



Collier Area Transit

Ten-Year Transit Development Plan 2021-2030

FINAL

October 2020

Prepared by



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1.0 Introduction

Collier Area Transit (CAT) provides fixed-route transit service within Collier County, with routes serving Naples, Golden Gate, North Naples, Ave Maria, Immokalee, Golden Gate Estates, Marco Island, and more. In addition, CAT's Routes 11, 27, and 12 serve the Creekside Transfer Center, providing regional connectivity to Lee County.

CAT initiated this study in coordination with Collier County Metropolitan Planning Organization (MPO) to update CAT's Transit Development Plan (TDP) according to Florida Administration Code (F.A.C.) Rule 14-73.001 – Public Transportation—"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." This TDP serves as the strategic guide for public transportation in the community during the next 10 years and represents the transit agency's vision for public transportation in its service area during this period. This TDP was presented to and adopted by the Collier Board of County Commissioners on October 27, 2020. The TDP, as approved and per requirements, will be forwarded to the Florida Department of Transportation by November 1, 2020.

1.1 Objectives of this Plan


This document is an update to the TDP for CAT services in Collier County, as currently required by State law. Upon completion, this TDP will result in a 10-year plan for transit and mobility needs, cost and revenue projections, and community transit goals, objectives, and policies.

1.1.1 TDP Requirements

As a recipient of State Public Transit Block funds, the Florida Department of Transportation (FDOT) requires a major update of the CAT TDP every five years to ensure the provision of public transportation is consistent with the mobility needs of the local community. FDOT formally adopted the current requirements for TDPs on February 20, 2007. Major requirements of the regulation include the following:

- Major updates must be completed every 5 years, covering a 10-year planning horizon.
- A Public Involvement Plan (PIP) must be developed and approved by FDOT or consistent with the approved MPO public participation plan.
- FDOT, the Regional Workforce Development Board, and the MPO must be advised of all public meetings at which the TDP is presented and discussed, and these entities must be given the opportunity to review and comment on the TDP during the development of the 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.

The Florida Legislature added a requirement for the TDP in 2007 with the adoption of House Bill 985. This legislation amended Florida Statutes (F.S.) 341.071, requiring transit agencies to "... specifically address potential enhancements to productivity and performance which would have the effect of



increasing farebox recovery ratio.” FDOT subsequently issued guidance requiring the TDP and each annual update to include a 1–2-page summary report as an appendix to the full major or annual TDP report on the farebox recovery ratio and strategies implemented and planned to improve it.

1.2 TDP Checklist

This 10-year plan meets the requirements for a TDP Major Update in accordance with Rule Chapter 14-72, F.A.C. Table 1-1 at the end of this section provides a list of TDP requirements from Rule 14-73.001 and indicates whether or not the item was accomplished in this 10-year plan.


1.3 Organization and Overview of Report

Section 2 summarizes the **Baseline Conditions** for Collier County, including a physical description of the study area, a population profile, and demographic and journey-to-work characteristics as well as a review of new developments and tourism information. Land use trends, major transit trip generators and attractors, economic factors, existing roadway conditions, major employers, and commuter workflow patterns are also explored. The information compiled and presented in this section provides a baseline assessment of current and future transportation needs as well as a basis for subsequent tasks of the TDP.

The review shows that growth in Collier County has and will continue to outpace Florida’s growth. Additional areas explored include land use trends, major transit trip generators and attractors, existing roadway conditions, and other public transportation service providers. The review found that Collier County’s current land use to be largely low-density uses, however future nodes featuring mixed-use activity centers along Tamiami Trail, Airport Pulling Road and Collier Boulevard have the potential to create a more transit-supportive environment.

Section 3 presents the **Transit Performance Evaluation** for CAT, including a review of the existing transit services in the study area, current fare structure, a vehicle inventory, a trend analysis conducted to examine the performance of CAT’s transit services, and a peer review to assist CAT in setting measurable targets for ridership and improvements. CAT’s declining trend in ridership from 2013 to 2018 mirror that of other transit agencies in the nation. CAT rated above the peer average for several measures including passenger miles, revenue miles, route miles, total operating expenses, operating expense per passenger mile, operating expense per revenue mile. The last three metrics indicate CAT costs for service exceed the peer average. CAT performed at the peer mean for farebox recovery ratio.

Section 4 describes **Public Outreach** efforts to date, including an onboard survey, discussion group workshops, stakeholder interviews, Review Committee meetings, virtual outreach, and online survey results. Based on the public survey, the general public generally agrees that transit services in Collier County must be provided (71%) and that higher frequency bus service was the most preferred improvement they would like to see (56.4%), followed by more bus service to new areas (55.5%). The impact of adding improved service frequencies will provide better service and improve ridership but is also the most expensive improvement to make since it more than doubles revenue hours.




Section 5 provides the **Transit Demand Assessment** of current transit service, including a review of GIS-based tools to identify discretionary and traditional markets in Collier County and of the 10-year ridership projections for CAT. Also included is a **Gap Analysis** for CAT, which presents the gaps in service compared to the expected transit needs based on an analysis of socioeconomic data gathered. This step is vital in assessing the performance of public transit, especially in meeting the needs of transportation-disadvantaged populations as well as potential choice riders in the CAT service area. Based on the analysis, areas that have the highest potential for being underserved are located west and east of US-41 but south of Bonita Beach Road. Other major areas that are underserved include North Naples, Immokalee, Collier Boulevard between Rattlesnake Hammock Road and Radio Road and areas east of Goodlette-Frank Road.

Section 6 presents the **Existing Transit Assessment**, which documents existing ridership by month for the system, followed by a breakdown of ridership by month by route. Also included are an examination of route productivity (ridership per revenue hour and mile) and an evaluation of average daily passenger boardings by stop using Automatic Passenger Counting (APC) data from 2019 to evaluate productivity at the stop level compared to other stops in the service. Based on the APC data provided by CAT, the areas with the highest average boardings include Collier County Government Center, CAT Operations, and Creekside Transfer Center. Other parts of the CAT service area that have high average boardings are the Immokalee Health Department, Northbrooke Plaza Drive, and Walmart near Collier Boulevard/Tamiami Trail. Route segments with low productivity vary throughout the county but are primarily along Santa Barbara Boulevard between Radio Road and Davis Boulevard, Davis Boulevard between Airport Pulling Road and Santa Barbara, Golden Gate Parkway between I-75 west and Goodlette-Frank Road, Pine Ridge Road, and Airport-Pulling Road between Golden Gate Boulevard and Pine Ridge Road. In addition, several stops on Marco Island show zero average daily boardings.

Section 7 presents the **Situation Appraisal**, which assesses the operating context of CAT using data collected and analyses noted in the preceding sections. A review of local plans and other policy documents is presented to understand the overall planning context. An overview is provided of the key implications on transit of each document reviewed. The Situation Appraisal identifies and assesses strengths and weaknesses of the system. It identifies insights and key opportunities for addressing the threats impacting the provision of efficient transit service in the county based on review of socioeconomic trends, travel behavior and trends, tourism, public involvement, land use assessments, organizational attributes and funding issues, and technologies. The appraisal provides a key basis for developing potential transit improvements.

Section 8 sets forth CAT's **Mission, Goals and Objectives** to serve as a policy guide for implementation of the CAT TDP. A review and update to the vision, goals, objectives and initiatives for the public transit services was completed to match the needs of the local community and to improve operations and mobility services. The changes to the vision, mission, goals, and objectives were developed in collaboration with the TDP Working Group.

Section 9 presents potential transit improvements for the 10-year transit plan, also known as the **Alternatives Development**. The proposed improvements are based on the situation appraisal and



represent the community transit needs for the next 10 years. The improvements were developed without consideration of funding constraints and include improvements to existing routes, new service, mobility-on-demand, capital and technology needs. The alternatives were evaluated and prioritized using five criteria: public input, traditional market, proximity to employment, productivity, and cost and efficiency impacts.

Section 10 summarizes the **10-Year Implementation Plan**. The Implementation Plan includes both an unconstrained and a constrained Finance Plan. A discussion of the revenue assumptions and capital and operating costs used is included. The Implementation Plan identifies the funded service and capital improvements, potential year of implementation, as well as unfunded improvements.

Table 1-1: TDP Checklist

Public Involvement Process		TDP Section
√	Public Involvement Plan (PIP) drafted	Section 4, Appendix B
√	PIP approved by FDOT	
√	TDP includes description of Public Involvement Process	
√	Provide notification to FDOT	
√	Provide notification to Regional Workforce Board	
Situation Appraisal		
√	Land use	Section 7
√	State and local transportation plans	Section 7
√	Other governmental actions and policies	Section 7
√	Socioeconomic trends	Section 7
√	Organizational issues	Section 7
√	Technology	Section 7
√	10-year annual projections of transit ridership using approved model	Section 5
√	Assessment of whether land uses and urban design patterns support/hinder transit service provision	Section 7
√	Calculate farebox recovery	Section 3, Appendix D
Mission and Goals		
√	Provider's vision	Section 8
√	Provider's mission	Section 8
√	Provider's goals	Section 8
√	Provider's objectives	Section 8
Alternative Courses of Action		
√	Develop and evaluate alternative strategies and actions	Section 9
√	Benefits and costs of each alternative	Section 9
√	Financial alternatives examined	Section 9, Section 10
Implementation Program		
√	Ten-year implementation program	Section 10
√	Maps indicating areas to be served	Section 9
√	Maps indicating types and levels of service	Section 9
√	Monitoring program to track performance measures	Section 8, Appendix E
√	Ten-year financial plan listing operating and capital expenses	Section 10
√	Capital acquisition or construction schedule	Section 10
√	Anticipated revenues by source	Section 10
Relationship to Other Plans		
√	Consistent with Florida Transportation Plan	Section 7
√	Consistent with local government comprehensive plan	Section 7
√	Consistent with Collier MPO long-range transportation plan	Section 7
√	Consistent with regional transportation goals and objectives	Section 7
Submission		
√	Adopted by Collier County Board of County Commissioners	October 27, 2020
√	Submitted to FDOT	November 1, 2020

2.0 Baseline Conditions

The baseline conditions analysis is designed to establish the existing and projected future conditions for the service area. The information compiled and presented in this section lays the foundation of the plan and will be used in the Situation Appraisal which provides the basis for the development of transit improvements. The information will also be compared to existing services in a later chapter. Considerations examined for the study area in the context of the TDP were reviewed and include:

- Physical description of the study area
- Population profile and demographic characteristics
- Labor and employment characteristics
- Work force
- Tourism
- Major trip generators
- Major developments
- Existing and future land use
- Commuter travel patterns
- Roadway conditions

A series of maps and tables illustrates selected population, demographic, and socioeconomic characteristics. Data from the U.S. Census, the American Community Survey (ACS), Collier County, and the Collier MPO 2045 Long Range Transportation Plan (LRTP) were used as primary data sources and were supplemented by other data from local and regional agency sources, as available. Note that the LRTP update is in the process of being completed, so some future data do not reflect 2045 projections.

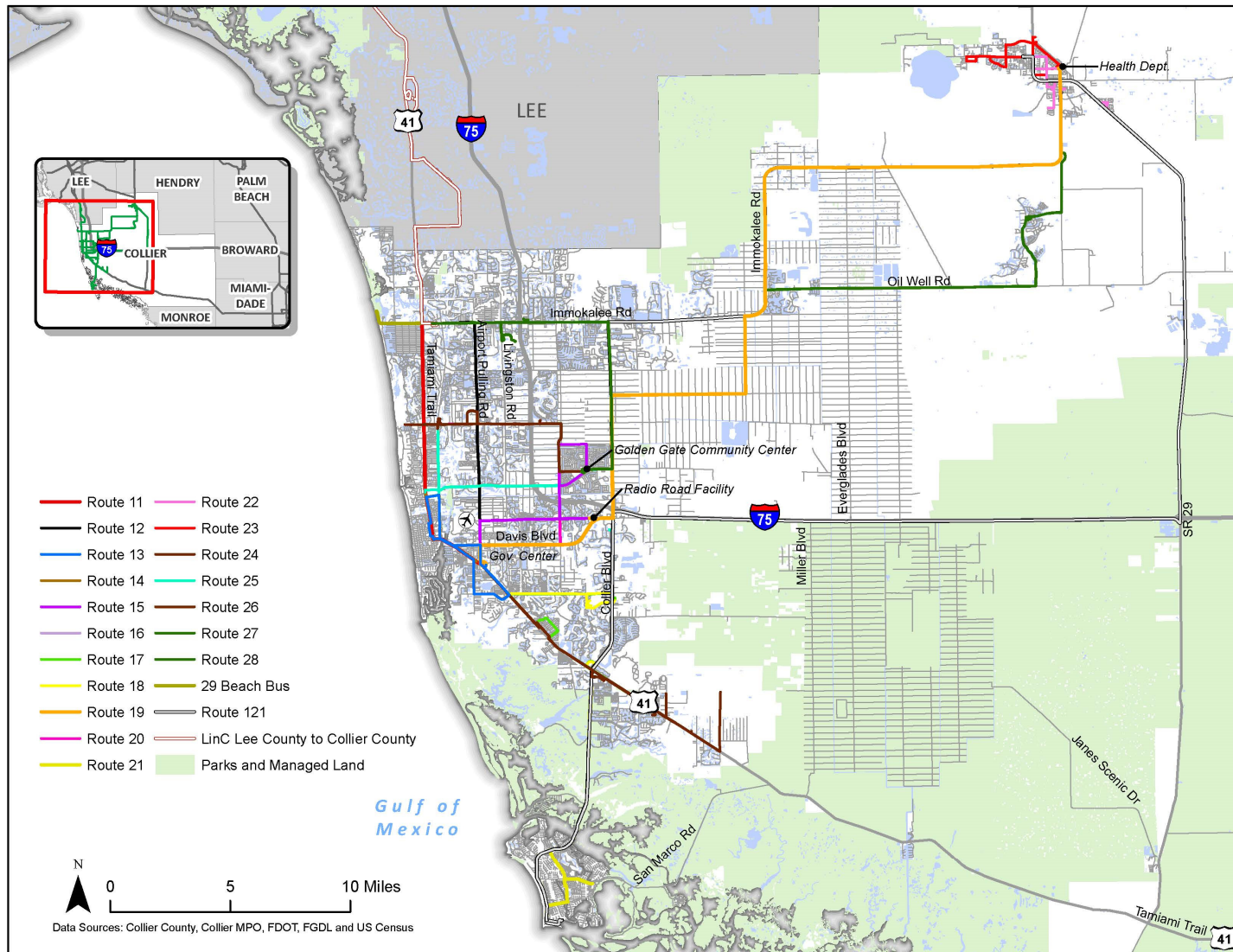
2.1 Physical Description of Study Area

Collier County is located in southwest Florida and is bordered on the northwest by Lee County, on the northeast by Hendry County, on the east by Broward and Miami-Dade counties, on the west by the Gulf of Mexico, and on the south by Monroe County. There are three municipalities within Collier County—Everglades City, Marco Island, and Naples, the County seat.

Collier County is the largest county in Florida geographically, at approximately 1,998 square miles.¹ A significant portion (more than 1.2 million acres), primarily in the eastern and southern areas of the county, is designated as protected lands. Map 2-1 shows the study area. For the purpose of transit service peer and trend analysis, presented in Section 3, the service area was reduced to the area of the county accessible to the fixed-route network based on a $\frac{3}{4}$ -mile radius of the centerlines of the route network for route segments with bus stops. This reduced the service area to 310 square miles.

¹ US Census Bureau, Census of Population and Housing. Land area based on current information in TIGER database, calculated for use with Census 2010.

Map 2-1: Study Area

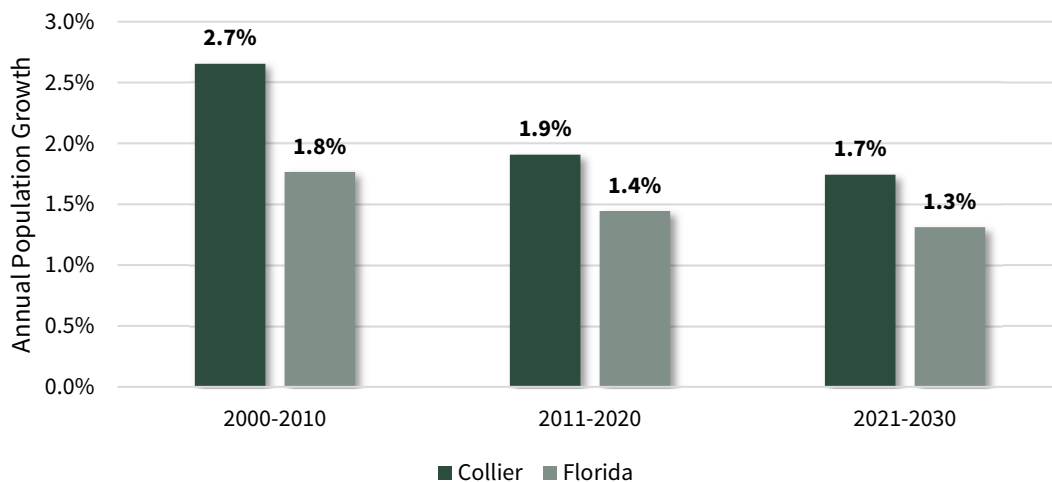


2.2 Population Profile

In 2019, Collier County was ranked the 16th most populous county in Florida, with 1.8% of the state's total population, anticipated to grow to 2.1% by 2045 based on State population projections. The majority (90%) of the county's population resides in unincorporated areas of the county.

As with the rest of Florida, Collier County experienced a high rate of growth in recent decades. Except for during the Great Recession, the county's population growth generally has been consistently higher than that of Florida, averaging 2.5% annually compared to the state average of 1.7%. The county's annual growth rates are projected to continue outpacing that of Florida through 2030 (Figure 2-1).

Figure 2-1: Historical and Projected Annual Growth Rate Trends (2000–2030)

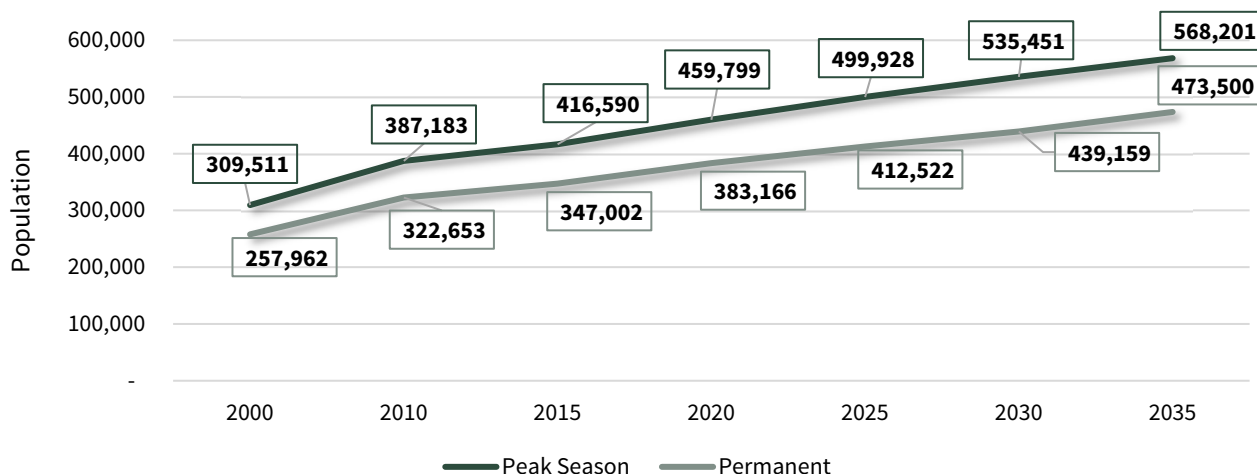


Source: BEBR, Projections of Florida Population by County, 2020–2045, Estimates for 2018

Annually, Collier County experiences a significant influx of tourists and seasonal residents, which greatly increases traffic congestion, particularly in the urbanized area and near the beaches. To better plan for the impact of seasonal demand on public facilities, the County developed annual peak seasonal population estimates and projections.

Figure 2-2 compares the historical and projected permanent and peak seasonal population figures countywide. As the county's peak seasonal population is projected using a constant adjustment factor, annual growth rates for the county's peak seasonal population mirror those of its resident population.

Figure 2-2: Countywide and Peak Season Population Estimates and Projections



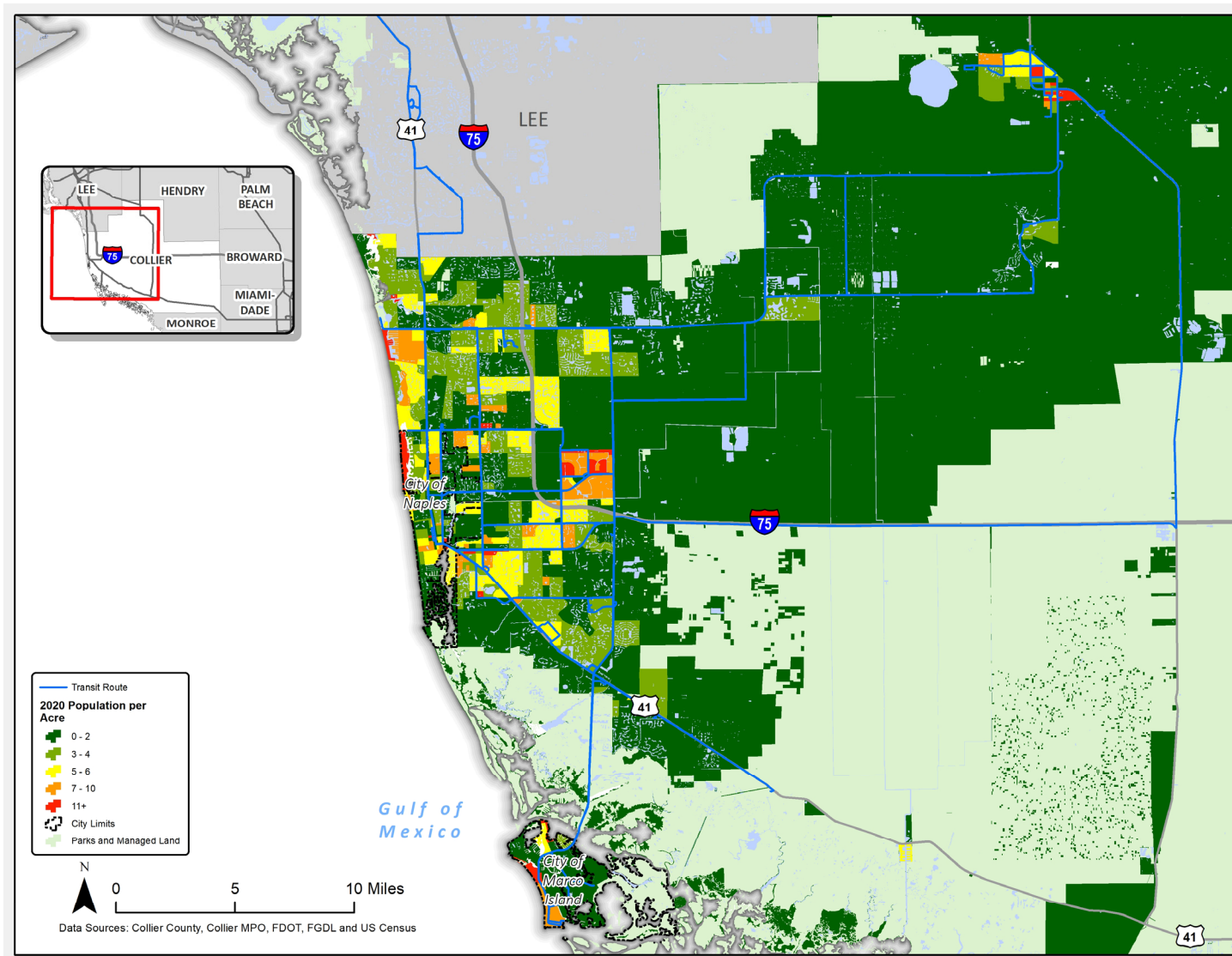
Notes: Estimates and projections derived from data obtained from 2010 Census, BEBR population bulletins, Collier County Comprehensive Planning staff, and Planning staff from Naples and Marco Island. Peak season population derived by increasing each year's October 1 permanent population by 20% based on BEBR Medium Range growth rate projections. Source: Collier County Growth Management Division, Comprehensive Planning Section, Population and Demographics (2018 Population Estimates & Projections)

To analyze population growth at a smaller geographic sub-unit, population projections by Traffic Analysis Zone (TAZ) were used. Maps 2-2 and 2-3 show population densities by TAZ for 2020 and 2030, developed based on socioeconomic data prepared to support the Collier County's 2045 LRTP. Currently, most (~ 77%) of the county's population lies west of CR-951 (Collier Boulevard) in what is the more urbanized coastal area. In addition to growth within the urbanized area primarily due to redevelopment, future growth is projected around Orangetree, Ave Maria, east/southeast of Naples, and, to some degree, in Immokalee. Slightly more growth in these areas is expected through 2045.

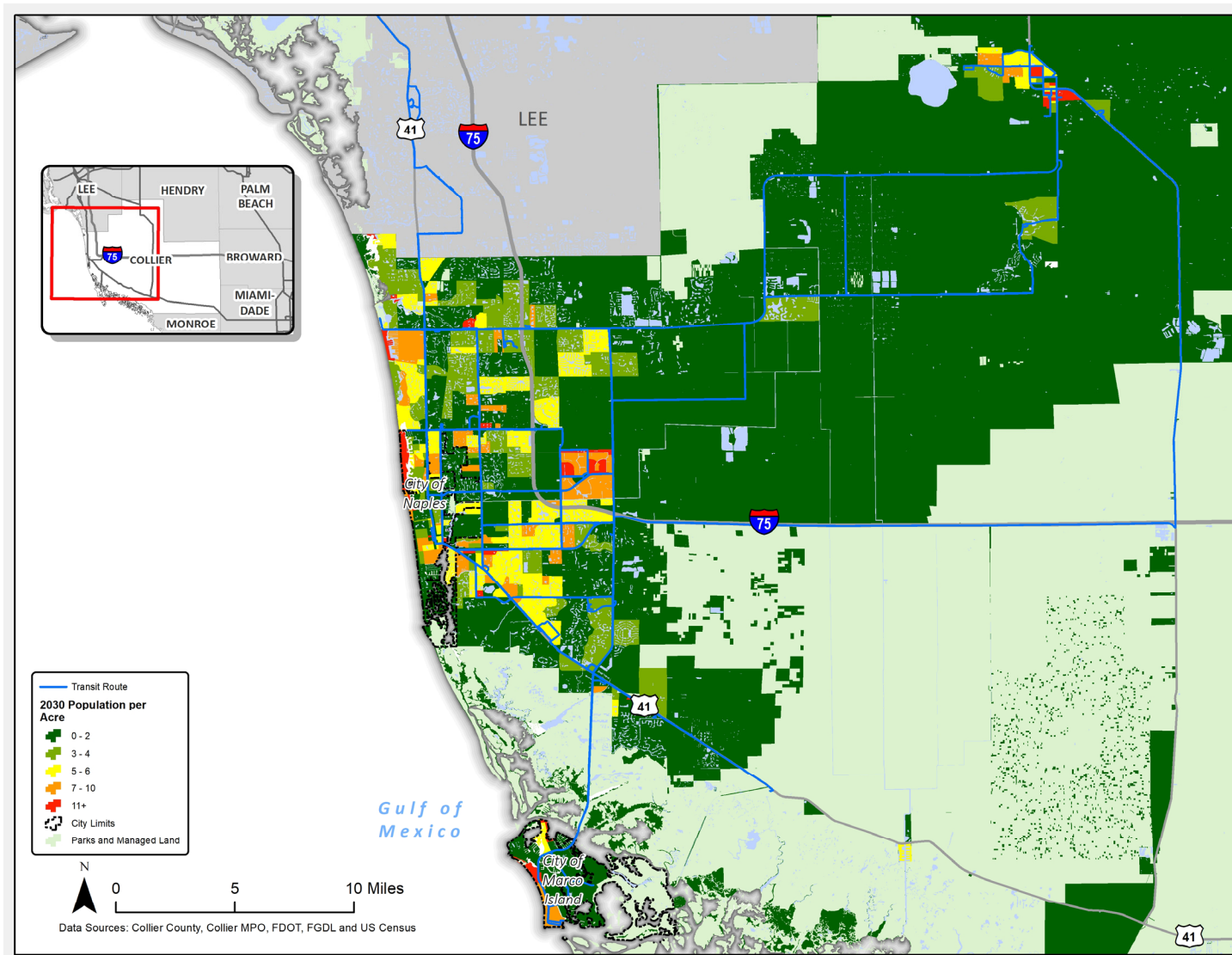
Maps 2-4 and 2-5 graphically display employment densities by TAZ for 2020 and 2030, respectively. Employment data are based on socioeconomic data prepared to support the Collier County 2045 LRTP. Based on the 2020 map, employment in Collier County is densest in the western portion of the county in the Naples area and Marco Island along the coast. In addition, some areas of Marco Island and in Immokalee include medium-range employment densities. Growth in employment is predicted to be highest in existing employment centers and the intersection of I-75/Collier Boulevard in addition to North Naples along the coastline.

Maps 2-5 and 2-6 show the dwelling unit density by TAZ for 2020 and 2030, respectively. The dwelling unit data are based on socioeconomic data prepared to support the Collier County 2045 LRTP. Similar to the population and employment density maps, the current density of dwelling units is concentrated primarily in the Naples area, Marco Island along the Gulf of Mexico, and Immokalee. Projected growth for 2030 is south and east of Naples along Tamiami Trail/US-41 and near the intersection of I-75/Collier Boulevard.

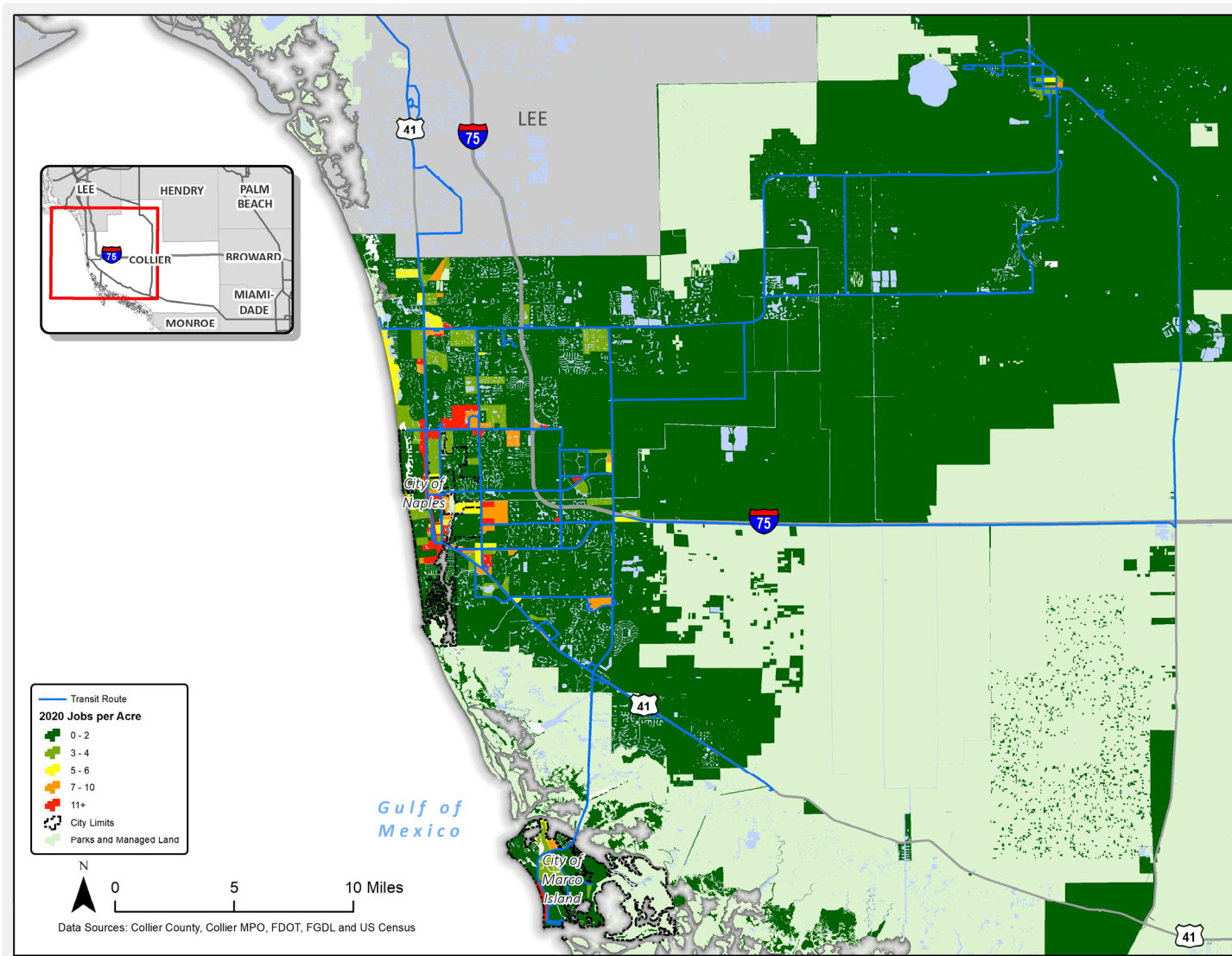
Map 2-2: Population Density 2020



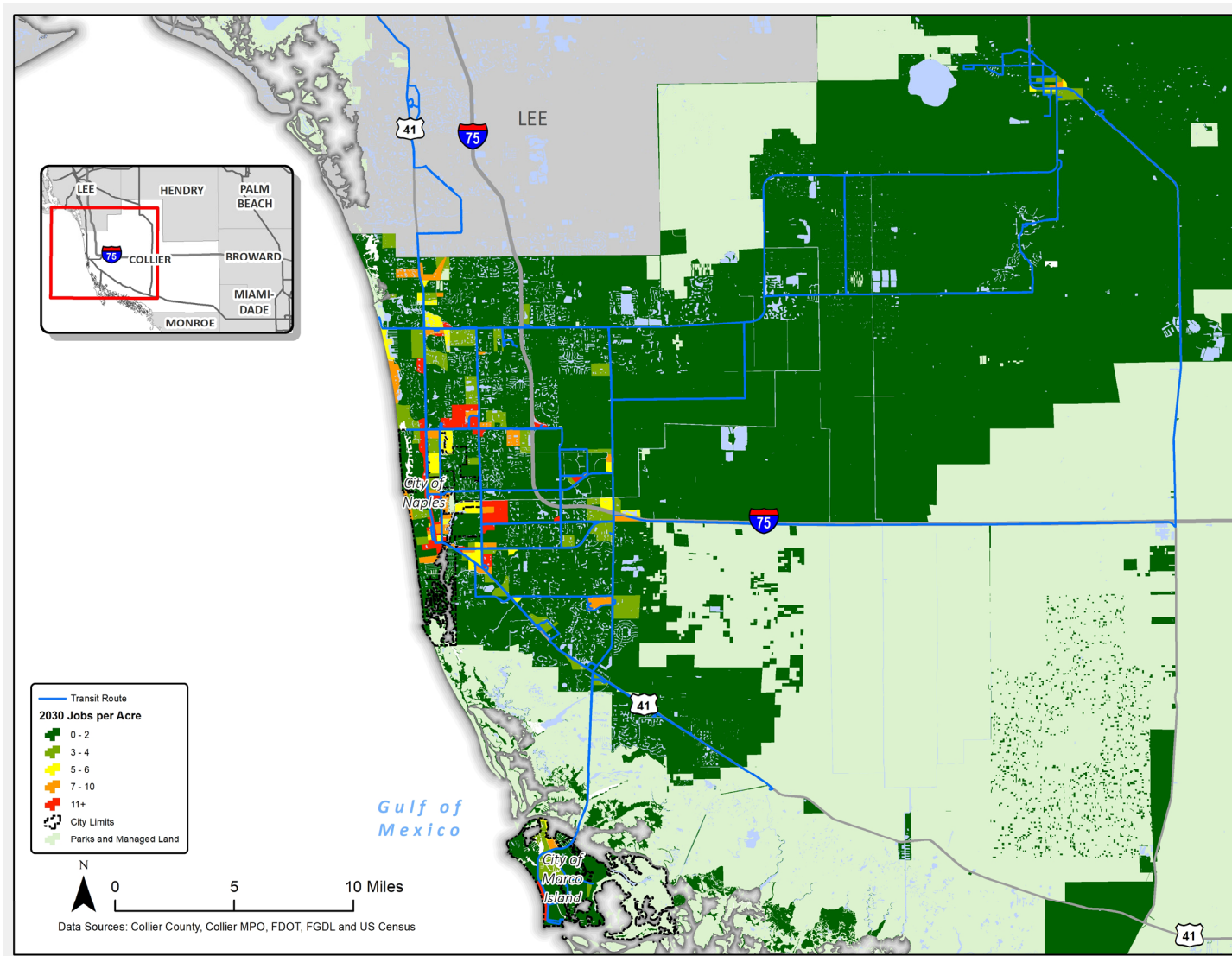
Map 2-3: Population Density 2030



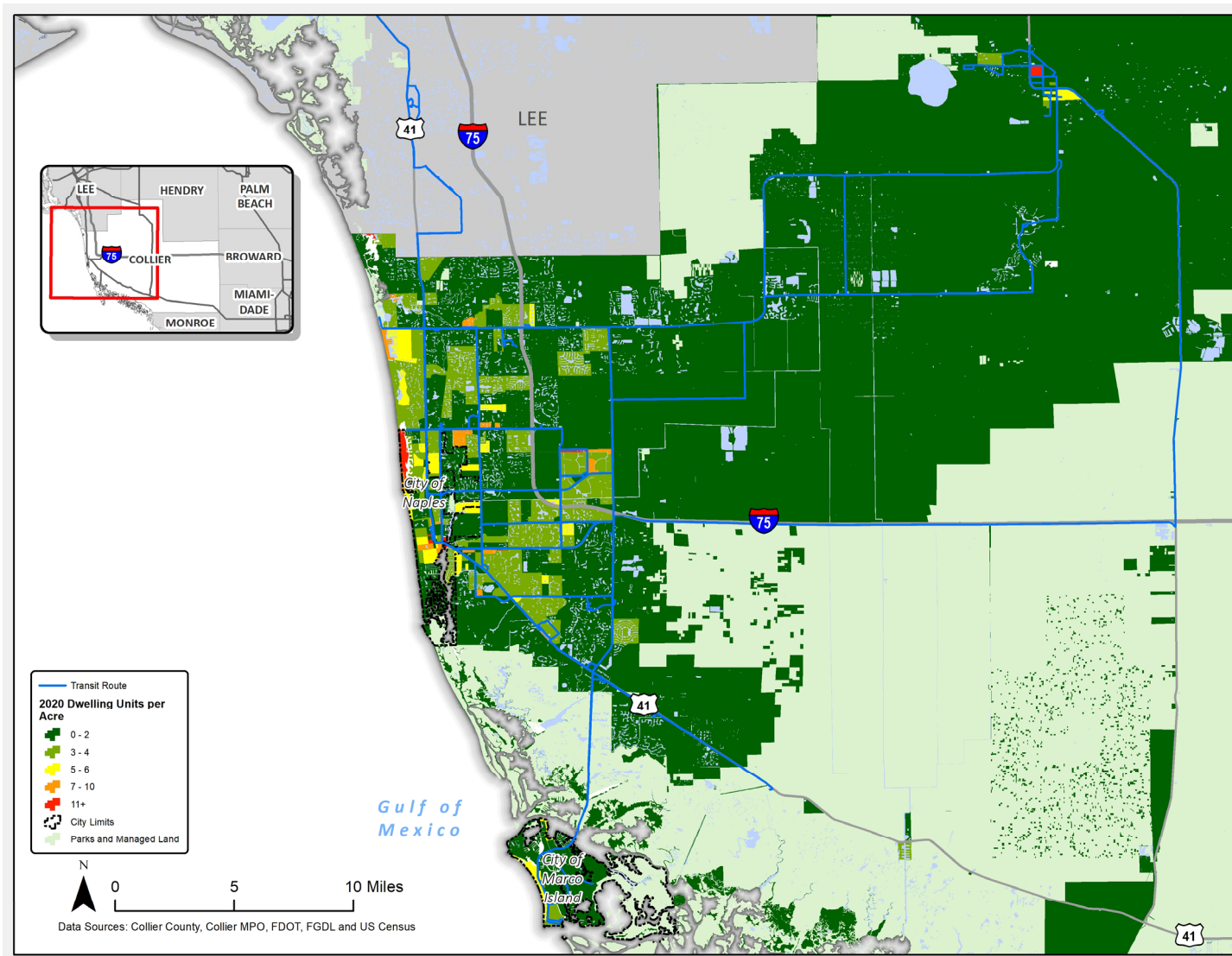
Map 2-4: Employment Density 2020



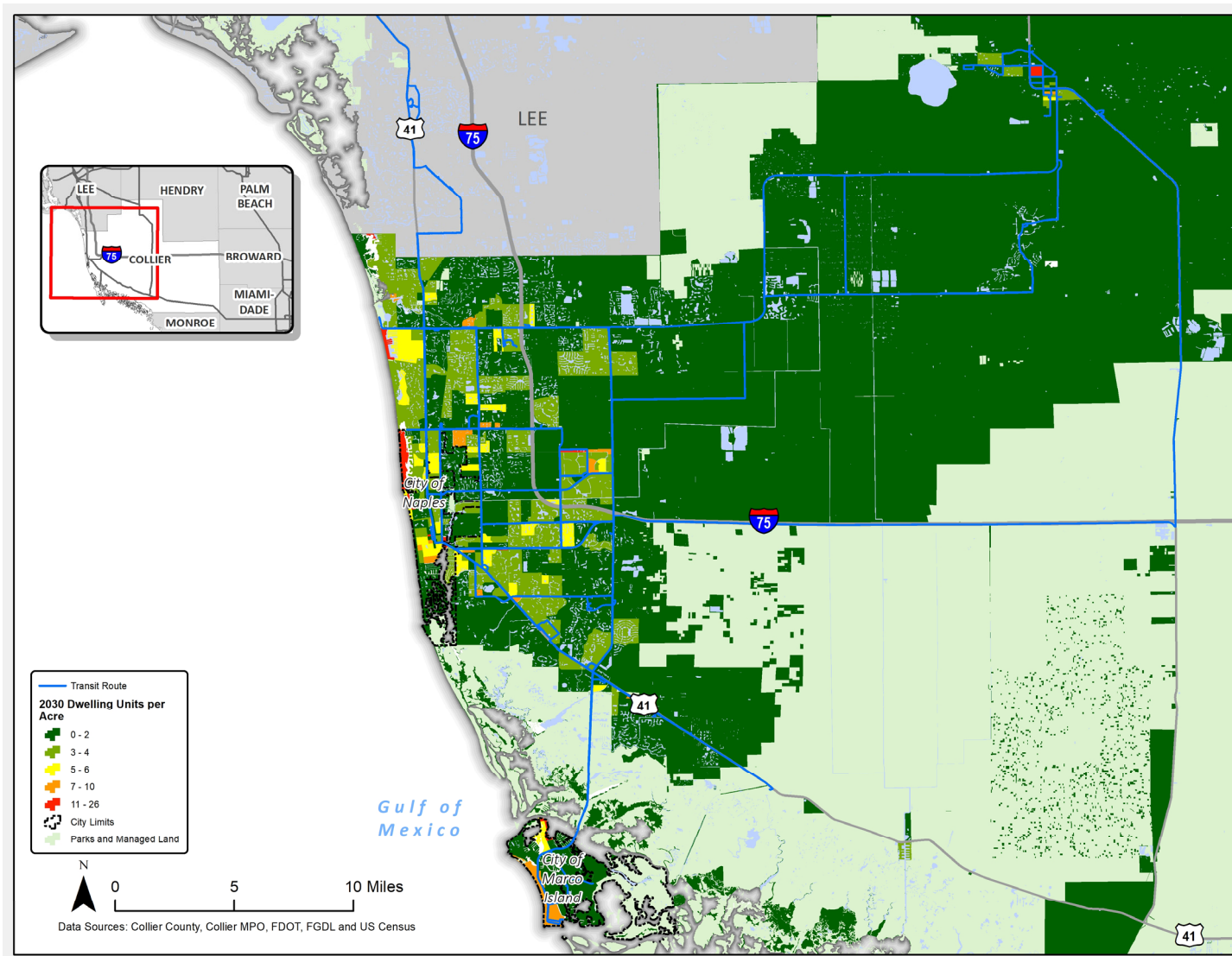
Map 2-5: Employment Density 2030



Map 2-6: Dwelling Unit Density 2020



Map 2-7: Dwelling Unit Density 2030



2.3 Transportation Disadvantaged Population

The Transportation Disadvantaged (TD) population represents a key demographic with a growing need for public transit services, including fixed-route services. As part of its paratransit service known as CAT Connect, CAT provides transportation to the eligible TD population with service available children who are handicapped or high-risk or at-risk persons, who because of physical or mental disability, income status, or age or who for other reasons are unable to transport themselves or to purchase transportation and are, therefore, dependent on others to obtain access to healthcare, employment, education, shopping, social activities, or other life-sustaining activities. Table 2-1 shows the trend in the size of the potential TD population and the number of TD passengers between 2014 and 2018 in Collier County. Potential TD population has risen nearly 18.9%, from 145,829 in 2014 to 173,410 in 2018, and the number of TD trips served through CAT's brokered system, as the Community Transportation Coordinator (CTC) for Collier County, increased 29.8%, from 84,465 in 2014 to 109,623 in 2018. Figure 2-3 shows the number of TD passengers served during the five-year period from 2014 to 2018. As shown, the total number of TD passengers served increased between 2014 and 2018. The cost to provide paratransit service is more expensive than fixed route service. If the growth trend of the TD population continues, there will be a growing need to provide more cost-efficient fixed-route service.

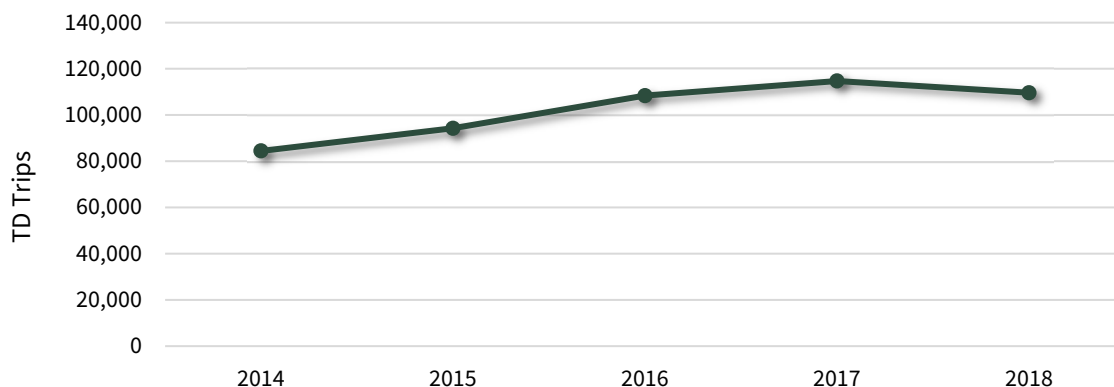


Table 2-1: Collier County Transportation Disadvantaged Population, 2014–2018

	2014	2015	2016	2017	2018	% Change (2014–2018)
Potential TD Population	145,829	156,251	161,758	167,476	173,410	18.9%
TD Trips Served	84,465	94,248	108,373	114,744	109,623	29.8%

Source: Florida Commission for the Transportation Disadvantaged Annual Operation Reports (AOR)

Figure 2-3: Collier County Transportation Disadvantaged Trips, 2014–2018



Source: Florida Commission for the Transportation Disadvantaged Annual Operation Reports (AOR)

2.4 Demographic Characteristics

Demographic characteristics were compiled for the 10-year transit plan and are shown in Table 2-2. Characteristics such as age, household income, poverty status and the number of vehicles available in a household are industry held indicators for higher transit propensity. The table shows that distribution of male and female ages remained nearly the same from 2000 to 2018, approximately half male and half female. Chronic conditions and disability can occur more frequently in old age, and thus limit the ability for older adults to drive or afford a personal vehicle. The number of those age 60 and older is continuing to increase, which may increase the demand for fixed-route transit and paratransit services.

Table 2-2: Collier County Demographic Characteristics

Characteristic	2000	2010	2018
Gender			
Male	50.1%	49.3%	49.3%
Female	49.9%	50.7%	50.7%
Ethnic Origin			
White	86.1%	83.9%	88.1%
Black or African American	4.5%	6.6%	7.0%
Other	7.2%	7.6%	3.6%
Two or more races	2.2%	1.9%	1.3%
Hispanic Origin			
Not of Hispanic/Latino origin	80.4%	74.1%	72.5%
Hispanic or Latino origin	19.6%	25.9%	27.5%
Age			
<15 years	16.4%	16.0%	14.6%
15-59 years	52.4%	50.4%	47.3%
60+ years	31%	33.7%	38.1%
Household Income			
Under \$10,000	6.0%	6.5%	4.1%
\$10,000-\$49,999	45.7%	41.0%	33.0%
\$50,000 or more	48.4%	52.5%	62.7%
Poverty Status			
Above poverty level	89.7%	83.8%	87.7%
Below poverty level	10.3%	16.2%	12.3%
Vehicle Available in Household			
None	4.9%	5.2%	5.2%
One	42.6%	42.4%	20.9%
Two	41.5%	41.7%	44.7%
Three or more	11.1%	10.7%	29.2%

Source: 2000 Census, 2010 Census, 2010 ACS 1-year estimates, 2018 ACS 5-year estimates

Annual household income is a key indicator for transit use; households with incomes close to the poverty level typically may not be able to purchase and maintain a personal vehicle. Households earning \$50,000 or more increased from 48.4% in 2000 to 62.7% in 2018. The percentage of population below the poverty line decreased 3.9% from 2010 to 2018 but increased 2% when compared to 2000 Census data. Similarly, households that do not own vehicles may not own one because they are not able to drive a vehicle, afford a vehicle, or due to lifestyle choice. These households are more likely to use alternative modes of transportation, such as transit, walking, and biking. The percentage of zero-vehicle-households, increased slightly, from 4.9% in 2000 to 5.2% in 2018, and the percentage of households with two cars increased from 41.5% in 2000 to 44.7% in 2018. The growth in zero auto

households indicates a growing need for mobility services within a population that is vulnerable due to limited access to mobility.

Although the demographics reviewed represent the traditional rider and populations with a higher need for public transportation, choice riders are also a target public transportation user. Areas with a higher potential of choice riders are explored in Section 5 (see Discretionary Market Assessment).

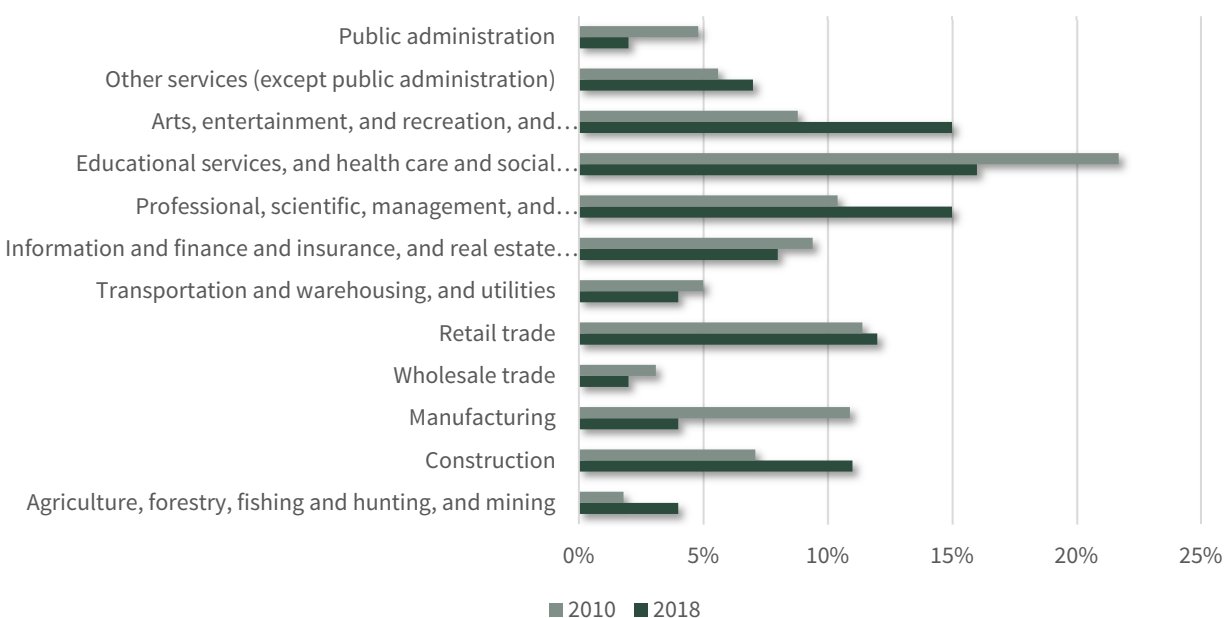
2.5 Labor and Employment Characteristics

Figure 2-4 shows the percentage of population by employment sector in Collier County. Understanding the employment sectors within the County provides an understanding of the share of jobs that are low paying compared to high paying. This provides context for assessing mobility needs. Areas with high employment in retail, hospitality and other service sector jobs tends to translate to low income workers who may not be able to afford and automobile.

The largest service area in the county includes educational services, healthcare, and social assistance, at 16%. The second-highest sectors are split between professional, scientific, management, administrative and waste management services, and the arts, entertainment, recreation, accommodation and food services, both at 15%.

Retail trade, the fourth-largest sector, makes up 12% of the labor force in Collier County. However, in 2010., both retail trade and manufacturing services were ranked as the second highest sectors. In 2018, retail services and construction are ranked as 12% and 11% respectively. Manufacturing declined from 11% in 2010 to 4% in 2018.

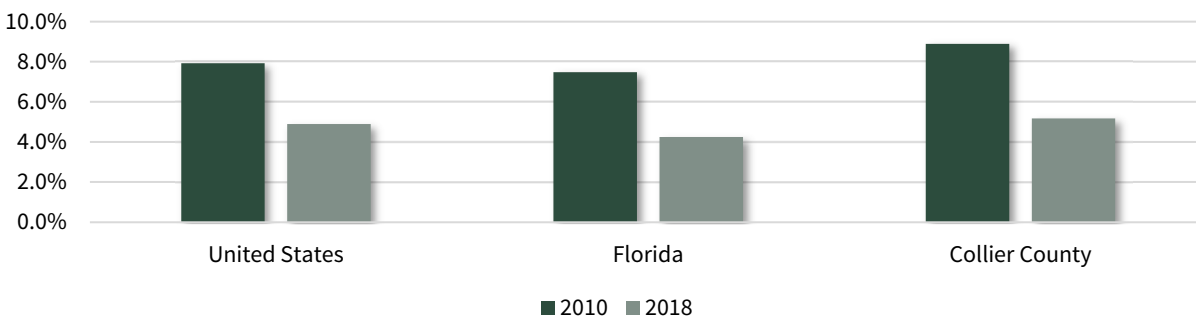
Figure 2-4: Collier County Labor Force Distribution by Service Area, 2010 and 2018



Source: 2010 ACS 5-year estimates, 2018 ACS 5-year estimate

Figure 2-6 shows the relative consistency among trends in the unemployment rate for Collier County, Florida, and the US based in ACS 5-year estimates. Based on the information, unemployment has decreased substantially over the eight-year period from 2010 to 2018.

Figure 2-5: National, State and County Unemployment

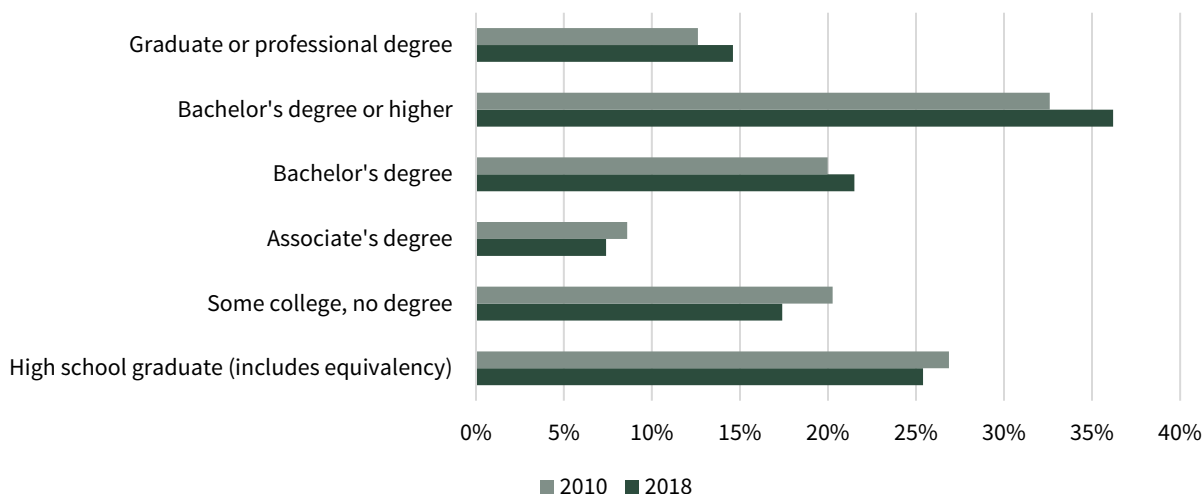


Source: 2010 and 2018 ACS 5-year estimates

2.6 Educational Attainment

Understanding the education levels within the population correlates with income potential and thus potential for mobility need. Figure 2-6 shows education attainment for population ages 25 and older. As of 2018, 25.4% had a high school degree or the equivalent, 17.4% had some college or no degree, 7.4% had an associate's degree, and 36.1% had a bachelor's degree or higher. While education level is increasing in the County, approximately 30% of the population does not have a college degree which lowers potential earnings and increased likelihood of requiring transit service.

Figure 2-6: Collier County Education Attainment



Source: 2010 and 2018 ACS 5-year estimates. Note: Population Ages 25 and older

2.7 Tourism

The “Paradise Coast” in southwest Florida is a key tourist destination. Collier County includes the City of Naples, City of Marco Island, Everglades City, Immokalee, and Ave Maria and access to beaches, resorts, shopping, recreation, wetlands, and wildlife areas. Collier County is an entrance to the Everglades National Park, the third largest national park in the lower 48 states, and consists of 2,400 square miles of canals, ponds, sloughs, and sawgrass marshes.

Tourism, an important business for Naples, Marco Island, and the Everglades, is the leading employer and primary economic engine for the region and is responsible for 38,500 jobs in Collier County. Per the Collier County Tourist Development Council, tourism brought in 2 million visitors in 2018, resulting in an economic impact of more than \$2.1 billion in the County. Visitors pay more than \$28 million in tourist development taxes in Collier County and generated over \$130 million in sales and gas tax revenue in 2018.

Seasonal visitors and residents increase the demand for transportation services. Transit is often used by tourists, particularly those who are accustomed to using transit in their communities. Touristic areas such as Naples and Marco Island pose special opportunities in meeting the needs for public transportation services and aiding economic development of the tourism industry.



Image source: <https://www.colliercountyfl.gov/>

2.8 Major Trip Generators

Identifying major trip generators helps determine locations where additional public transportation resources should be provided. Ensuring public transportation to major trip generators provides important access to employment, retail, and other services. Major trip generators for Collier County include several large industries, particularly in retail, healthcare, and hospitality.

Table 2-3 shows the top 25 employers in Collier County in 2019 according to the Southwest Florida Economic Development Alliance and Collier County Business & Economic Development. Major employers for Collier County included healthcare centers such as Naples Community Hospital, Collier County Schools, and Collier County Government. Although employment in Collier County fluctuates throughout the year due to tourists and seasonal residents, Publix Supermarkets, Arthrex, and Walmart make up the top three private sector employers. The CAT service area covers the majority of these locations, with some businesses having multiple locations.

Table 2-3: Collier County’s Top 25 Employers (2019)

Employer	Number of Employees
NCH Healthcare System	7,017
Collier County School District	5,604
Collier County Local Government	5,119
Publix Super Market	3,083
Arthrex, Inc.	2,500
Walmart	1,480
Ritz Carlton-Naples	1,450
City of Naples	1,169
Physicians Regional	950
Mooring Park	888
Seminole Casino	800
Naples Grande Beach Resort	750
Germain Cars	554
Downing Frye Realty	550
Gulf Bay Group of Companies	500
Bentley Village A Classic	500
Agmart Produce Inc.	500
Home Depot	480
John R Wood Properties	470
McDonald's	441
Walgreens	373
Naples Beach Hotel & Golf Club	350
Naples Lakes Country Club	320
Nordstrom	313
Lowe's Home Improvement	310

Source: Southwest Florida Economic Development Alliance,
Collier County Business & Economic Development and
Regional Economic Research Institute

2.9 Major Developments

A review of major development in Collier County was conducted and Table 2-4 shows the top 10 planned unit developments (PUDs) by acreage.

Map 2-8 shows the Developments of Regional Impact (DRIs) in Collier County. These developments are noted for potential impacts to existing and future travel demand. The existing CAT transit network serves some of these developments and identifies those that are not directly served. As development occurs, CAT should monitor transit propensity in these areas and expand service if needed.

Table 2-4: Collier County Top 10 Planned Unit Developments (2019)

Planned Unit Development	Acres	Transit
Fiddler's Creek	8,135	Route 24
Ave Maria	5,027	Route 28
Lely Resort	2,880	Routes 17/18/24
Heritage Bay	2,562	Route 27
Sabal Bay	2,416	Route 13/14/24
Hacienda Lakes	2,264	No service
Pelican Marsh	2,191	Route 12/25
Orange Tree	2,131	Route 19/28
Pelican Bay	2,114	Route 11
Winding Cypress	1,960	Route 24

Source: Collier County GIS Services

2.10 Existing and Future Land Use

Existing and future land use patterns were reviewed to identify transit supportive land uses. Collier County's current land use to be largely low-density uses which is not considered to be transit supportive. Analysis of 2019 existing land use verifies that an overwhelming majority (68%) of county land is owned by a government entity and used primarily for conservation. Table 2-5 lists the existing land uses and number of acres occupied. Of the other land uses, agricultural uses are the next largest, at 16% countywide, followed by utility/other lands (7%) and single-family residential (5%). Analyzing only commercial and residential uses reveal that single-family and vacant uses account for nearly all other land uses, at 87%.

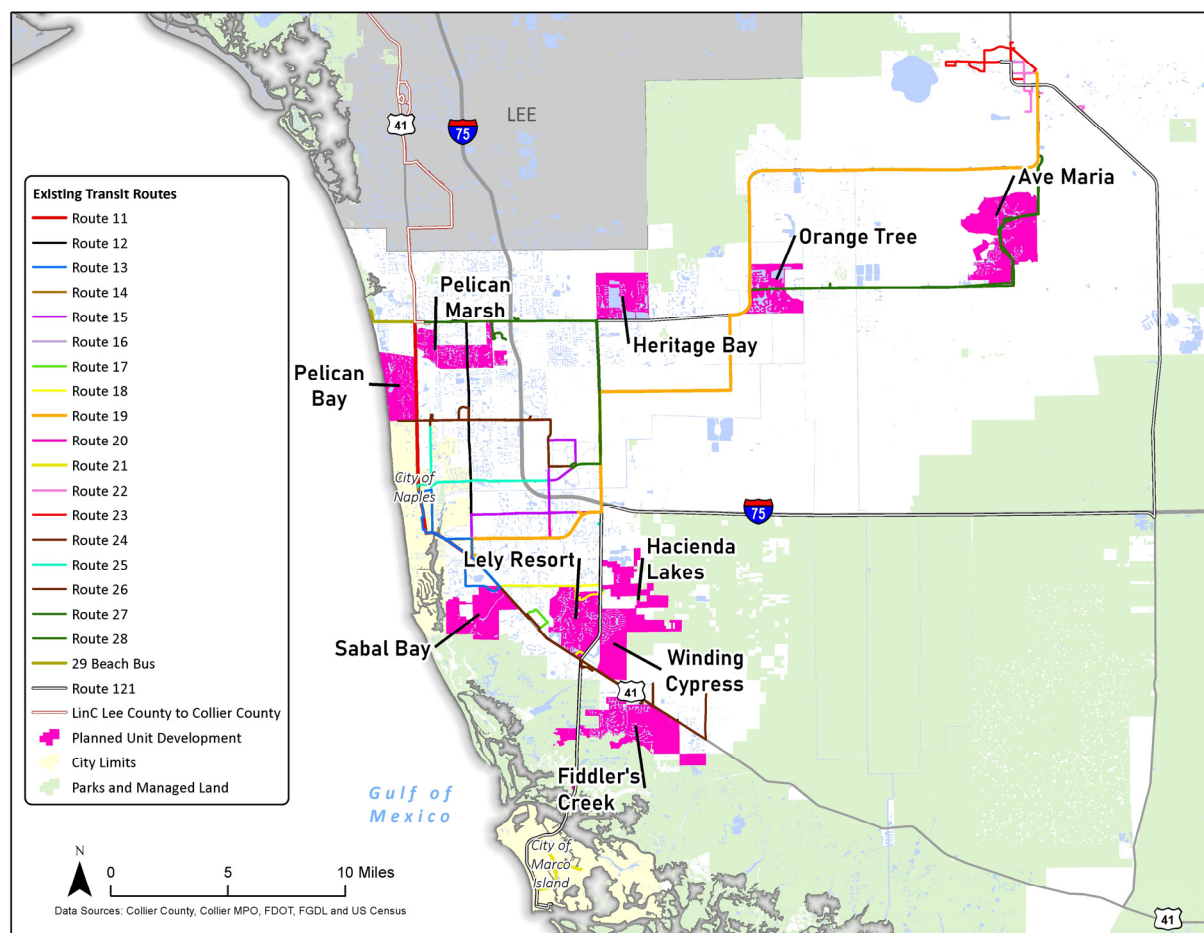
Future Land Use designations mirror those of existing uses, in that conservation and agricultural lands make up nearly 80% of all land in Collier County. However future nodes featuring mixed-use activity centers along Tamiami Trail, Airport Pulling Road and Collier Boulevard have the potential to create a more transit-supportive environment. Various residential and commercial uses are the second most abundant uses, at 16%. Table 2-6 identifies sending and receiving areas in Collier County which serve as tools to redirect development away from more vulnerable natural environments in the "sending" districts towards more desired "receiving" districts.

Table 2-5: Collier County Existing Land Use, 2019

Existing Land Use	Acres	% of Area
Federal	568,934	46%
Agricultural	202,005	16%
State	247,643	20%
Utility/Other	88,914	7%
Single-Family Residential	56,190	5%
Vacant	31,756	3%
County	30,013	2%
Commercial	6,300	1%
Mobile Home	1,962	<1%
Industrial	1,954	<1%
Institutional	1,693	<1%
Multi-Family Residential	1,659	<1%
Municipal	549	<1%
Public Schools	1,836	<1%
Colleges	82	<1%
Forest, Parks and Rec	5	<1%
Total	1,241,494	100%

Source: Florida Department of Revenue

Map 2-8 Developments of Regional Impact (DRI)



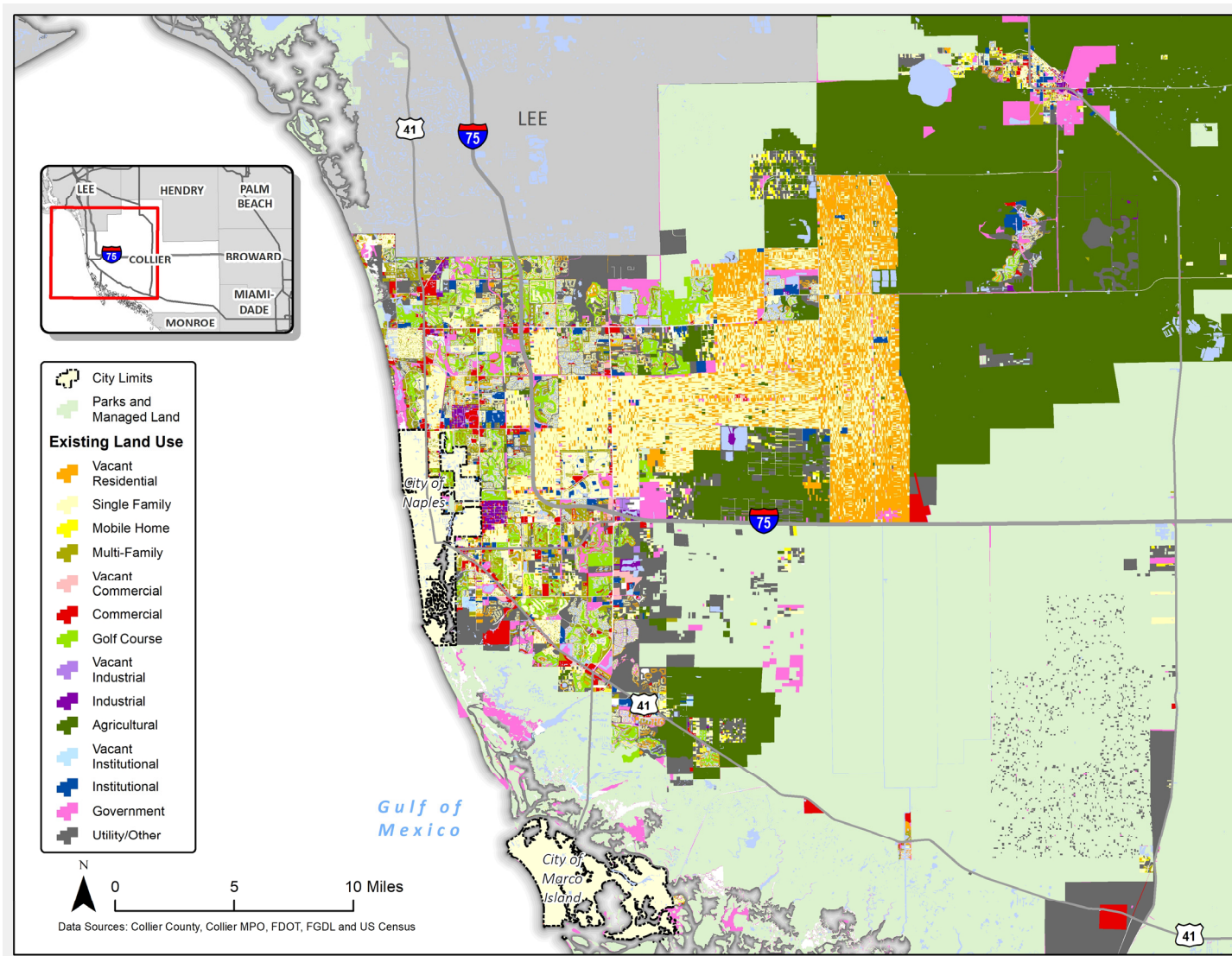
Source: Collier County GIS Services

Table 2-6: Collier County Future Land Use (2019)

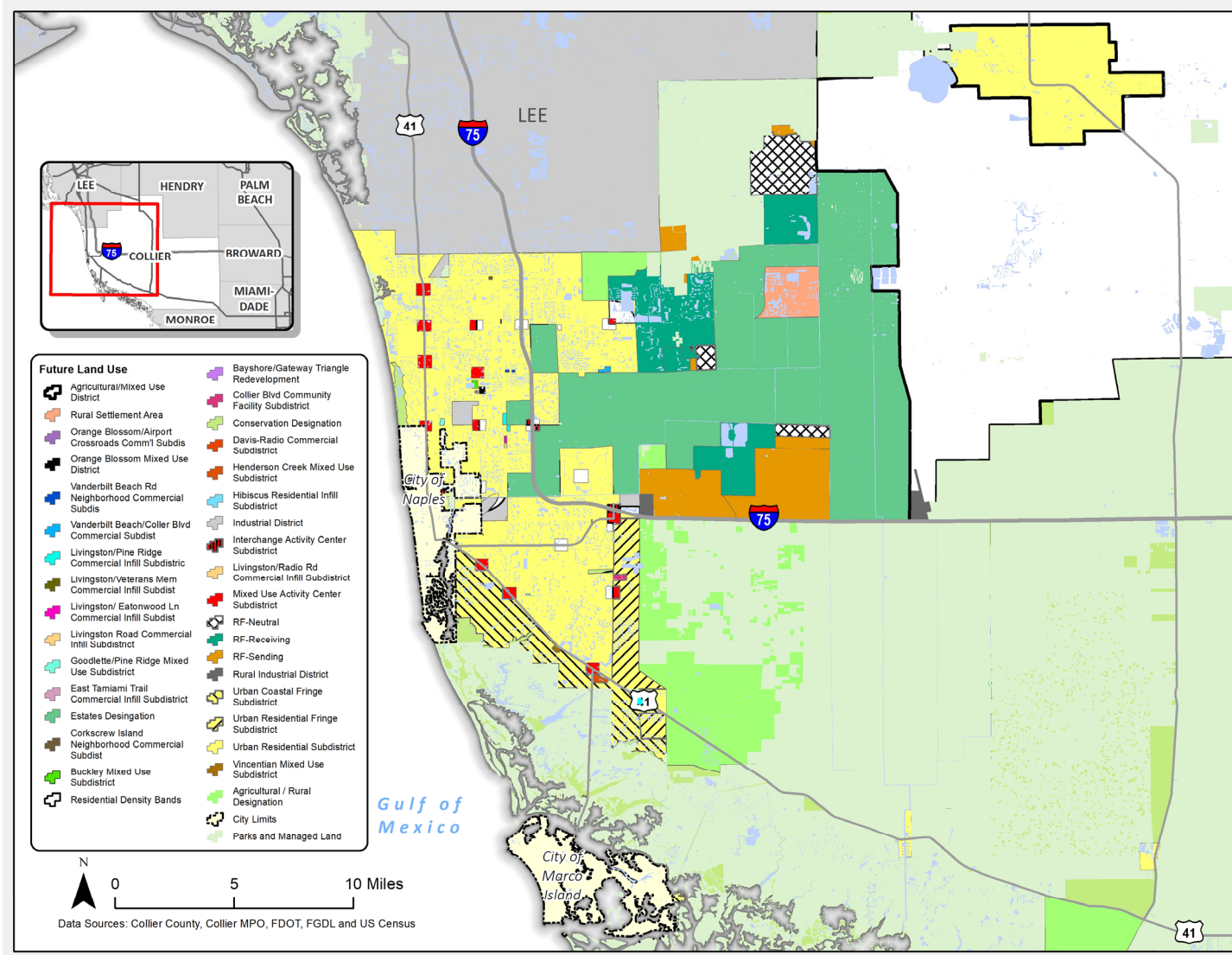
Existing Land Use	Acres	% of Area
Conservation	808,997	58%
Agricultural	266,140	19%
Estates	101,289	7%
Urban Residential	90,299	7%
RF – Sending	42,583	3%
RF – Receiving	23,002	2%
Incorporated Area	17,916	1%
Industrial	1,839	<1%
Urban Coastal Fringe	11,752	1%
RF – Neutral	8,839	1%
Urban Residential Fringe	5,458	<1%
Mixed Use	4,565	<1%
Rural Settlement	2,813	<1%
Rural Industrial	918	<1%
Commercial	380	<1%
Total	1,386,790*	-

*Acres do not match Existing Land Use due to varying GIS geographies. Source: Collier County GIS

Map 2-9: Existing Land Use



Map 2-10: Future Land Use



2.11 Commuter Travel Patterns

Journey-to-work characteristics and commuter flow patterns were compiled for the 10-year TDP. A low proportion of commuters using alternative modes of transportation like walking and transit may indicate a less transit supportive environment including limited access to transit. It also reflects the share of the population that uses transit because they have no other mobility options.

Table 2-7 shows that the use of transit as a mode has increased slightly since 2000. Driving alone decreased slightly between 2010 and 2018 but is consistent with the percentage of the population driving alone in 2000. Carpooling has slightly increased since 2010 but decreased in comparison to 2000 Census data. Working at home has continued to increase over the 18-year period as working from home becomes more commonplace. Travel times have remained consistent, with 78% of people traveling 10–44 minutes to work. Departure times to work have shown a slight change, with fewer people commuting during the 6:00–9:00 AM timeframe and more people commuting at other times. The share of Collier residents that work outside of the County is growing.


Table 2-7: Journey-to-Work Characteristics

Characteristic	2000	2010	2018
Place of Work			
Worked inside county	92.2%	89.3%	89.8%
Worked outside county	7.8%	8.2%	8.3%
Mode to Work			
Drive alone	74.4%	76.3%	74.4%
Carpool	14.9%	10.9%	12.1%
Public transit	1.9%	1.6%	2.2%
Walk	1.8%	1.8%	1.4%
Work at home	4.7%	6.4%	7.4%
Other Means	2.2%	3.0%	2.5%
Travel Time to Work			
<10 minutes	12.7%	9.6%	11.1%
10–19 minutes	31.5%	33.9%	30.9%
20–29 minutes	21.4%	25.5%	25.7%
30–44 minutes	18.7%	19.0%	21.0%
45+ minutes	11.1%	12.0%	11.3%
Departure Time to Work			
6:00–9:00 AM	67.1%	66.0%	65.6%
Other times	28.2%	34.0%	34.4%

Source: 2010 Census, 2010 ACS 5-year estimates, and 2018 ACS 5-year estimates

Map 2-11 illustrates the location of workers who commute to work outside of Collier County by census Block Group. Per Table 2-7, the percentage of working residents who work outside Collier County grew by 6.4% between 2000 and 2018 and the percentage of residents who work within Collier County decreased by 2.6%.

Regarding commute times for persons using transit, it is important to note that Immokalee residents who travel to Lee County by transit must first travel to Naples to connect with one of CAT Routes (11,



12 or 27) that connect to the LinC. The time travel requirements present barriers for residents who make this trip by transit.

According to the ACS 2018 5-Year Estimates, of the 8% of the county's population that commutes outside the county, the majority live in the northern portion of the county (shown in orange and red). The highest proportion of residents that commute to jobs in other counties are in the northwest area bordering Lee county and the Immokalee area. Variations exist within the remainder of the county, which are driven more by land use and seasonal residency than permanent residency.

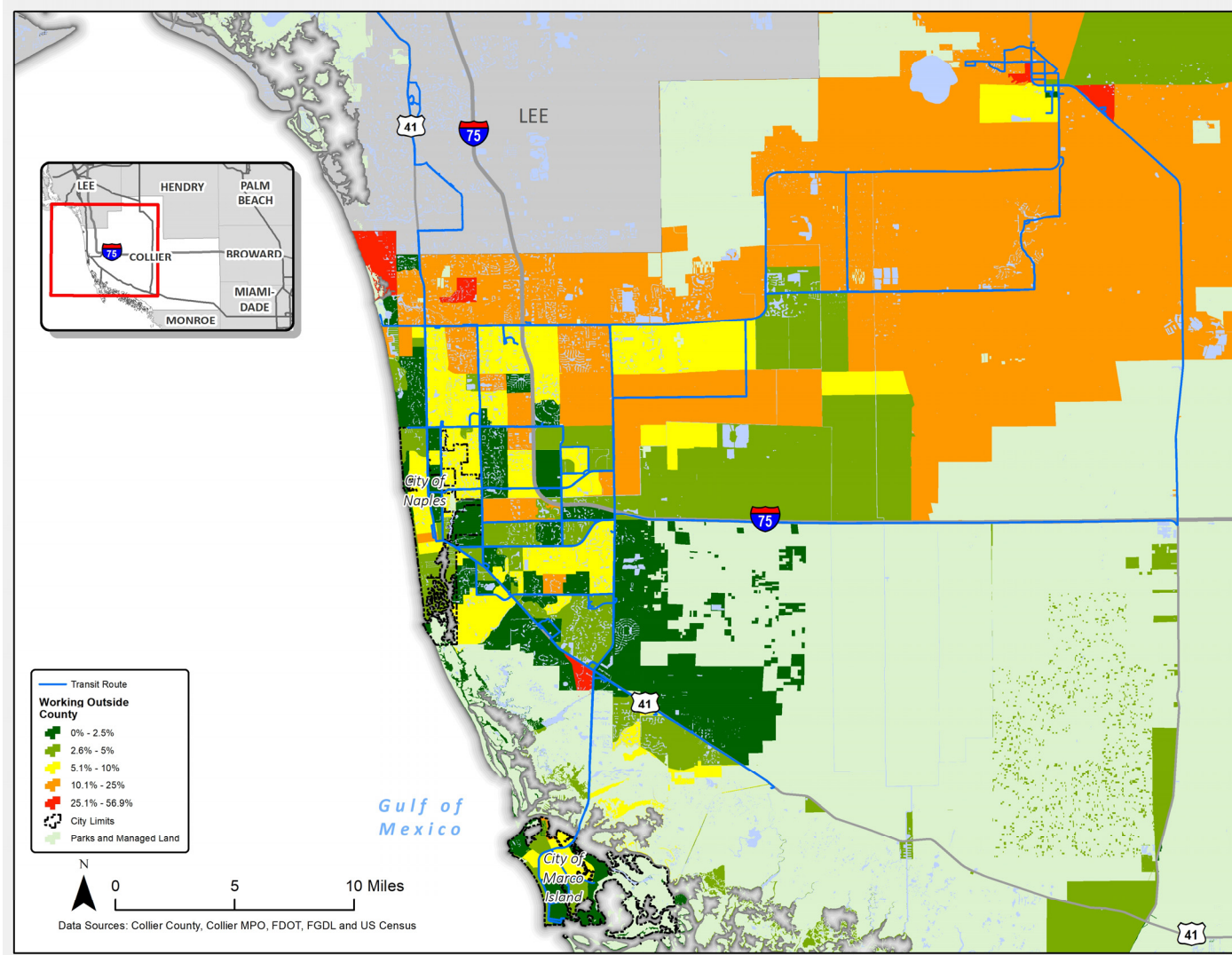
According to LODES Jobs Count by Places (2017) data, the top work destinations outside the county are Bonita Springs, Fort Myers, and Estero Village, and 37% of workers are employed in Collier County but live outside the county. The majority (63%) of jobs in Collier County are employed by workers who live within Collier County, followed by 18% who live in Lee country, and 3% in Miami-Dade County.

For workers who live in Collier County but work outside of the County, 12% work in Lee County, 3.5% work in Broward County, 3% work in Miami-Dade, and 3% work in Palm Beach County.

2.12 Roadway Conditions

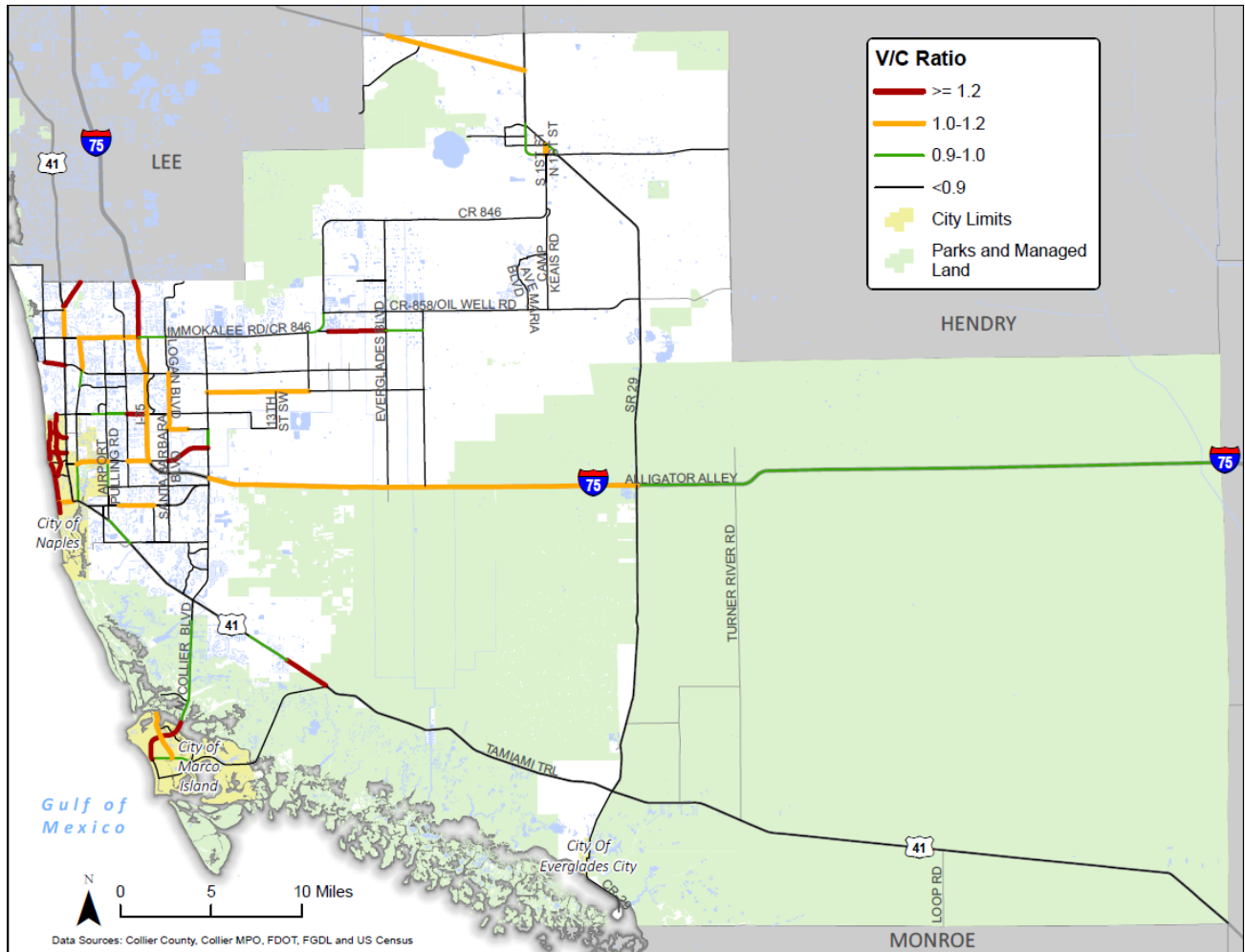
Existing roadway conditions were reviewed as part of the assessment of baseline conditions to identify roadways that may impact transit running time and on-time performance. Congestion may also serve as an indicator of sought-after destinations (trip attractors) with a potential need for additional transportation such as public transportation. Map 2-12 illustrates the anticipated 2023 volume-to-capacity (V/C) ratio of major roadways in Collier County that factors committed roadway improvements on an average weekday during the PM peak hour using a travel demand model to assign future year traffic volumes to the Existing plus Committed network. A V/C ratio equal to or greater than 1.2 is considered heavy congestion, and a V/C ratio of 1.0–1.2 is considered congested.; roadways with V/C ratios of 0.9–1.0 are considered approaching congestion.

Map 2-11: Proportion of Residents Working Outside Collier County



Source: 2013–2018 ACS Census

Map 2-12: Existing + Committed Roadway Improvement V/C Ratio (2023)



2.13 Inventory of Other Transportation Service Providers

Private transit service can complement and/or compete with public transportation services. In Collier County, Greyhound, RedCoach and Florida Red Line Shuttle provide transit services with connections to major cities in Florida. Greyhound offers connections to Plantation, Cape Coral, and Tampa, and the Florida Red Line offers connections to Tampa to Miami with stops in Bradenton, Sarasota, Fort Myers, and Fort Lauderdale (FLL Airport and Port Everglades Cruise Port). The Greyhound stop at the Shell station at 3825 Tollgate Boulevard and the RedCoach station near the Greyhound station at 8875 Davis Boulevard are accessible by CAT routes 19, 22, 25, and 28. The Florida Red Line stop at 6065 Pine Ridge Road is accessible by CAT routes 20 and 26, also shown in Figure 2-7. CAT staff currently are working on a conditional use amendment for the Radio Road Transfer Facility to facilitate more private/public partnerships with regional bus lines

Figure 2-7: Bus Stop Locations of Private Transit Operators

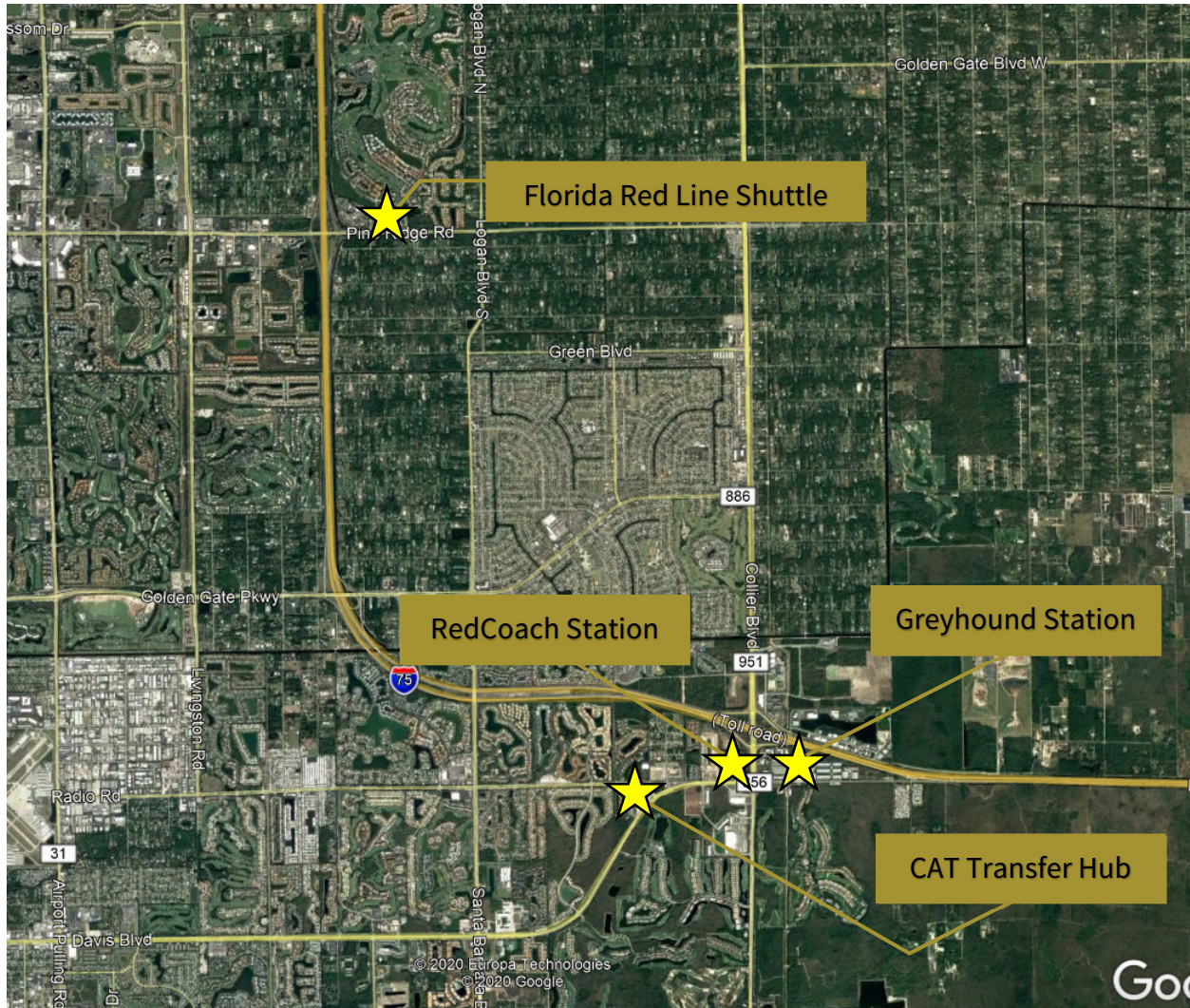


Image source: Google Earth

Uber and Lyft are major ride-hailing services available in the Naples/Fort Myers area. Shared-ride services within these platforms, such as Shared Lyft, UberPool, or Uber Express Pool services, mimic transit services by allowing clients to join other passengers on the same route but are not available within Collier County. However, demand for transit services may exist in areas with a high demand for ride-hailing services. The Uber website indicates the areas of high demand for trip pick-ups in Collier County are the Naples Grande Beach Resort, the Ritz-Carlton in Naples, Vanderbilt Beach, and the LaPlaya Beach and Golf Resort, all high tourism areas, as shown in Figure 2-8.

Figure 2-8: Uber-Recommended Hot Spots for Drivers in Naples/Fort Myers Area

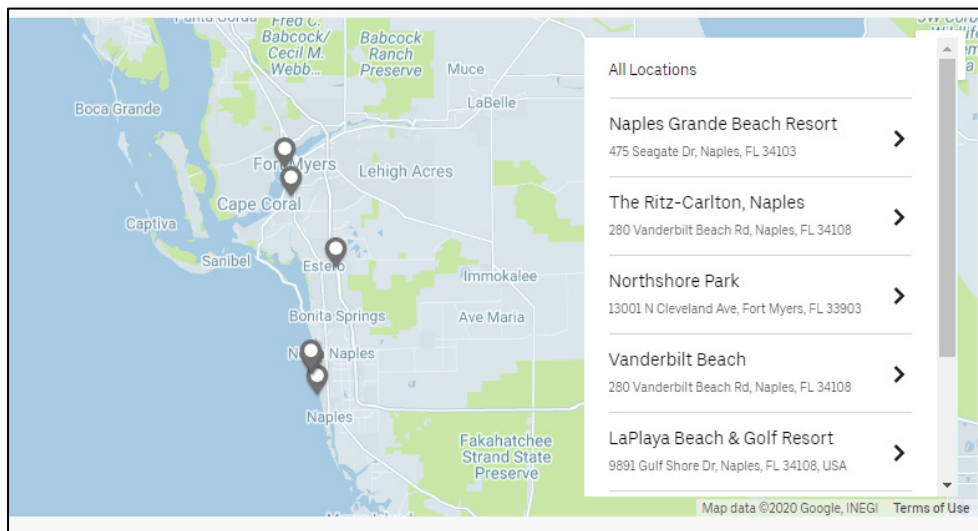


Image source: <https://www.uber.com/drive/fort-myers/where-to-drive/>

3.0 Transit Performance Evaluation

This section includes a review of existing transit services in Collier County, a trend analysis, and a peer analysis of various transit performance characteristics. A review of existing transit service offered in Collier County was conducted to identify the extent of the service operating today and any supporting capital equipment/facilities used to provide the service. In addition, other significant providers of transit were reviewed based on available data. A review of performance trends for the public transit service using data for the last five years also was conducted, as was a peer review analysis, including review of peers for CAT service selected based on various criteria typically used for comparing public transit services.

3.1 Existing Transit Services

Transit services in Collier County are provided by CAT and are open to the general public. Since formally launching fixed-route bus service nearly 20 years ago, CAT's fixed-route network has gradually become a more significant component of the multimodal transportation system in Collier County. Today, CAT operates 19 bus routes and has provided an average of nearly 1 million annual trips over the last five years combined on its fixed route and demand responsive services. Map 3-1 shows CAT's existing routes and the corresponding $\frac{3}{4}$ -mile service area, the longest distance a transit rider is willing to walk to a station, as well as $\frac{1}{4}$ -mile, the distance most transit riders are willing to walk to a stop.

CAT also provides non-fixed-route services, including paratransit service under the CAT Connect program, which includes complementary Americans with Disabilities Act (ADA) service and TD services. Medicaid transportation services are provided through a network of transportation providers overseen by MTM, Inc., the County's Medicaid transportation services broker. Collier County also serves as the CTC under Chapter 427 of Florida Statutes. As the CTC, the Public Transit and Neighborhood Enhancement (PTNE) Division administers the coordination of countywide transportation services for TD individuals.

Service is provided 7 days per week from 3:35 AM to 8:48 PM Monday through Saturday (depending on the route) and limited service is provided on Sundays from 5:30 AM to 7:50 PM (depending on the route). No services are provided on major holidays, including on Thanksgiving Day, Christmas Day, New Year's Day, Memorial Day, Independence Day, and Labor Day.

The fare structure for CAT is presented in Table 3-1.

Map 3-1: CAT Existing Transit Services

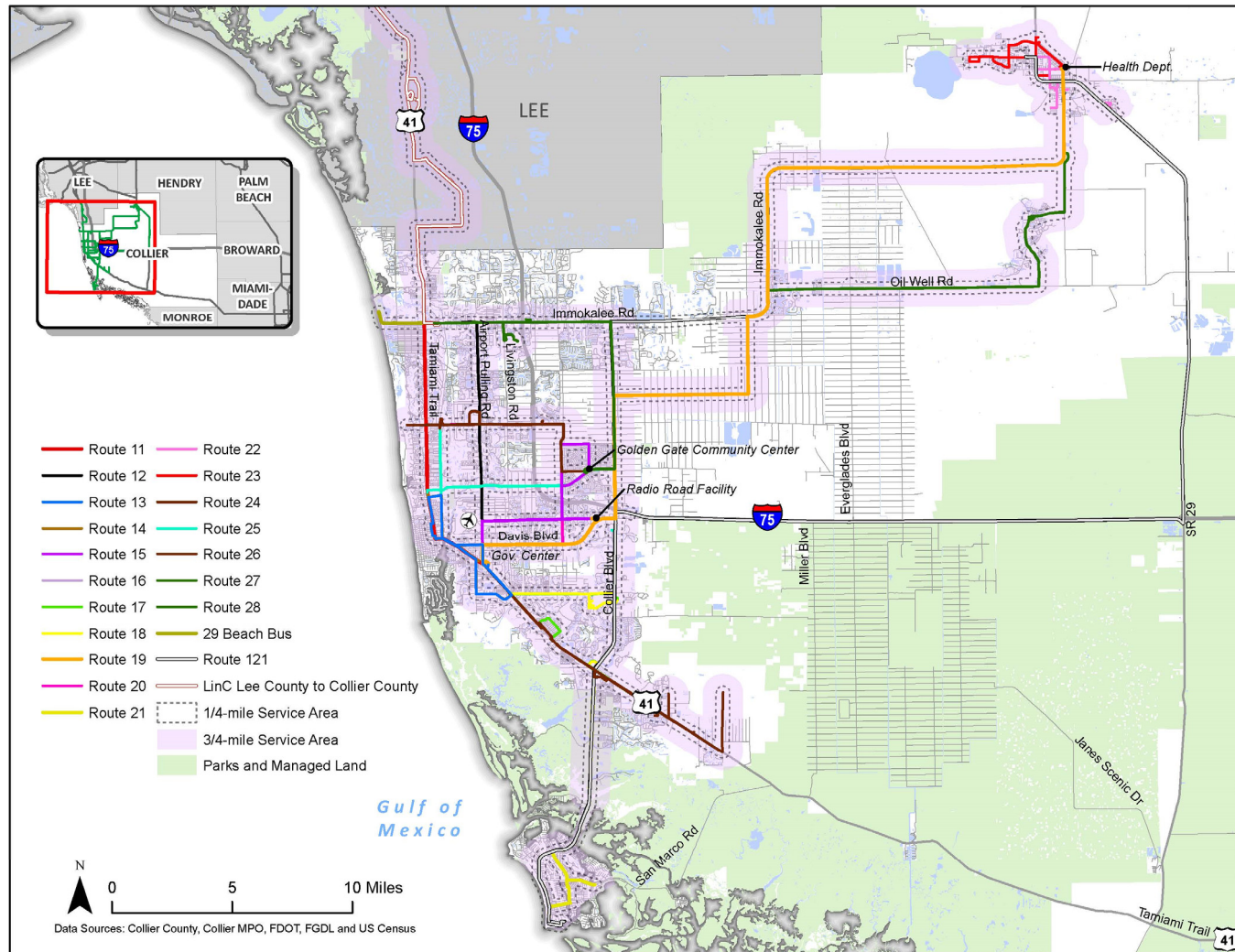


Table 3-1: Collier Area Transit Fare Structure

Fare Category	Fare
Full Fare	\$2.00
Reduced Fare	\$1.00
Children 5 Years and Younger	Free
Marco Express	\$3.00
Marco Express Reduced	\$1.50
Transfers	Free
Day Passes	\$3.00
Day Passes Reduced	\$1.50
Smart Card Passes	
15-Day Pass	\$20.00
15-Day Pass Reduced	\$10.00
30-Day Pass	\$40.00
30-Day Pass Reduced	\$20.00
Marco Express 30-Day Pass	\$70.00
Marco Express 30-Day Pass Reduced	\$35.00
Summer Paw Pass (students)	\$30.00
30-Day Corporate Pass (300+ employees)	\$29.75
Smart Media Fees	
Smart Card	\$2.00
Registration	\$3.00
Replacement with Registration	\$1.00

3.1.1 Transit Facilities

CAT currently operates services from a County-owned facility at 8300 Radio Road in Naples, as shown in Figure 3-1. Operations for CAT buses and passenger transfers occur at this location. Routes 15, 16, 19, 20, 25, and 28 service this station and serves over 50 passenger boardings per day on average. In-person customer service, schedules and pass sales are available at this location.

Figure 3-1: CAT Radio Road Transit Facility



Image source: Google Streetview

The CAT Intermodal Transfer Station at the Government Complex, shown in

Figure 3-2, was completed in 2013 and serves as a catalyst for intermodal transfers between pedestrians, bicyclists, and “kiss-and-ride” passengers. In-person customer service, schedules and pass sales are available at this location and it is serviced by routes, 11, 12, 13, 14, 15, 16, 17, 18, 19, 24, and 28. Although parking is free, this is currently not an “official” park-and-ride location. The facility includes a busway with a turn-around, six sawtooth-configured bus berths, a passenger platform with benches and trash receptacles, restrooms, an air-conditioned passenger lobby, and a customer service area.

Figure 3-2: CAT Intermodal Transfer Station



Image source: Google Maps 3D View

CAT has dedicated parking spaces at the Orange Blossom Library, Golden Gate Parkway Library, Golden Gate Estates Library, Marco Island Library, and Immokalee Library. In addition, CAT is coordinating on a regional park and ride program study. The park and ride program is addressed in the Situational Appraisal section as part of the review of plans and studies. The park and ride study is underway.

3.1.2 Vehicle Inventory

Collier County maintains a fleet of 29 fixed-route vehicles that are fully accessible to patrons in wheelchairs. An inventory of vehicles for fixed-route services is provided in Table 3-2. The vehicle types and sizes provide a range consistent with passenger volumes with larger vehicles serving higher demand corridors. CAT makes decisions about the type and size of vehicles as vehicles are replaced and added.

3.2 Trend and Peer Comparison Analysis

This section presents the results of the trend and peer comparison analyses conducted as part of Collier County’s 10-year TDP to examine transit system performance. The evaluations were conducted using data available from the Florida Transit Information System (FTIS), which derives its data from the National Transit Database (NTD). As part of the overall performance review of the system, these analyses assist with assessing the extent to which CAT’s service is meeting its goals and objectives.

Table 3-2: CAT Fixed-Route Vehicle Inventory (2013)

Number of Vehicles	Purchase Year	Vehicle Make	Length	Source Funded by
1	2006	Gillig	30-ft bus	County
2	2006	Gillig	30-ft bus	Section 5307
3	2007	Gillig	30-ft bus	Section 5307
3	2010	Gillig	35-ft bus	Section 5307
2	2010	Gillig	35-ft hybrid bus	5307 ARRA
3	2011	Gillig	35-ft bus	Section 5307
1	2012	Gillig	35-ft bus	Section 5307/CMS flex funds
1	2012	Gillig	35-ft bus	Section 5307
1	2012	Gillig	35-ft bus	CMS flex funds
2	2013	Gillig	40-ft bus	Section 5307
1	2015	Gillig	40-ft bus	Section 5307
1	2016	Freightliner	30-ft Glaval bus	Section 5307
2	2017	Gillig	35-ft bus	Section 5307
4	2017	Gillig	30-ft bus	Section 5307
1	2018	Gillig	30-ft bus	Section 5307
1	2019	Gillig	30-ft bus	Section 5307

Source: CAT Fixed-Route Vehicle Inventory

Analyses include statistical tables and graphs that summarize selected performance indicators and effectiveness and efficiency measures to review various trend components, as follows:

- *Performance measures* report absolute data for the selected categories; these tend to be key indicators of overall system performance.
- *Effectiveness measures* refine the data further and indicate the extent to which various service-related goals are being achieved.
- *Efficiency measures* involve reviewing the level of resources required to achieve a given level of output; it is possible to have very efficient service that is not effective or to have highly effective service that is inefficient.

Seven peer systems were selected for the peer analysis and represent transit systems with service areas characteristics and services similar to CAT. The peer selection methodology is described in the Peer Selection Memorandum dated February 21, 2020, shown in Appendix A. The peer systems are:

- City of Montgomery – Montgomery Area Transit System, AL
- Tri-State Transit Authority – Huntington, WV
- The Wave Transit System – Mobile, AL
- ART (Asheville Redefines Transit) – Asheville, NC
- Gwinnett County – Lawrenceville, GA
- Pasco County Public Transportation – Port Richey, FL

- Cape Fear Public Transit Authority – Wilmington, NC

Table 3-3 shows the peer system sizes in terms of the number of routes and route miles compared to CAT. As shown, CAT has the highest number of routes compared to the peer group and falls above the peer average of 14 routes. CAT also has the highest number of route miles compared to the peer systems and supplies 57.1% more route miles than the peer average of 278 route miles. Table 3-4 shows the measures used in the performance peer and trend analyses.

Table 3-3: Peer System Characteristics

System	Location	# of Routes	Route Miles (2018)
CAT	Collier County	19	436
The M	Montgomery, AL	14	305
TTA (Tri-State Transit)	Huntington, WV	14	289
The Wave Transit System	Mobile, AL	12	259
ART	Asheville, NC	18	179
GCT (Gwinnett Transit)	Lawrenceville, GA	11	187
PCPT, (Pasco Transit)	Port Richey, FL	11	371
The Wave (Cape Fear Transit)	Wilmington, NC	14	195

Source: Agency websites for number of routes, 2018 NTD data for route miles

Table 3-4: CAT Performance Review Measures

General Measures	Effectiveness Measures	Efficiency Measures
Passenger Trips	Vehicle Miles per Capita	Operating Expense per Capita
Passenger Miles	Passenger Trips per Capita	Operating Expense per Passenger Trip
Vehicle Miles	Passenger Trips per Revenue Hour	Operating Expense per Passenger Mile
Revenue Miles	Passenger Trips per Revenue Mile	Operating Expense per Revenue Mile
Vehicle Hours		Farebox Recovery Ratio
Route Miles		Revenue Miles per Vehicle Mile
Operating Expenses		Revenue Miles per Vehicle
Vehicles Available for Max Svc		Vehicle Miles per Gallon
Fuel Consumption		Average Fare

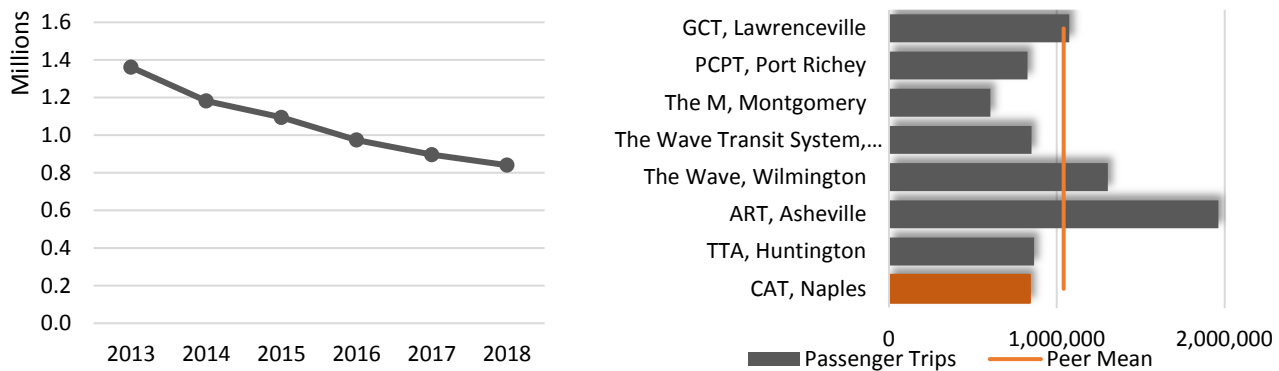
3.2.1 General Performance Measures

General performance indicators are used to gauge the overall system operating performance. Figures 3-3 through 3-11 present the performance indicators of CAT from FY 2013 through FY 2018 (trend analysis) and its performance relative to the selected peer systems (peer analysis).

3.2.1.1 Passenger Trips

Passenger trips, or passenger boardings, are the number of passengers who board public transit vehicles and are counted each time they board a vehicle, no matter how many vehicles to which they transfer. It is a measure of the market demand for the service; a higher number of passenger trips is a positive metric. The total number of passenger trips in Collier County decreased from approximately 1.3 million in 2013 to 0.84 million in 2018, a 38% decrease. Ridership decline has been consistent in the transit industry since the end of the Great Recession. CAT ridership is 19.3% below the peer mean of about 1.0 million trips.

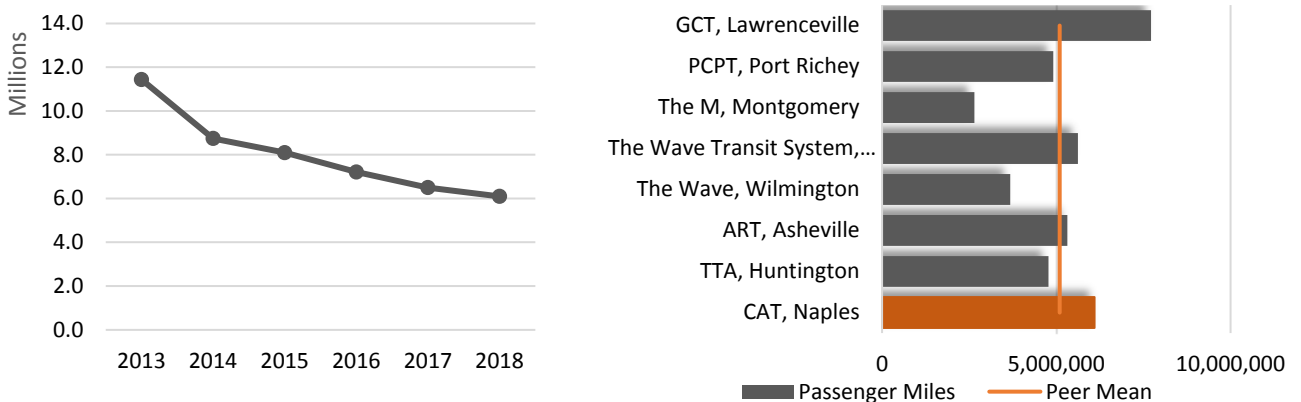
Figure 3-3: Trend and Peer Comparison for Passenger Trips



3.2.1.2 Passenger Miles

Passenger miles is a measure of passengers served over miles of service operated. Passenger miles are calculated through randomized and statistically valid survey sampling that counts elapsed miles traveled for each passenger boarding and alighting. Higher passenger miles is a positive metric. For CAT, passenger miles decreased since 2013, from 11.4 million in 2013 to 6.1 million in 2018. Overall, passenger miles decreased by 46.7% from 2013 to 2018. CAT compares favorably to the peer mean, ranking second in the peer group.

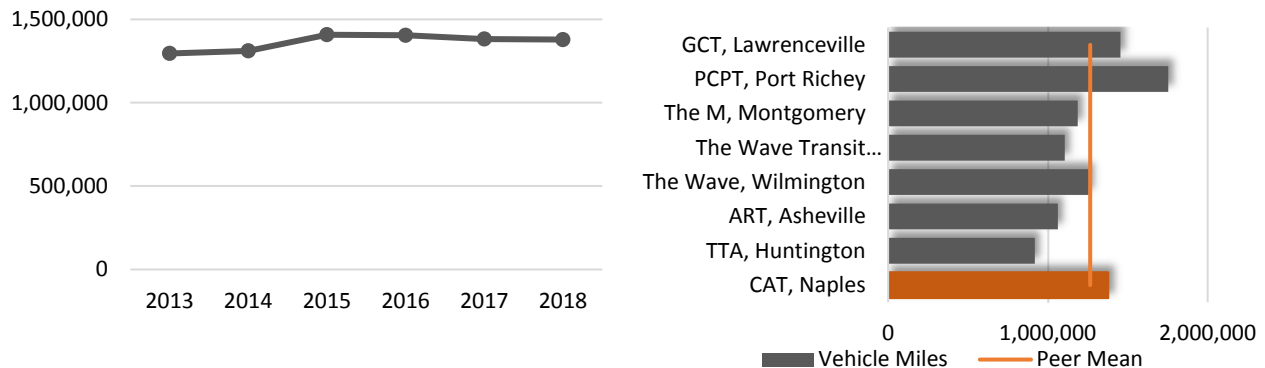
Figure 3-4: Trend and Peer Comparison for Passenger Miles



3.2.1.3 Vehicle Miles

Vehicle miles are the miles that 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. Vehicle miles as a metric by itself is not positive or negative but should be viewed in relation to productivity and cost-effectiveness measures. CAT's total vehicle miles of service increased 6.4% overall, from 1.3 million in 2013 to 1.4 million in 2018. CAT's vehicle miles are 9% higher than the peer mean, likely due to the dispersed, low-density land use patterns in the county.

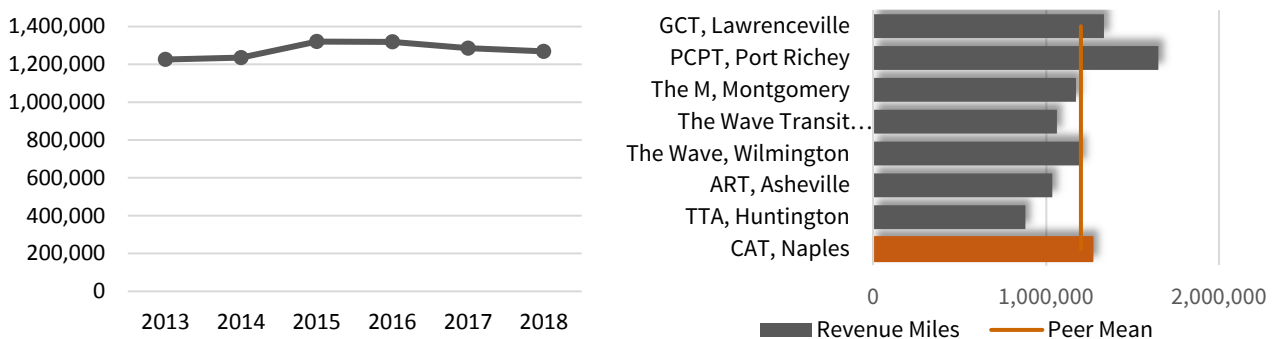
Figure 3-5: Peer and Trend Comparison for Vehicle Miles



3.2.1.4 Revenue Miles

Revenue miles are the total number of miles for which the public transit service is scheduled or that are operated while in revenue service excluding miles traveled when passengers are not on board (deadhead travel), training operations, and charter services. Revenue miles increasing faster than total vehicle miles generally indicates a positive operational trend and points to a decreasing proportion of deadhead miles over time relative to total miles. Revenue miles as a metric by itself is not positive or negative but should be viewed in relation to productivity and cost-effectiveness measures. Revenue miles is a measure of service provided and should be slightly lower than vehicle miles to reflect efficiency in service. CAT experienced an increase in revenue miles of 3.5% for 2013–2018. CAT’s revenue miles were 5.6% higher than the peer mean and ranks third in the peer group.

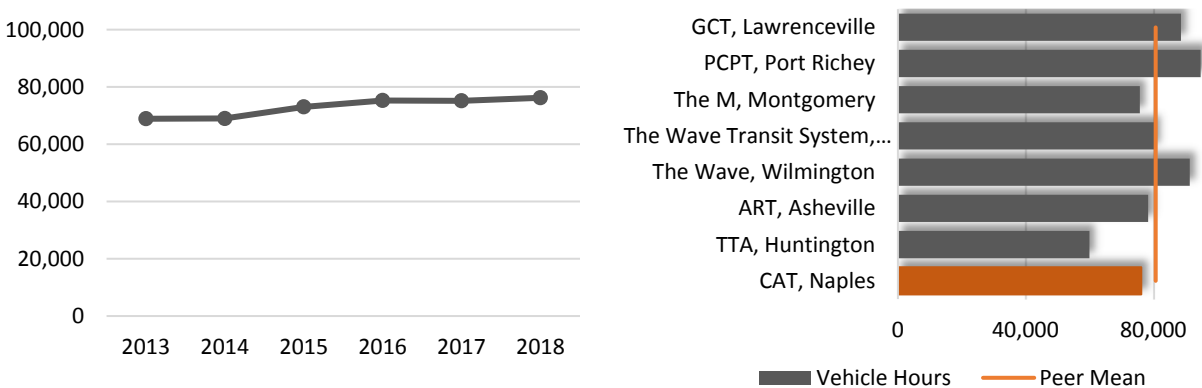
Figure 3-6: Trend and Peer Comparison for Revenue Miles



3.2.1.5 Vehicle Hours

Vehicle hours are the total hours of travel a transit vehicle is being operated, including both revenue service and deadhead travel, and is a measure of service provided. Vehicle hours as a metric by itself is not positive or negative but should be viewed in relation to productivity and cost-effectiveness measures. CAT had a plateauing increase in vehicle hours, with an overall 10.6% increase in vehicle hours from 2013 to 2018. CAT’s vehicle hours metric was 5.6% lower than the peer mean.

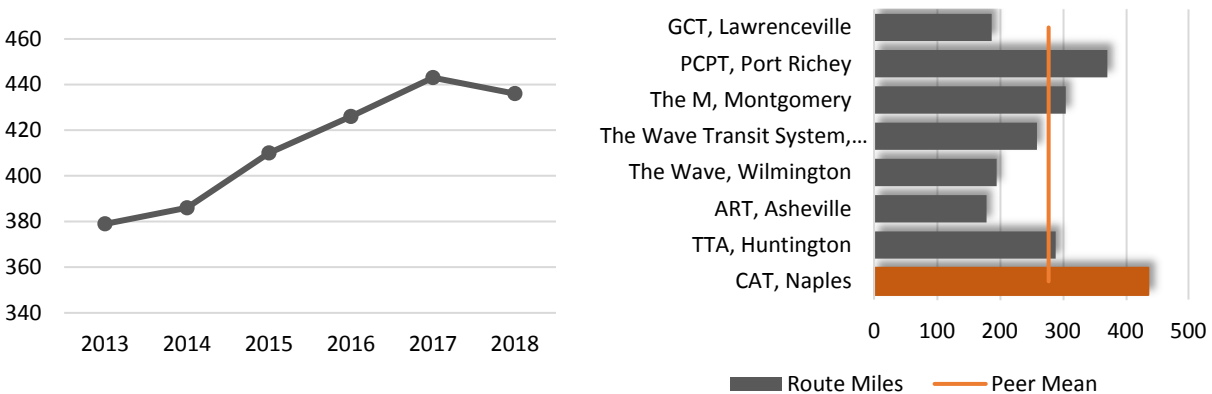
Figure 3-7: Trend and Peer Comparison for Vehicle Hours



3.2.1.6 Route Miles

Route miles represent the total length of all routes in the network and are a measure of the linear extent of the transit network. Route miles for CAT increased from 279 to 436 miles for 2013–2018, representing a 15% increase overall. CAT ranked the highest in the peer group for route miles.

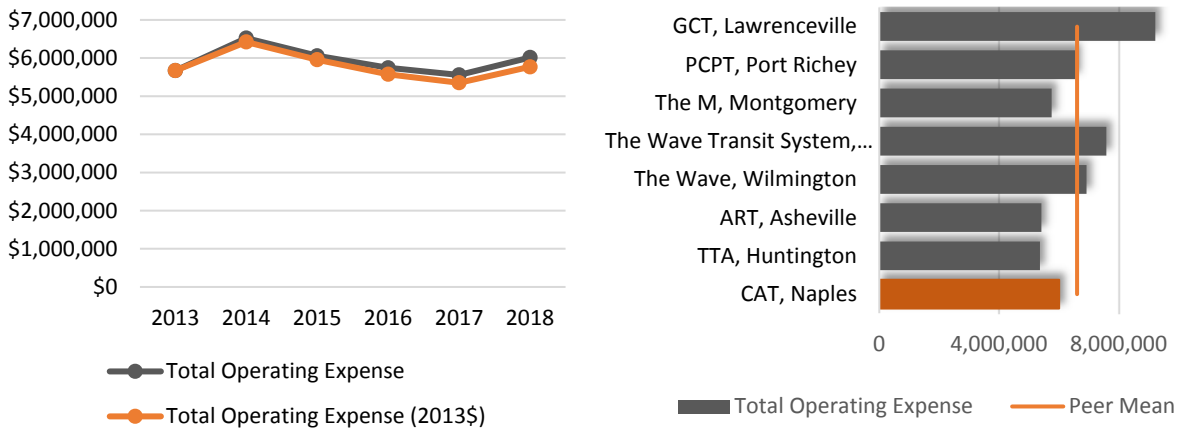
Figure 3-8: Trend and Peer Comparison for Route Miles



3.2.1.7 Operating Expenses

Total operating expense includes all costs associated with operating the transit agency (vehicle operations, maintenance, and administrative costs). CAT's total operating expense increased by 6% from 2013 to 2018; however, when considering the effects of inflation, the actual total operating expense measured in 2013 dollars increased by only 2% in the six-year period, indicating that overall operating expenses increased annually. CAT had the third lowest total operating expense in the peer group, 9% below the peer mean.

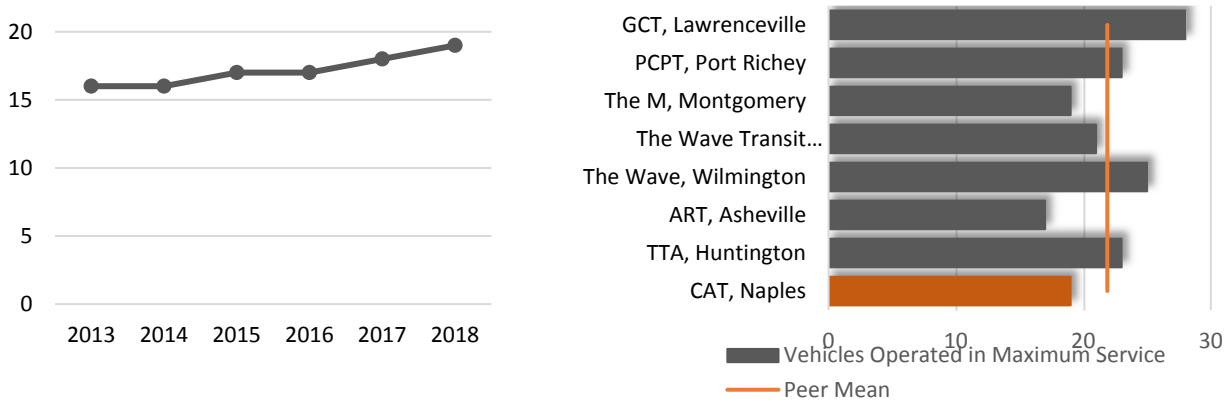
Figure 3-9: Trend and Peer Comparison for Operating Expenses



3.2.1.8 Vehicles Operated in Maximum Service

Vehicles operated in maximum service (VOMS) are a measure of the number of vehicles required to operate at peak full service and are an important metric when assessing fleet size, as it is directly related to the network structure, number of routes, and frequency of service of each transit agency. CAT increased its supply of vehicles operating in maximum service from 23 vehicles in 2013 to 28 in 2018, an approximate 22% increase. CAT is below the group mean of 22 vehicles.

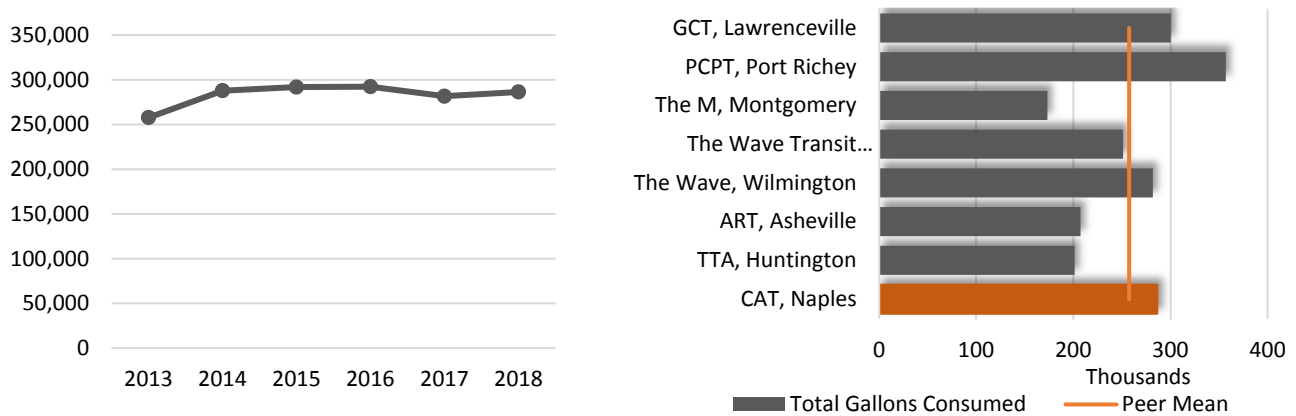
Figure 3-10: Trend and Peer Comparison for VOMS



3.2.1.9 Fuel Consumption

Generally, fuel consumption is tied to vehicle miles of service and type of vehicle power employed. CAT's gas consumption fluctuated since 2013, but overall decreased by 11% in the six-year period. For this performance measure, CAT is 11.3% above the group mean, indicating a potential need for increased fuel efficiency.

Figure 3-11: Trend and Peer Comparison for Fuel Consumption



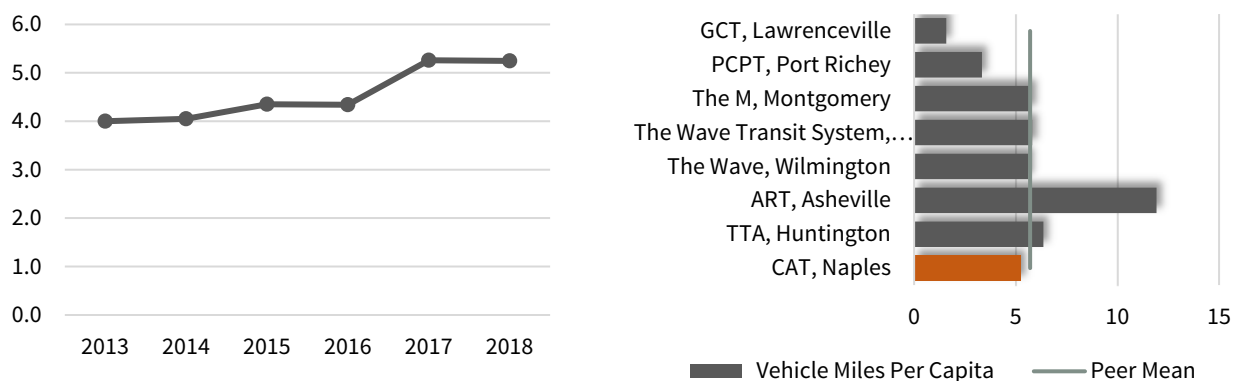
3.2.2 Effectiveness Measures

Effectiveness measures indicate the extent to which service-related goals are being met and 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.

3.2.2.1 Vehicle Miles per Capita

Vehicle miles per capita are derived from the total system vehicle miles divided by the service area population within a $\frac{3}{4}$ -mile distance of service provided and measure the supply of service provided based on the population of the service area. For CAT, vehicle miles per capita experienced an increase from a low of 4.0 miles in 2013 to per capita 5.2 in 2018, a growth of 31%. The spike that occurred between 2016 and 2017 is due to the correct reporting of service area population beginning in 2017, which reflects calculated service area population, not county-wide population. Vehicle miles per capita for CAT are close to the peer group mean of 5.7, an indication that the supply of service is similar to what is typically experienced by peer agencies.

Figure 3-12: Trend and Peer Comparison for Vehicle Miles per Capita

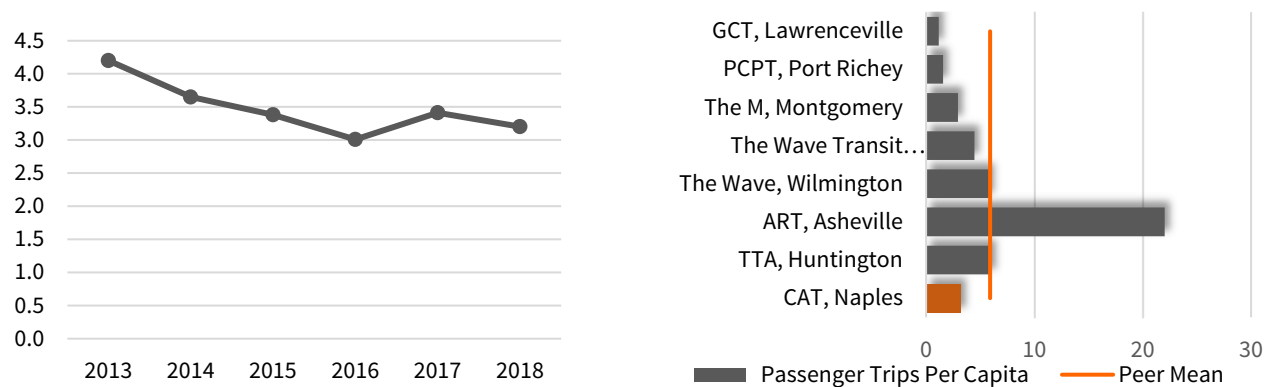


Note: 2017 and 2018 updated using service area population manually calculated using TBEST 2019 Land Use Model

3.2.2.2 Passenger Trips per Capita

Passenger trips per capita are calculated by dividing the total transit boardings by service area population and quantifies transit utilization in the service area. It is desirable that trips per capita are high, meaning greater utilization of the service. Passenger trips per capita in Collier County experienced a 24% decrease between 2013 and 2018. CAT ranks sixth in the peer group, 46% below the peer mean. Compared to the peers, CAT ridership as a percentage of the population is less than the peer mean.

Figure 3-13: Trend and Peer Comparison for Passenger Trips per Capita

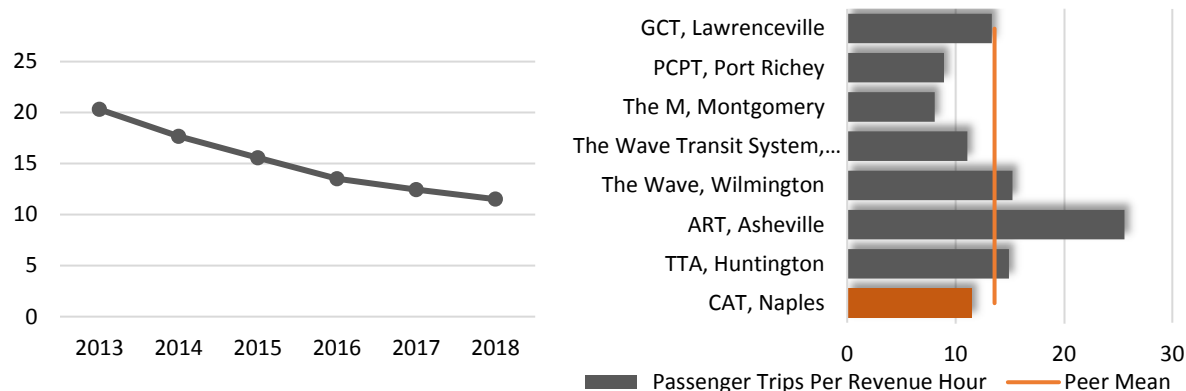


Note: 2017 and 2018 updated using service area population manually calculated using TBEST 2019 Land Use Model.

3.2.2.3 Passenger Trips per Revenue Hour

Passenger trips per revenue hour are a measure used to quantify productivity and service consumption and can help evaluate the amount of resources consumed in providing service. It is desirable for this metric to be high, reflecting greater utilization of the service per unit of service provided. From 2013 to 2018, CAT's passenger trips per revenue hour decreased by 43%. The decline in passenger trips per revenue hours is consistent with the increase in revenue miles and hours of service and the decrease in ridership. CAT is 15% below the peer mean for this metric.

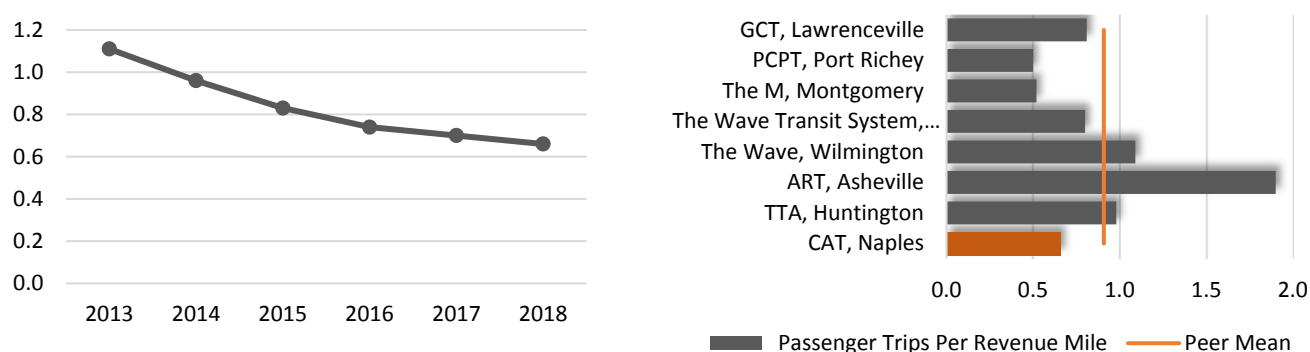
Figure 3-14: Trend and Peer Comparison for Passenger Trips per Revenue Hour



3.2.2.4 Passenger Trips per Revenue Mile

Passenger trips per revenue mile are calculated by dividing transit boardings by revenue miles and are a measure of the productivity of the revenue service provided. It is desirable for this metric to be high, meaning greater utilization of the service per unit of service supplied. In Collier County, passenger trips per revenue mile experienced a decrease of 41% during the six-year period, indicating that the agency experienced lessening ridership productivity during the time period. The decreasing trend is driven by the decrease in ridership during that time period. CAT is 27% below the peer mean for this metric, indicating a need for improvement in service consumption.

Figure 3-15: Trend and Peer Comparison for Passenger Trips per Revenue Mile



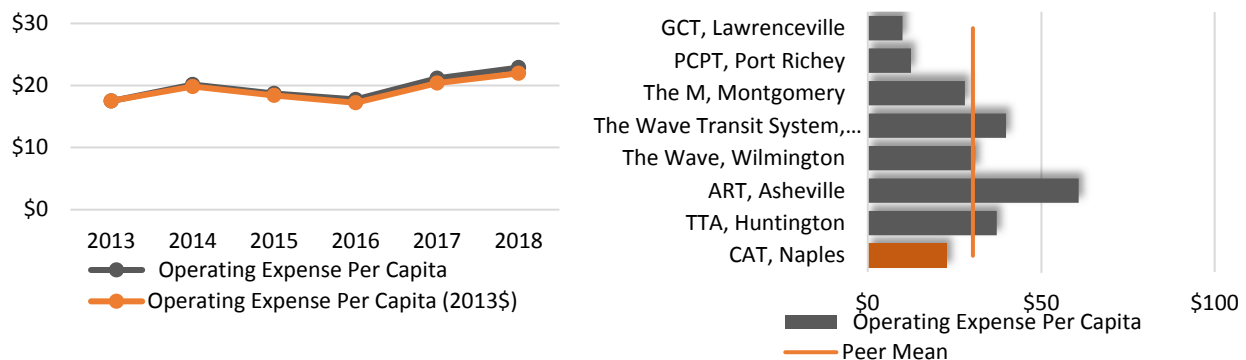
3.2.3 Efficiency Measures

Efficiency measures focus on costs and other measures of efficiency. Figure 3-16 through Figure 3-24 present the efficiency measures for CAT's peer review and trend analysis. Similarities between CAT and the peers in this category may be related to the peer selection process, which is largely based on transit service characteristics. The following section summarizes the trend and peer analysis by efficiency measure type.

3.2.3.1 Operating Expense per Capita

Operating expense per capita measures the investment in providing public transport relative to the population within the service area. This metric is complex in that although a higher cost reflects a greater investment in transit, it must be viewed in context of direct costs per unit of service relative to peers as well as demand and productivity for the service. When excluding inflation, the operating expense per capita for Collier County increased from \$17.51 in 2013 to \$22.89 in 2018, an increase of 31% and since CAT is 25% below the peer group mean, it suggests that CAT is making an effort to expand transit and doing so at a direct cost that is lower than the peer average.

Figure 3-16: Trend and Peer Comparison for Operating Expense per Capita

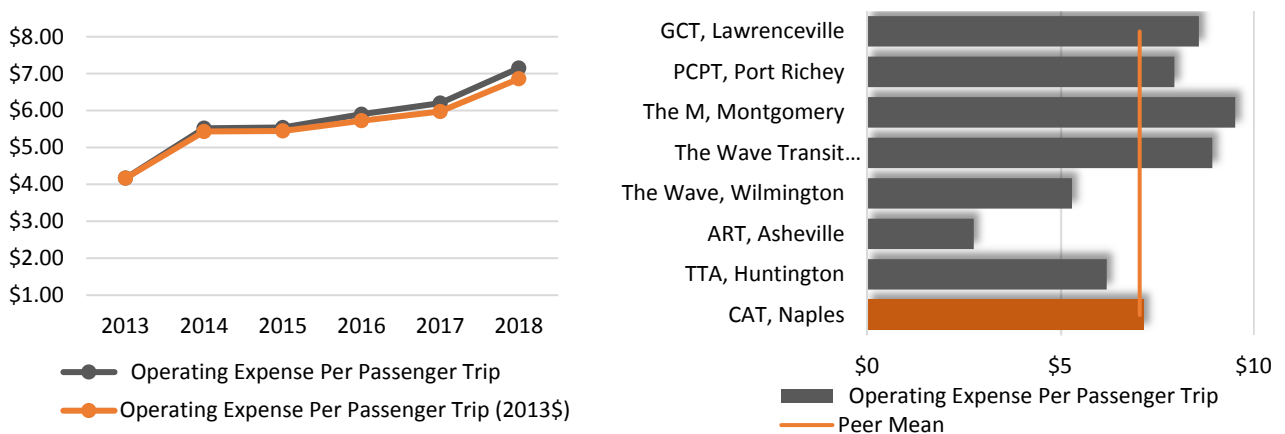


Note: 2017 and 2018 updated using service area population manually calculated using TBEST 2019 Land Use Model.

3.2.3.2 Operating Expense per Passenger Trip

Operating expense per passenger trip measures the efficiency of transporting riders and the cost of operations relative to the resulting ridership and reflects on how service is delivered and the market demand for the service. The goal is to minimize cost per passenger trip. Operating expense per passenger trip is shown in 2018 values and is also deflated to 2013 values to show how cost has changed when inflation is removed. The operating expense per passenger trip in Collier County increased from \$4.17 in 2013 to \$6.86 (2013\$) in 2018, an increase of 65% overall. The decline in this metric is driven primarily by the declining trend in passenger trips during that time period. CAT is performing just above the peer mean of \$7.01 (2019\$).

Figure 3-17: Trend and Peer Comparison for Operating Expense per Passenger Trip

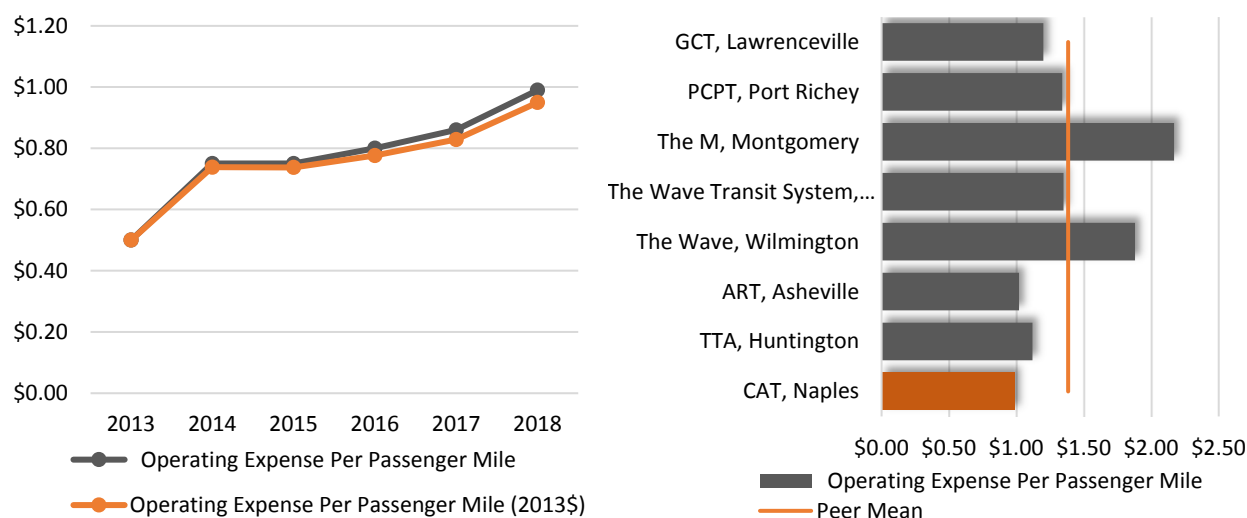


3.2.3.3 Operating Expense per Passenger Mile

Operating expense per passenger mile measures the impact of ridership, average trip length, and operating cost. The goal is to minimize cost per passenger miles. CAT's operating expense per

passenger mile nearly doubled between 2013 and 2018. Despite this trend, CAT is 28% below the peer mean for this measure and is performing more efficiently than the peer group.

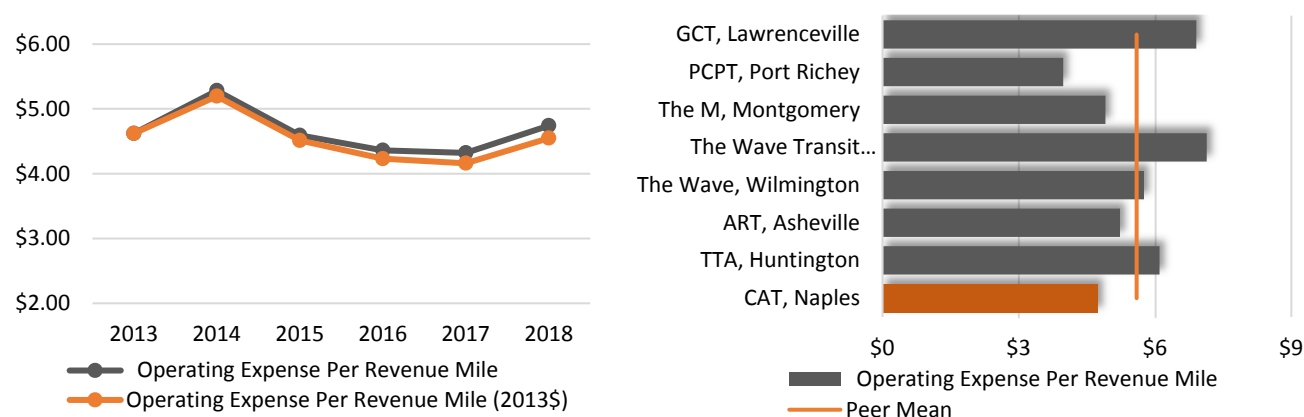
Figure 3-18: Trend and Peer Comparison for Operating Expense per Passenger Mile



3.2.3.4 Operating Expense per Revenue Mile

Operating expense per revenue mile indicates how efficiently a transit service is delivered. The goal is to minimize cost per revenue mile. Overall, the metric has remained stable, with an overall increase of 3%. CAT is 15% below the peer mean, indicating more efficient transit service delivery than its peers for this measure.

Figure 3-19: Trend and Peer Comparison for Operating Expense per Revenue Mile

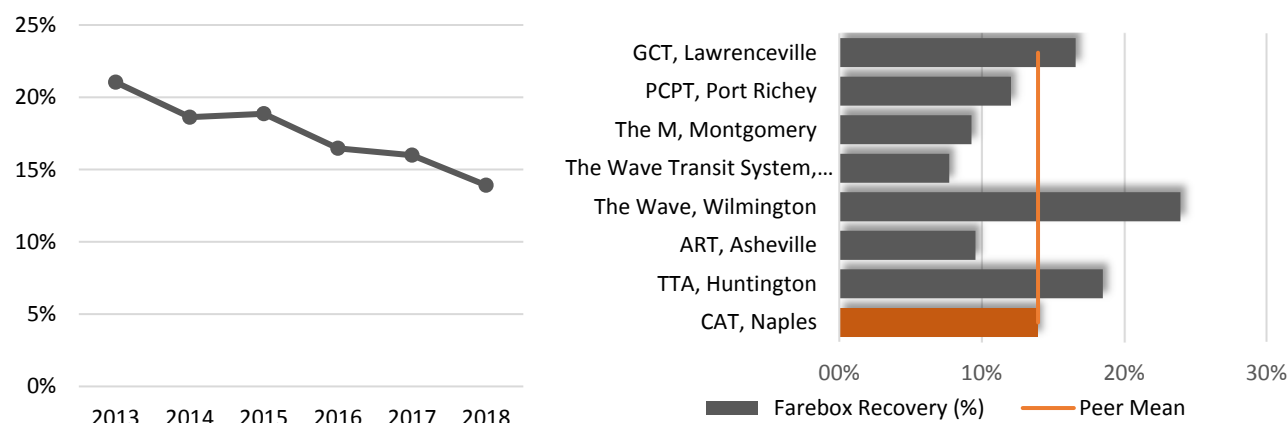


3.2.3.5 Farebox Recovery Ratio

The farebox recovery ratio is a measure of the percentage of the transit system's total operating expenses that are funded with fares paid by passengers and is calculated by dividing the total fare revenue collected by the total operating expenses. The goal is to increase farebox recovery, meaning

more of the costs are absorbed by users. CAT's farebox recovery declined from 21% in 2013 to 13.9% in 2018, at 34% overall. The farebox recovery ratio for CAT is at the peer group mean.

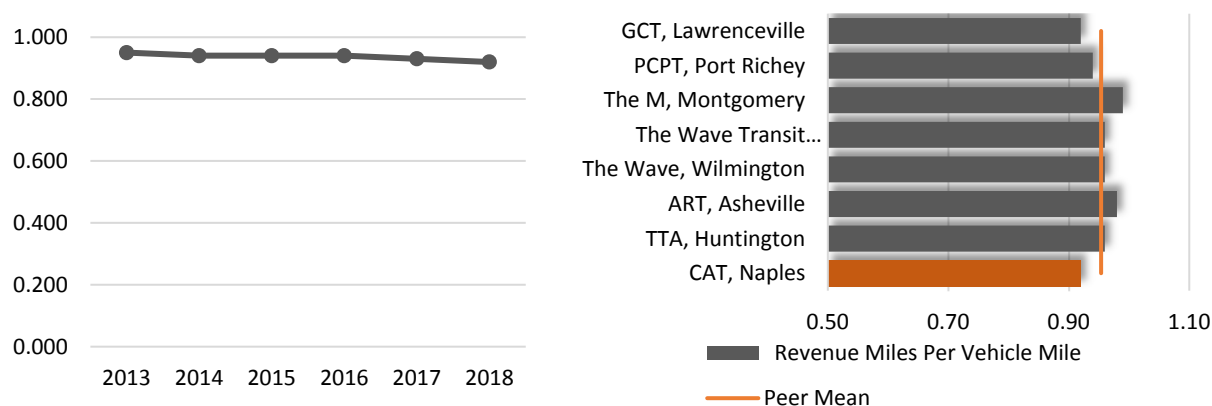
Figure 3-20: Trend and Peer Comparison for Farebox Recovery Ratio



3.2.3.6 Revenue Miles per Vehicle Mile

Revenue miles per vehicle mile are a measure of vehicle utilization. A higher ratio of revenue miles traveled to total vehicle mile generally indicates higher system productivity; the goal is to maximize the ratio of operations in revenue service to total operations. For CAT, revenue miles per vehicle mile remained stable, with a slight decrease of 3% over the six-year period. This measure for CAT is 3.5% below the peer group mean, indicating a near-average use of fixed-route bus vehicles within the peer group mean.

Figure 3-21: Trend and Peer Comparison for Revenue Miles per Vehicle Mile

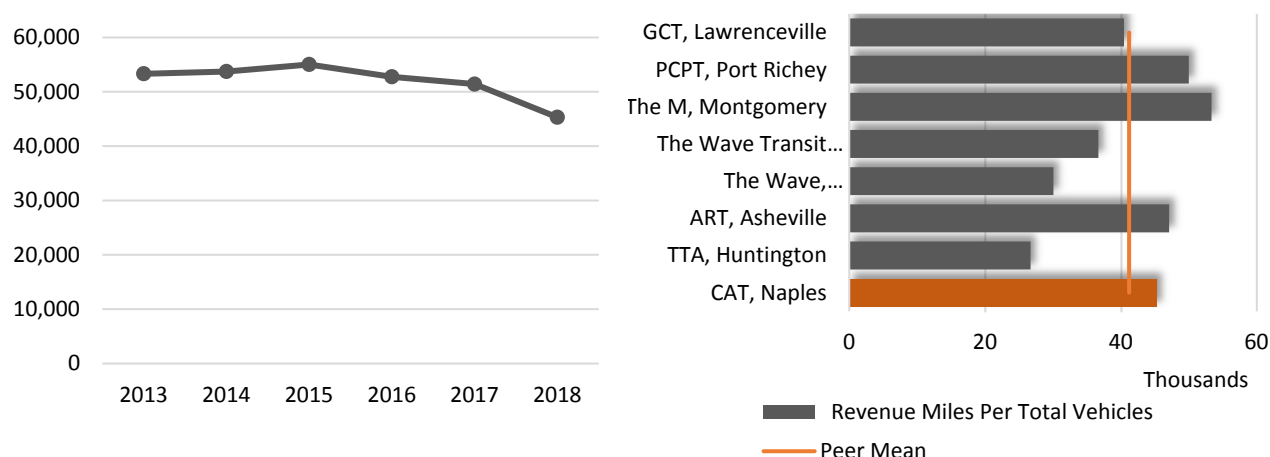


3.2.3.7 Revenue Miles per Total Vehicles

Revenue miles per total vehicles also is a measure of vehicle utilization. Interpretation of this metric is complex and must be taken in context of fleet size, revenue miles, and age of the fleet. CAT experienced

an overall decrease of approximately 15% over the six-year period, indicating a decline in vehicle utilization, however, CAT ranks 9% above the peer mean of 41,207 revenue miles per total vehicles.

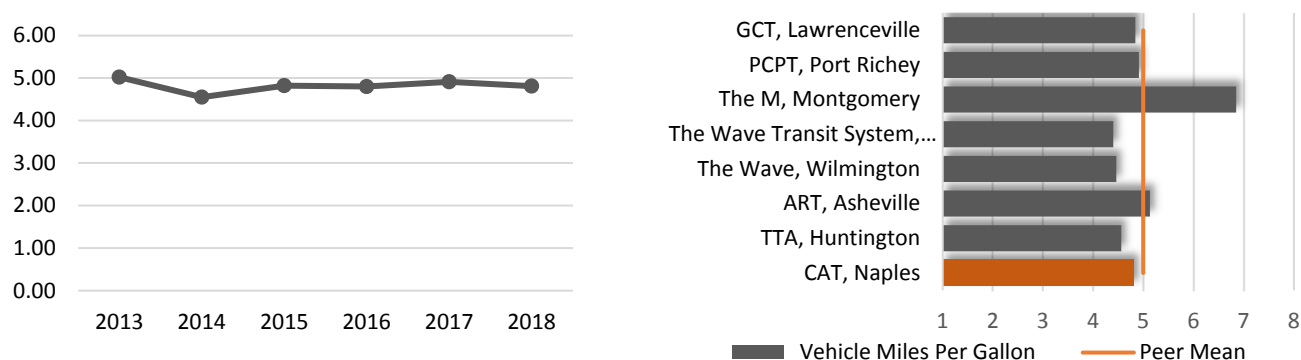
Figure 3-22: Trend and Peer Comparison for Revenue Miles per Total Vehicle



3.2.3.8 Vehicle Miles per Gallon

Vehicle miles per gallon, the ratio between fuel consumed and distance traveled, are an indication of fuel efficiency and apply only to diesel- and gasoline-powered vehicles. It is desirable to maintain a higher fuel economy, i.e., more miles per gallon. For CAT, vehicle miles per gallon (or fuel efficiency) remained relatively constant, from 5.02 in 2013 to 4.8 in 2018, a decrease of 4% overall. CAT is 4% below the peer mean, indicating CAT could consider more fuel-efficient vehicles when new vehicles are procured in the future. Maintaining a younger fleet will improve fuel efficiency.

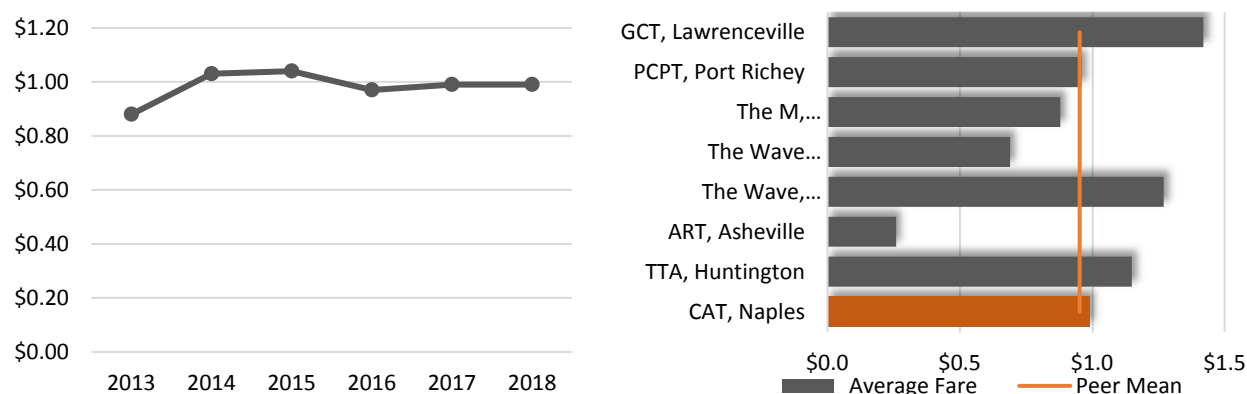
Figure 3-23: Trend and Peer Comparison for Vehicle Miles per Gallon



3.2.3.9 Average Fare

Average fare is calculated by dividing total passenger fare revenue collected by ridership. The average can be lowered by systems that offer free transfers or discounted/free rides. CATS's average fare increased from \$0.88 in 2013 to \$0.99 in 2018, at 12% overall. The mean average fare for the peer systems is \$0.95. This means that, on average, CAT riders pay close to the mean fare of the peers.

Figure 3-24: Trend and Peer Comparison for Average Fare



3.2.4 Key Findings of Trend and Peer Analyses

The trend analysis is only one aspect of transit performance evaluation. When combined with the peer review analysis (summarized later in this section), the results provide a starting point for understanding the transit system's operating environment over time when compared to other systems with similar characteristics. Key trends observed for the CAT system from 2013 to 2018 are summarized as follows:

- The amount of service provided by CAT has increased with respect to total vehicle miles, revenue miles, vehicle hours and route miles, and vehicle miles per capita, CAT placed above average compared to peers. CAT has increased the amount of service and the large and dispersed CAT service are results in high vehicle miles and hours of service.
- Passenger trips and passenger miles have declined over the six-year period, which mirrors the national trend in transit ridership decline. CAT performed 19.3% below the peer mean for passenger trips and 19.6% above the peer mean for passenger miles. This reflects the very large service area and the overall lower density of demand characteristics of the CAT service area. Shifting to a streamlined network and adding on-demand services in lower density areas rather than fixed route will help CAT better match service supply to service demand.
- Total operating expenses have increased moderately by 6% over the six-year period. Operating expense per passenger trip and operating expense per passenger mile have seen dramatic increases that were driven largely by decreasing passenger trips and passenger miles, suggesting a decline in efficiency. CAT performed better than the peer mean with respect to total operating expenses, operating expense per passenger mile, and operating expense per revenue mile, suggesting that CAT has a better cost efficiency compared to its peer group. Operating expense per revenue mile fluctuated between 2013 and 2018, but only with a slight increase of 2.6% overall.
- Passenger trips per capita, passenger trips per revenue mile, and passenger trips per revenue hour have decreased over the six-year period, indicating a negative trend in service consumption. CAT performed below the peer group mean for these measures. This is largely a function of the large and dispersed service area.

The farebox recovery ratio decreased 34% but, compared to the peer group, CAT is performing near the peer mean. Table 3-5 summarizes the trend and peer analyses and shows the positive and negative trends identified in the analysis. The desired trend indicates whether a positive or negative trend is needed to show improvements for CAT. Certain metrics, such as some listed in the table as General, are external factors, not controlled by CAT. Likewise, the amount of service provided (revenue miles and hours) is not independently good or bad, it should be dependent on demand and fiscal capacity. Adding new service when there is not demand for it is not a wise investment. Adding service when there is a positive ridership response suggests a needed investment in mobility. The information in the table below provides a sense of how CAT fares relative to peers and trends and directionality or objectives for performance targets.

Table 3-5: CAT Trend and Peer Analysis Summary, 2013–2018

	Indicators	Trend Change	Desired Trend	Trend Status	Percent from Peer Mean
General	Service Area Population *	-18.9%	-	Externality	-18.0%
	Service Area Size (sq. mi) *	-84.5%	-	Externality	18.4%
	Passenger Trips	-38.2%	↗	Decreasing	-19.3%
	Passenger Miles	-46.7%	↗	Decreasing	19.6%
	Vehicle Miles	6.4%	-	Increasing	9.0%
	Revenue Miles	3.5%	-	Increasing	5.6%
	Vehicle Hours	10.6%	-	Increasing	-5.6%
	Route Miles	15.0%	-	Increasing	57.0%
	Total Operating Expense	6.1%	-	Increasing	-9.0%
	Vehicles Available for Maximum Service	21.7%	-	Increasing	-6.7%
	Total Gallons Consumed	11.1%	-	Increasing	11.3%
Effectiveness	Vehicle Miles Per Capita*	31.1%	↗	Improving	-8.1%
	Passenger Trips Per Capita	-23.8%	↗	Not Improving	-45.8%
	Passenger Trips Per Revenue Mile	-40.5%	↗	Not Improving	-27.3%
	Passenger Trips Per Revenue Hour	-43.3%	↗	Not Improving	-15.3%
	Number of Vehicle System Failures	181.5%	↘	Not Improving	-18.0%
	Revenue Miles Between Failures	-63.2%	↘	Improving	-54.6%
Efficiency	Operating Expense Per Capita*	30.7%	↗	Improving	-24.4%
	Operating Expense Per Passenger Trip	71.5%	↘	Not Improving	1.4%
	Operating Expense Per Passenger Mile	98.0%	↘	Not Improving	-28.5%
	Operating Expense Per Revenue Mile	2.6%	↘	Not Improving	-15.3%
	Farebox Recovery (%)	-33.9%	↗	Not Improving	-0.3%
	Revenue Miles Per Total Vehicles	-15.0%	↗	Not Improving	10.0%
	Vehicle Miles Per Gallon	-4.2%	↗	Not Improving	-3.7%
	Average Fare	12.5%	↗	Improving	3.9%

*2017-2018 service area population calculated using TBEST Source: FTIS

4.0 Public Outreach

This section summarizes public outreach activities conducted as part of the TDP. Activities completed include an on-board survey, an online survey, stakeholder interviews, discuss group workshops, and public meetings. The public outreach described in this section was completed in compliance with the CAT Public Participation Program (PPP) presented as **Appendix B**, along with FDOT correspondence related to the identified process.

4.1 On-board Survey

The on-board survey for the CAT TDP was completed by January 19, 2020, with weekday surveying on January 15 and 16 and weekend surveying occurring on January 18 and 19. The on-board survey was administered on every fixed-route and targeted 50% coverage of CAT's fixed-route service. Surveyors were deployed from CAT's main bus facilities at Collier Area Transit at 8300 Radio Road and from the Government Center Transfer Center at 3301 Tamiami Trail E in Naples and were stationed on buses to distribute surveys to passengers. Surveys were provided in Spanish, and Haitian Creole, in addition to English.

Results of the on-board survey help to understand the attitudes, gaps in transit service, preferences, and habits of current riders for market research purposes. To that end, the survey was not specifically designed for model input or validation. This section discusses key results from the on-board survey effort. Copies of the on-board survey instruments in each language are provided in Appendix C.

4.1.1 Survey Characteristics

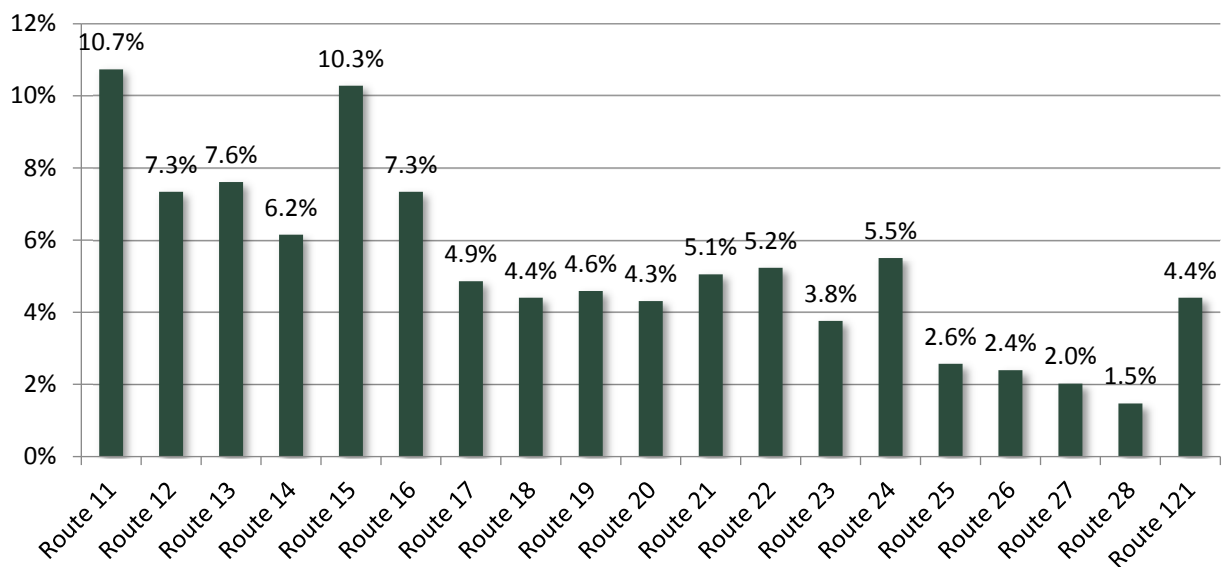
The survey consisted of questions to identify passenger socio-demographics, travel characteristics, and rider satisfaction:

- Socioeconomics and demographics:
 - Age
 - Gender
 - Ethnic origin
 - Household motor vehicle ownership
 - Household income
 - Language used at home
- Travel characteristics:
 - Bus route used for this trip
 - Trip purpose
 - Method for reaching the bus for this trip
 - Trip origin for this trip
 - Trip destination for this trip
 - Fare type used

- Number of transfers on this trip
- Number of days CAT is used in a week
- Mode of travel if not bus
- Length of time using CAT services
- Improvement priorities and rider satisfaction:
 - Service feature improvement rankings
 - Express service
 - New service routes
 - New on-demand service
 - Greater frequency
 - Later service
 - Other suggested improvements

In total, 1,090 CAT passengers responded to the survey. Figure 4-1 shows a breakdown of the routes used by respondents at the time of the survey.

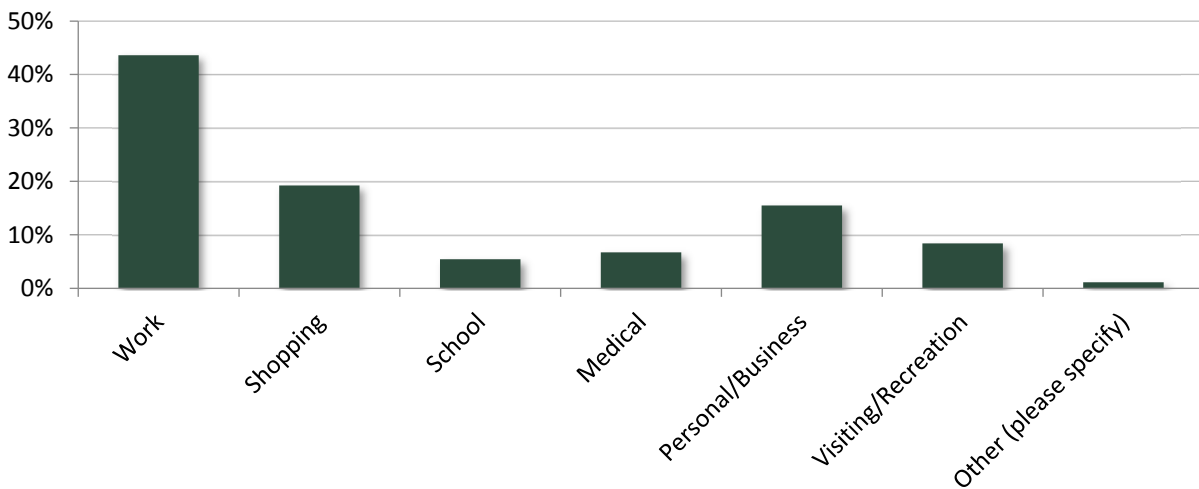
Figure 4-1: Please identify your current route.



4.1.2 Trip Purpose

Passengers were asked to identify the main purpose of their current trip to understand where people were coming from or going to while using CAT service, as shown in Figure 4-2. For the overall system, 467 passengers (43.60%) said they were going to work, 206 (19.23%) were shopping, and 166 (15.50%) were making personal/business trips. Travel for recreational purposes was noted by 90 passengers (8.40%), medical was noted by 72 passengers (6.72%), and school was noted by 58 passengers (5.42%); 7 respondents said they were going to church (0.7%).

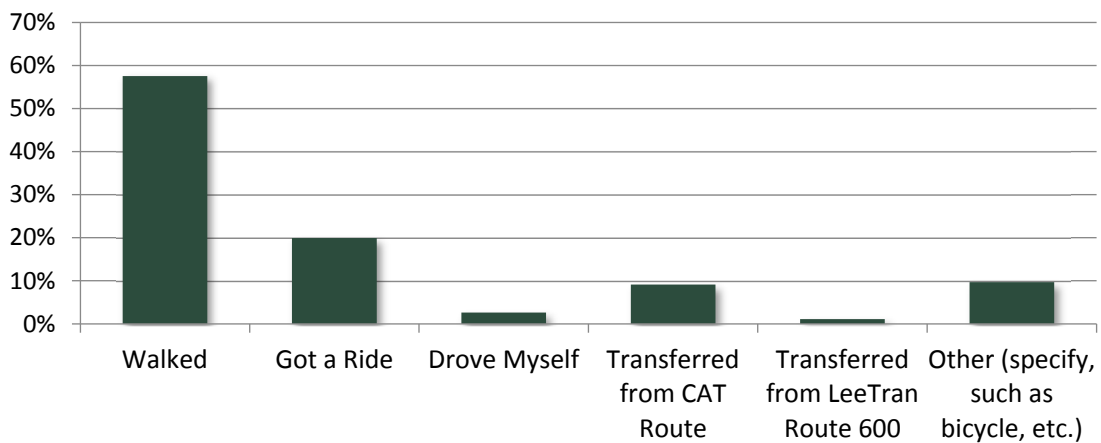
Figure 4-2: What is the main purpose of your trip today?



4.1.3 Passenger Travel Characteristics

Passengers were asked to identify how they arrived at the bus stop for their current trip (Figure 4-3). In total, 618 passengers (57.54%) said they walked to reach the stop, 214 (19.93%) got a ride, and 98 (9.12%) transferred from a different CAT bus; 12 passengers (1.11%) transferred from LeeTran Route 600, and 28 (2.60%) drove themselves to the stop and parked nearby. More than 100 passengers (9.68%) selected “Other,” with most riding a bicycle to the stop or using a scooter or skateboard; some indicated using a wheelchair to access the stop.

Figure 4-3: How did you get to the bus stop where you got on this bus?

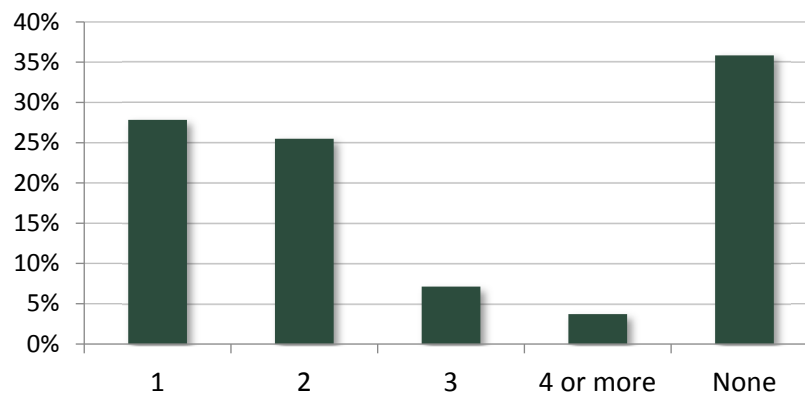


As part of this question, passengers who walked were asked how far they traveled to reach the stop to board the bus. In total, 92 (14.89%) traveled 1 block, 123 (19.90%) traveled 2 blocks, 87 (14.08%) traveled 3 blocks, and 58 (9.39%) traveled 4 blocks. In addition, 251 (40.61%) walked more than 4 blocks to reach the stop.

4.1.4 Transfers

Of the passengers who transferred from a different route, 10 (16.67%) came from routes 11, 12, or 19, 5 (8.33%) came from Route 23, and 4 (6.67%) came from routes 13 or 15. The remaining 17 passengers (28.33%) originated from an unspecified route. Passengers were asked how many transfers were required to complete their trip (Figure 4-4). Of the 1,024 passengers who responded, 367 (35.84%) did not have to transfer; of those who planned to transfer, 285 (27.83%) required one transfer and 261 (25.49%) required two transfers.

Figure 4-4: How many transfers will you make on this one-way trip?



4.1.5 Origin and Destination Characteristics

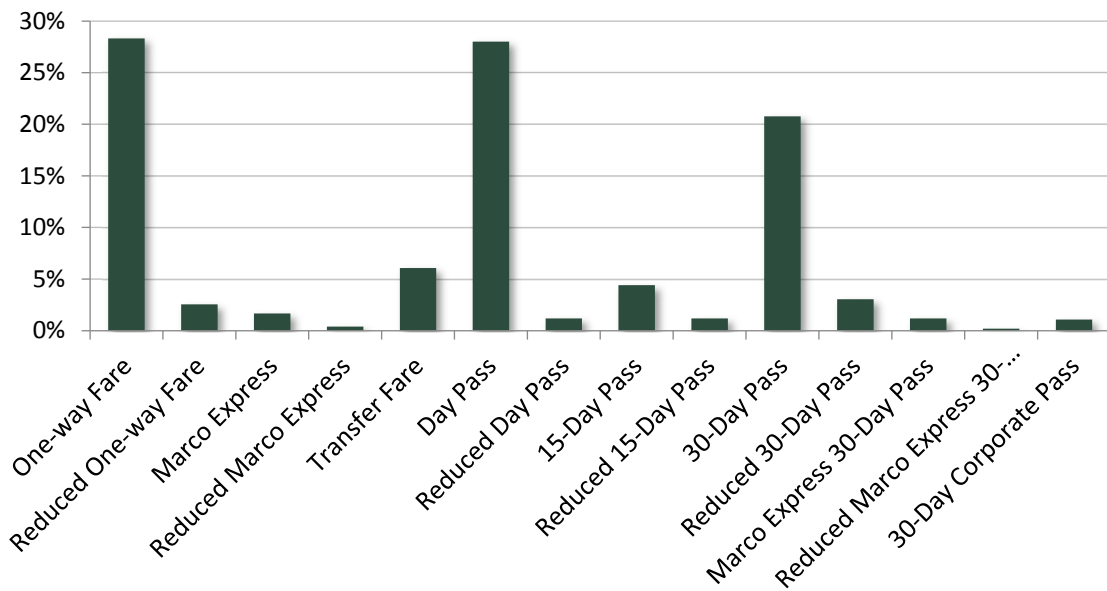
Passenger were asked to indicate the ZIP code from which they were coming from on this trip. In total, 542 responded; 64 originated in the 34112 area (18 specifically from the Government Center), and 56 came from the 34142 area (26 specifically from the Health Department in Immokalee); 65 passengers started their trip in the 34116 area. These areas represented 42.25% of all starting locations. Many of the remaining trip starting points were from areas surrounding Naples or were listed as various retail locations such as Walmart, Seminole Casino, airport, and surrounding malls.

Passengers also were asked to indicate the ZIP code to which they were going. In total, 526 responses were provided for trip destinations. Ending points were more dispersed than starting points, but concentrations were in Naples (58 trips), the 34112 area (47) and Government Center (24), the 34142 area (33) and the Health Department (30), and various retail locations, including 22 at a Walmart and 20 at surrounding malls.

4.1.6 Fare Information

Passenger were asked to indicate what fare they used to board the bus. Of 1,021 passenger responses (Figure 4-5), 289 (28.31%) paid a one-way fare, 286 (28.01%) used a day pass, and 212 (20.76%) used a 30-day pass.

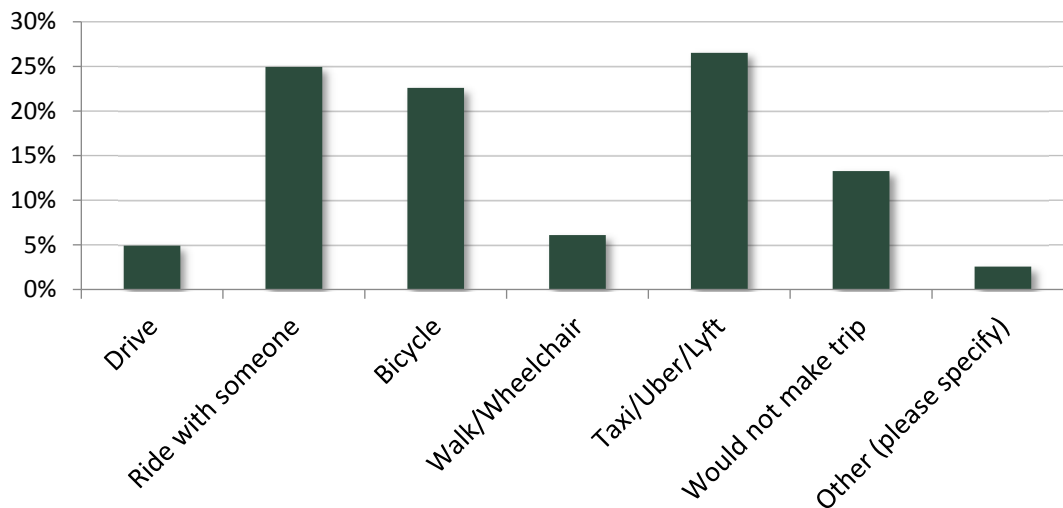
Figure 4-5: How did you pay for your fare on this bus?



4.1.7 Transit Dependency

Passengers were asked how they would make their trip if the bus was not available (see Figure 4-6). Across service types, most indicated they would use rideshare (26.52%), catch a ride with someone (24.95%), or ride a bike (22.59%); 13% said they would not make the trip if their bus was not available.

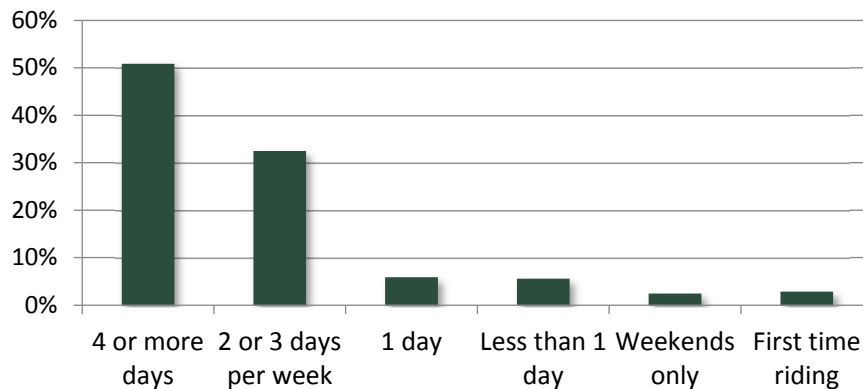
Figure 4-6: How would you make this trip if the bus were not available?



4.1.8 Ridership Frequency

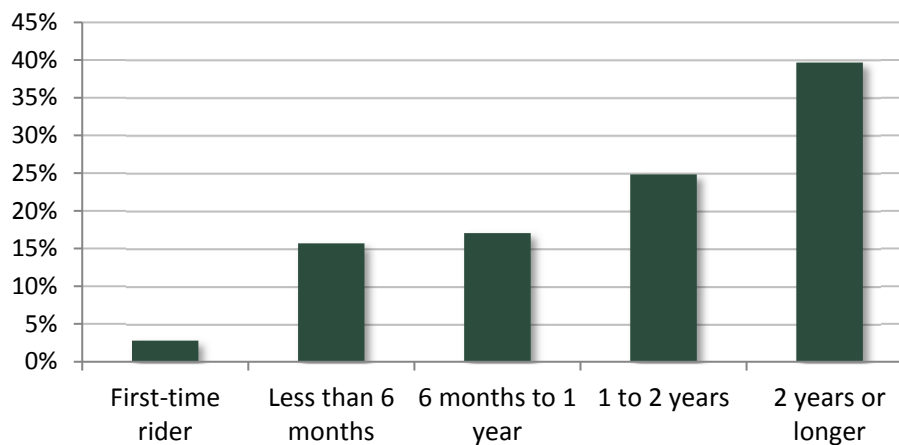
When asked about the frequency with which they use CAT services, approximately 51% said they used CAT four or more days per week across all service types, as shown in Figure 4-7. Another 332 (32.45%) said they rode the bus two or three days of the week, and approximately 3% said this was their first-time riding CAT services; only 2% said they used CAT only on weekends.

Figure 4-7: How many days per week do you ride CAT?



Passengers were also asked how long they have been using CAT services. Of the 1,039 responses, the majority indicated using CAT for more than two years (Figure 4-8).

Figure 4-8: How long have you been riding CAT?



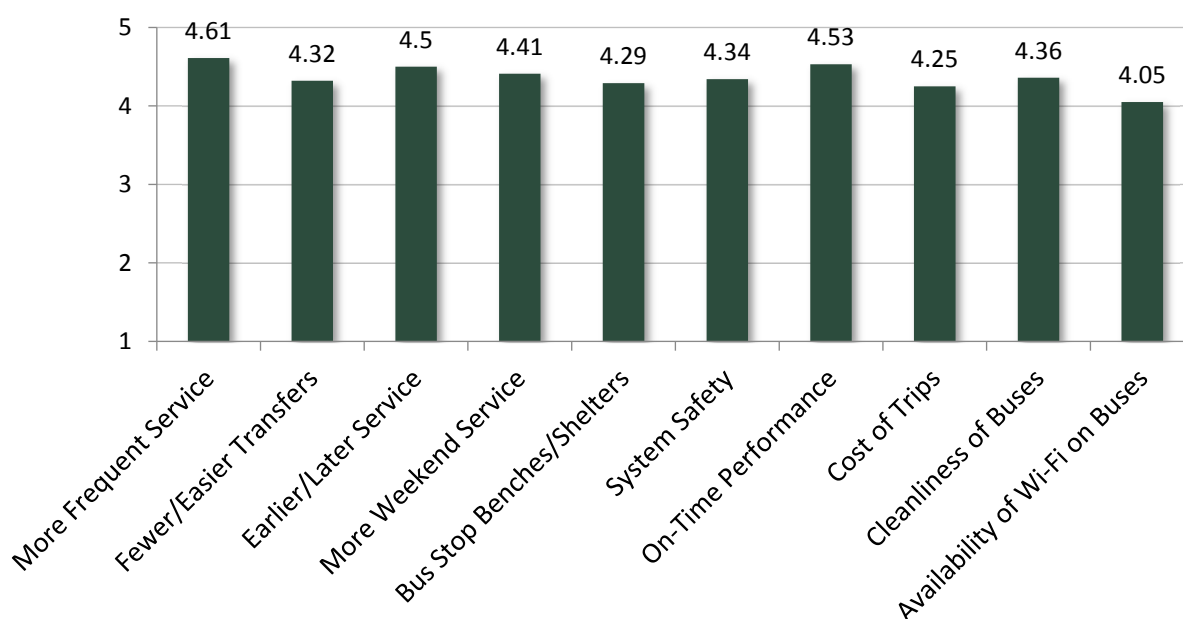
4.1.9 System Improvements

Passengers were given the opportunity to rank various system improvements and amenities according to the perceived importance of a particular feature (Figure 4-9). Using a scale from 1 to 5, with 5 being the most important, respondents rated 10 transit services and amenities. A desire for more frequent service had the highest weighted score, at 4.61 out of 5, followed closely by on-time performance (4.53)

and earlier/later service (4.5). Availability of Wi-Fi on board buses was ranked lowest by a relatively significant margin, at 4.05.

In total, 411 respondents wanted to see more express buses, with some more common route suggestions from Naples to Miami and from Immokalee to Naples. Approximately 354 passengers expressed a desire for additional bus routes that included a Naples to Miami route and routes to surrounding counties, area beaches, and Marco Island. A total of 322 passengers called for new on-demand service; the most common areas were in downtown Naples and Immokalee. Of the passengers who expressed the need for more service frequency, the most cited transit routes in CAT service were Route 11 (33), Route 24, (19), and Route 19 (16). Passengers who expressed a need for later service (588 respondents) identified these routes most frequently for later service: Route 11 (31 responses), Route 19 (24 responses), Route 24 (23 responses), and Route 17 (22 responses) for later service.

Figure 4-9: Rate important of CAT services.



4.1.10 Passenger Demographic Information

As a part of the on-board survey, passengers were asked to provide information about the following categories to help understand the demographic profile of an average CAT rider:

- Age
- Gender
- Ethnicity
- Number of automobiles available in their household
- Household Income

- Language

As indicated in Figure 4-10, most CAT passengers were between ages 35–44 (23.59%), followed by 25–34 (21.89%), and 45–54 (15.83%). Approximately 3% were under age 18, and nearly 5% were age 65+.

Figure 4-10: Age of Transit Passenger

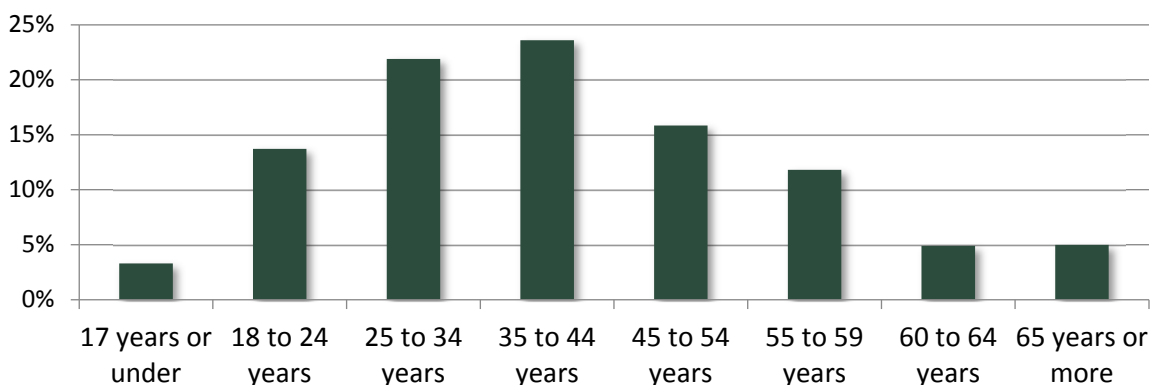
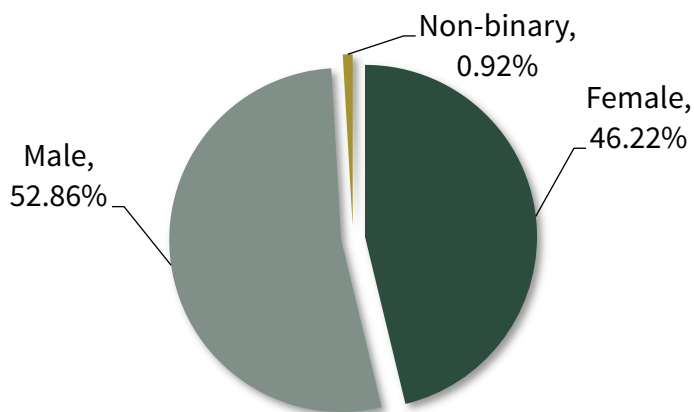


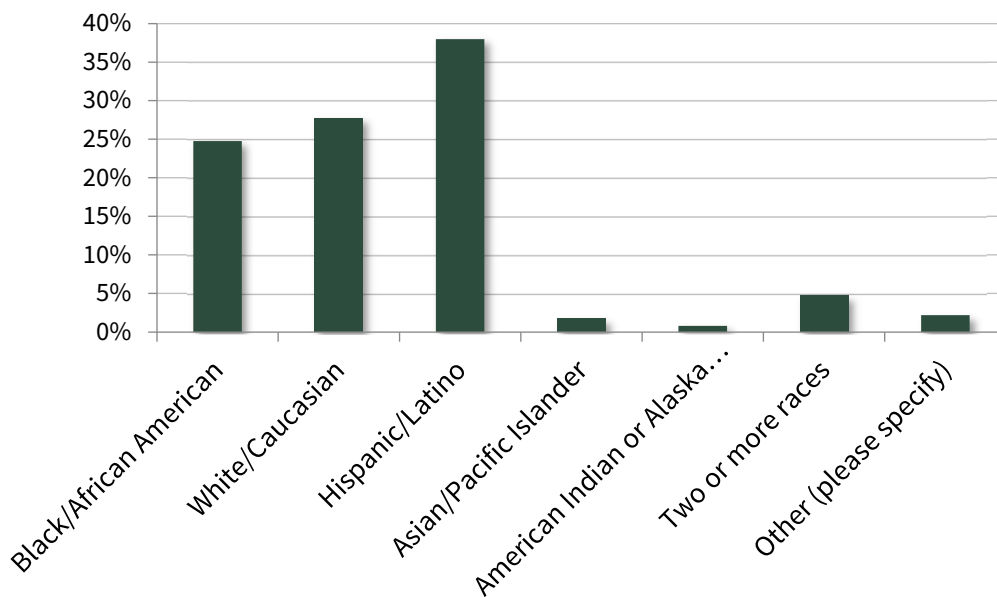
Figure 4-11 shows the gender of passengers who took the survey. Of the 517 who responded to the survey, nearly 53% indicated male, 46% indicated female, and nearly 1% indicated non-binary.

Figure 4-11: Gender of Transit Passenger



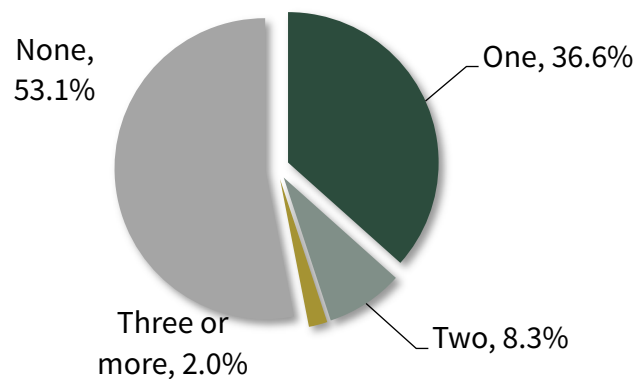
As shown in Figure 4-12, riders were asked about their ethnic origin. A total of 382 (37.97%) were Hispanic/Latino, 279 (27.73%) were White/Caucasian, and 249 (24.75%) were Black/African American. Of the 22 who selected “Other,” most provided a response written in Haitian Creole.

Figure 4-12: Ethnic Origin of Transit Passenger



Transit passengers were asked how many working motor vehicles were available in their household (Figure 4-13). Most responses, 503 (53.06%), answered that they had no vehicles in the household. Another 347 (36.60%) had one vehicle, 79 (8.33%) had two vehicles, and 19 (2.00%) had three or more vehicles available.

Figure 4-13: Motor Vehicles Available to Transit Passenger



Passengers were asked to provide their annual household income. As shown in Figure 4-14, approximately, 131 riders (19.38%) had an annual household income of \$15,000–\$19,999, 116 (17.16%) said \$20,000–\$24,999, and 101 (14.94%) said less than \$10,000 per year; 64 passengers (9.47%) said they had an annual household income of \$40,000 or more.

Figure 4-14: Annual Income by Household of Transit Passenger

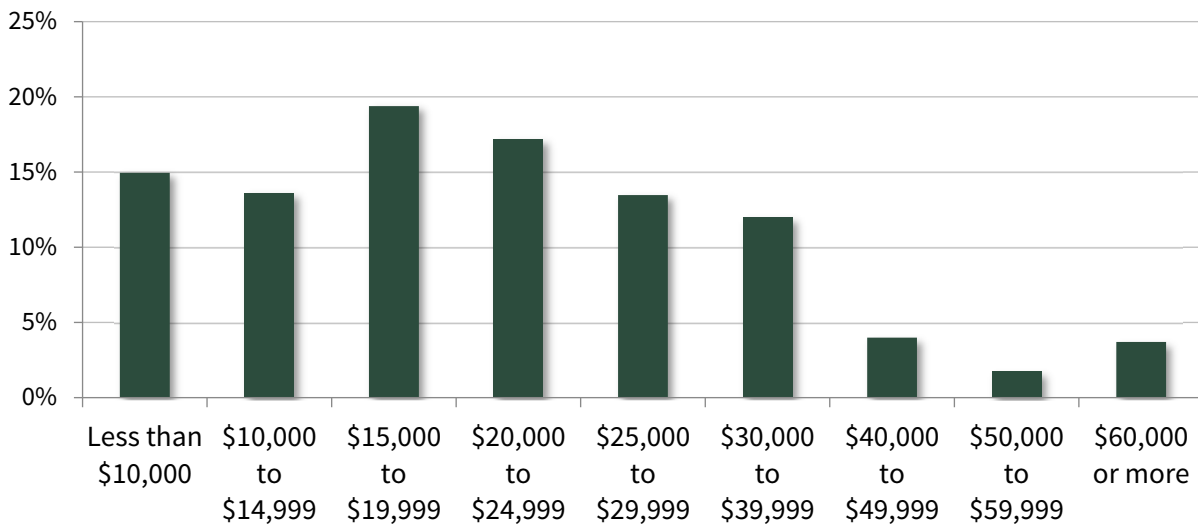
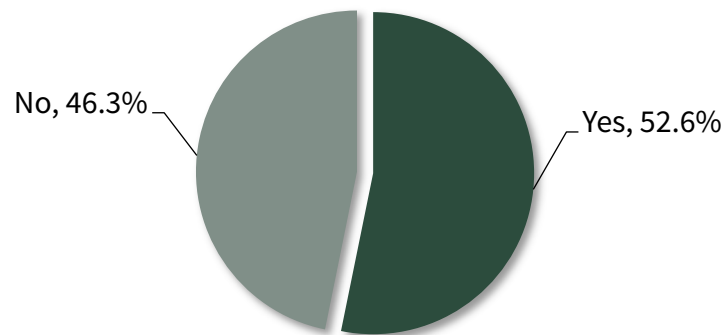


Figure 4-15 shows the number of people who spoke another language at home other than English. The survey was translated in Spanish and Creole for non-English speaking passengers. In total, 454 (46.28%) said they did not speak a different language at home, and 516 (52.60%) said they did. Of these 516, 282 said they spoke Spanish, 93 said Haitian Creole, 10 said French, and 5 said German.

Figure 4-15: Language Used at Home by Transit Customer



4.1.11 On-board Survey Findings Summary

Findings of the survey were used to better understand the needs, transit service gaps, experiences, and priorities of existing CAT riders. This information will be useful in targeting riders in the future as CAT makes service improvements and can be used to program and prioritize mobility improvements. A copy of the on-board survey can be found in **Appendix C**.

4.2 Online Surveys

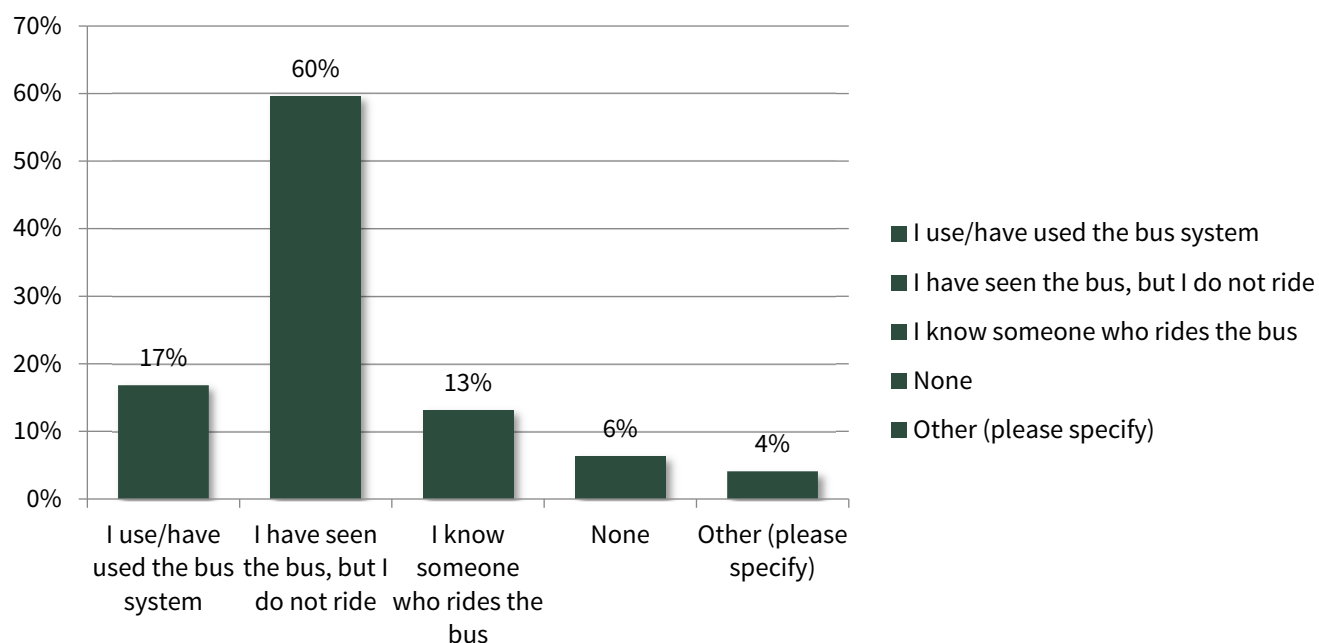
To better understand the needs and concerns of persons who use and do not currently use the CAT services, CAT and MPO staff and the consulting team developed two online surveys to elicit responses useful to CAT/MPO staff to better understand how services are perceived and what mobility services are in demand. The surveys were posted on the Collier County, CAT, and Collier MPO websites and were distributed via a set of email lists (940 contacts) and social media outlets in two phases during the TDP. The first survey focused on the perception of existing transit services and mobility needs in Collier County and was live from mid-February to March 15, 2020.

4.2.1 Phase I Public Input Survey

In total, 17 questions were asked to gather opinions about mobility needs, current services, and willingness to use public transit and to gauge public awareness on transit and gather sociodemographic information about survey respondents. The first online survey had a total of 220 responses and are summarized below.

Respondents were asked about their experience with Collier County's public transportation and related mobility services. The majority (60%) responded that they had seen the bus but did not ride it.

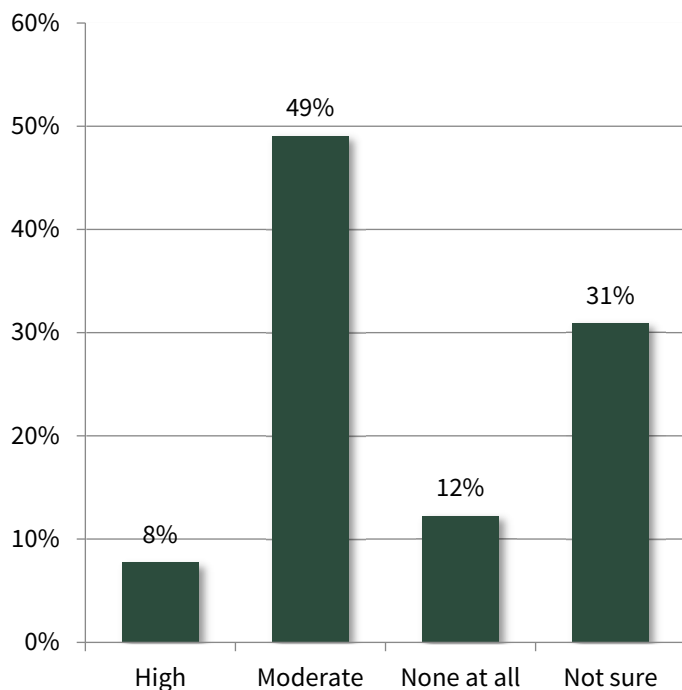
Figure 4-16: Understanding/experience with CAT



Although 49% of respondents indicated they were only moderately aware of public transit services (Figure 4-17), 71% said that it must be provided, as illustrated in Figure 4-18. Respondents were asked about their perception of transit's role in Collier County. Figure 4-19 shows that most agreed that transit serves persons who do not have access to a vehicle (95%) and that transit provides service to workers

and commuters (84%). About half agreed that transit serves tourists/visitors (52%) and helps to relieve parking and congestion (55%).

Figure 4-17: Awareness of transit/public transportation



“I have employees that don't have cars and getting to work is a big issue with no reliable public transportation”

“My business depends on it.”

“I was considering buying the monthly pass; however, I sometimes start work at 6 am, and sometimes leave work at 7:30 pm. The bus system does not work for my work schedule....”

Figure 4-18: Opinion of transit services in Collier County

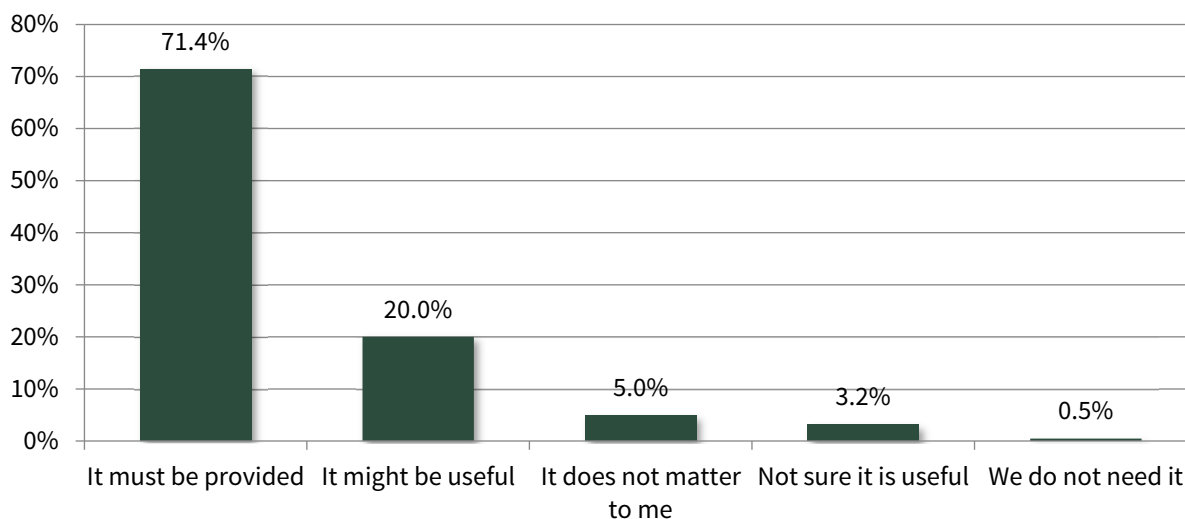
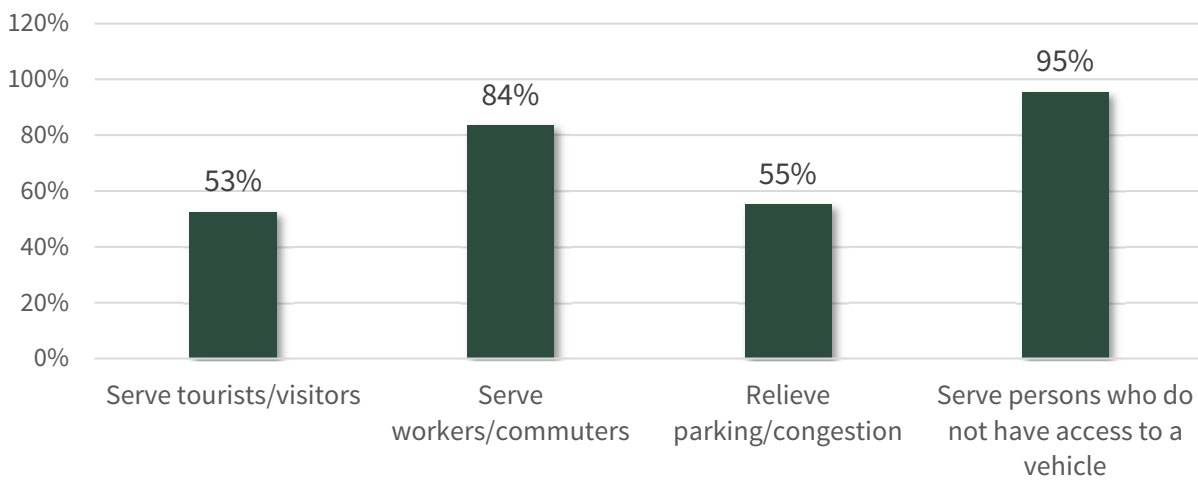
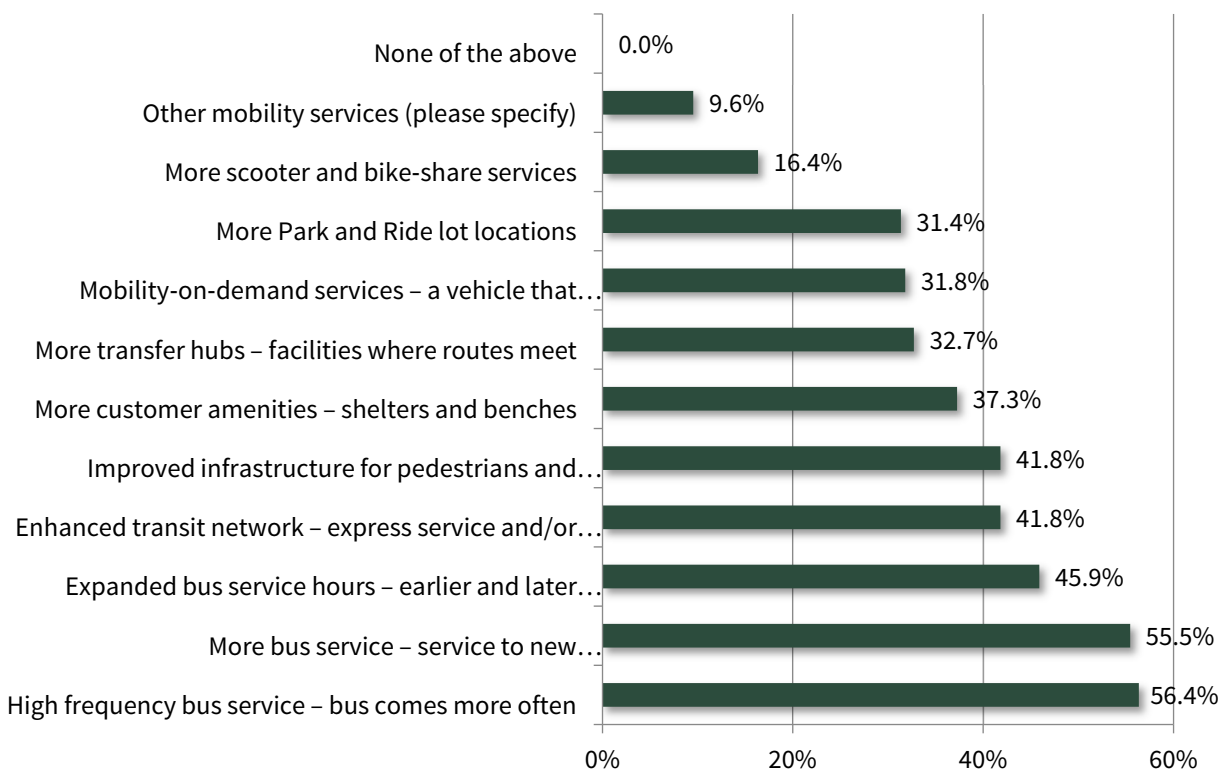


Figure 4-19: Perception of transit's role in Collier County



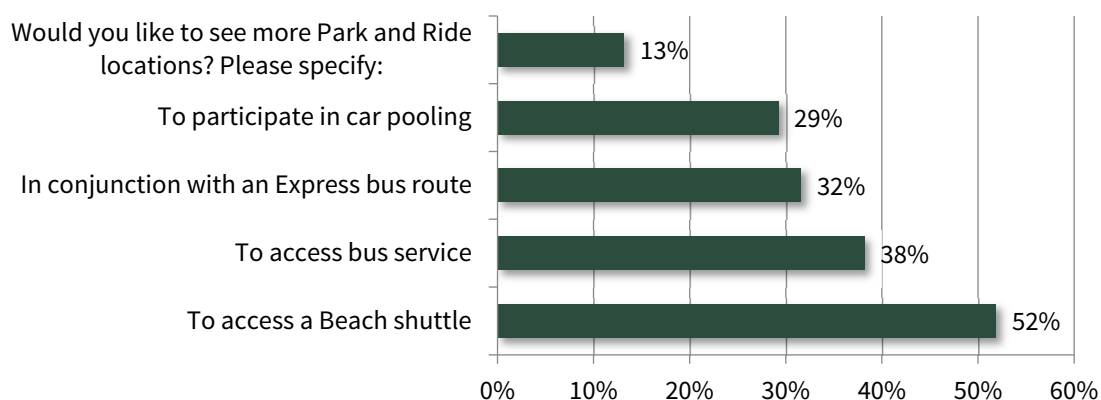
Respondents were asked to indicate what transit improvements they would like to see in Collier County (Figure 4-20). The top three responses were higher-frequency bus service, more bus service to new areas, and expanded bus service hours. Comments included the need for bus pullouts, more services for older adults, increased maintenance of stops, light rail on major arterials, service outside the community for festivals, and community shuttle services.

Figure 4-20: Mobility improvements



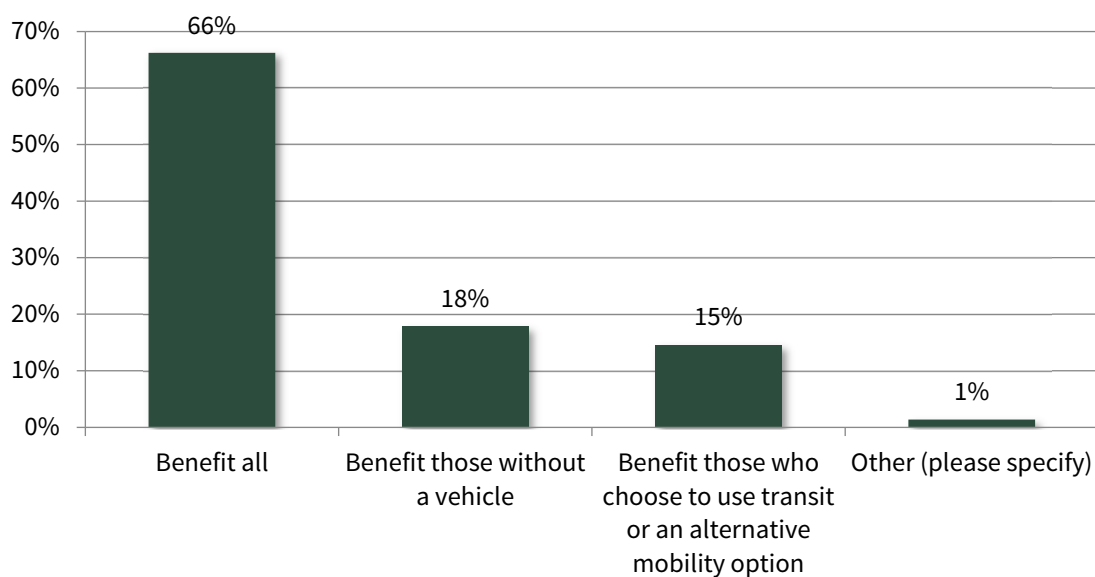
Respondents were asked for which of the following they would use a park-and-ride lot. Figure 4-21 shows that almost half of the respondents said they would use it to access a beach shuttle, and 38% said they would use it to access bus service. Suggested locations for park-and-ride lots included the Golden Gate area, East Naples for use with Marco Island Express service, the Estates, Publix on Pine Ridge Road/Collier Boulevard, the Orange Tree area, Eagle Lakes, apartment buildings in South Collier County, and at I-75 access points.

Figure 4-21: Park-and-ride usage



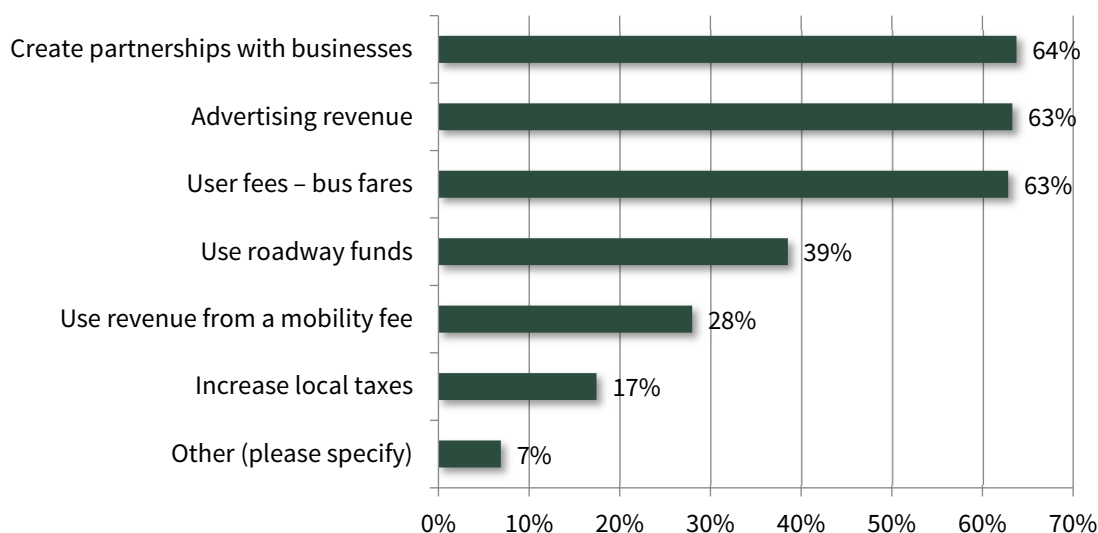
Respondents were asked who should benefit from mobility improvements. Figure 4-22 shows that 66% of respondents believe that all should benefit, 18% said that it should benefit those without a vehicle, and 15% said those who choose to use transit or an alternate mobility.

Figure 4-22: Who should benefit from mobility improvements



To understand the public’s perception of how transit should be funded, respondents were asked how expanded mobility service should be paid for and could select all that apply. The top three responses, tied at 63%, were creation of partnerships with businesses, advertising revenue, and user fees, followed by roadway funds (38%) and revenue from a mobility fee (27%). One respondent commented that a sales tax, similar to HART’s in Tampa, should be used, another suggested developer funding via impact fees, and a third suggested a tourism tax. One respondent suggested that special event sponsors should be assessed a fee and required to provide services; three respondents suggested grants.

Figure 4-23: How should we pay for expanded mobility service



To gauge additional insight on the public’s perception of CAT services, respondents were how much they agree or disagree with six statements regarding CAT services. The statements with the highest percent of disagreement were:

- “Existing CAT service covers the areas I need to travel to regularly” (18%).
- “CAT services are effective, convenient and easy to use” (9%).
- “CAT is effective at making the public aware of existing transit and mobility service” (6%).

The statements with the highest percent of agreement were:

- “Collier County needs more service and/or more service options” (59%).
- “Additional public transit service will improve economic opportunities in Collier County” (54%).
- “Collier County should invest more into expanding mobility services and options” (48%).

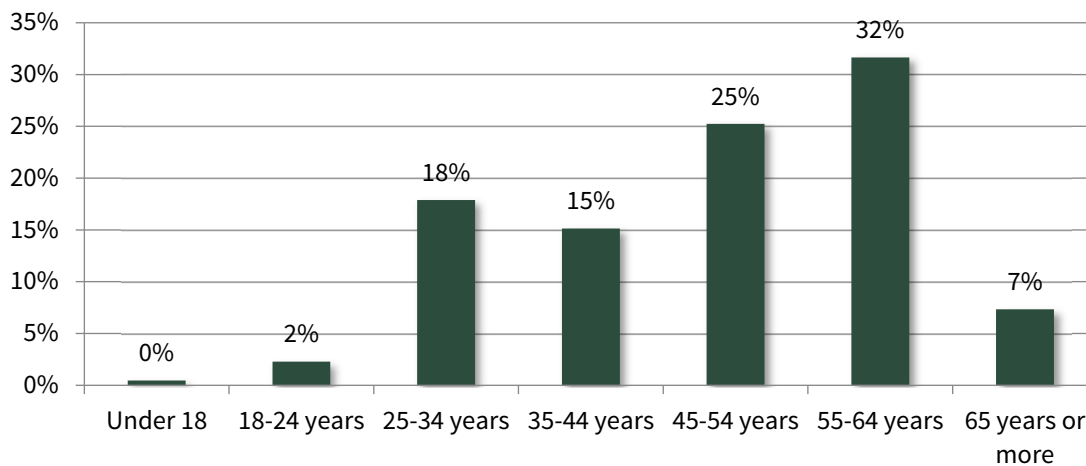
Table 4-1 shows the responses to each statement by their level of agreement.

Table 4-1: Do you agree or disagree

	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree
CAT services are effective, convenient, and easy to use.	17.51%	19.82%	42.40%	11.52%	8.76%
Collier County needs more service and/or more service options.	59.63%	23.85%	12.84%	1.38%	2.29%
Existing CAT service covers the areas I need to travel to regularly.	8.80%	13.89%	43.06%	16.20%	18.06%
Collier County should invest more into expanding mobility services and options.	48.62%	27.52%	19.72%	1.83%	2.29%
Additional public transit service will improve economic opportunities in Collier County.	53.67%	25.69%	15.14%	3.21%	2.29%
CAT is effective at making the public aware of existing transit and mobility services.	11.57%	23.61%	36.11%	22.69%	6.02%

The remaining questions collected socio-demographic information on the respondents. When asked about their age, more than half indicated they were ages 45–64, approximately 18% said they were 25–34, and 15% said 35–44. One respondent indicated being under age 18, and five indicated they were age 18–24.

Figure 4-24: Your age is ...



As shown in Figure 4-25, 64% of respondents identified themselves as female and 36% were male. None of the respondents identified as nonbinary.

Figure 4-25: You are ...

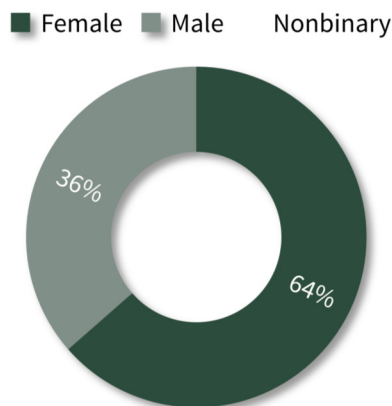
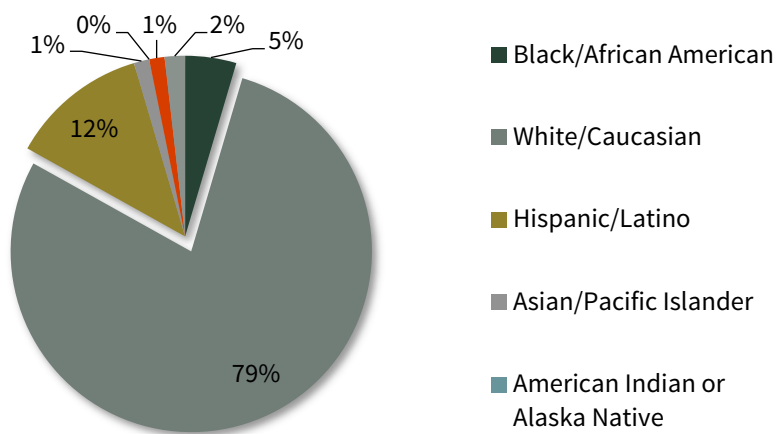


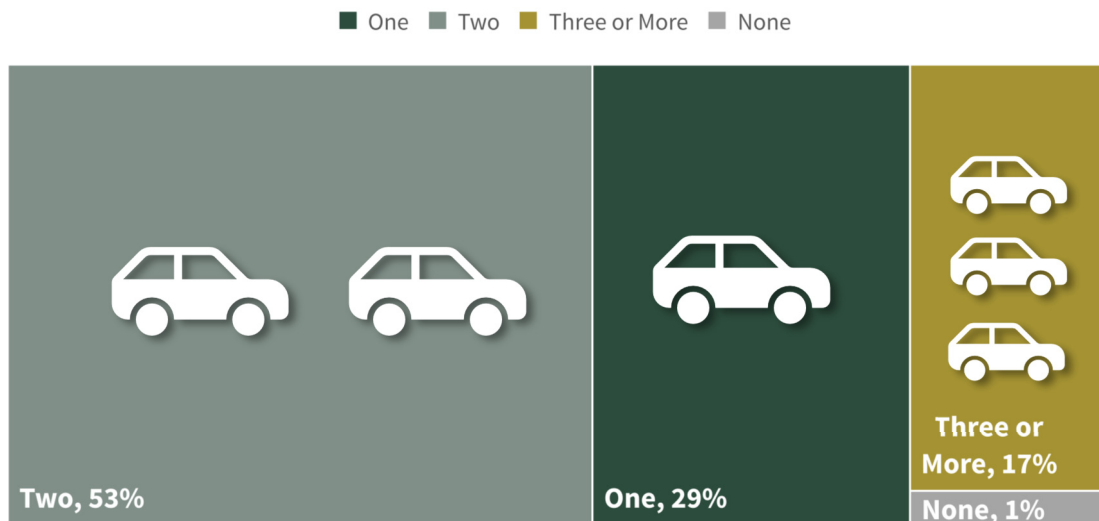
Figure 4-26 shows the ethnic origins the respondents reported. The majority indicated they were White/Caucasian (79%), followed by Hispanic/Latino (12%) and Black/African American (5%). This contrasts with the responses of the on-board passenger survey, where just over a quarter of respondents indicated they were white.

Figure 4-26: Your ethnic origin is ...



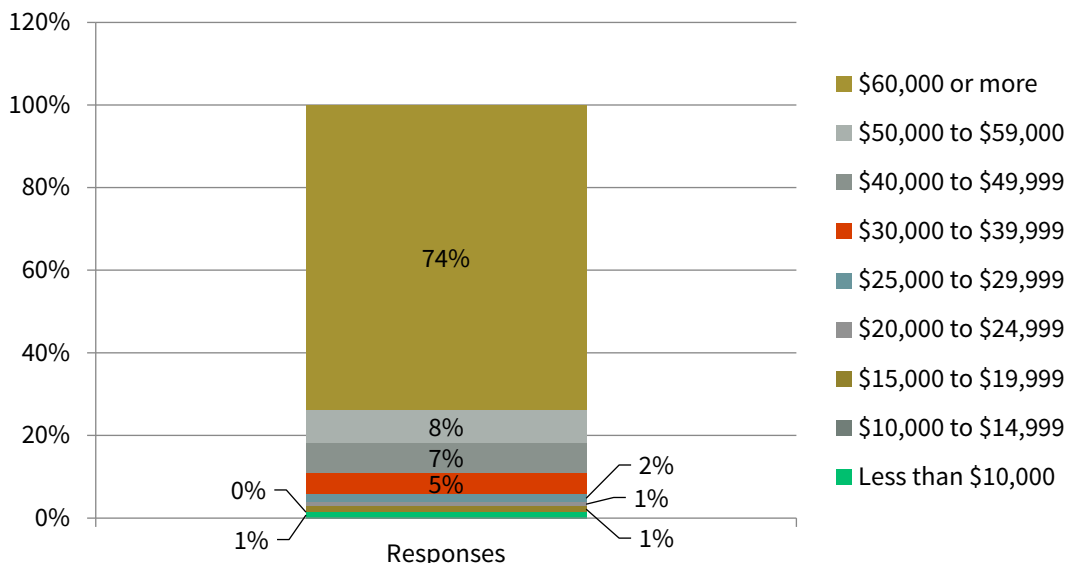
Additionally, respondents were asked about access to a vehicle in their household. Most respondents (53%) reported having two vehicles, followed by one vehicle (29%) and three or more (17%). One percent of respondents (3 total) reported having none, as shown in Figure 4-27. This is a stark contrast to the results of the on-board passenger survey, where over half of the respondents (53%) indicated they did not have a vehicle available.

Figure 4-27: How many motor vehicles in your household are available for your use?



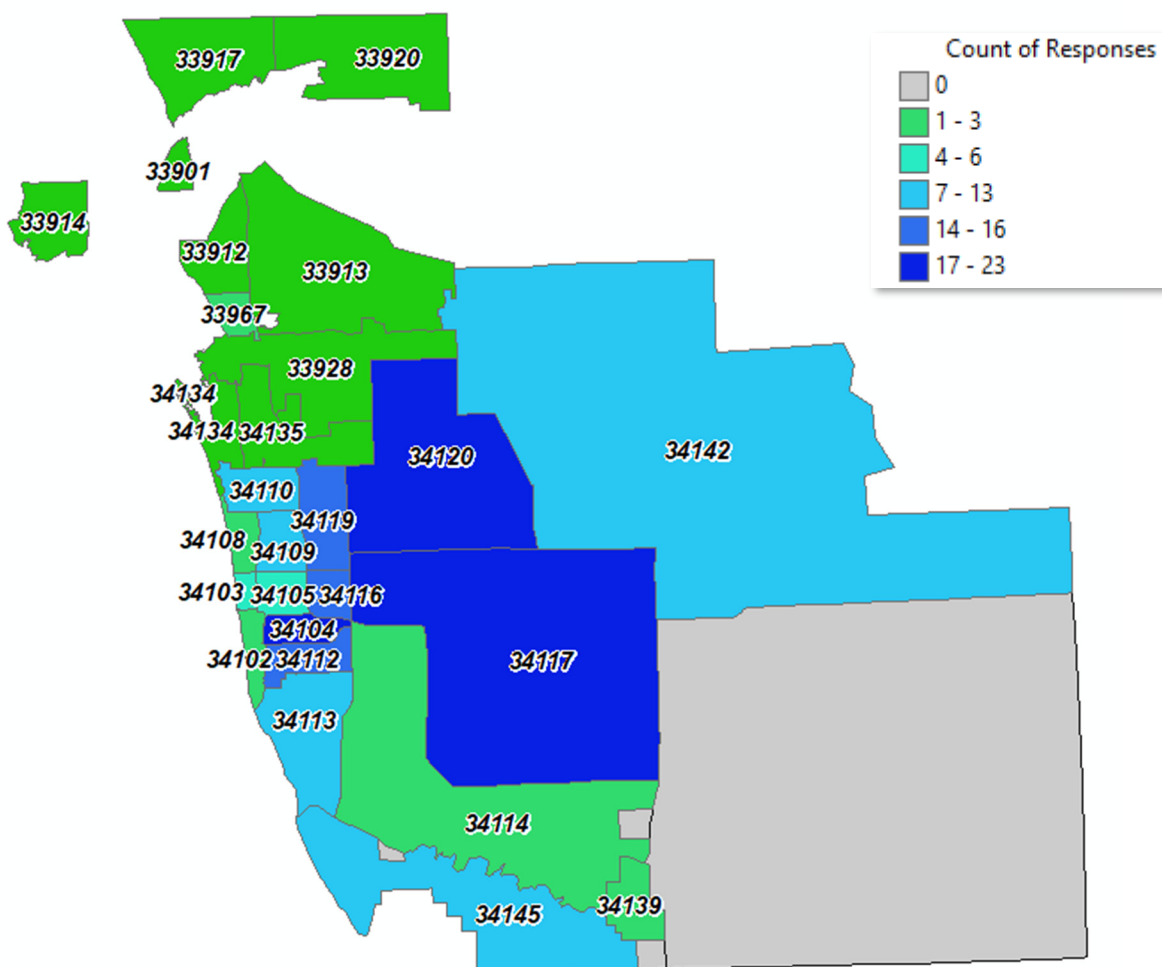
As shown in Figure 4-28, approximately 74% of respondents indicated their household income was \$60,000 or more, followed by \$50,000–\$59,000 (8%), \$40,000–\$49,000 (7%), and \$30,000–\$39,000 (5%). A total of 6% indicated their household income was less than \$29,000.

Figure 4-28: What was the range of your total household income for 2019?



Respondents were asked if they speak a language other than English at home; 23% indicated that they did and 77% did not. As shown in Figure 4-29, respondents selected the ZIP code of their residence. Most respondents indicated that they lived in ZIP codes 34104 (east of Naples), 34120 (Orangetree), 34117 (east of Golden Gate area). Some respondents lived in Lee and Hendry counties.


Figure 4-29: Home ZIP Code Responses



The final question asked respondents if they had any other comments or suggestions that would help CAT improve mobility services. Several respondents made suggestions about the need for more stops and bus shelters, including a park-and-ride for the Estates along the SR-951 corridor to connect riders to hubs such as the Government Center and Horseshoe. Other themes were the need for service through downtown, earlier and later service, increasing service in Immokalee, more bicycle and pedestrian infrastructure, and more service to Everglades City.

This is for my disabled son. The bus system does not go to places he needs service at the times he needs service. The routes are hard to understand.

Consider smaller electric vehicles like the paratransit vans and run service more frequently on some routes.



I encourage more coverage and more frequent routes. As a restaurant manager, many of my staff rely on CAT service and it takes them hours to get to and from work.

Cut the ride time in half. The 12 and 11 routes should come every 45 mins instead of one hour and a half. More buses route to Walmart on 951. More time bus until 8 p.m. I'm forgetting what's night life is like at Naples because the last bus is at 6:30. Each business should advertise bus route schedule booklet. Or advertise a bus stop on the map with a business name. Or make bus schedule booklet a collector item for tourists.

I see people waiting for the bus on Rattlesnake and while here and there, there is a bench, there is no cover from inclement weather. Many people waiting have small children with them or are VERY pregnant. A simple issue, but I believe a very important one.

4.2.2 Phase II Public Input Survey

The second online survey was available from July 15 to August 15, 2020 and focused on educating the public on the proposed transit improvements and receiving their input on how to prioritize the improvements. A copy of the online surveys can be found in **Appendix C**. The second online survey had a total of 48 responses, which are summarized below.

Respondents were asked for their home zip code. Most of the responses reported their home zip code was 34112, and 34142, and 34116. The most responses for work or school zip code was 34142 and 34104. Table 4-2 summarizes the responses.

Table 4-2: Home and Work/School Zip Code Responses

Zip Code	Home Responses	Work/School Responses
34112	23%	8%
34142	20%	27%
34116	10%	0%
34110	8%	4%
34119	8%	0%
34109	5%	8%
34113	5%	8%
34105	5%	0%
34108	5%	0%
34103	3%	8%
33967	3%	0%
33993	3%	0%
34117	3%	0%
34120	3%	0%
34104	0%	27%
33901	0%	4%
34143 and 34102	0%	4%
34145	0%	4%
Total Responses	40	26

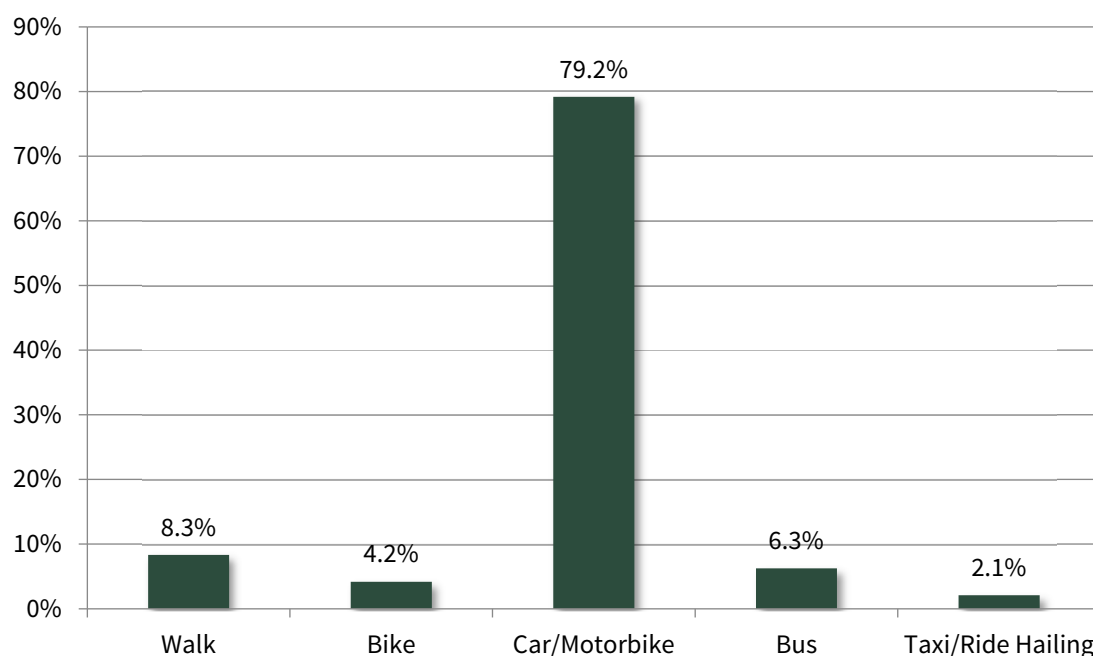
Respondents were asked about their typical travel needs within Collier County. Respondents were asked to select the best option when they travel for work/school, shopping, medical services, and other reasons: 1-3 days/weeks, 4+ days/week, or not applicable. Over half of respondents travel 4+ day per week for work (58%), and most travel for other reasons 1-3 days per week. (55%). Most of respondents travel for shopping 1-3 days/week and 41% of travel for medical services 1-3 days per week. Table 4-3 lists the responses by trip purpose.

Table 4-3: Typical travel needs within Collier County.

	N/A		1-3 days/week		4+ days/week		Total
I travel for work or school:	29.0%	11	13.2%	5	57.9%	22	38
I travel for other reasons:	15.8%	6	55.3%	21	29.0%	11	38
I travel for shopping:	7.7%	3	82.1%	32	10.3%	4	39
I travel for medical services:	53.9%	21	41.0%	16	5.1%	2	39

Respondents were asked about their usual mode of transportation. Most respondents (79%) reported that they usually travel by car/motorbike, followed by walking (8.3%), bus (6.3%) and bike (4.2%), as shown in Figure 4-30.

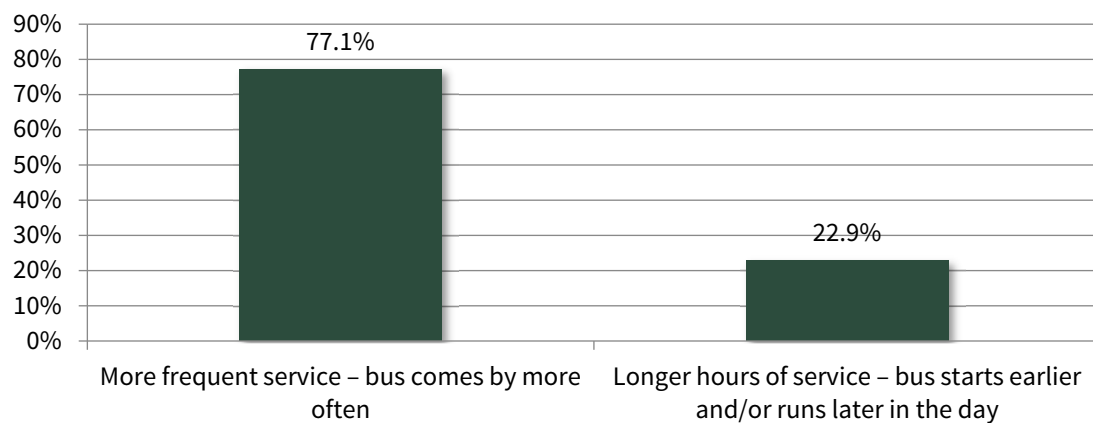
Figure 4-30: I usually travel by...



Of the respondents who usually travel by bus, the most frequent routes they reported riding were routes 15 (2 responses), 16 (2 responses), followed by routes 12, 17, 18, 24 with one response each, as shown in Figure 4-30.

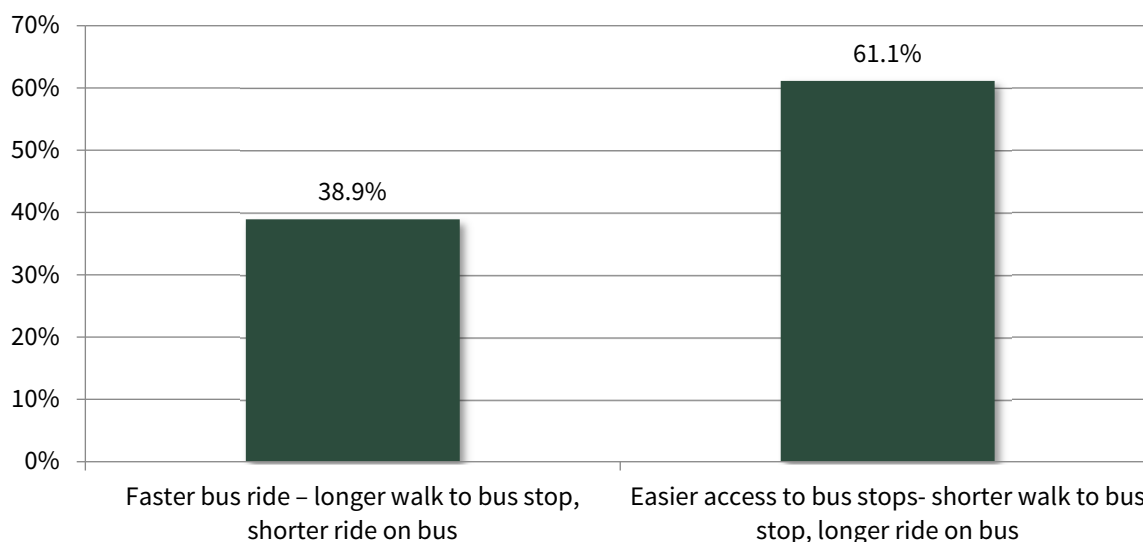
In order to understand what type of service improvements the community would prefer; respondents were asked to choose between more frequent service and longer hours of service. The majority (77%) selected more frequent service, as shown in Figure 4-31.

Figure 4-31: Frequency vs. Service Span Preference



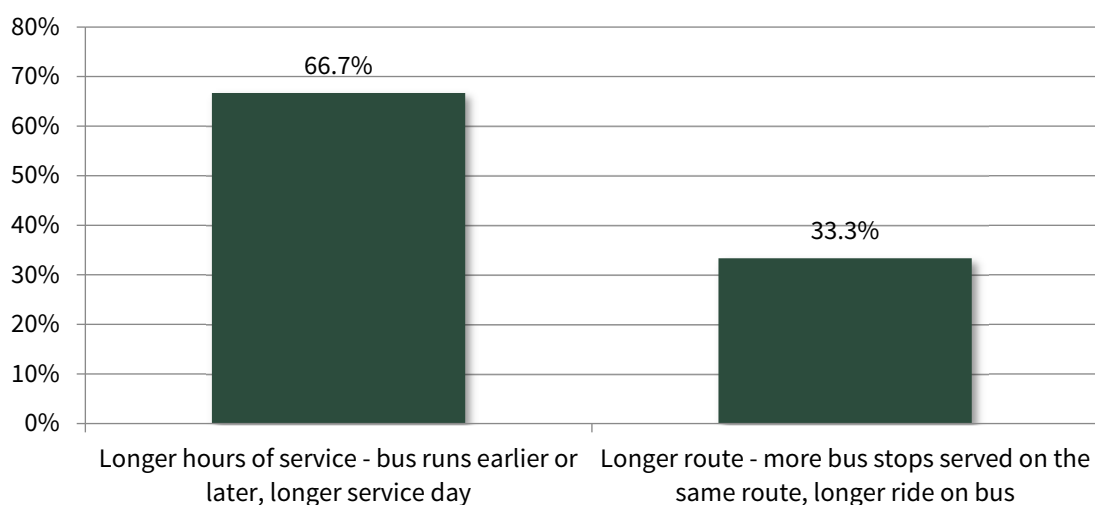
Respondents were asked to choose between a faster bus ride (fewer bus stops on the street) or easier access to bus stops (more bus stops and buses turning into shopping centers and apartment complexes to stop). Most respondents (61%) chose easier access to bus stops, as shown in Figure 4-32.

Figure 4-32: More Direct Ride vs. Shorter Walk Preference



Respondents were asked to choose between longer hours of service and a longer route serving more destinations. Most respondents (67%) selected longer hours of service, as shown in Figure 4-33.

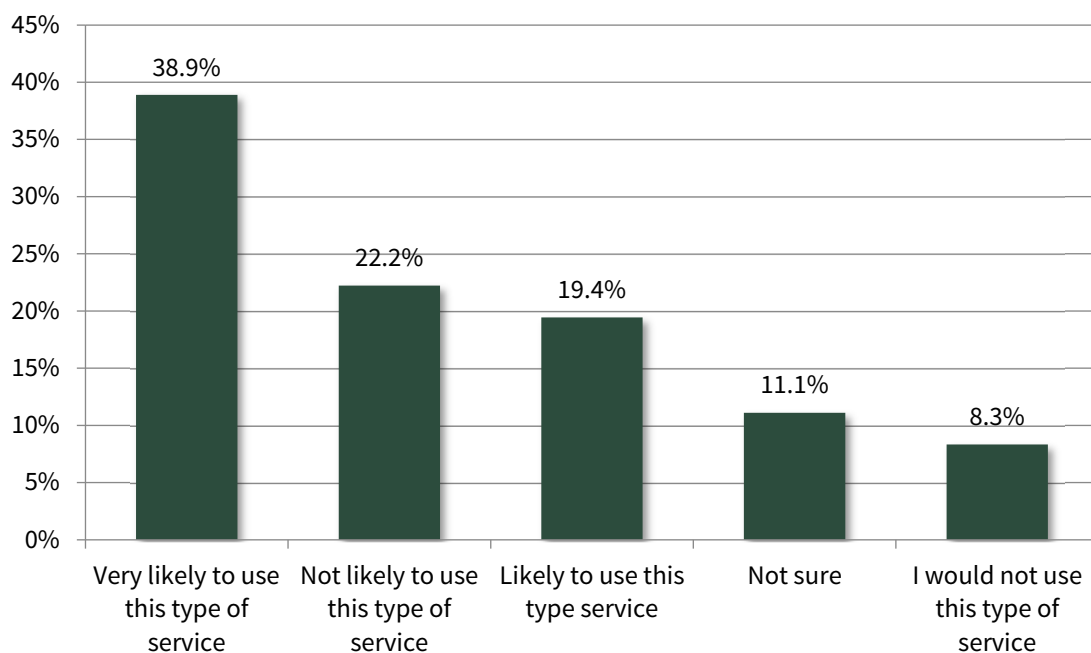
Figure 4-33: Service Span vs. Longer Bus Ride Preference



A description of mobility on demand services was provided in the survey before asking respondents how likely they would use this type of service. Over one-third of respondents selected very likely to use this type of service, while 22% selected not likely, as shown in Figure 4-34. Respondents were permitted to leave comments about MOD service. Many were in favor of this type of mobility because it is flexible. Some noted there is a need for this service along Livingston Road, Vanderbilt Road, and in Ave Maria and Immokalee.

<i>Sounds like a great idea!</i>	<i>I think this service is essential for the community of Immokalee. Especially for those needing to go to Ave Maria and Naples for medical treatments.</i>
<i>I believe folks without a vehicle would use it.</i>	

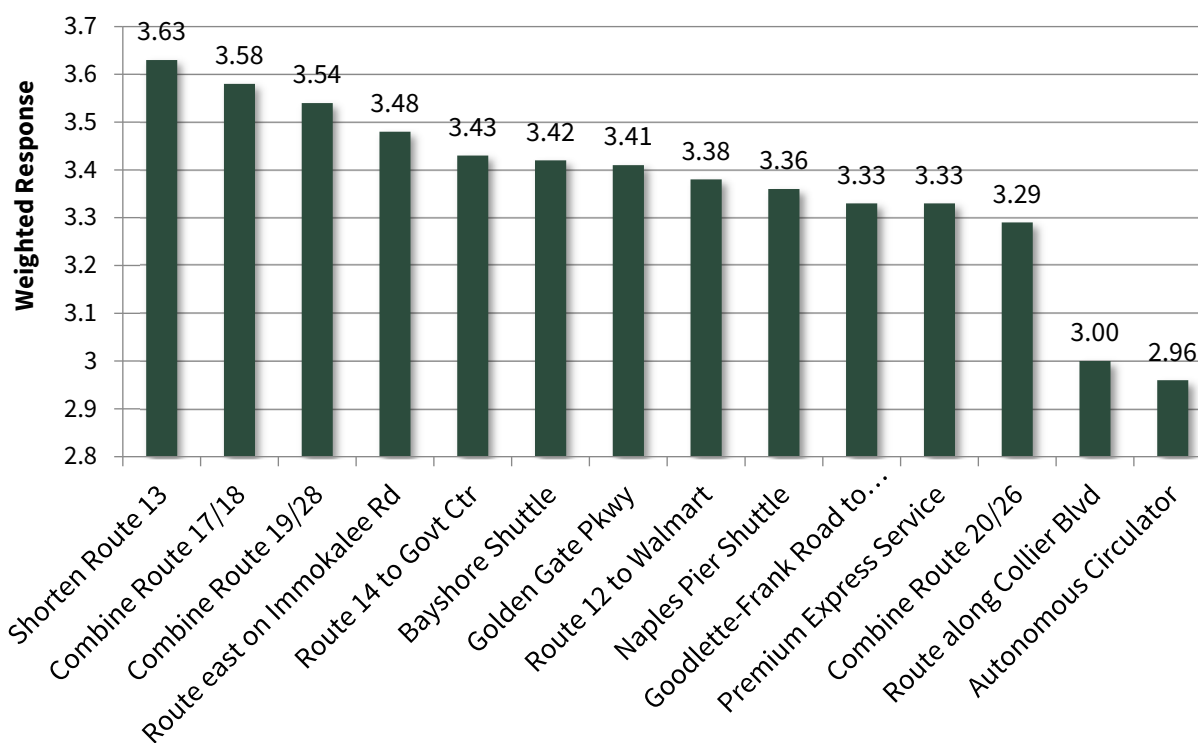
Figure 4-34: Preference for mobility on demand services



Respondents were asked to rate the importance of providing MOD service in North Naples, Naples, and Golden Gate Estates. Naples received the most responses for having a higher priority, followed by North Naples and Golden Gate Estates. Respondents could provide comments on the proposed MOD zones. Some respondents indicated that the zones would not service their area and one respondent emphasized the need for this service in Immokalee.

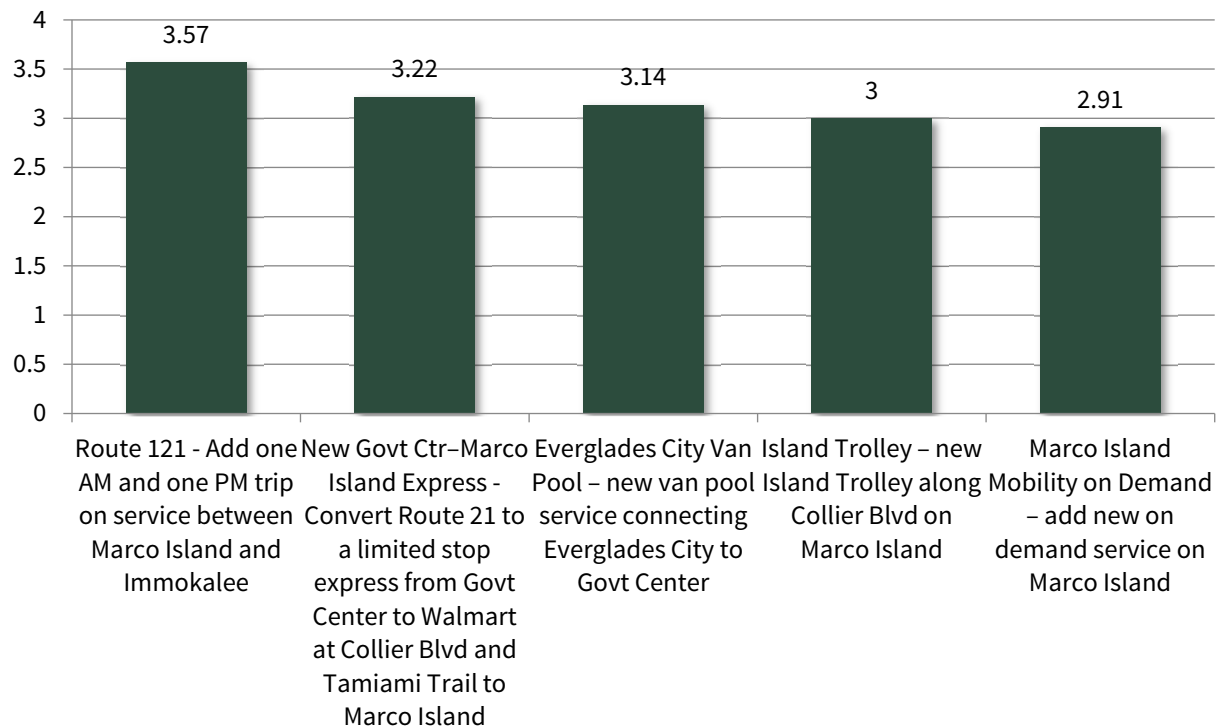
The survey provided a map with service improvements including route realignments and new service in the Naples area. Respondents were asked how important each improvement was. The responses ranged from Higher Priority to Not a Priority and were weighed. Higher Priority responses received a weight of “5” and Not a Priority received a weight of “0”. The proposed realignments to routes 13, 17/18 and 19/28 ranked highest in weighted response. Proposed improvements receiving the least priority include Route 12 extension, Naples Pier Electric Shuttle, Goodlette-Frank Road, Premium Express, combining Route 20/26, Collier Boulevard, and the autonomous circulator. The remaining responses and their weighted response rate are illustrated in Figure 4-35.

Figure 4-35: Preference for Proposed Service Improvements



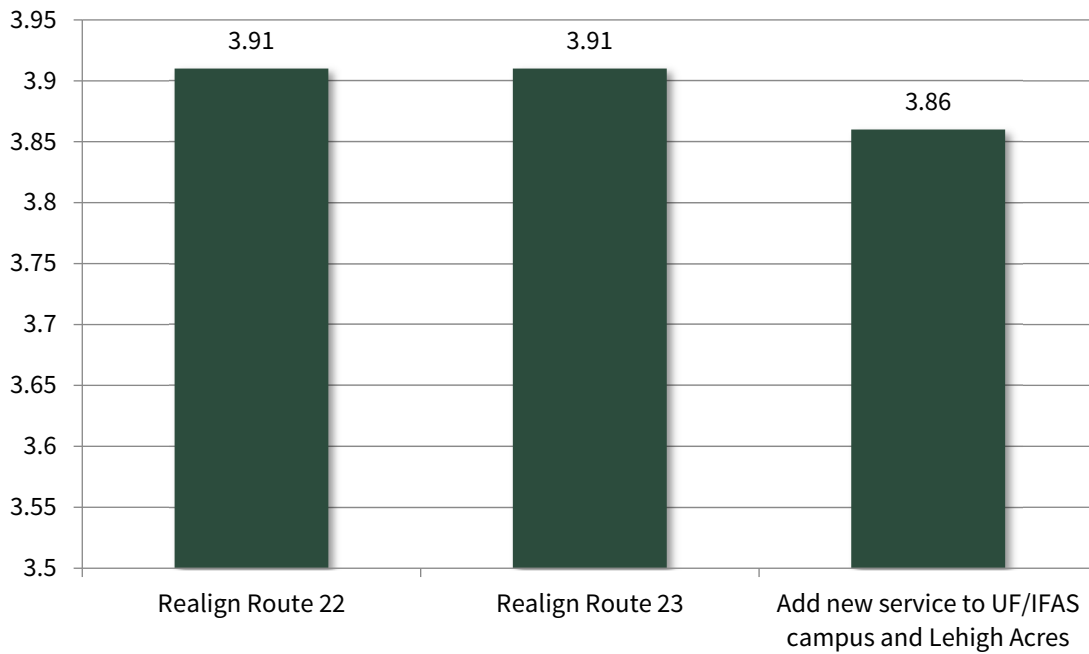
The survey provided a map featuring service improvements in Marco Island and were asked to rate the importance of each service improvement. Adding trips to Route 121 received the highest priority, followed by the New Government Center-Marco Island Express, and Everglades City Van Pool. The Island Trolley and the Marco Island MOD service received the highest number of “Not a Priority” responses. Respondents could provide comments on the Marco Island area improvements. One respondent indicated that more trips for Route 121 are needed and another indicated that many residents in Immokalee travel to Marco Island for work. Another respondent indicated that all the improvements are very important while two indicated they get around by private automobile. The weighted average responses are illustrated in Figure 4-36.

Figure 4-36: Marco Island Area Improvements



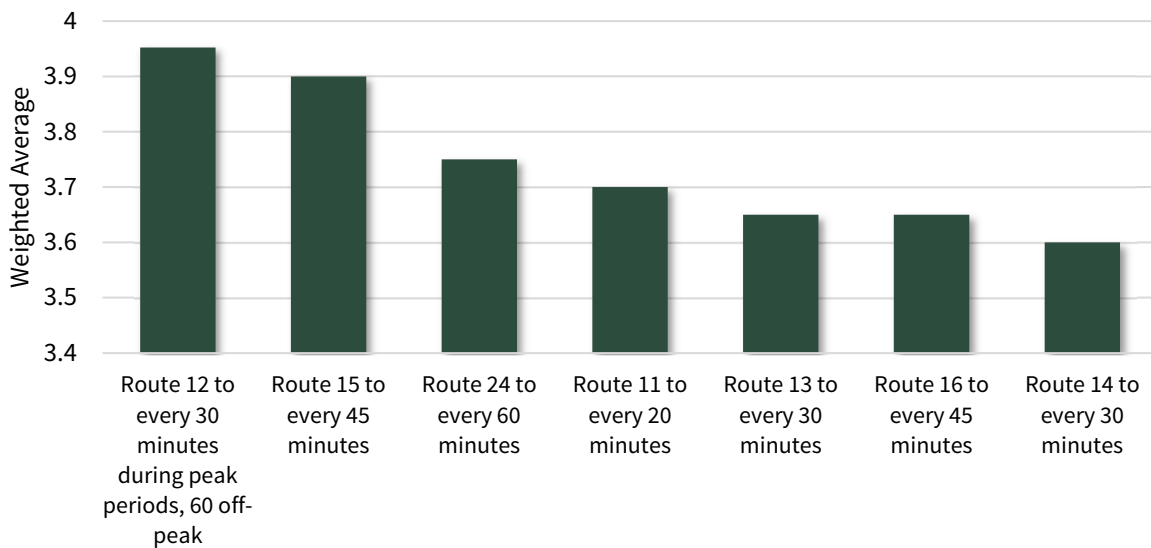
Respondents were provided a map of proposed service changes in Immokalee and were asked to rate each in terms of importance. The three responses received similar levels high priority support, with 50% of responses rating each improvement as a “Higher Priority”. The weighted responses are shown in Figure 4-37. Respondents could provide comments on the proposed changes. Several indicated there is a need to connect Immokalee to Lee County. One respondent suggested modifying Route 23 to go to Esperanza Plaza and then to McDonalds on Immokalee Drive and Mainstreet. Another suggested one route travel to the Shelly Stater Shelter instead of having both Routes 22 and 23 travel along Lake Trafford Road. These recommendations were evaluated but all required an increase to the fleet and deemed not feasible at this time.

Figure 4-37: Immokalee Improvements



Thinking about how often the bus comes by, respondents were asked to tell us how important the following frequency improvements are to them. All the improvements had similar response rates, with Route 12 frequency improvements having a slight lead in its weighted average due to having the highest number of “Higher Priority” responses, as shown in Figure 4-38.

Figure 4-38: Service Frequency Improvements



The final question in the survey asked respondents to rate how important span improvements (until 10 PM) for routes 11, 13, 14, 17, 19/28, and 24 are to them. All the routes had responses that gave them all higher priority, however routes 19/28, 11 and 13 scored the highest in priority overall. Figure 4-39 shows the weighted average response by route.

Figure 4-39: Service Span Improvements

Route 19/28 (extend service until 1...	3.75
Route 11 (extend service until 10 PM)	3.71
Route 13 (extend service until 10 PM)	3.60
Route 24 (extend service until 10 PM)	3.55
Route 17 (extend service until 10 PM)	3.50
Route 14 (extend service until 10 PM)	3.38

4.3 Stakeholder Interviews

Understanding local conditions are an important part of the TDP and should include knowledge of the perceptions and attitudes of community decision-makers and leaders towards transit and its role in the community. To obtain this information, a total of 12 stakeholders also were invited to be a part of this public involvement process. The interviews were held throughout April 2020.

All interviews followed a similar format using an interview guide that was developed with a list of questions and discussion topics to steer the discussions. Stakeholders were advised that CAT is in the process of updating its TDP, a 10-year planning document that serves to guide investments, provide direction on future initiatives, and respond to community needs. Respondents were thanked for their participation and advised that, as CAT prepares to update its guidance documents, their participation would be critical to helping develop insights and identify trends. Each respondent was asked to provide their perspective and insights as a stakeholder from their individual vantage point. Respondents were advised that the interview would ask for their perception of transit, how much awareness there is in Collier County about public transportation, which mobility improvements they would prefer to see in Collier County, who should benefit from mobility improvements, and how it should be funded.

Table 4-4 provides a list of stakeholders contacted and/or interviewed as part of this outreach effort.

Table 4-4: CAT TDP Stakeholders Contacted/Interviewed

Stakeholder	Organization	Title
Terry Hutchinson	City of Naples	Vice Mayor
Gary Price	Naples City	Council Member
Erik Brechnitz	Marco Island City	Council Member
Charlette Roman	Marco Island City	Council Member
Andy Solis	Collier County	Commissioner 1
Burt Saunders	Collier County	Commissioner 2
Leo Ochs	Collier County	Manager
Charles Chapman	City of Naples	City Manager
Michael McNees	City of Marco Island	Manager
Michael Dalby	Naples Chamber of Commerce	President
Danny Gonzalez	Immokalee Chamber of Commerce	President
Michelle McLeod	City of Naples	Council Member

Major themes were identified from the feedback. The following key themes were gathered from the interviews:

- Awareness of transit services in Collier County was viewed as low to moderate, with most stakeholders feeling that the public knows the CAT bus system exists but are not familiar with how to use it or where it operates.
- The role of transit was viewed primarily as a service for workers to access jobs and to serve persons without access to a vehicle. Secondly, it was viewed as a service to help relieve parking and roadway congestion and in certain locations as a service for visitors.
- The highest priorities for making improvements to the transit system were increasing the span of service, increasing service frequency, adding shelters, introducing mobility-on-demand services, and connecting service with sidewalks and bicycle/multimodal improvements.
- In terms of who should benefit from transit improvements, stakeholders expressed consensus that persons without access to a vehicle should be the primary beneficiaries, with additional benefits accruing to the community, the environment, businesses, and tourism.
- For how to pay for transit improvements, views were largely ordered as follows—user fees, including improvements through new developments, partnerships with major employers, businesses, institutions, and increased advertising.
- All stakeholders overwhelmingly expressed a positive recognition that more transit service and service options were needed in Collier County and overwhelmingly shared the sentiment that improving transit services and adding more mobility options would be good for the community and the local economy.

4.4 Discussion Group Workshops

Two invitation-based discussion group workshops with a small group of participants (8–12 persons) were held to serve as a subject matter roundtable in which all participants took part in assessing existing services and determining future transit needs using questions to motivate and inspire conversation about the transit development process. The first discussion group workshop represented the business workforce while the second represented community resources. The workshops were conducted virtually.

At the start of each workshop, the project team explained that the purpose of the TDP is to develop a 10-year strategic plan for transit that would evaluate existing conditions, determine future needs, and outline phased service and implementation plans. The project team reviewed the requirements and best practices for the TDP, explaining how the Federal Transit Administration (FTA) encourages transit agencies to conduct plan updates to the TDP every three to five years. In Florida, the requirement is a funded mandate called the State Block Program. As part of this process, FDOT wants the inclusion of a vision plan as a part of the TDP, an important component of the plan that will include a financial strategy but also identify future needs for the transit system.


The project team presented a baseline data review of baseline condition findings, exploring both the existing and projected socioeconomic, demographic, population, and employment conditions to take into consideration the changing dynamics of the county. Existing and potential land use, development and major activity centers, travel flows journey-to-work, and job accessibility via transit were presented. The project team facilitated a discussion with participants on a wide range of questions, which is discussed in more detail in the following summary information.

4.4.1 Discussion Group #1 – Business Workforce

The Business Workforce discussion group was held on March 31, 2020, from 10:00 AM to 12:00 PM. Participants were from Anthrex, the Collier County Economic Development Department, the Collier County Tourism Department, Career Source of Southwest Florida, the Florida Restaurant and Lodging Association, the Greater Naples Chamber of Commerce, the Immokalee Chamber of Commerce, and Enterprise Holdings (Commuter Services).

4.4.1.1 Mobility Perspectives

Workshop participants felt that awareness of CAT’s services could be improved. Many in the community do not know how the system works and/or how to access the routes. One participant stated that the service is useful for those who cannot afford to live in the more dense and expensive areas but who need to work there (service industry); it is also useful for areas with shopping and entertainment so people can access them without driving. Another participant commented that public transit is particularly useful for international visitors, which comprise 20% of visitors who expect transit to be available but are surprised that there is none. In addition, the Beach Shuttle is not available during the time that international visitors tend to come. When asked if certain areas need more service, one participant said that the Golden Gate Estates area has a welfare-dependent population that needs



service for work and school, including the adult education centers, Florida Southwestern State College, and Lorenzo Walker Technical College.

Participants agreed that Mobility-on-Demand could be applicable to Collier County, noting that Pinellas County has used it to provide greater connection to fixed-route service and has increased ridership. Leveraging partnerships with the private sector would be beneficial. The need for park-and-ride lots should depend on density and need. A collection point near residential areas and/or near a major road would be a suitable place. CAT staff noted that there is an ongoing park-and-ride study.

4.4.1.2 Mobility Needs

Participants were asked to comment about their role and interest in the community as it related to the mobility needs and improvement strategies. Participants believed that employers should be more aware of CAT services that are offered to their employees. The group agreed that the Golden Gate community, Immokalee and East Naples are likely focal points for increased frequency and service for service workers and lower income individuals. The tourism and beach areas may need a separately branded solution.

4.4.1.3 Funding Support

The group was asked about support for funding via the community and/or business sector sharing the associated costs to benefit their employees and customers. A participant agreed that funding is important and suggested that the business community is at a point where funding options should be discussed in detail. Employers may be willing to subsidize in some way but it's really a public service and it's time to have a conversation to push more funding to public transit.

4.4.1.4 Other Mobility Needs


When asked about other mobility needs in the community, participants agreed that the youth population needs better transportation options, as it is difficult for them to get around the county for work, school, and extracurricular activities. Transportation was cited as the biggest impediment to connect high-school-age youth to internships and for students at Lorenzo Walker Technical College and Florida Southwestern State College.

4.4.2 Discussion Group #2 – Community Resources

The Community Resources discussion group was held on March 31, 2020, from 2:00–4:00 PM. Participants from the Collier County Sheriff's Office, Lighthouse of Collier, Youth Haven Homeless Shelter, Hodges University, Blue Zones, Enterprise Holdings (Commuter Services), Collier County CRA, and Golden Gates Estates Area Civic Association contributed to the discussion. Input from the workshop was categorized and summarized as follows.

4.4.2.1 Mobility Perspectives

Participants were asked about their understanding of and experience with CAT mobility services. Participants indicated that paratransit services were popular and were essential. Several knew of riders who use transit, including teens in disadvantaged locations and those who use it for medical trips, and



a few indicated that they use it themselves. A participant indicated that the bus schedule does not meet the needs of workshop schedules and that their organization would fail without paratransit. A participant inquired about the level of ridership needed to get more frequent services and whether smaller buses with more frequent service could achieve higher ridership. Another participant inquired if there was a trip planning app for youth, and the CAT team indicated that there was and that CAT was working to improve coordinating with other mobility types.

4.4.2.2 Mobility Needs

Participants were asked what mobility improvements they would prefer to see provided in the county. A participant indicated that shelters at bus stops should be a priority, as there are usually 3-4 days of thunderstorms per week during the summer season. Frequency of service was a major concern, but it was noted that it would be costly to run all routes at one-hour headways. Several participants indicated that Collier County is not a walkable community, as there is a lack of sidewalks near many bus stops; there was consensus that the community needs more and wider sidewalks. Several participants indicated that the span of service needed to be increased, particularly for workers at the mall and those who reside in Immokalee. A participant indicated that peak-hour travel demand should prioritize transit, especially along I-75. A need for more bus stops near the homeless shelter was also mentioned in the discussion. Another participant indicated that gated communities should be opened, as local roadways to facilitate transportation for older adults.

4.4.2.3 Transit's Role

Participants expressed that everyone should benefit from transit services, including workers, commuters, and transit-dependent populations. There was an agreement that transit increases economic development opportunities.

4.4.2.4 Other Mobility Needs

Participants felt that more awareness of transit services could mean more ridership, but the service is inconvenient, which could stifle ridership. A participant expressed a need to invest more in a range of mobility options to improve overall system. Park-and-ride locations were suggested to be established near Livingston Road and Immokalee Road, Ave Maria, Immokalee, near Lee County, in eastern Collier County, and near areas with a large concentration of students and transportation disadvantaged populations.

4.4.2.5 Mobility Strategies Discussion

Given participants' roles and interest in the community, they were asked about other mobility needs and the improvements that would most benefit the community. Participants expressed there was a need for more shelters, more frequent service, connecting sidewalks, and transit-only lanes and a more pedestrian- and bicycle-friendly environment, as well as a need to get workers to Marco Island, especially with the parking shortage in the island. Another participant suggested a focus on vanpool service, as bus drivers are the largest share of the cost of operating transit services. Participants suggested a special districts and tax increment financing to generate more revenue for mobility improvements.


4.5 Public Transit Advisory Committee (PTAC)

A presentation to the PTAC was held July 21, 2020, with representatives from FDOT, Career Source of SWF, LeeTran, Collier Transportation Planning, Collier Transportation Engineering, Marco Island Growth Management, Collier Housing, a transportation industry expert, Collier County Attorney, Collier MPO, and CAT staff. The presentation updated the committee on the status of the TDP, reviewed the proposed network, changes and requirements, followed by a summary of outreach events. Several topics and suggestions were discussed during the meeting including

- **Commuting** – The number of people without vehicles and the number of people using transit are different measures.
- **Visitors** – Are tourists making trips on transit? There is an expectation from international travelers to better serve tourists in the area to alleviate congestion and parking concerns. CAT staff, however, do not receive information regarding visitors, but they are aware of the European visitors during the summer months in the beach area. A priority to serve commuters may be beneficial since Collier County may experience fewer international visitors in the coming years.
- **Vision and goals** – The vision statement seems very broad; statements should be updated to show more emphasis on economic benefit and development. The Mission Statement should consider on-time performance, minimizing transfers, and more convenient service. For Goal #1, it was suggested to focus on workforce and convenience. For Goal #2, it was suggested to consider rising tides or climate change in relation to Collier County. For Goal #3, a participant suggested adjusting the goal to focus on education and public awareness, as well as hotel infrastructure and tourism. Another participant suggested that Goal #4 consider including additional mobility options (i.e., scooters, rider share, etc.).
- **Mobility strategies** - There was a discussion that safety needs to be considered to promote better and safe choices for transportation. Designated mass transit lanes and sidewalks can help promote safer transportation opportunities.
- **Needs** – A need for more transit services in Immokalee was expressed. It was suggested to increase the amount of transportation service from this area. There is also a need for park-and-ride services from residential areas to commercial areas, primarily on the east side of the county to the west side of the county—more specifically, east Collier Boulevard to the urban core. A representative from Collier County Community Planning noted that the County is adding policy requirements for transit stations and park-and-rides in new towns and villages.

4.6 TDP Working Group Meetings

The TDP Working Group meeting included representatives from FDOT, Career Source of Southwest Florida, LeeTran, Collier County Transportation Planning, Collier County Traffic Operations, City of Naples, Marco Island Transportation/Growth Management Department, Collier County Housing, Collier County Community Planning, a member of PTAC, and Collier County Attorney's office. Participants



were selected based on their subject matter expertise and knowledge in relevant technical, policy, and community considerations to provide technical and contextual review and advice for the TDP update.

Three working group meetings were held virtually. The first addressed findings related to existing and future conditions and mobility needs, services, and service gaps. The second reviewed results from public outreach, the mobility vision, the initial program of improvements, and initial priorities. The third reviewed the final recommendations prior to Board and MPO approval. The group provided recommendations related to public outreach and feedback, which is required to inform the recommended prioritized program of mobility improvements.

Working Group Meeting #1

The first Working Group meeting was held April 1, 2020, from 10:00 AM to 12:00 PM. The purpose and overview of the TDP were presented, followed by the project schedule, PIP, existing conditions of service area (market), existing services, highlights from the peer and trend analysis, results from the on-board survey, mobility perspectives, and CAT mission and goals. Thereafter, a guided discussion on CAT mobility strategies was held, including questions such as “What is your perspective on transit’s role in Collier County” and “Who should benefit from mobility improvements?”

Participants were asked how much they agreed or disagreed with a series of statements. There was a general recognition that CAT services could be more effective, convenient, and easy-to-use and that there is a gap between knowing the services exist and knowing enough to use the service. Overall, there was strong agreement that the county needs more service and more mobility service options and that the County should invest more to expand mobility services. Participants also agreed that more transit will improve economic opportunities. Participants had varied views about whether CAT service covers all areas that need service and whether CAT is effective at making the public aware of existing transit services.

Working Group participants also discussed key mobility needs within the community (access to work, education, services) and ease of access to existing transit services (awareness of the service, routes, span), especially for areas with a high transit propensity.

Working Group Meeting #2

The second Working Group meeting was held May 13, 2020 from 10:00 am–12:00 pm. The meeting provided an update on the status of the TDP, presented findings from the onboard and online surveys, summarized the stakeholder interviews, presented the service gap analysis, and presented initial recommendations for service alternatives.

Working Group Meeting #3

The third Working Group meeting #3 was held July 22, 2020, from 10:00 AM to 12:00 PM. The meeting provided an update on the status of the TDP followed by an in-depth explanation of the guiding principles for the proposed network. The existing and new networks were presented, with a detailed

discussion of the route realignments, frequency and span improvements, new services, operating requirements, and an unconstrained phasing plan.

One participant expressed the need to provide more service to connect workers in Immokalee to employment in other locations within Collier and Lee counties. Another indicated that he liked the variety of options being offered. One noted that innovations are good because they provide flexibility and choice in mobility options. Some innovations are a few years out, but the planning is good because transit is evolving. The commuter van proposal was viewed with interest as a way to serve mobility needs in remote and lower-density parts of the county. A discussion focused on the need for coordinating transit improvements with the regional Long Range Transportation Plan to include innovations such as transit signal priority, policies requiring bus stop infrastructure with new developments, and how transit can be incorporated into the travel demand model. Overall, there was strong support for the proposed changes, particularly for new services such as the Bayshore Shuttle, Marco Island Trolley, and the downtown circulators.

4.7 TDP Presentations

Presentations on the proposed improvements were made to Naples (August 10) and to the City of Marco Island (August 17) and included an overview of the TDP, the purpose of the TDP and process, followed by review of the proposed network, including service changes within their respective municipalities, anticipated impacts, and project phasing. The presentations were followed by a review of next steps in the review and endorsement process.

Questions were addressed following both presentations and these focused on how the Cities would like to work with CAT staff to review and define specific projects and services. Both the City of Naples and the City of Marco Island endorsed the draft TDP as presented.

Table 4-5 lists the remaining meetings that were conducted for the TDP review; each meeting was conducted virtually and resulted in an endorsement of the TDP. The final meeting scheduled is with the Collier Board of County Commissioners and it will request Board approval of the TDP.

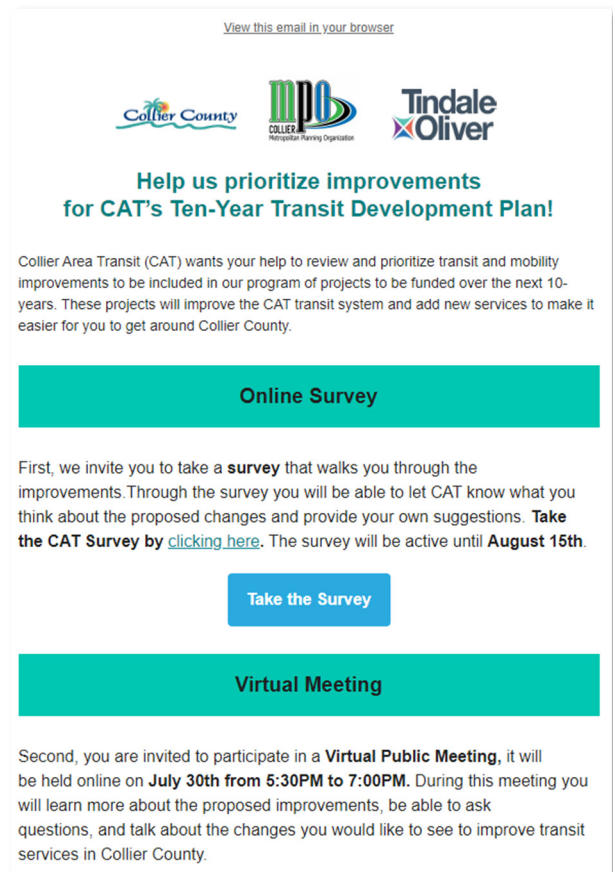
Table 4-5: TDP Review Meetings

Meeting	Meeting Date	Meeting Start Time
TAC	Monday, August 31, 2020	9:30 am
CAC	Monday, August 31, 2020	2:00 pm
Collier MPO Board	Friday, September 11, 2020	9:00 am
Collier Board of County Commissioners	Tuesday October 27, 2020	9:00 am

4.8 Public Workshops

Two public workshops were conducted in the second phase of the TDP. The workshops were promoted using email blasts (1,426 email contacts), social media, agency websites, and flyers on buses. The first workshop was held July 30 from 5:30–7:00 PM and presented the proposed network changes to gather feedback from the public on the proposed changes. The second workshop was held August 12 from 5:30–7:00 PM and presented the recommended transit improvements and projects included in the TDP. Due to the COVID-19 pandemic that began in March 2020, the workshops were conducted virtually using the GoToMeeting (webex) platform. The workshops were recorded and posted to both the CAT website and the Collier MPO website.


Sixteen participants attended the first public workshop. The transit network changes, expected service impacts, and new services such as Mobility on Demand, frequency increases, and span of service improvements were explained. Participants were urged to complete the online survey and were encouraged to ask questions (visible only to panelists) during the presentation. Several questions were asked and answered by the panelists, consisting of Collier MPO staff, CAT staff, and the consulting team. The remaining comments and suggestions were used to help prioritize the proposed improvements.



Email Blast used for survey and public workshop

Figure 4-40: Virtual Public Workshop #1





A summary of the comments and questions are as follows:

- More covered bus shelters and benches are needed. CAT staff explained the prioritization process for shelters and recent construction of stop shelters.
- More information was requested about the autonomous circulator and the Naples Pier shuttle. CAT staff explained these pilot projects are proposed to address mobility, parking, and congestion needs in the area and the services will be developed through a separate set of projects when funding is secured to study these in greater detail.
- There was interest in potential revisions to the Land Development Code to encourage, transit stops/pullover for the CAT vehicles. CAT staff noted that that policies were being proposed in conjunction with the ongoing Transit Impact Study.
- Questions were asked about funding sources currently used for transit and additional funding needs to improve transit services. A similar question was asked about statutes or rules corresponding to transit operational improvements and needs. CAT staff response provided a discussion of farebox revenue, federal and State grants, and local funding sources.
- Questions concerning how Mobility on Demand services would work were addressed by the project team explaining the service would pick up the passenger on request and transport them to any location within the zone. For destinations beyond the MOD zone, the riders would be connected to a fixed route bus at a mobility hub or at another bus stop to complete their trip.
- Comments were made about how the COVID-19 pandemic is changing transit and if it is anticipated that it would impact transit in perpetuity, i.e., reduce ridership due to fear of being in close confined spaces. The project team responded that this is still to be determined but that much has been learned with the experiences in responding to social distancing and attempts to prevent spread of the virus. The ability to pilot more on-demand service has proved beneficial and has likely resulted in wider adoption of mobility on demand strategies.
- A question was asked about the availability of technology to monitor available space on a bus for a bicycle? It was noted that a study on technology needs was recently conducted for CAT that did not include this technology; however, it is possible and could be added as needed, as that would improve rider experiences for reliability.
- A question was asked if the extra trips on the Route 121 would stagger trips earlier or later in the day or if there would be midday trips as wells. CAT staff responded that they coordinate with major employers on Marco Island to determine the best times to run Route 121.

Several suggestions were provided by participants and are noted below for further consideration by CAT staff as opportunities become available through new funding sources, funding levels, and policy direction make additions of service possible. These changes should be considered as part of the upcoming COA project:

- Consider a mid-day bus trip between Naples and Immokalee.
- Run Route 22 or 23 service to Immokalee Drive past Esperanza Place.

- Provide later service in Golden Gate City.
- Consider changes to Route 22 and/or Route 23 to limit service on Trafford Lane in favor of service south along Immokalee Drive.
- Improvements are needed for the bus stop on CR-951 in Golden Gate City across from the Shell station, the stop serves 15–30 people who must stand against a guard rail from 4:30–5:00 pm.

Seven participants attended the second public workshop. Like the first public workshop, the transit network changes, expected service impacts, and new services such as Mobility on Demand, frequency increases, and span of service improvements were explained. The proposed implementation plan was presented as set a funded and unfunded improvements. Participants were urged to complete the online survey and were encouraged to ask questions (visible only to panelists) during the presentation. Several questions were asked and answered by the panelists, consisting of Collier MPO staff, CAT staff, and the consulting team. A summary of the questions and their responses is as follows:

- There was interest in the ability to view the webinar later for those who could not attend live. The organizer responded that the meeting was recorded and would be available to view later on the CAT website.
- A question was asked about whether bus replacements would favor alternative fuels. CAT staff responded that the existing bus fleet is diesel and that CAT is programming electric vehicles as part of the fleet replacement.
- A question was asked about the useful life of CAT vehicles, due to the high cost of buses, and if service modifications would reduce the mileage on CAT vehicles to reduce the frequency of replacement. CAT staff explained that per FTA guidelines, the useful life of a motor bus is 12 years and a replacement schedule is mandated by FTA. Staff commented that shorter routes would reduce the mileage on the vehicles and some route modifications would require additional buses to improve frequency and other modifications.
- A question was asked about why more service improvements were not considered for Golden Gate City. CAT staff and the consulting team responded that frequency improvements to Route 15 and 16 are being proposed in the area and MOD service is being recommended which would serve areas adjacent to Golden Gate City.
- The mobility on demand service concept was explained by the project team including the difference between transportation networking companies, the proposed mobility on demand service, complementary paratransit service, and a description of how the service could potentially look like from a user's perspective

5.0 Transit Demand Analysis

As a part of the CAT TDP, a vital step is comparing existing service to the discretionary market and the transit orientation index (TOI), the two predominant rider markets for transit service. Analytical tools for conducting each market analysis include a density threshold assessment (DTA) for the discretionary market, a TOI for the traditional market, and a ridership projection using T-BEST. These tools can determine if existing transit routes are serving appropriate areas that include locations with transit-supportive characteristics consistent with a robust transit market. This section documents the analytical tools that helped to identify gaps in the current service area that ultimately will be addressed with new service and/or modifications to existing service.

5.1 Discretionary Market Assessment

The discretionary market refers to potential riders living in higher-density areas of the service area who may choose to use transit as a commute or transportation alternative but who have other options with which to meet their mobility needs. Whereas discretionary markets may not represent a typical CAT rider, it is important to identify areas with higher density that may capture other markets such as choice riders. A demand assessment of traditional transit market follows this section.

The DTA conducted for CAT used industry-standard thresholds to identify areas within the CAT service area that experience transit-supportive residential and employee density levels. Three density thresholds were developed to indicate if an area has sufficient density to sustain a level of fixed-route transit operations. The analysis assesses an area's ability to support Minimum, High, or Very High transit service level investments:


- **Minimum Investment** – reflects minimum dwelling unit or employment densities to consider basic fixed-route transit services (i.e., local fixed-route bus service).
- **High Investment** – reflects increased dwelling unit or employment densities that may be able to support higher levels of transit investment (i.e., increased frequencies, express bus) than areas meeting only the minimum density threshold.
- **Very High Investment** – reflects very high dwelling unit or employment densities that may be able to support higher levels of transit investment (i.e., premium transit services) than areas meeting the minimum or high-density thresholds.

Table 5-1: Transit Service Density Thresholds

Level of Transit Investment	Dwelling Unit Density Threshold ¹	Employment Density Threshold ²
Minimum Investment	4.5–5 dwelling units/acre	4 employees/acre
High Investment	6–7 dwelling units/acre	5–6 employees/acre
Very High Investment	≥8 dwelling units/acre	≥7 employees/acre

¹ Transportation Research Board National Research Council, TCRP Report 16, Volume 1 (1996), "Transit and Land Use Form," November 2002, Metropolitan Transportation Commission Resolution 3434, Transit Oriented Development Policy for Regional Transit Expansion Projects.

² Based on review of research on relationship between transit technology and employment densities.

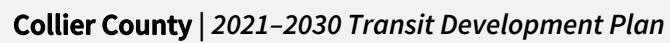


Collier County dwelling unit density largely falls below 4.5–5 dwelling units per acre and, therefore, will have fewer areas that are traditionally considered to be transit-supportive. Despite industry-held standards, Collier County’s ridership is higher in some locations, as reflected in the Automatic Passenger Count (APC) data reviewed in Section 6.

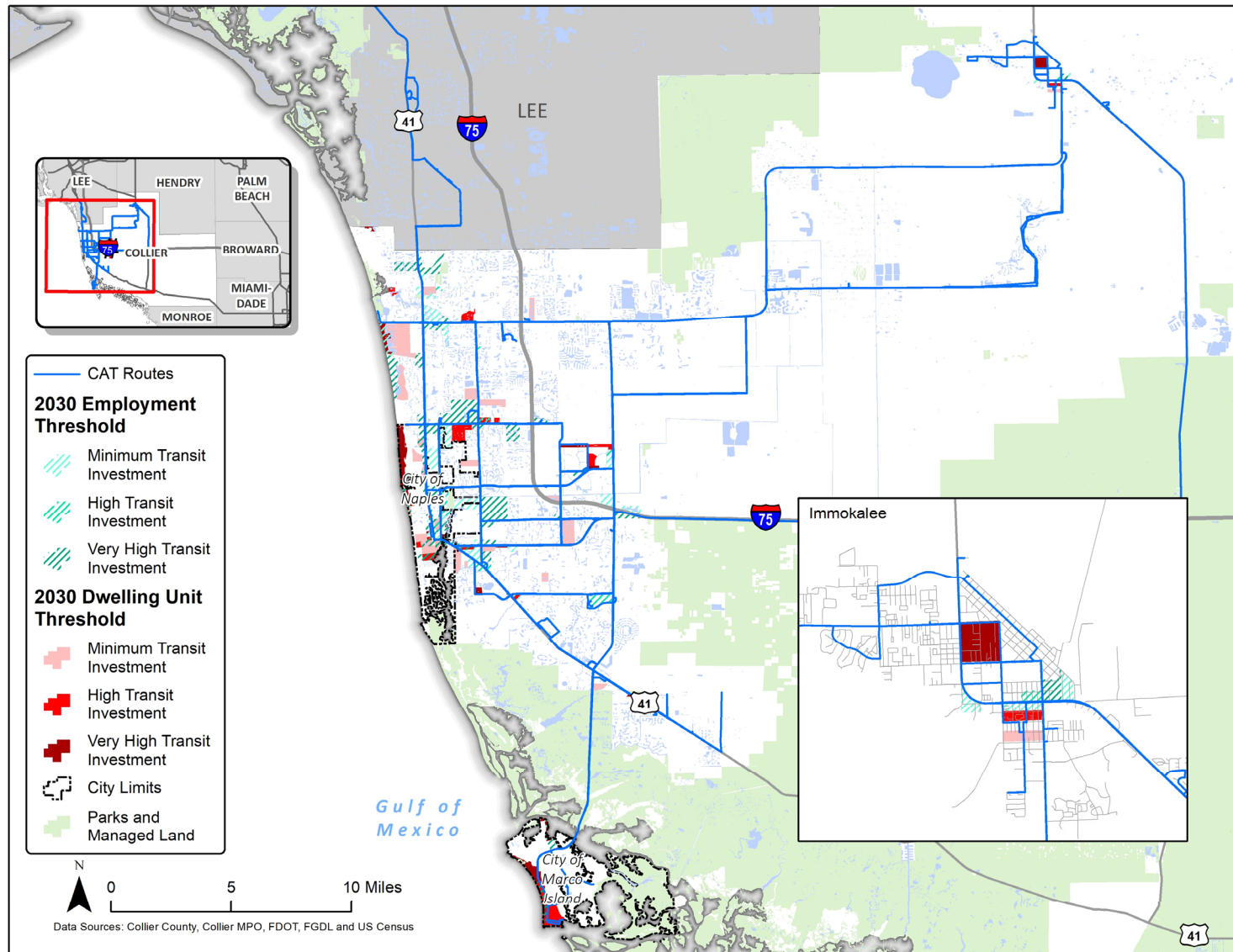
Map 5-1 illustrates the results of the 2020 DTA analysis and identifies areas that support different levels of transit investment based on existing household and employment densities. The analysis indicates that the employment-based discretionary transit market is concentrated in areas throughout the CAT service area. Major concentrations of employment-related transit investments are located east of Naples Airport and north of Pine Ridge Road; other areas of “High” to “Very High” employment-related transit investments are located along Tamiami Trail.

Household unit-based discretionary areas with transit investment opportunities are fewer but follow the same densities as employment-based discretionary areas. The areas that meet or surpass the “High” threshold are located along the coastal area which includes the City of Naples, Marco Island and Collier County, north of Pine Ridge Road, south of Pine Ridge Road, and in Immokalee east of Sunshine Boulevard.

Map 5-2 illustrates the results of the 2030 DTA, which are similar to the 2020 discretionary transit markets; however, there is projected growth surrounding the Golden Gate Community Center area, in Immokalee and areas of Marco Island, and adjacent to areas already meeting a minimum transit investment threshold. Areas with a “High” to “Very High” employment -based discretionary transit market are concentrated in areas around the airport, Davis Boulevard, Pine Ridge Road, along Goodlette-Frank Road, along Tamiami Trail in Naples, the coastal area in North Naples, and Collier Boulevard near I-75.



Map 5-2: 2030 Density Threshold Assessment



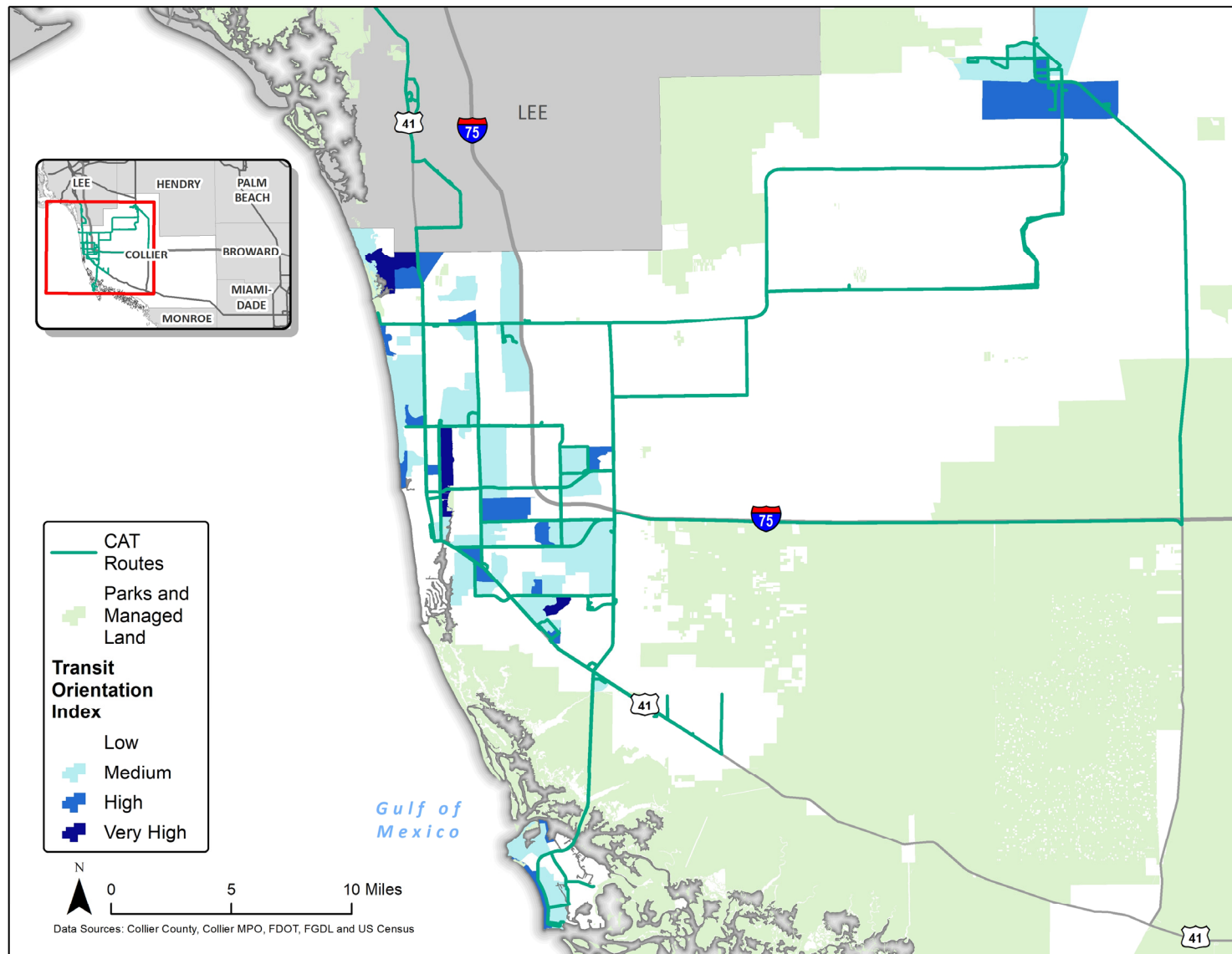
5.2 Traditional Market Assessment

As a part of the transit market assessment, four socioeconomic and demographic characteristics traditionally associated with the propensity to use transit were used to develop the TOI. American Community Survey (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 5-3 illustrates the TOI, reflecting areas throughout the CAT service area with varying traditional market potential. Also shown is the existing transit route network to exhibit how well CAT routes currently cover those areas.

The CAT service area includes Census Block Groups with significant transit-dependent populations. Areas north of downtown Naples and near Lee County show “High” and “Very High” TOI scores due to higher concentrations of older adults, youths, younger adults, and households in poverty. In addition, Block Groups in Immokalee also show “High” to “Very High” TOI scores, with data indicating high concentrations of zero-vehicle households, older adults, youths, and younger adult populations.

As noted above for older adult, youth, and younger adult populations, the areas with a high TOI score, especially suburban and lower-density settings, tend to trigger the “Very High” TOI thresholds that do not necessarily indicate a higher need for traditional fixed-route transit service. These areas may be better suited for mobility-on-demand services rather than traditional fixed-route bus service. These areas include suburban settings around Immokalee. Ultimately, the strategic use of the TOI is beneficial to filling in service gaps, as discussed in the following section.

Map 5-3: Transit Orientation Index



5.3 Potential Future Transit Demand using T-BEST

The ability to forecast demand is necessary to support transit development planning. Rule 14-73.001, F.A.C., specifically mentions ridership forecasting to estimate current and potential future transit demand using FDOT-approved tools or an FDOT-approved transit demand estimation technique with supporting demographic, land use, transportation, and transit data. The result of the transit demand estimation process must be a 10-year annual projection of transit ridership.

Projected ridership demand for existing fixed-route transit services over the next 10 years were analyzed with the following scenarios:

- “2021 – No Improvements” – projects ridership demand to 2021 with the current transit system
- “2030 – No Improvements” – projects ridership demand to 2030 with the current transit system


The projections were prepared using T-BEST (Transit Boardings Estimation and Simulation Tool) Version 4.6, the FDOT-approved ridership estimation software. T-BEST is a comprehensive transit analysis and ridership-forecasting model that can simulate 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 input and assumptions, describes the T-BEST scenario performed using the model, and summarizes the ridership forecasts produced by T-BEST.

5.3.1 Model Inputs / Assumptions and Limitations

T-BEST uses various demographic and transit network data as model inputs. The inputs and the assumptions made in modeling the regionally significant routes in T-BEST are presented below. The regional model used the recently released T-BEST Land Use Model structure (T-BEST Land Use Model



2019), which is supported by parcel-level data developed from the Florida Department of Revenue (DOR) statewide tax database.

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

5.3.1.1 Transit Network

The transit route network for regionally significant routes was created to reflect 2019 conditions, the validation year for the model. General Transit Feed Specification (GTFS) data created by CAT staff were used to create the base transit system and include:

- Route alignments
- Route patterns
- Bus stop locations
- Service spans
- Existing headways during peak and off-peak periods (frequency at which a bus arrives at a stop—e.g., one bus every 60 minutes)

The GTFS data were verified to ensure the most recent bus service spans and headways, and edits were made as needed. Interlined routes and transfer locations were manually coded in the network properties.

5.3.1.2 Socioeconomic Data

The socioeconomic data used as the base input for the T-BEST model were derived from ACS 5-Year Estimates (2013–2017), the Bureau of Labor Statistics, the Bureau of Economic Analysis, 2015 InfoUSA employment data, and 2018 parcel-level land use data from the Florida DOR. Using the data inputs listed above, the model captures market demand (population, demographics, employment, and land use characteristics) within ¼-mile of each stop.

T-BEST uses a socioeconomic data growth function to project population and employment data. Using 2045 socioeconomic forecasts from the Collier Metropolitan Planning Organization (MPO), population and employment growth rates were applied at a Traffic Analysis Zone (TAZ) level. 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.

5.3.1.3 T-BEST Model Limitations

It has long been a desire of FDOT to have a 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 long range transportation plans (LRTPs). However, although T-BEST 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. In addition,

T-BEST cannot display sensitivities to external factors such as an improved marketing and advertising program, changes in fare service for customers, fuel prices, parking supply, walkability and other local conditions. Correspondingly, model outputs may over-estimate demand in isolated cases.

Although T-BEST 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. T-BEST 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 to integrate sound planning judgment and experience when interpreting T-BEST results.

5.3.2 Potential Future Transit Demand Results

Using these inputs, assumptions, and February/March 2019 route level ridership data, the T-BEST model was validated. Using the validation model as the base model, T-BEST ridership forecasts for this TDP Major Update planning start year (2021) and horizon year (2030) 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, as required by F.A.C. Rule 14-73.001. Table 5-2 shows the potential demand in terms of number of annual riders by route in 2021 and 2030 and ridership growth rates for 2021–2030 derived from T-BEST.

Table 5-2: Potential Demand and Growth Rates with No Improvements, 2021–2030*

Route	2021 Average Annual Ridership	2030 Average Annual Ridership	2021–2030 Absolute Change	2021–2030 Average Growth Rate
11	108,083	123,855	15,772	14.6%
12	82,923	96,211	13,288	16.0%
13	73,580	91,681	18,101	24.6%
14	55,388	65,657	10,269	18.5%
15	103,042	107,980	4,938	4.8%
16	50,253	52,259	2,006	4.0%
17	39,922	44,056	4,134	10.4%
18	27,661	31,555	3,894	14.1%
19	66,732	77,813	11,081	16.6%
20	9,091	9,180	89	1.0%
21	12,812	21,449	8,637	67.4%
22	54,895	64,340	9,445	17.2%
23	27,698	33,854	6,156	22.2%
24	51,055	58,822	7,767	15.2%
25	17,308	20,897	3,589	20.7%
26	6,044	6,547	503	8.3%
27	33,319	47,517	14,198	42.6%
28	26,719	34,023	7,304	27.3%
121	25,280	35,710	10,430	41.3%
Totals	871,805	1,023,406	151,601	17.4%

* Based on T-BEST model

5.3.3 Potential Transit Demand Analysis

Based on the T-BEST model results shown in Table 5-2, maintaining the status quo, demand for transit will experience a moderate increase for all routes over time, particularly for routes 21, 27, and 121. According to the projections, overall average annual ridership is expected to increase by 17.4% by 2030, an annual growth rate of about 1.7%. The model results show that the most significant absolute increase in demand in the network will occur within the next 10 years on routes 11, 12, 13, and 27.

For Collier County to increase its market share for transit, a combination of service efficiency and expansion will need to strategically occur in growing areas. The service improvements identified in this plan, in other transit planning efforts, and from the public feedback received combined will provide better transit services for the service area.

5.4 Gap Analysis Overview

This subsection presents the gap analysis, an evaluation process that compares existing service coverage to potential need using the TOI analysis results for the CAT service area. This approach is becoming increasingly common as a component of assessing the performance of public transit in meeting the needs of the transit-disadvantaged populations in a service area.

The gap analysis aims to identify geographical gaps in public transit where travel needs are high but services are non-existent (unserved) or insufficient (underserved). This is a twofold process that uses socioeconomic data and ArcGIS.

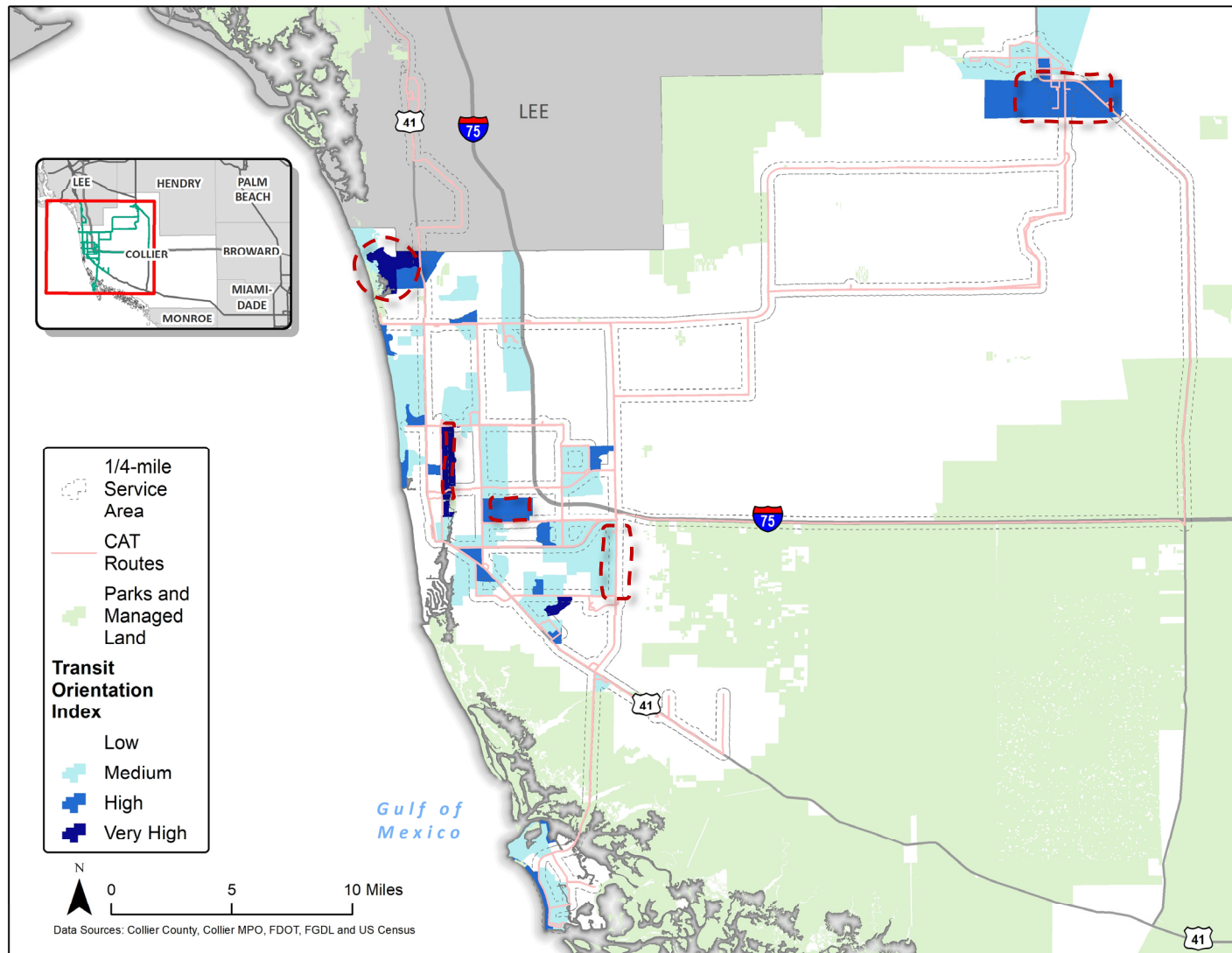
The first step involves determining transit service subareas with high transit TOI scores using factors such as youth and younger adult populations, older adult populations, households in poverty, and zero-vehicle households. The TOI score is then mapped to the CAT service area, as previously shown on Map 2-3.

The second step uses geographic analyses to determine the extent of each route's service reach by using ArcGIS buffer and erase tools. Ultimately, the two outputs are overlaid with one another to identify general gaps in the CAT transit service and, more specifically, high priority TOI areas that are served, unserved, or underserved. Note that areas beyond the route catchment area (buffered area along a route) are considered to be unserved.

As shown in Map 5-4, areas that noticeably may have the potential for being underserved are located west and east of US-41 but south of Bonita Beach Road. Other major areas that are underserved include North Naples, Immokalee, Collier Boulevard between Rattlesnake Hammock Road and Radio Road and areas east of Goodlette-Frank Road.

Once the gap analysis is prepared, service planning is applied to develop strategies to mitigate the gaps in service, especially in areas that resonate high in terms of TOI score. CAT has several options for serving targeted services gaps, including modifications to existing routes—adjusting route alignments, service spans, service frequencies, and application of MOD strategies.

Map 5-4: CAT Gap Analysis



6.0 Existing Transit Assessment

CAT operates 19 fixed-routes and provides door-to-door paratransit service called CAT Connect. This section documents existing ridership for CAT's services and any additional performance statistics that will help identify determine transit needs.

6.1 Route Level Ridership by Month

Route-level ridership in the study area by month is shown in Figure 6-1; Figures 6-2 through 6-5 show a more detailed representation of ridership by month by route:

- Ridership increases on most routes from February to May, as shown in Figures 6-2, 6-3, and 6-4.
- Routes 11 and 15 show the highest ridership in CAT service for FY 2019.

Figure 6-5 shows the months that Beach Bus has the highest ridership (late November through April); other times of the year the Beach Bus is not in operation.

Figure 6-1: CAT Systemwide Ridership, 2019

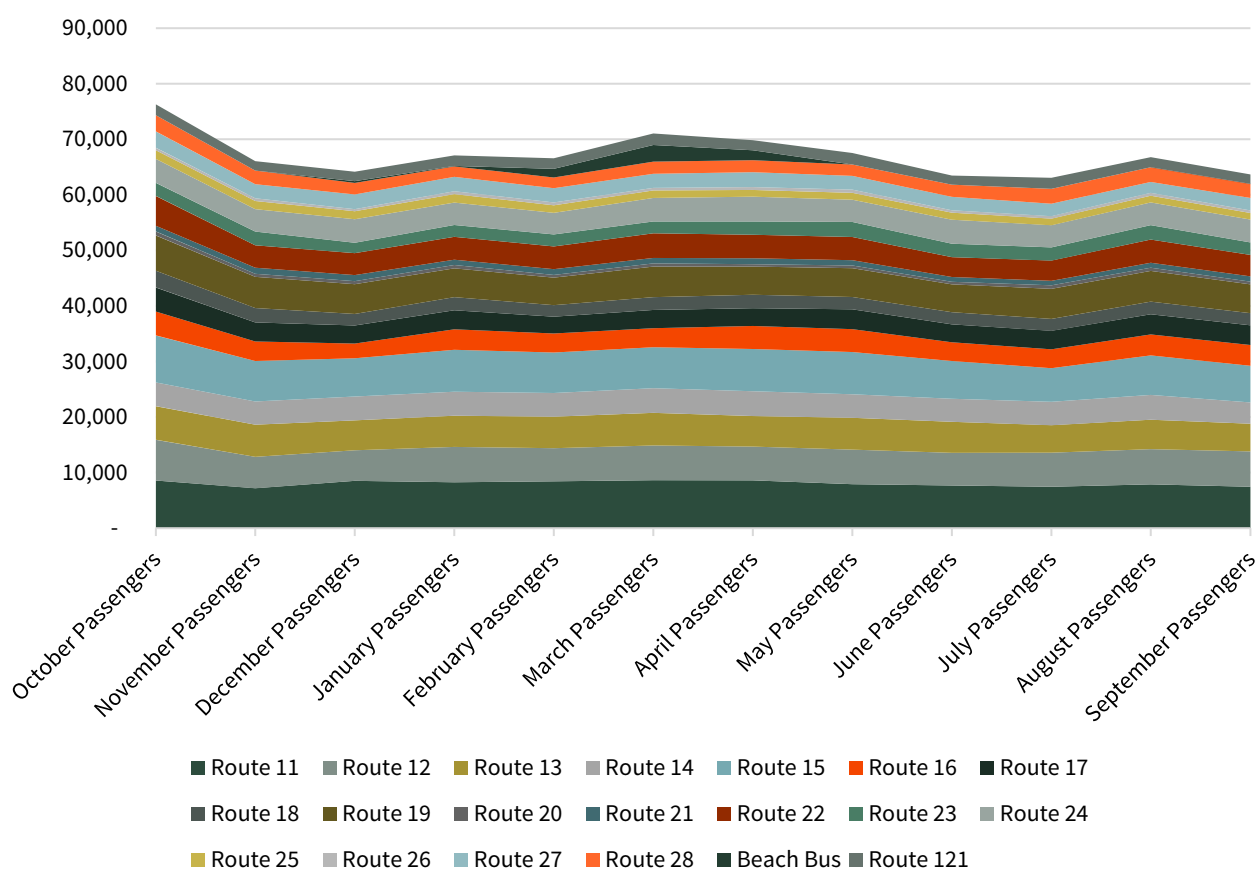


Figure 6-2: Monthly Ridership by Route, Routes 11-15

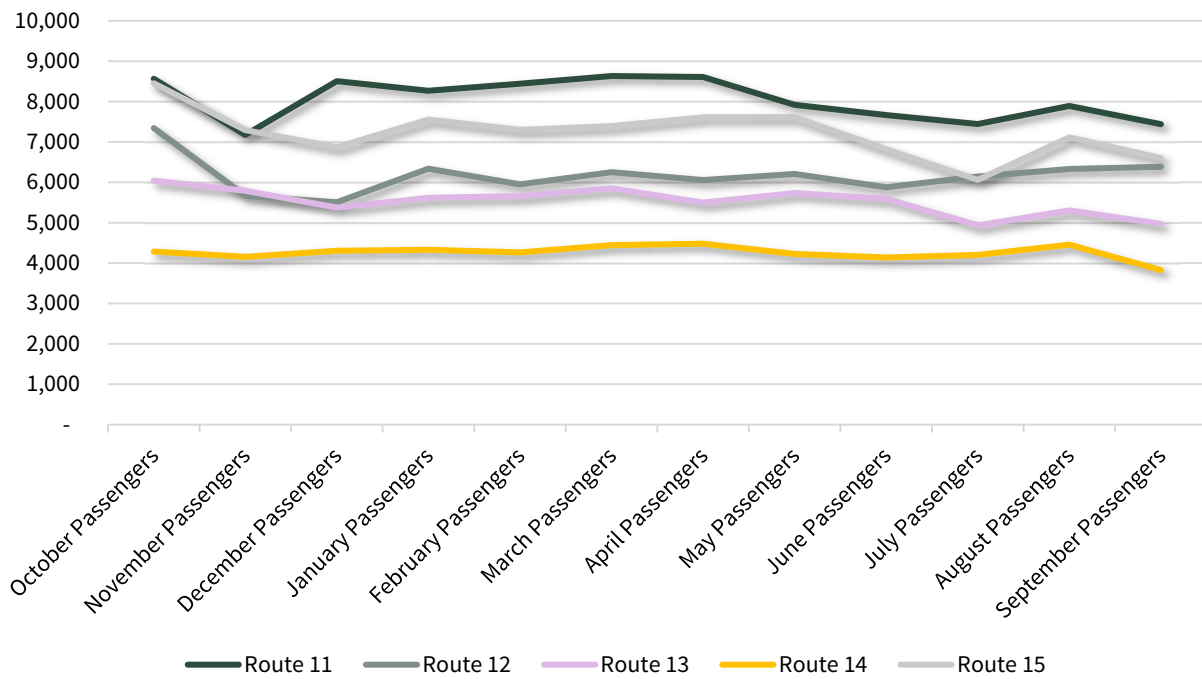


Figure 6-3: Monthly Ridership by Route, Routes 16-20

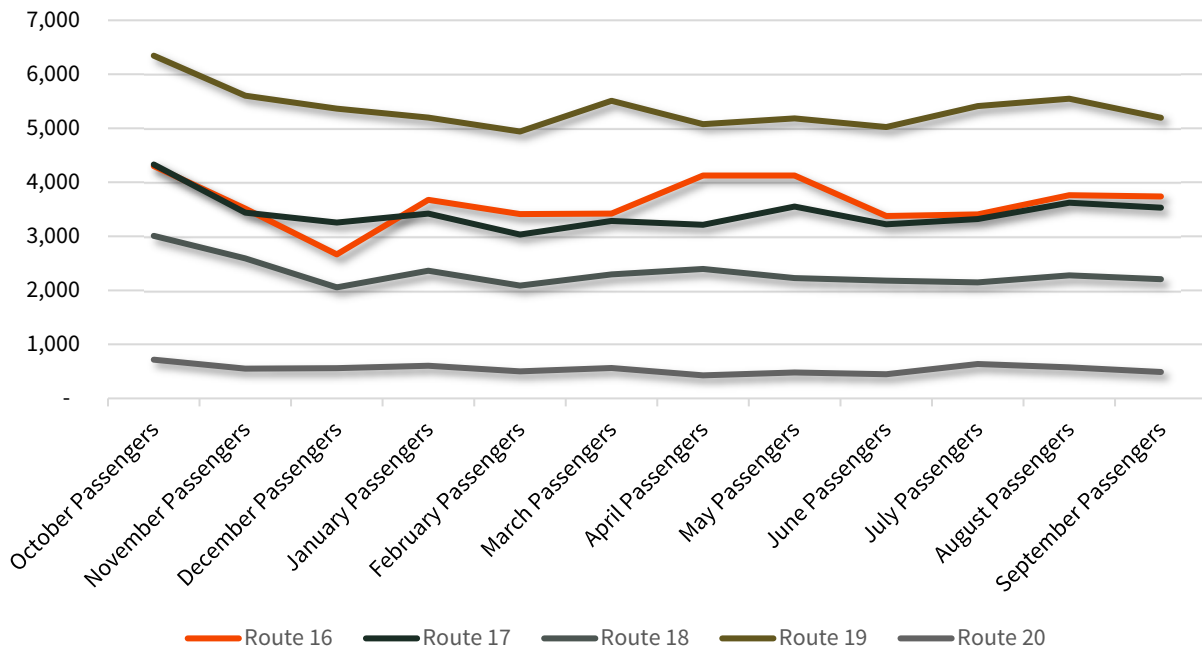


Figure 6-4: Monthly Ridership by Route, Routes 21–25

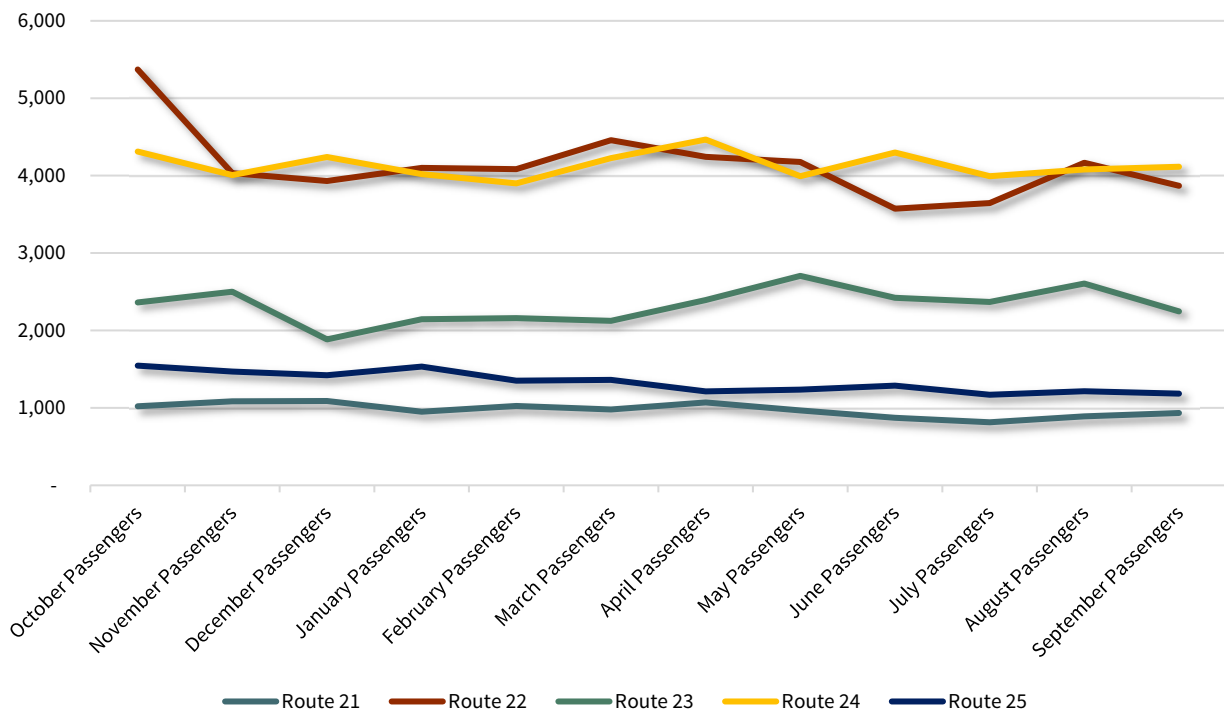
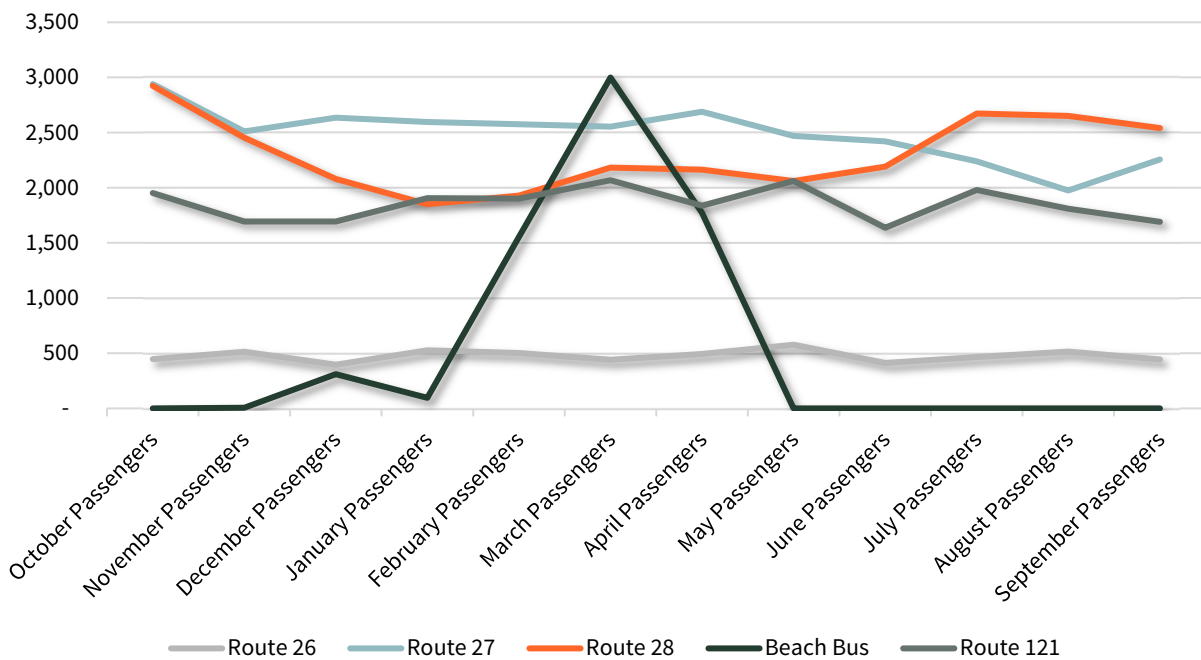


Figure 6-5: Monthly Ridership by Route, Routes 26–121



6.2 Route Productivity

Figures 6-6 and 6-7 show route productivity based on revenue mile and revenue hour for FY 2019. Figure 6-6 shows passengers per mile by route; overall, routes 20, 23, and 26 show the lowest productivity based on passengers per mile, and the highest passengers per mile by route are on routes 13, 15, and 14. Figure 6-7 shows the passengers per hour by route for 2019. As shown, the lowest recorded passengers per hour are on routes 20 and 26, and the highest recorded passengers per hour are on Route 15.

Figure 6-6: Passengers per Mile by Route, FY 2019

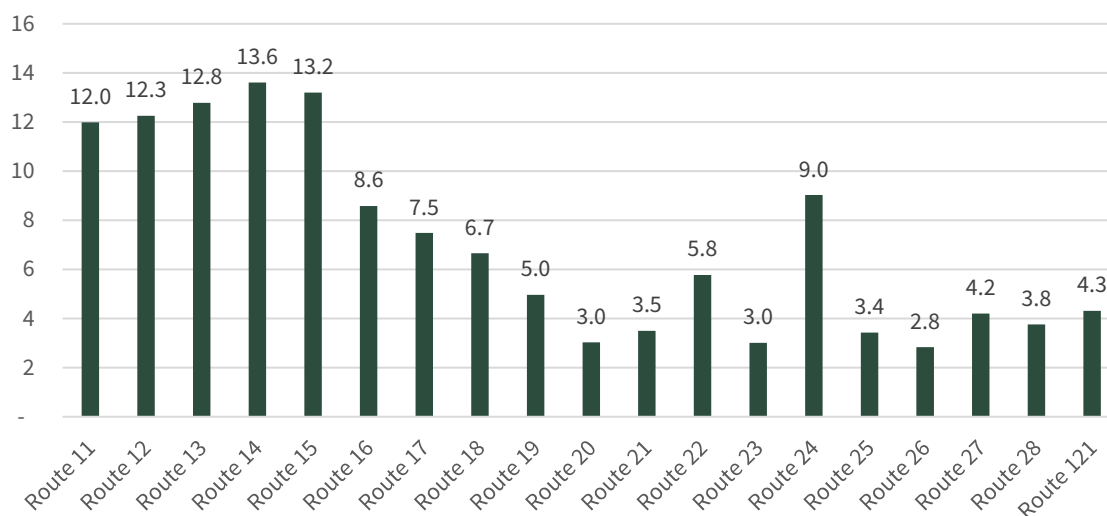
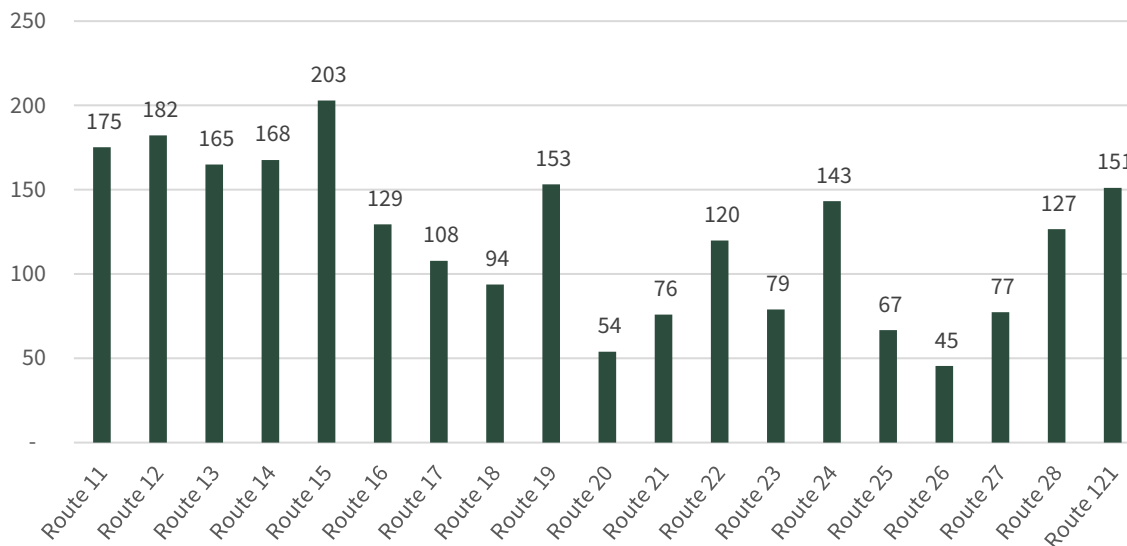


Figure 6-7: Passengers per Hour by Route, FY 2019



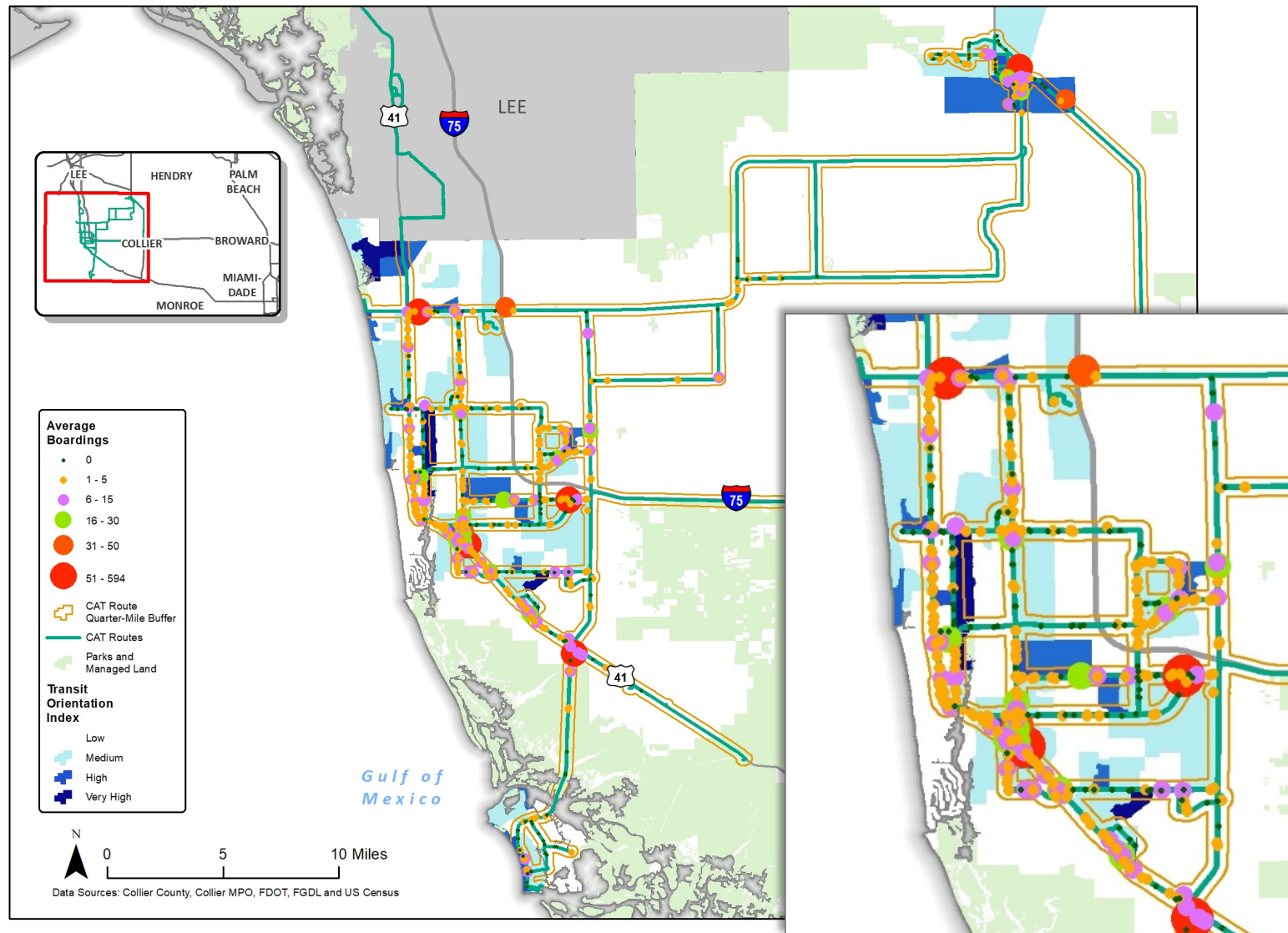


6.3 Automatic Passenger Count (APC) Data

APC data for 2019 was obtained to view average daily stop level boardings compared to system gaps, as shown previously in Map 6-1. APC data also were used to view route and stop level performance and to enhance or improve transit systems during the alternatives analysis stage. Based on the APC data provided by CAT, the areas with the highest average boardings include Collier County Government Center, CAT Operations, and Creekside Transfer Center, as shown in Map 6-1. Other areas of CAT service that have high average boardings are the Immokalee Health Department, Northbrooke Plaza Drive, and Walmart near Collier Boulevard/Tamiami Trail.

Roadway sections with zero average boardings by stop vary, but stops with zero boardings are most noticeable along Santa Barbara Boulevard between Radio Road and Davis Boulevard, Davis Boulevard between Airport Pulling Road and Santa Barbara, Golden Gate Parkway between I-75 west and Goodlette-Frank Road, Pine Ridge Road, and Airport-Pulling Road between Golden Gate Boulevard and Pine Ridge Road. Marco Island also has several stops that show zero average daily boardings. It should also be noted that Route 24 has fewer than six boardings per day past Collier Boulevard.

Map 6-1: Systemwide APC Data



7.0 Situation Appraisal

A central component of the TDP is review and assessment of relevant local, State, and federal plans, studies, and policies. This effort provides an understanding of transit planning in the County and region and an assessment of the operating environment of the transit system.

7.1 Plans Review

At the local and regional levels, several agencies/organizations conduct studies to produce plans and policies for addressing local and regional transportation issues and intermodal transportation that may impact CAT services. Various Federal and State plans and regulations also may impact the provision of transit services. This plans and policy review aids in understanding the support and pursuit of existing goals while pursuing its own goal of creating a viable and accessible transit system in Collier County. Relevant transportation planning and programming documents are summarized with an emphasis on issues having implications for CAT. Additionally, selected plans produced for the City of Naples, City of Marco Island, Golden Gate, Immokalee, and Collier County related to land use were reviewed to call attention to community goals, objectives, and policies that may have implications for current and future transit services. The following local, regional, State, and Federal plans and studies were reviewed to understand current transit policies and plans with potential implications for CAT service:

- Local Plans
 - City of Naples Comprehensive Plan
 - City of Marco Island Comprehensive Plan
 - Collier County Comprehensive Plan
 - CAT 2016–2025 TDP Major Update
 - Collier MPO Bicycle and Pedestrian Master Plan
 - CAT TDP 2018 Annual Progress Report
 - Collier County Transportation Disadvantaged Service Plan (TDSP)
 - Collier County Transit Impact Analysis Draft Report & Recommendations
- Regional Plans
 - Collier County 2040 Long Range Transportation Plan (LRTP)
- State and Federal Plans
 - Florida Transportation Plan: Horizon 2060
 - State of Florida Transportation Disadvantaged Five-Year/Twenty-Year Plan
 - Florida’s Strategic Intermodal System Strategic Plan
 - FAST ACT
 - Implications to Public Transportation of Emerging Technologies

The transportation planning and programming documents reviewed are summarized in Tables 7-1 and 7-2 by their geographic applicability, type of plan, responsible agency, overview of the plan/program, and key considerations for the situation appraisal.

Table 7-1: Local Plans, Policies and Programs

Plan Title	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
City of Naples Comprehensive Plan	City of Naples	2019	CP	City of Naples	Addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for city.	<ul style="list-style-type: none"> Provides goals for ensuring a safe, efficient, and quality transportation system. Plan expresses support for expanding transit service to help reduce headway, traffic congestion, parking problems. In addition to supporting County in its efforts to provide and improve public transportation services (i.e., providing bus stops, constructing connections to transit routes, increasing public awareness), policies are set to support objective of strengthening entire multimodal network: Development regulations (compact, mixed-use development in prioritized corridors) and design standards for parking (maximum parking requirements or elimination thereof, park-and-ride lots, and on-street parking), circulation systems, and access points will ensure adequate transit, bicycle, and pedestrian site access to promote these modes in place of single-occupant vehicles. Bicycle and pedestrian connections from residential areas will be provided. Site plan review and traffic circulation system will encourage transit-friendly design features along roadways.
City of Marco Island Comprehensive Plan	City of Marco Island	2009	CP	City of Marco Island	Addresses land use, transportation, capital projects, public facilities, recreation, government coordination, conservation, and development goals, among others, for city.	According to the plan, City will continue to support CAT to promote continuation and expansion of public transportation for Island residents and visitors; however, there are limited policies that support public transportation.
Collier County Comprehensive Plan	Collier County	2018	CP	Collier County	Addresses land use, transportation, capital projects, public facilities, and economic development goals, among others, for county.	Discusses intention to invest in upgrading several existing transit shelters and building more where necessary. Prescribes transit-supportive goals, objectives, and policies, such as need to develop regulations that require new developments to become more mass transit-oriented, encourage maximum use of right-of-way, improve connections with pedestrian and bicycle networks, promote expansion of aviation through individual master plans, and coordinate with other transit agencies to meet regional mobility needs.
CAT 2015–2024 TDP Major Update	Collier County	2015	TDP	Collier Area Transit	Emphasizes transit improvements and additions during peak hours; outlines cost feasibility plan, focuses on limiting traffic congestion.	Emphasizes improvement of an efficient, quality and safe public transportation system which enhances the County’s economic vitality. Supports green initiatives to reduce environmental impacts and continue to build partnerships which enhance economic and social well-being. Maximizing funding and continuing to interact with local, regional and state planning initiatives are also major goals.
Collier County Bicycle and Pedestrian Master Plan	Collier County	2018	MP	Collier County MPO	Addresses city’s current transportation networks and emphasizes need for alternative transportation options.	Discusses alternative transportation options and implementation explored including: <ul style="list-style-type: none"> Off-street path connections, bike boulevards, bike boxes, pedestrian networks, and neighborhood traffic circles designed around transit stops Establishing multi-modal transfer center at airport Integrating pedestrian travel and bicycle use with transit Using technology to encourage multimodal transportation coordination
CAT TDP Annual Progress Report	Collier County	2018	APR	Collier Area Transit	Annual update that outlines past year’s accomplishments, revisions for coming year, revised financial plan, revised goals and objectives.	Provides updates on variety of capital, facility, and service projects: <ul style="list-style-type: none"> Route changes to Route 6 (Elimination), Route 23 (future changes dependent on public meetings), Route 24 (future changes dependent on public meetings), and Route 29 (new route). Continued construction of ADA and sheltered bus stops Continuation of replacement within the fleet to operate a fleet with an average age of less than 5 years.
Collier County TDSP	Collier County	2014	TDSP	Collier County	Major TDSP update, emphasizes transit improvements and additions that serve needs of TD population in efficient and cost-effective manner.	Supports overall goal of assuring availability of efficient, cost-effective, and quality transportation services for TD people. Developing short- and long-term goals to enhance local TD efforts to supply demand for all trips. Priorities include: <ul style="list-style-type: none"> Create more awareness of Collier County TD Program through marketing Pursue additional funding to help with service as demand surpasses revenue Improve referral systems with transportation providers to help meet demand of users

Table 7-1: Local Plans, Policies and Programs (cont'd)

Plan Title	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
Collier County Transit Impact Analysis Draft Report & Recommendations	Collier County	Revised Draft for Review November 2019	Transit Impact Analysis	Collier MPO	Identifies and evaluates opportunities for supporting and advancing transit revenue and development review solutions in Collier County.	<p>Several policy recommendations provided, including:</p> <ul style="list-style-type: none"> • Site access requirements for transit when development situated along active transit routes but may also apply when development located along transit routes identified as needs in CAT's 10-year TDP or the Collier MPO's LRTP. • Reconfigure Transportation Concurrency Exemption Areas and Transportation Concurrency Management Areas. • Implementation of transportation impact fees or fair-share mitigation for TOD infill and redevelopment. • Update of codified TDM options to require certain TDM-supportive infrastructure improvements such as transit site-access improvements, covered bicycle racks, parking policies, etc. • Two new TDM strategies proposed including shared parking and providing shower and changing rooms. • Evaluate mixed-use corridor and activity center density allowances. • Proposes that Collier County Property Appraiser reevaluate surface parking lots, which are undervalued in comparison to the accompanying building value to generate additional property tax.
Collier County 2040 Long Range Transportation Plan	Collier County	2014	LRTP	Collier County	Addresses transportation, capital projects, improvement of existing bus, light rail, monorail systems.	Update of major goals and objectives in Collier County that include expanding and enhancing regional service to accommodate growing population in Collier County. Encourages growth of connectivity in Southwest Florida area, citing several future development areas and connections into Lee County.

Table 7-2: State and Federal Plans, Policies, and Programs

Plan Title	Geographic Applicability	Most Recent Update	Type of Plan	Responsible Agency	Plan/Program Overview	Key Considerations/Implications for TDP
State of Florida Transportation Disadvantaged 5-Year/20-Year Plan	Florida	2007	State	Florida Commission for the Transportation Disadvantaged (FCTD)	Developed to accomplish cost-effective, efficient, unduplicated, cohesive TD services in service area.	Develop and field-test model community transportation system for persons who are transportation disadvantaged; create strategy for FCTD to support development of universal transportation system.
FDOT Complete Streets Implementation Update: Handbook and Design Manual	Florida	2018	State	FDOT	Developed to create alternative transportation systems to facilitate “Complete Streets” focused design.	Plan includes: <ul style="list-style-type: none"> Revising guidance, standards, manuals, policies, other documents Updating how decision making processed Modifying evaluation of performance Managing communication between agencies Update training and education in agencies
Florida Transportation Plan: Horizon 2060 (FTP)	Florida	2005	State Transportation Plan	FDOT	Requires, as part of Florida Statutes, pursuit to make Florida’s economy more competitive and communities more livable. Looks at 50-year transportation planning horizon and calls for fundamental change in how and where State investments in transportation are made.	Supports development of State, regional, and local transit services through series of related goals and objectives, emphasizing new and innovative approaches by all modes to meet needs today and in future.
FAST Act	National	2015	Federal Transportation legislation	114th US Congress	Enacts five years of funding for US surface transportation infrastructure, including transit systems and rail transportation network. Provides long-term certainty and more flexibility for states and local governments, streamlines project approval processes, maintains strong commitment to safety.	<ul style="list-style-type: none"> Increases dedicated bus funding by 89% over life of bill. Provides stable formula funding and competitive grant program to address bus and bus facility needs. Reforms public transportation procurement to make Federal investment more cost effective and competitive. Consolidates and refocuses transit research activities to increase efficiency and accountability. Establishes pilot program for communities to expand transit through use of public-private partnerships. Provides flexibility for recipients to use federal funds to meet their state of good repair needs. Provides for coordination of public transportation services with other federally assisted transportation services to aid in mobility of older adults and individuals with disabilities.
“Implications to Public Transportation of Emerging Technologies”	National	2016	Research Report	National Center for Transit Research	Explores possible consequences for public transportation as a result of introduction of new technologies such as autonomous vehicles, connected vehicles, other innovations that impact efficiency, cost-effectiveness, overall demand for transportation.	Identifies key factors expected to influence public transportation system and current and potential users. Outlines potential impacts on travel behavior and travel decision-making; outlines areas that may be impacted by changes in travel costs for various existing and emerging modes; identifies potential implications on traveler safety along with traveler perceptions of emerging travel modes. Identifies current transit services as testbed for new technology deployment. Key areas of opportunity and savings include automated buses, enhancing quality of service via automation, and demand-response services. Key policy issues and potential hurdles are identified with recommendations for overcoming them.

7.2 Situation Appraisal Context Analysis


The TDP Rule requires that TDP Major Updates include a situation appraisal of the environment in which the transit agency operates. Using information obtained through public outreach efforts, a review of CAT trends, and other technical analyses, this appraisal documents factors that will help CAT better understand its local environment and the critical issues that could impact programs and services over the TDP planning period. The situation appraisal has been organized in the context of the following elements:

- Socioeconomic trends
- Travel behavior
- Community feedback
- Land use policy and trends
- Service and operational trends
- Organizational attributes and funding
- Technology

7.2.1 Socioeconomic Trends

When assessing the impact of the growth in population on public transportation needs, it is important to understand the trends and markets that could be affected or may benefit from public transportation services. The following key trends were identified:

- Peak seasonal demand adds significant strain to the Collier County transportation system, particularly in the coastal areas. Peak season population in the county is expected to increase from 459,799 persons in 2020 to 535,451 persons in 2030.
- Currently, the majority (approximately 77%) of the county's population lies west of CR-951 (Collier Blvd) in the more urbanized coastal area. In addition to growth within the urbanized area primarily due to redevelopment, future growth is projected around Orangetree, Ave Maria, east/southeast of Naples, and, to some degree, in Immokalee with additional growth in these areas expected through 2030.
- Employment in Collier County is densest in the western portion of the county in the Naples area and on Marco Island along the coast. In addition, some areas of Marco Island and within Immokalee include medium-range employment densities. Projected growth in employment will be highest in existing employment centers along with the intersection of I-75 and Collier Blvd in addition to North Naples along the coastline. Map 2-4 and Map 2-5 in Chapter 2 illustrate this growth.
- The potential TD population increased dramatically, by 18.9% from 2014 to 2018.
- Collier County's population over age 60 is approximately 38%, and the population segment of age 15–59, a population within the workforce age group, represents approximately 47.3% of the total population in the county.



Implications – Transit service levels require optimization to match the seasonal demand experienced in Collier County. CAT currently increases transit service to accommodate seasonal demand and modifies schedules to compensate for increased traffic volumes. Existing CAT service covers the existing areas with higher densities and the areas that are projected to increase in density over the 10-year planning period. With a growing number of persons over age 60, there will be a continued increase in the need for additional transportation services over the next 10 years, both fixed-route and paratransit. Promoting access to fixed-route service and to general public mobility-on-demand service, depending on location, will help offset the high demand for high-cost paratransit service. Premium services that offer express services to employment centers and improved amenities at bus stops and new mobility-on-demand services, will help attract choice riders and alter opinions regarding transit as an option for many who are not currently transit users.

7.2.2 Travel Behavior

As transit service has grown, the demand on existing revenue sources to support the current system and its potential future growth has grown. Based on the large geographic area and distance between the municipalities and unincorporated areas, access to regional jobs and services has been identified as an issue. A need for direct connection to in-county and out-of-county work destinations for Bonita Springs, Fort Myers, and Estero Village exists. The fixed route network is anchored at the Government Center with service within Naples and connections extending to Immokalee and Marco Island and a route to Lee County.


According to the 2013–2018 ACS, the share of persons who live in Collier County work outside the county is 36.8%. The majority of those workers who live in Collier County and work outside the county work in Lee County (12.3%). A similar proportion (37.3%) of workers in Collier County commute from outside of the county, namely from Lee County (18%).

Private regional bus service providers such as Greyhound and Florida Red Line currently complement public transit services by closing gaps in regional travel to destinations such as Miami and Tampa. The Greyhound station near routes 19, 25, and 28 supports the use of transit use.

Ride-hailing services such as Uber and Lyft have the potential to negatively impact transit performance by competing with transit. Transit agencies are partnering with private ride-hailing service in attempts to provide more convenient and affordable alternative to residents while increasing ridership to the transit network with mixed results. It is recommended that CAT explore options for providing MOD service as a means to more cost-effectively serve areas with low density of demand, replace low performing fixed route service, address growing demand for paratransit, and to increase ridership and passenger miles for federal funding.

Annually, Collier County experiences a significant influx of tourists and seasonal residents, which greatly increases traffic congestion, particularly in the urbanized area and near the beaches.

Implications – A more direct connection from Immokalee to Lee County would eliminate the need for the residents of Immokalee to first travel west to Naples before accessing transit service to Lee County. Other regional connections between north Collier County and Lee County have the potential to provide job



access between the two counties. A seamless fare system between LeeTran and CAT would facilitate travel between the two counties. Based on current funding levels, the implementation of future transit services that support the community and future private development within the 10-year planning period may require funding through public-private partnerships.

Effective competition with ride-hailing in high tourism areas will require more flexible transit options like Mobility on Demand. CAT should consider developing and adding general public mobility-on-demand services in hard-to-serve locations where traditional transit underperforms and/or locations where latent demand exists, but service is not provided. In the foreseeable future, traffic congestion may continue to adversely impact transit services. While transit service is unlikely to positively impact congestion in the area, significant investments multimodal facilities may.

7.2.3 Community Feedback

As a part of the on-board survey for this study, passengers were asked to rank service improvements they believed would make CAT better for their use. A desire for more frequent service had the highest weighted score, at 4.61 out of 5, followed closely by on-time performance (4.53) and earlier/later service (4.5). Those noting express service connections to other areas noted downtown Naples, Immokalee, and Marco Island most frequently. Areas needing new routes included Immokalee, the beaches, connections to adjacent counties and major destinations throughout Collier County, and potential connections to Miami, to name a few.


Passengers were asked to indicate which routes needed frequency changes; the majority of passenger indicated that all routes require frequency changes. The second highest was Route 11, followed by routes 19, 13, 24, and 17. Additionally, passengers were asked which routes needed later service; most passengers said the entire network warranted later service hours, as well as routes 11 and 19. Other routes included 13, 15, 17, and 28.

A review of the Public Participation Plan provides the strategy and schedule for public outreach and engaging community perspectives on mobility needs, existing services, and proposed mobility improvements and priorities. A Public Participation report will accompany the TDP and include documentation of outreach efforts and community comments.

Implications – *As funding becomes available, in addition to providing more frequent and later service, CAT will need to prioritize improvements to areas in Naples, Immokalee, and Marco Island. Based on the operating performance trends and the large and dispersed CAT service area, CAT should be focusing on improving fixed route services on routes where density of demand and productivity is high and explore more cost-effective service options to address demand in areas with lower density of demand and to address growing paratransit demand.*

7.2.4 Land Use Policies and Trends

In addition to agriculture and conservation, land use in Collier County is single-family residential and vacant single-family residential, particularly on the eastern side of the county. Multi-family uses are spread throughout the western side of the county, but not in particular areas or corridors. Several key




commercial areas include Pine Ridge Road and US-41, Naples Blvd, the intersection of I-75 and Immokalee Road, and the intersection of Collier Blvd and Immokalee Road. Major developments expected to impact the transportation system include Fiddler's Creek and Ave Maria; these developments are located in more remote parts of the county with limited roadways connecting to employment opportunities. This creates travel demand along major roadways connecting to these developments and presents opportunities to serve these trips by transit. Future land use indicates mixed-use development around major intersections, including seven located along US-41. Most future use is designated as Urban Residential Subdistrict and Estates Designation.

Implications – *Collier County's low-density development with limited roadway connectivity present challenges in managing roadway congestions and providing efficient and effective public transportation services. Transit options to better serve Planned Unit Developments such as Fiddler's Creek and Ave Maria will need to be considered to help manage congestion and offer attractive transit options for transit users and choice riders. There are limited mixed-use and other transit-supportive land uses in Collier County's Future Land Use map, therefore future land use may continue to negatively impact the provision of transit services.*

7.2.5 Service and Operational Trends

Key service and operational trends observed in the peer and trend analysis include the following:

- CAT reflected an increase in service supply with respect to total vehicle miles, revenue miles, vehicle hours and route miles, and vehicle miles per capita. This is driven in part by the large and dispersed service area which requires more service supply to serve distributed demand. CAT ranked above the peer average for passenger miles, vehicle miles, revenue miles, and route miles compared to its peer group. Adding service in response to growth and demand is a positive action reinforced by increased ridership and productivity and CAT is monitoring trends to determine where and how much additional service is justified.
- CAT reflected a decrease in productivity with respect to passenger trips; however, transit agencies throughout the US are experienced similar declines. CAT performed 19.3% below the peer mean for passenger trips.
- CAT experienced a decline in efficiency between 2013 and 2018 with operating expenses increasing moderately by 6% over the six-year period. Operating expense per passenger trip and operating expense per passenger mile had dramatic increases that were driven largely by decreases in passenger trips. CAT, however, performed better than the peer mean with respect to total operating expenses, operating expense per passenger mile, and operating expense per revenue mile, suggesting that CAT has better cost efficiency compared to its peer group. Operating expense per revenue mile fluctuated between 2013 and 2018, but only with a slight increase of 2.6% overall.
- CAT experienced a decline in service effectiveness measures with passenger trips per capita, passenger trips per revenue mile, and passenger trips per revenue hour decreasing over the six-year period. This indicates a negative trend in service consumption which is consistent with the



national trends influenced by changes in the economy. CAT performed below the peer group mean for these measures. The farebox recovery ratio decreased 34% but, compared to the peer group, CAT is performing near the peer mean.

Implications – CAT experienced an overall decline in efficiency and effectiveness, consistent with the national trends which are highly reflective of structural changes in the economy resulting from the great recession. The decline in ridership was influenced by several factors, including an improved economy, growth in the gig economy, increase in work from home employment, increasing automobile ownership, and increased use of ride-hailing services. CAT is likely more vulnerable to these impacts due to a high proportion of service sector jobs and a very large and dispersed service area which drives up vehicle miles of service relative to declining ridership during the period. However, CAT may consider operating general public mobility-on-demand services as a way of serving hard-to-reach areas within the county and offer a more cost-effective alternative to the public.

7.2.6 Organizational Attributes and Funding

Collier County's Public Transit & Neighborhood Enhancement Division (PTNE) administers CAT services and partners with Lee County Transit (LeeTran) to provide the LinC express route between the two counties. In addition to fixed-route services, CAT provides door-to-door service under the CAT Connect program that includes complementary ADA and TD paratransit services. Medicaid transportation services are provided through a network of transportation providers overseen by MTM, Inc., the County's Medicaid transportation services broker. Collier County also serves as the CTC under Chapter 427 of the Florida Statutes. As CTC, the PTNE Division administers the coordination of countywide transportation services for TD individuals.

CAT is assessing strategies to better connect transit and the development review process and should issue recommendations and guidance for consideration by the County as their evaluation process concludes. The development review process is key to understanding and managing the impacts of development on transit needs and operations as well as a means to help program and plan transit services and capital improvements. Recommendations should include considerations of valid and reliable rationale for connecting development review and supporting transit service and capital needs. This should include impacts on both roadway and transit levels of service as well as transit facilities needs to improve operating efficiencies and customer amenities. Considerations should measure and reflect the ability to improve mobility within the community including access to transit service and the societal and economic benefits of improved access to transit.

Implications –CAT relies primarily on fares, local budget allocations, and federal and state funding sources for the provision of CAT services. Since growth and development create the need for transit services and drive the cost of transit services, the ability to help plan and manage growth would help CAT better manage transit demand and help pay for transit costs. Currently the development review process does not support transit as a means of mobility in Collier County even though development drives travel demand and ridership and the resulting impacts of increased traffic congestion and increased operating cost of transit services. CAT would be well served to be a party to both the development review process and an integral element of the Comprehensive Planning process.

7.2.7 Technology Trends

CAT offers real-time fixed-route bus information on the CAT website and in the MyStop app. Passengers can board CAT buses using reloadable smart cards. The public can use the online trip planner on the Google Maps platform to find transit solutions. CAT had a technology consultant assess needs and these findings are summarized below.

CAT established organizational goals for technology as noted:

- Improve customer satisfaction and convenience (e.g., be more proactive with customers, provide customizable alerts/information);
- Obtain and utilize reliable data to make service improvements;
- Provide more coordination/collaboration/connection between fixed route and paratransit, and between transit and other modes (traffic, bike-sharing, ride-sharing, microtransit);
- Improve operational efficiency and service reliability;
- Establish a unified climate among CAT, the County, community and contractor (e.g., improve perception);
- Foster innovation within CAT;
- Adapt to changing customer needs and transportation ecosystem;
- Ensure fiscal discipline and explore financial options; and
- Ensure technology efficiency and minimize duplication.

Based on the above goals and in response to a ranking and prioritization effort, CAT has prioritized the following technology initiatives:

- Kiosk Information Media
- Enhanced Data Strategy
- On-board Surveillance System Enhancement
- Transit Signal Priority
- On-board Information Media
- Identify Super Users/Product Champions
- Upgrade Fare Logistics
- Paratransit IVR/Notifications
- Fixed Route Scheduling Software

- Replace/Upgrade Avail Systems

Implications – CAT should continue to advance the technology improvements and priorities based on final recommendations from the technology consultant as fiscal capacity will permit. CAT should integrate advances in technology and apply to enhance existing services and to deploy new and emerging technology-based mobility services. CAT should monitor use of its website and mobile applications by the public and identify opportunities to improve its use of technology to better inform the public about transit and mobility services and connect the public to these services. CAT should explore opportunities within Software-as-a-Service and Mobility-as-a-Service platforms to develop and deploy Mobility-on-Demand services to more cost-effectively provide mobility services to customers, especially in areas where lower density of demand results in low performance of the fixed-route services and where opportunities exist to serve growing ADA demand and persons aging in place.

8.0 Mission Goals and Objectives

This section provides the transit vision, mission, goals, objectives, and initiatives for the CAT TDP. These reflect the existing Vision, Mission, goals, and objectives from the previous TDP with edits. The goals and objectives presented were prepared based on the review and assessment of existing conditions, the public involvement process including the TDP Working Group and a review of local transportation planning documents. The revised mission, Vision, goals and objectives are consistent with the policies of the Collier County Public Transit & Neighborhood Enhancement Division.

8.1 CAT's Public Transit Vision

Collier Area Transit (CAT), provides effective and efficient multimodal mobility services to meet the mobility needs of workers, residents, visitors, to support economic, environmental, and community benefits.

8.2 CAT's Public Transit Mission

To provide safe, accessible, reliable, convenient, and courteous mobility services to our customers.

8.3 CAT's Public Transit Goals and Objectives

Goal 1: Operate reliable, convenient, and cost-effective mobility services that safely and efficiently meet the mobility needs of Collier County's workers, residents and visitors.

Objective 1.1: Improve efficiency, service quality, and level of service to adequately serve workers, residents and visitors while contributing to the economic vitality of the county.

Initiative 1.1.1: Operate east/west corridor service to provide access to jobs, education, healthcare and community services, and recreation.

Initiative 1.1.2: Operate north/south corridor service to provide alternative access to jobs, education, healthcare and community services, and recreation.


Initiative 1.1.3: Improve peak weekday service frequency to 45 minutes or better on CAT routes.

Initiative 1.1.4: Evaluate the feasibility of premium transit services, such as bus rapid transit (BRT) within corridors where density of demand and activity warrants frequent service.

Initiative 1.1.5: Provide mobility-on-demand service in areas with lower density of demand than is productive for fixed route service and to access areas that are not able to be served by fixed route.

Objective 1.2: Provide adequate bus stop amenities at all stops according to bus stop threshold and accessibility guidelines within available fiscal capacity.

Initiative 1.2.1: Pursue funding to maintain and improve existing bus stops.



Initiative 1.2.2: Install and maintain bus stop amenities according to an ADA compliant Passenger Amenities Program and Bus Stop Amenities Guidelines.

Initiative 1.2.3: Install a minimum of ten ADA-compliant, accessible bus stop shelters per year.

Initiative 1.2.4: Coordinate with the Collier County and local governments to include sidewalks and bus stop shelters in design and construction of roadway projects and new developments.

Initiative 1.2.5: Monitor and implement the recommendations from the CAT Bus Stop ADA Assessment report.

Objective 1.3: Structure transit service with a focus on providing job access for workforce and access to mobility for persons with no or limited access to a private automobile.

Initiative 1.3.1: Improve transit service for areas with high mobility needs per the transit orientation index identified in the latest TDP Major Update.

Initiative 1.3.2: Provide efficient transit and mobility access to major employment centers, development corridors, and other significant activity centers as funding allows.

Initiative 1.3.3: Focus transit and mobility services in areas with high employment and dwelling unit densities and connect targeted jobs-housing locations to serve the workforce, including Golden Gate Estates and areas located in the eastern portion of the county.

Initiative 1.3.4: Focus improved service frequency on transit routes that serve high mobility needs communities; target service frequency of hourly or better where demand and fiscal capacity allow; apply mobility on demand solutions for areas with lower population densities and where fixed-route service is not productive and cost-effective.


Objective 1.4: Create an optimized interconnected multimodal mobility network designed to fit the range of needs and conditions for the service market.

Initiative 1.4.1: Focus improved service frequency on transit routes that serve high mobility needs communities; target service frequency of hourly or better where demand and fiscal capacity allow; apply mobility on demand solutions for areas with lower population densities and where fixed-route service is not productive and cost-effective.

Initiative 1.4.2: Coordinate with FDOT Commuter Services to enhance and expand carpool and vanpool strategies and services to connect workforce communities with employment locations within the service area; identify properties for park-and-ride lots in areas with high mobility demand as funding is available. Implement recommendations from the current park-and-ride study.

Initiative 1.4.3: Coordinate with the CAT Connect paratransit program to identify and target areas with high TD ridership and lower density of demand and develop programs to shift TD riders to a mobility on demand for all solution with connections to the fixed-route network.

Initiative 1.4.4: Require local governments and FDOT to provide accessible sidewalks, bus stops, and other bus stop improvements within roadway projects and all new developments.



Initiative 1.4.5: Coordinate with community improvement organizations that support investments in enhanced mobility such as: the Immokalee CRA, Bayshore Gateway Triangle CRA, Naples CRA, Opportunity Naples, Golden Gate Estates Civic, Immokalee Chamber of Commerce, and the Greater Naples Chamber of Commerce to affect improvements in mobility through increased funding, roadway and sidewalk improvements, new developments, to assure transit and mobility services are integral to economic development planning and decision-making.

Initiative 1.4.6: Make transit and mobility reviews a part of the development and redevelopment review and approval process within the county and cities. Require the development community, as part of the development review and approval process, to follow guidelines on bus stop siting and design, land use, and roadway design factors that affect transit design; and to coordinate with CAT for transit services during the development process. Include CAT as a reviewing agency within the development review and approval process. Consider adding a transit component to traffic impact studies.

Initiative 1.4.7: Develop and adopt a transit level of service (LOS) policy and guidance to provide a framework and metrics for improving, modifying, funding transit services.

Objective 1.5: Provide coordinated transportation services between Collier and adjacent counties to support workforce commutes to major employment centers and facilitate connections to both transit networks in support of regional economic and community benefits.

Initiative 1.5.1: Identify high travel volumes between Collier and adjacent counties; develop regional services for travel markets that have high transit propensity and support regional community and economic benefits, including Immokalee and East Naples communities.

Initiative 1.5.2: Coordinate with LeeTran and FDOT to identify funding for expanded cross county public transportation services.

Objective 1.6: Enhance transit services targeted at tourists, seasonal residents, and the workforce that supports this market.


Initiative 1.6.1: Broadcast CAT television commercials, radio advertisements, digital advertisements, and social media advertising, monitor ridership vis-a-vis marketing and advertising efforts to determine ridership increases attributable to marketing efforts.

Initiative 1.6.2: Develop CAT branded services and amenities within the coastal markets to better attract ridership by visitors, seasonal residents, and workers.

Objective 1.7: Enhance awareness of CAT services and accessibility to service information for riders, workers, residents, and visitors.

Initiative 1.7.1: Continue to leverage technology applications to increase and enhance awareness of CAT services and to connect riders with CAT services, including enhancing the access to fixed route through the introduction of mobility-on-demand service to the system.

Initiative 1.7.2: Obtain professional services for a market study and development of marketing strategies and best practices to increase awareness of CAT, CAT services, CAT image, and increase



market share in terms of model split ridership. This effort should leverage use of technology, social media, traditional media, branding, and develop and provide strategies to attract interest in CAT to build choice ridership and generally improve the image of CAT as a service.

Initiative 1.7.3: Continue to partner with the Chamber of Commerce to develop and disseminate information and materials to businesses, residents, visitors, about the value of CAT services, the benefits of riding CAT, and information about how to access and use CAT services.

Initiative 1.7.4: Provide travel training for persons interested in using the CAT system.

Initiative 1.7.5: Conduct outreach activities at community events, schools, and other organizations to teach students and the public how to use CAT and the benefits of CAT services.

Initiative 1.7.6: Garner relationships with local media and news outlets to keep the community aware and involved.

Goal 2: Increase the resiliency of Collier County, protecting our man-made and natural resources, by providing attractive and convenient mobility alternatives that will reduce adverse carbon and environmental impacts within our communities.

Objective 2.1: Provide services and programs to reduce vehicle miles traveled within Collier County.

Initiative 2.1.1: Coordinate with FDOT Commuter Services to enhance and expand carpool and vanpool strategies and services to connect workforce communities with employment locations within the service area; implement recommendations from current park-and-ride study as funding is available.

Initiative 2.1.2: Coordinate with the Naples Pathway Coalition, the MPO Pathways Advisory Committee, and local non-profit and/or for-profit groups to expand the use of bicycles as a commute and mobility option, including bicycle share programs.

Initiative 2.1.3: Coordinate with Collier County Driver License and Motor Vehicle Service Centers to promote CAT fixed-route services to persons unable to obtain a driver's license or with an unsafe and/or inoperable vehicle.


Initiative 2.1.4: Broadcast CAT television commercials, radio advertisements, digital advertisements, and social media advertising, monitor ridership vis-a-vis marketing and advertising efforts to determine ridership increases attributable to marketing efforts.

Initiative 2.1.5: Develop partnerships with employers and major activity centers (educational, government, healthcare, retail, residential, commercial) to provide education and awareness of CAT services and benefits, and incentives to use CAT services rather than drive.

Objective 2.2: Design mobility services to reduce environmental impacts.

Initiative 2.2.1: Transition fleet to alternative fuels vehicles.

Initiative 2.2.2: Transition to smaller cleaner vehicles and match service delivery to demand by time of day using a mobility on demand strategy where and when service area and demand characteristics



warrant; this may include converting low productivity fixed-route service to mobility on demand and/or transitioning fixed-route to mobility on demand at certain times of the day.

Objective 2.3: Improve resiliency for extreme weather events and changing environment.

Initiative 2.3.1: Use electric vehicles as back-up power for emergency facilities.

Initiative 2.3.1: Explore solar powered canopies to energize the maintenance building and buses and provide shade.

Goal 3: Build meaningful partnerships that increase awareness and education of and about mobility options and increase the viability of mobility services to promote livability and enhance economic and social well-being.

Objective 3.1: Develop marketing strategies to increase awareness of CAT services and to increase ridership.

Initiative 3.1.1: Participate in local job fairs and outreach/partnerships with employers to increase knowledge about the transit system and to encourage use.

Initiative 3.1.2: Develop marketing materials and programs to demonstrate the value and role of transit as a mobility option, including benefits accruing to personal finances, access to opportunities, and reduction of regional carbon emissions.

Initiative 3.1.3: Distribute transit service information and user-friendly brochures to at least 25% of businesses within ¼-mile of existing transit routes prior to initiating the next TDP Major Update.

Initiative 3.1.4: Continue the CAT public relations campaign, including television, radio, and social media advertisements, designed to promote transit ridership and sustainability.

Initiative 3.1.5: Facilitate social media tools and campaigns to promote CAT awareness, services, and benefits for individuals, businesses, organizations.

Initiative 3.1.6: Conduct an on-going program of outreach and education targeted at governments, employers, community organizations, community services, healthcare services to build and foster partnerships to provide, fund, and support mobility services.

Objective 3.2: Focus intergovernmental relationships to improve and expand regional mobility.

Initiative 3.2.1: Continue to coordinate and partner with LeeTran to improve and expand cross-county mobility services to support workforce travel demand with a focus on commuter express routes, connecting workers to employment, and provide connections strategically to the transit networks in Lee and Collier counties to facilitate access to key activity centers.

Initiative 3.2.2: Coordinate with FDOT Commuter Services to enhance and expand carpool and vanpool strategies and services to connect workforce communities with employment locations within the region; identify properties for park-and-ride lots in areas with high mobility demand as funding is available.



Goal 4: Coordinate the development and provision of mobility services with local, regional, state planning efforts and through public and private partnerships.

Objective 4.1: Coordinate integrated land use and transportation planning efforts to incorporate transit needs into the development review and approval process.

Initiative 4.1.1: Work with Collier County to implement recommendations listed in the Collier County Transit Impact Analysis.

Initiative 4.1.2: Participate in planning and development review meetings to ensure that county and city policies support transit services and funding needs.

Initiative 4.1.3: Require local governments and FDOT to provide accessible sidewalks, bus stops, and other bus stop improvements within roadway projects and for all new developments.

Initiative 4.1.4: Make transit and mobility reviews a part of the development and redevelopment review and approval process within the county and cities. Require the development community, as part of the development review and approval process, to follow guidelines on bus stop siting and design, land use, and roadway design factors that affect transit design; and to coordinate with CAT for transit services during the development process. Include CAT as a reviewing agency within the development review and approval process. Consider adding a transit component to traffic impact studies.

Initiative 4.1.5: Meet quarterly with staff from the Collier County Transportation Engineering and Planning departments to identify upcoming utilities, roadway, and /or stormwater projects, planning studies, and site developments that will affect the provision of transit services.

Goal 5: Use technologies and innovations in service delivery to improve productivity, efficiency, reliability, and cost-effectiveness of mobility services and operations.

Objective 5.1: Explore, monitor, test, and deploy technology applications to enhance mobility services, increase awareness of CAT services, and ease of access to CAT services.

Initiative 5.1.1: Improve customer information systems, including website and through directly curated and through available mobile applications, to enhance availability of and access to CAT service information and trip planning, to support increased ridership.

Initiative 5.1.2: Explore and acquire cloud-based Software as a Service (SaaS) and/or Mobility as a Service (MaaS) functionalities to support mobility on demand services, directly operated and/or operated through contract or partnership, to serve general public and augment or replace ADA paratransit services where and when warranted based on costs, productivity, and service quality.

Initiative 5.1.4: Explore use of account-based payment systems to reload smart cards and other fare media as part of a SaaS or MaaS platform and to facilitate compatible fare policy and fare technology with LeeTran.

Initiative 5.1.5: Explore technology to allow merchants and employers to reduce fares for patrons and employees using smart cards and/or mobile pay applications.



Goal 6: Monitor and improve mobility service quality and service standards.

Objective 6.1: Develop ongoing processes to measure and monitor service quality.

Initiative 6.1.1: Use a Route Monitoring System to examine fixed-route services on an annual basis and make revisions to low-performing services as needed, including transitioning to mobility on demand solutions where and when warranted.

Initiative 6.1.2: Conduct a survey at least every two years to obtain passenger information including user demographics, travel behavior characteristics, transfer activity, and user satisfaction.

Initiative 6.1.3: Maintain an ongoing public involvement process to solicit and assess input through online reviews, calls/comments cards, discussion groups, surveys, and CAT booths at community events.

Initiative 6.1.4: Maintain an on-going process for operators to communicate transit service comments and suggestions to identify passenger needs and improve services and service performance; comments to be reviewed monthly by service planning and operations.

Initiative 6.1.5: Manage the CAT fleet of fixed-route vehicles to maintain an average fleet age of less than seven years as funding permits.

Initiative 6.1.6: Maintain an on-going process for operators to communicate potential vehicle maintenance problems to be logged with the preventative maintenance program to identify and investigate problems early.

Goal 7: Maximize the use of all funding sources available, including through partnerships with businesses, employers, and other institutions to increase and improve access to mobility services and mobility for workers, residents, visitors.

Objective 7.1: Increase and expand revenue sources.


Initiative 7.1.1: Explore opportunities for generating advertising revenue on and inside the buses.

Initiative 7.1.2: Educate the general public and local decision-makers on the importance of public transportation and the need for financial support.

Initiative 7.1.3: Submit grant applications available through Federal, State, local, and private sources.

Initiative 7.1.4: Annually seek to identify and obtain available alternative revenue sources for the provision of new and improved transit services.

Initiative 7.1.5: Serve on and coordinate with the Collier County Tourist Development Council (TDC) and to explore the potential for using tourist development tax revenue to expand and improve transit service for Collier County's tourists and visitors, help enhance awareness of CAT services, develop private-public partnerships to design and fund transit services that serve visitors and employees.



Initiative 7.1.6: Explore opportunities to leverage and enhance share of funding from existing taxes and fees to be assigned to transit. Explore means to secure impact fees, development fees, and new taxes to be secured for supporting transit, maintenance and expansion of transit services.

Initiative 7.1.7: Use a 501(c)(3) that allows persons to donate funds to CAT for the purpose of “adopting a shelter” or “adopting a rider.”

9.0 Alternatives Development and Evaluation

This section identifies potential transit improvements, also known as transit alternatives, for CAT's 10-year TDP. The proposed improvements represent the transit needs for the next 10 years and they were developed without consideration of funding constraints.

The identified service improvements were prioritized using an evaluation process that considers input from the community and various technical analyses that identified transit gaps. The resulting prioritized list of improvements will be used to develop the 10-year implementation and financial plans, which will be presented in the full 2021–2030 TDP draft. As Collier County and the communities within the county continue to grow, these prioritized transit needs will assist CAT in selecting and implementing service improvements as funding becomes available.


9.1 Development of Alternatives

The CAT 2021–2030 TDP transit alternatives consist of improvements that optimize existing CAT services and expand transit service to new areas. The alternatives reflect the transit needs of the community and were developed based on information gathered through the following methods:

- **Public outreach** – Multiple techniques were used to obtain substantive public input on transit needs throughout the CAT TDP planning process. An on-board rider survey, two online general public surveys, key person/stakeholder interviews, two well-attended mobility discussion group workshops, two public meetings, and a series of three Review Committee meetings were or will be conducted to gather input from the public, stakeholders, elected officials, and the community regarding alternatives to be considered for the next ten years.
- **Transit demand assessment** – As presented herein, an assessment of transit demand and needs was conducted for Collier County that included the use of various GIS-based analysis tools (e.g., DTA, TOI, APC review). These technical analyses, together with the baseline conditions assessment and transit performance reviews previously conducted, were used to help identify areas with potential transit demand and transit-supportive characteristics when developing the list of needs-based transit alternatives.
- **Situation appraisal** – The CAT 10-year TDP is required by State law to include a Situation Appraisal of the environment in which the transit agency operates. This holistic analysis helps to develop an understanding of CAT's operating environment in the context of key elements specified in the TDP Rule. The implications from the Situation Appraisal findings were considered in identifying potential transit alternatives.

Based on these methods, alternatives were identified and grouped into three categories:

- Service Improvements
- Capital/Infrastructure
- Policy/Other



Specific improvements identified in each category are summarized. Map 9-1 illustrates the proposed network that includes several realignments of existing routes and new service improvements. The following section provides additional detail regarding the development and envisioned service of the alternatives.

9.2 Service Improvements

Service improvements include enhancements to existing routes related to route and system network design, frequency, extended service hours, and/or additional days of service. This category also includes service expansion, including new routes/modes for operating in areas not currently served CAT.

9.2.1 Improvements to Existing Routes

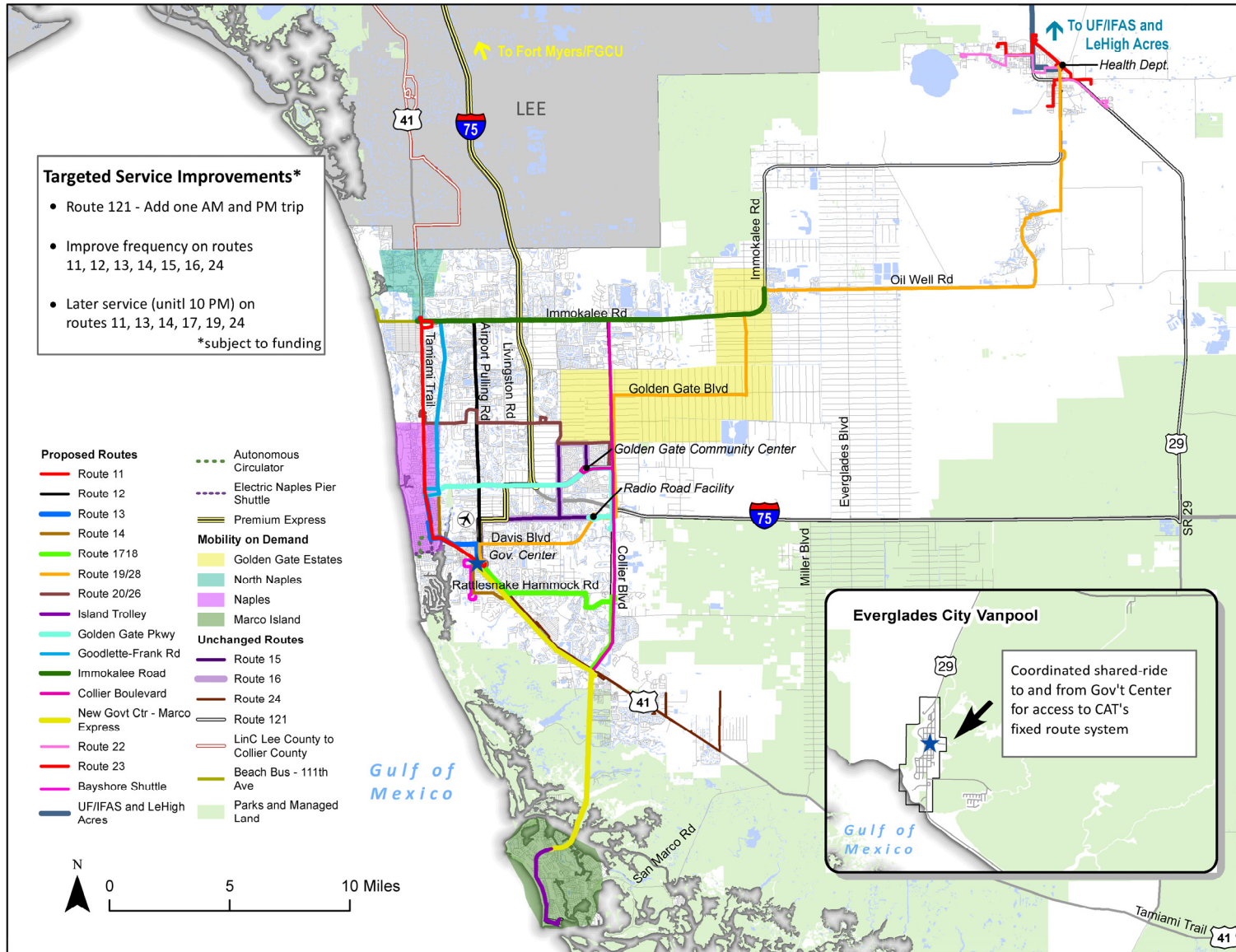
Expanding hours and increasing frequencies of existing bus routes are significant needs identified through the public outreach efforts. Needed improvements and increased efficiencies to the existing fixed-route network include the following.

9.2.1.1 Improve Frequency on Selected Routes

It is recommended that enhanced frequencies be applied to routes with the highest ridership and/or serve as key connectors where transit level of service does not meet demand. The following frequency improvements are proposed for CAT:

- **Add trips to Route 121** – This route currently has only one AM and one PM trip but has the highest productivity, with a seating capacity that is regularly exceeded despite its two-hour travel time. Recommend adding two morning and two evening trips during peak periods and coordinating these trips with employee shift times at major employment locations such as the Marriott and several restaurants.
- **Improve frequency on selected routes** – According to FY 2019 performance data, the highest performing routes include routes 11, 12, 13, 14, 15, 19, and 24. Based on population and employment projections, the on-board survey and review of route performance, the following headways are proposed:
 - Route 11 – currently has 30-minute headway during peak hours; recommend 20-minute peak headway
 - Route 12 – currently has headways of 25–90 minutes; recommend 30-minute peak headway and 60-min off-peak headway
 - Route 13 – currently has 60-minute headway throughout day; recommend 30-minute headway
 - Route 14 – currently has 60-minute headway throughout day; recommend 30-minute headway
 - Route 15/16 – currently has 90-minute headway; recommend 45-minute headway
 - Route 24 – currently has 85-minute headway; recommend 60-minute headway

Map 9-1: Alternatives in Proposed Transit Network



9.2.1.2 Later Service

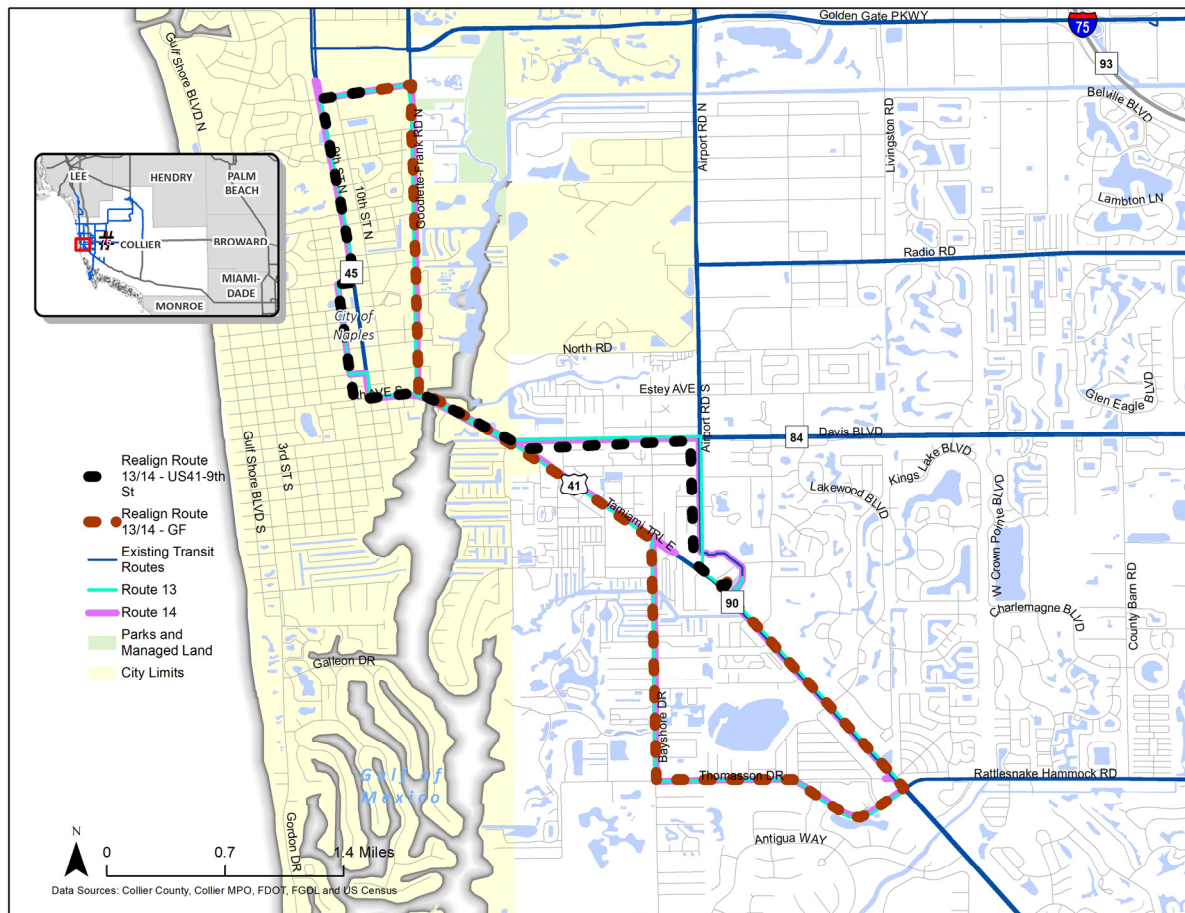
Based on results from the on-board survey, a need for adding later service was identified as a priority. It is proposed to extend service later on routes 11, 13, 14, 17, 19, and 24. The end times for the service span of these routes currently ranges from 6:25 PM to 8:52 PM; it is recommended to extend service to 10:00 PM as a target as funding and service demand allow.

9.2.1.3 Realign Routes

To improve directness of service, eliminate large loops, thereby reducing network redundancy, improving travel times, providing more direct connections, improving productivity, and simplifying route information for riders, the following route and network improvements are proposed. The objective of these recommendations is to streamline the route and network structure while being better to accommodate the anticipated population and employment growth identified in the Baseline Conditions. The route extensions and realignments work in tandem with other route improvements, and several route pairs proposed below combine separate one-directional routes to serve as single bidirectional routes:

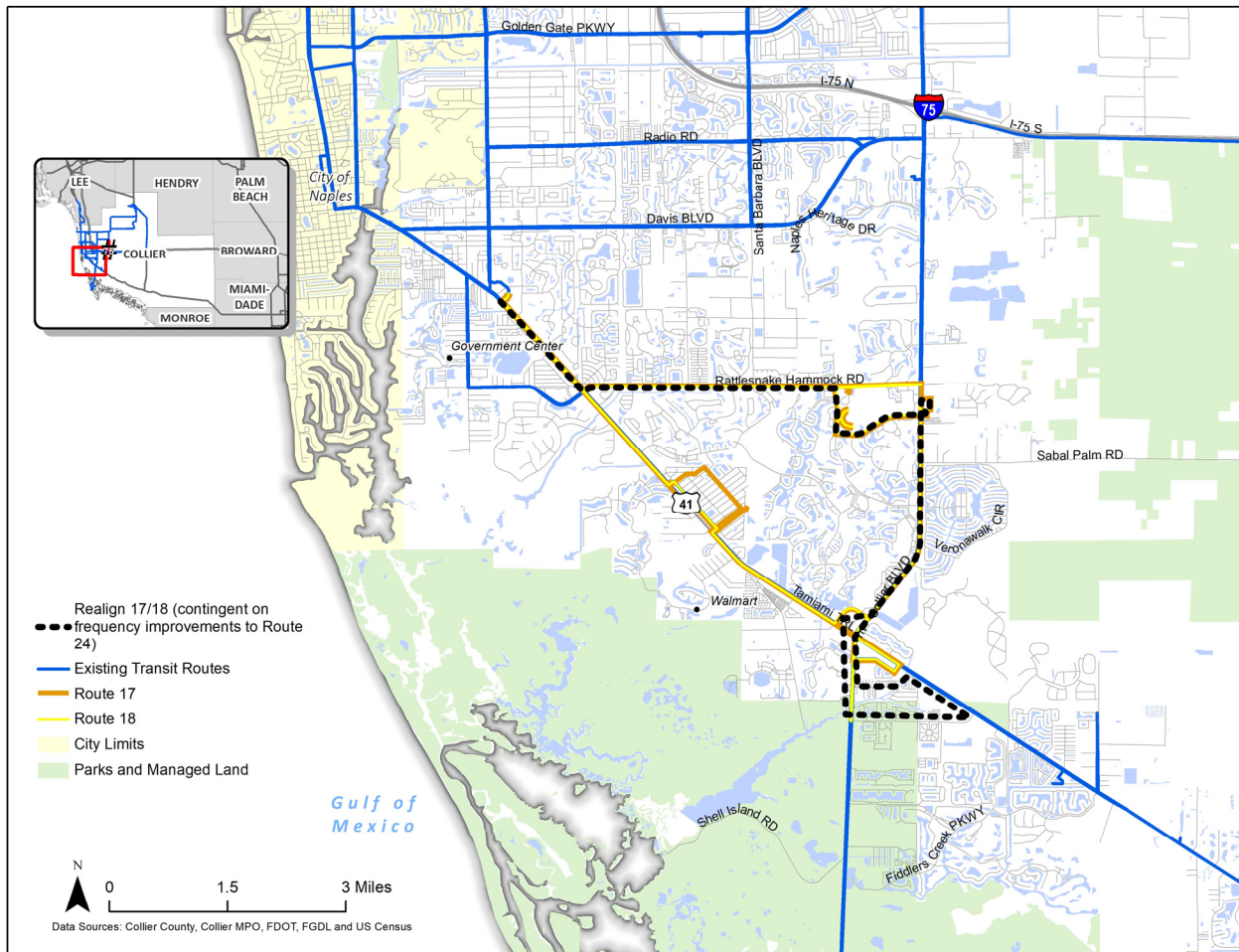
- **Extend Route 11** – Establish a minor extension of the north endpoint, travel time permitting, to travel along Creekside Boulevard, north on Arthrex Boulevard, and then west on Immokalee Road to provide service to the Walmart on Tamiami Trail and Immokalee Road, pending agreements with the property owner. This extension will enhance connectivity to other improved routes such 12, 25, and 27. Other considerations include, connecting to the LinC at Walmart on Tamiami Trail and Immokalee Road rather than the existing location at Creekside and Immokalee Road.
- **Extend Route 12** – The western portion of Route 12 ends on Immokalee Road and Creekside Way. The proposed improvement would extend service into Walmart and other shopping plazas at the intersection of Tamiami Trail and Immokalee Road.
- **Realign Routes 13 and 14** – Routes 13 and 14 operate as a one-way pair; separating them into two bidirectional routes would make the routes easier to understand from the rider perspective and enhance frequency on the proposed shorter Route 13. The routes would operate between Coastland Center and the Government Center. Route 13 would operate along 9th Street/Tamiami Trail to Davis Blvd to the Government Center every 40 minutes. Route 14 would operate along Goodlette-Frank Road to Tamiami Trail to Bayshore Dr to Thomason Dr to Tamiami Trail north to the Government Center. The realignment will shorten Route 13 making its headway 40 minutes while the Route 14 would continue to operate every 60 minutes. Map 9-2 illustrates the proposed alignments for routes 13 and 14.

Map 9-2: Proposed Route 13/14 Realignment



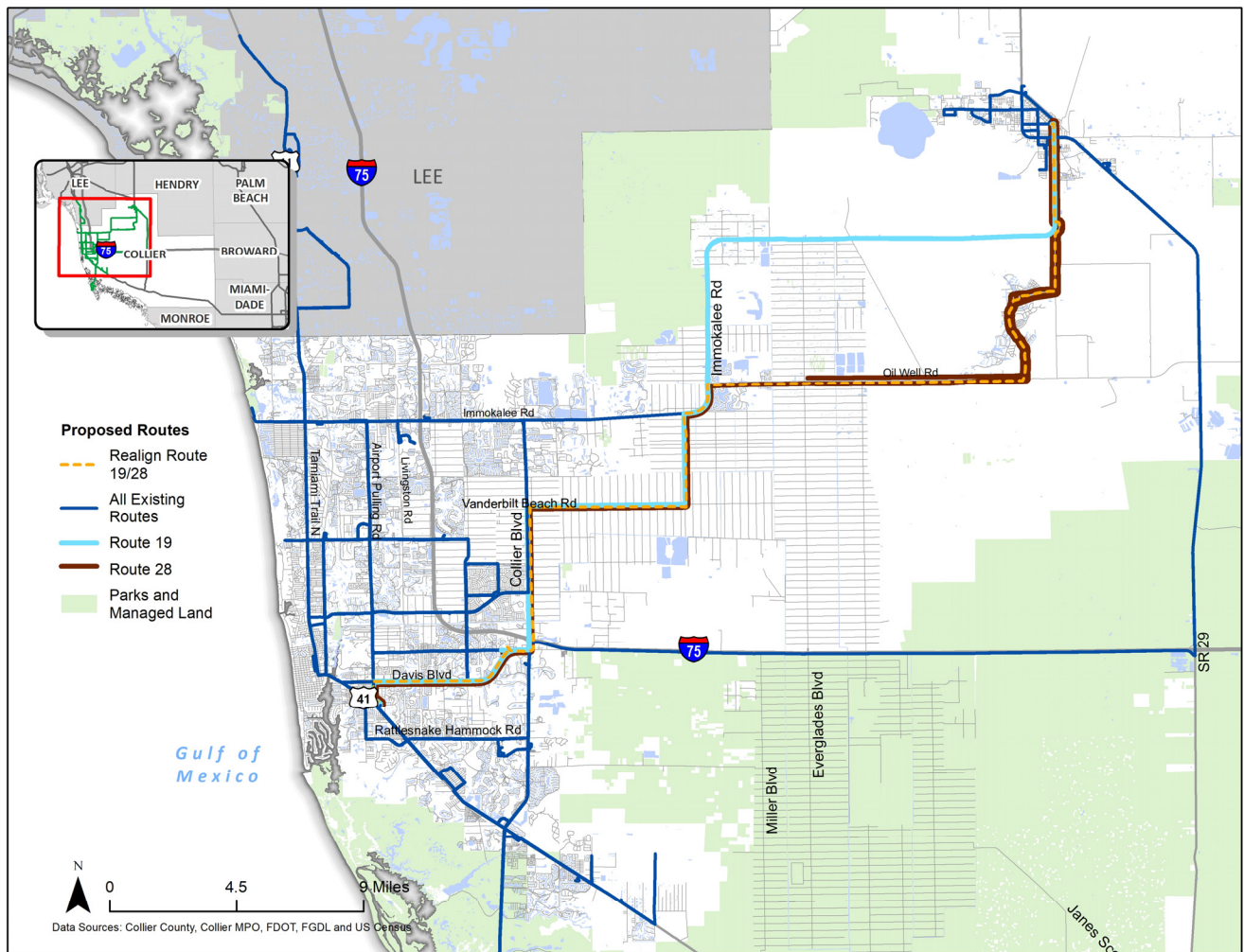
- Realign Routes 17 and 18** – Routes 17 and 18 operate as a one-way pair to provide service between the Government Center along Rattlesnake Hammock Road, Collier Boulevard, and Tamiami Trail, with destinations such as Walmart Supercenter on Collier Boulevard. To provide a more grid-like network, simplify the routes, and reduce redundancy, the proposed improvement would no longer provide service along Tamiami Trail. This improvement is contingent on frequency improvements to Route 24 to ensure no loss of transit service to the Naples Manors area and Tamiami Trail between Collier Boulevard and Rattlesnake Hammock Road. Map 9-3 illustrates the proposed alignments for routes 17 and 18, which eliminates service along Tamiami Trail between Rattlesnake Hammock and Collier Boulevard but would provide bidirectional service from the Government Center to Rattlesnake Hammock to Collier Boulevard before deviating to Florida Southwestern State College and Physician’s Medical Center on Collier Boulevard and finally to Freedom Square Plaza and the Walmart Supercenter on Collier Boulevard.

Map 9-3: Proposed Route 17/18 Realignment



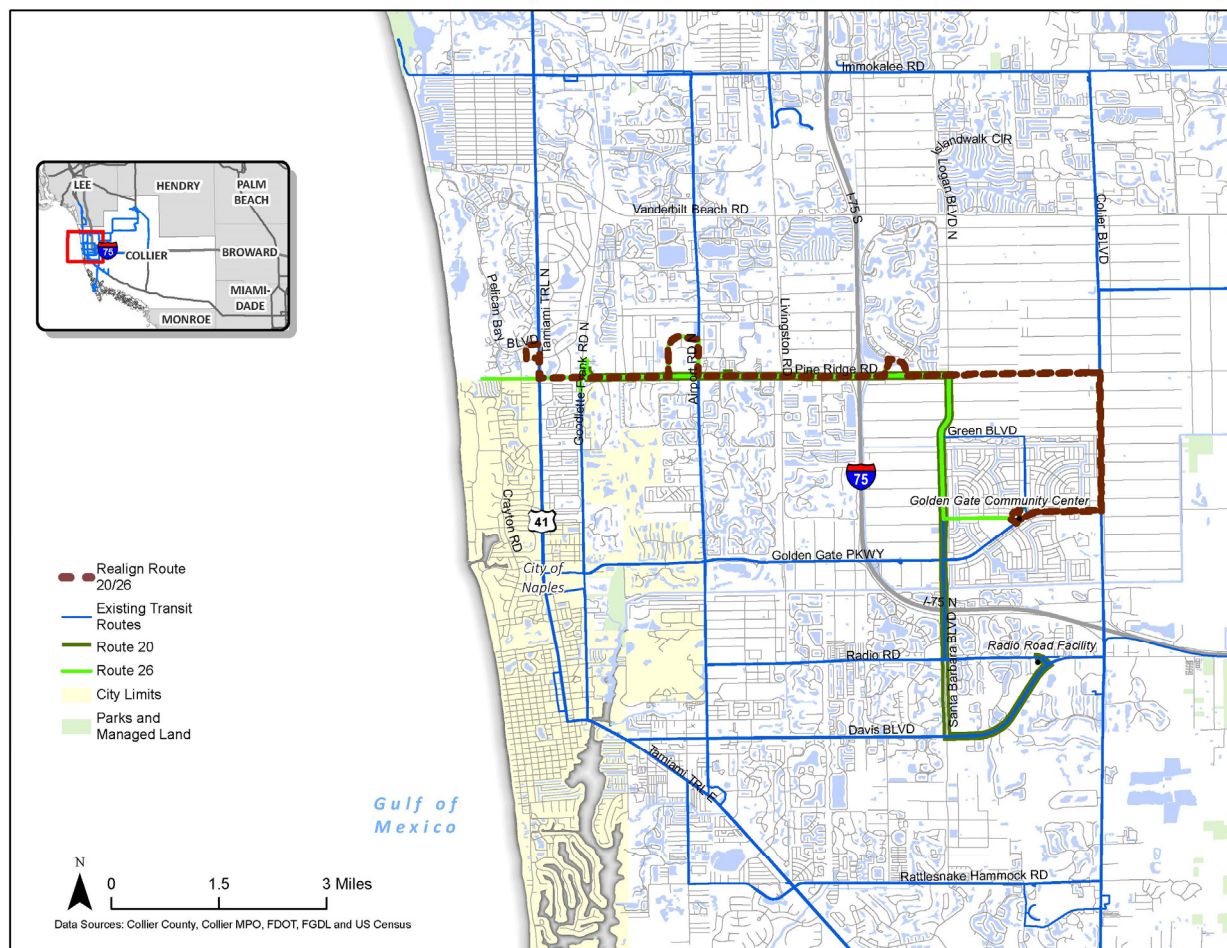
- Realign Routes 19 and 28** – Routes 19 and 28 provide service from the Health Department in Immokalee to the Government Center using the same path, except Route 19 currently serves Immokalee Road instead of Ave Maria and Oil Well Road. To simplify the route, eliminate redundancy, eliminate unproductive route segments and to better accommodate future population growth in Orangetree and Ave Maria, it is proposed to eliminate Route 19 and combine the service hours into Route 28 to improve frequency to 70-minute headways. Combining the routes would eliminate service along the large bend on Immokalee Road at which a major development is anticipated in the future. As development grows in this area, CAT should consider realigning the route to serve this area as demand manifests. Map 9-4 illustrates the proposed alignment for the Route 19/28 combination.

Map 9-4: Proposed Route 19/28 Realignment




- Realign Routes 20 and 26** – Routes 20 and 26 are redundant along Pine Ridge Road and Santa Barbara Boulevard, and each provides three roundtrips per day. The proposed route eliminates service to Clam Pass Park, instead beginning at the Philharmonic Center for the Arts and Waterside Shops, then continuing east on Pine Ridge Road before deviating to Naples Boulevard, an industrial area with a notably high-density threshold in employment. The route would then pass through Boulevard Shoppes on Naples Boulevard, head south on Airport Pulling Road, and east on Pine Ridge Road, serving Physicians Regional Medical Center–Pine Ridge and stop at the Golden Gate Community Center, as shown in Map 9-5.

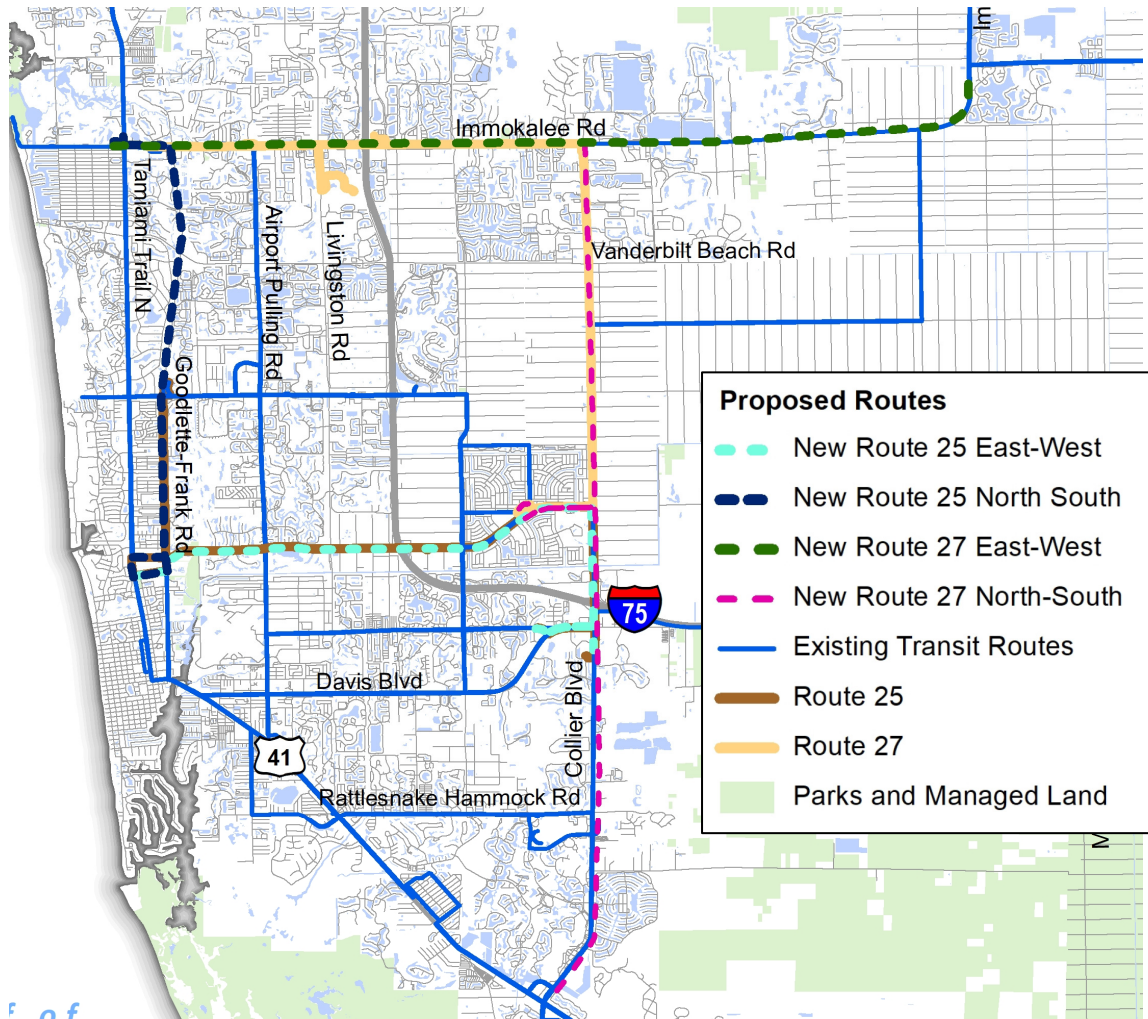
Map 9-5: Proposed Route 20/26 Realignment



- Marco Island Government Center Express (Route 21)** – This route would provide express service from Marco Island to the Walmart Supercenter on Collier Boulevard and to the Government Center. This provides a convenient connection at the Government Center to Marco Island for the majority of the routes in the CAT network. Riders would be able to access the express route on Marco Island using the proposed Marco Island MOD service and the Island Trolley, as discussed in the following section.

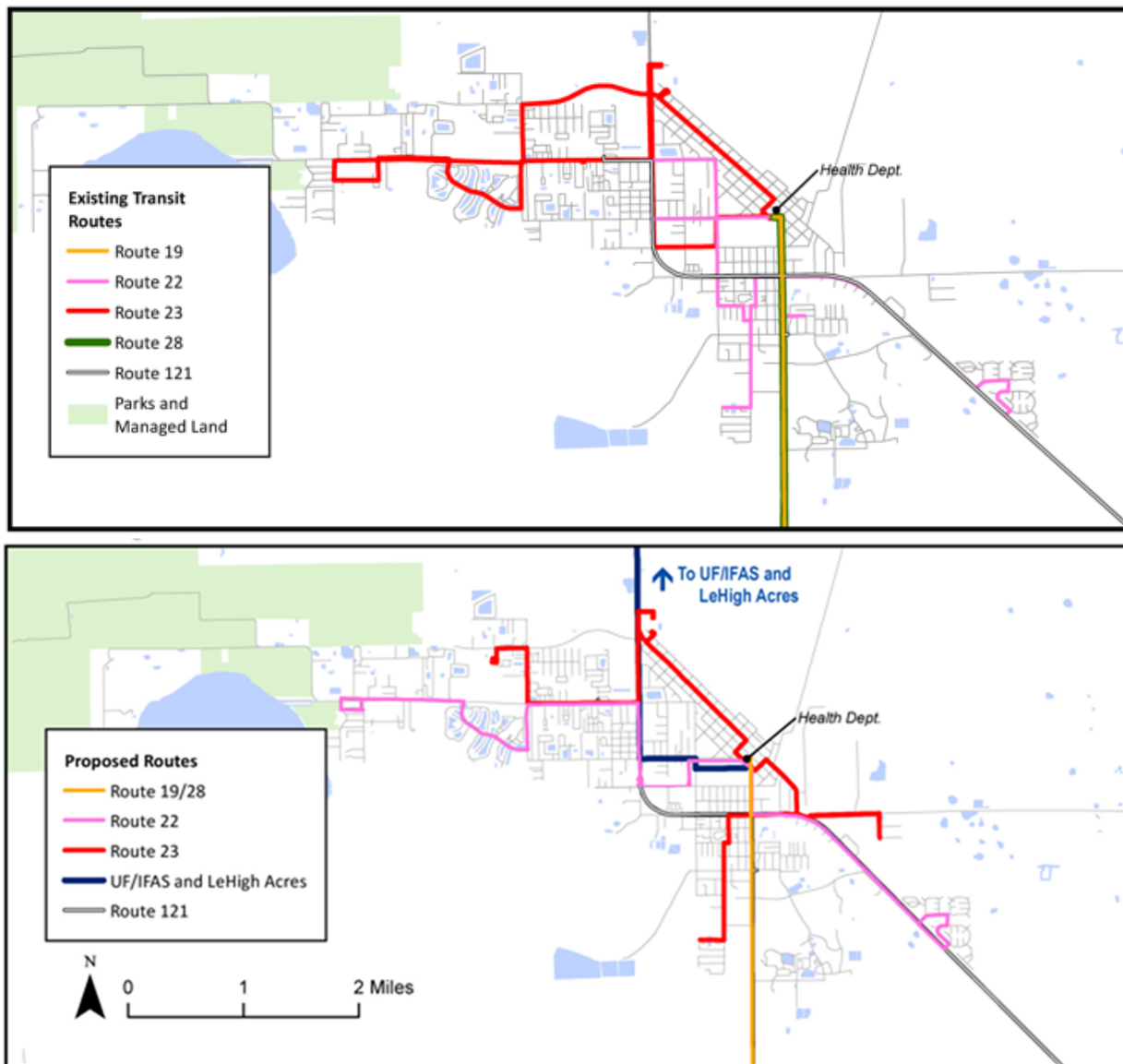
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- **Split and extend Routes 25 and 27** – Routes 25 and 27 provide service in both the north-south and east-west directions. To create a more grid-like network, close gaps in transit service, make the service easier to comprehend for riders, and to better accommodate employment growth along Collier Boulevard Immokalee Boulevard, as identified in Baseline Conditions, it is proposed that the routes be split where they change directions and extended to provide more connectivity to destinations and other routes.
 - The new Route 25 North-South alignment (Goodlette-Frank Road) would provide service along Goodlette-Frank Road from Immokalee Road to the Coastland Center Mall. The East-West alignment (Golden Gate Parkway) would connect Coastland Center Mall to the Golden Gate Community via Golden Gate Parkway before turning south on Collier Boulevard, where it would service Walmart and the CAT Radio Facility.
 - Route 27 North-South (Collier Boulevard) would provide service along Collier Boulevard from Immokalee Road to Tamiami Trail with a deviation to the Golden Gate Community Center on Golden Gate Parkway. Route 27 East-West (Immokalee Road) would provide service along Immokalee Road from Walmart on Tamiami Trail to the Publix shopping center at Immokalee Road and Oil Well Road. Map 9-6 illustrates the proposed alignments for Routes 25 and 27.

Map 9-6: Proposed Alignments for Routes 25 and 27



- Route 22** – This proposed route would realign Route 22 to streamline circulation in Immokalee, reduce duplication with Route 23, reduce the need for transfers between routes 22 and 23, and extend service east along Main Street and to the various packing houses that employ approximately 20,000 employees. Other destinations include Immokalee State Farmer’s Market, Marion Fether Medical Center, the County Health Department, and Career Source. Map 9-8 illustrates the proposed New Market Road Route alignment.
- Route 23** – This proposed route would realign Route 23 to provide direct connections between residential areas to several destinations while expanding the service area. The route would connect the westernmost residential cluster on Lake Trafford Road to the County Health Department, several packing houses along New Harvest Road, and finally to the easternmost residential cluster on Farm Worker Way. A deviation to provide service to the Roberts Center should be considered as an alternative alignment. Map 9-7 illustrates the proposed New Main Street Route alignment.

Map 9-7: Existing and Proposed Network in Immokalee




9.2.2 New Service

The following are proposed new services intended to address specific mobility, parking, congestion concerns as well as pilot and test the application of new technologies and emerging mobility concepts.

- **Island Trolley** –This fixed-route would travel along Collier Boulevard on Marco Island and connect to the realigned Route 21 Marco Island – Government Center Express route. It is envisioned that two vehicles are needed for 30-minute headways and that service would be a hop-on/hop-off type of service per discussions with the City. The Island Trolley would provide a frequent service available to all along a busy corridor and thus help mitigate the need to drive and help reduce congestion and parking demand.

- New UF/IFAS and Lehigh Acres Route** – A need to connect Immokalee to the University of Florida/IFAS satellite campus and Lehigh Acres was identified during public outreach. However, roadway constraints do not allow for transit vehicles to enter and exit the UF/IFAS campus. Further study is recommended for the alignment and endpoint of this route and to determine the demand and costs. This service should be explored jointly by CAT and LeeTran based on mutual considerations and consensus.
- I-75 Premium Express** – It is envisioned that this route would be a premium express commuter service operating along managed lanes on I-75. The Route would begin service at the Government Center, head north on Airport Pulling Road, turn east on Radio Road, north on Livingston Road, east on Golden Gate Parkway and go north on I-75 before ending in the vicinity of the Florida Gulf Coast Town Center. The northern terminus and operating plan requires coordination with LeeTran. The route would require one vehicle to provide 90-minute headway service from 6 AM to 8 PM. Further study is recommended for the final alignment and endpoint of this route and to determine the demand and costs.
- Bayshore Drive Electric Shuttle** – The Bayshore Community Redevelopment Agency (CRA) has requested that CAT help mitigate parking needs by operating two shuttles within the Bayshore CRA. This route is envisioned as a fixed-route electric shuttle that would operate as a hop-on/hop-off service, similar to the Beach bus, along Bayshore Drive, an area that has a growing vibrant nightlife and leisure culture. A survey was conducted by the Bayshore CRA to introduce the proposed service and vehicle, gauge community support, and identify the most visited destinations in the Bayshore Area. The route would require one vehicle, but would likely need to purchase two, to provide 15-minute headway service from Weeks Avenue to the Naples Botanical Garden from 11:00 AM to 9:00 PM. Further study of this service concept is recommended by CAT.
- Downtown Autonomous Circulator** – The downtown autonomous circulator concept was developed as part of an effort to create a conceptual roadmap for CAT's sustainable future and to address congestion and the parking shortage in Downtown. The alignment of the circulator will be determined at a later date in coordination with the City of Naples.
- Electric Naples Pier Shuttle** – The electric shuttle concept was developed as part of an effort to create a conceptual roadmap for CAT's sustainable future and to alleviate congestion and demand for parking in Downtown. The shuttle would make stops at the Naples Pier, Crayton Cove, as well as shops and restaurants within the area south of S 6th Avenue. CAT Staff





will coordinate with merchants and representatives with the City of Naples to determine the final route alignment for the Shuttle.

9.2.3 Mobility-on-Demand (MOD)

MOD uses on-demand information, real-time data, and predictive analytics to provide travelers with transportation choices that best serve their needs and circumstances. MOD service can be requested via a mobile app or website or by calling CAT. MOD service is designed to localize mobility (e.g., home to grocery store) and to provide connections to the fixed-route transit network for longer trips (e.g., home to bus stop to catch bus downtown). MOD is designed to work well in areas in which fixed-route service may not be nearby, where customers have limited mobility access to bus stops, or where the necessary infrastructure is not available for safe or convenient access to bus stops. MOD service is designed to operate as a point-to-point service in response to customer requests (immediate or scheduled for a future time).

When considering MOD service, input from public involvement, demographic characteristics, and the nature of the existing route network were considered. Many neighborhoods in proposed MOD zones have dead-ends and non-uniform street grids, thereby diminishing connectivity and walkability to bus stops. MOD zones are intended to fulfill unmet needs in these areas. In addition, MOD service is intended to be accessible by all, including the general public and ADA/TD-eligible persons. It, therefore, can be used to meet growing demand for CAT Connect service and may serve as a replacement for traditional paratransit service. Travel may be accommodated within a zone and may overlap into adjacent zones to complete short trips that cannot be served conveniently by fixed-route service. It can also be considered to supplement transit service in areas where transit services are being reduced due to decreased demand.

It is recommended to obtain a Software-as-a-Service (SaaS) cloud-based platform and operate MOD service as an additional CAT Connect general public dial-a-ride service. CAT may also elect to assess options to contract MOD operations as a Mobility-as-a-Service (MaaS) through a contract with a third party. However, this will reduce potential for CAT to leverage MOD as a way to supplement or mitigate TD/ADA demand from CAT Connect to MOD.

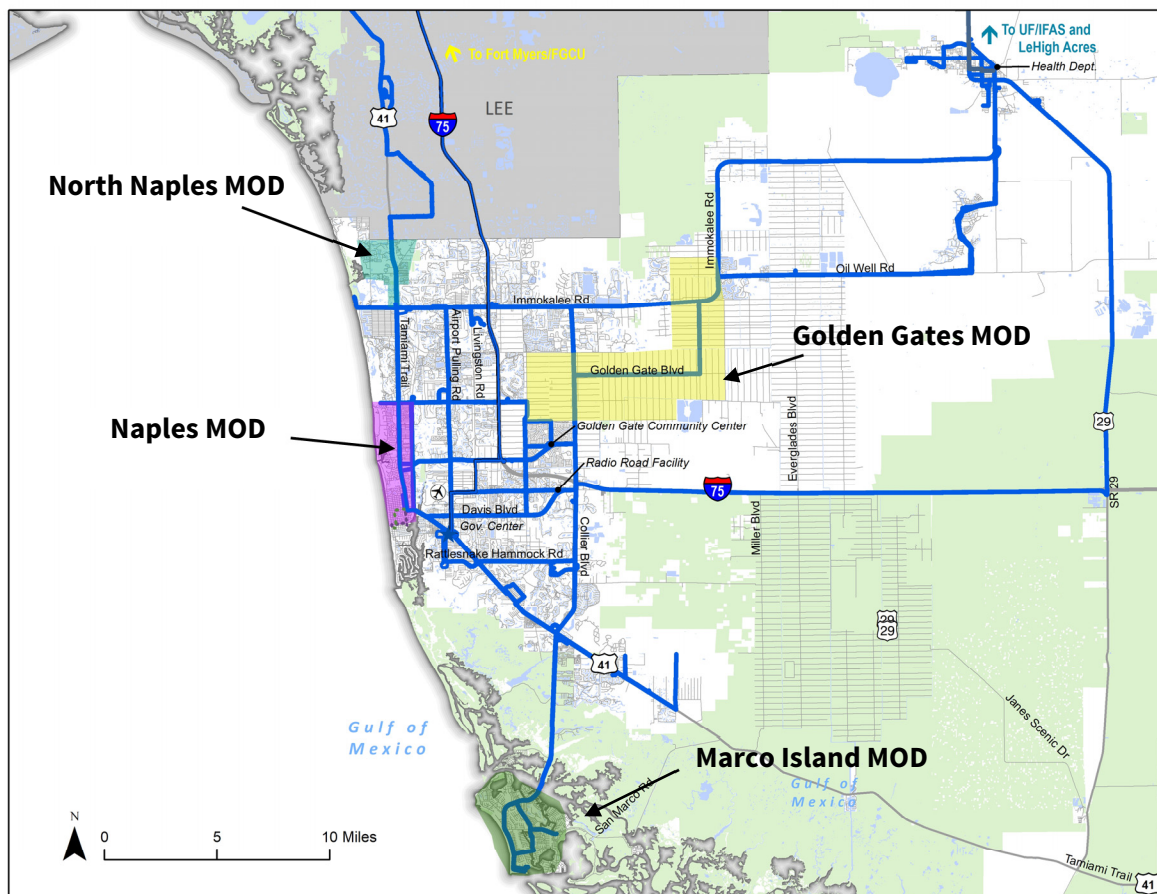
The following potential MOD zones were identified and are illustrated in Map 9-9:

- **Golden Gate Zone** – This large MOD zone would include areas of Golden Gate Estates, a large development east of I-75. This zone currently has a high demand for paratransit service and would provide transit service to areas currently underserved by fixed-route transit; most are low-density and may require three vehicles in the peak and two during the off-peak to operate due to poor roadway connectivity.
- **North Naples Zone** – This MOD zone was identified in the gap analysis as an area currently underserved by transit. This zone would cover the northeast quadrant of Collier County, which includes areas with high and very high TOI. The zone borders Bonita Beach Road and extends as far south as Immokalee Road and would serve areas east and west of US-41 as well as areas east and west of Old US- 41 Road.

- **Naples Zone** – This MOD zone would cover areas associated with high employment densities and areas with high and very high TOI as well as areas that are often difficult to navigate with regular fixed-route vehicles. Zone 5 spans the beach from Broad Avenue to Pine Ridge Road as far east as Goodlette-Frank Road.
- **Marco Island Microtransit** – This microtransit service would serve Marco Island and provide transfer opportunities to the proposed Island Trolley route. This service would likely require more than one vehicle, as it would continue to provide connections to other routes in the CAT network. Marco Island is also another area in CAT service that has medium to high TOI.


The service operating concept, demand, and operating requirements will need to be studied for each proposed MOD zone prior to determining and deploying the service.

Map 9-9: Proposed Mobility on Demand Zones



9.2.4 Vanpooling

CAT is coordinating with Everglades City and FDOT to create a vanpool program as part of a districtwide program to be implemented early next fiscal year. A vanpool is like a carpool except it holds more people, typically a group of 5 or more people who commute to and from work together in a van or SUV. Typically, the van itself is leased and paid for by the riders, with the primary driver being the



leaseholder. The program implemented by CAT may vary slightly depending on the regional plan established by FDOT. The vanpool program provides a cost-effective way to connected shared rides from rural and more remote locations to employment and activity centers. The vanpool program would connect riders with vanpools on a regular basis and for intermittent travel needs.

9.3 Capital/Infrastructure

9.3.1 Park-and-Ride Lots

A CAT park-and-ride study conducted by Jacobs is currently underway to identify and develop a standardized methodology for locating, operating, and maintaining park-and-ride sites in Collier County. The study will consider each site's proximity to:


- Existing and planned transit routes
- Major employment locations
- Educational facilities
- Tourist destinations

Recommendations from the study should be added to future TDP updates.

9.3.2 Technology

The existing systems used by CAT are providing route and vehicle information in real-time via an interface to passengers, dispatchers, and supervisory personnel, and CAT has already deployed technology on both fixed-route and paratransit service. The agency is currently evaluating the feasibility of upgrading and possibly consolidating and implementing new intelligent transportation systems (ITS) technologies to improve the overall quality of transit service. Schweiger Consulting is conducting this study using a systems engineering analysis (SEA) approach. The study summarizes the results of a business and technical needs assessment, identify technologies that should be upgraded, and identify new technologies that may address CAT's goals, objectives, and needs. Needs related to technical enhancements noted in the study include the following:

- Implement fixed-route scheduling software.
- Replace or upgrade paratransit scheduling and dispatching software.
- Replace or upgrade computer-aided dispatch (CAD)/Automatic Vehicle Location (AVL) for fixed-route with supervisor remote laptop access.
- Install an Automatic Passenger Counter (APC) system for fixed-route vehicles.
- Install an Automatic Vehicle Announcement (AVA) system for fixed-route vehicles.
- Implement a transit signal priority (TSP) system.
- Update or replace the fare logistics fare collection system.
- Make on-board surveillance system enhancements.
- Establish a paratransit fare payment system.
- Install an Interactive Voice Response (IVR) system.
- Implement an on-board information media system.



According to the study, if CAT decides to replace the Avail CAD/AVL system, there will be an opportunity to replace most of the current RTIS components, including:

- **Next Arrival Prediction Software** – uses the latest location and route/schedule adherence data to periodically establish updated predictions for fixed-route vehicle arrival times at stops throughout the system
- **Dynamic Message Signs (DMS)** – provides current next arrival predictions directly to customers at selected stops using electronic displays
- **Web Access** – provides current fixed-route next arrival predictions directly to customers for all stops throughout the system via a website that allows customers to select a specific route, direction, and stop
- **Smartphone Access** – provides current fixed-route next-arrival predictions directly to customers for all stops throughout the system via smartphone apps that allow customers to select a specific route, direction, and stop; the app also can use the phone's built-in GPS to locate the closest stop to the user's current location
- **Interactive Voice Response (IVR) Phone Access** – provides current fixed-route next-arrival predictions directly to customers for all stops throughout the system via a telephone system that allows customers to select a specific route, direction, and stop; also allows for automated reminders, confirmations, and cancellations of paratransit trips

During the Phase II outreach, a need for a system that enables riders to know bicycle rack availability with bicycle sensors was expressed. Such information would enhance reliability for users. This type of sensor could also be used to show availability of wheelchair areas in real time using a smartphone application.

9.4 Program Recommendations

Program recommendations, which include policy considerations and other improvements for CAT's transit service include:

- Pursuit of public-private partnerships with Marriott and other hotels in Marco Island to support routes 21 and 121 and pilot MOD service.
- A more detailed review of the existing CAT routes and network, particularly in Immokalee and potential connections to the UF IFAS satellite campus and Lehigh Acres is needed. Potential service along I-75 and Santa Barbara Boulevard also require further study. A study that explores the Everglades City vanpooling program as well as a transit hub along Immokalee Road is also recommended.
- A fare study is recommended.
- A MOD demand and operations requirements study is recommended.
- Marketing and branding to increase awareness of and use of CAT services such as branded beach buses, express routes, and neighborhood and MOD services.

- Create a transfer station along the urbanized area of Immokalee Road to facilitate passenger transfers and provide a place for vehicle staging and for driver relief.

9.5 Evaluation of Alternatives

The remainder of this section summarizes the evaluation process for service alternatives developed for the CAT TDP. Because many alternatives are identified, ranging from expansion of existing routes to implementation of new routes, it is important for CAT to prioritize these improvements to effectively plan and implement them within the next 10 years using existing and/or new funding sources.

9.5.1 Alternatives Evaluation Methodology

A quantitative-qualitative methodology was developed to evaluate and prioritize the transit alternatives presented in the previous section. To prioritize and program these service improvements, it was important to weigh the benefits of each service improvement against the others. By conducting an alternatives evaluation, CAT can better prioritize projects and allocate funding using an objective prioritization process. The remainder of this section identifies and defines the evaluation criteria used to prioritize the service improvements.

Three evaluation categories are identified for determining criteria for the evaluation:

- Public Outreach
- Transit Markets
- Productivity and Efficiency


Table 9-1 lists these evaluation categories and their corresponding criteria, the associated measure of effectiveness, and the assigned weighting for each criterion. A description of the elements in the table follows.

Table 9-1: Alternatives Evaluation Measures

Category	Criteria	Measure of Effectiveness	Relative Weighting	Overall Category Weight
Public Outreach	Public Input	Level of interest in specific alternatives (Very High, High, Moderate, Low)	40%	40%
Transit Markets	Traditional Market	Percent serving poverty	15%	30%
	Proximity to Employment Market	Percent of countywide employment market served	15%	
Productivity and Efficiency	Productivity	Trips per hour (T-BEST-generated trips and revenue hours of service)	15%	30%
	Cost Efficiency	Cost per trip (including new trips)	15%	
Total			100%	100%

Public Outreach

Due to the COVID-19 pandemic that began in March 2020, the public outreach process conducted for the CAT TDP 10-year planning effort was modified to be a virtual process. The outreach resulted in



numerous opinions and suggestions on transit services from workshop discussion groups involving transit users and nonusers, local governments, business and social organizations and an online survey. In addition, the public outreach process included three working group discussions with policy leaders to gauge their views on transit services and provide technical advice. Based on an in-depth review of input from this public outreach effort, interest in a particular route or type of service was categorized as “None,” “Moderate,” or “High” in the alternative evaluation process.

Transit Markets

For the evaluation of alternatives, two transit markets were identified—the traditional market and the employment market.

- **Traditional Market** – Existing population segments that historically have a higher potential to use transit and/or are dependent on public transit for their transportation needs include those that fall under the federal poverty level. For the alternatives evaluation, the percent serving poverty was calculated as the percent of poverty serviced by each route using Remix using ACS 2018 5-Year Estimates.
- **Proximity to Employment Market** – The total number of private jobs countywide served by each potential service option, based on information produced through Remix using LODS 2017 data.

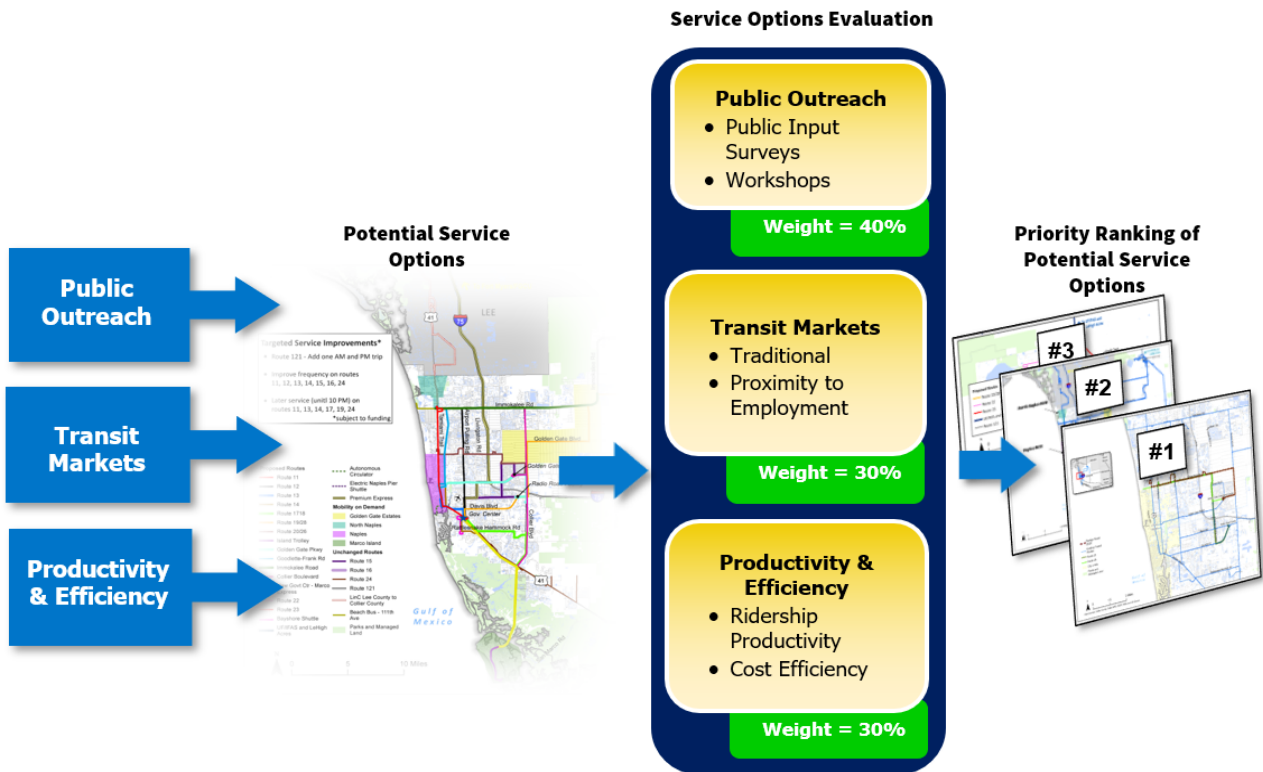
Productivity and Efficiency

Productivity is generally measured in terms of ridership. Service efficiency is used by transit agencies to gauge how well they are using their existing resources. Each measure is critical to the success of the agency, and services performing well in terms of their productivity and efficiency should receive a higher priority. Forecast ridership, revenue hours, and operating cost figures for each individual alternative are used in this measure.

- **Ridership productivity** is measured in terms of annual passenger trips per revenue hour of service. To provide for an equal comparison between alternatives, passenger trips and revenue hours of service were generated using output from T-BEST 2030 ridership projection data.
- **Cost efficiency** is evaluated for each alternative using a standard transit industry efficiency measure, operating cost per passenger trip. Operating costs used are calculated using operating cost per trip based on CAT performance data and T-BEST 2030 ridership projection data.

Figure 9-10 shows the 10-year transit service alternatives evaluation process, including criteria, measures, and weights used for each category. A summary of various criteria and measures used in each tier, as well as the alternatives scoring thresholds, are presented in the remainder of this section.

Figure 9-10: Alternatives Evaluation Measures



¹ For illustration purposes only. See list of alternatives summarized previously.

Alternative Scoring Thresholds

As noted, each criterion is assigned a weight. Weighting the criteria affords the opportunity to measure the relative importance of each among the group of criteria to be applied. For each transit alternative, a score was determined either through the computation of the selected measure of effectiveness or through the educated judgment of the analyst. Potential scores were assigned depending on the relative comparison of a given transit alternative with other transit alternatives as it relates to a given criterion. A higher score is consistent with a higher ranking for a given alternative for the criterion being evaluated.

The thresholds for computation-based criteria were determined using the average of the entire data set and one standard deviation above or below the average. Table 9-2 shows the thresholds and scoring for each criterion used in the alternatives evaluation.

Table 9-2: Alternatives Evaluation – Scoring Thresholds

Criteria	Range	Score
Public Input (Interest in Improvement)	None	1
	Moderate	3
	High	5
	Very High	7
Traditional Market Potential (% Serving poverty)	Less than (Average – 1 STDEV)	1
	Between (Average – 1 STDEV) to Average	3
	More than Average to (Average + 1 STDEV)	5
	More than (Average + 1 STDEV)	7
Proximity to Employment (Total Number of Private Jobs)	Less than (Average – 1 STDEV)	1
	Between (Average – 1 STDEV) to Average	3
	More than Average to (Average + 1 STDEV)	5
	More than (Average + 1 STDEV)	7
Productivity (Trips per Hour)	Less than (Average – 1 STDEV)	1
	Between (Average – 1 STDEV) to Average	3
	More than Average to (Average + 1 STDEV)	5
	More than (Average + 1 STDEV)	7
Cost Efficiency (Operating Cost per Trip)	More than (Average + 1 STDEV)	1
	More than Average to (Average + 1 STDEV)	3
	Between (Average – 1 STDEV) to Average	5
	Less than (Average – 1 STDEV)	7

Note: STDEV = statistical standard deviation.

9.5.2 Alternative Evaluation Results Summary

Each alternative was evaluated using the process summarized above, and the detailed results of the evaluation are presented in Table 9-3. From this process, each alternative received a score. The alternatives were then separated by improvement type (i.e., route network/new service, frequency improvements and span improvements), and ranked based on their respective score. Table 9-4 presents the prioritized list of improvements based on this process.

Note that improvements like MOD, Naples Pier Electric Shuttle, and the Autonomous Circulator were not included in the technical analysis due to the limitations in the ridership estimation model.

Table 9-3: Alternatives Evaluation

Evaluation Criteria		Route 11 Extension	Route 12 Extension	Route 13 Realign	Route 14 Realign	Route 17/18 Realign	Route 19/28 Realign	Realign 20/26	Route 21 New Gov Center - Marco Express	Route 22 and 23 Reassigned	New Route 25 EW	New Route 25 NS	New Route 27 EW	New Route 27 NS	New Island Trolley	New I-75 Premium Express	New Bayshore Shuttle
Public Involvement	Level of Support	Moderate	Moderate	High	High	High	High	Moderate	Moderate	Very High	Moderate	High	High	Moderate	Moderate	Moderate	Moderate
	Score	3	3	5	5	5	5	3	3	7	3	5	5	3	3	3	3
	Weight	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Traditional Market	% Poverty	11.484%	11.320%	14.407%	15.494%	10.857%	16.509%	13.729%	13.872%	42.585%	14.477%	8.612%	7.819%	15.268%	7.127%	16.461%	22.86%
	Score	3	3	3	5	3	5	3	3	7	3	1	1	5	1	5	7
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Employment Market	Private Jobs	41595	33646	21406	24889	8470	12606	24163	9924	4086	12700	15449	8563	5514	4117	15022	3328
	Score	7	7	5	5	3	3	5	3	1	3	3	3	1	1	3	1
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Boardings per Hour	Trip/Hour	17.20	12.60	15.90	15.80	33.30	7.20	10.60	12.80	20.40	5.20	6.80	1.80	2.80	16.00	5.70	2.10
	Score	5	5	5	5	7	3	3	5	7	3	3	1	1	5	3	1
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Operating Cost per New Trip	Cost /Trip	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3.76	\$0.00	\$6.77	\$6.77	\$40.47	\$40.47	\$3.76	\$16.11	\$27.09
	Score	7	7	7	7	7	7	7	5	7	5	5	1	1	5	3	3
	Weight	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Score		4.50	3.45	3.95	4.25	3.95	3.65	2.85	2.85	5.05	2.55	3.05	2.75	2.25	2.25	2.85	2.55

Evaluation Criteria		Route 121 - Add one AM and one PM	Route 11 to 20 mins	Route 12 to 30-min Peak 60-off peak	Route 13 to 30 min	Route 14 to 30 min	Route 15 to 45 min	Route 16 to 45 min	Route 24 to 60-min	Route 11 (until 10 PM)	Route 13 (until 10 PM)	Route 14 (until 10 PM)	Route 17 (until 10 PM)	Route 19 (until 10 PM)	Route 24 (until 10 PM)
Public Involvement	Level of Support	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
	Score	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Weight	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Traditional Market	% Poverty	22.50%	11.48%	11.36%	13.92%	13.93%	17.14%	17.14%	15.26%	11.48%	13.92%	13.93%	13.28%	17.09%	15.26%
	Score	7	3	3	3	3	5	5	5	3	3	3	3	5	5
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Employment Market	Private Jobs	8467	41597	33164	26604	26558	19189	19238	8068	41597	26604	26558	9653	12074	8068
	Score	3	7	7	5	5	5	5	3	7	5	5	3	3	3
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Boardings per Hour	Trip/Hour	19.73	14.70	11.70	6.80	6.50	14.70	8.60	7.30	7.20	11.20	14.50	1.60	5.50	5.30
	Score	7	5	5	3	3	5	3	3	3	5	5	1	3	3
	Weight	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Operating Cost per New Trip	Cost /Trip	\$11.87	\$14.00	\$6.12	\$8.04	\$9.62	\$5.42	\$10.45	\$15.17	\$24.05	\$11.85	\$8.00	\$115.25	\$40.19	\$30.87
	Score	5	5	5	5	5	5	5	5	3	5	5	1	1	3
	Weight	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Score		5.35	5.05	5.05	4.45	4.45	5.05	4.75	4.45	4.75	4.75	4.75	3.85	4.45	4.45

Table 9-4: Alternatives Ranking

Proposed Improvement	Score	Rank
Route Network and New Service		
Route 22 and 23 realigned	5.1	1
Route 11 extension	4.5	2
Route 14 realign	4.3	3
Route 13 realign	4.0	4
Route 17/18 realign	4.0	4
Route 19/28 realign	3.7	6
Route 12 Extension	3.5	7
New Route 25 NS	3.1	8
Realign 20/26	2.9	9
New I-75 Premium Express	2.9	9
Route 21 New Gov Center - Marco Express	2.9	11
New Route 27 EW	2.8	12
New Route 25 EW	2.6	13
New Bayshore Shuttle	2.6	13
New Route 27 NS	2.3	15
New Island Trolley	2.3	15
Frequency Improvements		
Route 121 - add one AM and one PM	5.4	1
Route 15 to 45 min	5.1	2
Route 11 to 20 mins	5.1	3
Route 12 to 30-min peak. 60-off peak	5.1	3
Route 16 to 45 min	4.8	5
Route 13 to 30 min	4.5	6
Route 14 to 30 min	4.5	6
Route 24 to 60-min	4.5	6
Later Service		
Route 11 (until 10 PM)	4.8	1
Route 13 (until 10 PM)	4.8	1
Route 14 (until 10 PM)	4.8	1
Route 19 (until 10 PM)	4.5	4
Route 24 (until 10 PM)	4.5	4
Route 17/18 (until 10 PM)	3.9	6

10.0 Ten-Year Transit Plan

This section presents the recommended 10-year transit plan, including financial and implementation plans. First, the transit service, capital/infrastructure, technology, and policy improvements are summarized as unconstrained and constrained. Thereafter, a summary of the assumptions for capital and operating costs and revenues used in developing the TDP are presented, followed by the financial plan for the 10-year period. Next, the 10-year implementation program is presented for the CAT TDP.

10.1 Ten-Year Plan

The recommended improvements included in the 10-year TDP are the result of an extensive public outreach program and data review/evaluation process. The improvements identified fall into the categories of Service Improvements, Capital/Infrastructure Improvements, Technology, and Policy. These improvements are described in detail below.

10.1.1 Vision Plan

Table 10-1 lists the Vision Plan proposed service improvements by phase; the plan represents a 10-year fiscally unconstrained plan. The first phase, FY 2020–2025, includes route network changes and frequency and span improvements that are to be prioritized in the 10-Year Implementation Plan. The second phase, FY 2026–2030, represents improvements that are lower in priority.

Table 10-1: Vision Plan (Unconstrained)

Service Improvements	Implementation Year
Maintain Existing Service	
Maintain Existing Fixed-Route Service	2020
Maintain Existing Paratransit Service	2020
Replacement of Support Vehicles	2020
Route Network Modifications	
Extend Route 11 into Walmart Shopping Ctr	2022
Extend Route 12 into Walmart Shopping Ctr	2022
Realign Route 13 - shorten to 40 min. headway	2022
Realign Route 14 - operate at 60 min. headway	2022
Realign Route 17 - eliminate portions of US 41 Eliminate Route 18	2022
Realign Route 19/28 - eliminate portions of 846	2022
Realign Route 20/26 - eliminate Santa Barbara	2022
Realign Route 21 to create Marco Express	2024
Realign Route 22	2022
Realign Route 23 - reduce headway 60 to 40 minutes	2022
Golden Gate Pkwy - Split Route 25 creating East-West Route	2027
Goodlette Frank Rd - Split Route 25 creating North-South Route	2027
Immokalee Rd - Split Route 27 creating East-West Route	2027
Collier Blvd - Split Route 27 creating North-South Route	2027

Table 10-1: Vision Plan (Unconstrained) – continued

Service Improvements	Implementation Year
Increase frequency	
Route 15 from 90 to 45 min	2022
Route 16 from 90 to 45 min	2022
Route 24 from 85 to 60 minutes	2022
Route 121 add one AM, one PM	2022
Route 14 from 60 to 30 min	2023
Route 17/18 from 90 to 45 minutes	2023
Route 11 from 30 to 20 mins	2022
Route 12 from 90 to 45 mins	2022
Route 13 from 40 to 30 min	2023
Service Expansion	
Route 17/18 - Extend Hours to 10:00 PM	2023
New Route 19/28 - Extend Hours to 10:00 PM	2027
Route 24 - Extend Hours to 10:00 PM	2027
Route 11 - Extend Hours to 10:00 PM	2029
Route 13 - Extend Hours to 10:00 PM	2029
Route 14 - Extend Hours to 10:00 PM	2029
New Service	
New Island Trolley	2024
New Bayshore Shuttle	2025
New Autonomous Circulator	2029
New Naples Pier Electric Shuttle	2029
MOD – Golden Gate Estates	2029
MOD – North Naples	2029
MOD – Naples	2029
MOD – Marco Island	2029
New Route from UF/IFAS to Lehigh Acres	2029
New Express Premium Route into Lee County	2029

Table 10-1: Vision Plan (Unconstrained) – continued

Service Improvements	Implementation Year
Other Improvements	
Technology improvements ³	2021
Security - driver protection barriers	2021
Study: Santa Barbara Corridor	2022
Study: UF/IFAS Lehigh Acres Service	2022
Study: I-75 Managed Lanes Express	2023
Study: Everglades City Vanpool	2023
Study: Fares	2024
Study: Mobility on Demand	2024
Other Technology improvements ⁴	2021
Study: Immokalee Road Transfer Hub	TBD
Brand beach area buses	TBD
Park and Ride Lots	Pending

10.1.2 Capital Infrastructure Improvements

- **Expand and improve bus stop infrastructure** – Improved infrastructure at bus stops, including benches, shelters, bicycle storage facilities, and other infrastructure, is included in the Cost Feasible Plan to enhance the rider experience while waiting for a bus and potentially attract new riders.
- **Improve bus stop safety and ADA accessibility** – Ensuring the safety all riders while accessing bus stops and waiting for a bus and guaranteeing that ADA requirements are fulfilled for all transit facilities are important to the overall safety and accessibility of the transit system.
- **Replace/add new vehicles** – Continued replacement of the existing vehicle fleet and the addition of new vehicles to serve the proposed service improvements and new routes are included in the Cost Feasible Plan.
- **Technology** – As noted in the Situation Appraisal, Schweiger Consulting conducted a study regarding CAT’s technology needs. Needs related to technical enhancements noted in the study include the following:
 - Implement fixed-route scheduling software.
 - Replace or upgrade paratransit scheduling and dispatching software.
 - Replace or upgrade computer-aided dispatch (CAD)/Automatic Vehicle Location (AVL) for fixed-route with supervisor remote laptop access.
 - Install an Automatic Passenger Counter (APC) system for fixed-route vehicles.
 - Install an Automatic Vehicle Announcement (AVA) system for fixed-route vehicles.
 - Implement a transit signal priority (TSP) system.
 - Update or replace the fare logistics fare collection system.
 - Make on-board surveillance system enhancements.

- Establish a paratransit fare payment system.
- Install an Interactive Voice Response (IVR) system.
- Implement an on-board information media system.

The study identifies the relative priority and identifies a phasing schedule for the following 10 years and a schedule of activities (e.g., specifications, request for proposals, development, procurement, and deployment).

- **Park-and-Ride Lots** – A CAT park-and-ride study conducted by Jacobs is currently underway to identify and develop a standardized methodology for locating, operating, and maintaining park-and-ride sites in Collier County. Study recommendations should be reviewed and implemented as applicable.

10.1.3 Program Recommendation

- Pursuit of public-private partnerships with Marriott and other hotels in Marco Island to support routes 21 and 121, the proposed Island Trolley and pilot MOD service.
- Establish Marketing and branding strategies such as for beach buses, express services, and neighborhood and proposed MOD services.
- Conduct a Comprehensive Operations Analysis (COA) for a more detailed review of the existing CAT routes and network. Additional study is needed to review service provided to Immokalee; service needs along Santa Barbara Boulevard; potential connections to the UF IFAS satellite campus in Immokalee; service connection to Lehigh Acres; and an express service on I-75 managed lanes.
- Continue coordination and study with FDOT and Everglades City for creation and deployment of the Everglades City Vanpool program.
- Conduct feasibility and concept of operations studies for MOD services as demand and fiscal capacity allows.
- Update review of fare policy and fare structure
- Create a transfer hub along the urbanized area of Immokalee Road to facilitate passenger transfers provide a place for vehicle staging and for driver relief.
- Establish a coordinating committee with Planning Departments of the local municipalities to review transportation needs of new developments and to ensure there are provisions for transit.
- Adopt transit LOS policies to adopt in Collier County's land development regulations.
- Modify the Land Development Code and Development Review processes to include recommendations from the transit impact study by coordinating with Collier County and local municipalities.
- Begin coordination with LeeTran to explore a seamless fare system between LeeTran and CAT to facilitate travel between the two counties

10.2 Finance Plan Assumptions

A financial plan was developed to help facilitate the implementation of CAT TDP improvements. Cost, revenue, and policy assumptions used to develop the financial plan are presented below, followed by a summary of cost and revenue projections for CAT in an unconstrained and constrained scenario. The summary includes annual costs for the service and technology/capital improvements that are programmed for implementation within the next 10 years together with supporting revenues that are reasonably expected to be available.

10.2.1 Operating Cost Assumptions

Numerous cost assumptions were made to forecast transit costs for 2021 through 2030. These assumptions are based on a variety of factors, including service performance data from CAT and information from other recent Florida TDPs. These assumptions are summarized as follows:

- Annual operating costs for fixed-route and paratransit services are based on the most recent validated NTD data.
- An annual inflation rate of 1.8% was used for all operating cost projections, based on the average Consumer Price Index (CPI) historical data from 2009–2019.
- Annual operating costs for future service enhancements are based on the projected annual service hours and cost per revenue hour of \$82.32 for fixed-route service and \$63.91 for paratransit service (both in 2018\$). The cost per hour was derived using historical and current cost per revenue hour data for existing services. The operating cost per hours figures are inflated annually using a 1.8% factor.
- Implementing the new route alignments represents increased levels of service in improvements such as Route 14, Route 19/28, and Route 23 with no additional costs.
- As ADA paratransit service is not required for express routes or MOD, it is assumed that any express, and MOD would not require complementary ADA paratransit services if implemented.

10.2.2 Capital Cost Assumptions

Several assumptions were developed to project the costs for capital needs identified previously and are summarized as follows:

- New vehicles planned to be purchased include those necessary to replace vehicles within the existing fleet that have reached the end of their useful life and vehicles to implement the new service.
- Vehicles are assumed to cost \$495,000 for fixed-route bus and \$71,217 for paratransit cutaway vehicles, based on information provided by the CAT. Twenty-nine fixed-route vehicles and 58 paratransit vehicles will need to be purchased between 2020 and 2030.
- An annual growth rate of 1.8% was used for capital cost projections, based on average CPI historical data from 2009 to 2019.
- A 20% spare ratio was factored into the vehicle replacement and expansion schedule.

- A useful life for motor bus replacement is assumed to be 12 years. A useful life for paratransit vehicle replacement is assumed to be 7 years.
- The CAT FY 20/21 budget estimates 1% Enhancement Shelter Rehab to be \$28,829. Bus shelter expenses were assumed at the FY 2021 Collier County Government Requested Budget for the first fiscal year but thereafter based on the cost to construct 10 shelters annually to be consistent with the ADA Assessment Plan, with an annual inflation rate of 1.8%.
- Technology costs for Avail replacement, APCs, annunciators, onboard information media and farebox replace were obtained from the draft budget, “FY20 5307 and 5307 Cares POP Draft.”

10.3 Unconstrained Financial Plan

Table 10-2 includes annual costs for proposed services and other capital improvements in an unconstrained scenario within the next 10 years with supporting revenues that are reasonably expected to be available.

A 2020 FTA 5339 Bus and Bus Facilities discretionary grant request submitted in January 2020 was in the process of review during the development of the TDP. This grant was recently awarded to CAT (October 2020) during the TDP final approval process (October 2020) in the amount of \$9,020,000 for the purchase of six 30’ fixed route buses and the renovation of the Collier Area Transit Maintenance Facility on Radio Road. This grant is matched by \$2,051,324 in transportation development credits for a total value of \$11,071,324, to be awarded in 2021. This TDP will be revised following full approval of all funds to reflect these new federal grant funds and local match in the TDP.

Table 10-2: 10-Year Unconstrained Costs and Revenues Summary

Cost/Revenue	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Operating Cost											
Maintain Existing Service - Fixed Route	\$6,339,199	\$6,451,530	\$6,565,851	\$6,682,198	\$6,800,607	\$6,921,113	\$7,043,755	\$7,168,571	\$7,295,598	\$7,424,876	\$68,693,299
Maintain Existing Service - Paratransit	\$4,533,375	\$4,613,706	\$4,695,461	\$4,778,665	\$4,863,343	\$4,949,521	\$5,037,227	\$5,126,486	\$5,217,328	\$5,309,779	\$49,124,892
Route 22 Realigned - no cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Route 23 Realigned plus freq 60 to 40	\$0	\$393,782	\$400,760	\$407,861	\$415,089	\$422,444	\$429,930	\$437,548	\$445,302	\$453,192	\$3,805,909
New Route 25 EW, no change	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Route 25 NS, to Immokalee Rd	\$0	\$0	\$0	\$0	\$0	\$0	\$447,478	\$455,407	\$463,477	\$471,690	\$1,838,052
New Route 27 EW, Immokalee to Randall	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Route 27 NS, Collier 441 to Immokalee Rd	\$0	\$0	\$0	\$0	\$0	\$0	\$924,557	\$940,940	\$957,613	\$974,582	\$3,797,691
Route 121 - Add one AM and one PM	\$0	\$168,896	\$171,889	\$174,935	\$178,035	\$181,190	\$184,400	\$187,668	\$190,993	\$194,378	\$1,632,384
Route 11 from 30 to 20 mins	\$0	\$675,585	\$687,556	\$699,740	\$712,139	\$724,758	\$737,601	\$750,671	\$763,973	\$777,511	\$6,529,536
Route 12 from 90 to 45 mins	\$0	\$292,754	\$297,941	\$303,221	\$308,594	\$314,062	\$319,627	\$325,291	\$331,055	\$336,921	\$2,829,466
Route 13 from 40 to 30 min	\$0	\$0	\$98,321	\$100,063	\$101,836	\$103,640	\$105,477	\$107,346	\$109,248	\$111,184	\$837,115
Route 14 from 60 to 30 min	\$0	\$0	\$286,482	\$291,558	\$296,725	\$301,983	\$307,334	\$312,780	\$318,322	\$323,963	\$2,439,146
Route 15 from 90 to 45 min	\$0	\$168,896	\$171,889	\$174,935	\$178,035	\$181,190	\$184,400	\$187,668	\$190,993	\$194,378	\$1,632,384
Route 16 from 90 to 45 min	\$0	\$0	\$183,348	\$186,597	\$189,904	\$193,269	\$196,694	\$200,179	\$203,726	\$207,336	\$1,561,054
Route 17/18 90 to 45 minutes	\$0	\$0	\$303,671	\$309,052	\$314,528	\$320,102	\$325,774	\$331,547	\$337,422	\$343,401	\$2,585,495
Route 24 from 85 to 60-min	\$0	\$211,683	\$215,434	\$219,252	\$223,137	\$227,091	\$231,115	\$235,210	\$239,378	\$243,620	\$2,045,921
Route 11 (until 10 PM)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$127,329	\$129,585	\$256,914
Route 13 (until 10 PM)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,584	\$88,118	\$174,702
Route 14 (until 10 PM)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,584	\$88,118	\$174,702
Route 17/18 (until 10 PM)	\$0	\$0	\$141,178	\$143,680	\$146,226	\$148,817	\$151,454	\$154,138	\$156,869	\$159,649	\$1,202,011
Route 19/28 (until 10 PM)	\$0	\$0	\$0	\$0	\$0	\$0	\$71,301	\$72,565	\$73,851	\$75,159	\$292,876
New Island Trolley	\$0	\$0	\$0	\$746,389	\$759,615	\$773,076	\$786,775	\$800,716	\$814,905	\$829,345	\$5,510,821
New Bayshore Shuttle	\$0	\$0	\$0	\$0	\$320,463	\$326,141	\$331,921	\$337,802	\$343,788	\$349,880	\$2,009,995
New Autonomous Circulator	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$259,751	\$264,354	\$524,105
New Naples Pier Electric Shuttle	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$407,452	\$414,673	\$822,125
Mobility on Demand - Golden Gate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$810,053	\$824,407	\$1,634,460
Mobility on Demand - North Naples	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$405,026	\$412,204	\$817,230
Mobility on Demand - Naples	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$960,930	\$977,958	\$1,938,887
Mobility on Demand - Marco Island	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$539,777	\$549,342	\$1,089,119
Total Operating Costs	\$10,872,575	\$12,976,833	\$14,219,782	\$15,218,146	\$15,808,274	\$16,088,397	\$17,816,819	\$18,132,533	\$22,137,328	\$22,529,601	\$165,800,289
Operating Revenues											
Federal Grant (5311)	\$364,222	\$404,525	\$379,787	\$484,276	\$492,857	\$501,591	\$510,479	\$519,525	\$528,731	\$538,100	\$4,724,092
Local Match (5311)	\$364,222	\$404,525	\$379,787	\$484,276	\$492,857	\$501,591	\$510,479	\$519,525	\$528,731	\$538,100	\$4,724,092
Federal Grant (5307) Operating	\$1,020,014	\$1,035,014	\$1,066,064	\$1,098,046	\$1,117,503	\$1,137,306	\$1,157,459	\$1,177,969	\$1,198,842	\$1,220,086	\$11,228,302
Local Match (5307)	\$1,020,014	\$1,035,014	\$1,066,064	\$1,098,046	\$1,117,503	\$1,137,306	\$1,157,459	\$1,177,969	\$1,198,842	\$1,220,086	\$11,228,302
Federal CARES Act (ADA, Fixed Route)	\$1,377,728	\$1,402,141	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,779,869
FDOT Transit Block Grant	\$1,110,951	\$1,166,499	\$1,224,824	\$1,234,010	\$1,255,877	\$1,278,131	\$1,300,779	\$1,323,829	\$1,347,287	\$1,371,161	\$12,613,348
TD Funding	\$907,976	\$935,216	\$963,272	\$992,170	\$1,009,751	\$1,027,644	\$1,045,854	\$1,064,386	\$1,083,247	\$1,102,442	\$10,131,959
Local Match for FDOT Block Grant	\$1,110,951	\$1,166,499	\$1,224,824	\$1,234,010	\$1,255,877	\$1,278,131	\$1,300,779	\$1,323,829	\$1,347,287	\$1,371,161	\$12,613,348
Collier County CAT Enhancements	\$3,452,500	\$3,513,678	\$3,575,941	\$3,639,306	\$3,703,795	\$3,769,426	\$3,836,220	\$3,904,198	\$3,973,381	\$4,043,789	\$37,412,234
Federal Grant (5307) - New	\$0	\$0	\$0	\$401,024	\$408,130	\$415,362	\$422,723	\$430,213	\$895,202	\$911,065	\$3,883,720
FDOT Transit Block Grant - New	\$0	\$0	\$0	\$200,512	\$204,065	\$207,681	\$211,361	\$215,107	\$447,601	\$455,532	\$1,941,860
Existing Paratransit Fare Revenue	\$254,776	\$259,290	\$263,885	\$268,561	\$273,320	\$278,163	\$283,092	\$288,109	\$293,214	\$298,410	\$2,760,819
Fare Revenue - New Services	\$0	\$0	\$0	\$115,367	\$166,944	\$169,902	\$172,913	\$175,977	\$701,993	\$714,432	\$2,217,528
Fare Revenue from Existing Services	\$916,887	\$933,134	\$949,669	\$966,497	\$983,624	\$1,001,053	\$1,018,792	\$1,036,845	\$1,055,218	\$1,073,916	\$9,935,635
Total Operating Revenue	\$11,900,240	\$12,255,536	\$11,094,117	\$12,216,102	\$12,482,104	\$12,703,287	\$12,928,389	\$13,157,480	\$14,599,576	\$14,858,281	\$128,195,111
Annual Revenues Minus Costs	\$1,027,666	(\$721,297)	(\$3,125,666)	(\$3,002,045)	(\$3,326,171)	(\$3,385,110)	(\$4,888,430)	(\$4,975,053)	(\$7,537,752)	(\$7,671,321)	(\$37,605,179)
Rollover from Previous Year	\$5,522,602	\$6,550,268	\$5,828,971	\$2,703,305	(\$298,740)	(\$3,624,910)	(\$7,010,020)	(\$11,898,451)	(\$16,873,504)	(\$24,411,256)	
Operating Surplus/Shortfall (Cumulative)	\$6,550,268	\$5,828,971	\$2,703,305	(\$298,740)	(\$3,624,910)	(\$7,010,020)	(\$11,898,451)	(\$16,873,504)	(\$24,411,256)	(\$32,082,577)	(\$37,605,179)

Table 10-2: 10-Year Unconstrained Costs and Revenues Summary (continued)

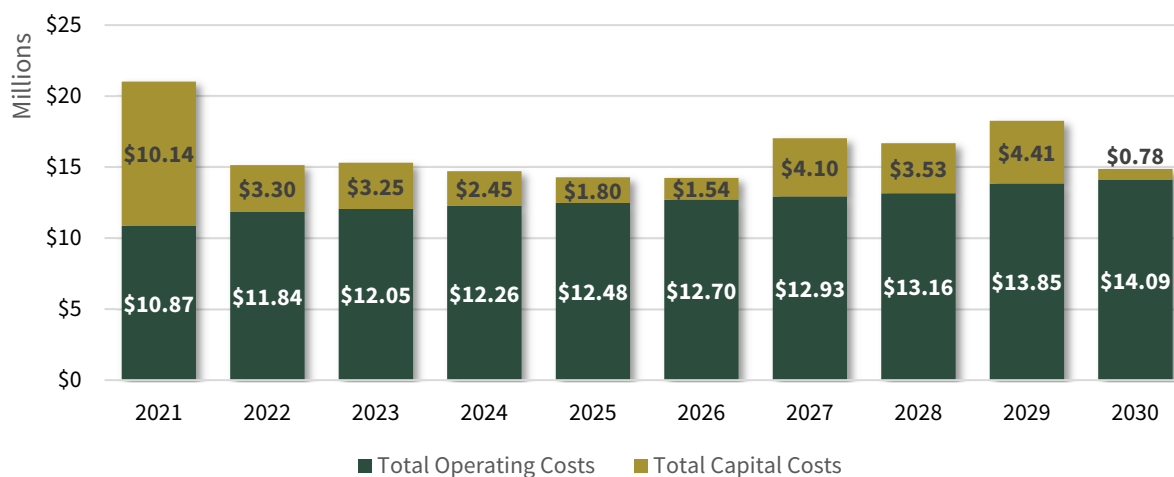
Cost/Revenue	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Capital Costs											
Vehicles	\$12,158,656	\$5,347,337	\$4,143,511	\$3,080,763	\$1,797,195	\$3,741,263	\$4,104,477	\$5,074,734	\$4,413,936	\$782,072	\$44,643,944
Replacement Fixed Route Buses - Maintain Existing S	\$495,000	\$2,050,793	\$2,087,133	\$1,593,088	\$1,080,878	\$0	\$2,798,810	\$2,278,724	\$3,478,654	\$0	\$15,863,079
Replacement Vans - Maintain Existing Paratransit Ser	\$724,786	\$590,104	\$525,490	\$229,201	\$77,754	\$791,319	\$644,273	\$573,728	\$250,241	\$84,892	\$4,491,787
Replacement of Support Vehicles	\$91,595	\$0	\$0	\$0	\$0	\$100,003	\$0	\$0	\$0	\$0	\$191,598
Preventative Maintenance	\$1,815,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,815,000
New Vehicles for Improved, MOD & New Services	\$3,526,400	\$1,538,095	\$864,368	\$531,029	\$0	\$1,650,047	\$0	\$1,467,206	\$0	\$0	\$9,577,145
Spares for New Service and Improved Existing Service	\$503,771	\$512,698	\$0	\$0	\$0	\$550,016	\$0	\$0	\$0	\$0	\$1,566,485
Spares for New MOD Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,961	\$0	\$0	\$81,961
Other Capital/Infrastructure	\$5,002,103	\$655,648	\$641,520	\$627,445	\$638,563	\$649,878	\$661,394	\$673,114	\$685,042	\$121,587	\$10,356,295
Bus Shelter Program	\$2,231,800	\$500,000	\$509,000	\$518,019	\$527,199	\$536,541	\$546,048	\$555,724	\$565,572	\$0	\$6,489,903
Safety/Security Program	\$103,808	\$105,648	\$107,520	\$109,425	\$111,364	\$113,338	\$115,346	\$117,390	\$119,470	\$121,587	\$1,124,897
Safety/Security - Driver Protection Barriers	\$81,587	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,587
Technology - Avail Replacement	\$1,249,988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,249,988
Technology - APC	\$296,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$296,000
Technology - Annunciators	\$36,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36,200
Technology - Onboard Information Media	\$50,470	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,470
Technology - Farebox Replacement	\$952,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$952,250
Study: Santa Barbara Corridor	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: UF/IFAS Lehigh Acres Service	\$0	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: I-75 Managed Lanes Express	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: Everglades City Vanpool	\$0	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: Fares	\$0	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Study: Mobility on Demand	\$0	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Total Capital Costs	\$17,160,759	\$6,002,985	\$4,785,031	\$3,708,207	\$2,435,758	\$4,391,141	\$4,765,871	\$5,747,848	\$5,098,978	\$903,659	\$55,000,239
Capital Revenues											
Local Match - Planning	\$9,877	\$9,877	\$9,877	\$11,410	\$11,612	\$11,818	\$12,027	\$12,240	\$12,457	\$12,678	\$113,875
Federal Grant (5307) Capital Assistance	\$1,998,517	\$2,098,443	\$2,203,365	\$2,313,533	\$2,354,529	\$2,396,251	\$2,438,713	\$2,481,927	\$2,525,906	\$2,570,665	\$23,381,849
Local Match (5307)	\$499,630	\$524,611	\$550,842	\$578,384	\$588,633	\$599,064	\$609,679	\$620,482	\$631,477	\$642,667	\$5,845,470
Federal Grant 5339 Capital Assistance	\$410,959	\$431,507	\$453,082	\$475,737	\$484,167	\$492,746	\$501,478	\$510,364	\$519,408	\$528,612	\$4,808,060
Local Match (5339)	\$102,740	\$107,877	\$113,271	\$118,934	\$121,042	\$123,186	\$125,369	\$127,591	\$129,852	\$132,153	\$1,202,014
Federal (FTAT + SU) for ADA Improvements	\$508,860	\$517,877	\$527,054	\$536,393	\$545,898	\$555,571	\$565,416	\$575,435	\$585,632	\$596,009	\$5,514,146
Federal Grant - CARES Act Capital	\$4,592,837	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,592,837
Total Capital Revenues	\$8,123,420	\$3,690,192	\$3,857,491	\$4,034,391	\$4,105,881	\$4,178,637	\$4,252,682	\$4,328,040	\$4,404,733	\$4,482,784	\$45,458,250
Annual Revenues Minus Costs	(\$9,037,339)	(\$2,312,793)	(\$927,541)	\$326,184	\$1,670,122	(\$212,504)	(\$513,189)	(\$1,419,808)	(\$694,245)	\$3,579,125	(\$3,058,046)
Rollover from Previous Year	\$6,483,942	(\$2,553,397)	(\$4,866,190)	(\$5,793,731)	(\$5,467,547)	(\$3,797,425)	(\$4,009,929)	(\$4,523,118)	(\$5,942,926)	(\$6,637,171)	
Capital Surplus/Shortfall (Cumulative)	(\$2,553,397)	(\$4,866,190)	(\$5,793,731)	(\$5,467,547)	(\$3,797,425)	(\$4,009,929)	(\$4,523,118)	(\$5,942,926)	(\$6,637,171)	(\$3,058,046)	(\$3,058,046)

Note: After approval of local match, Table 10-2 will be updated to reflect award of Federal Grant 5339 Capital Assistance in the amount of \$9,020,000 for the purchase of six 30' fixed route buses and for renovations to the CAT Radio Road Transit Maintenance Facility. Local match to 5339 will be updated to reflect the associated transportation development credits soft match to these funds in the amount of \$2,051,324.

10.4 Constrained Financial Plan

Figure 10-1 illustrates the operating and capital costs included in the constrained implementation plan for the 10-year TDP.

Figure 10-1: Annual Operating and Capital Costs



A 2020 FTA 5339 Bus and Bus Facilities discretionary grant request submitted in January 2020 was in the process of review during the development of the TDP. This grant was recently awarded to CAT (October 2020) during the TDP final approval process (October 2020) in the amount of \$9,020,000 for the purchase of six 30' fixed route buses and the renovation of the Collier Area Transit Maintenance Facility on Radio Road. This grant is matched by \$2,051,324 in transportation development credits for a total value of \$11,071,324, to be awarded in 2021. This TDP will be revised following full approval of all funds to reflect these new federal grant funds and local match in the TDP.

10.4.1 Revenue Assumptions

Revenue assumptions for fixed-route service are based on information from several State and local agencies. Assumptions for different revenue sources, including annual operating revenues from existing federal, State, and local sources, are based on the FDOT Adopted Five-Year Work Program (FY 2021–2025), the CAT FY 2018 TDP Annual Progress Report, and the Collier County Government FY 2021 Requested Budget. The distribution of 10-year operating revenues included in the 10-year Cost Feasible Plan are shown in Figure 10-2.

Figure 10-2: 10-Year Operating Revenues

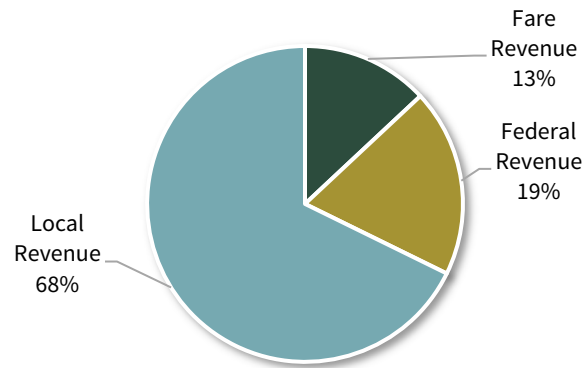


Figure 10-3 illustrates the total local revenue included in the 10-year Cost Feasible Plan. Local revenues for CAT are anticipated to increase at a moderate rate of 1.8% annually starting in 2023. Under this plan, there are no new local revenue sources in the 10-year period.

Figure 10-3: Local Operating Revenues for 10-Year TDP (millions)



- Federal Grants 5307 and 5311 for operating assistance from FY 2021–FY 2025 reflects FDOT Adopted Work Program FY 2021–2015 for Collier County; an annual growth rate (1.8%) is applied after FY 2021, to reflect 10-year average CPI increase to the revenue source.
- Federal and State grant 5305 funds for planning were based on the FDOT Adopted Work Program FY 2021–2015 for Collier County.
- Projected FDOT Block Grant revenues for 2021–2025 were obtained from the FDOT Adopted Work Program FY 2021–2015 for Collier County. A conservative annual growth rate of 1.8% was used to increase these revenues and thereafter were based on 10-year average CPI.

- Projected fare revenues for existing services are based on FY 2019 YTD Route Statistics data provided by CAT, with a conservative 1.8% annual growth rate applied.
- Projected local contributions were obtained from the FDOT Adopted Work Program FY 2021–2015 for Collier County. A conservative annual growth rate of 1.8% was used to increase revenues and thereafter was based on 10-year average CPI.
- Based on vehicle information provided by CAT staff, a total of \$15.9 million in capital funds was assumed in the 10-year plan to fund the existing fixed-route bus replacement program and \$4.5 million for paratransit vehicles.
- New State Block Grant – The formula to allocate Block Grant funds is based on three components: population of service area, ridership, and revenue miles. Block grant revenues are approximate based on information provided by FDOT’s Public Transit Office. It is assumed these revenues will increase when implementing new/expanded transit services, two years after the start of new/expanded services.
- FTA Section 5307 – Revenues are based on federal formula funding criteria such as increased ridership and passenger-miles. Funding levels are subject to change due to transit performance relating to route revenue miles, passenger trips, and performance of the whole system. For expansion to existing routes and new services, it is assumed these revenues will increase and would be realized two years from year of service expansion or new services.

The detailed 10-year Cost Feasible Finance Plan is presented in Table 10-3.

Table 10-3: 10-Year Constrained Costs and Revenues Summary

Cost/Revenue	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Operating Cost											
Maintain Existing Service - Fixed Route	\$6,339,199	\$6,451,530	\$6,565,851	\$6,682,198	\$6,800,607	\$6,921,113	\$7,043,755	\$7,168,571	\$7,295,598	\$7,424,876	\$68,693,299
Maintain Existing Service - Paratransit	\$4,533,375	\$4,613,706	\$4,695,461	\$4,778,665	\$4,863,343	\$4,949,521	\$5,037,227	\$5,126,486	\$5,217,328	\$5,309,779	\$49,124,892
Route 22 Realigned - no cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Route 23 Realigned plus freq 60 to 40	\$0	\$393,782	\$400,760	\$407,861	\$415,089	\$422,444	\$429,930	\$437,548	\$445,302	\$453,192	\$3,805,909
Route 121 - Add one AM and one PM	\$0	\$168,896	\$171,889	\$174,935	\$178,035	\$181,190	\$184,400	\$187,668	\$190,993	\$194,378	\$1,632,384
Route 24 from 85 to 60-min	\$0	\$211,683	\$215,434	\$219,252	\$223,137	\$227,091	\$231,115	\$235,210	\$239,378	\$243,620	\$2,045,921
Route 11 - Extend Hours to 10:00 PM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$127,329	\$129,585	\$256,914
Route 13 - Extend Hours to 10:00 PM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,584	\$88,118	\$174,702
Route 14 - Extend Hours to 10:00 PM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,584	\$88,118	\$174,702
Route 17/18 - Extend Hours to 10:00 PM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$156,869	\$159,649	\$316,518
Total Operating Costs	\$10,872,575	\$11,839,598	\$12,049,396	\$12,262,911	\$12,480,210	\$12,701,359	\$12,926,427	\$13,155,484	\$13,845,964	\$14,091,315	\$126,225,240
Operating Revenues											
Federal Grant (5311)	\$364,222	\$404,525	\$379,787	\$484,276	\$492,857	\$501,591	\$510,479	\$519,525	\$528,731	\$538,100	\$4,724,092
Local Match (5311)	\$364,222	\$404,525	\$379,787	\$484,276	\$492,857	\$501,591	\$510,479	\$519,525	\$528,731	\$538,100	\$4,724,092
Federal Grant (5307) Operating Assistance	\$1,020,014	\$1,035,014	\$1,066,064	\$1,098,046	\$1,117,503	\$1,137,306	\$1,157,459	\$1,177,969	\$1,198,842	\$1,220,086	\$11,228,302
Local Match (5307)	\$1,020,014	\$1,035,014	\$1,066,064	\$1,098,046	\$1,117,503	\$1,137,306	\$1,157,459	\$1,177,969	\$1,198,842	\$1,220,086	\$11,228,302
Federal Grant - CARES Act	\$1,377,728	\$1,402,141	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,779,869
FDOT Transit Block Grant Operating Assistance	\$1,110,951	\$1,166,499	\$1,224,824	\$1,234,010	\$1,255,877	\$1,278,131	\$1,300,779	\$1,323,829	\$1,347,287	\$1,371,161	\$12,613,348
TD Funding	\$907,976	\$935,216	\$963,272	\$992,170	\$1,009,751	\$1,027,644	\$1,045,854	\$1,064,386	\$1,083,247	\$1,102,442	\$10,131,959
Local Match for FDOT Transit Block Grant	\$1,110,951	\$1,166,499	\$1,224,824	\$1,234,010	\$1,255,877	\$1,278,131	\$1,300,779	\$1,323,829	\$1,347,287	\$1,371,161	\$12,613,348
Collier County CAT Enhancements	\$3,452,500	\$3,513,678	\$3,575,941	\$3,639,306	\$3,703,795	\$3,769,426	\$3,836,220	\$3,904,198	\$3,973,381	\$4,043,789	\$37,412,234
Existing Paratransit Fare Revenue	\$254,776	\$259,290	\$263,885	\$268,561	\$273,320	\$278,163	\$283,092	\$288,109	\$293,214	\$298,410	\$2,760,819
Fare Revenue - New Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fare Revenue from Existing Services	\$916,887	\$933,134	\$949,669	\$966,497	\$983,624	\$1,001,053	\$1,018,792	\$1,036,845	\$1,055,218	\$1,073,916	\$9,935,635
Total Operating Revenue	\$11,900,240	\$12,255,536	\$11,094,117	\$11,499,199	\$11,702,964	\$11,910,341	\$12,121,392	\$12,336,183	\$12,554,780	\$12,777,251	\$120,152,003
Annual Revenues Minus Costs	\$1,027,666	\$415,938	(\$955,279)	(\$763,713)	(\$777,246)	(\$791,019)	(\$805,035)	(\$819,301)	(\$1,291,184)	(\$1,314,064)	(\$6,073,236)
Rollover from Previous Year	\$5,156,142	\$6,183,808	\$6,599,746	\$5,644,466	\$4,880,754	\$4,103,508	\$3,312,489	\$2,507,454	\$1,688,153	\$396,969	
Operating Surplus/Shortfall (Cumulative)	\$6,183,808	\$6,599,746	\$5,644,466	\$4,880,754	\$4,103,508	\$3,312,489	\$2,507,454	\$1,688,153	\$396,969	(\$917,094)	(\$6,073,236)

Table 10-3: 10-Year Constrained Costs and Revenues Summary (continued)

Cost/Revenue	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	10-Year Total
Capital Costs											
Vehicles	\$5,141,467	\$2,640,896	\$2,612,623	\$1,822,289	\$1,158,632	\$891,322	\$3,443,082	\$2,852,452	\$3,728,895	\$84,892	\$24,376,549
Replacement Fixed Route Buses - Maintain Existing	\$495,000	\$2,050,793	\$2,087,133	\$1,593,088	\$1,080,878	\$0	\$2,798,810	\$2,278,724	\$3,478,654	\$0	\$15,863,079
Replacement Vans - Maintain Existing Paratransit Se	\$724,786	\$590,104	\$525,490	\$229,201	\$77,754	\$791,319	\$644,273	\$573,728	\$250,241	\$84,892	\$4,491,787
Replacement of Support Vehicles	\$91,595	\$0	\$0	\$0	\$0	\$100,003	\$0	\$0	\$0	\$0	\$191,598
Preventative Maintenance	\$1,815,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,815,000
Route 23 Realigned plus freq 60 to 40	\$503,771	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$503,771
Increase Frequency on Routes 24 and 121	\$1,007,543	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,007,543
Spares for New Service and Improved Existing Servic	\$503,771	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$503,771
Other Capital/Infrastructure	\$5,002,104	\$655,648	\$641,520	\$627,445	\$638,564	\$649,879	\$661,395	\$673,115	\$685,042	\$697,181	\$10,931,893
Bus Shelter Program	\$2,231,800	\$500,000	\$509,000	\$518,019	\$527,199	\$536,541	\$546,048	\$555,724	\$565,572	\$575,594	\$7,065,497
Safety/Security Program	\$103,809	\$105,648	\$107,520	\$109,426	\$111,365	\$113,338	\$115,346	\$117,390	\$119,471	\$121,588	\$1,124,901
Safety/Security - Driver Protection Barriers	\$81,587	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81,587
Technology	\$2,584,908	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,584,908
Study: Santa Barbara Corridor	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: UF/IFAS Lehigh Acres Service	\$0	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: I-75 Managed Lanes Express	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: Everglades City Vanpool	\$0	\$0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000
Study: Fares	\$0	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Study: Mobility on Demand	\$0	\$0	\$0	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Total Capital Costs	\$10,143,571	\$3,296,545	\$3,254,144	\$2,449,734	\$1,797,196	\$1,541,201	\$4,104,477	\$3,525,566	\$4,413,937	\$782,073	\$35,308,442
Capital Revenues											
Local Match - Planning	\$9,877	\$9,877	\$9,877	\$11,410	\$11,612	\$11,818	\$12,027	\$12,240	\$12,457	\$12,678	\$113,875
Federal Grant (5307) Capital Assistance	\$1,998,517	\$2,098,443	\$2,203,365	\$2,313,533	\$2,354,529	\$2,396,251	\$2,438,713	\$2,481,927	\$2,525,906	\$2,570,665	\$23,381,849
Local Match (5307)	\$499,630	\$524,611	\$550,842	\$578,384	\$588,633	\$599,064	\$609,679	\$620,482	\$631,477	\$642,667	\$5,845,470
Federal Grant 5339 (Capital) Assistance	\$410,959	\$431,507	\$453,082	\$475,737	\$484,167	\$492,746	\$501,478	\$510,364	\$519,408	\$528,612	\$4,808,060
Local Match (5339)	\$102,740	\$107,877	\$113,271	\$118,934	\$121,042	\$123,186	\$125,369	\$127,591	\$129,852	\$132,153	\$1,202,014
Federal (FTAT + SU) for ADA Improvements	\$508,860	\$517,877	\$527,054	\$536,393	\$545,898	\$555,571	\$565,416	\$575,435	\$585,632	\$596,009	\$5,514,146
Federal Grant - CARES Act Capital	\$4,592,837	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,592,837
Total Capital Revenues	\$8,123,420	\$3,690,192	\$3,857,491	\$4,034,391	\$4,105,881	\$4,178,637	\$4,252,682	\$4,328,040	\$4,404,733	\$4,482,784	\$45,458,250
Annual Revenues Minus Costs	(\$2,020,151)	\$393,647	\$603,347	\$1,584,657	\$2,308,685	\$2,637,436	\$148,205	\$802,473	(\$9,204)	\$3,700,712	\$16,735,752
Rollover from Previous Year	\$6,585,943	\$4,565,793	\$4,959,440	\$5,562,787	\$7,147,445	\$9,456,129	\$12,093,566	\$12,241,771	\$13,044,244	\$13,035,040	
Capital Surplus/Shortfall (Cumulative)	\$4,565,793	\$4,959,440	\$5,562,787	\$7,147,445	\$9,456,129	\$12,093,566	\$12,241,771	\$13,044,244	\$13,035,040	\$16,735,752	\$16,735,752

Note: After approval of local match, Table 10-3 will be updated to reflect award of Federal Grant 5339 Capital Assistance in the amount of \$9,020,000 for the purchase of six 30' fixed route buses and for renovations to the CAT Radio Road Transit Maintenance Facility. Local match to 5339 will be updated to reflect the associated transportation development credits soft match to these funds in the amount of \$2,051,324.

10.5 10-Year TDP Implementation Plan and Unfunded Needs

The implementation plan in Table 10-3 outlines service improvements that are included funded and unfunded. Table 10-3 also shows implementation years, operating and capital costs associated with each service and capital improvement, and if existing or new revenues are anticipated to fund the improvement. It is important to emphasize that the schedule shown in Table 10-4 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 will be adjusted. The expansion of Federal 5307 formula funds and matching funds is assumed based on increased passenger-miles on existing services. After approval of local match, Table 10-4 will be updated to reflect award of Federal Grant 5339 Capital Assistance for six 30' fixed route buses and renovations to the CAT Radio Road Transit Maintenance Facility in the amount of \$9,020,000 with soft match of \$2,051,324.

Table 10-4: CAT TDP 2021–2030 Implementation Plan

Service Improvements	Implementation Year	10-Year Operating Cost	10-Year Capital Cost	Existing or New Revenues
		YOE	YOE	
Maintain Existing Service		\$117,818,191	\$20,796,704	
Maintain Existing Fixed-Route Service	2020	\$68,693,299	\$15,863,079	Existing
Maintain Existing Paratransit Service	2020	\$49,124,892	\$4,742,027	Existing
Replacement of Support Vehicles	2020	\$0	\$191,598	Existing
Route Network Modifications		\$9,441,652	\$2,153,818	
Extend Route 11 into Walmart Shopping Ctr	2022	\$0	\$0	Existing
Extend Route 12 into Walmart Shopping Ctr	2022	\$0	\$0	Existing
Realign Route 13 - shorten to 40 min. headway	2022	\$0	\$0	Existing
Realign Route 14 - operate at 60 min. headway	2022	\$0	\$0	Existing
Realign Route 17 - eliminate portions of US 41	2022	\$0	\$0	Existing
Eliminate Route 18	2022	\$0	\$0	Existing
Realign Route 19/28 - eliminate portions of 846	2022	\$0	\$0	Existing
Realign Route 20/26 - eliminate Santa Barbara	2022	\$0	\$0	Existing
Realign Route 21 to create Marco Express	2024	\$0	\$0	Unfunded
Realign Route 22	2022	\$0	\$0	Existing
Realign Route 23 - reduce headway 60 to 40 minutes	2022	\$3,805,909	\$503,771	Existing
Golden Gate Pkwy - Split Route 25 creating EW Route	2027	\$0	\$0	Existing
Goodlette Frank Rd - Split Route 25 creating NS Route	2027	\$1,838,052	\$550,016	Unfunded
Immokalee Rd - Split Route 27 creating EW Route	2027	\$1,898,846	\$550,016	Unfunded
Collier Blvd - Split Route 27 creating NS Route	2027	\$1,898,846	\$550,016	Unfunded

Table 10-4: CAT TDP 2021–2030 Implementation Plan – (cont.)

Service Improvements	Implementation Year	10-Year Operating Cost	10-Year Capital Cost	Existing or New Revenues
		YOE	YOE	
Increase frequency		\$22,092,501	\$4,551,796	
Route 15 from 90 to 45 minutes	2022	\$1,632,384	\$503,771	Unfunded
Route 16 from 90 to 45 minutes	2022	\$1,561,054	\$503,771	Unfunded
Route 24 from 85 to 60 minutes	2022	\$2,045,921	\$503,771	Existing
Route 121 - add one AM, one PM trip	2022	\$1,632,384	\$503,771	Existing
Route 14 from 60 to 30 minutes	2023	\$2,439,146	\$512,698	Unfunded
Route 17/18 from 90 to 45 minutes	2023	\$2,585,495	\$503,771	Unfunded
Route 11 from 30 to 20 minutes	2022	\$6,529,536	\$503,771	Unfunded
Route 12 from 90 to 45 minutes	2022	\$2,829,466	\$503,771	Unfunded
Route 13 from 40 to 30 minutes	2023	\$837,115	\$512,698	Unfunded
Service Expansion		\$2,404,181	\$0	
Route 17/18 - Extend Hours to 10:00 PM	2023	\$1,202,011	\$0	Existing
New Route 19/28 - Extend Hours to 10:00 PM	2027	\$292,876	\$0	Unfunded
Route 24 - Extend Hours to 10:00 PM	2027	\$302,976	\$0	Unfunded
Route 11 - Extend Hours to 10:00 PM	2029	\$256,914	\$0	Existing
Route 13 - Extend Hours to 10:00 PM	2029	\$174,702	\$0	Existing
Route 14 - Extend Hours to 10:00 PM	2029	\$174,702	\$0	Existing

Table 10-4: CAT TDP 2021–2030 Implementation Plan – (cont.)

Service Improvements	Implementation Year	10-Year Operating Cost	10-Year Capital Cost	Existing or New Revenues
		YOE	YOE	
New Service		\$14,346,741	\$2,862,604	
New Island Trolley	2024	\$5,510,821	\$864,368	Unfunded
New Bayshore Shuttle	2025	\$2,009,995	\$531,029	Unfunded
New Autonomous Circulator	2029	\$524,105	\$569,681	Unfunded
New Naples Pier Electric Shuttle	2029	\$822,125	\$569,681	Unfunded
MOD – Golden Gate Estates	2029	\$1,634,460	\$81,961	Unfunded
MOD – North Naples	2029	\$817,230	\$81,961	Unfunded
MOD – Naples	2029	\$1,938,887	\$81,961	Unfunded
MOD – Marco Island	2029	\$1,089,119	\$81,961	Unfunded
New Route from UF/IFAS to Lehigh Acres	2029	Unknown	Unknown	Unfunded
New Express Premium Route into Lee County	2029	Unknown	Unknown	Unfunded
Other Improvements		\$0	\$2,866,495	
Technology improvements*	2021	\$0	\$2,584,908	Existing
Security - driver protection barriers	2021	\$0	\$81,587	Existing
Study: Santa Barbara Corridor	2022	\$0	\$25,000	Existing
Study: UF/IFAS Lehigh Acres Service	2022	\$0	\$25,000	Existing
Study: I-75 Managed Lanes Express	2023	\$0	\$25,000	Existing
Study: Everglades City Vanpool	2023	\$0	\$25,000	Existing
Study: Fares	2024	\$0	\$50,000	Unfunded
Study: Mobility on Demand	2024	\$0	\$50,000	Unfunded
Other Technology improvements**		TBD		Unfunded
Study: Immokalee Road Transfer Hub		TBD		Unfunded
Brand beach area buses		TBD		Unfunded
Park and Ride Lots (pending study)		TBD		Unfunded
Funded Projects + Maintenance of Existing Service		\$127,110,733	\$20,796,704	
Unfunded Projects		\$37,093,687	\$8,156,904	

*Avail Replacement, APC, Annunciators, Onboard Information Media, Farebox Replacement, paratransit scheduling software, TSP, on-board surveillance, paratransit fare payment, IVR

**Fixed-route scheduling software



Appendix A: Peer Selection Methodology

PEER SELECTION MEMORANDUM

Date: April 2, 2020

To: Josephine Medina, Collier County MPO; Omar De Leon, Collier County; Zachary Karto, Collier County; Brandy Otero, Collier MPO

From: Jessica Mackey, Tindale Oliver; Randall Farwell, Tindale Oliver

RE: CAT TDP 2020 Update – Peer Selection Update

Introduction

This is an update to the original peer selection memorandum. Based on the initial selection, three of the selected peers, after generating the peer analysis reports, were found not to have complete data and were subsequently eliminated.

This memorandum presents peer selection analysis for the CAT 2020 Transit Development Plan (TDP) Major Update. A preliminary set of peers were selected using input from the following:

- Tindale Oliver’s 8-Variable Method
- Prior Peers from 2016-2025 TDP Major Update
- Peer review request by Collier County MPO staff

Best practice typically dictates that a peer group is comprised of six to eight peers but may include more. Peer comparisons using selected performance indicators, effectiveness measures, and efficiency measures are used to illustrate the performance of the CAT fixed-route system relative to the peer group. The peer identification methodology and the identified peers are described below.

Tindale Oliver Eight-Variable Method

Overview of Method

A set of potential peers was developed applying a peer selection methodology developed by Tindale Oliver using validated 2017 National Transit Database (NTD) data from the Florida Transit Information System (FTIS) database. The peer selection was conducted before 2018 NTD was released in FTIS. The universe of potential peers were drawn from transit agencies in southeastern United States. Transit systems were analyzed based on eight indicators, six operating characteristics, two exogenous variables.

- Operating Characteristics Indicators:
 - Average speed
 - Passenger trips
 - Revenue miles
 - Revenue hours

- Vehicles operated in maximum service
- Total operating expense
- Exogenous Variables Indicators:
 - Service area population
 - Service area population density

To select the systems most comparable with CAT, each indicator value for CAT was used as a base number. From this, 80%, 90%, 110%, and 120% of CAT values were calculated for each indicator for the universe of potential peers. Potential peers were then assigned a score for each indicator based on the following criteria:

- Peers falling between 90% and 110% of the CAT value were awarded 1.0 point.
- Peers falling between 80% and 90% of the CAT value or between 110% and 120% were awarded 0.5 points.
- Peers falling below 80% or above 120% of the CAT value were awarded 0.0 points.

Further, because Collier County is large with dispersed population centers, the population density was recognized as a key factor for selecting like peers. To this end, population density was awarded a score of 2.0 points. The total score, the sum of the indicator scores for each potential peer, were calculated and the universe of potential peers was then ranked based on total score. Transit agencies with one or more indicators that were significant outliers compared to CAT and the other peers, were eliminated.

Results

An initial set of 20 potential peers was identified for CAT (see Table 1). The top 10 peers with the highest likeness score to CAT were identified and selected as the CAT peer group. The top 10 selected peer systems are:

- City of Montgomery-Montgomery Area Transit System, AL
- The Tri-State Transit Authority – Huntington, WV
- The Wave Transit System – Mobile, AL
- Clarksville Transit System, TN
- Macon-Bibb County Transit Authority, GA
- ART (Asheville Redefines Transit) - Asheville, NC
- Metra Transit System - Columbus, GA
- Gwinnett County – Lawrenceville, GA
- Pasco County Public Transportation – Port Richey, FL
- Cape Fear Public Transit Authority – Wilmington, NC

Two of the selected peers were peers from the previous TDP: Pasco County and Cape Fear.

Subsequently, based on the generation of the peer and trend analysis, three of the top 10 peers were found to have incomplete NTD data: Macon, GA; Columbus, GA; and Clarksville, TN. These systems were eliminated from the peer group. The seven final selected peers include:

- City of Montgomery-Montgomery Area Transit System, AL
- The Tri-State Transit Authority – Huntington, WV
- The Wave Transit System – Mobile, AL
- ART (Asheville Redefines Transit) - Asheville, NC
- Gwinnett County – Lawrenceville, GA
- Pasco County Public Transportation – Port Richey, FL
- Cape Fear Public Transit Authority – Wilmington, NC

Characteristics of Peer Systems

The following are brief descriptions of the CAT peer group for comparative purposes. Data were obtained from the 2018 NTD. The peer and trend analysis were conducted with this set of CAT peers.

Name: Collier Area Transit (CAT)



Services provided: CAT, a unit of Collier County government, provides transit services in Collier County, FL, including Naples and other communities. CAT operates a network of public bus service consisting of 19 fixed-routes as well as non-fixed-route services, including paratransit service under the CAT Connect program that includes complementary Americans with Disabilities Act (ADA) service and transportation disadvantaged (TD) services.

Service area population (2018): 262,699*

Service area population density (2018): 847 persons per sq. mi.*

Annual revenue hours (2018): 73,056 annual revenue hours of service

Annual ridership (2018): 840,961 passenger boardings

Operating costs (2018): \$6,013,801

Fleet (2018): 19 vehicles in maximum service

*Calculated using 2019 TBEST Land Use Model

Name: City of Montgomery-Montgomery Area Transit System (The M)



Services provided: Owned by the City of Montgomery, AL, the M provides transit services within the municipality, operates a network of public bus service consisting of 14 fixed-routes, and provides ADA complementary paratransit services within a ¾-mile corridor of fixed-routes.

Service area population (2018): 205,764

Service area population density (2018): 1,524 persons per sq. mi.

Annual revenue hours (2018): 74,909

Annual ridership (2018): 605,572 passenger boardings

Operating costs (2018): \$5,763,964

Fleet (2018): 19 vehicles in maximum service

Name: Tri-State Transit Authority, Huntington, WV

Services provided: TTA, an independent transit authority, provides fixed-route and complimentary ADA paratransit services in the greater Huntington urbanized area. TTA operates a network of public bus service consisting of 9 fixed-routes, 2 shuttles, and 3 night routes that operate in the evening/night only.

Service area population (2018): 144,339.

Service area population density (2018): 1,568 persons per sq. mi.

Annual revenue hours (2018): 57,986

Annual ridership (2018): 865,683 passenger boardings

Operating costs (2018): \$5,370,586

Fleet (2018): 22 vehicles in maximum service.



Name: The Wave Transit System, Mobile, AL

Services provided: The Wave, a unit of the City of Mobile, provides fixed-route and paratransit services in Mobile, operating a network of public bus service consisting of 12 fixed routes and 1 downtown circulator.

Service area population (2018): 190,265.

Service area population density (2018): 1475 persons per sq. mi.

Annual revenue hours (2018): 76,679

Annual ridership (2018): 850,596 passenger boardings

Operating costs (2018): \$7,591,657

Fleet (2018): 21 vehicles in maximum service



Name: ART (Asheville Redefines Transit), Asheville, NC

Services provided: ART, a unit of the City of Asheville Transit Division, provides fixed-route services in Asheville and adjacent portions of Buncombe County, operating a network of public bus service consisting of 18 fixed-routes; paratransit service is provided by Buncombe County as Mountain Mobility.

Service area population (2018): 89,121

Service area population density (2018): 1,980 persons per sq. mi.

Annual revenue hours (2018): 76,679 annual revenue hours of service

Annual ridership (2018): 1,964,651 passenger boardings

Operating costs (2018): \$5,370,586

Fleet (2018): 17 vehicles in maximum service.



Name: GCT, Gwinnett County, Lawrenceville, GA

Services provided: GCT, a unit of the Gwinnett County Transportation Department, provides commuter express bus, local bus, and paratransit service in Gwinnett County and to Downtown Atlanta, operating a network of public bus service consisting of 7 fixed-routes and 5 express routes.



Service area population (2018): 920,260

Service area population density (2018): 2,106 persons per sq. mi.

Annual revenue hours (2018): 80,617

Annual ridership (2018): 1,075,995 passenger boardings

Operating costs (2018): \$9,229,461

Fleet (2018): 28 vehicles in maximum service

Name: Pasco County Public Transportation, Port Richey, FL

Services provided: PCPT is a service of Pasco County, providing fixed-route local bus and paratransit service. A total of 11 fixed-route bus routes serve the urbanized areas of West Pasco, Zephyrhills, and Dade City, including connections between Dade City and Zephyrhills. Route 54, the Cross County Connector on SR-54/56, operates from US-19 to Zephyrhills and Route 41 in Land O'Lakes. Paratransit services are provided countywide.



Service area population (2018): 525,643

Service area population density (2018): 704 persons per sq. mi.

Annual revenue hours (2018): 92,485

Annual ridership (2018): 823,811 passenger boardings

Operating costs (2018): \$6,569,486

Fleet (2018): 23 vehicles in maximum service

Name: Wave Transit, Cape Fear Public Transit Authority, Wilmington, NC

Services provided: Wave Transit, an independent transit authority, provides fixed-route bus, shuttle, and paratransit service in the Wilmington metro area, operating a network of 14 fixed-route bus routes, 8 shuttles for University of North Carolina–Wilmington students and employees, 1 downtown circulator, and paratransit within ¼-mile of any fixed bus route.



Service area population (2018): 223,483

Service area population density (2018): 1117 persons per sq. mi.

Annual revenue hours (2018): 85,615

Annual ridership (2018): 1,306,099 passenger boardings

Operating costs (2018): \$6,926,980

Fleet (2018): 25 vehicles in maximum service

Table C-1: Selected and Potential Peers

CAT Fixed Route Peer Systems (Southeastern United States)										
NTD Name	City	State	Average Speed (RM/RH)	Passenger Trips	Revenue Miles	Service Area Population	Service Area Population Density	Total Operating Expense	VOMS	Revenue Hours
City of Montgomery-Montgomery Area Transit System	Montgomery	AL	16.19	654,474	1,144,411	205,764	1,524	5,946,414	19	70,683
The Tri-State Transit Authority	Huntington	WV	16.25	866,021	1,031,977	144,339	1,569	5,637,564	27	63,524
The Wave Transit System	Mobile	AL	15.37	858,616	1,189,763	177,929	1,834	7,021,009	21	77,396
ART (Asheville Redefines Transit)	Asheville	NC	14.95	2,125,214	1,017,879	88,512	1,967	5,148,844	17	68,107
Gwinnett County Board of Commissioners	Lawrenceville	GA	17.71	1,035,561	1,236,630	920,260	2,106	9,143,524	26	69,829
Pasco County Public Transportation	Port Richey	FL	20.75	815,283	1,724,047	488,310	654	6,057,711	23	83,070
Cape Fear Public Transportation Authority	Wilmington	NC	14.04	1,359,911	1,201,922	216,479	1,082	6,516,506	25	85,636
MS Coast Transportation Authority	Gulfport	MS	13.13	740,636	891,905	117,629	1,238	4,496,399	20	67,930
Greenville Transit Authority	Greenville	SC	15.27	905,580	855,527	188,991	1,948	4,775,771	15	56,014
Williamsburg Area Transit Authority	Williamsburg	VA	14.58	2,465,072	1,301,626	153,600	1,067	6,492,296	31	89,252
Athens Transit System	Athens	GA	11.43	1,553,282	826,286	119,980	2,727	5,563,824	22	72,314
City of Monroe Transit System	Monroe	LA	15.28	1,053,444	729,985	49,601	1,600	5,062,181	13	47,785
Lafayette Transit System	Lafayette	LA	14.66	1,546,244	758,350	221,578	4,522	5,023,582	13	51,712
Brazos Transit District	Bryan	TX	16.98	407,223	816,601	132,500	1,791	5,199,782	27	48,097
Mid-Ohio Valley Transit Authority	Parkersburg	WV	14.50	497,403	661,550	39,587	2,828	3,134,071	18	45,632
Fayetteville Area System of Transit	Fayetteville	NC	13.21	1,460,633	1,221,278	150,131	1,580	6,413,301	24	92,472
Transit Authority of Northern Kentucky	Northern Kentucky	KY	14.51	3,202,515	3,263,063	278,653	1,044	19,557,731	97	224,901
Clarksville Transit System	Clarksville	TN	17.73	683,107	1,176,050	135,471	1,290	4,512,306	16	66,321
Macon-Bibb County Transit Authority	Macon	GA	16.29	816,194	1,019,938	153,691	2,196	6,143,421	19	62,603
Metra Transit System (Columbus, GA)	Columbus	GA	14.28	1,164,199	1,183,555	230,208	1,744	4,218,374	20	82,854
Collier Area Transit	Naples	FL	17.85	896,201	1,285,354	262,699	847	5,557,686	18	72,018
Selected Peers Mean			16.47	1,102,154	1,220,947	320,228	1,534	6,495,939	23	74,035

Source: 2017 NTD Data



Appendix B: Public Involvement Program



Florida Department of Transportation

RON DESANTIS
GOVERNOR

801 N. Broadway Avenue
Bartow, FL 33830

KEVIN J. THIBAUT, P.E.
SECRETARY

March 19, 2020

Collier Metropolitan Planning Organization
Ms. Anne McLaughlin, Executive Director
2885 South Horseshoe Drive
Naples, FL 34104

RE: 2020 Transit Development Plan / Public Participation Plan

Dear Ms. McLaughlin:

This letter pertains to the Department's review of Collier Metropolitan Planning Organization 2020 Public Participation Plan (PPP) of the Transit Development Plan (TDP) for Collier Area Transit. District One Department staff received the PPP on Thursday, January 30, 2020.

The Department completed its review of the document based on Rule Chapter 14-73.001(3)(a), F.A.C. pertinent to the requirements for the TDP on Wednesday, March 18, 2020. The Department finds Collier Metropolitan Planning Organization 2020 PPP for the TDP to be in compliance with the Chapter 14-73, F.A.C. Please provide a copy of this compliance letter as an attachment within the final TDP Major Update.

The Department appreciates the efforts of the Collier Metropolitan Planning Organization staff to develop the 2020 PPP for the Transit Development Plan in compliance with Chapter 14-73, F.A.C.

If you have any questions, please contact Dale Hanson via email at Dale.Hanson@dot.state.fl.us or at (863) 519-2321.

Sincerely,

Dale Hanson
Transit Projects Coordinator

Cc: Brandy Otero, Collier MPO
Josephine Medina, Collier MPO
Randall Farwell, Tindale Oliver
Michelle Arnold, Collier Area Transit
Omar Deleon, Collier Area Transit
Michelle S. Peronto, FDOT



**Collier Area Transit
Transit Development Plan**

Public Participation Plan

Final Revised

March 17, 2020

Prepared by



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1.0 Introduction

A simple, yet key ingredient, of any good public outreach effort is the effectiveness of listening and how that information is incorporated into the study process. The most effective plans include activities and methods oriented specifically to the project study area and an understanding of the local and regional character. Collier Metropolitan Planning Organization (MPO), Collier Area Transit (CAT), and the Consultant Team recognize the importance of public engagement and have developed strategies to engage the public, stakeholders and agencies involved in the development of the Transit Development Plan (TDP). The Public Participation Plan (PPP) for this project includes proven outreach efforts that go beyond “the minimum requirements”. Our team has identified a menu of opportunities to provide the public information, listen to their concerns and suggestions, and find ways to incorporate solutions into the TDP.

Rule 14-73.001 requires that the TDP preparation include the following activities:

- A PIP approved by the Florida Department of Transportation (FDOT) or the local MPO’s PPP, approved by both the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA).
- Description of the process used, and the public involvement activities undertaken.
- Solicitation of comments from FDOT, the MPO, and the regional Workforce Development Board on the mission, goals, objectives, alternatives, and 10-year implementation program.
- Notification of all public meetings at which the TDP is presented to or discussed with FDOT, the MPO, and the regional Workforce Development Board.

To ensure that CAT meets these requirements, the PPP will facilitate a public involvement process for the TDP effort that will encompass a range of activities that provide ample opportunity for participation by the required, and other interested, entities.

In addition, CAT, as a public transit agency and recipient of Federal and state Funding, is required to adhere to Federal non-discrimination regulations, including those outlined in Title VI of the Federal Civil Rights Act of 1964. CAT has developed a Title VI Program that outlines the policies, procedures, services, and steps that will guide the public involvement activities outlined in this PPP to ensure inclusive and representative participation, including persons with disabilities, limited English proficiency (LEP), and/or other factors that may limit their participation. By reference, this PPP integrates the policies and procedures into the programs, activities, and services of this TDP.

1.1 Project Background

The MPO and CAT, selected the Tindale Oliver Team (Team) to update the TDP to establish a refreshed framework for the future growth of transit in the community, as provided by the County’s transit system, CAT, and ensure safe, convenient, and accessible public transportation for all residents, workers, and visitors in Collier County. An integral part of the TDP is the PPP, which acts as a guide for educating, gaining input from and disseminating information to the public and stakeholders.

1.2 Project Kick-off Meeting

The TDP project begins with a Kick-off Meeting with staff to review and coordinate on the scope, schedule, deliverables, data request, public outreach strategy, and project management to assure staff and the consultant team share the same expectations. This will help ensure the success of the project once it has begun. The kick-off meeting was held December 19th from 2:00-3:30.

A recommendation was made to form a TDP Working Group, comprised of a group of 6-10 technical and policy experts from the MPO, County, FDOT, and Workforce Development to serve as a sounding and advisory board for review of findings, recommendations, and priorities related to the resulting TDP program and priorities. The TDP Working Group will meet on three occasions during the TDP effort. Once after existing conditions and services review has been conducted, once to review the initial TDP improvements recommendations, and once to review the final TDP.

The first TDP Working Group meeting is scheduled to be conducted as a virtual meeting due to health advisory considerations related to Covid-19, the subsequent meetings will be conducted in person and/or as virtual meetings, depending on conditions at the time of the subsequent meetings.

In addition, the core project team will hold bi-weekly calls to review current efforts and coordinate on upcoming decisions and activities.

Based on the Team's prior proposed approach and the MPO's RFP, the PPP recommends the following public engagement activities be completed as part of the TDP process:

- Public Workshops (2)
- On-Board Passenger Survey (1)
- Online Survey (2)
- Stakeholder Interviews (10)
- Discussion Group Workshops (2)
- Draft and Final Presentations (6)
- Ongoing Social Media

2.0 Public Engagement Activities

The following content is a TDP-specific PPP that presents the public engagement activities that will be used to collect stakeholder and public input, and to educate and inform the community about the study and, ultimately, its results. Following are summaries of the activities that are envisioned to be included, some of which (as noted) will be completed by CAT/MPO staff, others to be provided by the Team. Public participation activities have been designed to encourage participation throughout the entire TDP process. Our Team has identified methods of communication that best serve the needs of Collier County, but are flexible enough to make changes, if necessary, to ensure maximum feedback. Our goal is to reach and hear from as many people and organizations as possible to ensure that their voices are heard.

2.1 Public Workshops

Two public workshops will be held at key milestones in the study process, first early in the process, to educate attendees about the TDP effort and collect input on gaps and unmet needs. The second public workshop will focus on obtaining feedback on the proposed improvements.

With input from the Team and CAT/MPO staff we will plan and schedule each meeting to maximize opportunities for citizen participation by selecting venues in areas that



have bus access and we will piggyback these workshops with other community events to ensure a good turnout. We will hold the meetings at times to best accommodate a variety of work and personal schedules. There will be a comment period open for one week before and one week after each public meeting (7 days) where the public can submit comments, questions, and concerns via email, phone call, social media, and written letters without being required to attend the public workshops. FDOT, Southwest Florida Regional Workforce Development Board and the Metropolitan Planning Organization will be notified at least fourteen (14) days in advance of each public workshop.

After completion of the early assessment of existing conditions and services, the Team will schedule and conduct a public workshop to introduce the TDP purpose, schedule, and to inform the public about existing services and socioeconomic conditions and to solicit ideas from the public concerning transit and mobility needs within the Collier County community. The first public workshop is targeted to be conducted in March or April, coincident with the Discussion Group Workshops. In response to health concerns associated with Covid-19, the first public workshop will be targeted for April or May and be conducted in person and/or via virtual meeting, depending on circumstances at the time.

A second public workshop will be held following completion of the draft TDP. The intent of this meeting is to present the public with our initial findings and recommendations for 5-year and 10-year service and capital improvements for transit and mobility services within the greater Collier County community. This meeting will be designed to facilitate engagement and dialog to hear the attitudes, concerns, and desires of the community regarding the draft TDP. The public will have an opportunity to review the draft TDP prior to the workshop (online and at designated locations) seven days prior to and following the workshop. The second public workshop is targeted to be conducted in June or July, coincident with the draft TDP presentations to the BCC, MPO, and other groups listed in Section 2.7. Depending on circumstances at the time, this second meeting will be conducted in person and/or as a virtual meeting.

Logistics/Format

Depending on the information to be presented, the meetings could be an informal event using a “station” format, where participants come and go at their leisure (if an in person meeting is conducted). Staff would be available for questions. If a more formal event is appropriate, or we are required to conduct a virtual meeting, we would develop a PowerPoint presentation with live explanation followed by a Question & Answer period. We will discuss the best possible format with CAT/MPO staff and the Working Group when the time is appropriate.

2.2 On-Board Passenger Survey

A passenger survey will be conducted of CAT fixed-route bus patrons on-board CAT vehicles to obtain information related to the demographics, attitudes, preferences, and habits of current riders for market research purposes (i.e., the survey will not be specifically geared for model input or validation).

To allow for enough valid survey responses that will support statistical rigor of the results (95% CL, $\pm 10\%$ MOE), yet accommodate the desired budget goal, it is proposed that the survey effort will cover 50 percent of CAT’s scheduled fixed-route bus trips. The on-board survey methodology and implementation will be coordinated closely with CAT staff to ensure that study objectives are met, and data collection efforts are efficiently integrated with CAT operations. The survey instrument will be developed in conjunction with CAT/MPO staff. Prior to beginning the on-board survey process, our staff will meet with CAT operations staff to ensure a clear understanding of the methodology, process, and timeframe. We also will provide survey notices for CAT to distribute to its bus operators and on board its buses to notify patrons of the upcoming event. The on-board survey, a 25-question survey, was conducted January 15-16 weekday, January 18-19 weekend, with training on the 14th. A target of 1,000 completed surveys was established for the on-board survey and 1,090 surveys were completed.

2.3 Online Survey

Our Team will conduct a regional online survey of the general public in Lee and Collier Counties to help better understand their needs and concerns and, especially, persons who do not currently use the CAT services. Development of the online survey will be coordinated closely with CAT/MPO staff and LeeTran staff to ensure that survey objectives are met. We have had a lot of success using Survey Monkey on similar projects, so we would likely use this same tool for the TDP. Because considerable thought will be put into the questions, the online survey will elicit responses useful to CAT/MPO staff and CAT services.

The online survey will be posted on the County website and distributed via any current email/social media outlets and mailing lists available to Collier and Lee Counties, including opportunities to use relevant social media platforms. We will work with CAT/MPO staff and Lee Tran staff to identify social media platforms and email lists.

Our suggestion is to post and push out the online survey at two critical times. The first was posted on websites and accompanied by emails to persons on target mailing lists collected from CAT, the

MPO, and the County. This survey occurs early in the study with a fact sheet about CAT services and a focus on mobility needs, gaps, services. The second posting will include a fact sheet about the proposed improvements to the CAT network and a request for comments and suggestions. The first online survey was released in February and runs through March and the second is scheduled to be live April through May, but may be delayed until May and run through June, depending on circumstances related to Covid-19. We are targeting 500 completed online surveys.

2.4 Stakeholder Interviews

Our Team, working with CAT/MPO staff, will identify stakeholders and conduct up to ten stakeholder interviews. The starting point will be to obtain a list of potential stakeholders, mostly elected officials, from CAT/MPO staff. The purpose for the stakeholder interviews is to capture the best understanding of local conditions, knowledge, perceptions and attitudes of the community towards mobility needs and transit services. In person stakeholder interviews will be scheduled during planned trips to Collier County or by phone depending on convenience for each stakeholder. The interviews are targeted to be completed between April and May 2020.

2.5 Discussion Group Workshops

CAT/MPO staff and the consultants will conduct two invitation-based discussion group workshops using a set of questions prepared by our Team to educate and elicit dialog with participants about mobility needs and services.

The purpose of the workshops is to obtain additional input into the TDP process by selected groups. Participants will work in smaller groups (10–12 persons) to permit more in-depth and candid discussion about issues and needs. The workshops will be held at accessible venues coinciding with CAT’s existing service area, including Lee County.



The focus will be on mobility needs and interests of the business community, tourists and tourism, health care access, community services, social services, Department of Labor, seniors, and students. Participants will be identified by CAT/MPO staff. CAT/MPO staff will be responsible for securing the sites selected and inviting the participants. The consultant team will lead discussion and CAT/MPO staff will participate in the workshops. The consultant team will summarize the workshops and information gathered. The Discussion Group Workshops are scheduled for March 31st. Due to health concerns associated with Covid-19, the workshops are being conducted as virtual meetings.

2.6 Draft and Final TDP Presentations

After completion of the draft TDP, our Team will schedule and conduct six (6) presentations at the direction of CAT/MPO staff. Presentations of the Draft TDP will be targeted for June. Presentations of the Final TDP will be targeted for August. For this purpose, we will develop a user-friendly,

graphical presentation to support the communication and adoption of the TDP. The presentation file will be available for use by CAT/MPO staff beyond the adoption of the TDP. The audiences for the presentations include:

- Collier County Board of Commissioners
- MPO Board
- MPO Citizens Advisory Committee
- MPO Technical Advisory Committee
- Public Transit Advisory Committee

Other audiences that will be briefed directly or through the TDP Working Group, are FDOT and the Workforce Development Office.

Methods of Public Notice

To advertise/notice the meetings, it is suggested that staff prepare and distribute a press release to local media, post the announcement on the County and MPO websites, Twitter and Facebook pages, develop a notice to stakeholders, post notices on buses and at all government buildings and major organizations/institutions in the area. Utilizing the memberships of the business community, civic and community associations, and neighborhood associations would serve as an effective way to announce the meetings. Using the email and postal mail distribution lists of the County and MPO would be an effective way to reach a wide audience. To keep in line with TDP best practices, at least 14 days' notice will be given for public outreach events and 30 days for draft public TDP review and comments. A strategy for outreach will be developed in collaboration with staff and the Working Group. FDOT, the MPO, Southwest Florida Regional Workforce Development Board will be notified at least fourteen days in advance of the Draft and Final TDP Presentations. Additionally, the Southwest Regional Workforce Board shall be provided the draft TDP document for review and comment prior to going to the Board of County Commissioners for adoption.

2.7 Ongoing Social Media

In conjunction with the method of notices described above, leveraging the use of social media is cost-effective and can reach a large segment of population who are younger, trendy, and more prone to becoming involved in an issue that affects their community. Both social media and the County and MPO websites should be used appropriately to raise awareness about the project and to provide opportunities for the public to comment and used as a means to provide information and notice the public meetings and community workshops. Our Team will help prepare project information to be posted and uploaded throughout the study process.

2.8 Measures of Effectiveness

We will work with CAT/MPO staff to develop Measures of Effectiveness (MOE) for the public engagement activities included in this PPP. Quantitative targets will be set for each MOE, and the results of the outreach efforts will be documented in the TDP.

A set of proposed MOEs are presented in **Table 1** for consideration by CAT/MPO staff. The table include a range of targeted strategies and related MOEs designed to improve public awareness,

engagement, and feedback. Results of each public involvement activity will be documented in the TDP and compared with the MOEs established in **Table 1**.

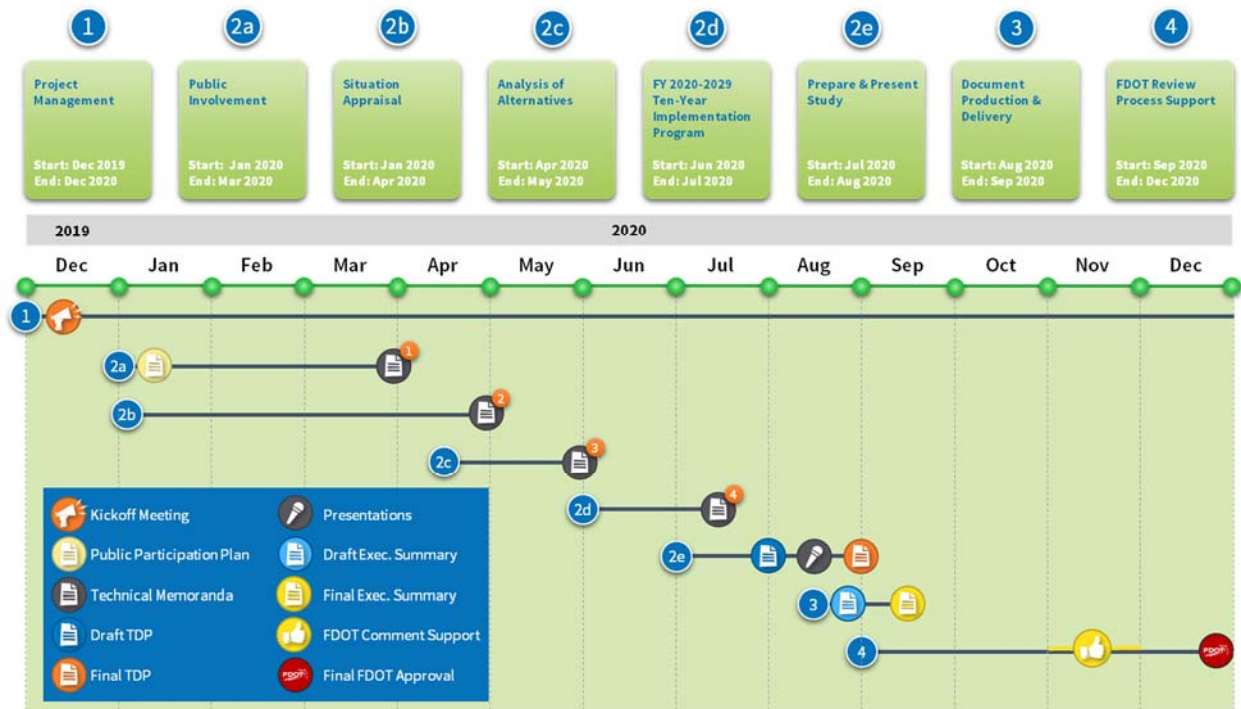
This evaluation process will encourage adaptability and flexibility in the TDP engagement activities. If the MOE targets are not met for certain activities, then a change should be enacted to improve other TDP outreach efforts.

Table 1: TDP Public Involvement Measures of Effectiveness and Targets

Outreach Strategy	Measure of Effectiveness	Target
Stakeholder database	Number of persons in database who identify themselves as members of the general public	500
Public outreach efforts	Number of attendees or interactions with interested persons at each event/meeting	25 per event
Public outreach input	Number of returned comment cards, or questionnaires from outreach events	200
Websites and other communications	Number of phone calls, emails, and visitors to County offices or websites regarding TDP update process	200
Accessibility of public meeting locations	Percentage of all public meeting locations served by at least one transit route	100%
Accessibility to meeting locations by Environmental Justice (EJ) communities	Percentage of outreach events held in EJ communities.	50%
Accessibility of LEP persons	Percentage of all TDP information distributed in Spanish/Creole versions	25%
On-board bus rider survey	Number of completed surveys	1000
Online surveys (2)	Number of completed surveys	500
Accessibility to meeting locations by persons with disabilities	Percentage of meeting locations accessible by persons with physical disabilities as outlined by ADA	100%
Accommodation of participant work schedules	Number of outreach events conducted in evenings or on weekends	5

3.0 Schedule of Activities

The public engagement activities will be coordinated to fit with the overall project schedule, as shown in the table below.



4.0 Public Engagement Documentation

The documentation of public engagement activities creates a summary of outreach activities and commitments made as a result of the outreach activities. Access to the documentation allows the public to see that their input was evaluated and considered. We will include a summary of the public engagement activities in the Final TDP



Appendix C: Public Outreach Materials



Collier Area Transit (CAT) is developing a ten-year transit plan to guide the future of mobility in the region. Your comments will help to define CAT's vision to promote improvements that enhance mobility over the next decade.

Two online surveys will be distributed during the planning process. The first survey will be used to help understand the mobility needs and to identify gaps in existing services. Your responses to the survey will be used to define proposed mobility enhancements which will be included in the second survey in order to obtain your thoughts about the proposed mobility improvements. Your responses to these surveys will inform the recommendations that are developed and approved.

Thank you for your participation!

[Click here to take the survey!](#)

If you have any questions, please contact:

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CAT Mobility Needs Survey

Collier Area Transit (CAT) is developing a ten-year transit plan to guide the future of mobility in the region. Your comments will help to define CAT's vision to promote improvements that enhance mobility over the next decade.

Two online surveys will be distributed during the planning process. The first survey will be used to help understand the mobility needs and to identify gaps in existing services. Your responses to the survey will be used to define proposed mobility enhancements which will be included in the second survey in order to obtain your thoughts about the proposed mobility improvements. Your responses to these surveys will inform the recommendations that are developed and approved.

Thank you for your participation!

1. What is your understanding of and experience with Collier County's existing public transportation (CAT) and related mobility services in the area?

- ☐ I use/have used the bus system
- ☐ I have seen the bus, but I do not ride
- ☐ I know someone who rides the bus
- ☐ None
- ☐ Other (please specify)

2. How much awareness is there in Collier County about transit/public transportation?

- ☐ High
- ☐ Moderate
- ☐ None at all
- ☐ Not sure

3. What is your opinion of transit services in Collier County?

- ☐ It must be provided
- ☐ It might be useful
- ☐ It does not matter to me
- ☐ Not sure it is useful
- ☐ We do not need it

4. What is your perception of transit's role in Collier County? **Check all that apply.**

- ☐ Serve tourists/visitors
- ☐ Serve workers/commuters
- ☐ Relieve parking/congestion
- ☐ Serve persons who do not have access to a vehicle

5. What mobility improvements would you prefer to see in Collier County? **Please choose any that apply.**

- ☐ More bus service – service to new areas/surrounding counties
- ☐ Expanded bus service hours – earlier and later service
- ☐ High frequency bus service – bus comes more often
- ☐ Enhanced transit network – express service and/or rail options
- ☐ Improved infrastructure for pedestrians and bicyclists – sidewalks and bike lanes
- ☐ More customer amenities – shelters and benches
- ☐ More transfer hubs – facilities where routes meet
- ☐ More Park and Ride lot locations
- ☐ Mobility-on-demand services – a vehicle that responds when and where you need it
- ☐ More scooter and bike-share services
- ☐ None of the above
- ☐ Other mobility services (please specify)

6. Which of the following would you utilize a Park and Ride lot for?

- ☐ To access bus service
- ☐ In conjunction with an Express bus route
- ☐ To participate in car pooling
- ☐ To access a Beach shuttle
- ☐ Would you like to see more Park and Ride locations? Please specify:

7. Who should benefit from mobility improvements?

- ☐ Benefit all
- ☐ Benefit those without a vehicle
- ☐ Benefit those who choose to use transit or an alternative mobility option
- ☐ Other (please specify)

8. How should we pay for expanded mobility service? **Check all that apply.**

- ☐ User fees – bus fares
- ☐ Use revenue from a mobility fee
- ☐ Use roadway funds
- ☐ Increase local taxes
- ☐ Create partnerships with businesses
- ☐ Advertising revenue
- ☐ Other (please specify)

9. Please specify whether you agree or disagree with the statements below.

	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree
CAT services are effective, convenient, and easy to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collier County needs more service and/or more service options.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existing CAT service covers the areas I need to travel to regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collier County should invest more into expanding mobility services and options.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional public transit service will improve economic opportunities in Collier County.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CAT is effective at making the public aware of existing transit and mobility services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For statistical purposes, tell us a little about yourself. All replies are confidential.

10. Your age is...

- | | |
|-----------------------------------|--|
| <input type="radio"/> Under 18 | <input type="radio"/> 45-54 years |
| <input type="radio"/> 18-24 years | <input type="radio"/> 55-64 years |
| <input type="radio"/> 25-34 years | <input type="radio"/> 65 years or more |
| <input type="radio"/> 35-44 years | |

11. You are:

- ☐ Female
☐ Male
☐ Nonbinary

12. Your ethnic origin is...

- | | |
|--|--|
| <input type="radio"/> Black/African American | <input type="radio"/> Asian/Pacific Islander |
| <input type="radio"/> White/Caucasian | <input type="radio"/> American Indian or Alaska Native |
| <input type="radio"/> Hispanic/Latino | <input type="radio"/> Two or More Races |
| <input type="radio"/> Other (please specify) | |

13. How many motor vehicles in your household are available for your use?

- ☐ One
- ☐ Two
- ☐ Three or More
- ☐ None

14. What was the range of your total household income for 2019?

- | | |
|--|--|
| <input type="radio"/> Less than \$10,000 | <input type="radio"/> \$30,000 to \$39,999 |
| <input type="radio"/> \$10,000 to \$14,999 | <input type="radio"/> \$40,000 to \$49,999 |
| <input type="radio"/> \$15,000 to \$19,999 | <input type="radio"/> \$50,000 to \$59,000 |
| <input type="radio"/> \$20,000 to \$24,999 | <input type="radio"/> \$60,000 or more |
| <input type="radio"/> \$25,000 to \$29,999 | |

15. Do you speak a language other than English at home?

- ☐ Yes
- ☐ No

16. Home ZIP code:

17. Do you have any other comments or suggestions that would help CAT improve mobility services? Please explain:

[View this email in your browser](#)



Help us prioritize improvements for CAT's Ten-Year Transit Development Plan!

Collier Area Transit (CAT) wants your help to review and prioritize transit and mobility improvements to be included in our program of projects to be funded over the next 10-years. These projects will improve the CAT transit system and add new services to make it easier for you to get around Collier County.

Online Survey

First, we invite you to take a **survey** that walks you through the improvements. Through the survey you will be able to let CAT know what you think about the proposed changes and provide your own suggestions. **Take the CAT Survey by [clicking here](#).** The survey will be active until **August 15th**.

[Take the Survey](#)

Virtual Meeting

Second, you are invited to participate in a **Virtual Public Meeting**, it will be held online on **July 30th from 5:30PM to 7:00PM**. During this meeting you will learn more about the proposed improvements, be able to ask questions, and talk about the changes you would like to see to improve transit services in Collier County.

[View this email in your browser](#)



Help us prioritize improvements for CAT's Ten-Year Transit Development Plan!

Collier Area Transit (CAT) wants your help to review and prioritize transit and mobility improvements to be included in our program of projects to be funded over the next 10-years. These projects will improve the CAT transit system and add new services to make it easier for you to get around Collier County.

Virtual Meeting

You are invited to participate in a **Virtual Public Meeting**, it will be held online on **August 12th from 5:30PM to 7:00PM**. During this meeting you will learn more about the proposed improvements, be able to ask questions, and talk about the changes you would like to see to improve transit services in Collier County.

To attend the Virtual Public Meeting, [click here](#) to register for the meeting. You will receive a confirmation email and information to join on the day of the meeting. To join by phone, call (562) 247-8422; code: 529-086-769. Once you register, you will receive updates and reminders before the meeting.

So, please help improve your community by helping CAT to make it easier to get around Collier!

[Register for Virtual Meeting](#)

If you are unable to attend one of the virtual workshops, written comments will be accepted

CAT NEEDS YOUR INPUT!



Help us prioritize improvements for CAT's Ten-Year Transit Development Plan!

If you are unable to attend one of the virtual workshops, written comments will be accepted through Friday, August 14, 2020 and may be sent to:

Attn: Zachary Karto
CAT TDP Project Manager
8300 Radio Road
Naples, Florida 34104

For disability accommodations, within at least five (5) business days before the meeting, please contact CAT at (239) 252-5840 between 8:00 AM—5:00 PM or contact the webmaster at webmaster@colliercountyfl.gov

Virtual Meeting

Collier Area Transit (CAT) is planning for its future, and we want your input! Please join our virtual meeting to learn about proposed transit and mobility improvements and to let us know how you think CAT should grow.

Virtual Workshop

Thursday, July 30, 2020 from 5:30 PM – 7:00 PM

Please click link to register and participate:

<https://register.gotowebinar.com/register/8078226686733223947>

To join by phone: 1 (415) 655-0060; code: 562-140-330

Please take our online survey to provide input on the proposed improvements to the CAT transit network.

This survey will be available until August 15th.

Click link: <https://www.surveymonkey.com/r/CAT2020-2029TDP>



In accordance with Title VI of the Civil Rights Act of 1964 and other nondiscrimination laws, public participation is solicited without regard to race, color, national origin, age, sex, religion, disability, familial, or income status. It is a priority for the CAT that all citizens of Collier County are given the opportunity to participate in the transportation planning process including low-income individuals, the elderly persons with disabilities, and persons with limited English proficiency. You may contact CAT at (239) 252-5814 if you have any discrimination complaints.



CAT 2020-2029 Transit Development Plan

Please take 10 minutes to help us prioritize the transit needs in Collier County.

As a part of the proposed improvements, we have streamlined the route network and consolidated several routes to reduce travel times, reduce service duplication, and increase frequencies in some cases. In addition, based on funding availability, we are proposing service to new areas, increased service frequencies, and extended service hours.

1. Tell us about where you typically travel.

My home zip code is:

My work or school zip code
is: (if applicable)

2. Tell us about your typical travel needs within Collier County. (Check the best option to each statement)

	N/A	1-3 days/week	4+ days/week
I travel for work or school:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I travel for shopping:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I travel for medical services:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I travel for other reasons:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 3. I usually travel by: (select one)

- ☐ Walk
- ☐ Bike
- ☐ Car/Motorbike
- ☐ Bus
- ☐ Taxi/Ride Hailing



CAT 2020-2029 Transit Development Plan

* 4. I typically ride the following bus(es):

- | | | |
|-----------------------------------|-----------------------------------|--|
| <input type="checkbox"/> Route 11 | <input type="checkbox"/> Route 18 | <input type="checkbox"/> Route 26 |
| <input type="checkbox"/> Route 12 | <input type="checkbox"/> Route 19 | <input type="checkbox"/> Route 27 |
| <input type="checkbox"/> Route 13 | <input type="checkbox"/> Route 20 | <input type="checkbox"/> Route 28 |
| <input type="checkbox"/> Route 14 | <input type="checkbox"/> Route 22 | <input type="checkbox"/> Route 29 (Beach Bus) |
| <input type="checkbox"/> Route 15 | <input type="checkbox"/> Route 23 | <input type="checkbox"/> Route 121 (Immokalee to Marco Island) |
| <input type="checkbox"/> Route 16 | <input type="checkbox"/> Route 24 | <input type="checkbox"/> LinC (to Lee County) |
| <input type="checkbox"/> Route 17 | <input type="checkbox"/> Route 25 | |



CAT 2020-2029 Transit Development Plan

General Preferences

5. If I had a choice between more frequent service and longer hours of service, I would choose...

- ☐ More frequent service – bus comes by more often
- ☐ Longer hours of service – bus starts earlier and/or runs later in the day

6. If I had a choice between a faster bus ride (fewer bus stops on the street) or easier access to bus stops (more bus stops and buses turning into shopping centers and apartment complexes to stop), I would choose...

- ☐ Faster bus ride – longer walk to bus stop, shorter ride on bus
- ☐ Easier access to bus stops- shorter walk to bus stop, longer ride on bus

7. If I had a choice between longer hours of service and a longer route serving more destinations, I would choose...

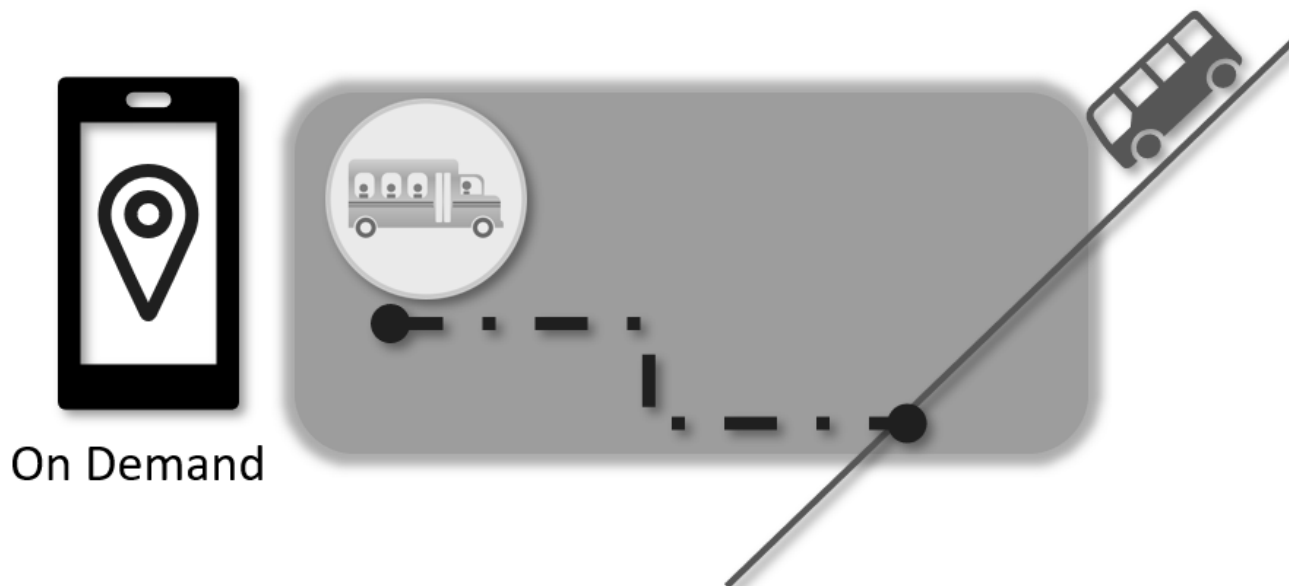
- ☐ Longer hours of service - bus runs earlier or later, longer service day
- ☐ Longer route - more bus stops served on the same route, longer ride on bus



CAT 2020-2029 Transit Development Plan

Proposed Mobility on Demand Zones

Mobility on Demand (MOD) is a shared ride service operated by CAT using small buses or passenger vans and work similar to ridesharing services like Uber and Lyft. Riders request a ride using a phone app or by calling a reservation line. Your ride can be immediate – I want to go now – or scheduled for later. Rides can be point-to-point to locations within your zone (e.g.; home to grocery store). Rides can also be regional by connecting you to a transit hub where you can catch the CAT bus for longer trips (e.g.; home to shopping center where you get the bus to downtown). MOD services are available to everyone (no eligibility required) and provide you with low cost option to getting around.



On Demand

8. Based on the description of mobility on demand services, how likely would you be to use this type of service?

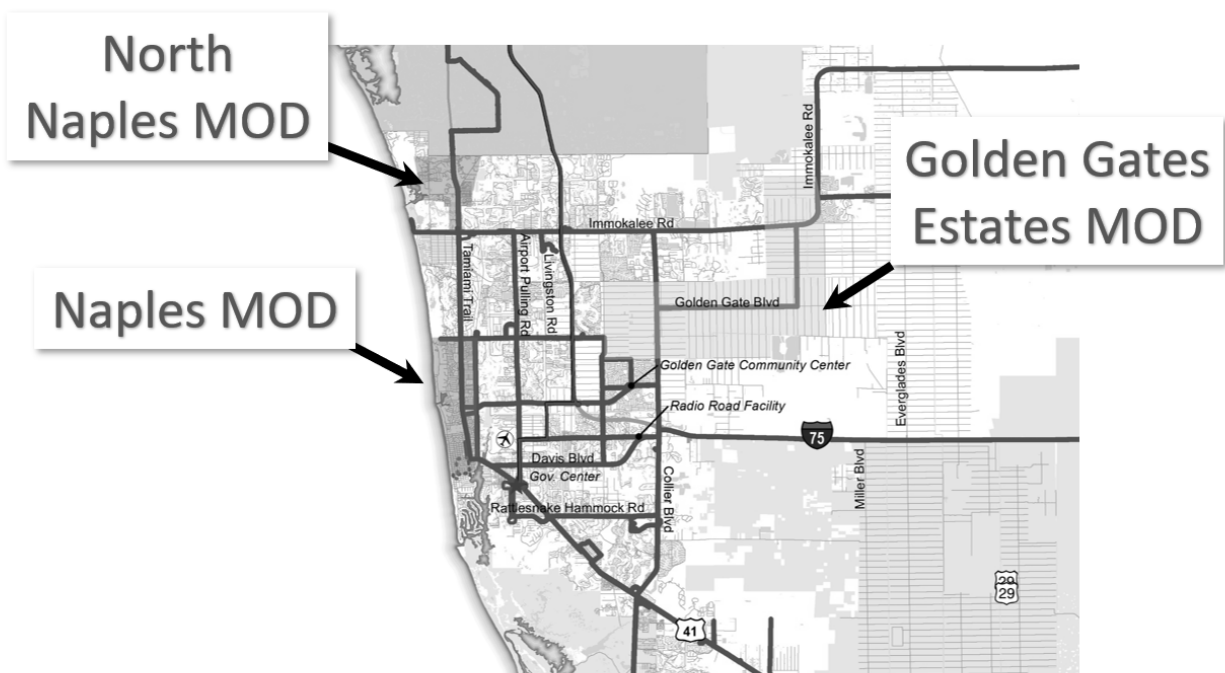
- ☐ Very likely to use this type of service
- ☐ Likely to use this type service
- ☐ Not likely to use this type of service
- ☐ I would not use this type of service
- ☐ Not sure

9. Please provide comments about the MOD service:



CAT 2020-2029 Transit Development Plan

Looking at the map of areas where MOD service is being proposed, please tell us how important each service area is to you. A MOD service is proposed for Marco Island. A question about the Marco Island MOD service is provided later.



10. Please rate the importance of providing MOD service in the proposed service areas:

	Not a Priority			Neutral Priority			Higher Priority
North Naples	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Naples	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Golden Gate Estates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please provide comments about these MOD changes:

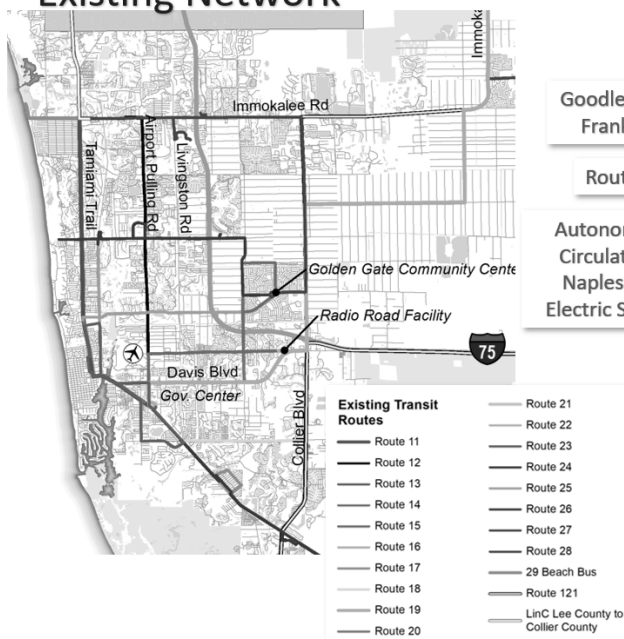


CAT 2020-2029 Transit Development Plan

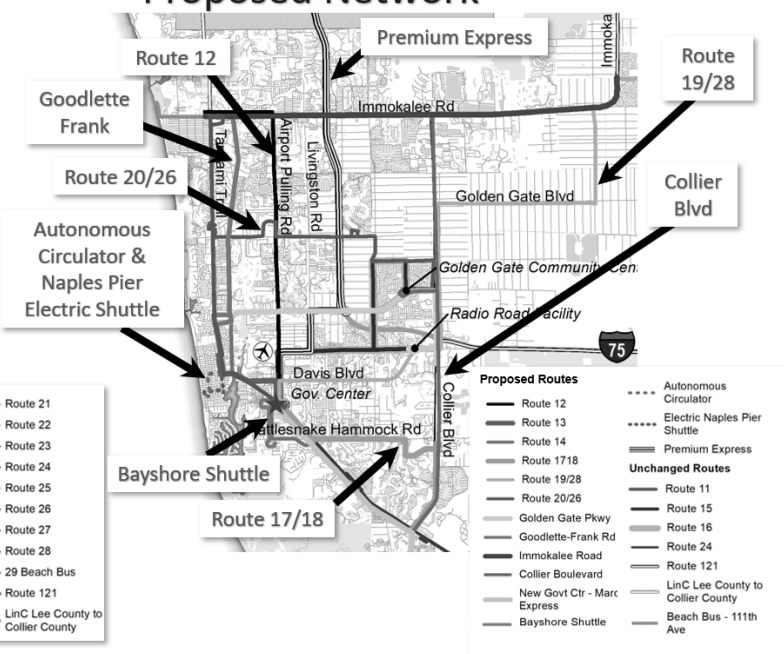
Proposed Improvements for Naples and Golden Gate Area

The following changes are proposed in Naples and in the Golden Gate Area

Existing Network



Proposed Network



12. Looking at the map of proposed service changes and new services, please tell us how important each is to you.

Please rate the importance of each service improvement:

	Not a Priority		Neutral Priority		Higher Priority
Route 12 – extend north on Goodlette-Frank Road to Tamiami Trail/Immokalee Road	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 13 – two-way service Coastal Center to Govt Center, improved frequency from every 60 minutes to every 40 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 14 – two-way service Coastal Center to Thomasson to Govt Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 17/18 – combines the 17 and 18 into a two-way route on Collier Blvd and Rattlesnake Hammock, improves frequency from 60 minutes to every 45 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 19/28 – combines routes and hours along the Route 28 alignment, add more trips provided per day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 20/26 – combines the 20 and 26, improves service in Golden Gate, adds more trips per day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Golden Gate Pkwy – splits Route 25, operates current east-west service along Golden Gate Pkwy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goodlette-Frank Road – splits Route 25, extends north-south service along Goodlette-Frank Road to Walmart at Immokalee Road/Tamiami Trail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immokalee Road – splits Route 27, extends the route east on Immokalee Road to Randall Road	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collier Blvd – splits Route 27, extends north-south service from Immokalee Road south to Walmart at Collier Blvd and Tamiami Trail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Premium Express – a new service using managed lanes on I-75 to link the Government Center to the FGCU area in Lee County	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bayshore Shuttle – new shuttle service on Bayshore between Weeks Ave and Botanical Gardens, operated every 15 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Autonomous Circulator – new circulator in downtown Naples from 8th St N, west along 4th Ave, south on 3rd St S, to 13th Ave S, operates every 15 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electric Naples pier Shuttle – new electric shuttle connecting Cambier Park along 8th St S to Marina and to Naples Pier via Broad Ave, operates every 15 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Please provide comments about these changes:

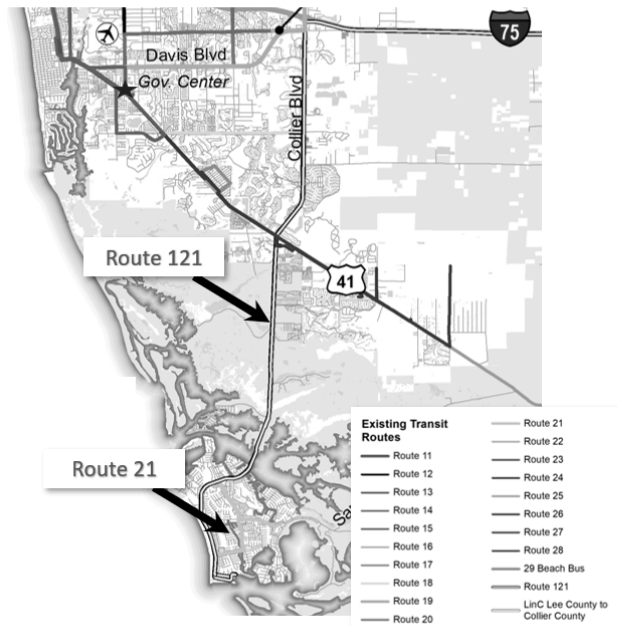


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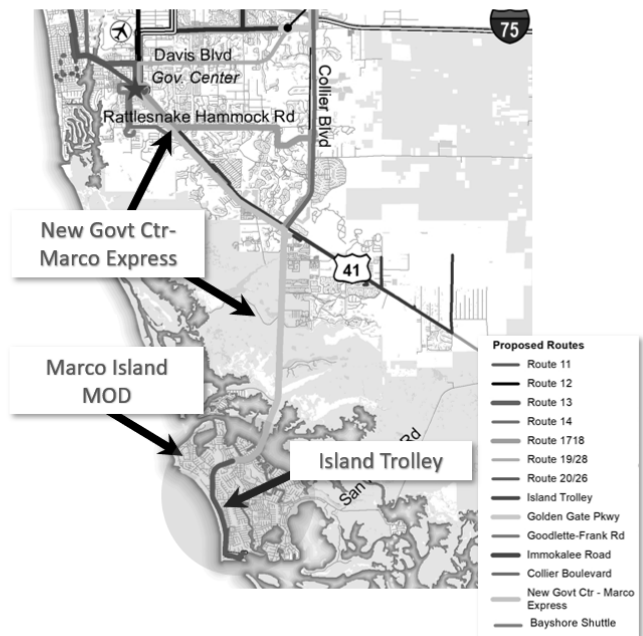
Proposed Improvements for Marco Island Area

The following changes are proposed for the Marco Island Area

Existing Network



Proposed Network



14. Looking at the map of proposed service changes and new services, please tell us how important each is to you.

Please rate the importance of each service improvement:

	Not a Priority		Neutral Priority		Higher Priority
Island Trolley – new Island Trolley along Collier Blvd on Marco Island	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
New Govt Ctr–Marco Island Express - Convert Route 21 to a limited stop express from Govt Center to Walmart at Collier Blvd and Tamiami Trail to Marco Island	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marco Island Mobility on Demand – add new on demand service on Marco Island	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everglades City Van Pool – new van pool service connecting Everglades City to Govt Center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 121 - Add one AM and one PM trip on service between Marco Island and Immokalee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Please provide comments about these changes:

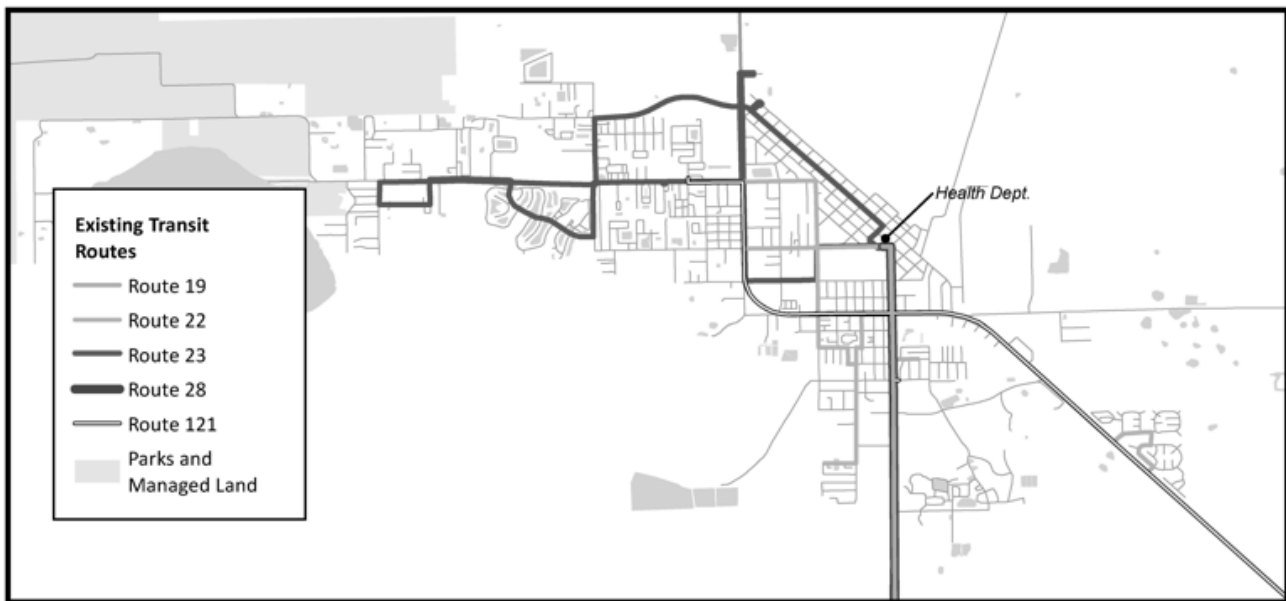


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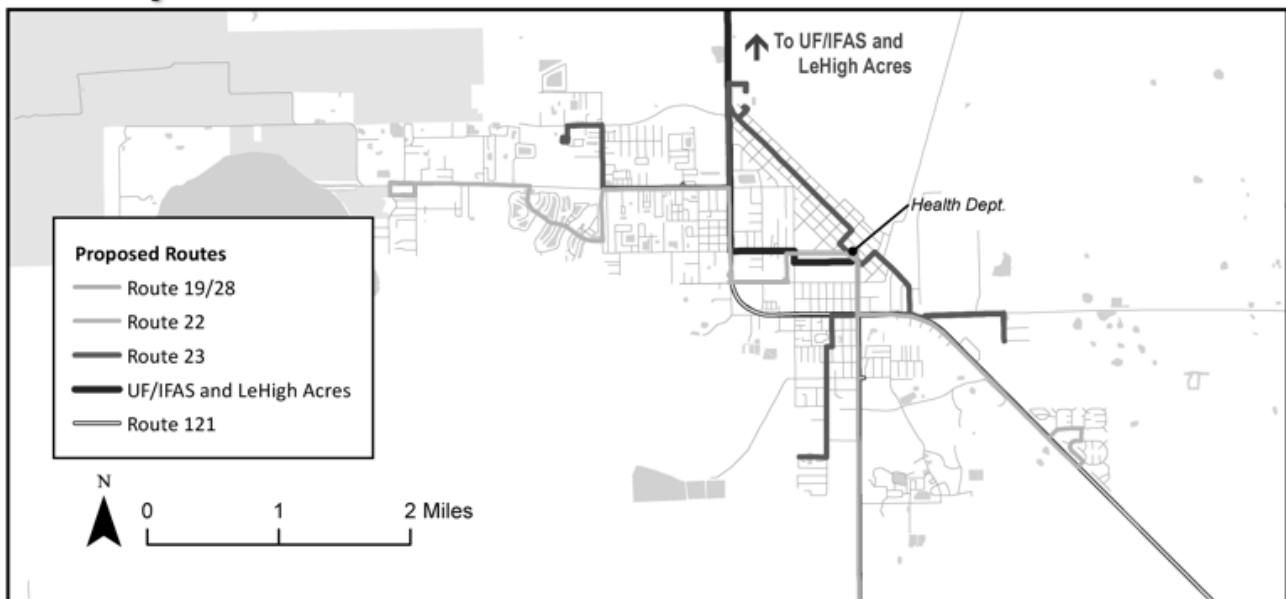
Proposed Improvements for Immokalee

The following improvements are proposed for Immokalee in order to reduce duplication, streamline the routes, and extend service area covered, and provide more direct routing.

- **Realign Route 22** – The route would connect the westernmost residential cluster on Lake Trafford Road to the County Health Department, several packing houses along New Harvest Road, and finally to the easternmost residential cluster on Farm Workers Way.
- **Realign Route 23** – This would extend service east along Main Street and to the various packing houses that employ. Other destinations include Immokalee State Farmer's Market, Marion Fether Medical Center, the County Health Department, and Career Source.
- **New UF/IFAS to Lehigh Acres Route** – Connecting to the UF Agriculture Center and Lehigh Acres was identified from public outreach.



Proposed Network



16. Looking at the map of proposed service changes and new services, please tell us how important each is to you.

Please rate the importance of each service improvement:

	Not a Priority		Neutral Priority		Higher Priority
Realign Route 22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Realign Route 23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Add new service to UF/IFAS campus and Lehigh Acres	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Please provide comments about these changes:

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Frequency Improvements

18. Thinking about how often the bus comes by, please tell us how important the following frequency improvements are to you.

Please rate the importance of the proposed improvements:

	Not a Priority		Neutral Priority		Higher Priority
Route 11 to every 20 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 12 to every 30 minutes during peak periods, 60 off-peak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 13 to every 30 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 14 to every 30 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 15 to every 45 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 16 to every 45 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 24 to every 60 minutes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Please provide comments about service frequency changes:



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Span Improvements

20. Thinking about how late the bus runs, please tell us how important the following changes are to you.

Please rate the importance of the proposed improvements:

	Not a Priority		Neutral Priority		Higher Priority
Route 11 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 13 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 14 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 17 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 19 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Route 24 (extend service until 10 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for taking our survey!



CAT Transit Development Plan – Stakeholder Questions

Collier Area Transit (CAT) is in the process of developing a ten-year transportation plan (TDP) to serve as a guide for the future of mobility in Collier County from 2021 to 2030. It will represent the CAT vision to promote improvements in transit services and enhanced access to mobility over the next decade. The TDP must be completed and filed with the Florida Department of Transportation by September 1, 2020 to fulfil requirements for Collier County to receive state and federal funding.

During this 30-minute scheduled call we will review and discuss your responses to the following questions about CAT services and mobility needs in Collier County. The questions are intended to be used to cover a range of issues and to generate thoughts and discussion so that your input can be included in helping to shape the mobility vision and priorities for the community.

Mobility needs in Collier County are increasing and are projected to continue to increase over the next several decades. Some of this increase is due to national trends, such as the aging of the population and a widening income divide due to changes in the economy. Other factors are more localized such as the rapid growth of the permanent and seasonal population, dispersed development patterns over a large county, and high cost of housing near employment and service-based employment activity centers.

How we address existing mobility needs and prepare for the certain growth in mobility demand in Collier County will have an impact on the local economy and quality of life. This discussion is intended to understand your perspectives and ideas for the vision for mobility within Collier.

Discussion Questions

1. How much awareness is there in Collier County about transit/public transportation?
 - a. High
 - b. Moderate
 - c. None at all
 - d. Not sure
2. What is your perception of transit's role in Collier County?
 - a. It serves tourists/visitors
 - b. It serves workers/commuters
 - c. It helps relieve parking/congestion
 - d. It serves persons who do not have access to a vehicle
 - e. It does not have a defined role
3. Which mobility improvements would you prefer to see in Collier County?
 - a. Expanded bus service to cover new areas/surrounding counties
 - b. Expanded bus service hours – earlier and later service
 - c. Improve the frequency of bus service – bus comes more often
 - d. Provide enhanced transit services – express bus service and/or rail-like options
 - e. Improve/expand sidewalks and bike lanes

- d. Add more bus shelters and benches
 - e. Expand transfer hubs to connect routes
 - f. More park and ride locations – from where to where? _____
 - g. Add flexible and/or mobility-on-demand services where fixed route does not work
 - h. Add scooter and/or bike-share services
 - i. None, why? _____
 - j. Other mobility services _____
4. Who primarily should benefit from mobility improvements?
- a. All should benefit from greater mobility
 - b. Tourists and visitors should benefit from greater mobility
 - c. Persons without a vehicle should benefit from greater mobility
 - d. Our communities, businesses, and environment should benefit from greater mobility
 - e. Other (please specify) _____
5. Which sources should be used to pay for expanded mobility service?
- a. User fees – bus fares
 - b. Use revenue from mobility fees
 - c. New developments
 - d. Use roadway funds
 - e. Increase local taxes
 - f. Create partnerships with businesses
 - g. Advertising revenue
 - h. Other (please specify) _____

6. Please specify whether you agree or disagree with the statements below.

	Agree	Neutral	Disagree
CAT services are effective, convenient, and easy to use.			
Collier County needs more service and/or more service options.			
Existing CAT service covers the areas I think are most needed to travel to regularly.			
Collier County should invest more into expanding mobility services and options.			
Improved public transit service will improve economic opportunities in Collier County.			
CAT is effective at making the public aware of existing transit and mobility services.			

7. Do you have any other comments or suggestions that would help CAT improve mobility services? Please explain: _____



Appendix D: Farebox Recovery Ratio Report

Current Farebox Recovery Ratio

The farebox recovery ratio for CAT, the public transportation provider for Collier County, was 13.9% percent for all fixed-route services in fiscal year (FY) 2018. This number reflects a 34% decrease over the five-year period from FY 2013 to FY 2018.

Prior Year Fare Studies and Changes

The last CAT's fare change was implemented in 2015 and is listed in Table D-1. As a result, the current full fare on the fixed-route system is \$2.00, and \$1.00 for the reduced fare. The changes implemented in 2015 included establishment of a Summer Paw Pass Program and a Corporate Employee Discount Pass. A fare study was completed FY 2018.


Table D-1: Fixed-route Fare Structure Modification

Fare Category	2017		Approved Change	
	Full Fare	Reduced Fare	Full Fare	Reduced Fare
One-way Fare	\$1.50	\$0.75	\$2.00	\$1.00
Children aged 5 and under	Free	Free	Free	Free
Transfer	\$0.75	\$0.35	Free / 90 min.	Free / 90 min.
Day Pass	\$4.00	\$2.00	\$3.00	\$1.50
7-day Pass	\$15.00	\$7.50	N/A	N/A
15-day Pass	N/A	N/A	\$20.00	\$10.00
30-day Pass	\$35.00	\$17.50	\$40.00	\$20.00
Marco Express One-way Fare	\$2.50	\$1.20	\$3.00	\$1.50
Marco Express 30-Day Pass	\$70.00	\$35.00	\$70.00	\$35.00

Strategies That Will Affect the Farebox Recovery Ratio

The 2021–2030 Transit Development Plan (TDP) Major Update identifies strategies that will be used to maintain or increase the farebox recovery ratio, including the following:

- Continue planned program to replace the existing, outdated farebox equipment on all vehicles so CAT's fare structure can continue to include smartcard technology and mobile fare payment to help enhance the fare collection process, minimize cash handling, and attract new patrons who may be put off by transit because of the fare payment process.
- Monitor key performance measures for individual fixed routes.
- Ensure that transit serves major activity centers, potentially increasing the effectiveness of service.
- Continue to transition Transportation Disadvantaged (TD) and ADA passengers to fixed-route services to increase ridership.
- Increase ridership through enhanced marketing and community relations activities.

- 
- Provide local employers with incentives for transit use.
 - Evaluate the fare structure every three years.
 - Monitor opportunities to secure additional funding to improve frequencies on existing routes and attract new riders.
 - Add additional buses and combine bi-directional routes to improve frequencies and improve the customer experience and attract new riders.
 - Minimize costs required to operate and administer transportation services.
 - Conduct on-board surveys every five years to gather information on how to make services more convenient and useful to patrons.
 - Complete ongoing preventative maintenance activities and replace fareboxes as needed to ensure the fare collection equipment is performing at optimum capacity.



Appendix E: Recommended Monitoring Program

Recommended Monitoring Program

Once the recommended transit services are implemented, the following fixed- route and Mobility-on-Demand (MOD) performance indicators and measures should be monitored by CAT on a quarterly basis as part of the recommended performance monitoring program:

- **Passenger Trips** – Annual number of passenger boardings on the transit vehicles.
- **Revenue Miles** – Number of annual miles of vehicle operation while in active service (available to pick up revenue passengers).
- **Revenue Hours** – Total hours of operation by revenue service in active revenue service.
- **Passenger Trips per Revenue Mile** –Ratio of passenger trips to revenue miles of service. This is the key indicator of service effectiveness that is influenced by the levels of demand and the supply of service provided.
- **Passenger Trips per Revenue Hour** –Ratio of passenger trips to revenue hours of operation.

As fixed-route-type services typically take up to three years to become established and productive, the performance data up to that point should be reviewed and interpreted cautiously. Although adjustments/modifications may occur, outright discontinuations based on performance monitoring data alone are discouraged.

Evaluation Methodology and Process

This process is based on two measures, trips per mile and trips per hour, which are weighted equally to derive an overall route score. A route's score for a particular measure is based on a comparison of the measure as a percentage of the system average for that particular measure. These individual measure scores are added together and divided by 2 to get a final aggregate score. This final composite performance score is an indication of a route's performance for all three measures when compared to the system average for those measures. A higher score represents better overall performance when compared to other routes.

The noted comparative performance evaluation can be beneficial, but care should be taken when using the final scores and rankings, because these figures are comparing routes to one another and may not reflect the specific goals established for a particular route (i.e., geographic coverage vs. ridership performance). The process is particularly useful, however, in highlighting those routes that may have performance-related issues. These routes can then be singled out for closer observation in future years to determine specific changes that may help mitigate any performance issues.

Once a route score is determined, routes can be ranked to show the highest performing and lowest performing routes. The rankings are a useful proxy for determining the comparative performance of any route, as well as highlighting changes in performance over time. To track the performance variation over time, three performance levels have been developed:

- **Level I – Good ($\geq 75\%$)** – Transit routes in this category are performing efficiently compared with the average level of all the agency’s routes.
- **Level II – Monitor (30–74%)** – Routes in this category exhibit varying levels of performance problems and need more detailed analysis (e.g., ridechecks, on-board surveys, increased marketing efforts, etc.) to aid in identifying specific changes that can be made to help improve the route’s performance.
- **Level III – Route Modification or Discontinuation ($\leq 29\%$)** – Routes in this category exhibit poor performance and low efficiency. Recommendations for these routes may include truncation of the route, reduction in the route’s number of revenue hours, or discontinuation of the route.

Figure E-1 illustrates the three evaluation levels and notes the recommended thresholds for each level.

Figure E-1: Route Performance Evaluation Levels

