EXECUTIVE SUMMARY
Committee Action
Item 5a
Transit Impact Analysis Study

Objective:
Review and endorse the Collier County Transit Impact Analysis Study recommendations.

Considerations:

Collier Metropolitan Planning Organization (MPO), in partnership with Collier County and Collier Area Transit (CAT), initiated this Transit Impact Analysis Study to identify opportunities to mitigate impacts on the transit system from development projects through changes to the County's development review process.

Historically, Collier County's development process has been such that CAT must respond to the impacts of development on transit infrastructure and services, rather than transit being considered early in the planning process. Currently, when a development project is proposed, a traffic impact study is required to analyze roadway impacts. There are also regulations in place to determine if, and to what extent, new sidewalk, bicycle, and pathway infrastructure must be provided as a condition of the development approval process. However, impacts to the transit system as a component of the overall transportation network are not formally considered. In many instances, CAT must accommodate the demand the development project places on the transit system after the fact, often without the financial resources to help mitigate the costs.

To consider how transit can best be integrated into the development review process, a broad range of strategies were identified, evaluated, and reviewed with the Project Advisory Team (comprised of MPO, CAT, and County Transportation and Growth Management staff), then subsequently reviewed with senior county leadership. The results of this study provide the foundation for Collier County to move forward with implementing regulatory and policy language in support of the following outcomes:

- Site access improvements for transit as a condition for development approval, the requirements for which are based on the scale and size of the development project and proximity to existing or planned transit service.
- Update of existing Transportation Demand Management (TDM) strategies allowed within specific areas of the county where traditional concurrency does not apply. This will provide more effective implementation of strategies to increase transit ridership and reduce auto-oriented trips as a requirement to obtain concurrency exemption.

The presentation will be conducted by Tindale Oliver and Associates Inc., an industry-leading planning, design, and engineering firm headquartered out of Tampa, Florida. Tindale Oliver has completed many projects throughout Florida as well as the rest of the United States having offices spread out the nation, from Orlando to Baltimore and clear out to Seattle. Tindale Oliver's staff has over 200 years of combined experience in transportation, community planning and design, transit, and public finance solutions.

Following presentation to the Public Transit Advisory Committee (PTAC), the study and resulting recommendations will be presented to the Collier MPO Technical Advisory Committee (TAC), Citizens Advisory Committee (CAC), and MPO Board. Post-study implementation will then be directed by County Growth Management Department staff.

Recommendations:
Recommend endorsement of the final study recommendations for post-study County implementation of regulatory and policy changes to 1) provide for developer-funded transit site access requirements; 2) updated Transportation Demand Management strategies.

Attachments:
A. Transit Impact Analysis Final Report
B. Transit impact Analysis Presentation

Prepared by: _____ Date: 11/13/20
Omar De Leon, Transit Manager

Approved by: _____ Date: 11-13-2020
Michelle Arnold, PTNE Division Director

Collier County

Transit Impact Analysis

Final Report

October 2020

Prepared for

COLLIER Metropolitan Planning Organization

In partnership with

Collier County

rideCAT

Prepared by

Tindale Oliver

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Section 1 Introduction

Since formally launching fixed-route bus service nearly 20 years ago, Collier Area Transit's (CAT) 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 partners with Lee County Transit (LeeTran) to provide the LinC express route between the two counties. CAT has provided an average of nearly 1 million annual trips over the last five years. However, as transit service has grown, so has the demand on existing revenue sources to support the current system and its potential future growth.

Historically, Collier County's development process has been such that CAT must respond to the impacts of development rather than transit being considered early in the planning process. Currently when a new or redevelopment project is proposed, a traffic impact study is required to analyze the impacts on the roadway network. Impacts to the transit system as a component of the overall transportation network are not formally considered. Without consideration for transit as an alternative mode during the development approval process, CAT must accommodate the demand the development project places on the transit system after the fact without the necessary resources. For a change in this process to occur, it is necessary to understand the demand development places on the community's transit network and how best consideration for transit can be integrated into the process. There are also Land Development Code regulations and supporting Growth Management Plan policies pertaining to specific areas of the county where traditional concurrency does not apply and opportunities exist to make policy changes to better align the development review and transit planning processes in these urbanized areas.

This need has led to the Collier Metropolitan Planning Organization (MPO), in partnership with Collier County and CAT, to conduct this Transit Impact Analysis Study. The purpose of this study is to identify and evaluate opportunities for supporting and advancing transit revenue and development review solutions in Collier County.

Following an assessment of the potential solutions, the outcome of this study provide recommendations for regulatory and policy changes to Collier County's development review procedures and Growth Management Plan to facilitate early consideration for development's impacts to the transit system. To accomplish the above, this study includes the following sections in addition to this introduction:

- **Section 2 Background Conditions** provides context for the current environment in which CAT operates.
- **Section 3 Peer System Review** documents the findings of a peer system review that compares CAT's operating and financial characteristics compare to other peer transit systems.

- **Section 4 Development Review Process** documents the current aspects of the County's development review process.
- **Section 5 Initial Strategies for Evaluation** discusses potential regulatory or policy changes that Collier County could pursue to enhance consideration for transit in the development review process.
- **Section 6 Final Recommendations & Implementation Support** outlines the strategies from this study selected for potential implementation by Collier County.

Section 2 Background Conditions

Collier County's Public Transit & Neighborhood Enhancement Division (PTNE) administers CAT, which provides a fixed-route network comprising 19 routes and the LinC express route in partnership with LeeTran. CAT's existing fixed-route network is shown in Map 1-1.

While this study focuses on consideration for fixed-route services and related capital infrastructure in the development review process, it should be noted that CAT provides other non-fixed route services. This includes paratransit service under the Collier Area Paratransit (CAP) program that includes complementary Americans with Disabilities Act (ADA) service and transportation disadvantaged (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 Community Transportation Coordinator (CTC) under Chapter 427 of the Florida Statutes. As the CTC, the PTNE Division administers the coordination of countywide transportation services for transportation disadvantaged (TD) individuals.

Demographic Profile

Collier County is in southwest Florida along the Gulf of Mexico. There are three municipalities within Collier County: Everglades City, Marco Island, and Naples, which is the County seat. In 2019, Collier County was ranked the 16th most populous county in Florida, with 1.8% of the state's total population. This percentage is anticipated to grow to 2.1% by 2045 based on state population projections.[1] The majority (90%) of the County's population resides in unincorporated areas of the county.

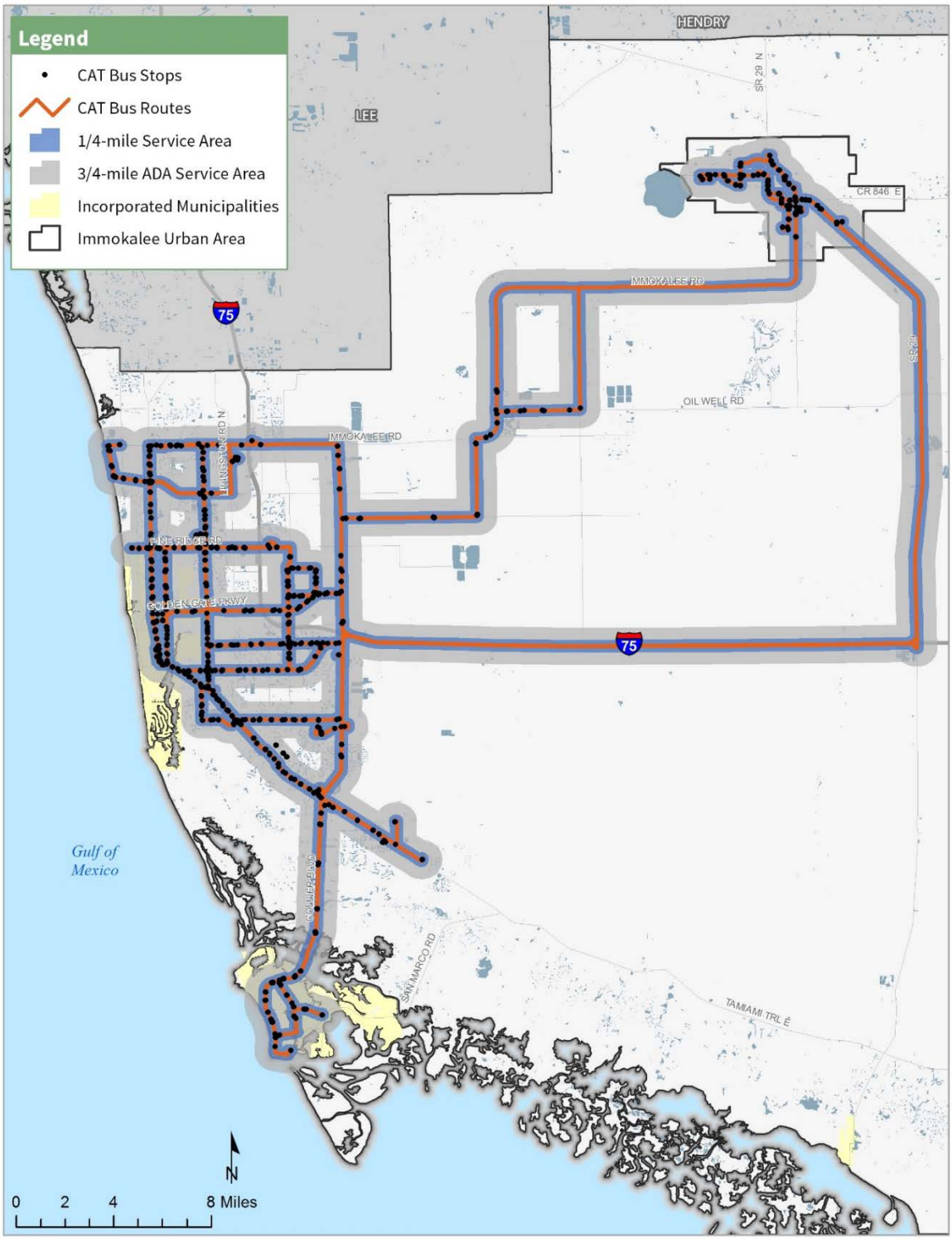
Collier County is the largest county in Florida geographically at approximately 1,998 square miles.[2] However, a significant portion (more than 1.2 million acres) primarily in the eastern and southern areas of the county is designated as protected lands.

Collier County's beaches, tropical climate, and rich geographic and biological diversity make it one of the premier tourism and retirement destinations within the US.

[1] University of Florida, Bureau of Economic and Business Research (BEBR), *Projections of Florida Population by County, 2020–2045, with Estimates for 2018.*

[2] US Census Bureau, Census of Population and Housing. Land area is based on current information in the TIGER database, calculated for use with Census 2010.

Map 2-1: Existing CAT System

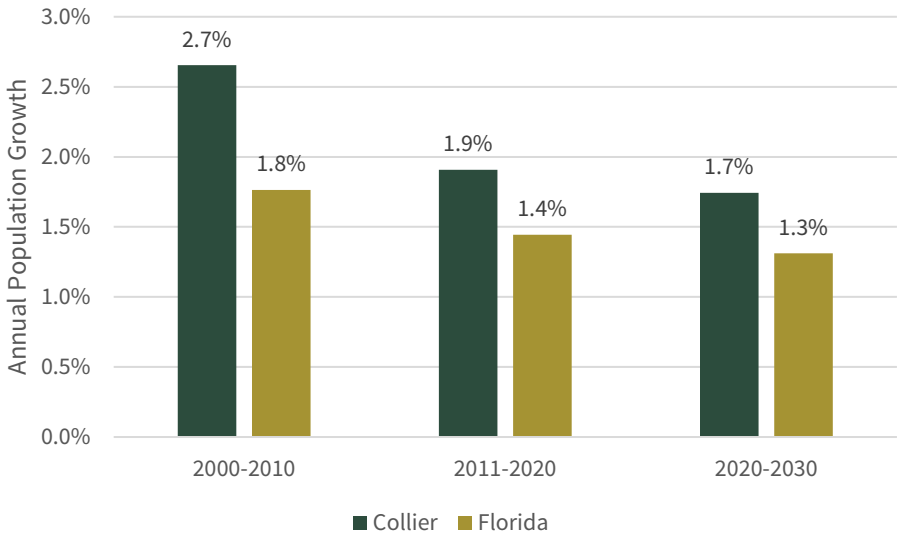


Source: Collier Area Transit

Population Estimates and Growth Projections

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 Florida, averaging 2.5% annually compared to the state average of 1.7%. Looking into the future, the county's annual growth rates are projected to continue outpacing that of Florida through 2030 (Figure 2-1).

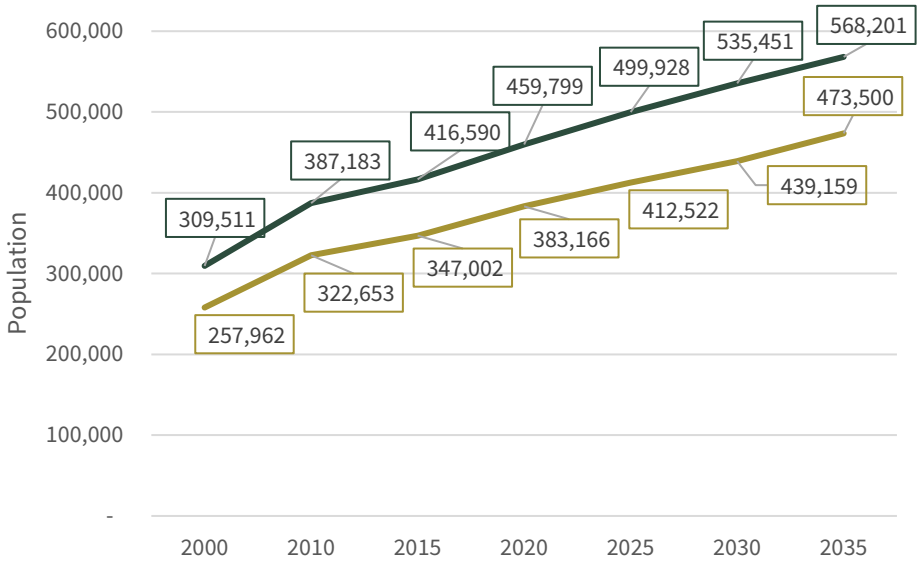
Figure 2-1: Historical and Projected Annual Growth Rate Trends (2000–2030)



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

Every year Collier County experiences a significant increase in demand by tourists and seasonal residents. This greatly increases traffic congestion, particularly in the urbanized area and near the beaches. To better plan for the impact of this demand on public facilities, the County develops annual peak seasonal population estimates and projections. Figure 2-2 compares the historical and projected permanent and peak seasonal population figures countywide. Since the county's peak seasonal population is projected using a constant adjustment factor, the 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



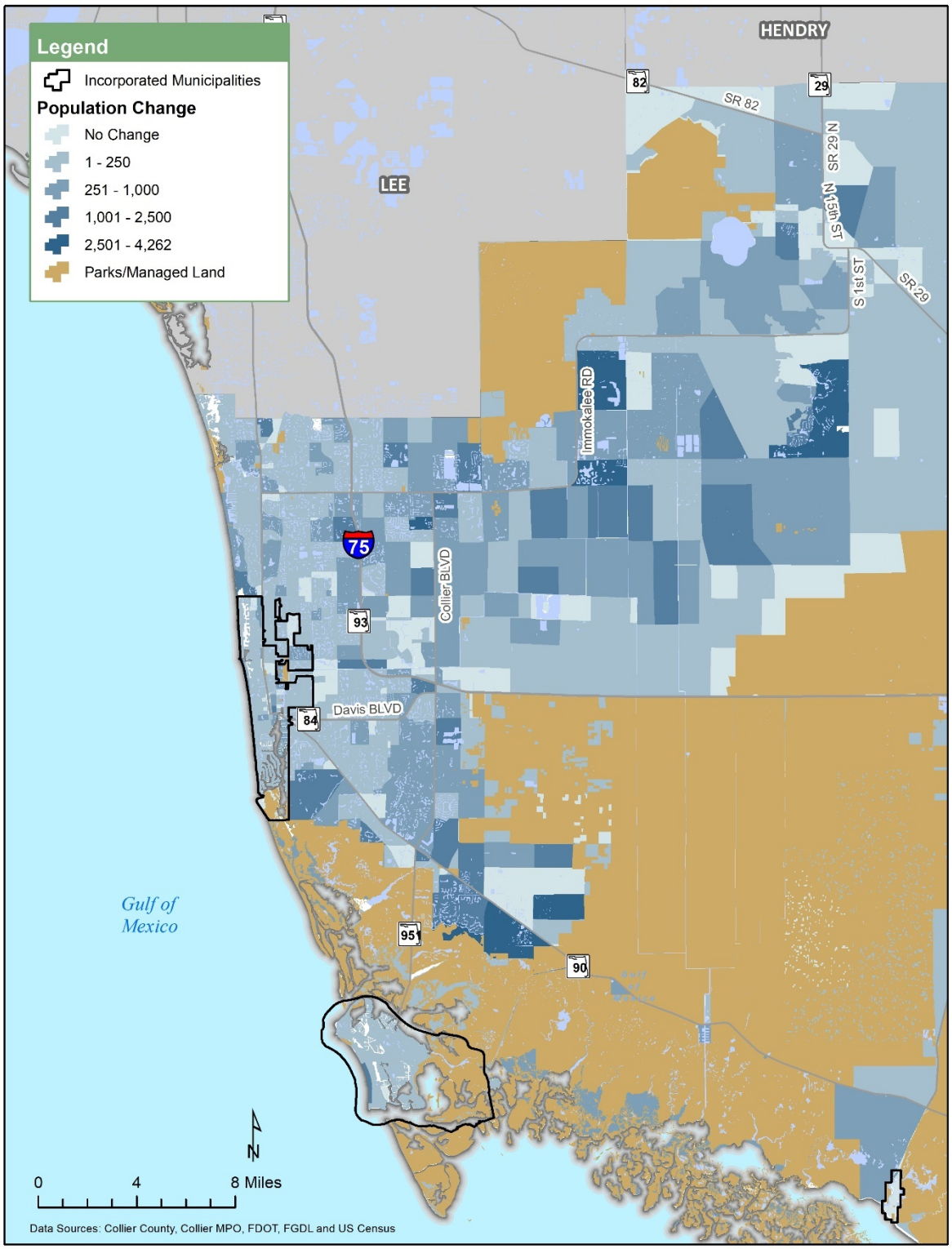
Source: Collier County Growth Management Division, Comprehensive Planning Section, Population and Demographics (2018 Population Estimates & Projections)

Notes: Estimates and projections are 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 is derived by increasing each year's October 1 permanent population by 20% based upon BEBR Medium Range growth rate projections.

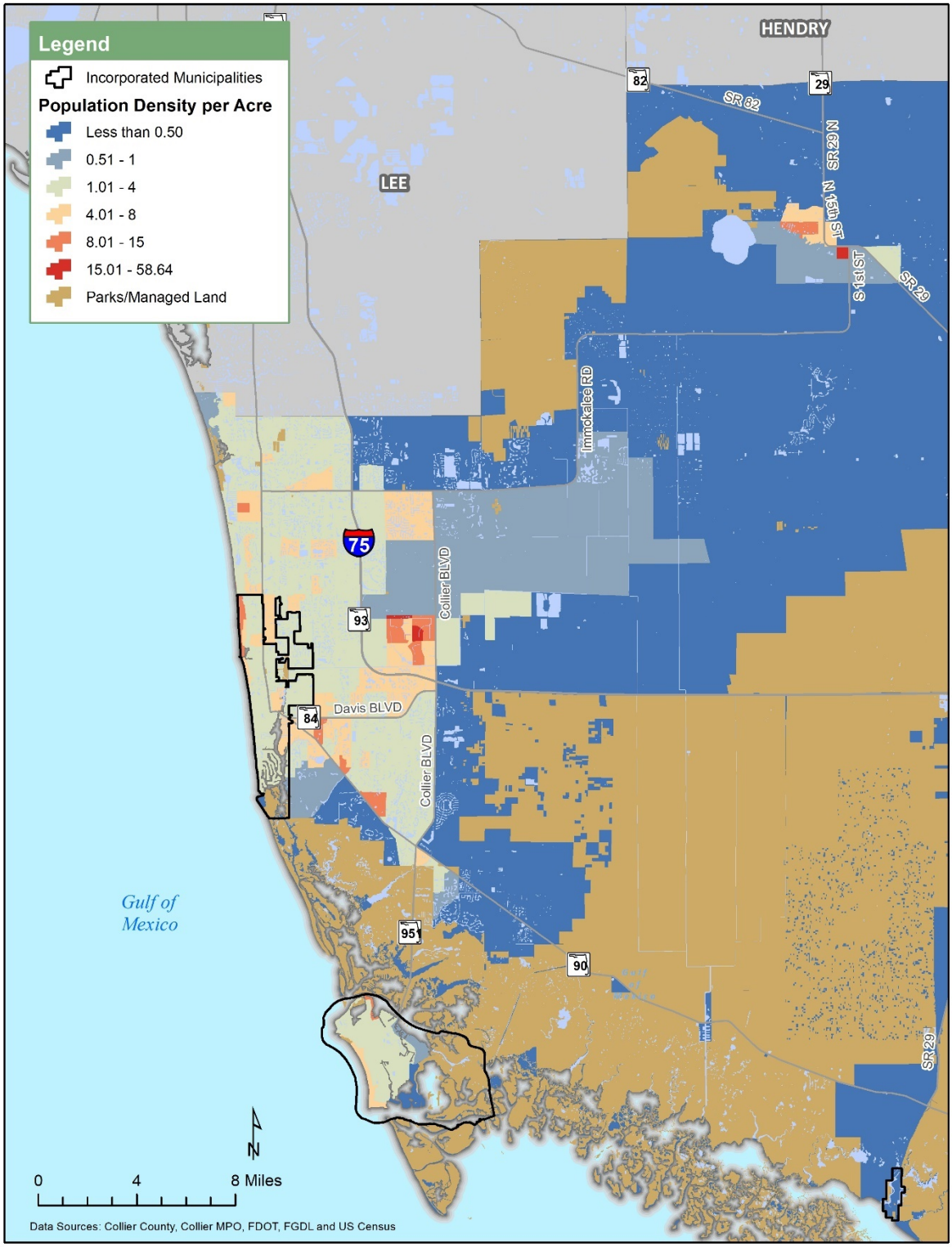
To analyze population growth at a smaller geographic sub-unit, population projections by Traffic Analysis Zone (TAZ) are used. Map 2-2 illustrates the projected growth in population between 2015 and 2040 by TAZ based on socioeconomic data prepared for the Collier MPO's 2040 Long Range Transportation Plan (LRTP). Currently, the majority (approximately 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 growth centers around Orangetree, Ave Maria, east/southeast of Naples, and to some degree in Immokalee. Slightly more growth in these areas is expected through 2040.

In planning for future transportation needs, it is important to look not only at absolute population growth, but also at the projected change in population densities. Maps 2-3 and 2-4 illustrate the existing (2015) and projected (2040) population densities developed for the Collier MPO's 2040 LRTP, the most current data available. In 2015, higher population densities are concentrated west of CR 951 and in Immokalee. Given the existing densities and low inventory of available land west of CR 951, it is anticipated that this growth eastward will continue in the future. The 2040 population density projections illustrated in this map show similar findings.

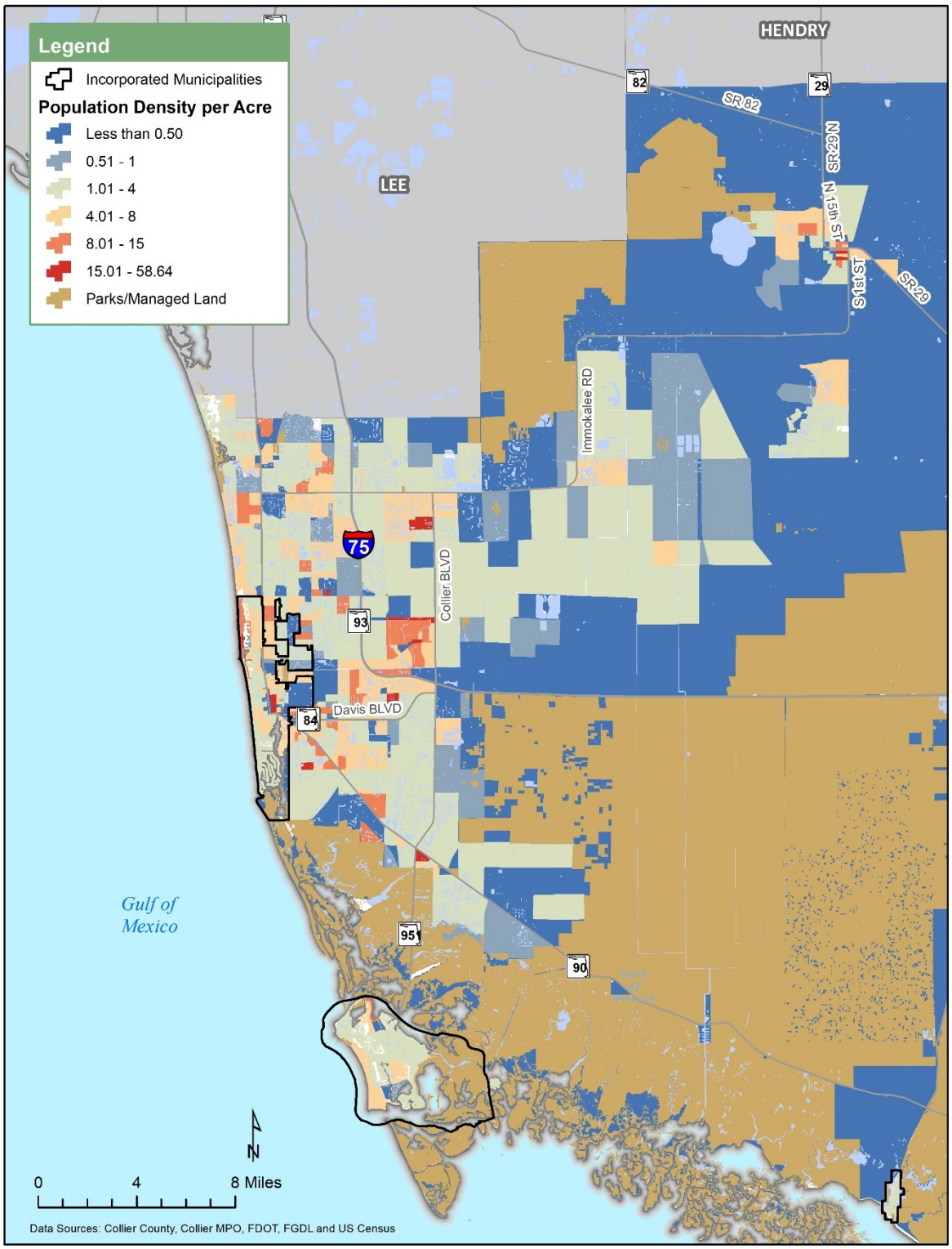
Map 2-2: Projected Population Change (2015–2040)



Map 2-3: Population Density (2015)



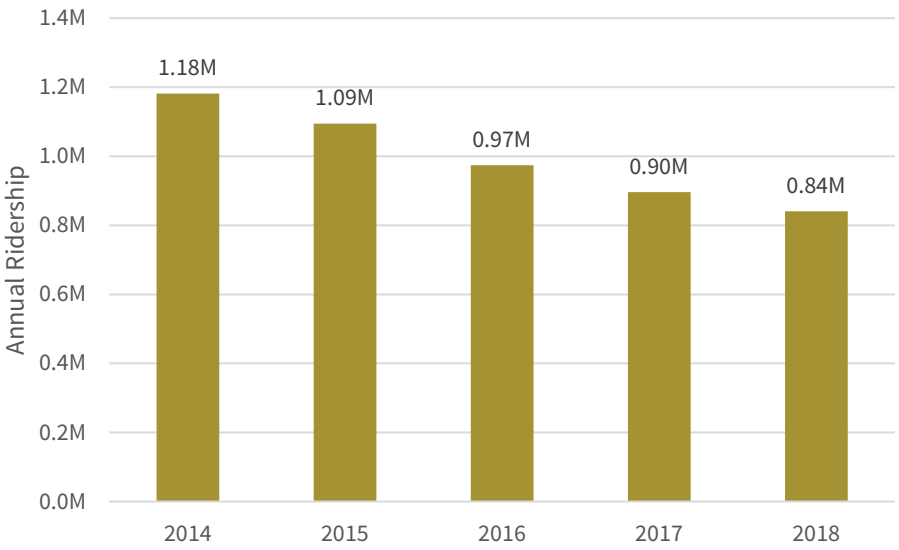
Map 2-4: Population Density (2040)



CAT System Overview

Figure 2-3 provides the trend in annual ridership for CAT's fixed-route service over the last five years. During this time, ridership has decreased following a peak of 1.3 million riders in 2013. This trend mirrors that of transit agencies around Florida and the US. Ridership declines in recent years are primarily attributed to a better economy following the Great Recession and the growing popularity of ride-sharing services.

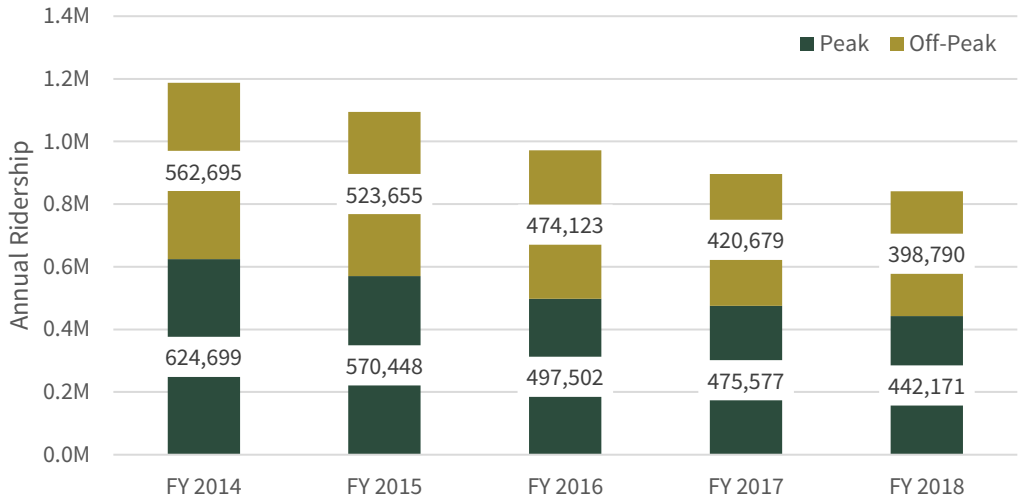
Figure 2-3: Annual Fixed-Route Ridership Trends



Source: National Transit Database (NTD) data extracted from the Florida Transit Information System (FTIS) for 2014-2017; CAT for 2018 ridership

Given that Collier County's significant peak population consists of visitors and seasonal residents during October through March, the fixed-route ridership also was examined during peak versus non-peak months. As shown in Figure 2-4, the peak ridership over the last five years averages 10% higher than the non-peak ridership.

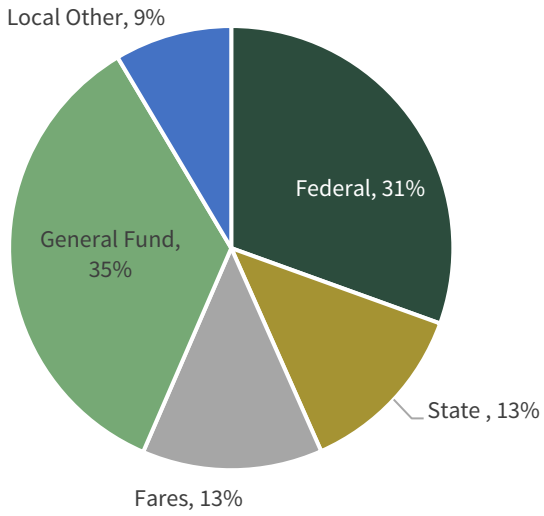
Figure 2-4: Fixed-Route Ridership for Peak and Non-Peak Months



Source: Collier Area Transit

Figure 2-5 illustrates the distribution of CAT's FY 2020 operating budget by funding source for fixed-route services. Of the $7.3 million operating budget, the portion funded with County general funds (nearly $2.6 million) equates to an annual investment of approximately $7 per permanent resident.

Figure 2-5: CAT FY 2020 Fixed-Route Operating Budget

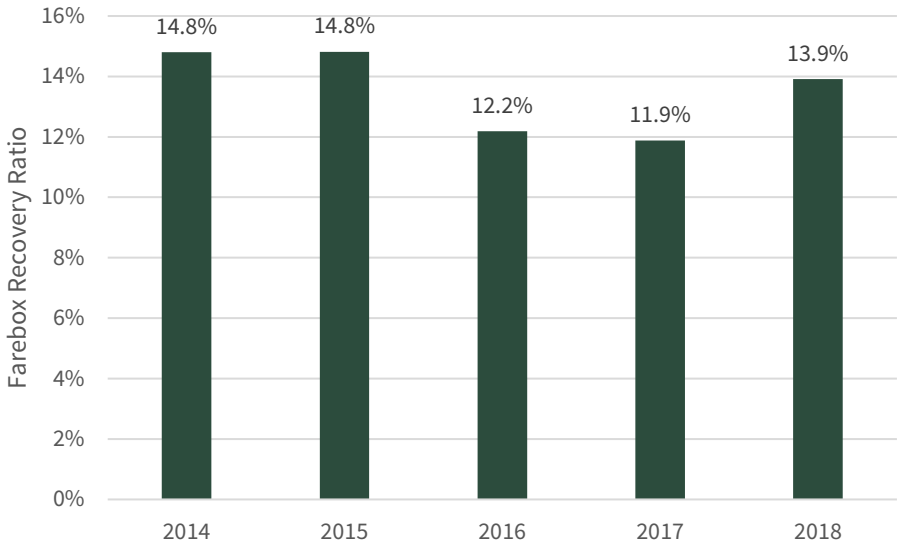


Source: Collier County FY 2020 Budget

Over the last five years, despite the decline in ridership, CAT's operating costs have increased. This has produced a decrease in fare revenue and in the percentage of operating costs that fare revenue covers (farebox recovery ratio). As shown in Figure 2-6, the farebox recovery ratio decreased from

14.8% in 2014 to 11.9% in 2017; however, by 2018 increased to 13.9%. This is, in-part, due to an increase in the fixed-route fares the County implemented on October 1, 2018.

Figure 2-6: Fixed-Route Farebox Recovery Ratio



Source: National Transit Database (FYs 2014–2017), Collier Area Transit (FY 2018)

Section 3 Peer System Review

To understand how CAT's operating and financial characteristics compare to other peer systems, an analysis of trends in service and financial characteristics between CAT and other systems for the last 10 years was completed, based on the latest data available at the time this analysis was completed in 2019. The peer systems selected are transit systems in Florida with similar service areas and service levels that have a coastal boundary and include:

- Escambia County Area Transit (ECAT)
- LeeTran (Lee County)
- Manatee County Area Transit (MCAT)
- Sarasota County Area Transit (SCAT)
- Space Coast Area Transit (Brevard County)

Table 3-1 illustrates the peer system sizes in terms of the number of routes and route miles compared to CAT. As shown, CAT falls within the range of the peer systems but is lower than the peer average of 22 routes. CAT also falls within the rage of the number of route miles compared to the peer systems and is near the peer average of 455 route miles.

Table 3-1: Peer System Characteristics

System	Location	# of Routes	Route Miles (2017)
CAT	Collier County	19	443
ECAT	Escambia County	24	417
LeeTran	Lee County	23	542
MCAT	Manatee County	16	306
SCAT (Sarasota)	Sarasota County	29	652
SCAT (Space Coast)	Brevard County	20	356

Source: Agency websites for number of routes, 2017 NTD data for route miles

The variables analyzed for the peer analysis in the remainder of this section cover the following three categories:

- Service area
- Service characteristics
- Financial characteristics

Service Area

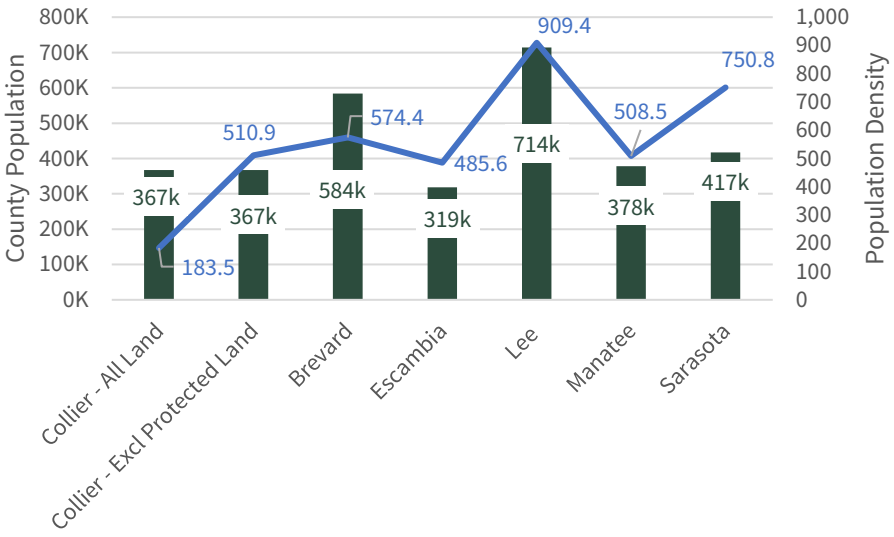
Within the service area category, the variables analyzed for this peer review include:

- 2018 countywide population
- 2018 population density
- 2018 taxable value per capita

Population and Population Density

Collier County is on the lower end of the range in terms of total population and has the largest total land area; therefore, Collier County has significantly lower population density than the counties in which its peers operate (Figure 3-1). However, as previously noted there is a significant portion of land in the county that is protected and undevelopable. When removing these lands from consideration, Collier County's population density is more in line with its peers at 510 persons per acre.

Figure 3-1: County Population and Population Density (2018)

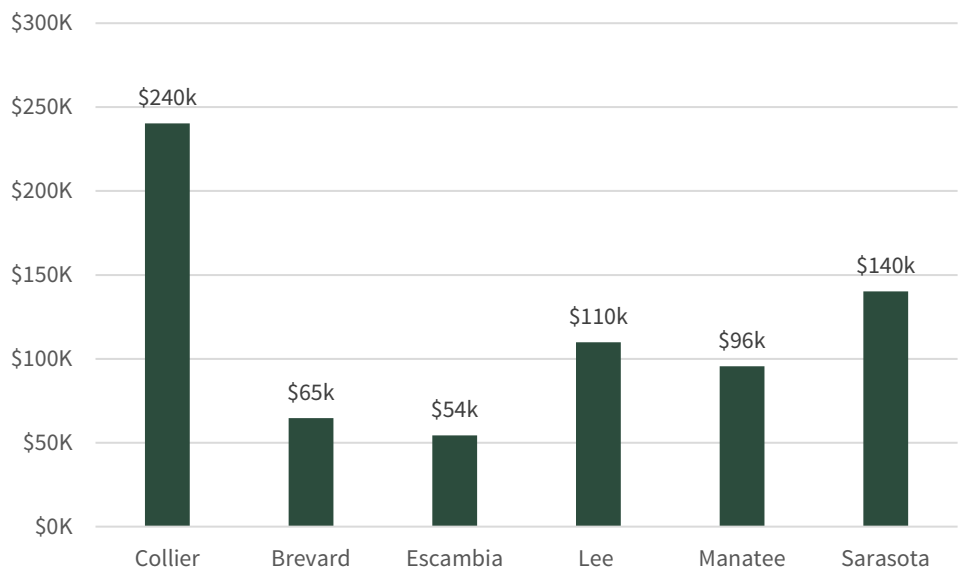


Source: BEBR 2018 population estimates, US Census Bureau

Taxable Value per Capita

Collier County has a significantly higher tax base per capita than counties in which the peer systems operate (Figure 3-2). General fund and ad valorem revenue is the most common source of local operating funds for Florida transit systems, including CAT.

Figure 3-2: Taxable Value per Capita (2018)



Source: Florida Department of Revenue 2018 Tax Roll data and BEBR 2018 population estimates

Service Characteristics

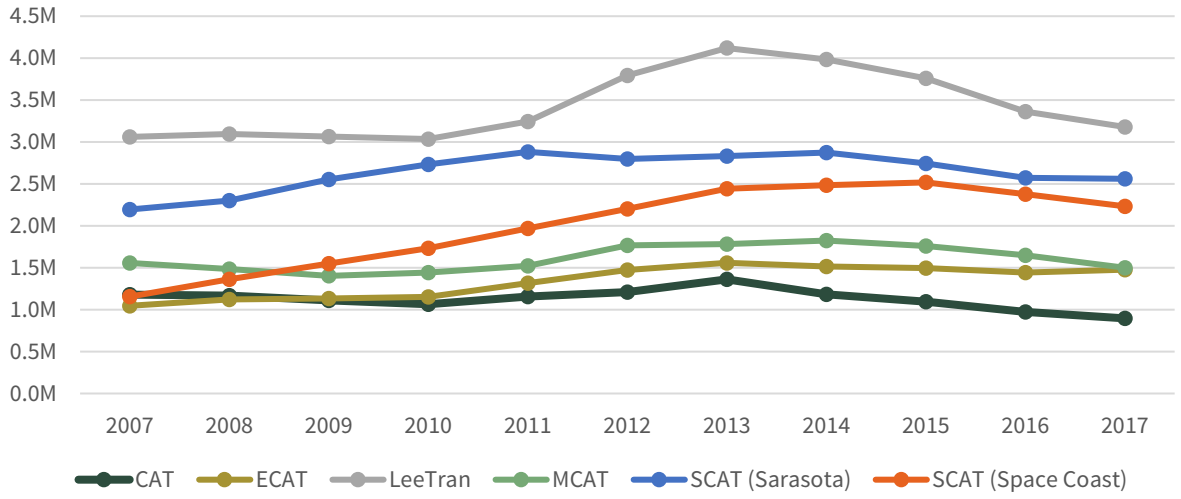
Within the service characteristics category, the variables analyzed for this peer review include:

- Passenger trips
- Average trip length in miles
- Trips per revenue mile
- Revenue hours per capita
- Vehicles operated in maximum service
- Fleet age

Passenger Trips (Ridership)

Consistent with Florida and national trends, ridership grew in varying degrees for CAT and each peer agency between 2007 through 2013. As previously discussed, as the economy has improved following the Great Recession and ride-sharing services have become a more popular way to travel, most transit agencies have experienced a ridership decline since 2013. This trend is true for CAT and each peer system. However, as shown in Figure 3-3, while CAT's ridership was similar to ECAT and Space Coast Area Transit in 2007, these two transit agencies have experienced an overall increase in ridership over the 10-years while CAT has not. Today CAT has the lowest total ridership of all the peer agencies included in this review.

Figure 3-3: Annual Ridership Trends (2007-2017)

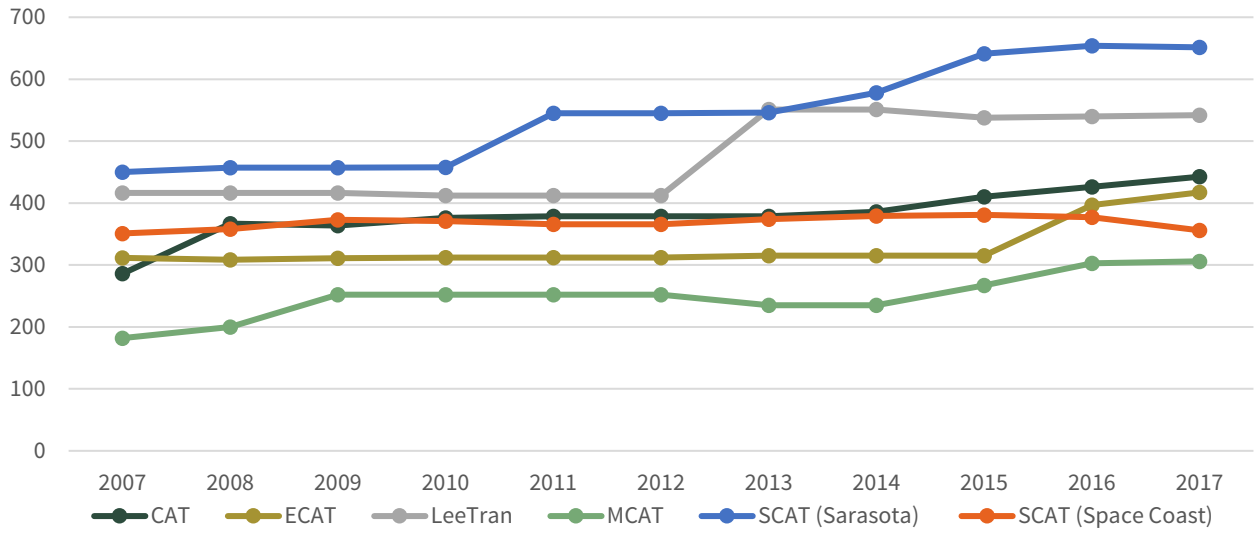


Source: 2007-2017 NTD data

Route Miles

For nearly all peer systems and CAT, the annual system route miles have increased over the last 10 years (Figure 3-4). CAT's annual route miles have increased by 55% during this period, which is higher than the average of the four remaining peers (excluding Space Coast Area Transit as an outlier since its annual route miles stayed relatively flat during this period).

Figure 3-4: Annual Route Miles

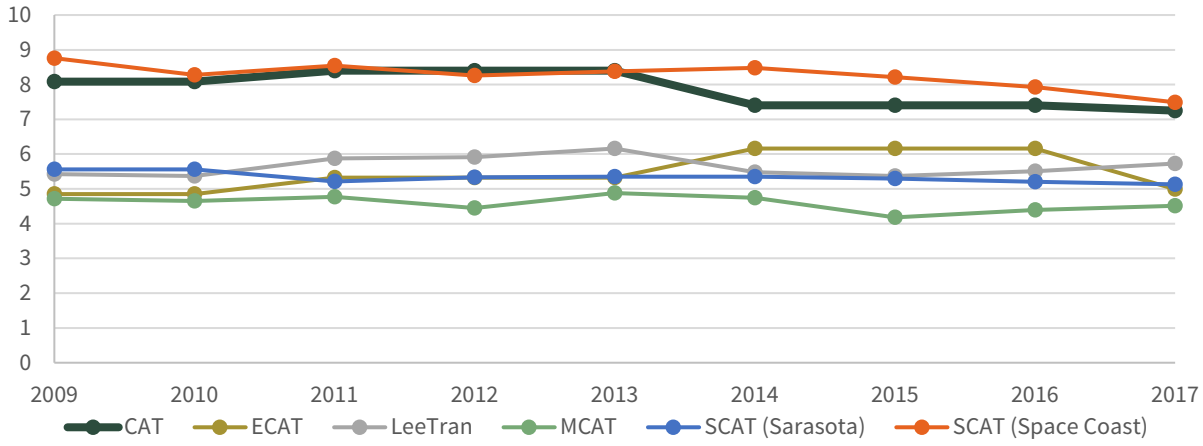


Source: 2007-2017 NTD data

Average Trip Length

The average trip length for CAT and the peer system have been mostly steady year over year (Figure 3-5). CAT has one of the higher average trip lengths of the agencies reviewed, likely a function of it providing service longer distances to areas outside of the urban core. CAT's average trip length has declined since 2013, as the area has seen growth in development.

Figure 3-5: Average Trip Length (miles)

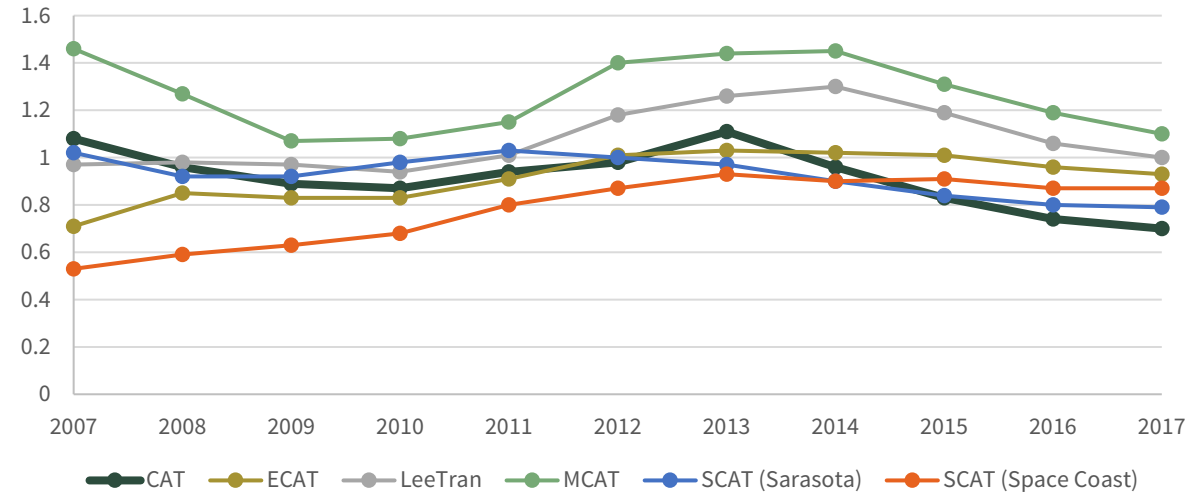


Source: 2007-2017 NTD data

Trips per Revenue Mile

Total trips per revenue mile have followed the same general trends as ridership, peaking in 2013 and subsequently declining for most systems (Figure 3-6).

Figure 3-6: Total Trips per Revenue Mile

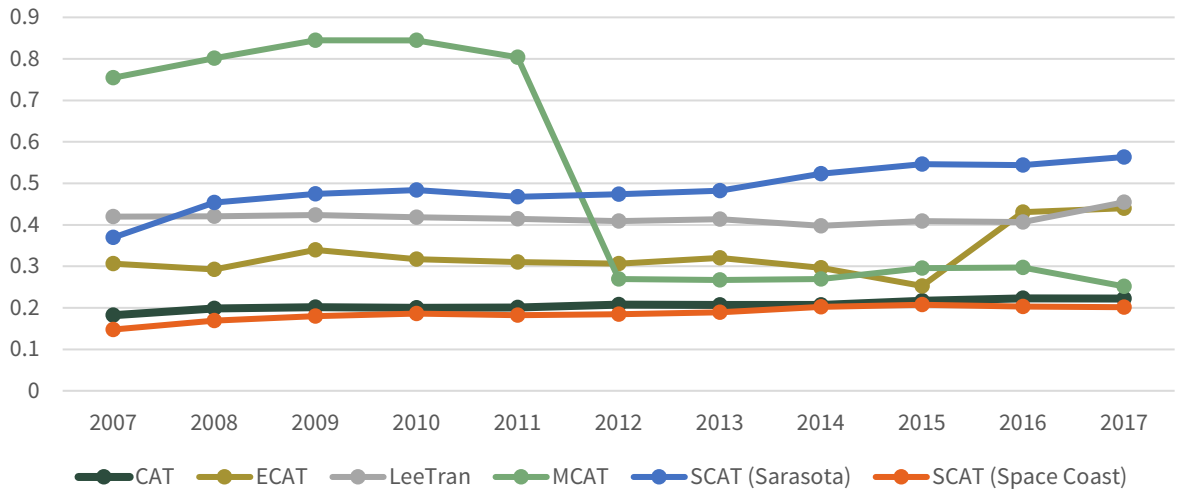


Source: 2007-2017 NTD data

Revenue Hours per Capita

As shown in Figure 3-7, revenue hours per capita have remained consistent for CAT since 2007. CAT is on the lower end of the range in terms of service provided per capita compared to the peer systems. While most agencies have seen little to no change in overall revenue hours per capita year-to-year, those that have (MCAT and ECAT) are due to more significant service changes.

Figure 3-7: Revenue Hours per Capita

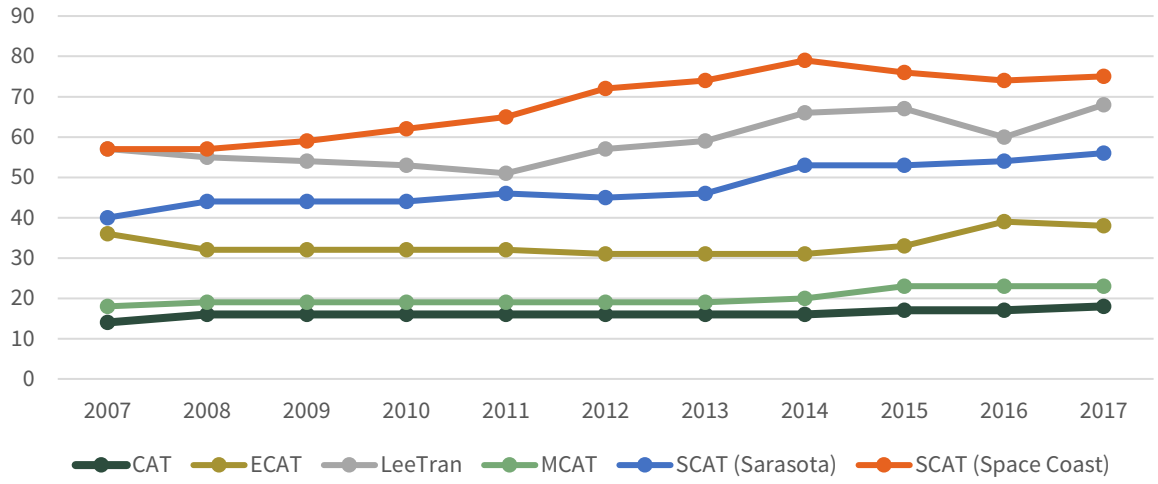


Source: 2007-2017 NTD data

Vehicles Operated in Peak Service

As shown in Figure 3-8, CAT's vehicles operated in peak service have grown from 14 to 18 over the past 10 years but remains considerably lower than most peer agencies. This is indicative of CAT's relative system size and service levels.

Figure 3-8: Vehicles Operated in Peak Service

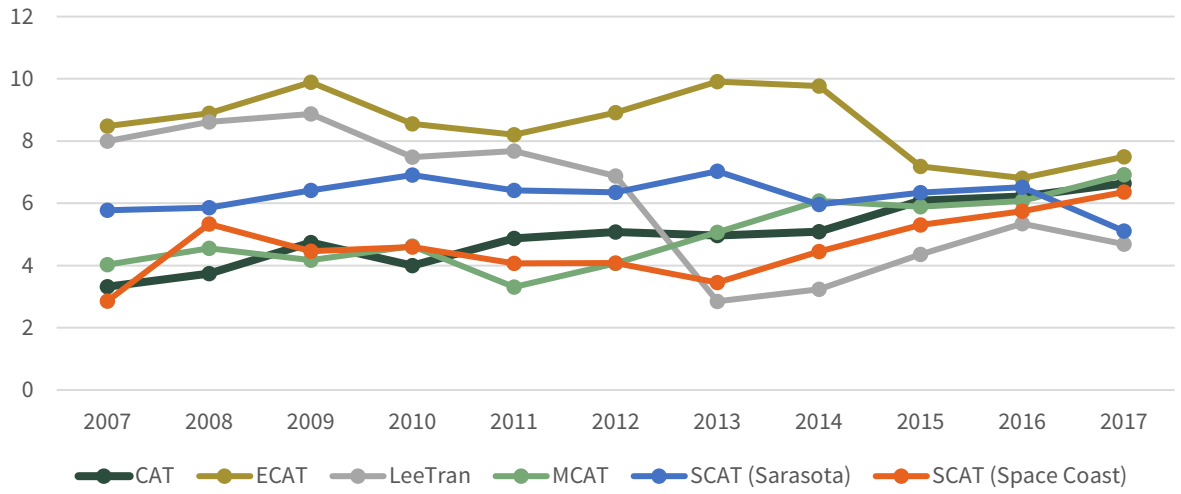


Source: 2007-2017 NTD data

Average Fleet Age

Figure 3-9 illustrates the lifecycle of transit vehicles in terms of the average fleet age. As vehicles age, they must be replaced causing ebbs and flows in the overall fleet average age. The increasing costs of vehicles, particularly those with newer technologies and alternative fuel systems, have caused many transit agencies to push back the vehicle replacement schedule, extending the average vehicle age over time. In addition to MCAT and Space Coast Area Transit, CAT's average fleet age has been steadily growing older. The remaining peer agencies reviewed, SCAT, ECAT, and LeeTran, had a younger fleet age in 2017 than in 2007.

Figure 3-9: Average Fleet Age (Years)



Source: 2007-2017 NTD data

Financial Characteristics

Within the financial characteristics category, the variables analyzed for this peer review include:

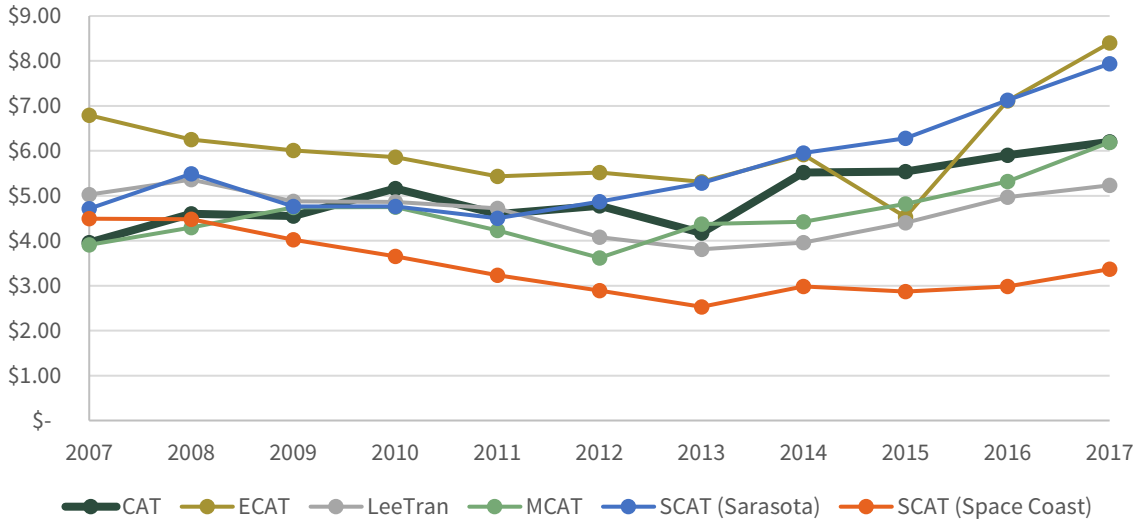
- Operating expense per passenger trip
- Operating expense per service area capita
- Capital expenses per trip
- Capital expenses per capita
- Average fare

Operating Expense per Passenger Trip

Operating expenses per passenger trip have been increasing for CAT, particularly since 2013 as the economy has rebounded, which is consistent with most other agencies included in the peer analysis. Only Space Coast Area Transit has seen slight decline in operating expenses per passenger trip over the entire 10-year period. CAT's operating costs have increased by 57% during

this 10-year period, which is higher than the 39% average increase observed for the four remaining peers (excluding Space Coast Area Transit as an outlier).

Figure 3-10: Operating Expense per Passenger Trip ($)



Source: 2007-2017 NTD data

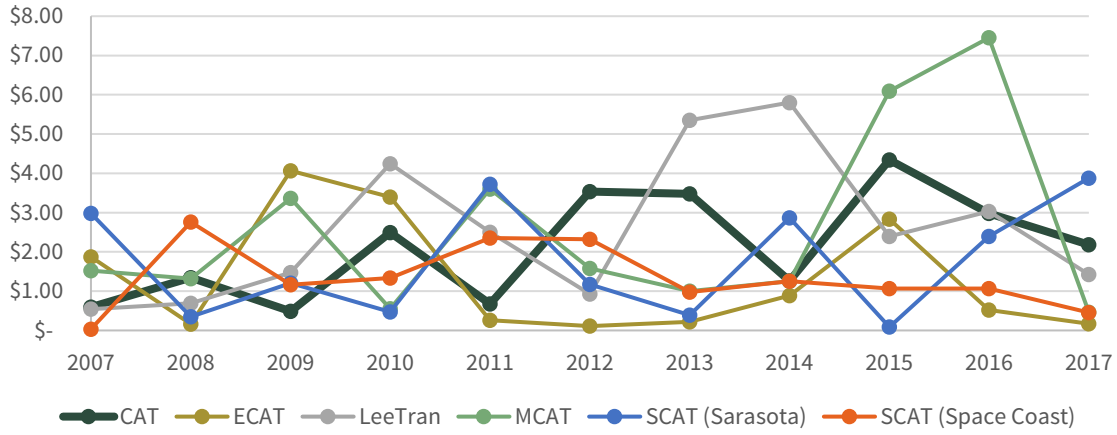
Capital Expense per Passenger Trip ($)

As shown in Figure 3-11, capital expenses for all systems fluctuate from year to year for vehicle purchases, facilities, and other capital needs. There is no discernable trend related to capital expenses per passenger trips. Over the 10-year period, CAT has expended an average of $2.85 annually per passenger trip. This falls within the range of the peer systems and is slightly higher than the peer system annual average of $2.13 per trip.

Average Fare

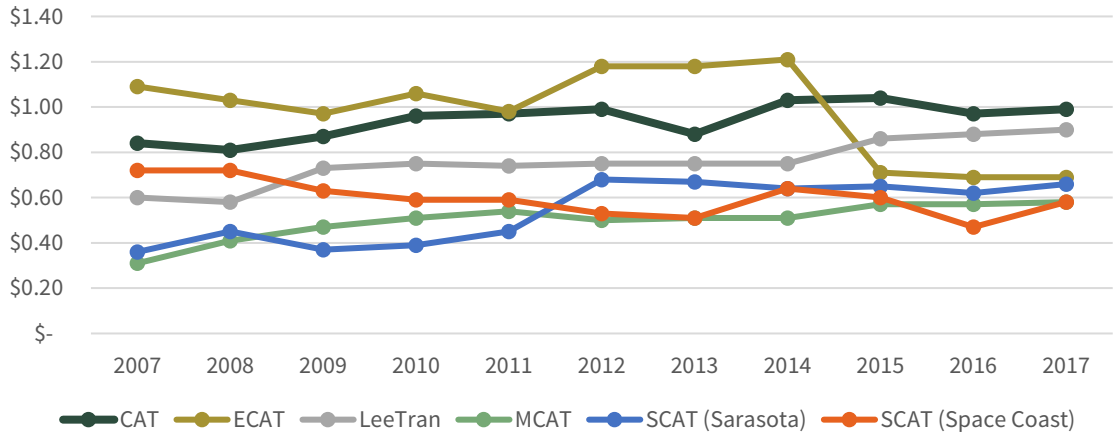
Fare revenue helps to offset a transit system's operational costs but increases in fares do not typically occur on a regular basis. This can be a challenge when operational costs increase more consistently than fares with considering inflation and other factors. As shown in Figure 3-12, of the peer systems, ECAT and Space Coast Area Transit experienced a decrease in the average fare over the 10-year period indicating a significant fare policy change occurred. While CAT had the highest average fare of the peer systems in 2017, it did not experience the same rate of increase as the peer agencies. The increase in average fare over the 10-year period ($0.29) for the three remaining three peer systems was nearly twice that of CAT ($0.15). However, as previously mentioned, an increase in CAT fixed-route fares went into effect October 1, 2018 that is not reflected in this figure.

Figure 3-11: Capital Expense per Passenger Trip



Source: 2007-2017 NTD data

Figure 3-12: Average Fare



Source: 2007-2017 NTD data

Key Findings

The findings from this peer review indicate that, among five comparable systems, CAT has the lowest number of total passenger trips and trips per revenue mile of service, the second lowest number of revenue hours of service per capita and operating expense per capita, and the highest average fares. CAT also has the second highest trip length of this peer group.

As with many mostly suburban Florida counties, operating cost-effective transit is challenging; however, when adjusted for protected lands, Collier's population density is within the range of the peers suggesting more transit potential than is currently provided. Although Collier is wealthier than its peer counties (as measured by property tax base per capita) and this wealth may be a contradiction for a strong transit market, the County also has a substantial service-sector economy whose workers are often transit dependent.

Section 4 Collier County Development Review Process

Collier County undertakes an annual review of the inventory and performance of its various capital facilities for which levels of service (LOS) standards have been established, including roads and bridges. The document produced from this effort is known as the Annual Update and Inventory Report (AUIR). Pertaining to roads, the AUIR provides an analysis of the existing conditions, summarizes the available capacity based on the adopted LOS, forecasts capacity of existing and planned road network as identified in the five-year capital improvement schedule, and identifies new projects needed to maintain or restore LOS deficiencies. The AUIR forms the basis for preparing the annual amendments to the County's Capital Improvement Element (CIE).

In 2004, Collier County moved from an annual concurrency review process, where traffic volumes were reviewed annually during the AUIR process, to what is labeled as a "checkbook" Transportation Concurrency Management System (TCMS). The intent of the "checkbook system" is to maintain a continuously updated log of traffic impacts upon approval of a final development order. As part of the County's TCMS, a Traffic Impact Study (TIS) must be performed for all development projects that produce net new trips to determine if there is available capacity on the affected road segments.

Traffic Impact Study

The TIS is required to quantify the potential traffic impacts of a proposed development project and determine the capacity consumed by the development for purposes of concurrency management, and to identify site-related operational deficiencies. A TIS is required for the following development applications:

- Growth Management Plan Amendment
- Zoning Changes (including Developments of Regional Impact [DRI])
- Stewardship Receiving Area Designations
- Site Development Plans
- Subdivisions/Platting
- All other development applications, except for building permits, that produce additional traffic or modifies existing traffic

While the fees collected to review a TIS vary based on which of the three study categories the development project falls in (i.e., Small-Scale, Minor, or Major), the basic requirements are not influenced by the size of the development project.

The analysis prepared during the TIS will determine if traffic impacts for a proposed development will "significantly impact" any roads or intersections. If the TIS indicates that projected traffic generated is not significant using the defined 2%-2%-3% standards (where the percentage of project trips is measured against the service volume of the adjacent and nearby roadways), then

the development's impact is not required to be analyzed. If the TIS indicates that projected traffic generated is considered significant and adverse, then operational impacts of the development project traffic will have to be mitigated for facilities failing to achieve acceptable levels of service.

If available capacity exists, traffic generation from the development project is recorded in the trip bank upon final development order approval and that capacity is no longer considered available for the purpose of any future TIS completed by subsequent development projects.

If the TIS reveals that there is not sufficient capacity on the affected road network within the analysis time period or the development's impact is significant or adverse , then the development must mitigate its impacts by either creating additional road capacity (or providing a proportionate-share payment) or lessening traffic volumes prior to approval of the development order.

Within one year from development order approval, 33% of applicable impact fees must be paid to retain trips in the trip bank beyond the one-year period and vest the development for concurrency. Final calculation of the impact fees is based upon the rates in effect when the building application is submitted. The balance of road impact fees due is paid at building permit issuance.

Concurrency

Within unincorporated county, there are three areas in which development projects may be exempted from the County's concurrency process. These include the South US 41 Transportation Concurrency Exception Area (TCEA), illustrated in Figure 4-1, and the Northwest and East Central Transportation Concurrency Management Areas (TCMA), illustrated in Figures 4-2 and 4-3, respectively.[3]

Developments within these areas are subject to transportation concurrency unless the applicant requests exemption. Development projects located in the TCEA and the TCMAs can be exempt from concurrency if certain requirements are met; however, the developer must still submit a TIS even if seeking concurrency exemption to maintain accurate capacity counts for the TCMS.

[3] Section 6.02.02[I], Collier County Land Development Code

Figure 4-1: South US 41 TCEA

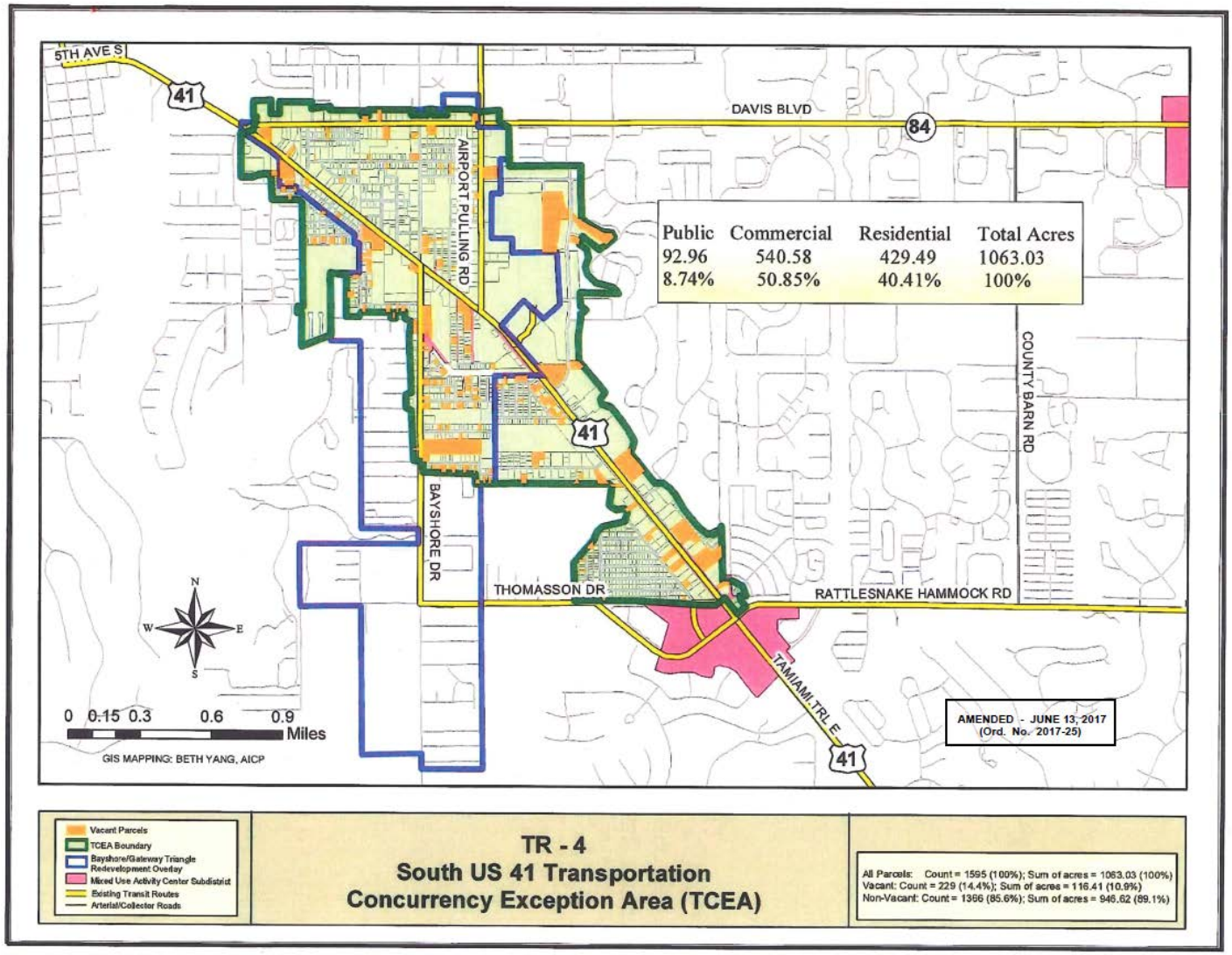


Figure 4-2: Northwest TCMA

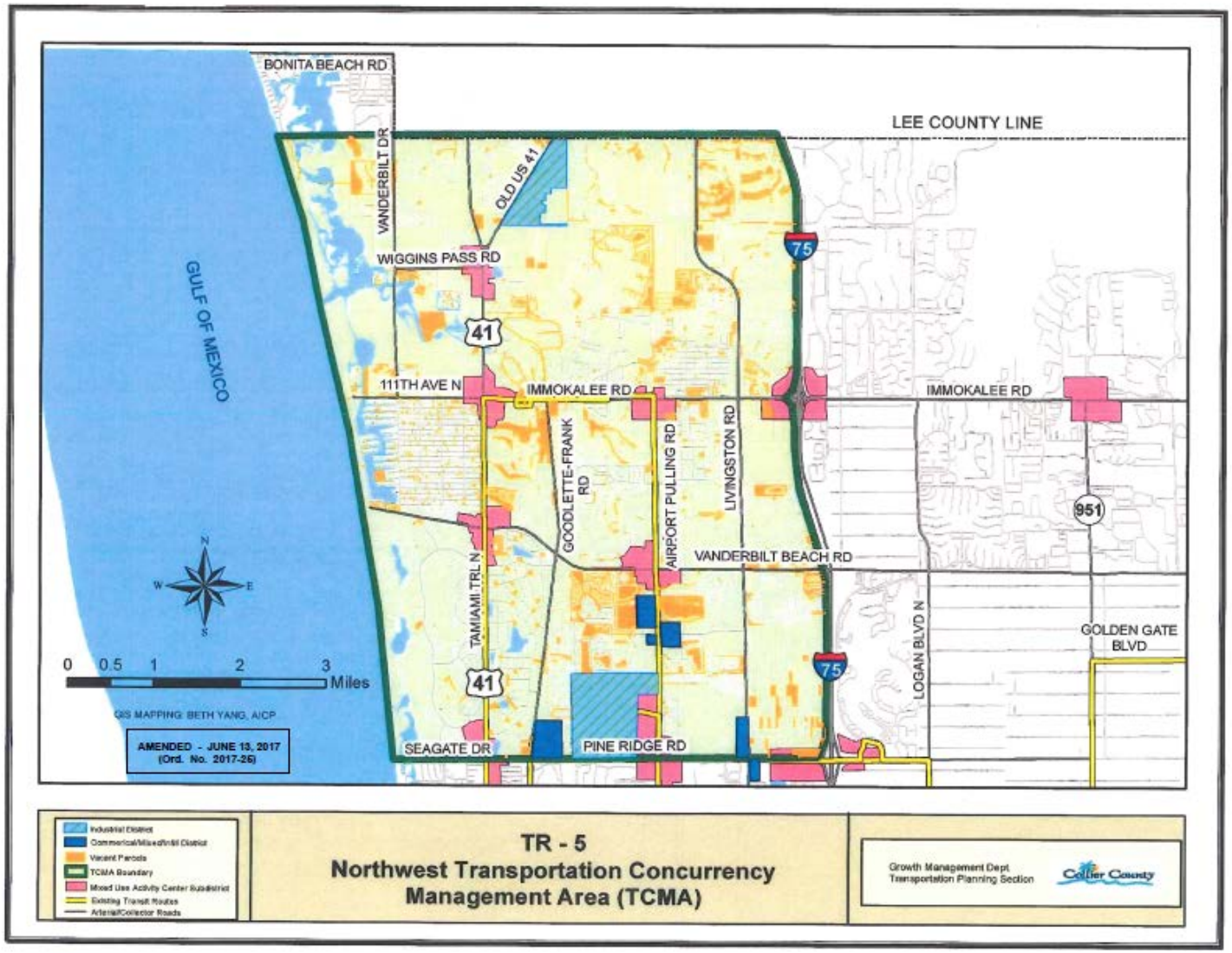
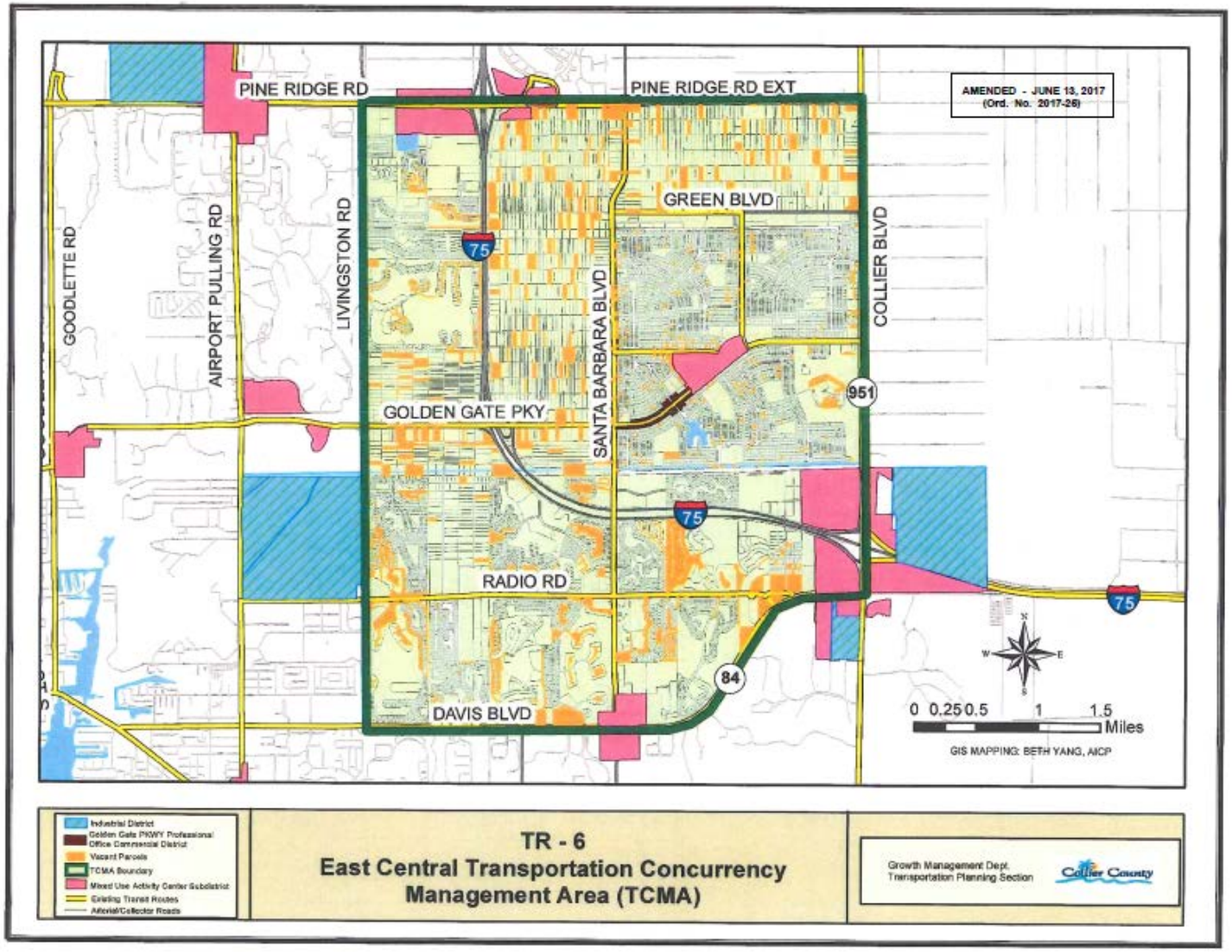


Figure 4-3: East Central TCMA



Transportation Concurrency Exception Area

Development projects located within the South US 41 TCEA may be exempt from transportation concurrency requirements if exemption is requested and the proposed development does not reduce the LOS of the Florida Intrastate Highway System (FIHS) by more than 5% of the capacity at the adopted LOS standard. If it does, the following conditions must be met:

- Commercial developments must implement at least two of the approved transportation demand management (TDM) strategies listed below that reduce peak hour trips or vehicle miles of travel (VMT)generated by the commercial development.[4]
    - **Preferential van/carpool parking** that is expected to increase the average vehicle occupancy for work trips generated by the development.
    - **Parking charge** that is expected to increase the average vehicle occupancy for work trips generated by the development and/or increase transit ridership.
    - **Cash subsidy** that is expected to increase the average vehicle occupancy for work trips generated by the development and/or increase transit ridership.
    - **Flexible work schedules** that are expected to reduce peak hour automobile work trips generated by the development.
    - **Compressed work week schedules** that would be expected to reduce vehicle miles of travel and peak hour work trips generated by the development.
    - **Telecommuting** that would reduce the vehicle miles of travel and peak hour work trips generated by the development.
    - **Transit subsidies** that would reduce auto trips generated by the development and increase transit ridership.
    - **Bicycle and pedestrian facilities** that would be expected to reduce vehicle miles of travel and automobile work trips generated by the development.
    - **Residential units included as a portion of a commercial project** that would reduce vehicle miles of travel.
- Residential developments must implement at least two of the approved TDM strategies listed below that provide mobility options or reduce VMT by the residential development.[5]
    - **Neighborhood commercial uses** that would reduce vehicle miles of travel.
    - **Transit shelters** within the development (must be coordinated with Collier County Transit) that would be expected encourage transit usage.
    - **Bicycle and pedestrian facilities** with connections to adjacent commercial properties that would be expected to increase non-driving trips in proximity.

[4] Section 6.02.02(I)(3), Collier County Land Development Code
[5] Section 6.02.02(I)(4), Collier County Land Development Code

- **Affordable housing** (minimum of 25% of the units) included within the development.
- **Vehicular access to adjacent commercial properties** with shared commercial and residential parking.

Transportation Concurrency Management Areas

Within each TCMA, 85% of the north-south lane miles and 85% of the east-west lane miles must be at or above the LOS standards to maintain concurrency. It should be noted that in the East Central TCMA, I-75 is not included in the concurrency analysis. If the analysis indicates that less than 85% of the lane miles are achieving the adopted LOS standard, then the proposed development will not be permitted unless modification of the development is made sufficient to maintain the LOS standard for the TCMA, or the facilities required to maintain the adopted LOS standard are committed.

If a TIS for a proposed development indicates that that development will impact a constrained or deficient roadway link by more than a *de minimis* amount (i.e., more than 1% of the maximum service volume at the adopted LOS), yet continue to maintain the adopted LOS for 85% of the east/west and north/south land miles, a proportionate fair share payment is required. The proportionate fair share payments within a TCMA must be used by Collier County to add trip capacity, enhance traffic operations, or enhance mass transit or other non-automotive transportation alternative that reduce vehicle trips within the TCMA. No impact will be *de minimis* if it exceeds the adopted LOS standard of any affected designated hurricane evacuation routes within the TCMA. Any impact to a hurricane evacuation route within a TCMA must require a proportionate fair share payment provided the remaining LOS requirements of the TCMA are maintained.

To be exempt from link-specific concurrency, the following must be achieved:

- Commercial developments must implement at least two of the approved TDM strategies that reduce peak hour trips or VMT by the commercial development previously listed under the TCEA requirements.
- Residential developments must implement at least two of the approved TDM strategies that provide mobility options or reduce VMT by the residential development previously listed under the TCEA requirements.

In determining the available capacity of a County or State road segment or area-wide capacity for a TCMA, the following must be considered:[6]

- Available capacity on existing affected road network.

[6] Section 6.02.03[D], Collier County Land Development Code

- Capital road improvements under construction for which the construction contract has been let.
- Improvements included in a development agreement that are completed, under construction, or the construction contract has been issued before the impact from the development or phased development impact the road system.
- Construction of the required capital improvements included in the first two years of either the FDOT Five-Year Work Program or Collier County Schedule of Capital Improvements as part of the AUIR, Annual CIE, and financially feasible annual County budget.
- Final local development order is within a project located within a TCEA or TCMA.
- Necessary facilities are the subject of a binding proportionate fair share agreement with the developer.

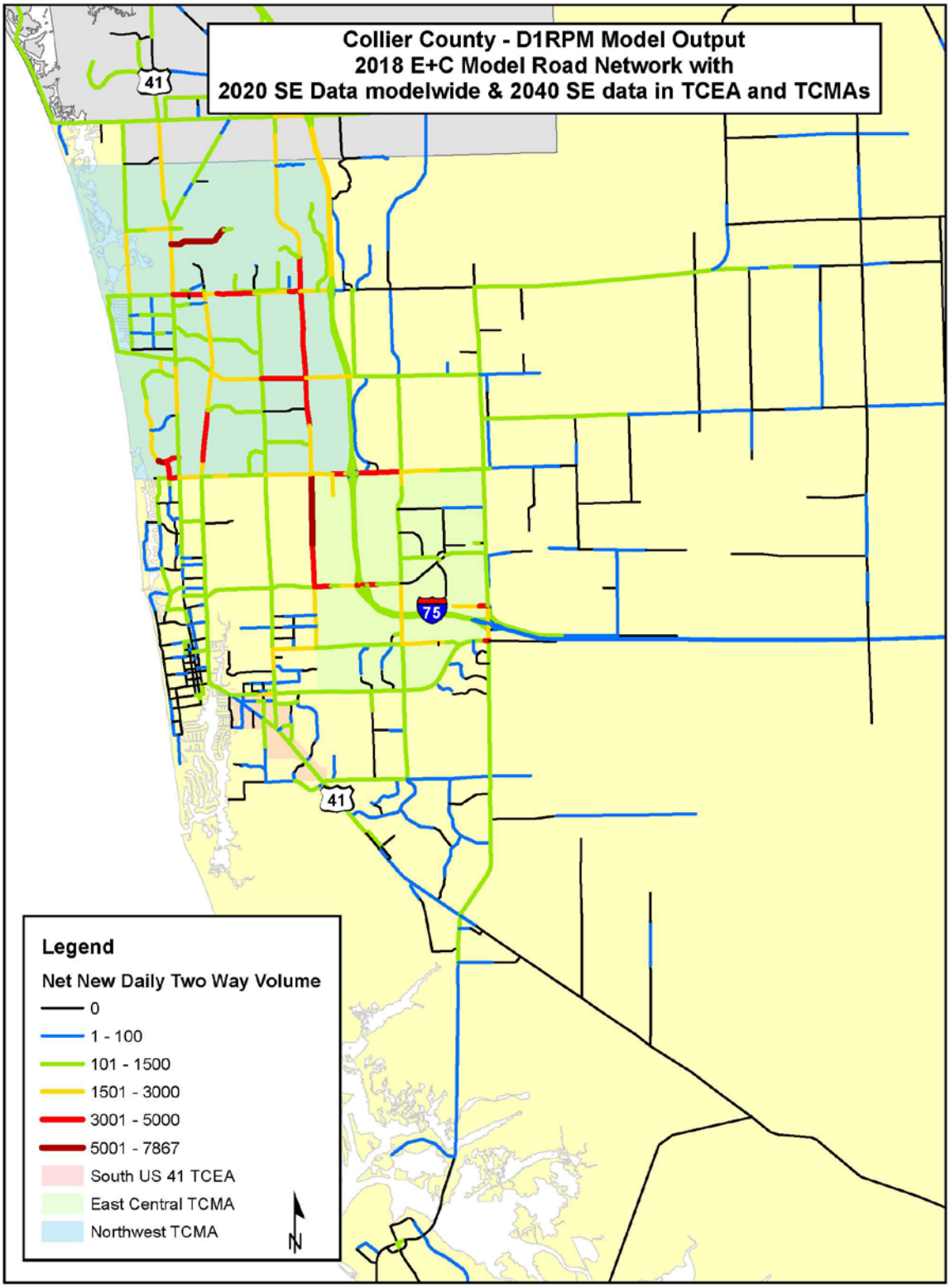
Analysis of Potential 2040 Traffic Congestion in TCEA/TCMAs

An analysis was completed to understand the net additional traffic impacts placed on the TCEA and TCMA road networks if population and employment growth projected by 2040 occurred today within these areas. The road network in this analysis is the 2018 E + C (Existing + Committed) roadway network from the FDOT District 1 Regional planning Model (RPM) v1.0.3. Projected growth from the RPM assumes 2040 population and employment growth based on socioeconomic (SE) forecasts within the TCEA and TCMAs and 2020 forecasted growth in the remainder of the county, so as to isolate potential traffic impacts due to projected growth within these three specific areas.

As shown in Map 4-1, there are relatively minimal impacts in terms of net new daily two-way traffic volumes observed in the South US 41 TCEA. Within the East-Central TCMA, traffic volumes on Livingston Rd (between Golden Gate Parkway and Pine Ridge Rd) and on Pine Ridge Rd (from Airport Pulling Rd to east of Santa Barbara Blvd) generally increased 10%-20% based on this analysis. In the Northwest TCMA, similar growth in traffic volumes were observed primarily on Livingston Rd (from Pine Ridge Rd to Immokalee Rd), Immokalee Rd (between US 41 and Livingston Rd), and Goodlette-Frank Rd (between Pine Ridge Rd and Vanderbilt Beach Rd).

The results of this analysis indicate that, if 2040 projected population and employment levels spontaneously occurred within the TCEA and TCMAs today, significant adverse impacts to traffic congestion would not be expected. This is supported by discussions with County staff that, due to the areawide LOS standard approach, development projects within the TCMAs rarely impact a deficient road to trigger mitigation requirements.

Map 4-1: TCEA and TCMAs Traffic Analysis



Key Findings

While CAT staff participate in informal meetings with various County departmental staff concerning development review applications, this is no formal procedure for how potential impacts of the development project on the transit system are considered. A challenge with integrating transit into the development review process is establishing a rational nexus between the development and transit service needs. Based on discussions with County staff, it is very common for developers to dismiss any transit-related mitigation requests if no existing transit service is provided in proximity to the development. There is nothing binding requiring a developer to mitigate potential transit impacts as part of the development review process. The County's regulatory process should be updated to strengthen how this nexus is established and to better define the corresponding mitigation requirements. One such approach to establishing this nexus is to adopted LOS standards for transit services; however, in this event monitoring of CAT's performance will need to be integrated into the County's AUIR process consistent with the County's other public facilities.

Within the TCMAs, due to the areawide LOS standard, implementing TDM strategies does not become required unless the developer is impacting a deficient road. County staff has observed a tendency for development projects to be scaled back to avoid triggering these TDM requirements. Also, since developers can pick any TDM strategies from the provided options, those selected may be of the lowest cost and may not necessarily provide the best results or be most effective options for that specific development. It was also observed that regulatory language in the Land Development Code and policies in the Growth Management Plan provide inconsistent guidance on implementing and monitoring the effectiveness of TDM strategies. Since the TDM options have been codified for several years, examining ways to improve this list and ensure that more current approach and technologies are considered may be appropriate.

Section 5 Initial Strategies for Evaluation

This section discusses an initial list of regulatory or policy changes that Collier County could pursue to enhance consideration for transit in the development review process. Recommended strategies from this broader list selected for future implementation by Collier County are described in the next section.

Site Access Requirements

Collier County's Comprehensive Plan and Land Development Code do not have established requirements for transit facilities. As a component of the County's overall transportation system, access to transit should be considered, similar to roadway or sidewalk network access. In the same way that the County's Land Development Code regulates driveway access points, including the need for auxiliary lanes, traffic signals, or other infrastructure incident to providing a connection between the public transportation network and a private development site, the County may choose to require consideration of how the residents, customers, and employees of a new or redevelopment are provided access to the CAT's services.

These requirements should be roughly proportional to the scale of the development and should consider the needs of CAT customers and the interaction of CAT vehicles with other traffic along the roadway. In terms of proportionality, measures of scale related to trip generation are more readily relatable to potential use of transit service than measures of building square-footage or functional population. Because the benefit provided to the site by the required infrastructure is clear, the proportionality of the developer contribution to the development's impacts needs to be reasonable, but not necessarily mathematically quantified.

Site access requirements for transit should apply when development is situated along active transit routes, but may also apply when development is located along transit routes identified in appropriate planning documents, such as CAT's 10-year Transit Development Plan (TDP) or the Collier MPO's Long Range Transportation Plan (LRTP). Suggested transit site access requirements, similar to those implemented by other Florida communities, are shown in Table 5-1.

Table 5-1: Example Transit Site Access Requirements

Gross Daily Trip Generation	Transit Infrastructure Requirements
All Development	*Provide an ADA accessible pad for any existing bus stops situated along the development site.*
500 – 1,000	*If requested by the transit agency, provide a basic bus stop shelter*
>1,000 – 5,000	*If requested by the transit agency and the roadway owner, provide a bus bay with bus stop shelter for a bus stop situated along the development site*
> 5,000	*If requested by the transit agency, provide a roadside premium bus shelter or on-site transit center*

If provision of an ADA accessible pad, shelter, or shelter and bus bay requires right-of-way, the developer shall grant necessary right-of-way easement(s) except in cases where doing so would constitute a hardship upon the development. Construction of the required transit facilities and right-of-way easement shall not be creditable against the developer's transportation impact fee or proportionate share obligations (if any).

Growth Management Plan Options

As discussed in the previous section, Collier County has established a framework for alternative mitigation processes within the County's two TCMAs and the TCEA; however, this framework has not consistently resulted in transit-supportive development or developer contributions to support alternative modes. Based on review of the relevant Growth Management Plan policies and Land Development Code regulations, the following factors may contribute to the limited utility of the County's current alternative mitigation process:

- Alternative mitigation does not exempt developers from conducting a TIS and developers will frequently scale down their projects to avoid this obligation.
- The alternative mitigation process includes ongoing monitoring requirements which may be onerous to manage for both the County and developers, further disincentivizing use of the process.
- The application of bonus densities, allowed within the TCMAs and to meet affordable housing goals, are discretionary and are often denied by the County's Planning Board.

Both TCMAs and TCEAs are legacies of State-mandated concurrency and the legislation and administrative rules that established the specific requirements for TCMAs and TCEAs no longer exist. Under the current State regulations, local governments have significant flexibility in how to address transportation concurrency. Accordingly, the County has the option to consider what

aspects of the TCEA/TCMAs benefit the County and which aspects, designed to meet past State requirements, no longer serve the County's interests.

The question of appropriate densities/intensities in the context of Collier County is a broader question, but there are established measures to indicate how density, diversity of land uses, and aspects of urban form relate to the efficient provision of transit service. Presently, most of Collier County west of CR 951/Collier Boulevard falls within the Urban Residential Mixed-Use Subdistrict, which allows a maximum of 16 residential dwelling units per acre (DU/acre). This area also includes Mixed Use Activity Centers; however, these also are limited to 16 residential DU/acre.

Table 5-2 show how different residential densities and non-residential employment intensities relate to support for transit investments. While the maximum allowed densities in Collier County correspond to the "Very High Investment" category, effective densities along transit corridors in Collier County are a blend of small areas of higher density infill and redevelopment combined with large areas of existing, low-density single-family residential development. Accordingly, it may be appropriate to consider higher allowed densities in order to off-set existing low-density development along transit corridors.

Table 5-2: Transit Service Density Thresholds

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

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

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

Potential strategies to promote transit supportive densities and to enable developers to contribute to transit improvements necessary to meet the demand new development or redevelopment places on the transit system include the following:

Reconfigure TCEA and TCMAs

Acknowledging that the specific requirements of the County's TCEA and TCMAs are no longer required by state law, the County has latitude to reconfigure the TCEA and TCMAs into a consolidated transit-oriented infill and redevelopment district. Consistent with the original intent of the TCEA and TCMAs, the transportation review process for these districts could seek to incentivize infill and redevelopment in a manner that supports transit and non-motorized modes by simplifying the TIS requirements for most development projects while retaining a "back-stop" to guard against adverse traffic impacts of large scale development.

One approach that could be used to simplify the traffic review/mitigation process is to establish three thresholds for expedited transportation review based on a development's net peak hour trip

generation. Like the current *Traffic Impact Study Guide*, these three levels reflect the complexity of the required study; however, in the proposed "TOD Infill and Redevelopment District" the procedures for the "Small" and "Minor" project studies would be further simplified as shown in Table 5-3.

At the County's Administration's discretion, consideration should be given to promoting mitigation through fair share payments used to fund alternative mitigation as a priority to equal mitigation or fair share payments for roadway improvements within the proposed TOD Infill and Redevelopment District. Consideration should also be given to simplifying the process for calculating fair share payments within the proposed TOD Infill and Redevelopment District to ensure the study process is not a disincentive to denser, more transit-supportive development.

Table 5-3: TOD Infill and Redevelopment District TIS Guidelines

Project Size	Net Peak Hour Trips[1]	Study Requirements	Mitigation
Small	<50 Peak Hour Trips	Site Access Only	Pay applicable transportation impact fee
Minor	50 - 5% LOS "D" Service Capacity	Site Access + Adjacent Intersections[2]	Pay applicable transportation impact fee; make equal mitigation improvements or pay for fair share mitigation[3]
Major	> 5% LOS "D" Service Capacity	Major Traffic Impact Study per TIS Guide	Pay applicable transportation impact fee; make equal mitigation improvements or pay for fair share mitigation[3]

1) *Percent of the LOS "D" peak hour two-way service capacity of the smallest adjacent thoroughfare roadway.*
2) *Adjacent major roadway intersections within 0.25 miles of the site are "significantly impacted" if the existing approach volume + proposed project peak hour trips are greater than 110% of the approach segment's existing + committed adopted peak hour, peak direction service capacity.*
3) *Fair share obligations may, at the discretion of the County be directed toward off-site transit capital improvements and/or other "alternative mitigation options" and are off setting to the project's impact fee obligations.*

An alternative approach to an areawide TOD Infill and Redevelopment District is to define TOD Corridors incorporating higher performing transit routes and existing Activity Centers. While functionally similar, this approach clearly shows that higher-density mixed-use infill and development is to be concentrated along existing commercial corridors and activity center nodes rather than within single-use, lower-density neighborhoods.

Whether proposed as a replacement process for the geographic area currently covered by the TCEA and TCMAs, or a TOD Corridor network, strategies to promote transit supportive densities and land use diversity should be paired with strategies to promote workforce housing. This could include "by-right" bonus densities for affordable/workforce housing within the TOD area or TOD corridors.

Simplifying the TIS process for small and minor-scale developments and making it easier to direct fair share contributions to transit investments and other alternative mitigation measures could be implemented in the near-term. However, as a longer-term strategy, the County could also consider

implementing a multimodal impact fee within the proposed TOD Infill and Redevelopment District or along TOD Corridors. This fee would be similar in scope to the County's current roadway transportation impact fee but would allow some percentage (e.g. 20%) of district revenues to be directed to transit capital expansion.

Revaluate Transportation Demand Management (TDM) Strategies

As previously noted, there are two primary challenges to implementing TDM strategies within the TCEA and TCMAs under the current process. First is the tendency for development projects to be scaled back to avoid triggering the TDM requirements so they are ultimately not implemented. Second is that, under the current rules, developers can pick from any two TDM strategies from the options provided. Those that are selected may not be the most effective or sensible strategies for that specific development. Since the available TDM options have been codified for several years, examining ways to improve this list and ensuring that more current approach and technologies are considered is recommended. As part of this, there are several options for County staff to consider.

1. Require (rather than make optional) certain TDM-supportive infrastructure improvements keeping such requirements proportional to the scale of the development. The specific infrastructure strategies that could be required include:

    a. Transit site access improvements for commercial and residential developments, as discussed previously in this section. For larger developments with higher trip generation, it may be more appropriate for the developer to pay the County directly for the cost of the required transit infrastructure. This will ensure consistency with CAT's design standards and provide CAT staff flexibility in determining how best to support the transit access and infrastructure needs for that development.

    b. Covered bicycle racks or on-site bicycle storage for both commercial and residential developments with access to bicycle facilities. The number of racks/storage spaces provided should be proportional with the development size (based on square footage, number of employees, number of dwelling units, etc.) up to a specified limit.

    c. Preferred parking spaces for vanpool, carpool, or other car-share vehicles (e.g., Zipcar) for commercial office developments as a ratio to the overall required number of parking spaces up to a specified limit.

    d. Preferred parking for electric and car-share vehicles for commercial retail or mixed-use developments as a ratio to the overall required number of parking spaces up to a specified limit.

2. Currently there are no requirements or guidelines as to which TDM strategies a developer may select. TDM strategies that are of the lowest cost or easiest to implement can be selected to meet the requirements, even if they are not the best or even appropriate fit or most effective for a particular development project. It is recommended that the County consider categorizing the types of TDM strategies and the required number of strategies selected within each category for commercial or residential developments.

3. It is recommended that new TDM strategies be considered for inclusion in the list of options available to select from:

    a. Shared or combined parking between two or more buildings or uses where a specified reduction of the required spaces is allowed if it can be demonstrated that the hours or days of peak parking need for the uses are different to where the lower total will provide adequate parking for all uses served by the facility.

    b. Providing for end of trip facilities (shower and changing rooms) for employees who use active transportation to get to work.

    c. Providing dedicated park-and-ride spaces for transit riders in proximity to an existing bus stop.

4. Regulatory language in the Land Development Code and policy language in the Growth Management Plan both address TDM requirements for development projects within a TCEA or TCMA; however, there are inconsistencies between the two and monitoring and evaluation of the TDM strategies post-implementation is not addressed in the Land Development Code. It is recommended that revised detailed regulatory language be provided in the Land Development Code and with supporting policy language provided in the Growth Management Plan.

Evaluate Mixed-Use Corridor and Activity Center Density Allowances

To better enable the limited area within western Collier County available for infill and redevelopment to more effectively off-set existing lower densities, consideration should be given to increasing allowed density within established activity centers and along mixed-use corridors. While other counties along the southwest Florida coast have similar upper density ranges as Collier County, others recognized increased densities along key transit corridors. For example, Manatee County allows up to 32 DU/acre along designated Urban Corridors for affordable housing and/or mixed-use activity nodes.

To better understand the potential impacts of allowing additional density along urban corridors and in mixed-use nodes, Collier County could undertake the following activities:

- Evaluate transit supportive densities based on existing uses and allowed activity center densities.

- Evaluate transit supportive densities based on existing uses and enhanced activity center densities.
- Compare the relative impacts of existing and enhanced densities on the roadway network.

Transit Operations Funding

The recommendations previously discussed in this section address certain capital infrastructure improvements provided or funded by the developer in proportion to the anticipated development impacts. However, like many transit agencies, CAT is challenged with maintaining sufficient operating revenues as costs increase due to inflation or for needed system expansion. Further, the peer analysis suggests that more transit potential exists in the county than is currently provided so system growth is likely.

Local funding sources available to Florida agencies for transit operations are primarily sales tax or general fund revenues; these are supplemented with fare revenue and other miscellaneous local sources.

In November 2018, Collier County voters approved a one percent discretionary local option sales surtax to pay for local authorized infrastructure projects. This local option sales surtax can only fund eligible infrastructure or capital improvements, not operations or maintenance expenses. Effective January 1, 2019, the surtax provides funding for specific roadway, bridge, and sideway transportation projects; community projects (such as mental healthcare and workforce housing), and public facility improvements. Collier County is not a Charter County and therefore is not eligible for the Charter County and Regional Transportation System surtax that can provide funding for transit operations and maintenance, in addition to capital infrastructure.[7]

As previously noted, CAT completed a fare study in 2018 and the fixed-route fare structure was modified with one-way fares increasing by $0.50 on October 1st of that year. It is unlikely fares will be reviewed for potential modification for several more years as CAT's policy is to review the fare structure approximately every five years.

Given the above, general fund revenue is left as the primary option for increased local funding for transit operations. An increase in general fund revenue is typically achieved by increasing property tax (ad valorem) revenue. However, increasing property taxes can be politically challenging, so identifying ways to redistribute existing property tax or general fund revenue in a way does not impact existing series and program is ideal, but is often very difficult. Therefore, more creative approaches to funding CAT operations must be explored.

In July 2019, Urban3 made a presentation to the Board of County Commissioners about Collier County-specific fiscal data, projections, and recommendations related to long-term growth

[7] As defined in § 212.055, F.S.

policies in rural towns and villages and in urban infill and redevelopment areas. In this presentation, a review of Collier County Property Appraiser data suggests that surface parking lots in in the county, particularly the urbanized area, are undervalued in comparison to the developed portion(s) of the parcel. This provides an opportunity for the Property Appraiser to review how parking lots are valued and if a policy change should be implemented where their value is increased to be more proportional to the accompanying building value. If this change is made and additional property tax generated as a result, then the Board of County Commissioners can make a policy decision to redirect the incremental increase in property tax revenues to fund transit operations rather than be redirected back to the general fund. Discussions with the Collier County Property Appraiser and County Senior Management should be held to determine if there is support for pursuing such a policy change.

Section 6 Final Recommendations & Implementation Support

Following discussions with the Project Advisory Team, comprised of Collier MPO, CAT, and Collier County Transportation and Growth Management staff, regarding direction from senior county leadership on potential recommendations from this study, it was decided to move forward with implementation support for the following:

- Provide draft Land Development Code language to require **transit infrastructure site access improvements** by new or redevelopment projects. The TIS procedures will also be reviewed to determine if any language changes are necessary to support transit site improvement requirements.
- Provide draft language to integrate updated and consistent **Transportation Demand Management (TDM) strategies** into the Land Development Code and Growth Management Plan. As part of this effort, research was conducted on 1) best practices for TDM employment, monitoring, and evaluation; 2) the feasibility of implementing a developer-funded transit pass program for employees and/or residents of new or redevelopment projects to provide potential operating revenue for Collier Area Transit.

The remainder of this section expands on the above recommendations and implementing actions resulting from this study. This study will conclude with these recommendations presented to the County's Public Transit Advisory Committee (PTAC) and the Collier MPO's Citizen Advisory Committee (CAC), Technical Advisory Committee (TAC), and Board in November and December 2020.

Following completion of this study, County planning staff, senior county leadership, and the County Attorney will carry forward implementation of the draft regulatory and policy language provided from this study as described below. As part of the implementation process, review by County's Development Services Advisory Committee (DSAC) and Planning Commission will be necessary, with recommendations from both submitted to the Board of County Commissioners for consideration as part of the Board's approval process.

Site Access Requirements

As noted in the prior section, Collier County's Land Development Code does not have established requirements for transit facilities. In implementing this new regulatory requirement, the transit infrastructure to be provided at the development site should be roughly proportional to the scale of the development's trip generation.

Site access improvement requirements need not be tied to an overall LOS standard but should be related to minimum design standards for public infrastructure provided by the County. For example, if the County generally constructs 5-foot wide 6-inch deep sidewalks along suburban roadways, a developer ought not be required to construct a 10-foot wide sidewalk. Likewise, if the typical CAT bus shelter (inclusive of furniture, concrete pad, and prefabricated shelter) costs

$15,000, developers ought not be required to construct elaborate site-built shelters with sophisticated amenities beyond the scope of what CAT would typically provide. Guidance regarding the recommended improvements related to the scale of the development was based, in part, on a review of CAT's Bus Stop Infrastructure Design Guidelines.

Regulatory Language Recommendations

Section 6.06.02 of the Land Development Code currently addresses site access requirements for sidewalks, bike lanes, and pathways. As part of this study, draft language was provided to the Project Advisory Team that incorporates transit infrastructure site access requirements into this section of the Code. To delineate this change, it is recommended that Section 6.06.02 be renamed from "Sidewalks, Bike Lane and Pathway Requirements" to "Multi-Modal Requirements."

Site access requirements for transit should apply when development is situated along active transit routes, but may also apply when development is located along transit routes identified in CAT's current 10-year TDP or as a cost feasible project in the first five years of Collier MPO's adopted LRTP.

Transit site access requirements drafted for Collier County for consideration, similar to those implemented by other Florida communities, are summarized in Table 6-1.

Table 6-1: Proposed Transit Site Access Requirements

Development Project Gross Daily Trip Generation	Required Transit Access infrastructure
All Development	If requested by Collier Area Transit, construct bus stop signage, bench, and ADA accessible boarding and alighting pad for any existing bus stops situated along the development site for which this transit infrastructure is not already available.
Development 500-1,000 gross daily trips	If requested by Collier Area Transit, construct a new bus stop situated along the development site to include a bus stop sign, bench, shelter, and ADA accessible boarding and alighting pad.
Development 1,001-5,000 gross daily trips	If requested by Collier Area Transit, construct a new bus stop situated along the development site to include a bus bay/pull-in, signage, bench, shelter, and ADA accessible boarding and alighting pad.
Development 5,001 or more gross daily trips	If requested by Collier Area Transit, construct an on-site transit station with amenities such as signage, benches, shelters, bus bays/pull-ins, and ADA accessible boarding and alighting pads designed for the number of existing and planned routes to be served.

1 Transit facilities should be designed in accordance with Collier Area Transit's Bus Stop Infrastructure Design Guidelines and Florida Department of Transportation's Accessing Transit: Design Handbook for Florida Bus Passenger Facilities Version III (2017).

2 If provision of an ADA accessible pad, shelter, or shelter and bus bay requires right-of-way, the developer shall grant necessary right-of-way easement(s) except in cases where doing so would constitute a hardship upon the development. Physically constrained right-of-way or construction resulting in unsafe conditions may affect placement/requirements of required transit infrastructure.

3 Construction of the required transit facilities and right-of-way easement shall not be creditable against the developer's transportation impact fee or proportionate share obligations (if any).
4 Should the development frontage extend beyond ½-mile, multiple bus stops may be required spaced ¼-mile apart.
5 If transit infrastructure with potential traffic impacts (e.g., constructing a bus bay/pull-in or traffic signalization for a new transit station, etc.) is required along on a non-County road, coordination with the roadway owner is required.

The draft regulatory language for transit site access improvements also addresses:

- A variance provision when it can be shown that providing the required infrastructure will constitute a "hardship" on the site (i.e. a disproportionate requirement). In these cases, the local government may waive the requirement or establish a pay-in-lieu option for the developer.
- A stipulation that all workmanship materials, methods of placement, etc. shall be coordinated with Collier Area Transit and in conformance to the agency's Bus Stop Infrastructure Design Guidelines, Florida Department of FDOT Accessing Transit Handbook, and the Americans with Disabilities Act (ADA).

As part of this effort, the County's TIS procedures were also reviewed to note any updates required if the proposed changes above are codified. For consistency between the TIS procedures and Land Development Code, it is recommended that current language under Section 18 of the TIS procedures be expanded to reference that transit site requirements in Section 6.06.02 of the Land Development Code do not count towards alternative mitigation.

TDM Strategies

As discussed in the previous section, Collier County currently allows development located within the US 41 TCEA or Northwest and East Central TCMAs to be except from concurrency requirements so long as impacts to the transportation system satisfy several conditions and mitigated through use of selected TDM strategies. To assist in updating the County's TDM strategies, research was conducted to identify best practices in utilizing TDM strategies and what changes could be appropriate for Collier County. As part of this effort, research into developer funded transit pass programs was conducted for potential implementation in Collier County. Following key findings from this research effort, recommendations to integrate updated and consistent TDM strategies into the Land Development Code and Growth Management Plan are provided.

Key Research Findings

Degree of Urban Development: Many transit benefits programs implemented by employers offering subsidized transit and other support are located in more urbanized or downtown areas well-served by transit, according to the Transit Cooperative Research Program's (TCRP) report on the effectiveness of commuter benefit programs; many case studies on universal transit passes explored by the Glendale Downtown Mobility Study were also in more urbanized or downtown areas.

Implications for Collier County: The lower densities and suburban land use patterns of Collier County, including parts of the TCEA and TCMAs, pose a challenge to creating an effective TDM program that will result in reduced driving trips, yet there are suburban areas that have seen some degree of reduction. An effective program in this setting likely hinges on more robust and coordinated TDM strategies, particularly parking limitations and pricing, with conditions in place in surrounding areas to manage spillover effects of people parking in nearby areas for free. Another example is potentially improving the efficacy of rideshare by implementing a personalized carpool match program. Some of these approaches could also support other goals such as using revenues generated by paid parking to fund transit operations. However, these efforts require substantially more long-term resource investment in terms of management, coordination, and monitoring than the existing TDM program. They also may require widespread participation of developments in just a few select strategies to potentially improve the outcomes of these strategies (e.g., providing an impactful and consistent operating revenue stream for transit or reducing single-occupant auto trips), which in turn would reduce the current flexibility of the program with its range of options.

The Rise of Telework: An article by Guyot and Sawhill for the Brookings Institute indicates that telework has vastly increased during the COVID-19 pandemic. Not all workers are equally able to work from home, with workers in the top quartile for earnings more likely to have this option available. Some additional degree of telework may well continue after the pandemic, with implications for commuting and the availability of this strategy to employers as part of a TDM approach.

Implications for Collier County: Telecommuting may provide a less management-intensive way to achieve reduced VMT among certain occupations and workers, particularly with the increases that have occurred generally during the COVID-19 pandemic that may last in the long-term. More time will be needed to see how this affects commuting patterns in Collier County. However, it should be retained as a potential TDM strategy developers can choose.

Challenges to Commuter Benefit Transit Programs: While the TCRP report indicated that commuter benefit transit programs in suburban areas with low starting transit mode shares could see increases in ridership, they were typically smaller (although percent increase could be relatively large due to low starting absolute transit ridership numbers); other potential factors that could have influenced the low amount of additional transit usage in areas studied include the degree of financial support an employer paid towards the program, the availability of a wider range of other employee commute programs (e.g., rideshare matching and telecommuting), and free parking offered at sites. Differences in data collection survey design for the cases, as well as factors external to the program, were also mentioned as possibly affecting ridership findings.

Potential Suburban Challenges of Generating Revenues from Universal Transit Pass Programs: The degree of urban development in an area considering universal transit pass programs also affects the density of workers within the area, which may in turn influence

discounting per pass offered through the program (a greater number of employees participating may allow for greater discounts while still maintaining transit revenue). The Glendale study notes that in cases such as the Passport Annual Transit Pass Program in Portland, Oregon's Llyod District and Boulder, Colorado's Eco-Pass, passes were purchased in bulk at prices that ranged from a 6% to 24% discount on annual pass rates.

Implications for Collier County: Universal transit pass and commuter benefit transit programs were researched to understand how these TDM strategies might support the generation of transit operating revenues. More than one case study highlighted the deep discounts provided for passes due to bulk purchasing. The lower density development in Collier County may pose a challenge to providing passes at a more affordable rate to employers while also generating revenue. An additional challenge is the "lumpy" nature in which the revenues would likely be collected, given the irregularity with which developments may come online. Supplemental funding could be generated through other TDM, such as paid parking, or designated districts with an associated funding source (e.g., tax increment district).

Importance of Parking Supply Limits and Pricing: K.T. Analytics, Inc. assessed TDM approaches in more suburban areas, specifically in activity centers.[8] Its report emphasized that parking supply limitations and pricing sizably improved effectiveness of TDM programs; aspects of the surrounding areas would also affect outcomes (e.g., whether there is free parking in nearby areas, availability of transit, etc.). Without parking constraints and pricing, shifting the time of commute may be easier than reducing solo driving. Strategies such as rideshare can be boosted by personalized carpool matching services, as well as preferential parking or reduced parking costs for rideshare users; however, preferential parking requires strong enforcement.

*Implications for Collier County***:** Currently parking space requirements for development projects produces an ample level of parking that does not reduce or adjust parking supply. Like most suburban communities, a significant portion of employer parking in the county is free or low cost. In the absence of parking supply controls and pricing, shifting commute times may be a particularly important aspect of Collier County's TDM program; advances in remote work may also allow for more flexibility in commute times for certain employment types where that option is feasible.

Importance of Program Management and Monitoring: The K.T. Analytics report and Glendale study highlight the use of Transportation Management Associations (or some other entity that could play that role, such as a Downtown Development Authority, Business Improvement District, etc.). The K.T. Analytics report also indicated that program commitment and vigilance of oversight may be more important than the stringency of the program.

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8 K.T. Analytics, Inc., An Assessment of Travel Demand Management Approaches at Suburban Activity Centers (1989), prepared for USDOT

Along with the importance of program management, program monitoring is a critical component to ensure the ongoing contribution of the TDM strategies in reducing VMT. Elements of successful program management include:

Pre-occupancy site visit by planning or other agency staff to ensure the physical measures (e.g., bicycle parking, signage, etc.) have been included as planned.

Ongoing monitoring and reporting, which is discussed as one of the biggest challenges to TDM programs. Outside of large urban areas with robust TDM programs, self-reporting by employers and developers is most common whereas the local government agency plays an active role in monitoring and evaluation and establishing reporting structures. In larger urban areas, in addition to reporting by the development project, the public agency may conduct site visits to verify maintenance of physical measures and continuity in providing programmatic measures as specified in the TDM Plan. For several programs, the frequency of agency site visits was observed to lessen over time as projects remained in good standing.

Administrative fees charged to developers to offset the costs of TDM program administration, including ongoing monitoring and site visits.

Flexibility to allow for updates to the TDM strategies to meet the established targets or when a development project undergoes a change in use.

Implications for Collier County: The County has already incorporated TDM program monitoring concepts into its Growth Management Plan through Transportation Element Policy 5.5 and Policy 5.6 for the TCEA and TCMAs, respectively. However, such monitoring requirements and specifications are not codified in the Land Development Code. The current policy language states that developments not required to submit an annual monitoring report must provide an assessment as to the effectiveness of the strategies on a form provided by the County, but there is no indication of the criteria that determines which development are required to conduct an annual monitoring report versus a self-assessment. The current policy language provides flexibility for modifying the TDM strategies to be effective. The County may want to consider incorporating monitoring language into the Land Development Code and providing more detail as to which monitoring approach applies to a development project. Consideration for on-site inspections of physical TDM strategies should also be considered. In this event, it would be appropriate to charge an administrative fee to the developer for County staff resources required to ensure compliance with the TDM monitoring requirements.

Recommendations

A TDM program of more robust and coordinated strategies to potentially improve travel and funding outcomes would represent a paradigm shift in the approach to TDM in Collier County, likely requiring sizable increases in administrative resources or creation of a separate management entity. Programs of this nature are observed to occur most often in larger urban area where

specific factors, notably traffic congestion, frequent and reliable transit service, and limited parking supply (and/or high-priced parking) are all present. Additionally, requiring contributions to a transit pass program or other contribution to support transit operating revenues may not guarantee a sizable and continuous revenue stream for operations, but would reduce the choice of TDM strategy and consequently the flexibility of the program overall to potentially promote the most effective strategy for a given development.

In view of these conclusions, the Project Team recommends making the following adjustments.

- The existing TDM strategies should be refined and restructured into categories to allow selection of a maximum number of TDM options from specific categories. This will promote selecting a mix of strategies that are more effective, rather than the lowest cost or easiest to implement that may not achieve the desired results (i.e., providing bicycle racks when the development project is not connected to bike lanes or pathways). This approach retains a degree of flexibility in the program to allow the choice of more effective strategies within a given set while limiting the potential factor of cost or implementation ease in the decision-making of developers.
- To ensure that cost is not the only driving factor in the selection of TDM strategies, it is recommended that the developer application for concurrency exception require justification of the selected strategies and detail regarding how the strategies will be implemented/enforced. The Transportation Division Administrator should be allowed discretion in evaluating whether a suite of strategies for development is the most effective within cost feasible options.
- The County should consider more fully implementing the reporting requirement already included in their Growth Management Plan provisions to monitor TDM strategies, which can help inform future changes to the program. Additionally, TDM strategies should be maintained in the Land Development Code and any directly stated in the Growth Management Plan should be replaced with a reference to the code. This approach appears to have already been implemented for the TCMAs in Policy 5.6 of the Transportation Element.

To implement updated TDM strategies, amendments to the Land Development Code have been drafted for Collier County staff to consider for post-study implementation. Upon finalizing the regulatory language in the Land Development Code, affected Transportation Element policy language in the Growth Management Plan will need to be updated, as appropriate. A summary of the proposed amendments is provided in Table 6-2.

Table 6-2: TDM Implementation Support Summary

Summary of Proposed Changes
Land Development Code (LDC) **Section 6.02.02 – Management and Monitoring Program** **Section I (addressing TDM strategies for development projects within the TCEA)**
Subsection I.3 (Revised) ▪ Separates strategies into three categories and provides guidance as to how many from each category must be selected for commercial development projects in the TCEA. ▪ Requires development projects located along an existing or planned transit route to select at least one TDM strategy that encourages transit ridership. ▪ Allows development projects with adequate bike lane/pathway connectivity to satisfy TDM requirements by providing on-site dedicated and secure bicycle storage in conjunction with end of trip user amenities (changing rooms, showers, etc.). ▪ Includes options to provide preferential parking or charging stations for electric vehicles; charging station(s) must be provided in conjunction with preferential parking. ▪ Includes option to provide dedicated on-site park-and-ride spaces for transit riders when located in proximity to an existing bus stop.
Subsection I.4 (Revised) ▪ Requires residential development projects located along an existing or planned transit route in the TCEA to select at least one TDM strategy that encourages transit ridership. ▪ Includes provision of a transit subsidy as a TDM option.
Subsection I.5 (New) ▪ Separates existing language regarding requirements for Traffic Impact Statement from any development project from Subsection I.4 regarding residential TDM strategy requirements. ▪ Clarifies that TDM strategies to obtain concurrency exception shall not count towards multimodal site improvements required under Section 6.06.02 of the LDC.
Subsection I.6 (New) ▪ Adds requirement for developer to prepare a TDM Approval Plan, which must be approved prior to certification of concurrency exemption and contain the following information: • Description of the development project • Description of the selected TDM strategies • Implementation and monitoring provisions (process, responsible party) • Monitoring and evaluation regarding effectiveness of selected TDM strategies • Provisions for adjusting the strategies if deemed not effective
Subsection I.7 (New) ▪ Incorporates monitoring language from Policy 5.5 of the Transportation Element and expands to require an annual monitoring report for the first three years following occupancy and then every three years thereafter. ▪ Provides language to allow for modification of ineffective TDM strategies within the first three years of monitoring.

Table 6-2: TDM Implementation Support Summary (cont'd)

Summary of Proposed Changes	
LDC Section 6.02.02 – Management and Monitoring Program Section L (addressing TDM Strategies for development projects within the TCMAs)	
	Subsection L.5 (Revised) • Section originally restated TDM strategies for both commercial and residential development from those allowed for under a TCEA. Revised to refer back to TDM strategies for commercial development projects only listed under Section 1.3. Requirements for residential strategies provided in new section following.
	Subsection L.6 (New) • Refers to TDM strategies for residential development projects in a TCMA listed under Section 1.4.
	Subsection L.7 (New) • Clarifies that TDM strategies to obtain concurrency exception shall now count towards site improvements requirement under Section 6.06.02 of the LDC.
	Subsection L.8 (New) • Refers to TDM Approval Plan requirements under Section I.6, which also apply for development projects in a TCMA.
	Subsection L.9 (New) • Refers to strategy and monitoring requirements of selected TDM strategies as previously described under Section I.7, which also apply for development projects in a TCMA.
Growth Management Plan (GMP) Transportation Element Policy 5.5 & Policy 5.6	
	• Recommend Policy 5.5 incorporate specific TDM strategies for the TCEA by referencing the LDC (similar to Policy 5.6 for the TCMAs). If not, both policies should provide the same level of information and the strategies should be updated consistent with revisions approved to the LDC. • Recommend incorporating specifics of TDM monitoring program in the LDC and providing reference to the program in the Transportation Element.