of Good Repair Program funds with a 20% local match from Florida toll revenue credit revenue are assumed to be available to fund the new SCAT Operations and Maintenance Facility in the future. To be conservative, revenue estimates for future Section 5339 funds assume a 50% federal share and 50% state and local match.
- Federal funds for planning studies for FY 2018 and beyond is based on the Space Coast Transportation Planning Organization's (SCTPO) Transportation Improvement Plan (TIP). SCAT currently coordinates with the SCTPO and will continue to do so in the future to identify and leverage funding for projects and studies.
- FDOT block grant funding is based on SCAT's FY2018 budget and escalated by 1.88% thereafter.
- FDOT service development grant funds are based SCAT's FY2018 budget and are escalated by 1.88% thereafter for existing services. Future block grant funds for new services are estimated based on 50% of the unfunded project balance after existing and federal sources. These funds would require grant application and approval on a case-by-case basis.
- There is an assumed 50% local match of the unfunded project and service balance costs after existing and federal sources are applied. These funds would require grant application and approval on a case-by-case basis and would require approval by the Brevard Board of County Commissioners.
- Additional Brevard County funding may be required to cover any shortage in revenue for the provision of existing service based on the Brevard Board of County Commissioners' historical commitment to fund existing transit services. The Commission may change this budgetary policy at will. If local funding to support continued transit services is not supported in any year, additional funding may be needed to maintain existing service or service modifications may be required.

Presented in Table 10-4 is the summary 10-year Financial Plan 2018-2027, which combines cost feasible and unfunded operating and capital costs and revenue requirements. Table 10-4 is provided for planning purposes so that Space Coast Area Transit staff, the community, and funding partners can assess and program service and capital improvements and identify associated revenue streams.



Table 10-4: Combined 10-Year Operating and Capital Costs and Revenue Requirements

Cost/Revenue	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	10-Year Total
Operating Costs											
Maintain Existing Fixed-Route	\$6,592,933	\$6,712,325	\$6,833,879	\$6,957,634	\$7,083,631	\$7,211,909	\$7,342,510	\$7,475,476	\$7,610,850	\$7,748,676	\$71,569,824
Maintain Paratransit	\$4,628,847	\$4,712,671	\$4,798,013	\$4,884,901	\$4,973,362	\$5,063,425	\$5,155,119	\$5,248,474	\$5,343,519	\$5,440,285	\$50,248,617
Service/Frequency Improvements to Existing Services	\$0	\$0	\$6,943,208	\$7,068,943	\$7,196,955	\$7,327,286	\$7,459,976	\$7,595,070	\$7,732,609	\$7,872,640	\$59,196,688
New Local/Express Service	\$528,588	\$538,160	\$547,906	\$557,828	\$567,930	\$578,222	\$588,704	\$599,276	\$609,943	\$620,704	\$5,455,595
Complementary ADA Paratransit for New Fixed-Route	\$393,256	\$400,377	\$407,628	\$415,010	\$422,525	\$430,156	\$437,904	\$445,768	\$453,748	\$461,847	\$4,629,177
Total Operating Cost	\$12,144,000	\$12,364,000	\$19,531,000	\$19,884,000	\$20,244,000	\$25,821,000	\$26,289,000	\$26,765,000	\$27,249,000	\$27,743,000	\$218,034,000
Capital Costs											
Vehicles											
Replacement Buses (Existing Service)	\$4,718,842	\$1,751,148	\$1,782,859	\$0	\$0	\$0	\$2,873,331	\$2,925,364	\$2,978,340	\$2,432,872	\$19,462,754
Replacement Paratransit Vehicles (Existing Service)	\$2,000,000	\$478,511	\$487,177	\$495,999	\$504,981	\$514,126	\$523,436	\$532,915	\$542,566	\$552,391	\$6,632,102
Replacement of Support Vehicles	\$150,000	\$254,527	\$103,655	\$369,361	\$53,721	\$0	\$222,739	\$283,466	\$115,440	\$411,355	\$1,964,263
Vehicles for New Transit Service	\$0	\$875,574	\$5,348,578	\$2	\$2,728,189	\$0	\$0	\$0	\$0	\$0	\$8,952,344
Non-Vehicle Capital											
Operating and Maintenance Facility	\$45,000	\$0	\$0	\$26,860,697	\$0	\$0	\$0	\$0	\$0	\$0	\$26,905,697
Transfer Hubs	\$0	\$407,244	\$414,618	\$1,266,380	\$0	\$437,554	\$0	\$0	\$0	\$0	\$2,525,796
Park-and-Ride and Shared Use Lots	\$0	\$0	\$82,924	\$0	\$0	\$54,694	\$55,685	\$56,693	\$57,720	\$0	\$307,715
Bus Stop Infrastructure Program	\$865,484	\$183,260	\$897,114	\$0	\$929,900	\$946,740	\$0	\$981,339	\$0	\$1,017,204	\$5,821,041
Security	\$447,791	\$399,904	\$407,146	\$414,519	\$422,026	\$429,668	\$437,449	\$445,371	\$453,436	\$461,647	\$4,318,957
Facilities Maintenance and Rehabilitation	\$1,073,245	\$7,253	\$7,384	\$7,518	\$7,654	\$7,793	\$7,934	\$8,078	\$8,224	\$8,373	\$1,143,456
Computer Hardware / Software / Applications	\$549,050	\$448,060	\$145,210	\$147,839	\$150,517	\$153,242	\$156,017	\$158,843	\$161,719	\$164,648	\$2,235,145
ITS/CAD/AVL System	\$1,200,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,200,000
Operations and Planning Studies	\$602,950	\$185,672	\$75,014	\$13,053	\$389,339	\$13,530	\$13,775	\$14,025	\$129,718	\$14,537	\$1,451,614
Capitalized Operations Support	\$3,305,822	\$3,365,687	\$3,426,637	\$3,488,690	\$3,551,867	\$3,616,188	\$3,681,674	\$3,748,346	\$3,816,225	\$3,885,334	\$35,886,471
Call Center Capacity Analysis and Training	\$0	\$76,358	\$0	\$79,149	\$0	\$82,041	\$0	\$85,040	\$0	\$88,148	\$410,735
Preventive Maintenance / Admin / Indirect Cost	\$4,951,306	\$5,040,970	\$5,132,257	\$5,225,198	\$5,319,821	\$5,416,158	\$5,514,240	\$5,614,098	\$5,715,764	\$5,819,771	\$53,749,083
Total Capital Cost	\$19,909,000	\$13,474,000	\$18,511,000	\$11,508,000	\$40,919,000	\$11,672,000	\$13,486,000	\$14,854,000	\$13,979,000	\$14,856,000	\$172,967,173
Revenues											
Federal Grants	\$16,750,024	\$9,619,476	\$11,270,643	\$11,403,894	\$25,010,819	\$12,885,080	\$12,371,973	\$13,129,208	\$12,881,840	\$16,370,835	\$141,695,793
Section 5339 Bus and Bus Facilities	\$664,591	\$1,679,880	\$3,861,134	\$432,681	\$1,643,446	\$257,063	\$1,809,753	\$1,870,872	\$1,818,172	\$1,698,309	\$15,735,902
State Grants	\$7,092,834	\$7,813,214	\$11,017,811	\$9,879,624	\$15,534,024	\$11,960,150	\$12,477,334	\$12,913,863	\$12,933,332	\$11,888,851	\$113,511,036
Local Govt Sources	\$4,858,531	\$4,169,332	\$7,881,992	\$5,795,211	\$15,025,973	\$7,694,401	\$8,334,733	\$8,836,628	\$8,639,336	\$7,595,029	\$78,831,166
Fare Revenue	\$1,634,526	\$1,724,380	\$2,656,596	\$2,704,704	\$2,759,684	\$3,479,161	\$3,542,165	\$3,606,310	\$3,671,617	\$3,738,107	\$29,511,850
Other Local Sources	\$1,112,378	\$1,132,522	\$1,153,031	\$1,173,912	\$1,195,170	\$1,216,813	\$1,238,849	\$1,261,283	\$1,284,124	\$1,307,378	\$12,075,461
Total Revenue	\$32,113,000	\$26,139,000	\$37,841,000	\$31,392,000	\$61,163,000	\$37,493,000	\$39,775,000	\$41,618,000	\$41,228,000	\$42,599,000	\$391,361,000
10-Year Cost Feasible Plan											
Total Revenue	\$32,113,000	\$26,139,000	\$37,841,000	\$31,392,000	\$61,163,000	\$37,493,000	\$39,775,000	\$41,618,000	\$41,228,000	\$42,599,000	\$391,361,000
Total Cost	\$32,053,000	\$25,838,000	\$37,842,000	\$31,392,000	\$61,163,000	\$37,493,000	\$39,775,000	\$41,619,000	\$41,228,000	\$42,599,000	\$391,002,000
Rollover from Prev. Year	\$0	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

10-Year Implementation Plan and Unfunded Needs

The implementation plan in Table 10-5 outlines improvements that are included in the Cost-Feasible Plan from 2018 through 2027 (presented previously in Table 10-1), as well as unfunded needs identified and associated funding assumptions. The cost-Feasible Plan includes the FY2018 budget as well as continuation of existing services. All new services and capital costs above existing revenue streams are subject to future funding availability, including new sources of revenue or revenue commitments by local government.

The table shows the implementation years, the operating and capital costs associated with each improvement, and whether existing or new revenues are anticipated to fund the improvement. It is important to emphasize that the schedule shown in the table does not preclude the opportunity to delay or advance any projects. As priorities change, funding assumptions do not materialize, or more funding becomes available, this project implementation schedule should be adjusted.

Table 10-5: 10-Year Implementation Plan

Improvement	Implementation Year	Annual Operating Cost	Total Capital Cost	Existing or New Revenues
		(2018\$)	(2018\$)	
Maintain Existing Service				
Maintain Existing Fixed-Route Service	2018-2027	\$6,592,933	\$19,051,399	Existing
Maintain Existing Paratransit Service	2018-2027	\$4,628,847	\$8,596,365	Existing
Improvements to Existing Routes				
Add Heritage Parkway Service with ADA coverage of 75% of route	2018-2027	\$528,588	\$875,574	N/A
Weekday Headway 30-minute or better; 5:30-10:30 Span	2020	\$5,825,768	\$6,418,294	New
Add 60-minute or better Saturday Service; 6:00-10:00 Span	2020	\$5,672,753		New
Add 60-minute or better Sunday Service; 8:00-8:00 Span	2020	\$818,102		New
New Service Expansion				
Fixed-Routes				
Palm Bay-Malabar - within ADA coverage	2023	\$315,815	\$940,741	New
Malabar-Degroodt-Bayside - with ADA coverage of 50% of route	2023	\$593,231	\$940,741	New
Malabar-San Filippo-Bayside - with 100% ADA cover	2023	\$708,428	\$940,741	New
Melbourne-Sebastian via US1 - with ADA coverage of 60% of route	2023	\$303,926	\$470,370	New
Palm Bay-Barefoot Bay-Sebastian via US1 - with 100% ADA coverage	2023	\$328,011	\$470,370	New
Flex Routes				
Port St. Johns (Flex) - also serves ADA	2023	\$585,340	\$940,741	New
Citrus-Canaveral-Cocoa (Flex) - also serves ADA	2023	\$496,340	\$940,741	New
Capital/Infrastructure Improvements				
Operating and Maintenance Facility	2018-2022	TBD	\$26,905,697	Existing/New
Transfer Hubs	2019-2023	TBD	\$2,525,796	Existing/New
Park-and-Ride and Shared Use Lots	2020-2026	TBD	\$307,715	Existing/New
Bus Stop Infrastructure Program	2018-2027	TBD	\$5,821,041	Existing/New
Security	2018-2027	TBD	\$4,318,957	Existing/New
Facilities Maintenance and Rehabilitation	2018-2027	TBD	\$1,143,456	Existing/New
Computer Hardware / Software / Applications	2018-2027	TBD	\$2,235,145	Existing/New
ITS/CAD/AVL System	2018	TBD	\$1,200,000	Existing
Operations and Planning Studies	2018-2027	TBD	\$1,451,614	Existing/New
Capitalized Operations Support	2018-2027	TBD	\$35,886,471	Existing/New
Call Center Capacity Analysis and Training	2019-2027	TBD	\$410,735	Existing/New
Preventive Maintenance / Admin / Indirect Cost	2018-2027	TBD	\$53,749,083	Existing/New

Appendix A: Community Profiles

Appendix B: Public Involvement Plan

Appendix C: Flyers and Press Release

Appendix D: Public Involvement Materials

Appendix E: On-Board Survey Instrument and Results

Appendix F: Annual Farebox Recovery Report

Appendix A: Community Profiles

DRAFT

Figure A-1: Cape Canaveral Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Cape Canaveral

Community Description
The City of Cape Canaveral sits on the Atlantic coast and is separated from the mainland by the Banana River and the Indian River from east to west.

Community Characteristics

Population ¹	10,031
Area (square miles)	2.2
Median Household Income ¹	\$44,802
Median Age ¹	56.3

Transit Facilities

Routes	9
Shelters	5

- Major Attractors**
- Carter Fuller Mound Complex
 - Jetty Park
 - Cape Canaveral Lighthouse
 - Port Canaveral

Developments of Regional Impact
None

- Major Employers**
- Sterling Casino Lines LP
 - Tynda Holdings LLC
 - Lockheed Martin Corporation



¹ 2011-2015 5-Year American Community Survey

Figure A-2: Cape Canaveral Profile Map

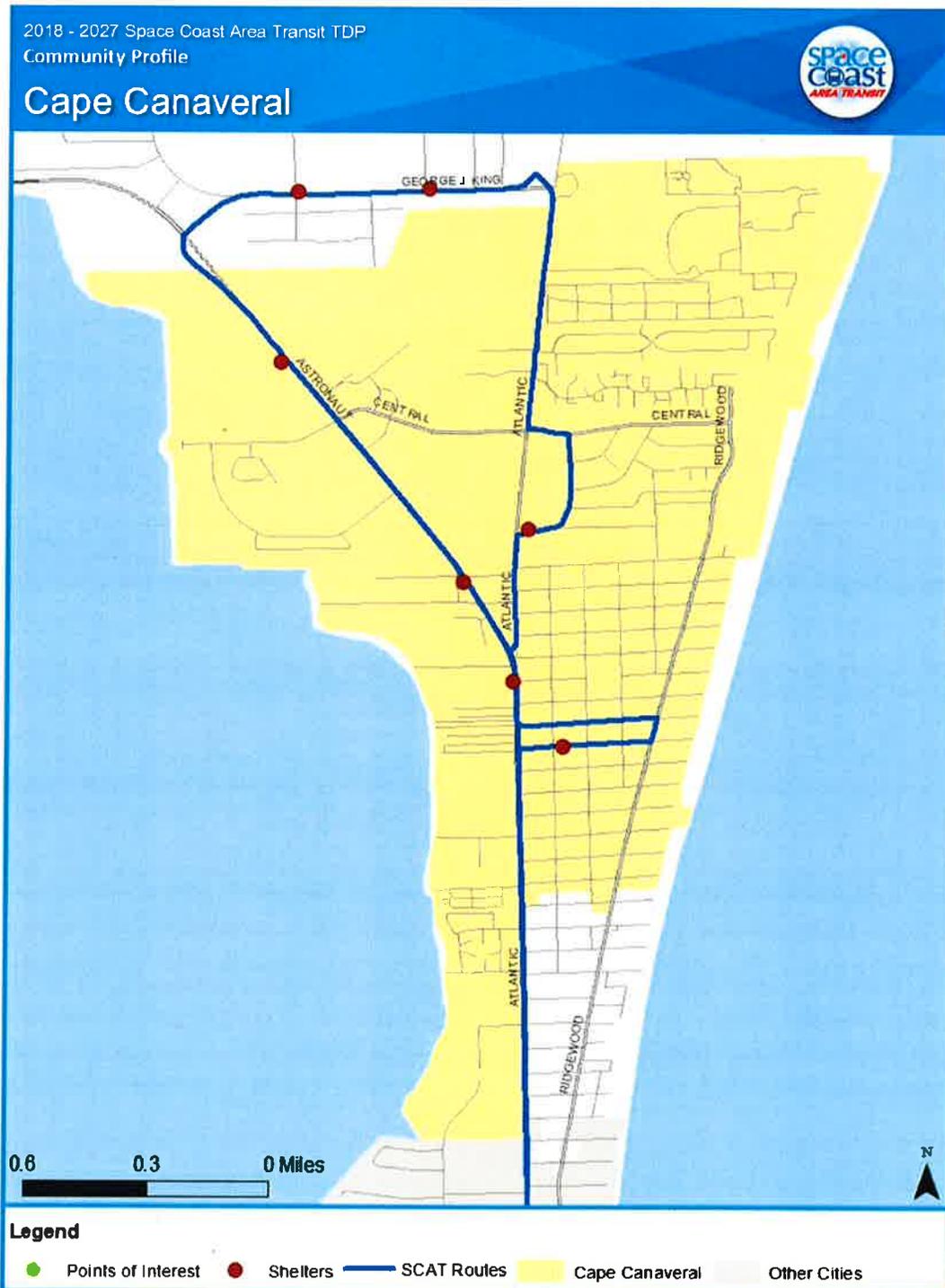


Figure A-3: Cocoa Beach Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Cocoa Beach

Community Description

The City of Cocoa Beach is located south of Cape Canaveral and north of the Patrick Air Force Base. The City sits on the Atlantic coast and is separated from the mainland by the Banana River and the Indian River.

Community Characteristics

Population ¹	11,355
Area (square miles)	7
Median Household Income ¹	\$53,844
Median Age ¹	55.6

Transit Facilities

Routes	4, 9, 26 & 8
Shelters	15

Major Attractors

- Ron Jon Surf Shop
- Cocoa Beach Aquatic Center
- Cocoa Beach Pier
- Florida Surf Museum
- Cape Canaveral Hospital Inc.

Planned Major Developments

None

Major Employers

- Cape Canaveral Hospital Inc.
- Sheraton Corporation



¹ 2011-2015 5-Year American Community Survey

Figure A-4: Cocoa Beach Profile Map

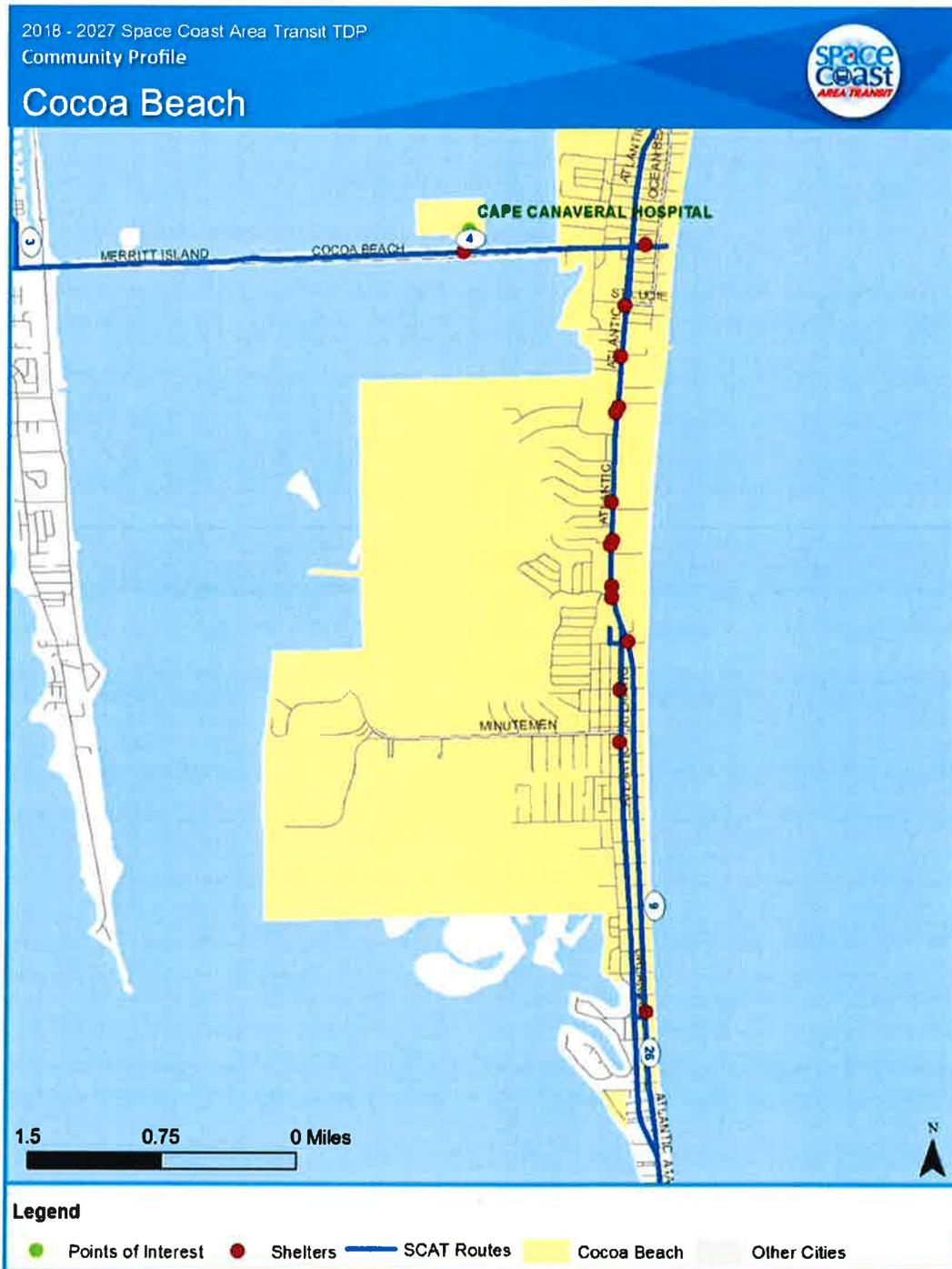


Figure A-5: Cocoa Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Cocoa

Community Description
Cocoa is situated on the mainland along the Indian River north of Rockledge.

Community Characteristics

Population ¹	17,339
Area (square miles)	13.7
Median Household Income ¹	\$30,517
Median Age ¹	38.1

Transit Facilities

Routes	1, 4, 6 & 8
Shelters	3

Major Attractors
Eastern Florida State College
Porcher House
Space Coast Symphony Orchestra

Developments of Regional Impact
Brevard Crossings

Major Employers
Eastern Florida State College
Florida Department Corrections
Brevard County
Hillshire Brands Company



¹2011-2015 5-Year American Community Survey

Figure A-6: Cocoa Community Profile

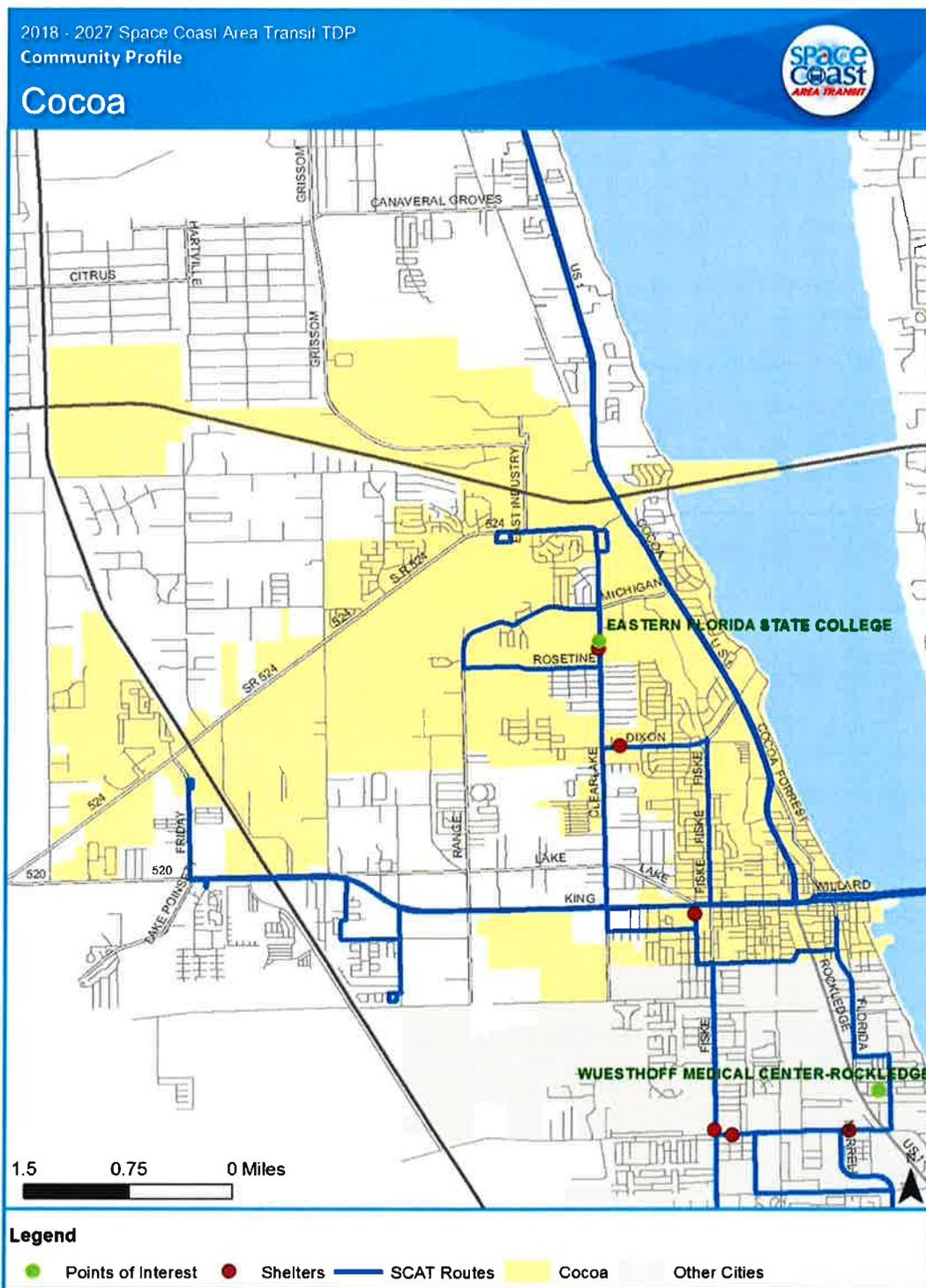


Figure A-7: Grant-Valkaria Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile



Grant-Valkaria

Community Description

Grant-Valkaria is located south of Melbourne, between Palm Bay and Sebastian. The town was incorporated to secure the local benefits of self-government, preservation of history, protect the future needs of residents, maintain a rural quality of life, and to foster responsible, community-controlled growth.

Community Characteristics

Population ¹	3,938
Area (square miles)	27.2
Median Household Income ¹	\$59,038
Median Age ¹	52.2

Transit Facilities

Routes	N/A
Shelters	N/A

Municipal Attractors

- Grant Historical House
- The Habitat Golf Course
- Brevard County Valkaria Airport

Developments of Regional Impact

None

Major Employers

None



¹ 2011-2015 5-Year American Community Survey

Figure A-8: Grant-Valkaria Profile Map

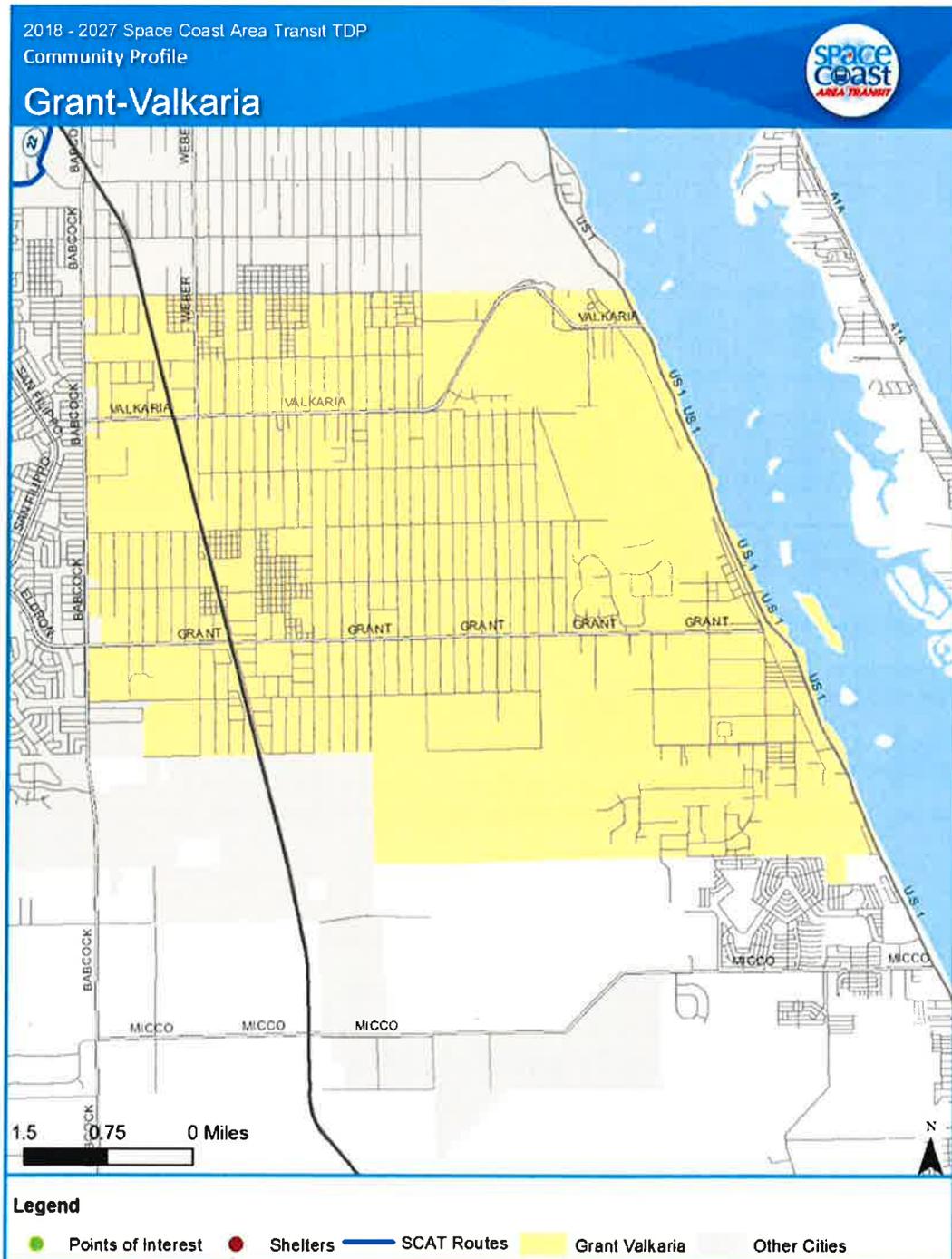


Figure A-9: Indialantic Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Indialantic

Community Description
Nestled between the Indian River Lagoon and the Atlantic Ocean, Indialantic is bordered by Melbourne Beach to the south.

Community Characteristics

Population ¹	2,764
Area (square miles)	1.0
Median Household Income ¹	\$65,305
Median Age ¹	47.6

Transit Facilities

Routes	26
Shelters	0

Major Attractors
None

Developments of Regional Impact
None

Major Employers
None



¹ 2011-2015 5-Year American Community Survey

Figure A-10: Indialantic Profile Map



Figure A-11: Indian Harbour Beach Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Indian Harbour Beach

Community Description

Indian Harbour Beach is situated along the Atlantic coast south of Satellite Beach, and is separated from the mainland by the Banana River and the Indian River from east to west.

Community Characteristics

Population ¹	8,315
Area (square miles)	2.2
Median Household Income ¹	\$53,287
Median Age ¹	49.3

Transit Facilities

Routes	26
Shelters	0

Municipal Attractors

- Millennium Park
- Bicentennial Park
- Gleason Park

Planned Major Developments

None

Major Employers

None



¹ 2011-2015 5-Year American Community Survey

Figure A-12: Indian Harbour Beach Profile Map

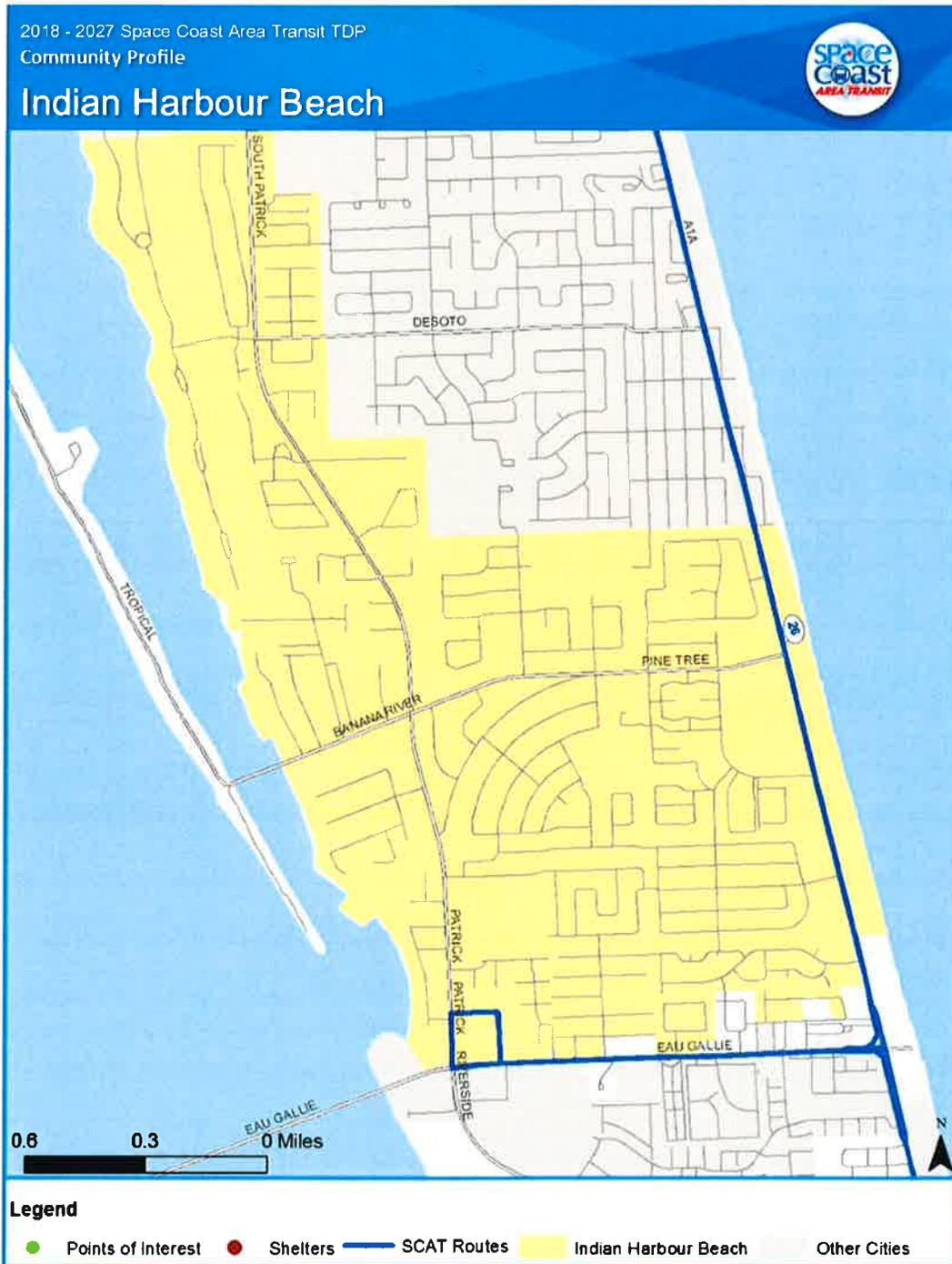


Figure A-13: Malabar Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Malabar

Community Description
Malabar is situated along the Indian River with Palm Bay to the north, and Grant-Valkaria to the south.

Community Characteristics

Population ¹	2,822
Area (square miles)	10.8
Median Household Income ¹	\$63,077
Median Age ¹	51.6

Transit Facilities

Routes	N/A
Shelters	N/A

Municipal Attractors
None

Developments of Regional Impact
None

Major Employers
None



¹2011-2015 5-Year American Community Survey

Figure A-14: Malabar Profile Map

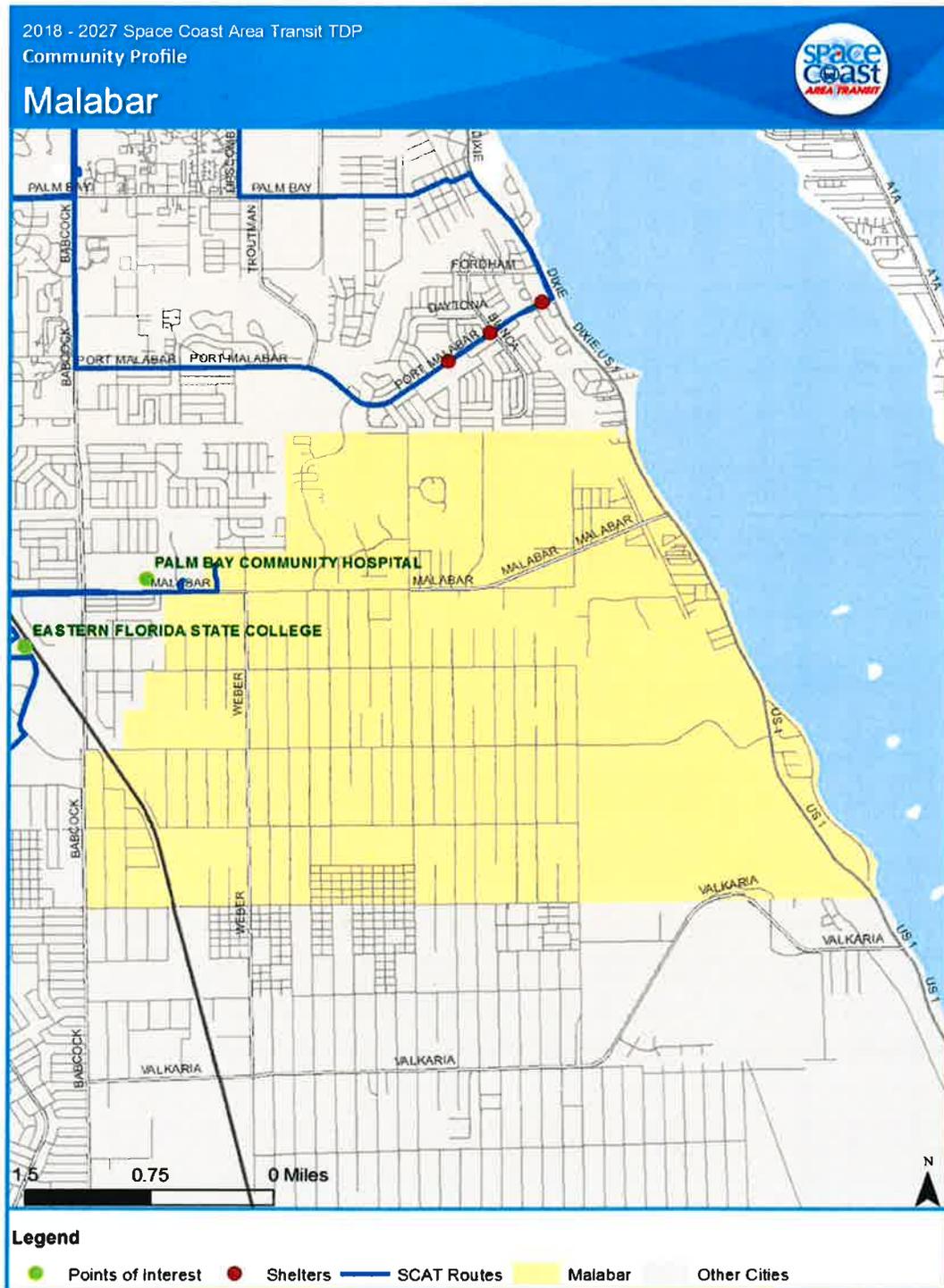


Figure A-15: Melbourne Beach Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Melbourne Beach

Community Description
Melbourne Beach is a coastal town along the Atlantic Ocean and Indian River. Melbourne Beach is south of Indialantic.

Community Characteristics

Population ¹	3,146
Area (square miles)	1.0
Median Household Income ¹	\$69,917
Median Age ¹	48.4

Transit Facilities

Routes	N/A
Shelters	N/A

Municipal Attractors
None

Developments of Regional Impact
None

Major Employers
None



¹2011-2015 5-Year American Community Survey

Figure A-16: Melbourne Beach Profile Map

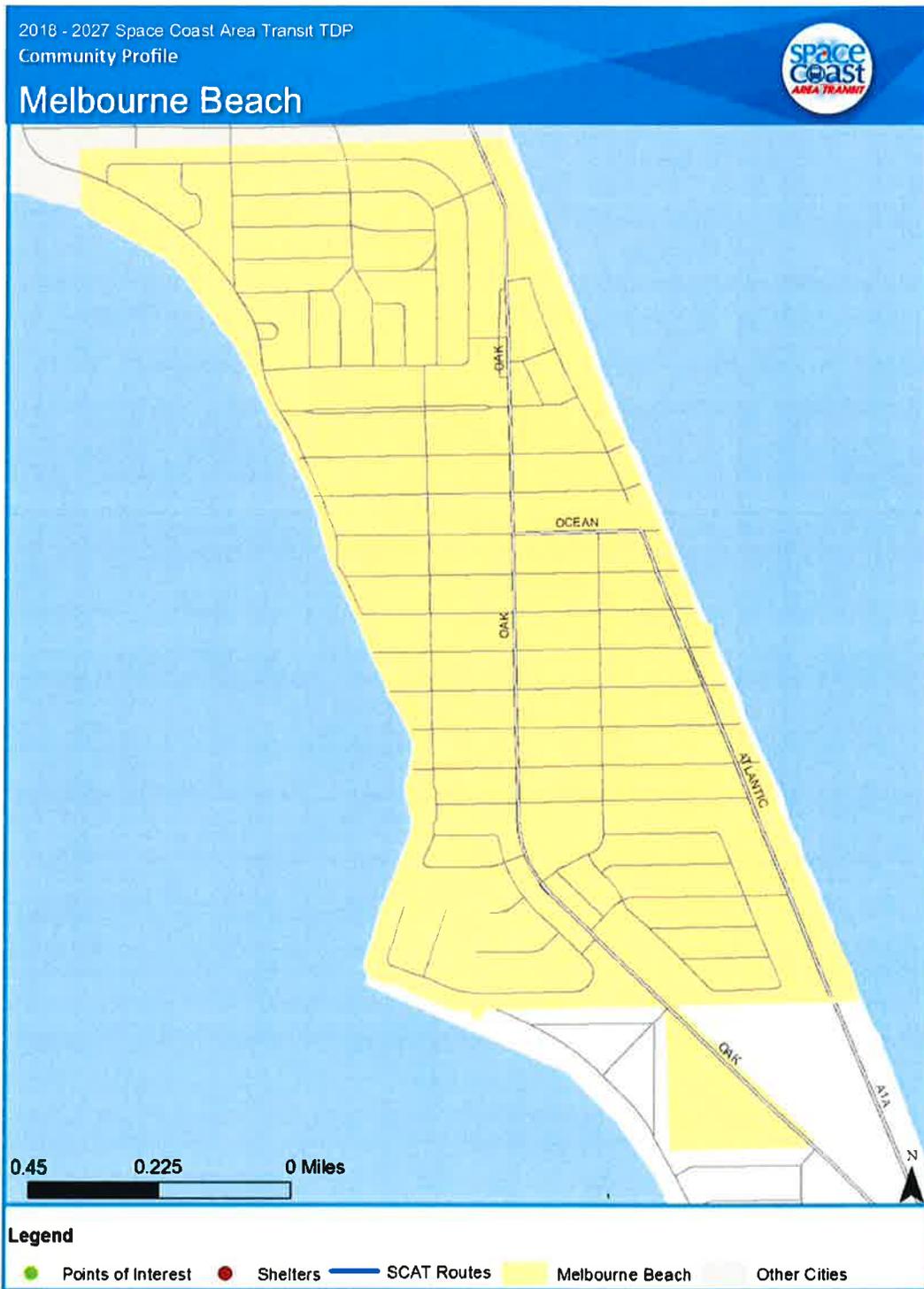


Figure A-17: Melbourne Village Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Melbourne Village

Community Description

Melbourne Village is west of Melbourne and northwest of West Melbourne.

Community Characteristics

Population ¹	769
Area (square miles)	0.6
Median Household Income ¹	\$65,000
Median Age ¹	53.6

Transit Facilities

Routes	N/A
Shelters	N/A

Major Attractors

None

Developments of Regional Impact

None

Major Employers

None



¹2011-2015 5-Year American Community Survey

Figure A-18: Melbourne Village Profile Map

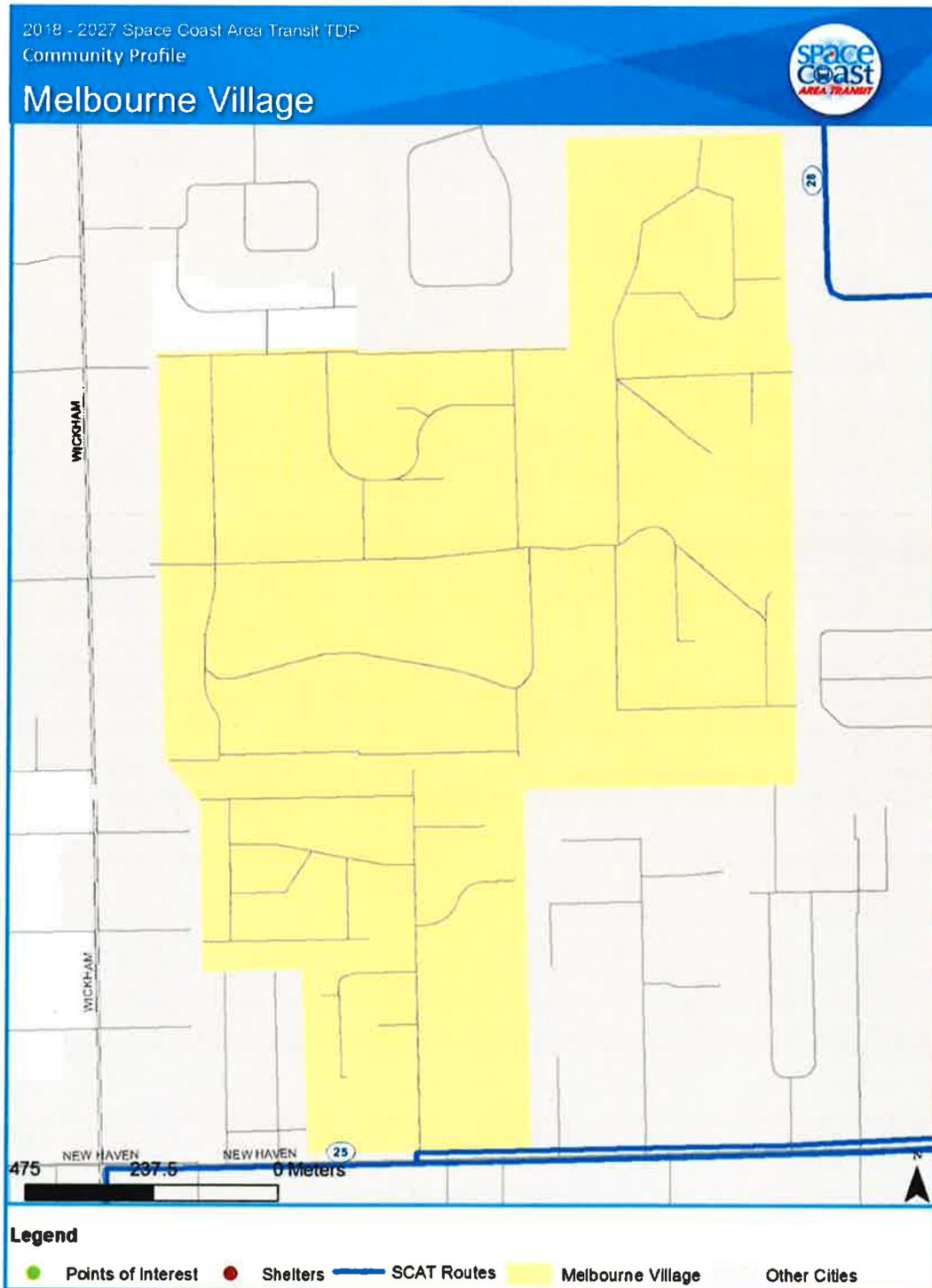


Figure A-19: Melbourne Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Melbourne

Community Description

The City of Melbourne is situated along the Indian river with a majority of the municipality on the mainland and portions extending to the barrier island. Melbourne is bordered by Palm Bay and Melbourne Beach to the south, West Melbourne to the west, and Indian Harbour Beach to the north.

Community Characteristics

Population ¹	78,012
Area (square miles)	38.1
Median Household Income ¹	\$40,219
Median Age ¹	45.3

Transit Facilities

Routes	21, 24, 28, & 29
Shelters	12

Major Attractors

- Andretti Thrill Park
- Historic Rossetter House Museum & Gardens
- Liberty Bell Memorial Museum
- Fosaner Art Museum
- Wuesthoff Medical Center
- Holmes Regional Hospital
- Keiser College Technology
- Florida Institute of Technology
- Eastern Florida State College
- Melbourne International Airport
- Melbourne Square Mall

Development of Regional Impacts

None



Major Employers

- Holmes Regional Med Center Inc.
- Mima Services Inc.
- Northrop Grumman Systems Corp
- Pinkerton Government Services, Inc.
- Florida Institute Tech Inc.
- Percepta LLC
- Embraer
- City of Melbourne
- Drs Rsta Inc.
- Harris Leasing LLC
- Walmart Stores Inc.
- Wuesthoff Medical Center-Melbourne
- Gsi Commerce Call Center Inc.
- Systems Drs Tactical Inc.
- Healthsouth Sea Pines Ltd Partner
- Brevard County Service Complex
- GE Harris Energy Control

¹ 2011-2015 5-Year American Community Survey

Figure A-20: Melbourne Profile Map

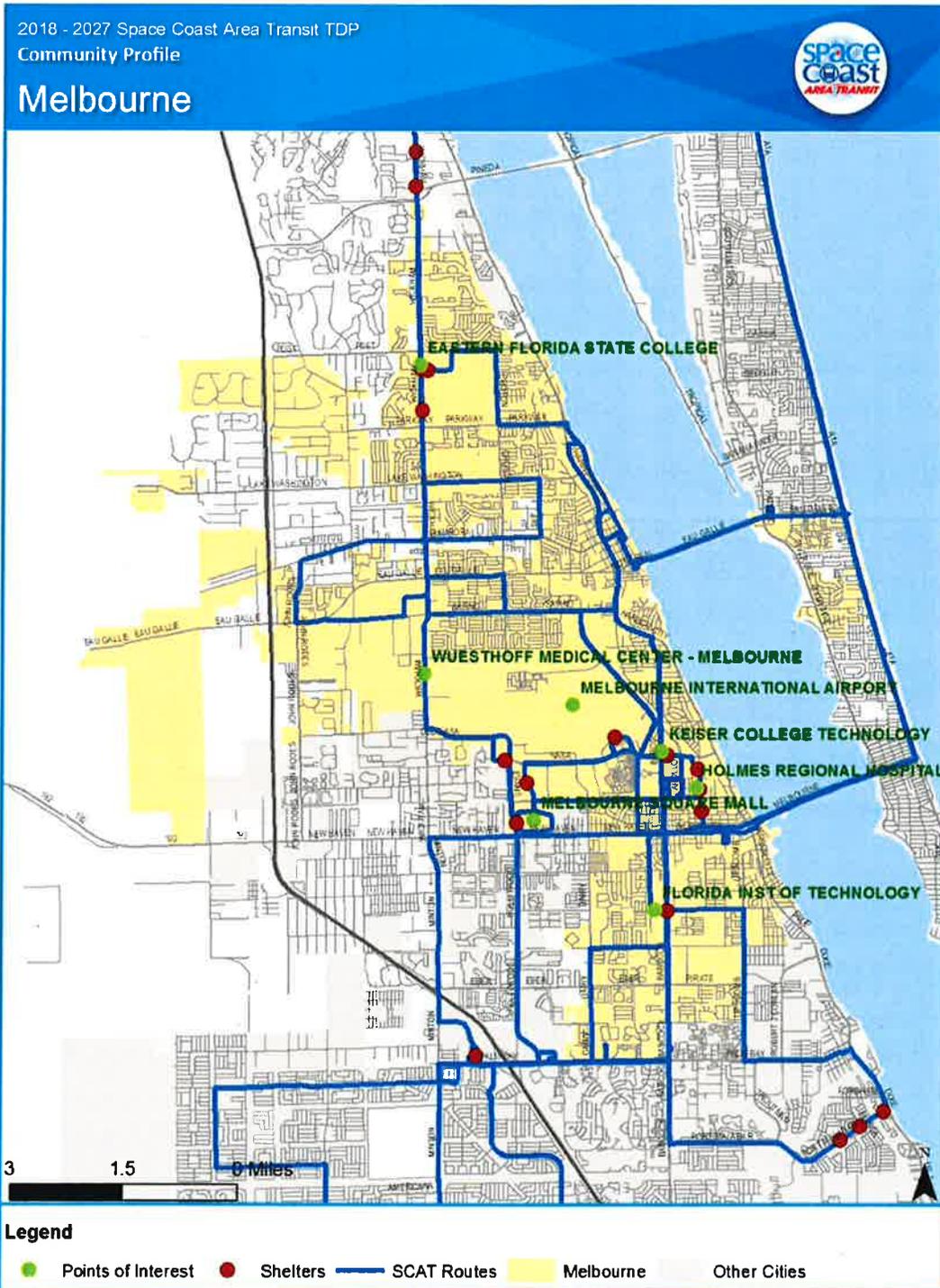


Figure A-21: Palm Bay Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
Palm Bay

Community Description

Palm Bay is incorporated within the mainland with a portion of its boundaries along the Indian River. Palm Bay is bordered by Grant—Valkaria to the east, and Melbourne and West Melbourne to the north.

Community Characteristics

Population ¹	105,212
Area (square miles)	95.7
Median Household Income ¹	\$43,163
Median Age ¹	40.6

Transit Facilities

Routes	22, 23, 27 & 29
Shelters	7

Major Attractors

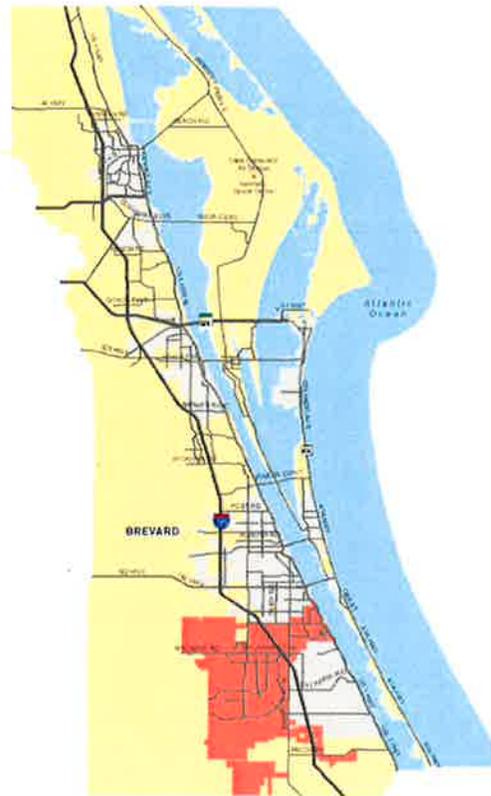
- Palm Bay Aquatic Center
- Turkey Creek Sanctuary
- Larsen Motorsports
- Palm Bay Community Hospital
- Eastern Florida State College

Developments of Regional Impact

- Interchange Parcel
- Oakwood Village
- The Phenion Gallery
- Bombardier

Major Employers

- Intersil Communications Inc.
- Intersil Corporation
- Harris Corporation
- Palm Bay Community Hospital
- Eastern Florida State College



¹ 2011-2015 5-Year American Community Survey

Figure A-22: Palm Bay Profile Map

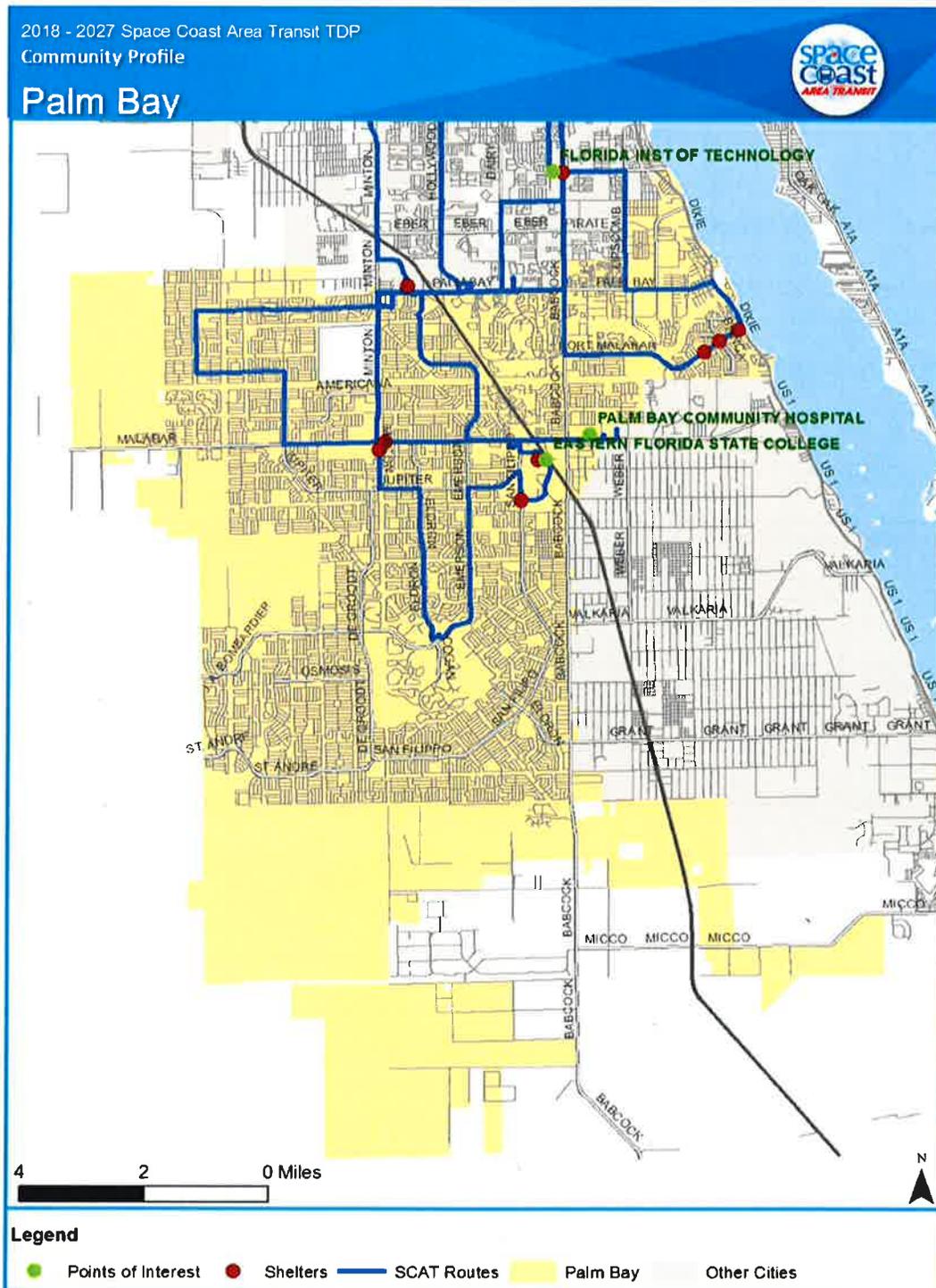


Figure A-23: Palm Shores Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Palm Shores

Community Description
Palm Shores is a town along the Indian River with Melbourne bordering on the south and west sides.

Community Characteristics

Population ¹	1,123
Area (square miles)	0.7
Median Household Income ¹	\$74,500
Median Age ¹	40.7

Transit Facilities

Routes	29
Shelters	1

Municipal Attractors
Shoreside Park

Developments of Regional Impact
None

Major Employers
None



¹2011-2015 5-Year American Community Survey

Figure A-24: Palm Shores Profile Map

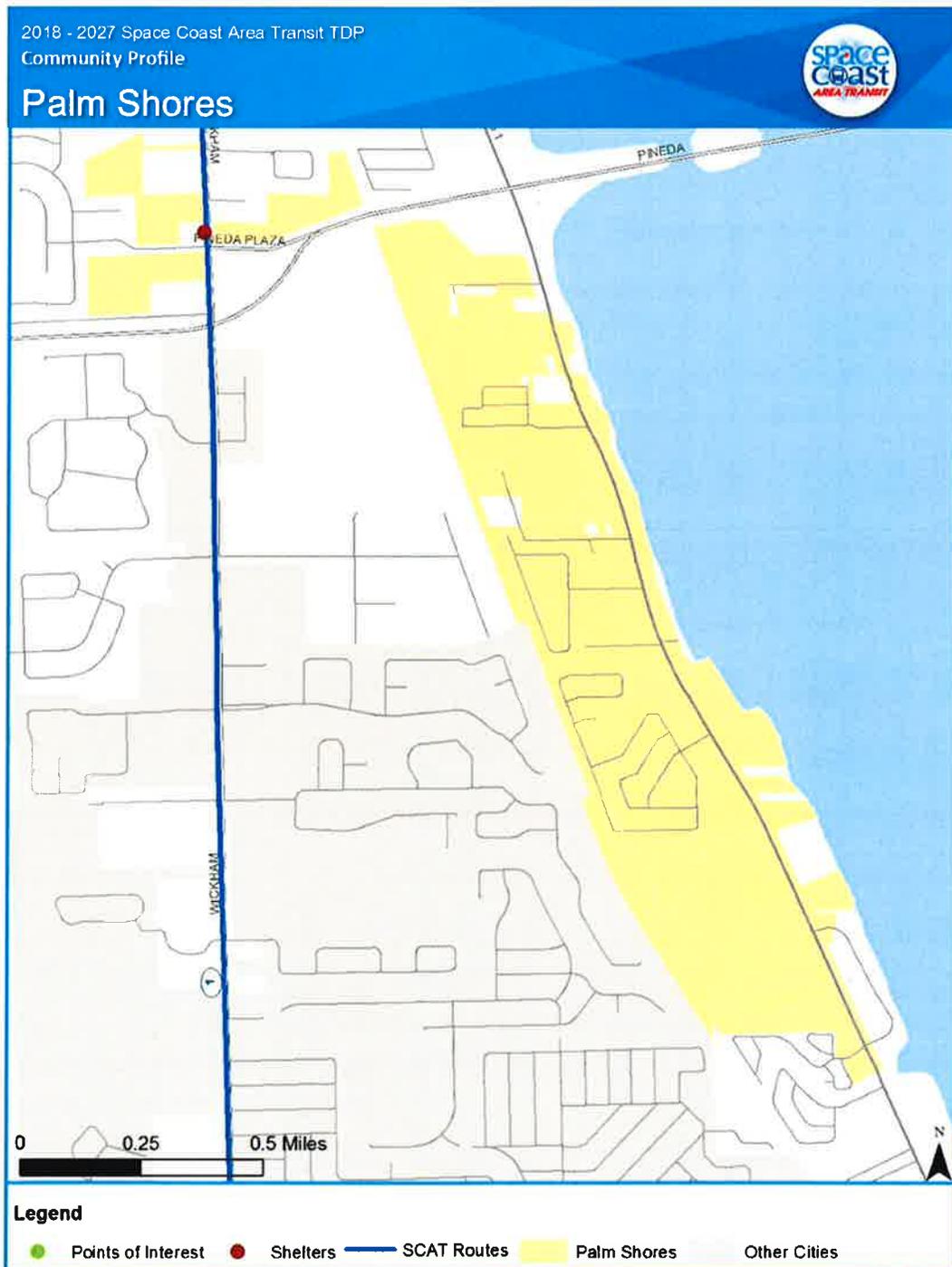


Figure A-25: Rockledge Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Rockledge

Community Description
Rockledge is situated along the Indian River south of Cocoa.

Community Characteristics

Population ¹	25,798
Area (square miles)	11.9
Median Household Income ¹	\$57,346
Median Age ¹	45.5

Transit Facilities

Routes	1, 6 & 7
Shelters	3

Major Attractors
Harvey's Groves
Wuesthoff Memorial Hospital

Developments of Regional Impact
Viera

Major Employers
Rockledge HMA Medical Group
Wuesthoff Memorial Hospital
Health First Inc.
Brevard Achievement Center Inc.
Publix Super Markets Inc.



¹ 2011-2015 5-Year American Community Survey

Figure A-26: Rockledge Profile Map

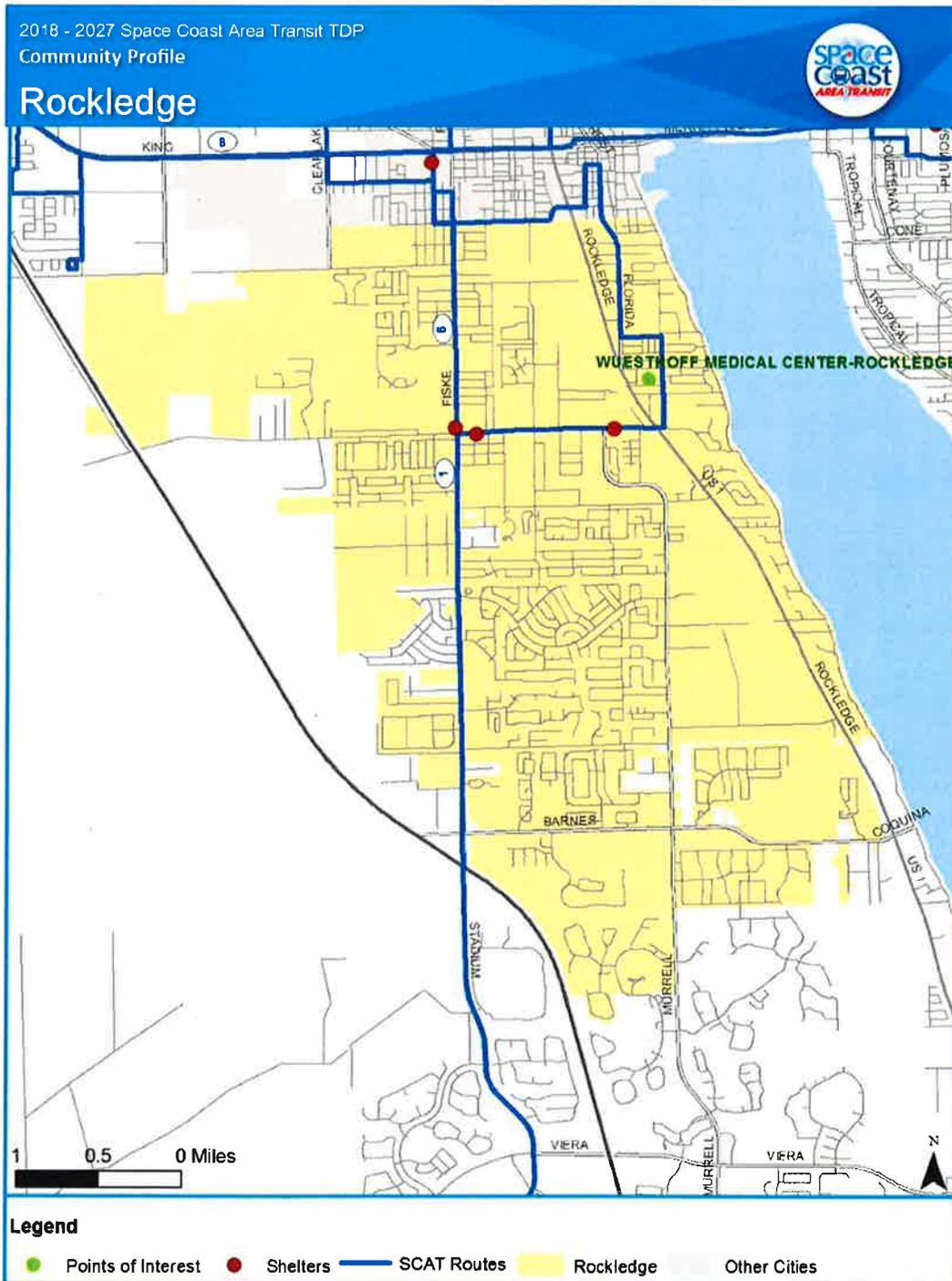


Figure A-27: Satellite Beach Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile

Satellite Beach

Community Description
Satellite Beach is situated along the Atlantic coast north of Indian Harbour Beach, and is separated from the mainland by the Banana River and the Indian River from east to west.

Community Characteristics

Population ¹	10,351
Area (square miles)	3.0
Median Household Income ¹	\$65,000
Median Age ¹	42.9

Transit Facilities

Routes	26
Shelters	0

- Municipal Attractors**
- Dog Park
 - DRS Community Center
 - Hightower Beach Park
 - Library
 - Pelican Beach Clubhouse
 - Pelican Beach Park
 - Racquetball & Tennis Courts
 - Samsons Island
 - Skate/BMX Park
 - Sports Park

Developments of Regional Impact
None

Major Employers
None



¹ 2011-2015 5-Year American Community Survey

Figure A-28: Satellite Beach Profile Map

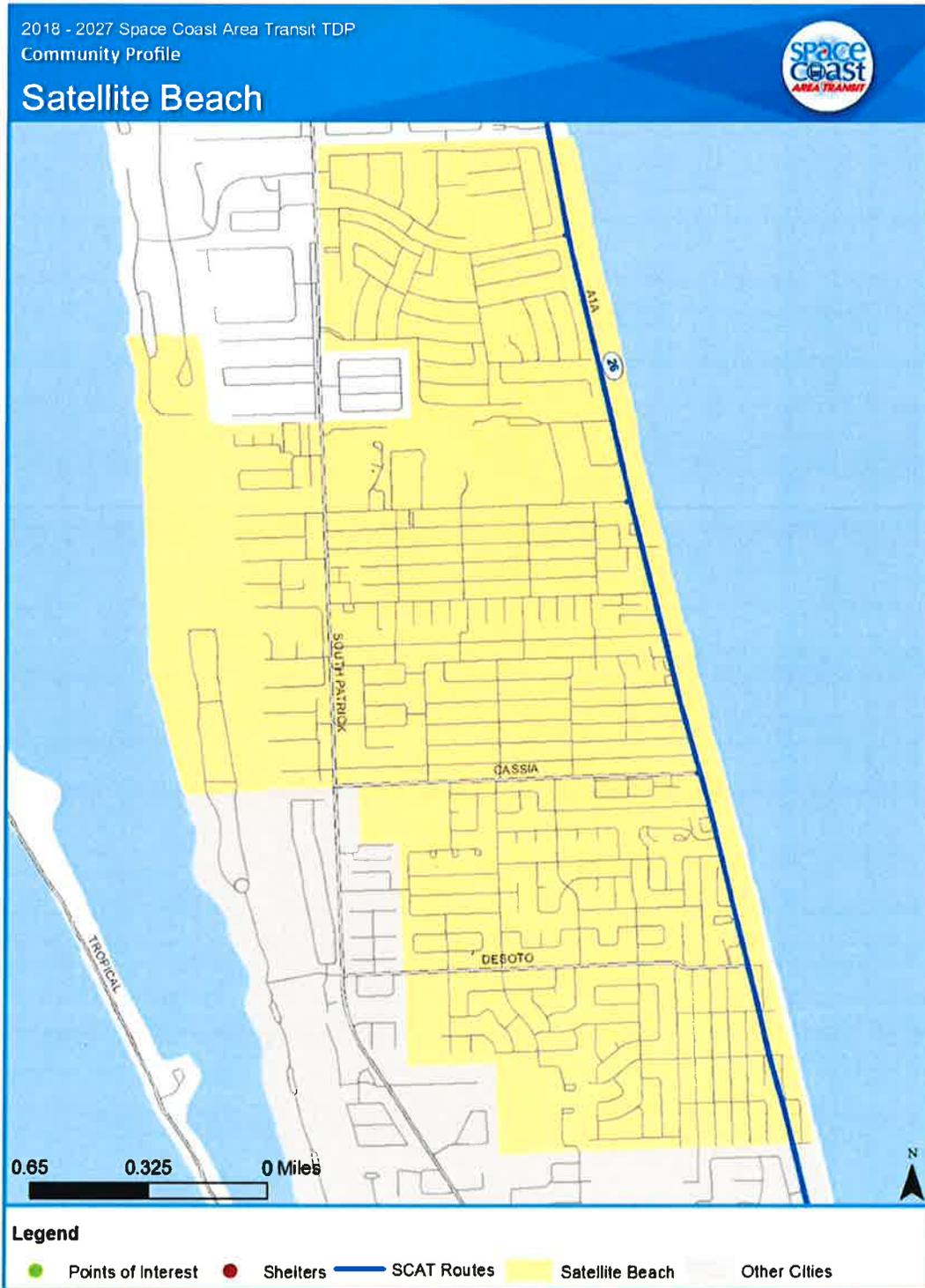


Figure A-29: Titusville Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile



Titusville

Community Description

Titusville is situated along the Indian River north of Port St John, and east of Seminole Ranch Wildlife Area.

Community Characteristics

Population ¹	44,363
Area (square miles)	29.7
Median Household Income ¹	\$40,830
Median Age ¹	44.8

Transit Facilities

Routes	1, 2 & 5
Shelters	0

Major Attractors

- American Police Hall of Fame
- Kennedy Space Center Visitors Complex
- Enchanted Forest
- Historic Pritchard House
- United States Astronaut Hall of Fame
- Valiant Air Command Warbird Museum
- Parrish Medical Center
- Eastern Florida State College
- Space Coast Regional Airport

Developments of Regional Impact

None

Major Employers

- United Space Alliance LLC
- Lockheed Martin Corporation
- North Brevard County Hospital District
- Walmart Stores Inc.
- City of Titusville
- Boeing Company
- Eastern Florida State College



¹2011-2015 5-Year American Community Survey

Figure A-30: Titusville Profile Map

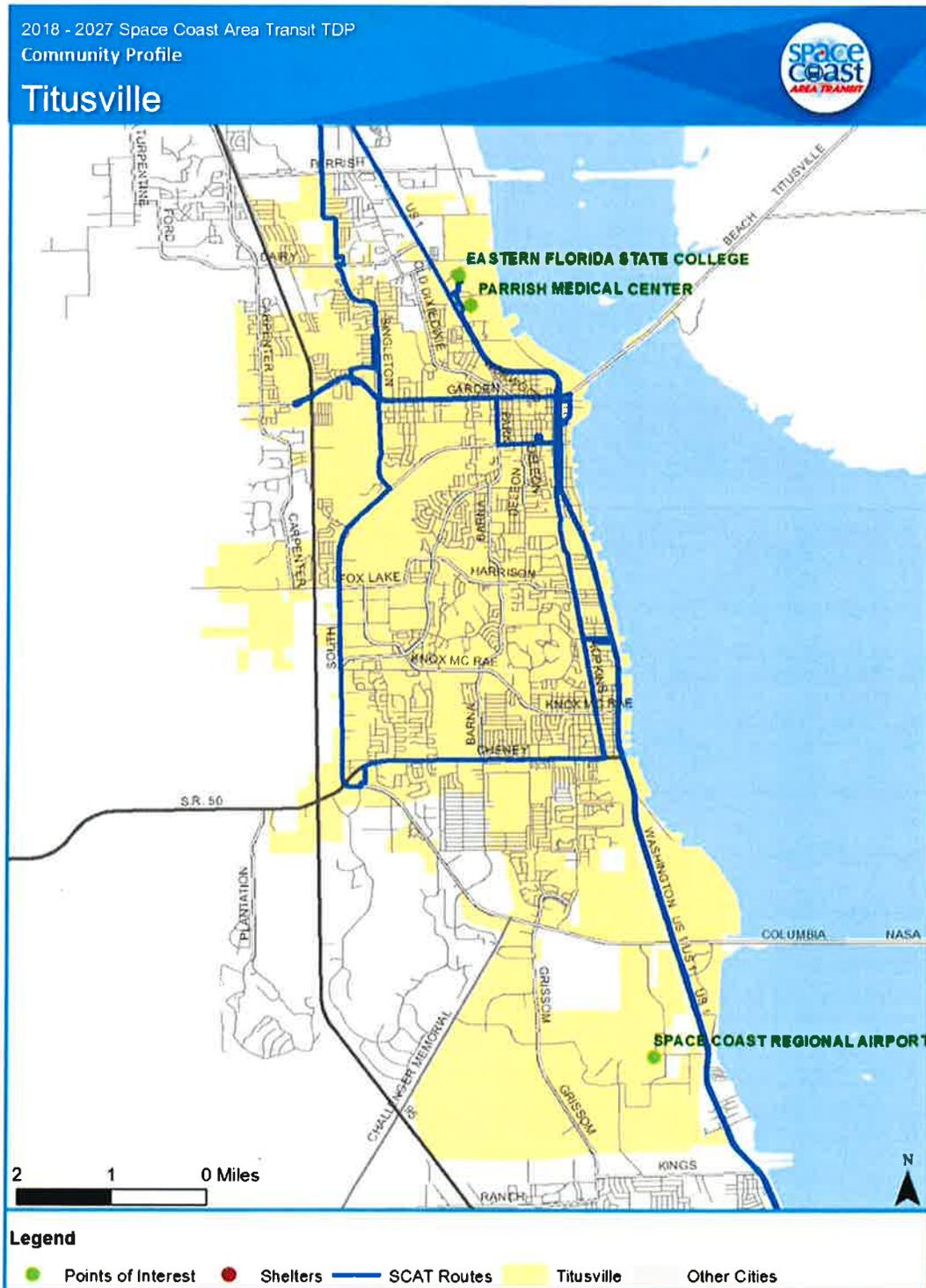


Figure A-31: West Melbourne Community Profile

2018 - 2027 Space Coast Area Transit TDP
Community Profile
West Melbourne

Community Description
The City of West Melbourne is west of the City of Melbourne and borders Palm Bay to the south.

Community Characteristics

Population ¹	19,667
Area (square miles)	10.4
Median Household Income ¹	\$55,330
Median Age ¹	41.5

Transit Facilities

Routes	22, 23, 25, 27 & 28
Shelters	0

Major Attractors
None

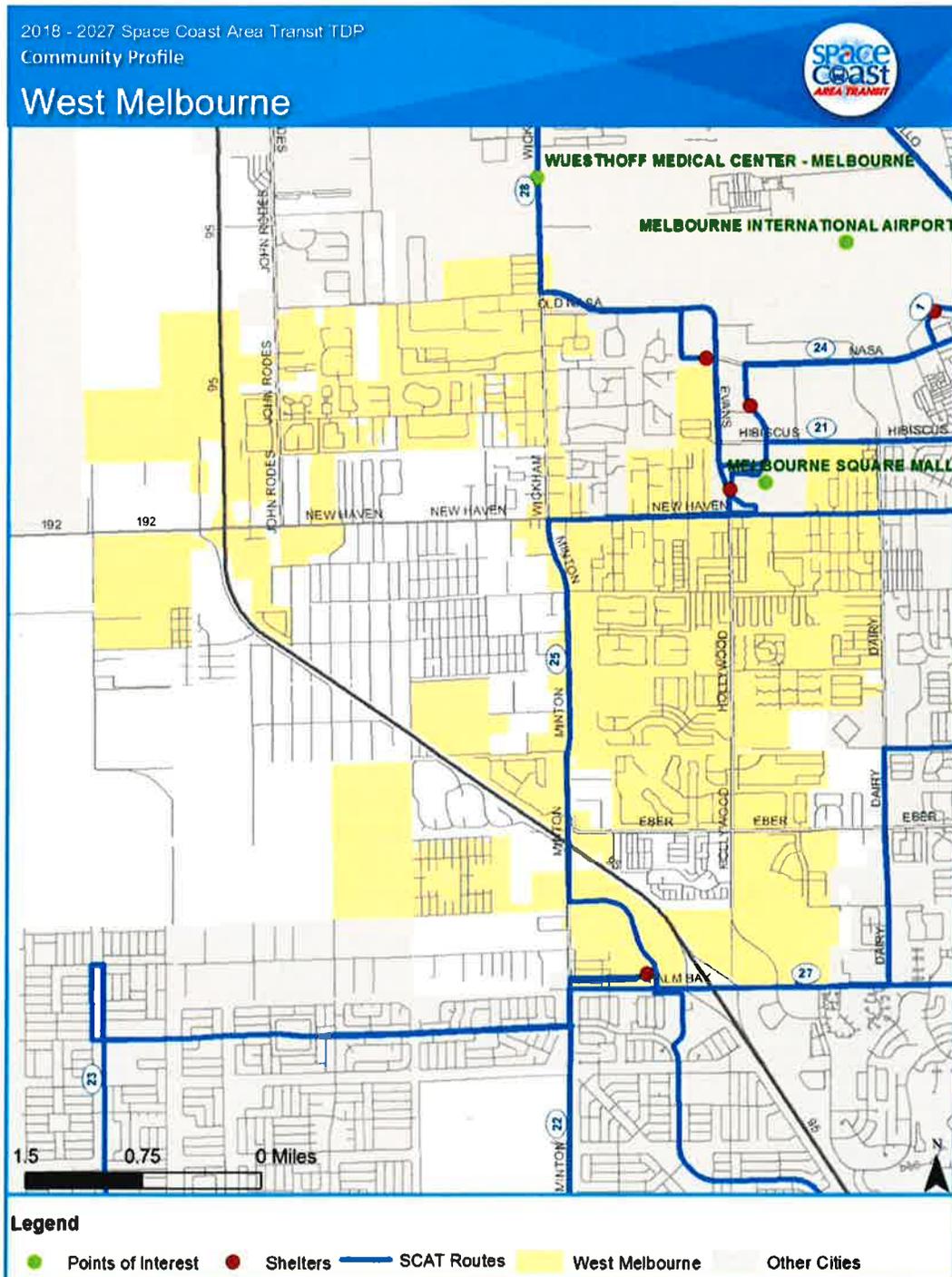
Developments of Regional Impact
Samuel's Landing

Major Employers
Walmart Stores Inc.



¹2011-2015 5-Year American Community Survey

Figure A-32: West Melbourne Profile Map



Appendix B: Public Involvement Plan

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PUBLIC INVOLVEMENT PLAN

TRANSIT DEVELOPMENT PLAN

MAJOR UPDATE FY 2018-2027

Space Coast Area Transit

December 2016





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PUBLIC INVOLVEMENT PLAN

Introduction

Space Coast Area Transit provides public transit services for Brevard County. As a recipient of Florida Department of Transportation (FDOT) Block Grant funding, in accordance with Florida Statutes 341.052, Space Coast Area Transit must submit a Transit Development Plan (TDP) Major Update every five years. Space Coast Area Transit is currently working on developing its TDP for fiscal years (FY) 2018 – 2027. Legislation also requires that a public involvement plan be developed outlining the activities that will be conducted during the TDP development process. Pertinent language from the current TDP rule is provided below.

The TDP preparation process shall include opportunities for public involvement as outlined in a TDP public involvement plan, approved by the Department, or the local Metropolitan Planning Organization's (MPO) Public Involvement Plan, approved by both the Federal Transit Administration and the Federal Highway Administration.

-- Florida Rule 14-73.001

Public involvement is an on-going process that involves continuously receiving and accumulating feedback about service. Space Coast Area Transit has developed this public involvement plan to guide the TDP update process. The plan provides numerous opportunities for public involvement as well as involvement on the part of local agencies and organizations. This plan was developed in accordance with the Space Coast Transportation Planning Organization's (TPO) Public Involvement Plan (PIP).

Overview of Transit Services and Service Area

Space Coast Area Transit provides public transit services including fixed route service, complementary paratransit services as required under the Americans with Disabilities Act (ADA), vanpools, and volunteer transportation for older adults. Space Coast Area Transit also functions as the Community Transportation Coordinator (CTC), providing services under the Transportation Disadvantaged program, rural trips and agency sponsored trips. Space Coast Area Transit also provides transportation to Brevard County residents with volunteer drivers through their Volunteers in Motion program.

Space Coast Area Transit's fixed route system operates approximately 28 vehicles during peak hours, providing service on 18 local routes and one dial-a-ride. Daily service spans from 6:00 a.m. to 11:30 p.m. Monday through Saturday, with limited fixed route service on Sunday and at night. The Space Coast Area Transit service area is approximately 262 square miles in size.

Public Involvement Plan Approach

Ensuring that appropriate oversight and measures are accounted for during the planning and implementation of the PIP elements is essential to obtaining successful results during the public involvement process. The following processes are intended to ensure appropriate oversight and develop a strategy to fulfill the requirements of the PIP: 1) establish a technical review committee to review and provide insight and guidance to the planning and decision-making process; and 2) adopt a strategic plan of action to effectively engage stakeholders, residents, and others in the TDP development process.

Review Committee

A TDP Review Committee will be established to provide input and guidance into the development of the TDP Major Update. The Review Committee may have members affiliated with the following: agencies / organizations: Space Coast TPO, Florida Department of Transportation District 5, CareerSource Brevard, Transit One Council for Transit Advocacy, and Space Coast Area Transit.

Identification of Agencies and Affected Public

The PIP is essential to develop support for recommendations. A thorough, comprehensive engagement plan with an inclusive strategy that engages, informs, and educates those who will be impacted by the TDP is of utmost importance.

Public Involvement Process

The public involvement techniques selected for the PIP may be categorized as direct involvement techniques or information distribution techniques. These techniques ensure the active participation of citizens in the community. Table 1 demonstrates the public involvement activities and their respective techniques that will be conducted for the TDP. Activities involved in each technique category are discussed in their respective subsections.

Table 1 - Space Coast Area Transit TDP Public Involvement Activities

Public Participation Activity	TDP PIP	
Review Committee Team Meetings	<input checked="" type="checkbox"/>	
Engaging the Community	Passenger Surveys	<input checked="" type="checkbox"/>
	Stakeholder Interviews	<input checked="" type="checkbox"/>
	Discussion Group Workshops	<input checked="" type="checkbox"/>
	Public Meetings	<input checked="" type="checkbox"/>
Agency Coordination	Regional Coordination	<input checked="" type="checkbox"/>
	State & Local Coordination	<input checked="" type="checkbox"/>
Official Public Notice/Advertisement (to be conducted by Space Coast Area Transit)	Flyers	<input checked="" type="checkbox"/>
	Newspaper(s)	<input checked="" type="checkbox"/>
	Website	<input checked="" type="checkbox"/>
Meetings/Presentations	<input checked="" type="checkbox"/>	

Direct Involvement Techniques

Direct involvement techniques refer to those that engage the public in “hands on” workshops and/or discussion about the project. The direct public involvement techniques to be used for the Space Coast Area Transit TDP update involve the following:

- **Review Committee Meetings/Project Kickoff Meeting** – The Review Committee will be established to monitor and provide input throughout the study and to evaluate the deliverables. Key project deliverables will be distributed to the committee for review and comment. A project kickoff meeting will be held to discuss the objectives, scope, and milestones of the project. In addition to the project kick off meeting, two Review Committee meetings will be scheduled and conducted to provide updates and facilitate input.

- **Passenger Surveys** – An on-board survey of fixed-route bus patrons will be conducted to capture demographic, travel behavior, support for proposed routes, and rider satisfaction data from Space Coast Area Transit fixed-route bus riders. This information will enable Space Coast Area Transit to focus on relevant transit needs and issues. Additionally, a phone survey will be completed of Space Coast Area Transit paratransit service users regarding current transit service, including trip scheduling, on-time performance, customer satisfaction, and passenger wait times. Due to the number of Spanish-speaking residents and in compliance with the Space Coast Area Transit Limited English Proficiency Plan, the on-board survey tool will be translated into Spanish. As requested by the randomly selected passengers, the paratransit service phone survey will also be conducted in Spanish.
- **Stakeholder Interviews** – Since the understanding of local conditions should include knowledge of the perceptions and attitudes of community decision-makers and leaders towards transit and its role in the community, up to 10 stakeholder interviews will be conducted as part of the public involvement process. The project team will work with Space Coast Area Transit staff to identify and recruit appropriate individuals to interview. The interviews will be scheduled and conducted via telephone using an interview script that will be developed and submitted to staff for review prior to the first interview. Representatives from the following agencies and organizations may be selected for stakeholder interviews:
 - Brevard County Board of County Commissioners
 - Brevard County municipal elected officials
 - Brevard County Economic Development
 - Aging Matters in Brevard
 - Space Coast TPO
 - City of Melbourne
 - Melbourne Square Mall
 - Eastern Florida State College
 - Florida Institute of Technology
 - Brevard Achievement Center
- **Discussion Group Workshops** - Four discussion group workshops will be held to identify and assess perceptions of transit to help identify issues and opportunities for the transit agency. A discussion group is an excellent tool for revealing the attitudes of a particular group because of the open-ended nature of group discussions. The four discussion group workshops will be held around the County to ensure geographic distribution of the participants. It is anticipated that at least one of the workshops will be conducted using current transit riders to help represent the “user” perspective, and another will consist of members from the business, health, social service, education communities, and local chambers of commerce, to help represent the views of informed “non-users.” The project team will work with the Review Committee to identify preferred venues for the workshops.
- **Public Meetings** – Four public workshops will be conducted over the course of the project. The first two workshops will occur early in the process, with the purpose of determining the existing transportation needs in Brevard County and establishing a vision for the future. One of these workshops may be conducted open house-style using visual displays and other informational materials at the Business of Transit Summit scheduled for January 2017. This format will provide

an opportunity for attendees to engage in the public outreach process while already in attendance at the summit. Attendees will be invited to view project materials and provide input on Brevard County's future transportation needs.

The second set of public workshops is anticipated to occur later in the process once the potential transit alternatives and solutions have been identified. This will allow the public to provide input on the prioritization of the proposed alternatives in the final TDP. Public workshop participants will have 15 days after each workshop to submit comments on the materials presented.

The detailed schedule of meeting times and locations will be determined in conjunction with Space Coast Area Transit staff. The workshop locations will be selected in an attempt to distribute meetings across the Brevard County geographic service area. At a minimum, these workshops shall be given public notice in accordance with Brevard County, Space Coast Area Transit, and the Space Coast TPO public notification requirements. It is anticipated that materials to promote the workshop will likely be posted in County government buildings, municipal governments, community centers, newspapers, websites, social media, Space Coast Government Television (SCGTV), and on-board the transit buses.

- **Public Presentations** – A total of two presentations of the TDP will be made at the direction of Space Coast Area Transit staff and may include:
 - Brevard County Board of County Commissioners
 - Space Coast TPO Board
 - Space Coast TPO Technical Advisory Committee
 - Space Coast TPO Citizens Advisory Committee

Information Distribution Techniques

The information distribution techniques refer to public information materials that are used to inform the general public of issues regarding the project. Information distribution techniques used for the TDP Update may include the following:

- **Notification of General Public** – The general public will be notified of public meetings through a number of methods: legal advertisement, Space Coast Area Transit website, flyers, public broadcast, and press releases.
- **Notification of State and Local Agencies** – The TPO, CareerSource Brevard, and FDOT will be advised of all public meetings via email. In addition to notifying these agencies of public meetings, project deliverables will also be submitted to them in order to solicit feedback and comments.
- **Comment Cards and Surveys** – Comment cards will be available at public meetings as a way for the public to share comments and provide feedback in a way that may be more comfortable than voicing an opinion during an open meeting.
- **Mailing/Contact Lists** – The Space Coast Area Transit mailing list will enable the distribution of project-related information throughout the development of the TDP.

Measures of Effectiveness

Effectiveness measures consistent with the Space Coast TPO PIP have been identified to evaluate the effectiveness of the public involvement process. For the purposes of this PIP, effectiveness measures will be defined as follows:

- Total number of persons in attendance at public meetings
- Number of website hits
- Number of persons on the distribution list
- Number of press releases
- Number of comment forms
- Number of statistically valid survey responses

Public Involvement Schedule

A tentative project schedule has been developed for the public participation portions of the Space Coast Area Transit TDP Major Update, as shown in Table 2. Please note that dates for specific meetings and public involvement activities are approximate and subject to change pending guidance from the Review Committee and Space Coast Area Transit.

Table 2 – Public Involvement Activities & Tentative Schedule- 2016-2017

Public Participation Activity	Timeframe
Review Committee Kick-Off Meeting	January 2017
Stakeholder Interviews (10)	December 2016/January 2017
Paratransit Rider Survey (40)	December 2016
Public Workshop #1 – Traditional Style	January 2017
Public Workshop #2 – Open House-Style (Transit Summit)	January 27, 2017
Discussion Group Workshops (4)	January 2017
Public Workshops #3 and #4	April 2017
Presentation to Space Coast TPO	July 2017/Date TBD
Presentation to Brevard County BoCC	July 2017/Date TBD
Submittal to FDOT	September 1, 2017

Appendix C: Flyers and Press Releases

DRAFT

Notice of Public Meeting



Space Coast Area Transit

Announce the Following Public Meeting:

Tuesday, June 13, 2017

4:30 PM to 6 PM

Viera Government Center

Florida Room, 3rd Floor-Building C

2725 Jude Fran Jamieson Way, Viera FL 32940

(SCAT Bus Routes 1 & 29)

Space Coast Area Transit, is working to develop the 2018 - 2027 Transit Development Plan Major Update. These public meetings seek input on public transportation in Brevard County. A presentation will be followed by a comment, question, and answer period. Information discussed at the meeting may be incorporated into these plans. These meetings are open to the general public and the public is encouraged to attend.

People who would like to offer comments, but are unable to attend the meeting, may do so by submitting written comments to the attention of Tara Crawford at Tindale Oliver, 135 West Central Blvd., Suite 450, Orlando, Florida 32801, tcrawford@tindaleoliver.com by Friday, June 9, 2017.

In accordance with the Americans with Disabilities Act of 1990, persons needing a special accommodation at this meeting because of a disability or physical impairment should contact Cathy Lively at Space Coast Area Transit, 401 South Varr Avenue, Cocoa, Florida 32922 or (321) 635-7815 not later than 48 hours before the meeting.



Notice of Public Meeting



Space Coast Area Transit

Announce the Following Public Meeting:

Wednesday August 2, 2017

4:30 PM to 6 PM

Cocoa Beach Library

550 North Brevard Avenue, Cocoa Beach, FL 32931

(SCAT Bus Route 9, with connections from Bus Routes 1, 4, & 26)

Space Coast Area Transit, is working to develop the 2018 - 2027 Transit Development Plan Major Update. These public meetings seek input on public transportation in Brevard County. A presentation will be followed by a comment, question, and answer period. Information discussed at the meeting may be incorporated into these plans. These meetings are open to the general public and the public is encouraged to attend.

People who would like to offer comments, but are unable to attend the meeting, may do so by submitting written comments to the attention of Tara Crawford at Tindale Oliver, 135 West Central Blvd., Suite 450, Orlando, Florida 32801, tcrawford@tindaleoliver.com by Friday, July 28, 2017.

In accordance with the Americans with Disabilities Act of 1990, persons needing a special accommodation at this meeting because of a disability or physical impairment should contact Cathy Lively at Space Coast Area Transit, 401 South Varr Avenue, Cocoa, Florida 32922 or (321) 635-7815 not later than 48 hours before the meeting.



Notice of Public Meeting



Space Coast Area Transit

Announce the Following Public Meeting:

Thursday August 3, 2017

4:30 PM to 6 PM

Dr. Martin Luther King, Jr. Library

955 E. University Blvd, Melbourne, FL 32901

(SCAT Bus Route 27, with connections from Bus Routes 22, 23, & 25)

Space Coast Area Transit, is working to develop the 2018 - 2027 Transit Development Plan Major Update. These public meetings seek input on public transportation in Brevard County. A presentation will be followed by a comment, question, and answer period. Information discussed at the meeting may be incorporated into these plans. These meetings are open to the general public and the public is encouraged to attend.

People who would like to offer comments, but are unable to attend the meeting, may do so by submitting written comments to the attention of Tara Crawford at Tindale Oliver, 135 West Central Blvd., Suite 450, Orlando, Florida 32801, tcrawford@tindaleoliver.com by Friday, July 28, 2017.

In accordance with the Americans with Disabilities Act of 1990, persons needing a special accommodation at this meeting because of a disability or physical impairment should contact Cathy Lively at Space Coast Area Transit, 401 South Varr Avenue, Cocoa, Florida 32922 or (321) 635-7815 not later than 48 hours before the meeting.



Appendix D: Public Involvement Materials

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Space Coast Area Transit – Transit Development Plan (TDP) Stakeholder Interview Questions

1. How much do you know about Space Coast Area Transit and its services?
2. In your opinion, what is the primary role of Space Coast Area Transit's service (transport workers, elderly, low income, individuals with disabilities, tourists, attracting choice riders, to prevent congestion, to reduce emissions, to create economic opportunities)?
3. What do you believe is the purpose of most transit trips (medical, shopping, recreation, work, or school)?
4. What are the most significant issues facing transit users (frequency of service, fares, access to bus stops)?
5. Do you believe that Space Coast Area Transit adds economic value to Brevard County?
6. Is there a need for additional transit service in Brevard County? What type of transit service would you like to see more of over the next ten years (more frequent fixed-route service, express bus, trolley, direct beach connectors, demand response (paratransit service), increased weekend service, later evening service)?
7. Do you believe demographic changes will impact transit needs in Brevard County? (more elderly and millennials wanting alternatives)
8. Do you believe technology changes will impact transit service in Brevard County? (ridesharing services, autonomous vehicles, and more online services reducing trip needs)
9. Do you believe a universal, reloadable smart card or mobile payment options would benefit existing users? Encourage new users?
10. What kind of improvements could you (your agency/municipality) promote to encourage use of Space Coast Area Transit services?
11. Are there specific areas that need additional transit service? If yes, what specific area and why. (Consider safety, evacuation routes, major destinations)
12. Is there a need to invest in more bus shelters, bike storage areas, technology, or other transit capital facilities or equipment in Brevard County?
13. Do you see the benefits of expanding or improving the transit system and would you be willing to invest additional money for those improvements?



14. Should local funding be used to increase transit service in the future? If yes, what types? (i.e., private partnerships, advertising revenue, fare increases, universal passes, ad valorem taxes, sales tax, gas tax, tourist tax)
15. Do you believe there is a congestion problem in Brevard County? If so, do you believe that public transportation and investing in public amenities such as park-and-rides and dedicated transit lanes could relieve congestion in Brevard County?
16. Are you supportive of public policy that requires coordination of and provision of funding for transit services that connect to high density/mixed use development?
17. Do you believe that a strong transit system could attract more businesses, including Fortune 500 companies and jobs to Brevard County?
18. Have you heard of any business requesting additional transit service or interested in creating public private partnerships for increased transit service for their employees and customers?
19. What additional steps do you feel Space Coast Area Transit should consider to increase the use of public transit in Brevard County and attract additional riders including those that may have their own vehicles?
20. At some point in the future, do you envision that additional premium services (i.e., express, bus rapid transit, or rail) would be needed to improve connectivity for Brevard County and the surrounding areas?
21. Is the public perception of Space Coast Area Transit good, satisfactory, or poor? Is your perception of Space Coast Area Transit good, satisfactory, or poor?
22. Do you believe Space Coast Area Transit has done an effective job marketing transit service options?
23. Have you been to the Space Coast Area Transit website?
24. Do you believe further branding is needed? If so, what do you think the community would like to see?
25. Is more regional transportation needed to connect Brevard County with surrounding areas (Orange, Osceola, Indian River, Seminole, and/or Volusia County)?



Space Coast Area Transit Paratransit Service Customer Satisfaction Survey

Name _____

Date _____

1. How often do you use Space Coast Area Transit's paratransit service?
 - a. Every day
 - b. Few times during the week
 - c. Once a week
 - d. Less than once a week

2. On a scale of 1 - 5 how satisfied are you with each of the following? 1 being very dissatisfied - 5 being very satisfied

a. Ease of making a reservation?	1 2 3 4 5
b. Ease of adjusting the reservation?	1 2 3 4 5
c. Wait time for your reservation to be completed?	1 2 3 4 5

3. How helpful are the call center agents in answering your questions or concerns?
 - a. Extremely helpful
 - b. Very helpful
 - c. Moderately helpful
 - d. Not so helpful
 - e. Not at all helpful

4. Were any of your recent trips subscription trips?
 - a. Yes
 - b. No

5. How satisfied are you with your most recent subscription trip? 1 being very dissatisfied - 5 being very satisfied

a. Condition of the vehicle?	1 2 3 4 5
b. Helpfulness of the vehicle operator?	1 2 3 4 5
c. Arrival time at your destination?	1 2 3 4 5



6. Space Coast Area Transit takes next day reservations every day between the hours of 8 a.m. and 5 p.m. Paratransit trips that are ADA-eligible should be scheduled 24 hours in advance, but can be scheduled up to 14 days in advance. Paratransit trips that are TD-eligible should be scheduled 24 hours in advance, but can be scheduled up to one week in advance of the requested trips. How satisfied are you with the service hours available to schedule a trip?
 - a. Very satisfied
 - b. Somewhat satisfied
 - c. Neither satisfied nor dissatisfied
 - d. Somewhat dissatisfied
 - e. Very dissatisfied

7. How satisfied are you with Space Coast Area Transit's on-time arrival for your trips?
 - a. Very satisfied
 - b. Somewhat satisfied
 - c. Neither satisfied nor dissatisfied
 - d. Somewhat dissatisfied
 - e. Very dissatisfied

8. How would you rate the customer service of the vehicle operators?
 - a. Excellent
 - b. Above average
 - c. Average
 - d. Below average
 - e. Poor

9. How satisfied are you with the travel time while on-board the vehicle?
 - a. Very satisfied
 - b. Somewhat satisfied
 - c. Neither satisfied nor dissatisfied
 - d. Somewhat dissatisfied
 - e. Very dissatisfied

10. How many times each week would you say you call the Space Coast Area Transit office for items other than a reservation (question, complaint, compliment, etc.)? ____



11. How would you rate the overall performance of the call center service?

- a. Excellent
- b. Above average
- c. Average
- d. Below average
- e. Poor

12. How are your appointment times and paratransit trip times coordinated? Are your doctors' offices flexible and accommodating of your appointment times knowing that you use the paratransit system?

13. What do you like the least about Space Coast Area Transit paratransit service?

14. What do you like the most about Space Coast Area Transit paratransit service?



Space Coast Area Transit - Questionnaire

Tourism + Transit Summit

Friday, January 27, 2017

1. Are you a current resident of Brevard County?
 - Yes
 - No

2. Do you use Space Coast Area Transit services; if so, to what extent?
 - Yes
 - No
 Comments: _____

3. If you own or manage a Brevard County hospitality industry venue:
 - Do you believe your customers use Space Coast Area Transit?
 - Do you believe your employees use Space Coast Area Transit?

4. What attractions do you believe tourists would access via Space Coast Area Transit?
 - Kennedy Space Center
 - Port Canaveral
 - Local beaches
 - Museums
 - Downtown markets
 - Other _____

5. How frequent would bus service need to be for tourists to use public transit?
 - Fifteen minutes or less
 - 16 – 30 minutes
 - 31 – 45 minutes
 - Tourists are not going to use transit

6. What amenities would be necessary to encourage tourist use of transit?
 - Shelters
 - Next bus arrival – kiosk stating the time the next vehicle would arrive
 - Alternative fare media (credit card, smartphone, online)
 - All of the above
 - No amenities will encourage use of transit

7. Do you believe that transit service can play any role in encouraging tourism?
 - Yes, explain _____
 - No
 - Not sure

8. Do you believe more advertising of Space Coast Area Transit service is needed to encourage tourist public transit bus usage?
 - Yes
 - No

9. Do you believe if a transfer is required for a tourist to access their destination they will still consider using transit?
 - Yes
 - No

10. Do you believe transit service must be available at the tourist's initial entry point (airport, Cape Canaveral, etc.) to their destination within Brevard County for them to use transit during their trip?
 - Yes
 - No

Additional Comments

Thank you for sharing your input!



DISCUSSION GROUP WORKSHOP

Business and Health Communities

Brevard County/ Space Coast Area Transit Ten-Year Transit Plan

May 3, 2016, 9:30AM to 11:30AM

Agenda

- **Welcome & Introduction**
- **Workshop Overview**
 - Who we are and what we do
 - Why we are here
 - Overview of workshop
- **Presentation**
- **Workshop Discussion Topics**
 - 1) What is your perception of mobility needs for persons in Brevard County who do not have access to an automobile or choose not to drive? Do you think these needs are growing?
 - 2) How does reduced access to mobility impact these individuals? Think about access to school, work, education, health care, life needs, social, recreational needs.
 - 3) How does reduced access to mobility impact the community and local economy?
 - 4) What is your understanding of and experience with the existing public transportation and related mobility services in the County?
 - 5) What is your opinion of existing SCAT service? Is it effective? Do we need more service?
 - 6) What ideas do you have about improving mobility services in Brevard County?
 - 7) Should the County invest more into expanding mobility services? How should we pay for expanded mobility services?
- **Wrap-Up**

SPACE COAST AREA TRANSIT | *Discussion Group Workshop*



DISCUSSION GROUP WORKSHOP

Community Services and the Senior Communities

Brevard County/ Space Coast Area Transit Ten-Year Transit Plan

May 4, 2016, 9:30AM to 11:30AM

Agenda

- **Welcome & Introduction**
- **Workshop Overview**
 - Who we are and what we do
 - Why we are here
 - Overview of workshop
- **Presentation**
- **Workshop Discussion Topics**
 - 1) What is your perception of mobility needs for persons in Brevard County who do not have access to an automobile or choose not to drive? Do you think these needs are growing?
 - 2) How does reduced access to mobility impact these individuals? Think about access to school, work, education, health care, life needs, social, recreational needs.
 - 3) How does reduced access to mobility impact the community and local economy?
 - 4) What is your understanding of and experience with the existing public transportation and related mobility services in the County?
 - 5) What is your opinion of existing SCAT service? Is it effective? Do we need more service?
 - 6) What ideas do you have about improving mobility services in Brevard County?
 - 7) Should the County invest more into expanding mobility services? How should we pay for expanded mobility services?
- **Wrap-Up**

SPACE COAST AREA TRANSIT | *Discussion Group Workshop*



DISCUSSION GROUP WORKSHOP

Education Community

Brevard County/ Space Coast Area Transit Ten-Year Transit Plan

May 4, 2016, 1:00PM to 3:00PM

Agenda

- **Welcome & Introduction**
- **Workshop Overview**
 - Who we are and what we do
 - Why we are here
 - Overview of workshop
- **Presentation**
- **Workshop Discussion Topics**
 - 1) What is your perception of mobility needs for persons in Brevard County who do not have access to an automobile or choose not to drive? Do you think these needs are growing?
 - 2) How does reduced access to mobility impact these individuals? Think about access to school, work, education, health care, life needs, social, recreational needs.
 - 3) How does reduced access to mobility impact the community and local economy?
 - 4) What is your understanding of and experience with the existing public transportation and related mobility services in the County?
 - 5) What is your opinion of existing SCAT service? Is it effective? Do we need more service?
 - 6) What ideas do you have about improving mobility services in Brevard County?
 - 7) Should the County invest more into expanding mobility services? How should we pay for expanded mobility services?
- **Wrap-Up**

SPACE COAST AREA TRANSIT | *Discussion Group Workshop*

Appendix E: On-Board Survey Instrument and Results

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On-Board Survey

An on-board survey of bus passengers was conducted on Thursday, November 3; Saturday, November 5; and Sunday, November 6, 2016, to collect travel characteristics, rider demographics, and customer service and satisfaction information. On-board surveys are an important service assessment tool employed by public transportation agencies as a way to assess how efficiently Space Coast Area Transit supplies fixed-route transit service, and how effective those services meet the needs of the rider. Feedback from the on-board survey efforts will assist Space Coast Area Transit in planning for immediate service improvements and in determining future transit needs in Brevard County. The results from the survey will provide Space Area Transit with insight on the demographic make-up and travel characteristics of its existing customer base. In addition, the results from this on-board survey were compared to the results of on-board surveys previously completed in 2008 and 2012 when the same questions were included on the different surveys to determine the historical trends for passenger demographics and travel characteristics.

Summary of On-Board Surveys

Questions 1 and 4 asked respondents about the type of place they were coming from to start their one-way trip and the type of place they were going to on the same one-way trip. Figures E-1 and E-2 illustrate the results of these two questions. As shown in Figure E-1, 43.2 percent of respondents indicated their trips originated at home. The second highest trip origin indicated by respondents was from work (22.7%). Similarly, the two highest destinations were home and work, 40.3 percent and 19.4 percent, respectively, illustrated in Figure E-2.

Figure E-1: Trip Origin

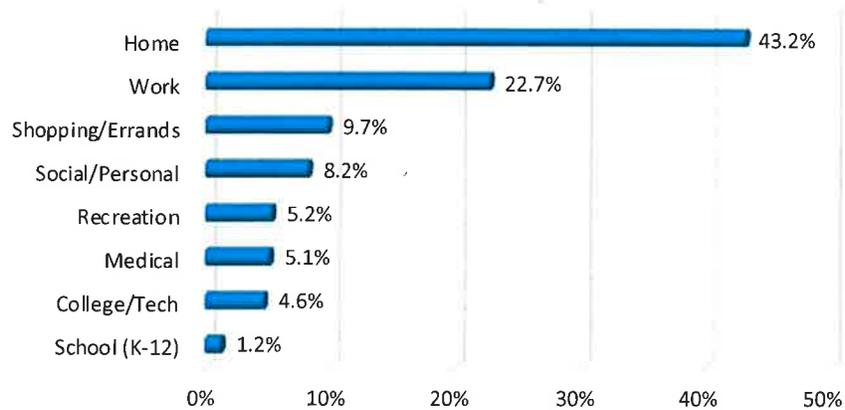
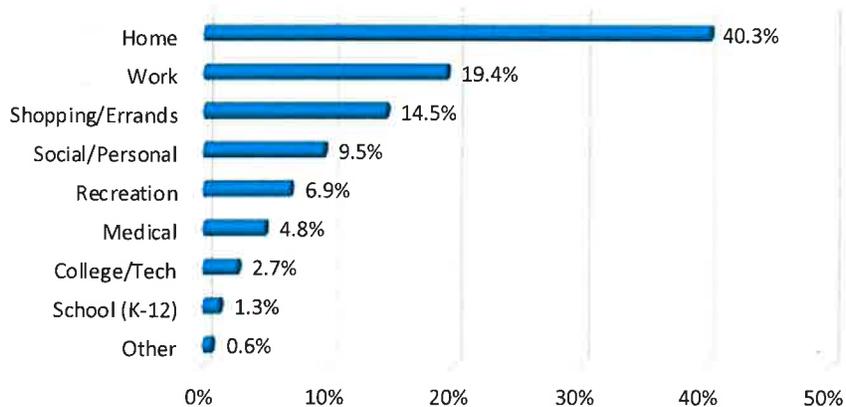


Figure E-2: Trip Destination



Questions 2 and 5 asked respondents which method of transportation they used to access the transit system and how they plan to reach their final destination. If respondents indicated walking or bicycling, they were asked to note the number of blocks they traveled. If driving was selected, respondents were asked to indicate the number of miles they drove to access transit or the number of miles they would drive upon reaching their final destination. The responses reveal how transit users often must combine various modes of travel to complete their trip. As shown in Figures E-3 and E-4, the majority of Space Coast Area Transit bus customer's access and egress from the bus/station by walking. The second most common mode of travel used was to be either dropped off or picked up.

Figure E-3: Transit Station Access

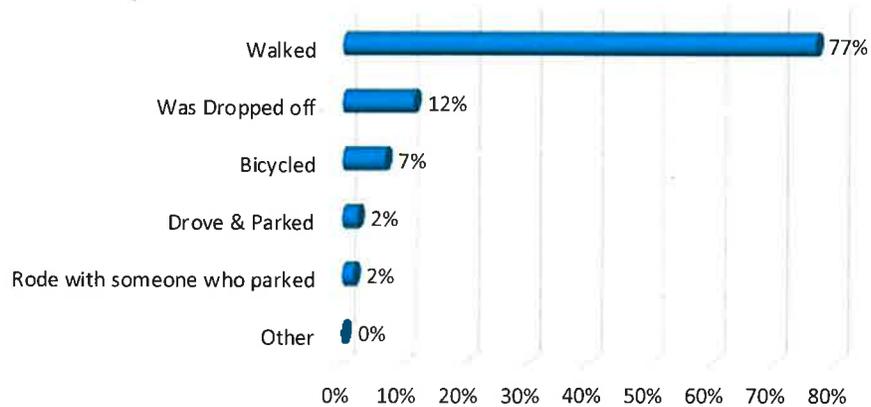
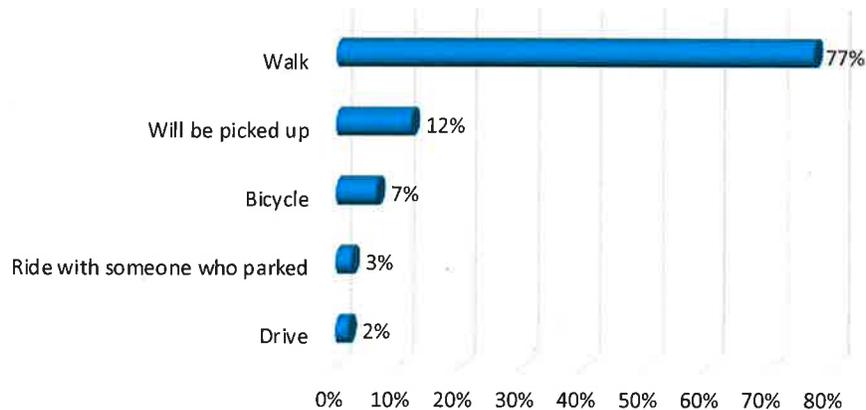


Figure E-4: Transit Station Egress



Figures E-5 and E-6 illustrate how far respondents traveled to and from transit when walking or bicycling. The majority of respondents who walked to and from the bus stop/station traveled approximately 1 to 2 blocks, while those who bicycled, traveled between 2 to 3 blocks. Figure E-7 shows that most respondents who drove and parked traveled approximately 1 mile to access transit, while Figure E-8 illustrates that those who drove to reach their final destination after using transit traveled between 1 to 3 miles.

Figure E-5: Number of Blocks Walked Access/Egress Transit



Figure E-6: Number of Blocks Bicycled to Access/Egress Transit

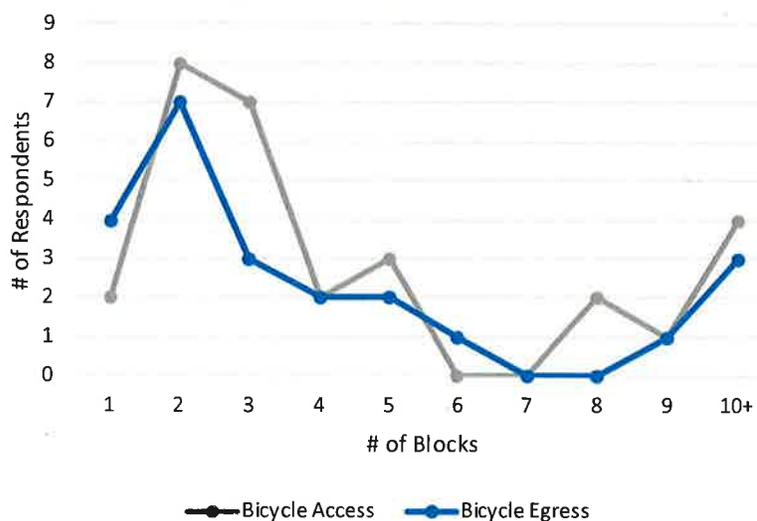


Figure E-7: Number of Miles Driven to Access Transit



Figure E-8: Number of Miles Driven to Final Destination



Question 7 asked respondents if they have access to a car or other personal vehicle that they could have used to make the trip. The purpose of this question is to gauge the number of “choice” or discretionary riders using Space Coast Area Transit services. As shown in Figure E-9, approximately 19 percent of respondents indicated that they could have used a vehicle to complete the trip.

Figure E-9: Access to a Vehicle

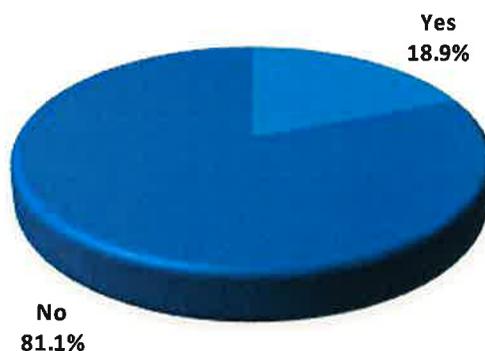
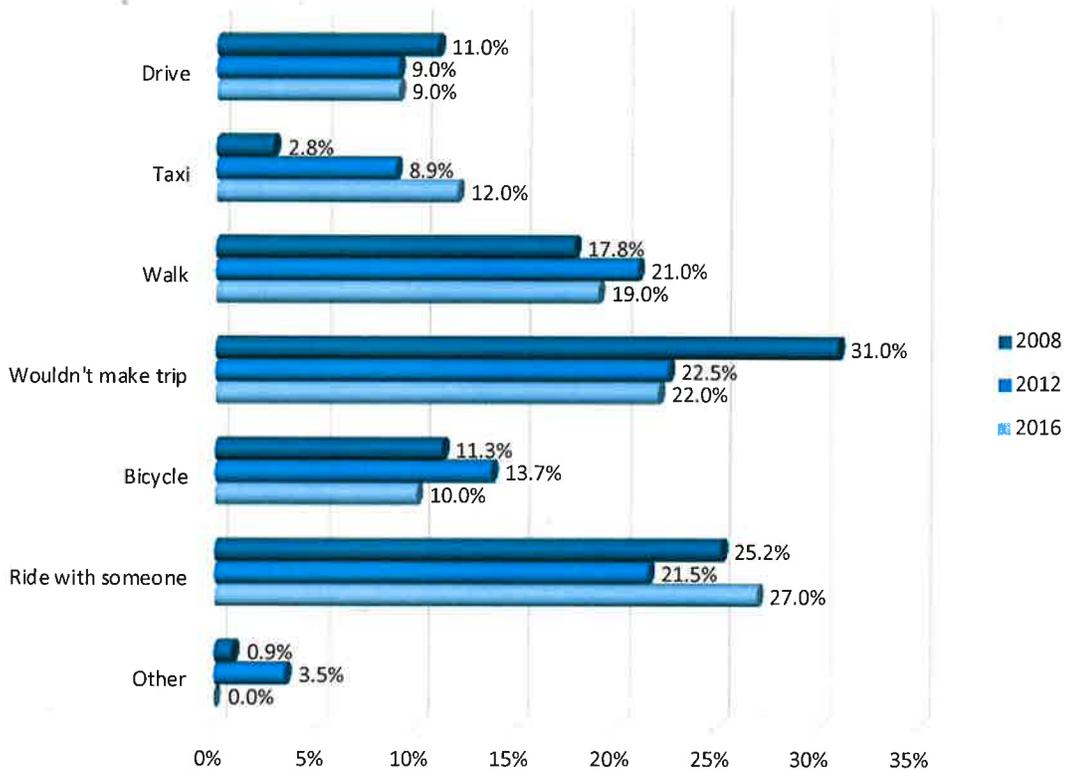


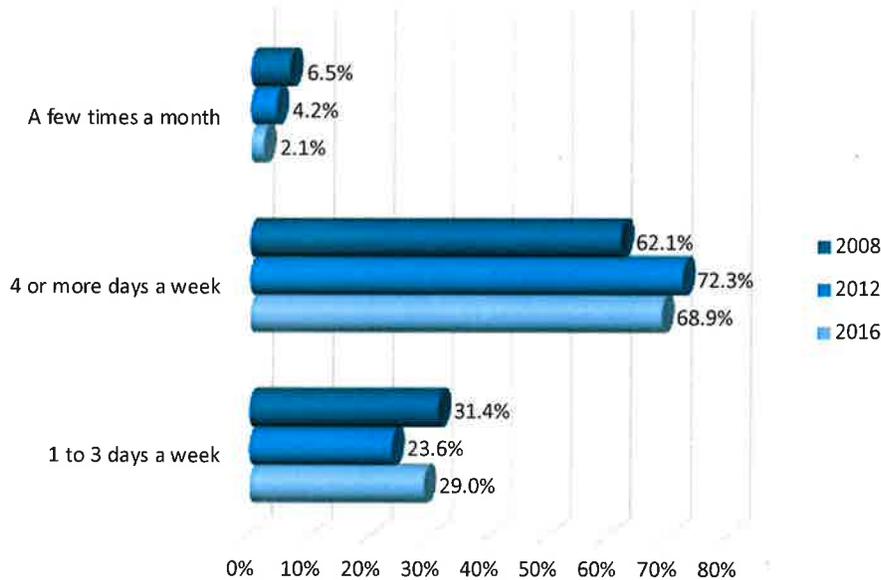
Figure E-10 illustrates the results to Question 8 that asked the respondent how he/she would make the trip if not by bus. The results were compared with those from the on-board survey efforts conducted in 2008 and 2012. The most common response provided in 2008 and 2012 was “Wouldn’t make the trip,” followed by “Ride with someone else.” In 2016, the results differ from the historical trend in which respondents indicated “Ride with someone else” more frequently than “Wouldn’t make the trip.” The percentage of respondents who indicated they would either bike or walk has declined from 2012 and 2008, while 12 percent in 2016 indicated they would take a taxi. With the change in technology from 2008 to the present, there has been an increase in applications that connect passengers with drivers also known as ridesourcing. Through the use of online reservations and payments, ridesourcing provides an alternative mode of travel for people wishing to get to their destination and has increased mobility options in Brevard County. Therefore, it is unclear whether respondents would have answered that they used a taxi or rode with someone else, if they had used a ridesourcing service, such as Uber.

Figure E-10: Mode Choice



Respondents were asked on Question 8, to indicate on average, how many days a week they ride the bus. This question focuses on a respondent's overall use of Space Coast Area Transit services. The results were compared to the results of the on-board survey in 2008 and 2012. As shown in Figure E-11, the percentage of respondents who rely on transit service more than four days per week has decreased from 72 percent in 2012 to 69 percent in 2016, while those utilizing transit service one to three days per week has increased from 24 percent in 2012 to 29 percent in 2016.

Figure E-11: Frequency of Transit Use

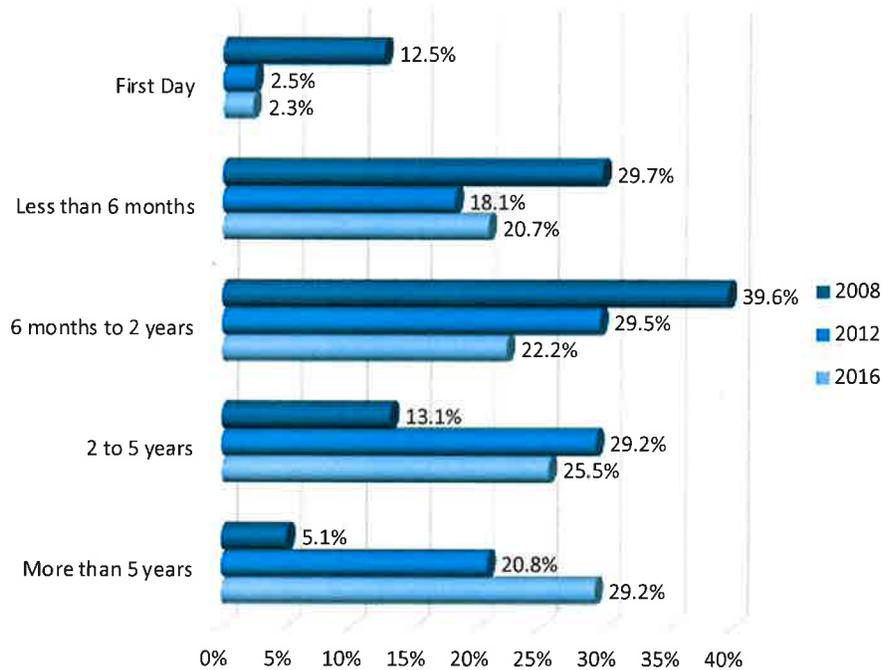


Rider Demographics

The demographic portion of the survey includes a variety of question that queried respondents about their household income level, gender, age, and ethnicity, among other things. The information provided will enable Space Coast Area Transit to construct a profile of the average bus service user accessing Space Coast Area Transit. Other topics covered by the demographic question include reasons for using Space Coast Area Transit service, and how long riders have been using Space Coast Area Transit service.

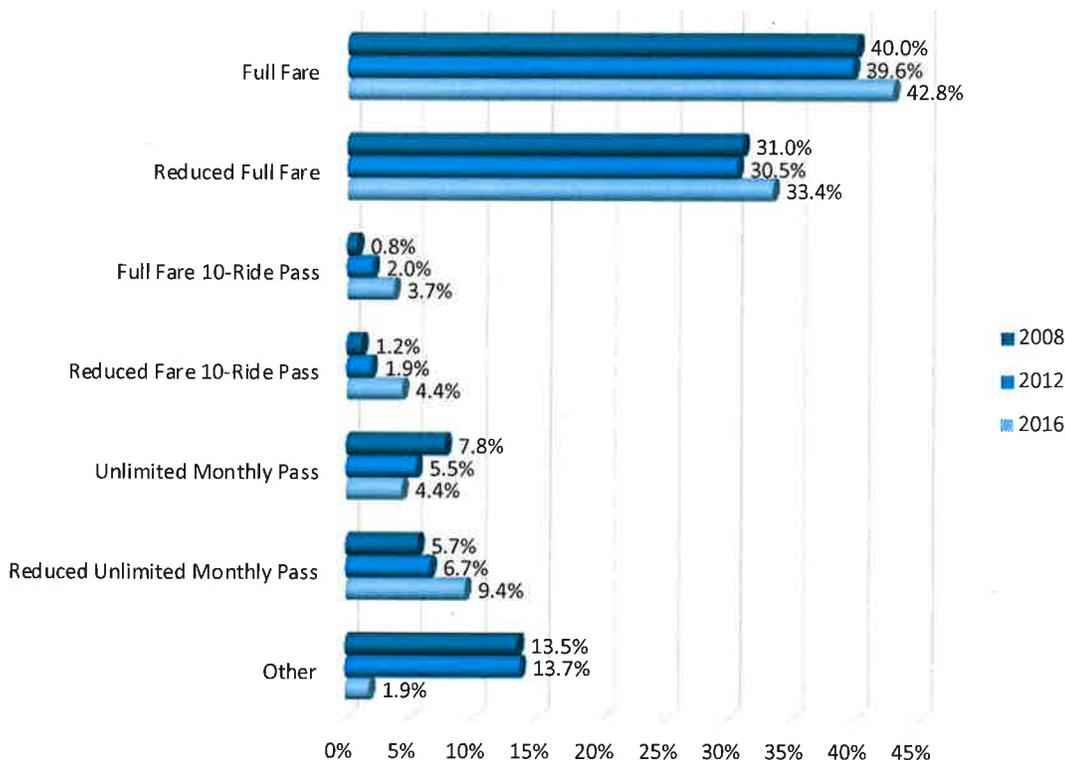
Question 10 asked respondents to indicate how long they have been utilizing Space Coast Area Transit service. The responses provided by the respondents were compared to the results in 2008 and 2012. Based on the results shown in Figure E-12, the percentage of respondents who have been using Space Coast Area Transit service for more than five years increased from 20.8 percent in 2012 to 29.2 percent in 2016. At the same time, the percentage of respondents who have been using service for two to five years has decreased since 2012. This decrease would indicate that those who responded in 2012 are now part of the group that has been loyal to Space Coast Area Transit for over five years.

Figure E-12: History of Space Coast Area Transit Service Use



Question 11 asked respondents to indicate the type of fare payment that they usually use when riding the bus. As shown in Figure E-13, the most commonly preferred methods of payment are Full Fare and Reduced Full Fare. According to the results from the on-board surveys conducted in 2008 and 2012, in which the same question was asked, these two methods have been the most preferred method of payment for bus users accessing Space Coast Area Transit services historically. For respondents who indicated “Other” as a method of fare payment, they indicated using a Student I.D.

Figure E-13: Fare Payment Method



Question 12 asked respondents if they have ever missed a bus trip because the bike rack was full. Those who responded yes, were then asked to indicate how many times per week this issue occurred. Figures E-14 and E-15 show that 83 percent responded “No,” while 17 percent of respondents indicated “Yes.” Of the 17 percent that reported missing a trip, 49 percent indicated this occurred once per week.

Figure E-14: Bike Rack Availability

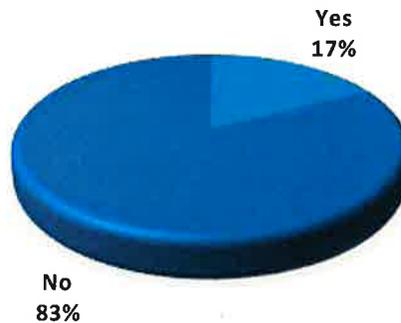
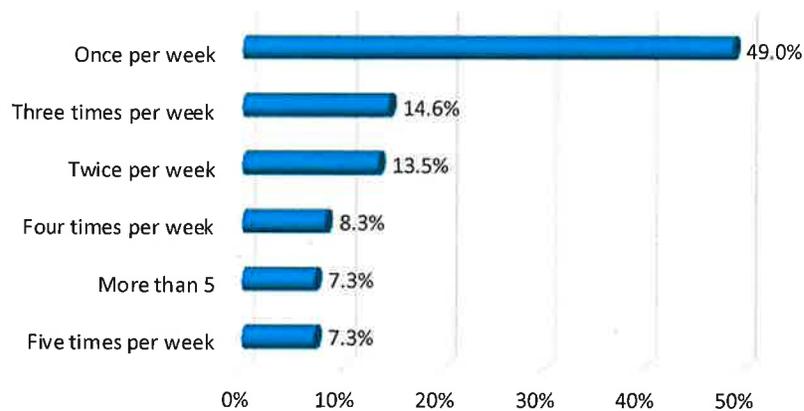


Figure E-15: Missed Bus Trips (Bike Rack Full)



Question 13 on the survey asked respondents to indicate the most important reason why they ride the bus. As shown in Figure E-16, the number one reason selected by respondents is “I do not have access to a car/vehicle” (35.2%), followed by “I do not drive” (22.4%), and “The bus is more convenient” (18.8%). The responses suggest that the majority of Space Coast Area Transit riders have limited transportation options and, therefore, rely heavily upon bus service. However, it is important to note that while not the most selected category, the number of responses for “The Bus is More Convenient” increased from 6.4 percent in 2012 to 18.8 percent in 2016. The increase in this category indicates that the service improvements implemented by Space Coast Area Transit since the 2012 on-board survey effort may have improved the passengers’ perception of bus reliability.

Figure E-16: Reasons for Using Space Coast Area Transit Service

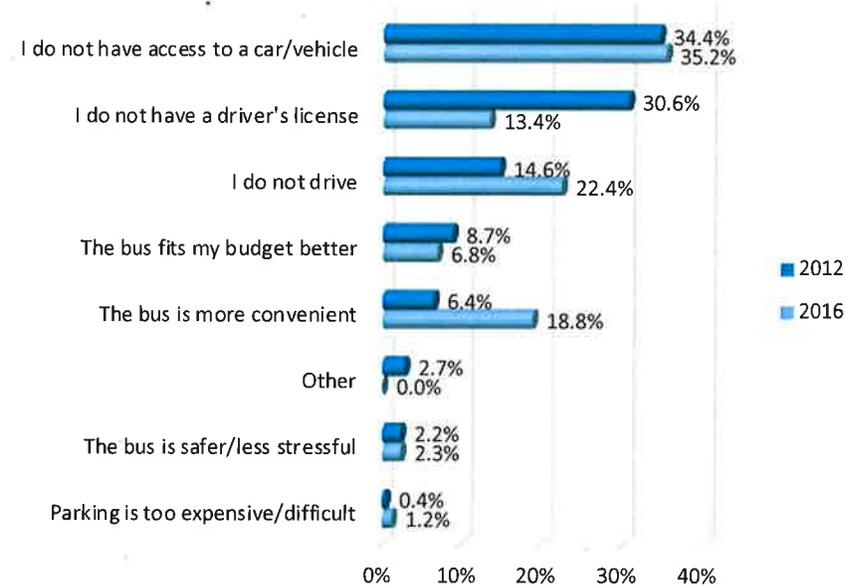
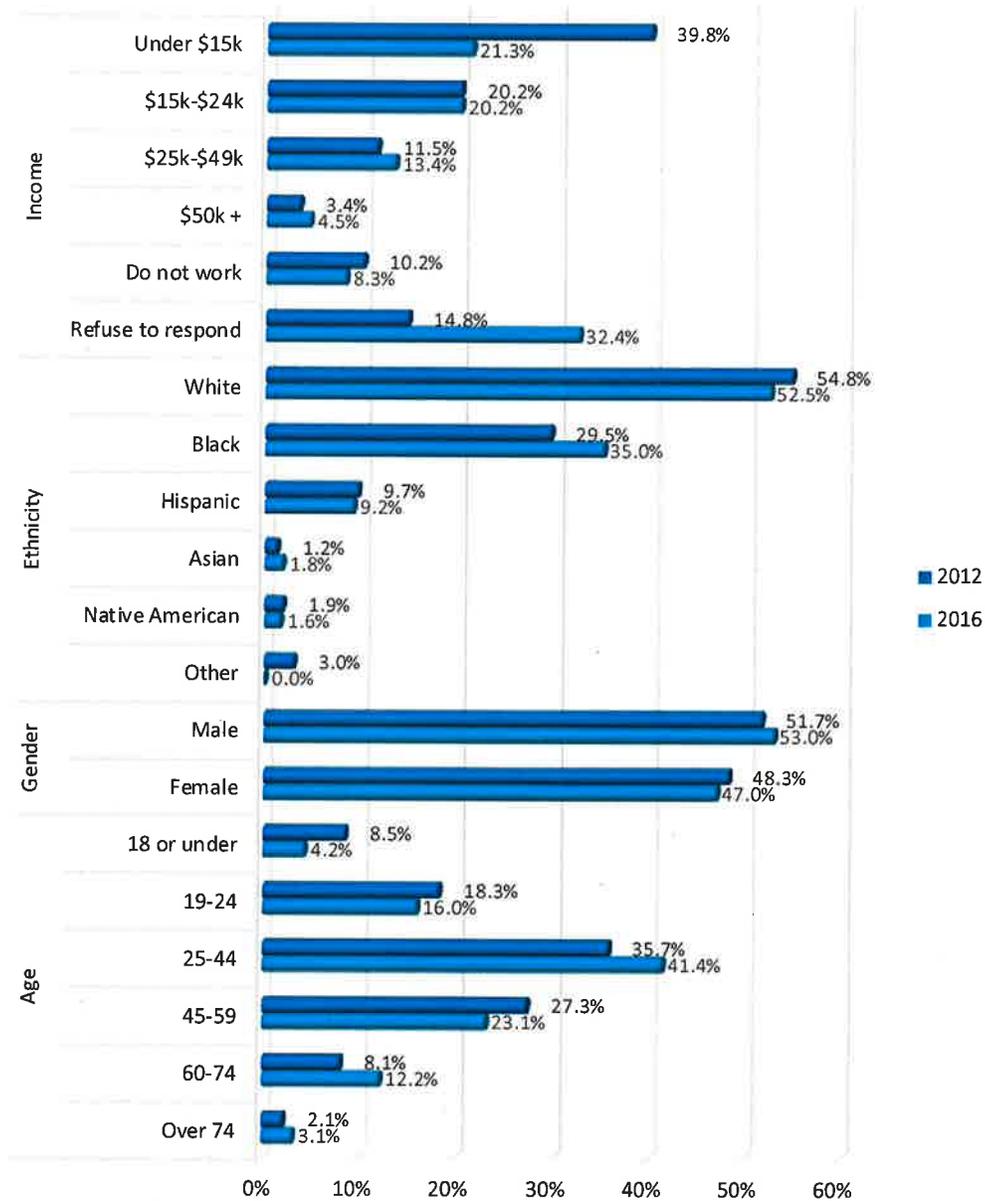


Figure E-17 presents the distribution for all responses to the demographic questions on the survey. The information includes age, gender, race, and household income levels. Table E-1 provides a profile of the average Space Coast Area Transit rider based on the significant percentage of all responses received for various demographic questions. The highest percentage of responses for each category was compiled to construct the average Space Coast Area Transit rider. Table E-1 also provides a comparison of the 2016 average bus rider profile to the average bus rider profiles from 2008 and 2012. The comparison reveals that average Space Coast Area Transit bus rider has remained the same since 2012 when the average gender switched from female (2008) to male (2012).

Table E-1: Average Space Coast Area Transit Bus Rider (2008, 2012, and 2016)

Category	2008	2012	2016
Gender	Female	Male	Male
Ethnic Origin	White	White	White
Age	25-44	25-44	25-44
Annual Household Income	Under \$15,000	Under \$15,000	Under \$15,000

Figure E-17: Space Coast Area Transit Rider Demographics



Shown in Figure E-18, are the results from Question 14, which asked survey respondents if they were a veteran of the U.S. Armed Forces, 86 percent indicated “No,” while 14 percent responded “Yes.”

Figure E-18: Veteran Status

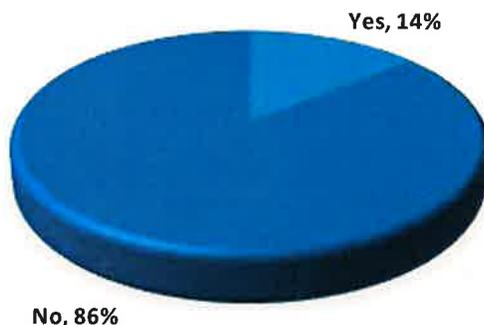
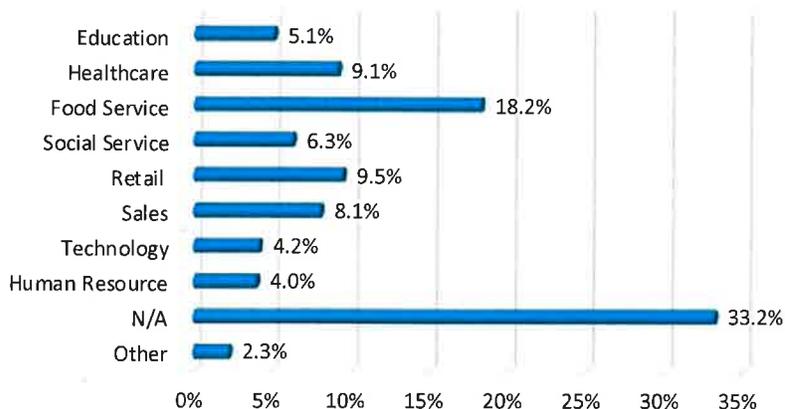


Figure E-19, displays the results from question 15, which asked respondents what field/industry of employment most applied to them. From the list of industry options on the survey, 18.2 percent of respondents associated themselves with the “Food Service” industry, and 9.5 percent indicated that they worked in “Retail.” Respondents that did not associate with any of the industries listed, responded with “Not Applicable,” which accounted for 33.2 percent of respondents. Respondents that indicated “Other,” worked in fields including from automotive, construction, and engineering.

Figure E-19: Field/Industry of Employment

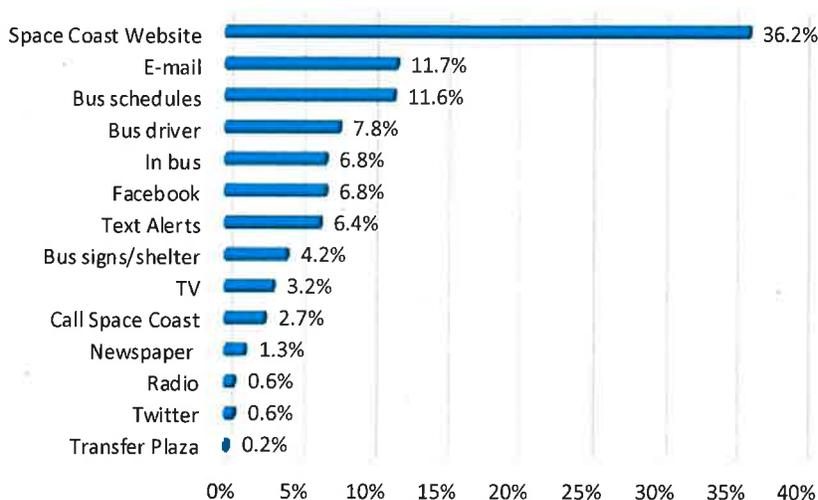


Customer Service and Satisfaction

Customer service and satisfaction questions queried respondents regarding improvements to Space Coast Area Transit services and about their general satisfaction levels with various aspects of Space Coast Area Transit service. In addition, an effort was made to cross-tabulate the selected demographic characteristics with satisfaction levels as appropriate.

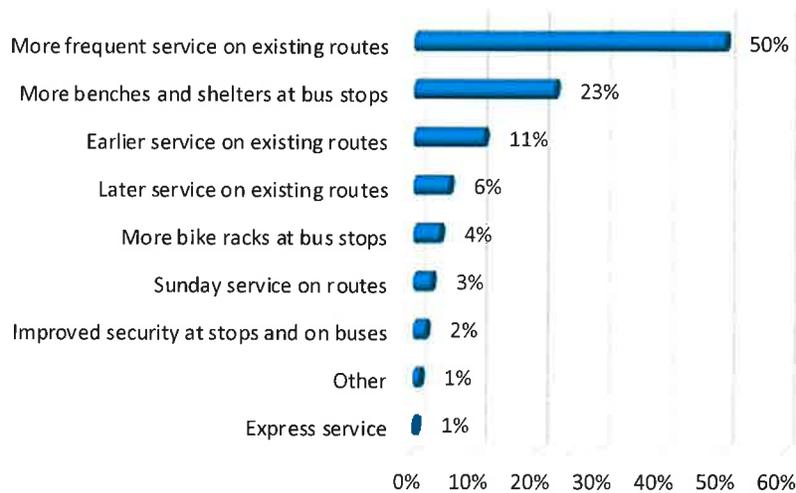
To gain insight as to how Space Coast Area Transit users prefer to receive information regarding service, schedules, and changes, Question 21 listed 14 methods of communication from which to select. Shown in Figure E-20, the most preferred method of receiving information regarding Space Coast Area Transit was through the Space Coast Area Transit website (36.2%). The second and third most preferred methods were by email and bus schedules, 11.7 percent and 11.6 percent, respectively.

Figure E-20: Information Dissemination



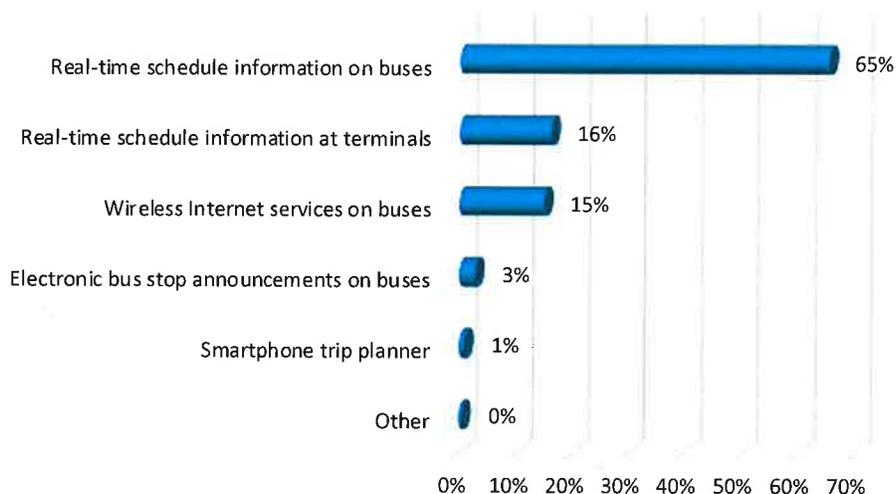
Question 23 asked respondents to select from a list of eight potential service improvements which service improvements they felt would make Space Coast Area Transit service better for them to use. As shown in Figure E-21, the first choice selected by respondents was “More frequent service on existing routes,” followed by “More benches and shelters at bus stops,” and “Earlier service on the existing routes.” Three percent of the respondents selected the service improvement “Sunday service on routes” and those respondents were asked to indicate specific routes in need of Sunday service. Routes 23, 25, and 1 were most frequently selected by respondents, with 25 percent, 13 percent, and 11 percent of the responses, respectively.

Figure E-21: Preferred Service Improvements



Question 24 provided respondents with a list of five technology improvements, and asked respondents to select three technology improvements that would make Space Coast Area Transit better for them to use. As shown in Figure E-22, the top three most preferred technology improvements from respondents were real-time schedule information on buses (65%), real-time schedule information at terminals (16%), and wireless internet services on buses (15%).

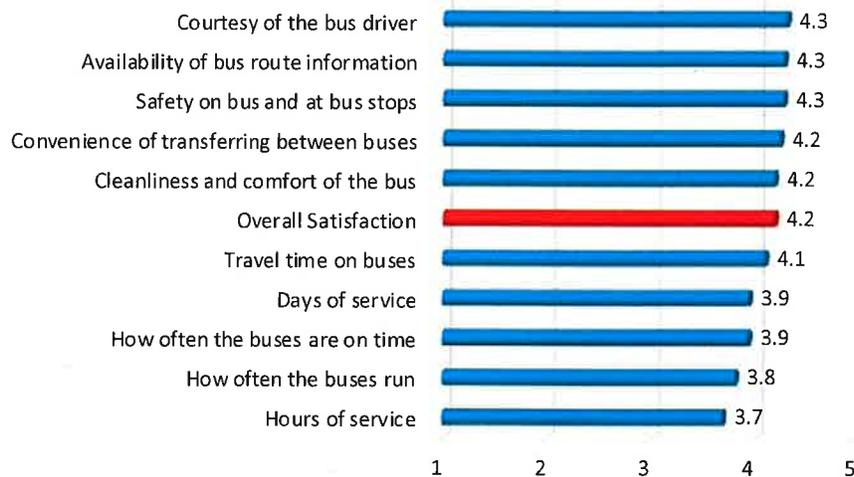
Figure E-22: Preferred Technology Improvements



Question 22 on the survey asked riders to indicate their satisfaction levels with various aspects of the bus service provided by Space Coast Area Transit. Respondents were given a list of 11 service-related criteria to rate as either “Very Unsatisfied,” “Unsatisfied,” “Neutral,” “Satisfied,” or “Very Satisfied,” with 1 being “Very Unsatisfied” and 5 being “Very Satisfied.” The ratings of all the respondents were then averaged to obtain a final overall satisfaction score for each criterion.

Although scores for these type of criteria are typically high, understanding customer satisfaction levels assist Space Coast Area Transit in prioritizing which potential issues need the most attention, and which areas of service require the most improvement. The highest overall scores of 4.3 were given to courtesy of the bus driver, availability of bus route information, and safety on bus and at bus stops. There were seven out of the 11 service-related criteria that were above the average rating score of 4.1. Days of service, how often the buses are on time, how often the buses run, and hours of service each received ratings below 4.0. Figure E-23 shows all 11 service-related categories and their respective average rating scores.

Figure E-23: Service Satisfaction Level



Cross-Tabulation Analysis

Figures E-24 through E-27 cross reference the Space Coast Area Transit customer overall satisfaction ratings by respondent's age, gender, ethnic heritage, and household income.

- As shown in Figure E-24, the highest overall satisfaction rating were given by respondents age 74 and over, with an average rating of 4.6. Among all age cohorts, all ratings were above 4.0. The average Space Coast Area Transit rider is in the age group of 25-44. Respondents within this age group provided a satisfaction rating of 4.2.
- Figure E-25 shows that both males and females provided an equal satisfaction rating of 4.2, which would indicate that there is no difference in customer satisfaction between genders.
- Figure E-26 provides the average overall Space Coast Area Transit system service rating by respondents of different ethnic heritages. White and Black respondents rated the system at 4.3 and 4.2, respectively, Hispanic respondents provided an overall satisfaction rating of 4.0, which was the second lowest rating. Native Americans provided the lowest rating of 3.3. It is important to note that Native Americans accounted for 1.6% of survey respondents.
- Figure E-27 displays the average overall Space Coast Area Transit system service ratings stratified by income levels. Overall satisfaction was highest with an overall average rating of 4.3 among respondents who indicated household earning of \$25,000 to \$49,000. Respondents earning \$15,000 to \$24,000 rated the system with an overall rating of 4.1. Those who refused to respond to the household income question rated the system the lowest, with an average overall rating of 4.0.

Figure E-24: Rider Satisfaction by Age

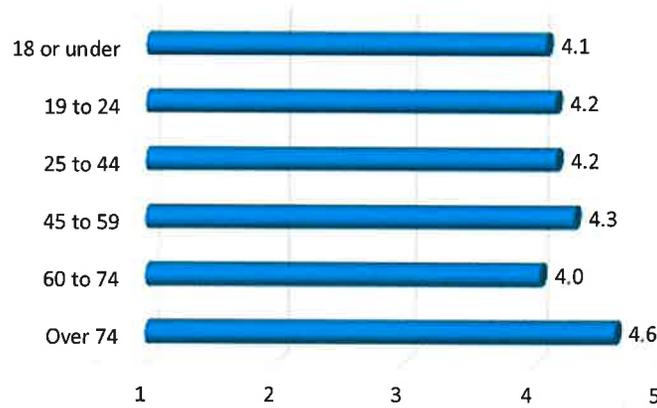


Figure E-25: Rider Satisfaction by Gender

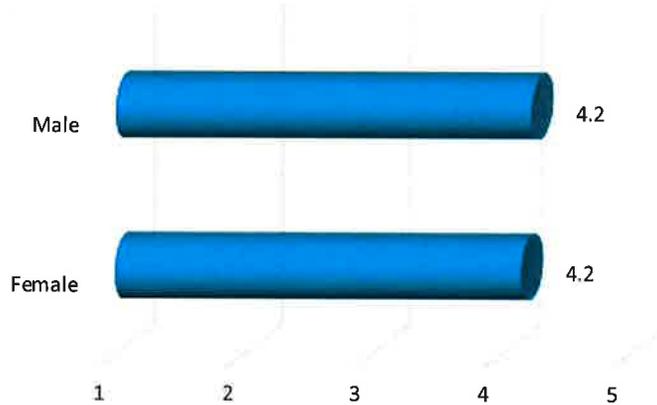


Figure E-26: Rider Satisfaction by Ethnic Heritage

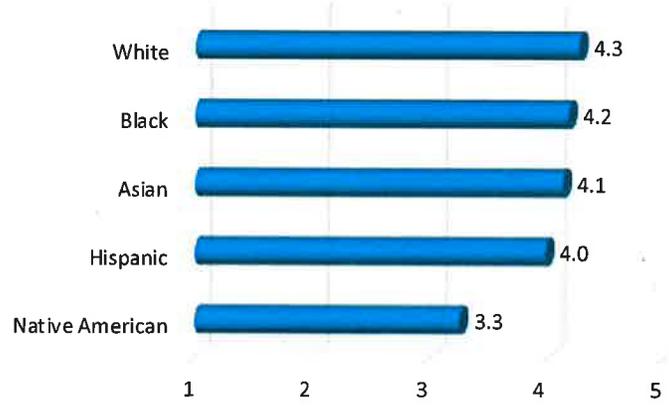
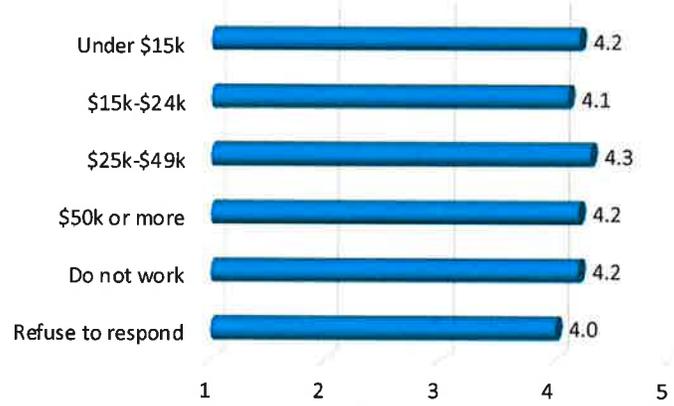


Figure E-27: Rider Satisfaction by Household Income



Cross-tabulation of fare types by age and household income was conducted to provide an in-depth look at important aspects of Space Coast Area Transit services. Efforts to provide cross-tabulation results, will assist in understanding the relationship between fare type paid and respondent's age along with household income.

Figure E-28 illustrates the method of fare payment used by riders in different age groups. Respondents age 19 to 44 are more likely to pay the full cash fare of \$1.50 when compared to the rest of the other fare payment options. Full fare and reduced fare payments options are most preferred by respondents' age 45 to 59, while those age 18 or under and 60 or over are more likely to pay the reduced full fare. This is consistent with reduced fares offered by Space Coast Area Transit to those populations.

Figure E-28: Fare Type Paid by Respondent Age

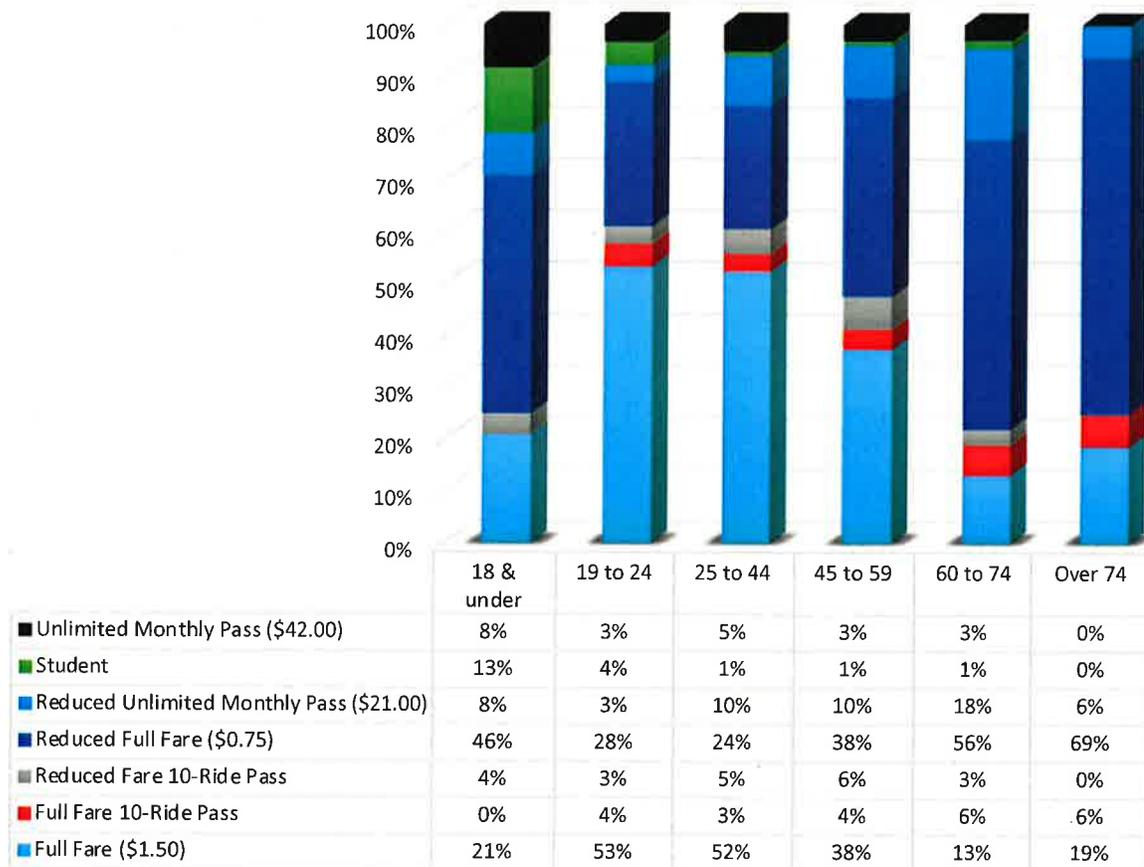
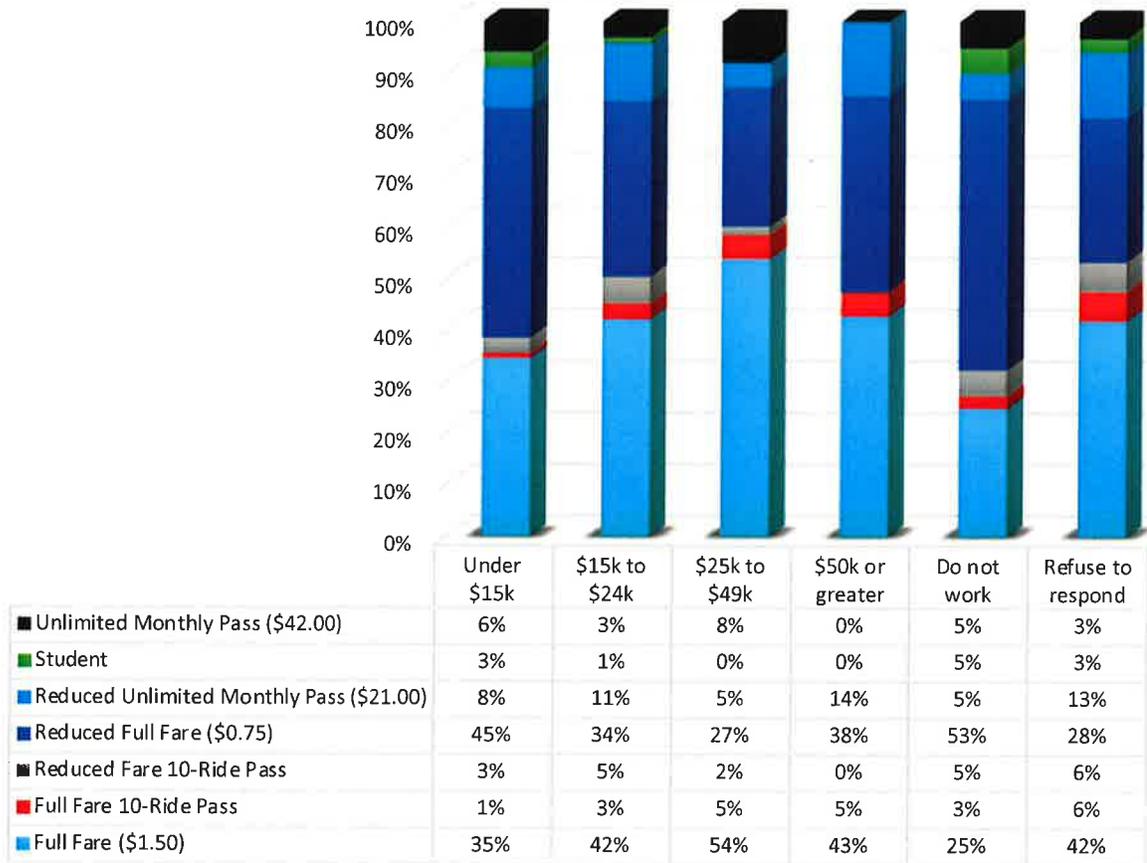


Figure E-29 shows the method of fare payment used by riders with different income levels. Full fare is the most preferred method of payment for all riders, regardless of income. Based on the survey results, the reduced fare is the second most preferred method of fare payment among respondents earning less than \$15,000 and the “do not work” respondent group.

Figure E-29: Fare Type Paid by Respondent Annual Household Income Levels



On-Board Regular Survey General Conclusions

The following section draws upon the conclusions from the 2016 on-board survey analysis. The results included in this section provide insight into the various aspects of the service that Space Coast Area Transit provides.

- Space Coast Area Transit riders are loyal, 55% of customers have been using Space Coast Area Transit service for two or more years, and 69% of respondent indicated utilizing transit service four or more days per week.
- Bus riders rely on Space Coast Area Transit for their service, with 81% of respondents indicating that they do not have access to a car, and 35% indicating that the most important reason to ride the bus is due to not having access to a vehicle.
- The average Space Coast Area Transit rider is White, Male, age 25-44, and has a household income of \$15,000 or less per year.
- Survey respondents rated “real-time schedule information on buses” as the most desirable technology improvement to be implemented by Space Coast Area Transit. In the 2012 on-board survey, respondents also rated this technology improvement to be the most desirable.
- The highest satisfaction rating given by respondents were for “courtesy of the bus driver,” “availability of bus route information,” and “safety of bus and at bus stops.”

Space Coast Area Transit riders indicated that they prefer to receive information about Space Coast Area Transit service, schedules, and changes from the Space Coast Area Transit website (36%

Space Coast Area Transit On-Board Survey

Space Coast Area Transit strives to continually improve its service and passenger amenities. Please help us serve you better by completing this survey. Thank you.

This survey is about the ONE-WAY transit trip you are making now!



1. What TYPE OF PLACE are you COMING FROM NOW? (Please check the starting place of this ONE-WAY TRIP) (Please check only one)

- 1. Work
- 2. Medical
- 3. Social/Personal
- 4. School (K-12)
- 5. College/Tech
- 6. Home
- 7. Shopping/Errands
- 8. Other (specify) _____
- 9. Other (specify) _____

2. How did you get to the first bus stop for this ONE-WAY TRIP? (Please check only ONE)

- 1. Walked # blocks? _____
- 2. Bicycled # blocks? _____
- 3. Drove & parked # miles? _____
- 4. Was dropped off
- 5. Rode with someone who parked
- 6. Other (specify) _____

3. LIST ALL OF THE BUS ROUTES in the EXACT ORDER you will use to make THIS ONE-WAY TRIP.

FIRST Bus → SECOND Bus → THIRD Bus Route → FOURTH Bus

4. What TYPE OF PLACE are you GOING TO NOW on this ONE-WAY TRIP? (Please check the ending place of this ONE-WAY TRIP) (Please check only ONE)

- 1. Work
- 2. Medical
- 3. Social/Personal
- 4. School (K-12)
- 5. College/Tech
- 6. Home
- 7. Shopping/Errands
- 8. Other (specify) _____
- 9. Other (specify) _____

5. After you get off the last bus to complete this ONE-WAY TRIP, how will you get to your FINAL DESTINATION? (Please check only ONE)

- 1. Walk # blocks? _____
- 2. Bicycled # blocks? _____
- 3. Drove # miles? _____
- 4. Will be picked up
- 5. Rode with someone who parked
- 6. Other (specify) _____

6. Are you ending this trip at your final destination?
 1. Yes 2. No. I have to make an additional one-way trip after this one.

7. Do you have access to a car or other personal vehicle that you could have used to make THIS trip?
 1. Yes 2. No

8. How would you make this one-way trip if not by bus? (Please check only ONE)

- 1. Drive
- 2. Taxi
- 3. Walk
- 4. Wouldn't make trip
- 5. Bicycle
- 6. Ride with someone
- 7. Other (specify) _____

9. On average, how many days a week do you ride the bus?

- 1. First time riding
- 2. 1
- 3. 2
- 4. 3
- 5. 4
- 6. 5
- 7. 6
- 8. 7
- 9. Other _____

10. How long have you been using Space Coast Area Transit bus service?

- 1. This is the first day
- 2. Less than 6 months
- 3. 6 months to 2 years
- 4. 2 to 5 years
- 5. More than 5 years

11. What type of fare do you usually pay when you ride the bus?

- 1. Full Fare (\$1.50)
- 2. Reduced Full Fare (75c)
- 3. Full Fare 10-Ride Pass
- 4. Reduced Fare 10-Ride Pass
- 5. Unlimited Monthly Pass (\$42.00)
- 6. Reduced Unlimited Monthly Pass (\$21.00)
- 7. Other (specify) _____

PLEASE CONTINUE ON BACK OF SURVEY



12. Have you ever missed a bus trip because the bike rack was full? Yes No
 IF YES, how many times per week has this happened?
 1. 1 2. 2 3. 3 4. 4 5. 5 6. 6 7. 7
 8. Other _____

13. What is the most important reason you ride the bus? (Please check only one)
 1. I do not have a valid driver's license The bus is more convenient
 2. I do not have access to a car/vehicle The bus fits my budget better
 3. Parking is too expensive/difficult The bus is safer/less stressful
 4. I do not drive Other (specify) _____

14. Are you a veteran of the U.S. Armed Forces? Yes No

15. What field/industry of employment most applies to you?
 1. Education 2. Food Service 3. Retail 4. Technology 5. N/A
 6. Healthcare 7. Social Service 8. Sales 9. Human Resource 10. Other _____

16. Your age is?
 1. 18 or under 2. 25 to 44 3. 60 to 74
 4. 45 to 59 5. Over 74

17. What is your gender? Male Female

18. What is your race or ethnic heritage? (Please check only ONE)
 1. White 2. Black 3. Hispanic 4. Asian
 5. Native American 6. Other _____

19. What was the range of your total household income for 2015?
 1. Under \$15,000 2. \$15,000 to \$24,999 3. \$25,000 to \$49,999 4. \$50,000 or greater
 5. Do Not Work 6. Refuse to Respond

20. How many people live in your household? _____

21. How do you prefer to receive information about Space Coast Area Transit service, schedules, and changes?
 1. Space Coast website 2. Facebook 3. Twitter 4. Text Alerts 5. Email
 6. Bus signs/shelter 7. Bus driver 8. Bus schedules 9. TV 10. Call Space Coast
 11. In bus 12. Transfer plaza 13. Radio 14. Newspaper 15. Other _____

22. How satisfied are you with each of the following? Circle a score for each characteristic.

Please indicate	Very Satisfied	Neutral	Very Unsatisfied		
a. Your overall satisfaction with Space Coast Area Transit	5	4	3	2	1
b. Days of service	5	4	3	2	1
c. Hours of service	5	4	3	2	1
d. How often the buses run	5	4	3	2	1
e. How often the buses are on time	5	4	3	2	1
f. Travel time on buses	5	4	3	2	1
g. Availability of bus route information (maps & schedules)	5	4	3	2	1
h. Cleanliness and comfort of the bus	5	4	3	2	1
i. Courtesy of the bus driver	5	4	3	2	1
j. Safety on bus and at bus stops	5	4	3	2	1
k. Convenience of transferring between buses	5	4	3	2	1

23. Which three of the following service improvements would make Space Coast Area Transit better for you to use? (Please check THREE)

- More frequent service on existing routes
- More benches and shelters at bus stops
- More bike racks at bus stops
- Earlier service on existing routes
- Later service on existing routes
- Improved security at stops and on buses
- Sunday service on Route(s) _____
- Express service. Where? _____
- Other (Specify) _____

24. Which three of the following technology improvements would make Space Coast Area Transit better for you to use? (Please check THREE)

- Real-time schedule information on buses
- Real-time schedule information at terminals
- Wireless internet service on buses
- Electronic bus stop announcements on buses
- Smartphone trip planner
- Other (specify) _____

THANK YOU FOR COMPLETING THE SURVEY!



12. ¿Alguna vez ha perdido un viaje en autobús porque el portabicietas estaba lleno?
 1. Si 2. No

En caso afirmativo, ¿cuántas veces por semana ha sucedido esto?
 1. 1 2. 2 3. 3 4. 4 5. 5 6. 6
 7. Otro

13. ¿Cuál es la razón más importante por la que utiliza el autobús? (Marca UNA sola respuesta)
 1. No tengo una licencia válida de conducir 5. El autobús es más conveniente
 2. No tengo carro 6. El autobús cabe en mi presupuesto
 3. Estacionar es difícil/costoso 7. El autobús es más seguro/menos estrés
 4. No manejo 8. Otro (especifique) _____

14. ¿Es usted un veterano de las Fuerzas Armadas de EE.UU.? 1. Si 2. No

15. ¿Qué campo / rama de actividad más se aplica a usted?
 1. Educación 4. Servicio Sociales 7. Tecnología 10. Otro
 2. Salud 5. Comercio 8. Recursos Humanos
 3. Servicio de Comida 6. Ventas 9. N/A

16. Tu edad es?
 1. 18 o menor 3. 25 a 44 5. 60 a 74
 2. 19 a 24 4. 45 a 59 6. Mas de 74

17. ¿Cuál es su género? 1. Masculino 2. Femenino

18. ¿Cuál es su raza o herencia étnica? (Marca UNA sola respuesta)
 1. Anglo 2. Negro 3. Hispano 4. Asiático
 5. Otro _____

19. ¿Cuál fue el ingreso total de su hogar en el año 2015?
 1. Menos \$15,000 3. \$25,000 a \$49,999 5. No trabajo
 2. \$15,000 a \$24,999 4. \$50,000 o más 6. Prefero no responder

20. ¿Cuántas personas viven en su casa? _____

21. ¿Cómo prefiere recibir información sobre cambios a los servicios y horarios del Space Coast Area Transit?
 1. Página Web de Space Coast 5. En los avisos/paradas de autobús 11. En el autobús
 2. Facebook 7. Conductor del autobús 12. En el centro de transferencia
 3. Mensaje de Texto 8. En los horarios de autobús 13. Radio
 4. Email 9. Llamar a Space Coast 14. Periódico
 10. Otro _____

22. ¿Qué satisfecho está usted con cada una de las siguientes preguntas?

Encienda en un círculo tu respuesta	Muy Satisfecho	Neutral	Muy Insatisfecho		
	5	4	3	2	1
a. Su satisfacción en general con Space Coast Area Transit	5	4	3	2	1
b. Días de servicio	5	4	3	2	1
c. Horas de servicio	5	4	3	2	1
d. Con que frecuencia los autobuses funcionan	5	4	3	2	1
e. Con que frecuencia los autobuses está a tiempo	5	4	3	2	1
f. El tiempo de viaje en los autobuses	5	4	3	2	1
g. La disponibilidad de información de las rutas de autobuses (mapas y horarios)	5	4	3	2	1
h. La limpieza y la comodidad del bus	5	4	3	2	1
i. Certesía del conductor del autobús	5	4	3	2	1
j. Seguridad en el autobús y en las paradas	5	4	3	2	1
k. Conveniencia de transferir entre los autobuses	5	4	3	2	1

23. ¿Cuáles de las siguientes mejoras al servicio de Space Coast Area Transit serían mejor para usted? (Marca TRES)

- 1. Servicio mas frecuente en rutas existentes
- 2. Más bancos y refugios en las paradas de autobús
- 3. Más bastidores de bicicletas en las paradas de autobús
- 4. Servicio mas temprano en rutas existentes
- 5. Mejorar la seguridad en las paradas y en los autobuses
- 6. Servicio de rutas los Domingos
- 7. Servicio Express, donde? _____
- 8. Otro (especifique) _____

24. ¿Cuáles de las siguientes mejoras tecnológicas de Space Coast Area Transit serían mejor para usted? (Marca TRES)

- 1. Información de la programación en tiempo real en los autobuses
- 2. Wifi en los autobuses
- 3. Anuncios electrónicos de paradas de autobús en los autobuses
- 4. Planificador de viaje para los teléfonos celulares
- 5. Otro (especifique) _____

GRACIAS POR COMPLETER ESTA ENCUESTA!

12. ¿Alguna vez ha perdido un viaje en autobús porque el portabicietas estaba lleno?
 1. Si 2. No

En caso afirmativo, ¿cuántas veces por semana ha sucedido esto?
 1. 1 2. 2 3. 3 4. 4 5. 5 6. 6
 7. 7 8. Otro _____

13. ¿Cuál es la razón más importante por la que utilizas el autobús? (Marca ✓ UNA sola respuesta)

- 1. No tengo una licencia válida de conducir
- 2. No tengo carro
- 3. Estacionar es difícil/costoso
- 4. No manejo
- 5. El autobús es más conveniente
- 6. El autobús cabe en mi presupuesto
- 7. El autobús es más seguro/menos estrés
- 8. Otro (especifique) _____

14. ¿Es usted un veterano de las Fuerzas Armadas de EE.UU.? 1. SI 2. No

15. ¿Qué campo / rama de actividad más se aplica a usted?
- 1. Educación
 - 2. Salud
 - 3. Servicio de Comida
 - 4. Servicio Sociales
 - 5. Comercio
 - 6. Ventas
 - 7. Tecnología
 - 8. Recursos Humanos
 - 9. N/A
 - 10. Otro _____

16. Tu edad es?
 1. 18 o menor 2. 19 a 24 3. 25 a 44 4. 45 a 59 5. 60 a 74 6. Mas de 74

17. ¿Cuál es su género? 1. Masculino 2. Femenino

18. ¿Cuál es su raza o herencia étnica? (Marca ✓ UNA sola respuesta)
 1. Anglo 2. Negro 3. Hispano 4. Asiático
 5. Nativo de América del Norte 6. Otro _____

19. ¿Cuál fue el ingreso total de su hogar en el año 2015?
 1. Menos \$15,000 2. \$15,000 a \$24,999 3. \$25,000 a \$49,999 4. \$50,000 o más 5. No trabajo 6. Prefero no responder

20. ¿Cuántas personas viven en su casa? _____

21. ¿Cómo prefiere recibir información sobre cambios a los servicios y horarios del Space Coast Area Transit?
 1. Página Web de Space Coast 2. En los anuncios de autobuses
 3. Facebook 4. Conductor del autobús
 5. Twitter 6. En los horarios de autobuses
 7. Mensaje de Texto 8. TV
 9. Email 10. Llamar a Space Coast
 11. En el autobús
 12. En el centro de transferencia
 13. Radio
 14. Periódico
 15. Otro _____

22. ¿Qué satisfecho está usted con cada una de las siguientes preguntas?

	Muy Satisfecho	Neutral	Muy Insatisfecho
a. Su satisfacción en general con Space Coast Area Transit	5	4	3
b. Días de servicio	5	4	3
c. Horas de servicio	5	4	3
d. Con que frecuencia los autobuses funcionan	5	4	3
e. Con que frecuencia los autobuses están a tiempo	5	4	3
f. El tiempo de viaje en los autobuses (mapas y horarios)	5	4	3
g. La disponibilidad de información de las rutas de autobuses	5	4	3
h. La limpieza y la comodidad del bus	5	4	3
i. Cortesía del conductor del autobús	5	4	3
j. Seguridad en el autobús y en las paradas	5	4	3
k. Conveniencia de transferir entre los autobuses	5	4	3

23. ¿Cuáles de las siguientes mejoras al servicio de Space Coast Area Transit serían mejor para usted? (Marca ✓ TRES)

- 1. Servicio más frecuente en rutas existentes
- 2. Más bancos y refugios en las paradas de autobuses
- 3. Más bicicletas en las paradas de autobuses
- 4. Servicio más temprano en rutas existentes
- 5. Servicio más tarde en rutas existentes
- 6. Mejorar la seguridad en las paradas y en los autobuses
- 7. Servicio de rutas los Domingos
- 8. Servicio Express, donde?
- 9. Otro (especifique) _____

24. ¿Cuáles de las siguientes mejoras tecnológicas de Space Coast Area Transit serían mejor para usted? (Marca ✓ TRES)

- 1. Información de la programación en tiempo real en los autobuses
- 2. Información de la programación en tiempo real en los terminales
- 3. WiFi en los autobuses
- 4. Anuncios electrónicos de paradas de autobuses en los autobuses
- 5. Planificador de viaje para los teléfonos celulares
- 6. Otro (especifique) _____

GRACIAS POR COMPLETAR ESTA ENCUESTA!



Appendix F: Annual Farebox Recovery Report



CURRENT FAREBOX RECOVERY RATIO

The farebox recovery ratio (FRR) for Space Coast Area Transit, was 20.4 percent in FY2015 for combined fixed-route, paratransit, and vanpool services. FRR is the ratio between passenger fare revenue and the cost to provide operate the service. Combined, Space Cast Area Transit reflects a farebox recovery of between 16.9% in 2013 to 20.4% in 2015, with 2016 tentatively at 18.5%.

Table F-1 reflects the fare revenue, operating costs, and farebox recovery ratios for fixed route motor bus (MB). Demand responsive (DR), and van pool (VP) services between FY2013 and FY2016.

Table F-1: Space Coast Area Transit Historical Farebox Recovery Ratios

Category	FY2013	FY2014	FY2015	FY2016
MB Revenue	\$969,883	\$1,226,770	\$1,236,012	\$788,177
MB Costs	\$5,563,798	\$6,802,249	\$6,694,360	\$6,592,933
MB FRR	17.4%	18.0%	18.5%	12.0%
DR Revenue	\$538,963	\$466,243	\$856,858	\$969,113
DR Costs	\$4,405,534	\$4,557,986	\$4,382,412	\$4,628,847
DR FRR	12.2%	10.2%	19.6%	20.9%
VP Revenue	\$282,030	\$367,592	\$280,995	\$323,822
VP Costs	\$617,175	\$586,494	\$537,716	\$29,659
VP FRR	45.7%	62.7%	52.3%	1091.8%
Combined Revenue	\$1,790,876	\$2,060,605	\$2,373,865	\$2,081,112
Combined Costs	\$10,586,507	\$11,946,729	\$11,614,488	\$11,251,439
Combined FRR	16.9%	17.2%	20.4%	18.5%
Percent Change		2.0%	18.5%	-9.5%

The revenue and operating data submitted to the National Transit Database (NTD) is used to generate this table. The FY2016 NTD data reflected in the table, recently submitted, shows a historical inconsistency in MB and DR revenues and VP operating costs. These figures are currently under review.

PRIOR YEAR FARE STUDIES AND CHANGES

In 2014 Space Coast Area Transit implemented a fare increase, which was based on the FY2013 fare analysis. The regular full fare on the fixed-route system increased from \$1.25 to \$1.50 and from \$0.60 to \$0.75 for the reduced fare.

The fixed-route monthly pass increased from \$35 to \$42 and reduced monthly passes increased from \$17 to \$21. Additionally, the ten-ride pass increased from \$10 to \$12 and the reduced fare ten-ride pass increased from \$5 to \$6. Fare for the paratransit system includes a \$3.00 full fare and a \$1.50 reduced fare.

There have been no other changes to fares since 2014. With a full year of service at the higher rate, the impact has improved the overall farebox recovery ratio, and has generated additional revenue for the system as indicated by the 18.5 percent change from FY2014. However, the fare increase has adversely impacted ridership on both fixed route and demand responsive services.

PROPOSED FARE CHANGES FOR THE UPCOMING YEARS

At this time there are no immediate plans to implement a fare increase, given that fares were increased in July 2014 as a result of the FY2013 fare analysis. However, Space Coast Area Transit should continue to examine fare levels periodically to avoid large one-time increases that place more financial burden on passengers and to keep the fare revenue at an adequate proportion to the expenditures. In the past five years the farebox recovery has been fairly consistent, ranging from 17 percent to 20 percent. A fare increase that plans to maintain this consistently or gradually increase this ratio over time is a responsible undertaking by Space Coast Area Transit. Whenever the fare structure is changed monetarily, it will require a long, public participation process.

STRATEGIES THAT WILL AFFECT THE FAREBOX RECOVERY RATIO

The FY 2018-2027 TDP Major Update identifies several strategies that will be used to maintain or increase the farebox recovery ratio including the following:

- Increase ridership through more strategic marketing activities aimed at attracting choice riders;
- Ensure that transit serves major corridors, employers, and activity centers (including colleges/universities);
- Increase ridership by continuing to transition transportation disadvantaged and Americans with Disabilities Act (ADA) patrons to fixed-route service and/or to flexible services that can provide ADA accessible general public curbside service that fulfills the complementary service requirements of the ADA. In FY2018, Space Coast Area Transit plans to complete an ADA assessment of its bus stops to identify improvements that would improve accessibility;
- Increase ridership by increasing average frequency and improving fare collection options and fare media accessibility for riders;
- Continuously monitor performance to determine if adjustments need to be made
- Review the applicability of premium service on major corridors to provide a competitive modal option over automobile use;
- Minimize costs required to operate and administer transportation services and implement a mobility manager approach to trip-booking.