AGENDA
CMC
Congestion Management Committee
Collier County Transportation Management Services Department
South Conference Room
2885 South Horseshoe Drive
Naples, Florida 34104

NOTE: THIS IS AN IN-PERSON MEETING

November 16, 2022
2:00 p.m.

1. **Call to Order**
2. **Roll Call**
3. **Approval of Agenda**
4. **Approval of September 21, 2022 Meeting Minutes**
5. **Open to Public for Comment on Items Not on the Agenda**
6. **Agency Updates**
   A. FDOT
   B. MPO
   C. Other
7. **Committee Action**
   A. Endorse Congestion Management Process Origin and Destination Report
8. **Reports and Presentations (May Require Committee Action)**
9. **Member Comments**
10. **Distribution Items (No presentation)**
    A. Carbon Reduction Program
    B. Draft 2023 MPO Meeting Schedule
    C. Revised/Final Corridor Fact Sheets
11. **Next Meeting Date:**
    January 18, 2023
12. **Adjournment**

PLEASE NOTE:
The meetings of the advisory committees of the Collier Metropolitan Planning Organization (MPO) are open to the public and citizen input is encouraged. Any person wishing to speak on any scheduled item may do so upon recognition of the Chairperson. Any person desiring to have an item placed on the agenda should contact the MPO Director at least 14 days prior to the meeting date. Any person who decides to appeal a decision of the advisory committee will need a record of the proceedings pertaining thereto, and therefore may need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence upon which the appeal is to be based. In accordance with the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should contact the Collier Metropolitan Planning Organization 72 hours prior to the meeting by calling (239) 252-5814. The MPO's planning process is conducted in accordance with Title VI of the Civil Rights Act of 1964 and Related Statutes. Any person or beneficiary who believes that within the MPO's planning process they have been discriminated against because of race, color, religion, sex, age, national origin, disability, or familial status may file a complaint with the Collier MPO Title VI Coordinator, Ms. Dusty Siegler, (239) 252-5814 or by email at: Dusty.Siegler@colliercountyfl.gov, or in writing to the Collier MPO, attention: Ms. Siegler, at 2885 South Horseshoe Dr., Naples, FL 34104.

CONGESTION MANAGEMENT COMMITTEE of the
COLLIER METROPOLITAN PLANNING ORGANIZATION

September 21, 2022
2:00 p.m.
Meeting Minutes

1. Call to Order

Mr. Khawaja called the meeting to order at approximately 2:02 p.m.

2. Roll Call

Mr. Philips called the roll and confirmed a quorum was present in the room.

CMC Members Present In-Person
Anthony Khawaja, Chair, Collier County Traffic Management Center (TMC) Operations
Alison Bickett, City of Naples
Dave Rivera, City of Naples
Dayna Fendrick, Bicycle Pedestrian Advisory Committee (BPAC) Representative
Don Scott, Lee MPO
Karen Homiak, Citizens Advisory Committee (CAC) Representative
Lorraine Lantz, Collier County Transportation Planning
Omar DeLeon, Collier County Public Transportation & Neighborhood Enhancement (PTNE)

CMC Members Absent
None

MPO Staff
Brandy Otero, Principal Planner
Scott Philips, Principal Planner
Dusty Siegler, Administrative Assistant

Others Present
Alexander Showalter, Collier Area Transit (CAT)
Ian Debnam, Benesch
Pierre-Marie Beauvoir, Collier County Traffic Management Center (TMC) Operations
Victoria Peters, FDOT (arrived late)
Wally Blain, Benesch (virtually via Zoom)

Mr. Philips introduced the MPO's new administrative assistant, Ms. Siegler.

3. Approval of the Agenda

Ms. Lantz *moved to approve the agenda.* ***Ms. Bickett*** *seconded. Carried unanimously.*

4. Approval of the May 18, 2022 Meeting Minutes

Mr. Rivera *moved to approve the May 18, 2022 minutes.* ***Ms. Lantz*** *seconded. Carried unanimously.*

5. Public Comments for Items not on the Agenda

None.

6. Agency Updates

A. FDOT

Ms. Peters provided the following updates:

Alison Stettner is traveling throughout the State and doing grant workshops for the discretionary grants that MPOs, counties, and even FDOT, can apply for. FDOT wants to partner, when possible, and wants to know when a MPO or municipality applies for some grants because FDOT can sometimes help. FDOT does not want to compete with MPOs and municipalities for grants and wants to know when they have been applied for. FDOT can offer a letter of concurrence (letters of support are no longer done because "support" connotates funding). FDOT needs a three-week running time for the grant process. There are upcoming workshops in Bartow on October 14 and in North Fort Myers (at the library) on October 13, from 10 a.m. to 1 p.m.

FDOT has Mobility Week the last week of October; there are already two preliminary events for Collier County and Ms. Peters will send information on them. Ms. Peters discussed her experience in helmet fittings and that she is a certified helmet fitter. Anything that FDOT, municipalities or agencies can do to get out into the communities to provide safety items and explain how they are used is beneficial.

FDOT is working on the new work program. Ms. Peters complimented Collier and Lee MPOs for their priority projects matching their applications and for their responsiveness. Ms. Peters has been doing a lot of programming for Lee and Collier; some funds will need to come from SU. SU funding is controlled by population and not by land mass. Money that is coming in now will not be able to be used for about another year; the legislature is out of session and it requires their approval. The cycle closes in approximately two weeks. FDOT will still be working to finalize projects in October and Ms. Peters will still be programming and may reach out with

questions. A majority of FDOT's priority lists will be locked down in a few weeks. The new draft tentative will likely be out in the middle of December.

B. MPO

Ms. Otero informed everyone that she accepted another position in the County working in transportation grants and this would be her last CMC meeting.

C. Other

(i) City of Naples

Ms. Bickett indicated she is doing another roundabout presentation in December regarding Harbour Drive/Crayton Road. The City has the grants for these. South Golf Drive improvements are currently underway, but the City is also working on obtaining an easement from the Naples Beach Hotel for a wider pathway.

Mr. Khawaja inquired about the network and **Mr. Rivera** responded that the City has a meeting with FDOT next Friday to go over connection points for the City and the County.

(ii) Collier County Public Transportation & Neighborhood Enhancement (PTNE)

Mr. DeLeon indicated that PTNE just finished up hosting the Florida Public Transit Association Annual Conference at Naples Grande Beach Resort. All of the transit agencies were able to participate. CAT is participating in an AVL project; the computer aided dispatch and vehicle tracking systems are going through a replacement. CAT is piloting approximately five buses with the new technology; part of the technology is traffic scale prioritization. CAT is working with the traffic operations teams and has identified Tamiami Trail East as part of the pilot. The equipment is being installed on the five buses now. The current schedule is for equipment installation in October, then parameters and equipment testing, and full completion of the project is currently scheduled for the end of this year. Realigning some routes is being evaluated for November and some of the final stages in planning are taking place.

(iii) Collier County Transportation Planning

Ms. Lantz indicated the kickoff of the Golden Gate Parkway bridge over Santa Barbara Canal is going forward and thinks construction starts on October 3. There is a public meeting next Monday at the Golden Gate Community Center from 5 to 6:30 p.m. The project will likely impact traffic on Golden Gate Parkway for approximately one year.

(iv) Collier County Traffic Management Center (TMC) Operations

Mr. Beauvoir indicated TMC Operations is working on a network upgrade, which involves the City of Naples and FDOT. The upgrade should go live on Saturday, October 8, and deploys new network switches and an increased bandwidth to 10 GB throughout the County. It will help with connected vehicle technology and more Intelligent Transportation Systems. **Mr. Khawaja** pointed out that the MPO helped fund the project. **Mr. Beauvoir** continued that the new phase is working with the City of Naples and FDOT to ensure that data and video can be shared. **Mr. Khawaja** commented that TMC is hopeful FDOT will be able to see the signals and signal databases. **Ms. Peters** shared that at a Charlotte County MPO meeting a few months ago, there was discussion about how Mark Mathes (FDOT) is working on connecting with all the municipalities and he and FDOT are slowly gaining connectivity to expanded areas. **Ms. Peters** inquired who TMC is working with and **Mr. Beauvoir** responded that they are working with the District 1 team: Carlos Gomez and his team, and is meeting with them next week. TMC will be able to see the portions of the I-75 corridor down to Miami-Dade. **Mr. Khawaja** commented that TMC would like to see full resolution videos and the new system should better enable it.

Mr. Beauvoir stated that TMC is working on a BlueTOAD project; a travel-time data collection project. Approximately 49 BlueTOAD units and cabinets will be installed. It will allow TMC to collect data from vehicles passing through intersections as well as broadcasting information and timing data. It will be more interactive and what is happening at an intersection can be better determined. For example, if an ambulance was about to go through the intersection, there would be a preemption, and it would be known. **Mr. Khawaja** commented that the unit is typically vehicle to infrastructure, but will also be infrastructure to vehicle. More technologically advanced vehicles would be able to display how long a red light is going to remain red.

Mr. Rivera expressed that the media may misinterpret the project, as he has seen happen before, and claim that there is some effort to obtain personal information. **Mr. Khawaja** stated that privacy issues are very important and indicated a need for clear communication. Mr. Khawaja stated that the information received is vehicle MAC addresses, so when a specific vehicle traverses an intersection, that can be known. A MAC address exists for Bluetooth or Wi-Fi enabled devices. Personal information is not tracked. The only thing that is tracked is when a vehicle passes through. For example, if a vehicle passes through Immokalee Road and then passes through Vanderbilt Beach Road, the amount of time it has taken the vehicle to get between the two can be determined. Over time, the data would provide congestion information, such as the speed on the roadways. The system was recently tested, and on-board units are going to be tested. **Mr. Rivera** asked if system parameters are set as it relates to identifying vehicle speeds. **Mr. Beauvoir** responded they are not; the on-board unit is going to be in the traffic signal cabinet itself and will interface with the traffic signal itself. Mr. Beauvoir clarified that parameters for the reporting of a given speed can be customized. Apps would be available so that users can see what is going on where the units are installed. It may help users in travelling and deciding routes. **Mr. Khawaja** added that the app would tell users what the signal is doing and can be used like Waze or Google maps. It is a new tool, the project is funded by FDOT, and the County is helping FDOT, as it is an FDOT project. **Mr. Beauvoir** stated the units are going to be on the U.S. 41 corridor from Old 41 all the way to Isles of Capri and there will also be 30 units in Broward County-all as one system.

Ms. Fendrick requested clarification on whether the owner, license plate, or personal information is obtained. **Mr. Khawaja** responded no; only the signal information is obtained. If the same MAC address/signal travels through two points, speed can be determined. The point is to calculate speed and origin. Some of the units will be placed on buses. **Mr. Rivera** asked how speed can be calculated with numerous phones on a bus. **Mr. Khawaja** responded that will be part of the test; the software must be very good and intelligent. **Mr. Khawaja** added that the system would only be activated if the buses are running late. Parameters regarding how to determine if a bus is late need to be set by transit. **Mr. DeLeon** indicated there would be various parameters set with timing. CAT is working with a company that is familiar with both the equipment and transit agencies to set parameters. CAT is doing some upgrades; infrared is currently being used but will be upgraded to GPS as part of the project. **Mr. Khawaja** added that when TMC started the preemption system, they wanted to use GPS but the funds were not available to switch. The fire departments were not willing to upgrade on their own. The infrared will stay but the buses will have GPS.

(v) Lee County MPO

Mr. Scott indicated that Lee County MPO is also doing work related to the Safe Streets and Roads for All (SS4A) Grant. Lee MPO is also working on reconnecting communities so they can figure the match out. **Mr. Khawaja** asked whether Lee County is trying to reconnect existing communities. **Mr. Scott** responded the issue is different; the City of Fort Myers received a HUD grant (it was one of only five in the country). A grocery store is being built and one of the items discussed is pedestrians do not feel comfortable crossing SR 82. HUD advised the City to contact Lee MPO; the MPO is approaching the issue as a planning study because the situation might not be exactly what the discussion has been about and what the City wants. Public involvement would also need to be done. Work is being done to get the grant, but there are issues coming up with the match.

7. Committee Action

A. Endorse 2022 Congestion Management Process Corridor Fact Sheets

Ms. Otero stated that this is the third time the Congestion Management Process (CMP) Corridor Fact Sheets have been presented to CMC. An example was provided in March, strategies were provided in May, and the final fact sheets are being provided now for endorsement. A preliminary review was provided to Transportation Planning and TMC Operations, particularly regarding strategies, and the comments are included in the agenda packet.

Mr. Debnam introduced himself and discussed the current draft fact sheets (included as Attachment 1 to 7A in the agenda packet). Benesch has been helping Collier MPO with the Congestion Management Process (CMP). The CMP Fact Sheets have been prepared for the top ten congested corridors in Collier County. The process was started earlier in the year. How the corridors were consolidated was changed. Numbers were analyzed and a sample fact sheet was prepared, which was presented to CMC in May. The feedback provided to Benesch at the May CMC meeting was incorporated and the ten fact sheets for the ten corridors were prepared. Slight

changes have been made over the past few months; the core products are the same. One change made, based on feedback, was that the fact sheets referred to other fact sheets. References to other fact sheets were removed. Slight changes as to what data is being included were made but the core information about performance of the roadway remains the same. TMC Operations provided pictures for the fact sheets. With respect to the "Quick Facts" in the upper left corner of the fact sheets, the number of trips are that which Replica software generates; they are unique trips and do not necessarily correlate to traffic volumes or other metrics we are used to seeing. A person can make four individual trips as they are counted but actually be making one trip. For example, if a person stopped at Starbucks on their way to work, as reported by Replica, the first trip would be home to Starbucks (shopping trip) and the second trip would be Starbucks to work. If a person did not stop anywhere on the way home from work, it would be counted as one trip. Therefore, the numbers may seem somewhat inflated, but it is in how it is categorized and counted. Replica reports based on a blended methodology: cell phone data and a combination of different data types are input into the equation used to estimate and then the information is calibrated. **Mr. Khawaja** commented he is surprised that the number of work trips are not higher and noted that the O&D report discusses the amount of people who work remotely now. **Mr. Scott** commented that many people confuse work trips with commuting patterns; the two sometimes line up but are not always the same thing and need to be put into context. **Mr. Debnam** informed everyone that the data in the fact sheets was collected in March or May of 2021, and the data for trips shows the average weekday (Thursday). The trips are trips that connected with the corridors; they either began, ended, or passed through the corridors. **Ms. Bickett** commented that many people were working remotely during 2021. **Mr. Scott** commented that 280,000 trips are reported on Immokalee Road and **Mr. Debnam** confirmed that a reported trip does not mean the entire corridor was traversed. Even going through the intersection can be counted as a trip on the corridor.

Mr. Debnam continued that on portions of the fact sheets, Benesch incorporated language based on its feedback from Transportation Planning and TMC Operations. Note that the map of corridor improvements only shows what has been programmed and dedicated for funding and does not represent every potential project on the corridor. For example, there could be a PD&E study along a corridor not shown on the map. The point of the map is to show improvements that are guaranteed for funding. Another change was the inclusion of softer language to include suggestions rather than directives. The suggestions in the "What Can I Do to Help Reduce Congestion" section are general and not tailored to the specific corridor.

Regarding the strategies, Ms. Lantz's feedback has, in most part, already been incorporated into the draft fact sheets, but Benesch has not yet had a chance to incorporate Mr. Khawaja's comments. Those changes are forthcoming and will be in the final versions. **Ms. Lantz** commented that the fact sheets should contain dates and **Mr. Debnam** responded that dates can be incorporated. **Mr. DeLeon** asked for confirmation of what CMC was approving at the meeting. Mr. DeLeon commented that some of the fact sheets mention an express bus to reduce congestion. CAT has tested a similar solution on U.S. 41 to save time and it did not save time; the bus was still stuck in the same congestion that the other route was. If an express bus was put in place to speed things up, it would need to be in a dedicated lane, which is not mentioned in the fact sheets. **Mr. Debnam** responded the language is a balancing act between being specific and not being too specific, and suggested revising the language related to the express bus to make it more realistic to expectations.

Ms. Otero stated, regarding Mr. Khawaja's comments on the draft fact sheets, she thought Ms. McLaughlin was supportive of the fact sheets being revised to incorporate most of them. **Mr. Khawaja** confirmed that Ms. McLaughlin agreed with most of his changes and a few of his comments were simply corrections of things that TMC did not think there were problems with (such as Cougar/Airport and the bus depot to the north blocking traffic on Airport). Mr. Khawaja does not think extending the lanes is necessary at this time. **Mr. Debnam** responded that he sees no reason why Mr. Khawaja's suggested language, revisions and additions should not be incorporated. Mr. Debnam further stated the data does not include turning movements, and therefore, suggestions in the fact sheets for adding a turning lane would be based on activity in an area where there is an intersection. The recommendation would be that further analysis would be needed to see if it is justified from a cost and volume perspective. **Mr. Khawaja** agreed and provided the example of extending the left turn lane on Golden Gate Parkway to go south on Livingston. The left turn lane backs up all the way to I-75. To address it, TMC double services the movement in the morning. A triple left turn lane would be a great idea, but reconstruction of the roadway would be needed. A bridge would be a major intersection improvement for the segment, but would be a long-range plan.

Ms. Otero indicated the comments on the draft fact sheets were good, and emphasized it is important to note that the fact sheets and strategies are not just fact sheets and strategies; they all tie back to the Congestion Management Process, which is going to lead into the projects that the MPO will try to get member agencies to submit for funding. Therefore, it is important the strategies be accurate. In the future, Ms. McLaughlin will submit one of the corridor projects and she is going to look to see whether the strategies in place are the strategies that have been identified.

__Mr. Rivera__ moved to endorse the 2022 Congestion Management Process Corridor Fact Sheets with the recommended changes. __Ms. Homiak__ seconded. Carried unanimously.

B. Review Congestion Management Process Origin and Destination Report

Ms. Otero stated that Wally Blain would be presenting virtually and indicated this is the first opportunity CMC is going to have to review the draft Congestion Management Process Origin and Destination (O&D) Report. There will be another opportunity for CMC to review the Report in November; the Report is included as an action item because Ms. Otero would like CMC to review it and provide comments. Given how much data is in the Report, the work order was recently extended to allow the project to go through December.

Mr. Blain stated that he plans to be at the November CMC meeting in-person. At the last CMC meeting, there was a review of the methodology and that was incorporated in the work. **Mr. Blain** provided a presentation regarding an update on the O&D study and the draft O&D Report with a specific focus on methodology review, county level summary, subarea reporting, key takeaways/next steps and the schedule:

On methodology review, planning communities for Collier and Lee Counties were used for subarea setup. There was a discussion at the last meeting regarding whether the subarea setups match the areas in the land use plan/growth management plan. Benesch did carve out some of the

specific areas for areas like Orange Tree. Orange Tree was removed from the rural estates area. Ave Maria was added as its own individual area for analysis. Everglades City was expanded to include Chokoloskee and Plantation Island. Ultimately, the draft Report identifies 17 planning subareas in Collier County, 22 planning subareas in Lee County (no change), and 4 regional/neighboring counties. **Mr. Khawaja** asked why Heritage Bay was removed. **Mr. Blain** responded that Heritage Bay was part of the Corkscrew area because of the residential developments in that area and the commercial mixed use shopping center in the area did not fit the character of the rest of the area; it was distinct and different. **Mr. Khawaja** asked if the developments on east U.S. 41 are all within an area or if they part of the green area. **Mr. Blain** responded that South Naples, as defined in the planning community, stops at CR 951 and is only on the west side of CR 951. The magenta/purple area was expanded east of U.S. 41 to include Verona Walk and then south of CR 951 to capture some of the residential areas as well. **Mr. Khawaja** asked whether the bigger subdivisions are included, and **Mr. Blain** responded that they are and areas south of U.S. 41 are included. **Mr. Khawaja** commented that the subareas should be better defined and suggested including the names of the roads. **Mr. Blain** responded he received comments that the subarea maps were too small; Benesch plans to include larger maps with more detail. Mr. Blain noted that the maps for neighboring counties, especially Hendry County, will show up as a high origin or destination that is matched with one of the subareas and it is not to indicate that trips are happening specifically in that area; those trips are happening anywhere within the county and the surrounding counties were not divided into subareas. Like with the fact sheets, the Replica data tool was utilized, so the information is based on the Spring, 2021, season for daily volumes.

Mr. Blain continued that on the County level summary, there was an analysis of what traffic looks like internal to Collier County and whether trips are going into or starting in the County. Daily, in-season, there are approximately 1.3 million trips that originated in Collier County; 90% of those trips stay in the County; 10% leave the County; and an additional 9% started outside of the County. One key thing to note, 90,000 daily trips start in Collier County and end in Lee County. **Mr. Khawaja** asked Mr. Blain if he knew the numbers for trips that start in Lee County and end in Collier County. **Mr. Blain** responded that the Appendix to the Report has that detail and he has not specifically summarized that information.

Another item evaluated was trips that pass through Collier County, but do not end or start in Collier County. Approximately 38,000 daily trips pass through Collier County. I-75 is carrying the bulk of the traffic. Interestingly, some of the traffic that comes from Miami on Tamiami Trail East either chooses to go up SR 29 or all the way over to CR 951 before taking the Interstate. Another interesting pattern was the traffic coming from southeast Lee County takes SR 82, takes a left on SR 29, and heads north into Hendry County. There is some localized pass-through traffic through that corner of the county. **Ms. Peters** asked whether the 38,000 trips encompass all of the origins and destinations under it (some are on I-75, some on SR 82 or SR 29 and other areas). **Mr. Blain** responded that the only caveat is it is not limited to trips that originated or started as part of the study area. Mr. Blain doubted that there are many trips that would quantify that way; if there was a trip that started in Desoto County, came down, went back around, and ended in Sarasota County, but it passes through a portion of the study area, it is included in the number. It is not a study about limited destination, it is about traffic on the roadways. **Mr. Khawaja** asked Mr. Blain where he got the numbers/data from and **Mr. Blain** responded the source data comes from

commercial fleet vehicles, GPS systems, navigation systems, or other programs that identify a cellular phone position. There is a formulation that tracks stops, origins and destinations. If there was not an origin/destination in Collier County, but a trip occurred on its roads, it is considered a pass-through trip. It is a categorization of the trips in terms of where they are starting or stopping, and the idea is to know what trips did not start or stop in Collier County. **Mr. Scott** commented with respect to the approximate 15% shown as pass-through on I-75, a previous O&D study, in which cameras were set up on Oil Well Road in Charlotte County and Everglades back in 2000, had findings that matched the current study; it was 15% - the same findings 22 years later. This shows the problem; there are too many local trips on the Interstate. **Mr. Blain** responded he was not aware of that previous study. Notably, there was a consistency in the numbers of trips that are entering from Lee County on I-75 and exiting I-75 into Broward County. Some of the traffic from U.S. 41 gets on the Interstate eventually, before it heads out of Lee County. The percentage of pass-through traffic on I-75 eastbound headed towards Broward County is high but is a significantly lower volume than headed north on I-75 towards Lee County. **Mr. Scott** commented sometimes drivers stop in the middle of a pass-through trip for some length of time. **Mr. Blain** explained that the data in the current study, the way it is categorized or simulated, does not count that. Those trips would be trips with two different destinations. **Mr. Khawaja** commented that those trips are still pass-through trips (although not categorized as such).

Mr. Blain presented a "spider plot" map of data regarding home to work travel for people that live in Collier County. The subareas in both Lee and Collier respectively were consolidated into broader areas within the counties for purposes of illustration and so broader patterns could be evaluated. The pattern of people who work in Lee County is shown. On the illustration, the thickness of the line shows increased travel between locations. 50% of the people who live in Collier County and work in Collier County work west of I-75 in North Naples, the City of Naples, Central Naples or East Naples. Approximately 10% of the work force that live in Collier County work in Lee County. Another piece of new information is the percentage of people who are working from home. Recent information regarding the trends nationwide have come out. The Replica software has the ability to provide trend information in the areas and show us what it looks like over time. Mr. Blain presented a graph showing the percentage of people working from home. The line representing 2019 is static (it was only gathered in response to a survey and is only one number for the year) and in mid-March of 2020 it spikes up (COVID related). It has come down since the peak and stabilized somewhat in 2021. The information was a few weeks old as of the meeting date. The number has stabilized in the 25,000 to 30,000 range (on any given weekday in Collier County). 16% of workers/7% of the population are working from home. At the peak in March to May of 2021, the range was 30,000 to 35,000. The numbers in the draft Report are closer to the 9% of population than the 7% of population. **Mr. Khawaja** commented that the graph looks fragmented; 2021 should begin where 2020 ended. **Mr. Blain** responded the data comes out weekly and the weeks do not always end where the calendar months end. **Ms. Bickett** asked how the data was collected and **Mr. Blain** responded the majority comes from cell phone data (including tracking applications on the phone, such as Google). By example, tracking information can determine where your phone is during the evening and where it is during the day. If your phone is somewhere from 8 a.m. to 5 p.m. on a workday, the location is categorized as work. **Ms. Bickett** asked how a retiree is distinguished from a worker. **Mr. Blain** responded one factor he is aware of is the percentage of the work force that does not work on the average day (in this case, an average Thursday). This includes anyone in the service industry or first responders that get a

few days off in a row. Retirees are factored for as well because Replica is matching up location data with census based data, they are also able to identify, in a census block group, retirees and age based information. **Mr. Khawaja** commented the data is normalized over time; when he gets in the car in the afternoon, it shows he is going home, and when he gets in in the morning, it shows he is going to work. But if he leaves at 10 a.m., it does not show that he is going to work; it knows that the trend has changed. It takes timing and distance into consideration. It is not 100% accurate and is only estimates. **Mr. Scott** commented that in the big picture, it is more accurate than being physically present on the roadside and polling travelers and **Mr. Khawaja** agreed, stating it is cleaner and more accurate. **Mr. Blain** provided another example about the data when there is a change in location: his daughter is a sophomore in college. When she came home for the summer, her phone would tell her how long it would take to get back to home (her college dorm). A few weeks after that, her phone realized that her home was a different location and starting showing her how long it would take to get to her parents' home from wherever she was at.

With respect to subareas, **Mr. Blain** provided an example of the Central Naples Trip Destination Distribution Map. Every location that is a destination is listed for trips that started in the Central Naples subarea. Central Naples as the destination is not included, but destinations for trips that started in the Central Naples area are. There is a full matrix table in the Appendix that covers the combination of origins and destinations in the subareas. Three sets of charts are included for each subarea. One set shows trips that originated in the subarea, one shows where the subarea was a destination, and one shows the subarea as the home location for work trips. Most of the trips are showing up with either a home purpose and in some cases, a shopping purpose - the purpose is the destination; not why a trip is taken and not necessarily where the trip is originating from. Shopping as a purpose frequently shows up. If on the way to work, someone stops to get coffee, breakfast or drop off dry cleaning, or stops at the grocery store on the way home, it is categorized as a shopping trip, and if someone stops both on the way to work and on the way home from work, it is two shopping trips in one day. The reporting also focuses on trip durations, destinations and distances, as well as the time of day. When looking at the averages for trip duration, some of the long distance trips can overwhelm the shorter distance ones.

Mr. Blain discussed key takeaways/next steps. Replica does the same level of estimating for transit trips, but it is not included in the reporting because of a technical issue and Replica did not have the modeling. Benesch has communicated with Replica and the information should be forthcoming on the next release of data and it is expected to be included in the reporting. There is a high concentration of work trips for areas west of I-75. One suggestion alluded to is the potential for a further evaluation from the work trip side rather than the home side. Are there ways we can talk about, from a congestion management standpoint, policies about work trips and their impact on congestion? One item that was not evaluated was workers coming in from Lee County to work in Collier County, so that may need to be evaluated. There are several areas that have a high internal capture of O&D pairs; many of those are in the more developed areas, such as South Naples. There is a good mix of land use and opportunities to satisfy travel needs, therefore, maybe there is an opportunity to look more closely at some of those subareas. One of the other ways some other communities have started using the Replica data, is to look at the Environmental Justice Areas the same way that subareas of the County were evaluated. The MPO can work on this with their 2050 Long-Range Transportation Plan to identify potential opportunities to look at trip

making patterns, and is there a disadvantage to those communities for being able to satisfy travel needs compared with the rest of the County.

Mr. Blain discussed the schedule. Status presentations for TAC and CAC will take place on Monday, September 26, and they will likely be reviewing the draft Report. Mr. Blain would like to get comments back by October 7 to give him enough time to review them and make adjustments as necessary before it is presented again to CMC at the November 16 meeting to take action, and for TAC and CAC to take action on at their November 28 meeting, before the final MPO Board presentation on December 9.

Mr. Blain asked if there were any questions. **Mr. Scott** asked, with respect to the 10,601 county to county trips, for Lee County to go to Lee County; is that because a portion of Bonita Springs is considered going outside of the county and coming back in? In other words, are there a significant number of trips that are going from Lee County to Collier County and back into Lee County? **Mr. Blain** responded that he would check, and thinks the majority of those are somehow on the SR 82/SR 29 connection. **Mr. Scott** pointed out that there is a comment in the draft stating "29 going into Lee County" but that SR 29 does not go into Lee County, it goes into Hendry County. **Mr. Blain** acknowledged that was probably an error in the text. **Mr. Scott** asked for clarification on commercial freight; are certain transponders or telematics known on freight vehicles or is there some other tracking method? **Mr. Blain** responded he thinks it is both. There are some commercial freight providers that data can be collected from because they have been partnered with and some have in-dash systems. **Mr. Blain** offered to follow up to see how much transparency there is with respect to data sources and what Replica will provide. Mr. Blain thinks that different trip characteristics are also evaluated. **Ms. Peters** and **Mr. Scott** discussed that portions of Bonita Springs are in both Lee County and Collier County and there are many agreements out there regarding who is responsible for what, and perhaps it has impacted the reported data. **Mr. Blain** stated that the data related to the subareas should be isolated; he will investigate it. It is not necessarily taking the urbanized area of Bonita into consideration. **Mr. Khawaja** asked what software was used and **Mr. Blain** responded that Replica was used. Replica takes data and combines it with socioeconomic data and spending information. The data is kept anonymous.

Mr. Khawaja confirmed that comments on the draft Report should be provided by October 7. **Ms. Otero** requested that any comments be provided to Ms. McLaughlin and she could forward them on to Mr. Blain.

Ms. Bickett asked what kind of trips constitute errands. **Mr. Blain** responded that he can follow up but does know it includes medical trips and doctor appointments

8. Reports and Presentations (May Require Committee Action)

None.

9. Member Comments

None.

10. Distribution Items (No presentation)

None.

11. Next Meeting Date

November 16, 2022 – 2:00 p.m.

12. Adjournment

There being no further comments or business to discuss, **Mr. Khawaja** adjourned the meeting at 3:44 p.m.

EXECUTIVE SUMMARY
COMMITTEE ACTION
ITEM 7A

Endorse Final Draft Congestion Management Process (CMP) Origin and Destination Report

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OBJECTIVE: For the committee to endorse the final draft of the Origin and Destination (O&D) Report.

CONSIDERATIONS: The O&D Report is the final deliverable under the CMP 2022 Update. The committee reviewed and approved the methodology for the analysis at the May meeting and provided comments on the draft O&D Report at the September meeting. The revisions made in response to committee members' comments are shown in track changes in **Attachment 1**. A clean version of the final draft O&D Report is shown in **Attachment 2.** Responses to comments submitted by Collier County Transportation Planning Division are provided in **Attachment 3.** The project consultant, Benesch, will give the presentation shown in **Attachment 4.**

The final O&D Report will be placed on the MPO Board's December 9, 2022, agenda for approval.

STAFF RECOMMENDATION: That the committee endorse the final O&D Report.

Prepared By: Anne McLaughlin, MPO Director

ATTACHMENT(S):

1. Final O&D Report – revised pages in track changes
2. Final O&D Report – clean copy
3. Collier County Transportation Planning Comments-Responses
4. Presentation on O&D Report

7A Attachment 1
CMC 11/16/22

COLLIER Metropolitan Planning Organization

Congestion Management Process

Origin and Destination Report

October 27, 2022

FINAL DRAFT

Prepared by

Tindale Oliver is now benesch

1.0 Introduction

1.1 Purpose

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The Replica Places module allows for analysis of trip making patterns and characteristics as Census, municipal, and county level geographies. The basis for this analysis is the average weekday travel observed during the Spring (March -May) 2021. Additionally, the ability to define geographic boundaries for reporting and analysis within Replica allows for more specific results. For this O-D Study, identification of subareas within Collier County and Lee County. In addition to further sub-dividing Collier and Lee counties, Figure 1 shows the surrounding counties that have been used for conducting this study. The subareas within Collier County for this analysis are based on a review of the Collier County Planning Communities and specific areas defined on the Growth Management Plan. One final revision was made to these 17 subareas by combining the City of Marco Island with the surrounding communities of Goodland, Isles of Capri, and Hammock Bay.

In total 17 subareas were identified for Collier County following this approach. Other areas included in the analysis outside of Collier County include the 22 planning communities identified in Lee County as well as Broward County, Charlotte County, Miami-Dade County, and Glades County.

Undertaking this approach for summarizing travel data allows for results that provide insights into broad overview patterns as well as more granular and specific interactions between subareas. These results will allow the Collier MPO to better coordinate with its regional partners for developing transportation related strategies for addressing regional congestion and mobility. Information regarding travel patterns – time of day, trip lengths, and trip purpose – will be beneficial to the MPO's upcoming LRTP 2050 LRTP and development of the travel demand model.

~~This~~The remainder of this report is divided into two major sections for reporting trip characteristics and results of the O-D Study as described below.

- **Collier County Results:** This section provides a generalized overview of the trips occurring in Collier County on an average weekday. Summary information regarding location of origin and destination of trips identifies the larger regional context of trips interacting with Collier County.
- **Collier County Subarea Results:** for each of the 17 subareas in Collier County, a detailed review of trips beginning and ending within each location includes a review of trip length, trip purpose, trip distance, and start time is summarized. Analysis summarizing the residents within each subarea and their work location provides additional detail for assessing commuting travel patterns.

1.2 Executive Summary

The Collier MPO examined the trip making patterns within Collier County and the connectivity of these trips to the larger Southwest and South Florida regions. Using trip origins and destinations associated with subareas of Collier County based on the Future Land Use Map, several key insights were identified for these areas based on their location, development patterns, and mix of uses.

In addition to reviewing trip patterns within Collier County, regional trips were entering, exiting, and passing through the County were also evaluated. This regional review also extended to the subarea analysis conducted within Collier County to identify areas of high trip interaction outside of Collier County. Below are some of the key takeaways that were identified from this analysis.

More than 90,000 trips a day start in Collier County and end in Lee County.
38,000 daily trips pass through Collier County, primarily on I-75.
Nearly 9% workers living in Collier County have jobs in Lee County and an additional 2% work within the larger Southwest and South Florida region.
Of the workers that work in Collier County nearly 1-in-3 works in the same subarea where they live or 28% of the total workers living in Collier County.

1.2.1 Trip Characteristics

Many of the County's subareas are well established from a land use perspective and contain a developed transportation grid. In those areas primarily west of CR 951, the trip lengths and time traveled are lower, and number of trips internally captured within a subarea are greater. Trip Characteristics for some of the key subareas of the county are included in Table 1 below.

Table 1: Summary of Key Subarea Trip Characteristics

Subarea	Average Trip Length (Miles)	Average Trip Duration (Minutes)	Daily Trips Originating	Percent of Trips Remaining Internal	Percent of Population Working from Home
Ave Maria	22	29	11,100	45%	10.5%
Central Naples	17	14	80,000	24%	10.0%
City of Marco Island	23	26	66,000	66%	11.0%
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Golden Gate	10	15	106,000	43%	6.9%
Immokalee	13	19	60,000	72%	5.4%
North Naples	15	18	235,000	48%	9.8%
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Urban Estates	14	18	136,000	41%	10.4%
County-Wide	17	20	1,100,000	44%	9.1%

About half of these subareas have a higher internal capture than the county-wide average. The two sub-areas with the highest rates of internally captured trips (City of Marco Island and Immokalee) demonstrate a balanced mix of land-uses, are more isolated from other areas of development, and are more mature in the development cycle. The Ave Maria subarea also demonstrates a high level of internally captured trips as well as a high percentage of people working from home. However, as a rural village that is still developing, the average trip lengths and trip durations are the longest of those listed in the table. These higher trip measures illustrate the continued reliance of this subarea on the greater region for certain purposes, such as work trips, while the area is not completely built out.

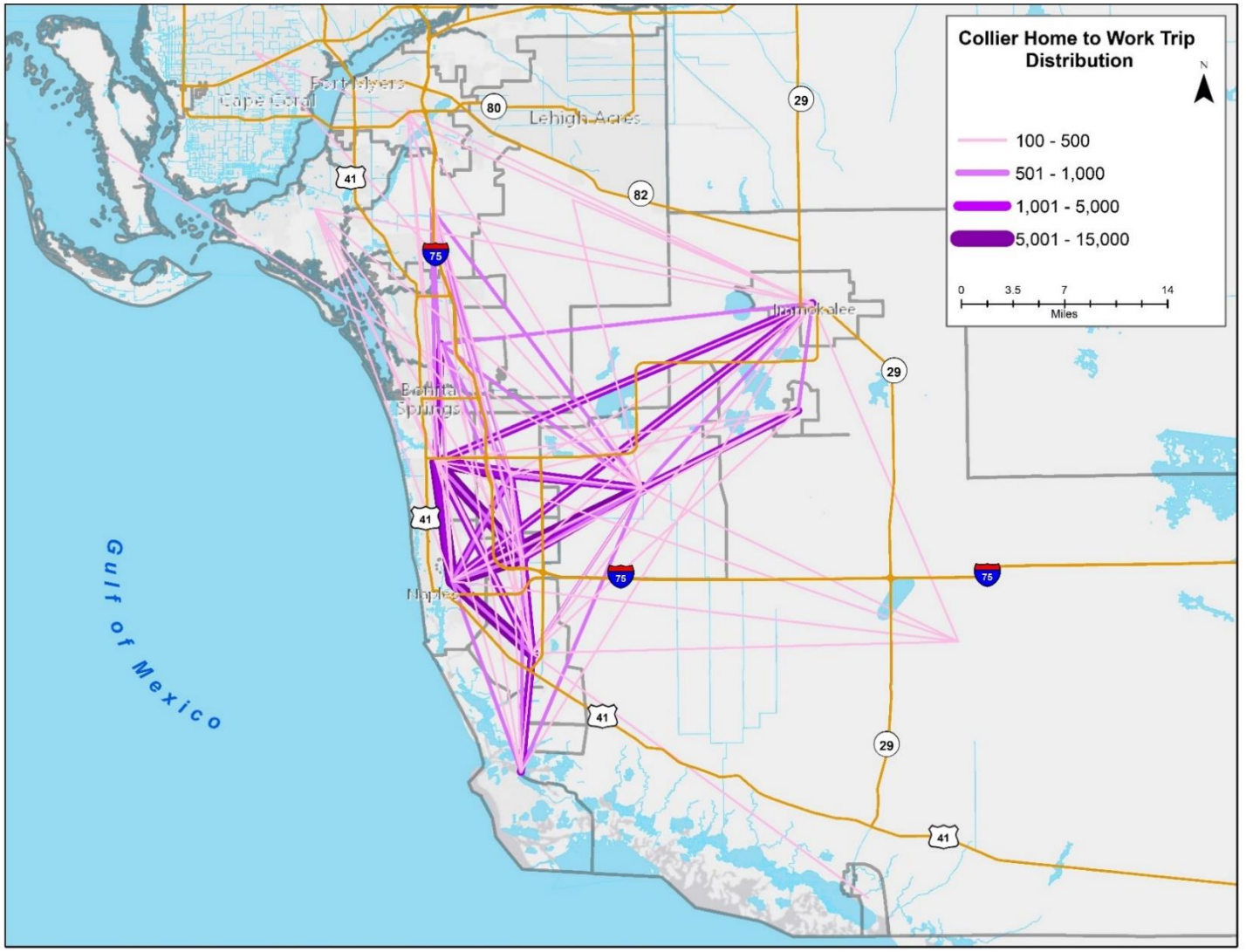
Areas such as South Naples, North Naples or Golden Gate have diverse land use patterns and an integrated road network connectivity which provide for additional destinations or opportunities to satisfy trip making without traveling great distances.

1.2.2 Journey to Work

Highest levels of traffic congestion have long been associated with the daily commute of workers during the AM and PM "Rush Hour." As a key indicator of daily travel patterns, an association of highly correlated home and work locations was completed between the Collier County subareas and the remainder of the study area. Shown in Figure 2, are the highest paired areas of resident location and work locations. Appendix B contains a full reporting of home to work origins and destinations including this pairs where the origin and destination are the same subarea.

Looking at these pairings, 50% of working residents have a work location in the sub areas of Central Naples, City of Naples, East and North Naples; all of which are West of I-75. Additionally, 9% of working residents have a work location located in Lee County.

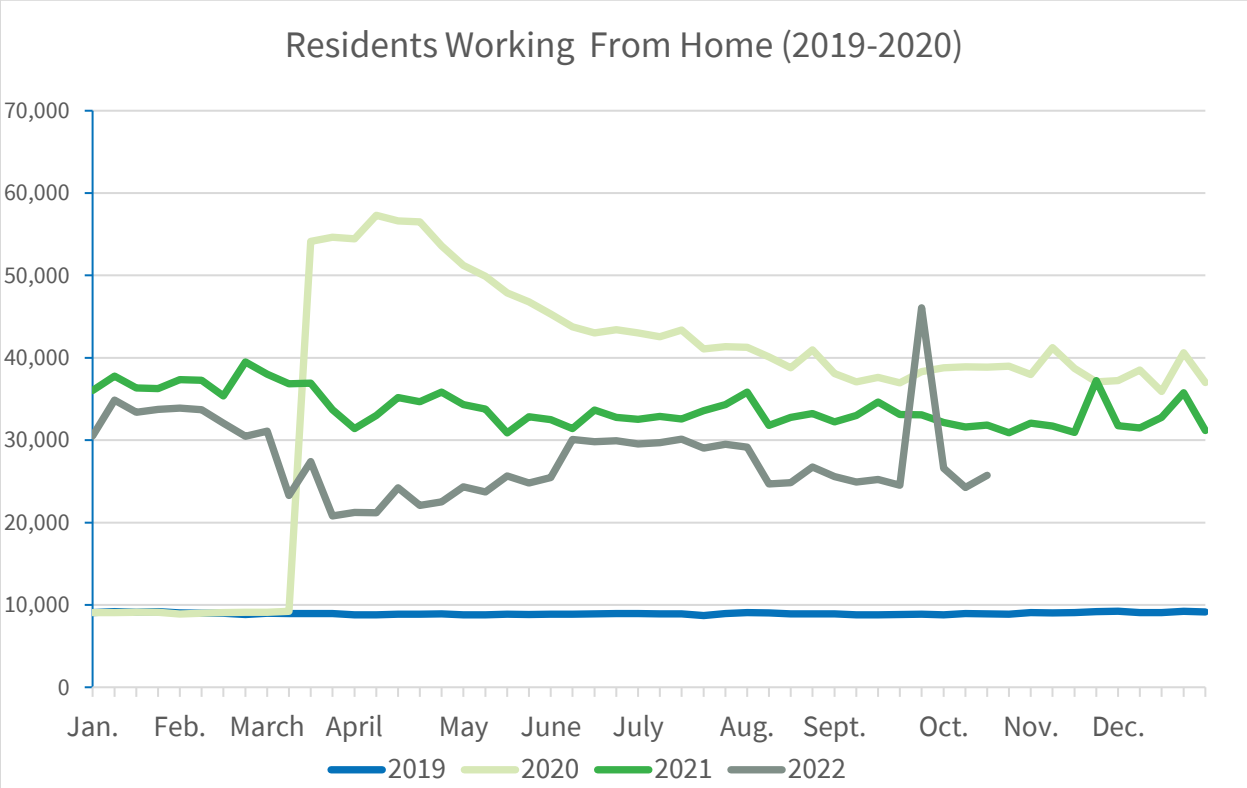
Figure 2: Home to Work Patterns



According to the US Census Bureau, the number of people primarily working from home between 2019 and 2021 has tripled.[1] This pattern has held true for Collier County as well. Figure 3 illustrates the recent trends in the number of people working from home from January 2019 through the week of October 17, 2022. Prior to the onset of the COVID-19 pandemic, less than 9,000 people worked from home on a typical weekday as reported in the American Community Survey. During 2020, a sudden spike of residents working from home began to level off during 2021 and stabilize through 2022. In 2022, the number of people working from home has varied, and currently is around 25,000 people on a typical weekday. This is equal to about 16% of workers and 7% of the total population. A recent spike in late September is associated with the landfall of Hurricane Ian.

With slightly more than one-year worth of stable data, it's likely too soon to draw conclusions regarding seasonal fluctuations or expectations for impacts to future travel demand. However, the lowest observed work from home numbers during the spring of 2022 followed by an increase during the summer months should be monitored for continued understanding of this newer trend.

Figure 3: Work from Home Trends



Collier County residents work from home, typical weekday 2019 to 2022 (Replica Trends)

[1] https://www.census.gov/newsroom/press-releases/2022/people-working-from-home.html?utm_campaign=20220915mspios1ccpuprs&utm_medium=email&utm_source=govdelivery

1.2.3 Next Steps

In addition to exploring the results of this analysis, several observations can be made towards identifying future next steps. These next steps include a deeper exploration of certain observations and patterns that were observed as well as expanding the scope of this analysis to investigate additional travel characteristics. A few of these observations and possible next steps are summarized below.

- During the Origin/Destination Study it was discovered that transit trips were not included as part of the Replica data set. Discussions were conducted with the data provider to review the applications data model. Future releases of travel data will have transit trip information included. Exploring key transit trip patterns will aid the MPO and Collier Area Transit in understanding and planning for the transportation needs of the public.
- Certain areas, such as North Naples were identified as a high employment location for many areas. Evaluating high employment areas as the destination and examining trips made during the day as compared with home-to-work commute trips can provide insights into the peak traveling periods and assist the MPO in developing future congestion management strategies on congested corridors.
- Evaluating high employment locations from the destination perspective will provide insight into the number of people working in Collier County and living in one of the regions other counties.
- A deeper review of areas with high internally capture origin and destination pairs can provide insights into the trip patterns and land use dependency as a complement to future land use and transportation planning. This level of review can also aid in better understanding shorter-distance trips and efforts to promote walking and biking as alternatives to driving.
- As part of the MPO's upcoming 2050 LRTP, incorporation of Environmental Justice areas into the analysis of trip patterns would identify areas where transportation options are limited and inform the selection of future project.

Table 2: Daily Trip Origins and Destinations by County

County	Trip Origin	Trip Destination
Collier (Internal)	1,024,000	1,024,000
Lee	87,000	96,000
Broward	3,000	4,800
Miami-Dade	5,000	4,900
Hendry	3,000	3,500
Charlotte	1,700	2,600
Other Counties	15,000	16,400
Total	**1,138,700**	**1,152,200**

2.2 Trips Passing Through Collier County

In addition to the more than 1 million daily trips occurring in Collier County daily, an additional 38,000 daily trips pass through the County. A breakdown of these pass-through trips by county origin is listed in Table 3. Of specific note is the high number of trips (10,600) passing through Collier County that have both an origin and a destination in Lee County. ~~Trips traveling on SR 82 and SR 29 which enter~~Exploring this observation in detail, revealed that 9,300 of these trips are the result of a small segment of Bonita Beach Road just west of Vanderbilt Drive being located within Collier County~~ on one and exit on the other are considered to have passed through Collier County while only for a short distance.~~.

Table 3: County to County Pass-Through Trips

Origin County	Lee	Miami-Dade	Broward	Charlotte	Hendry	Other Counties	Total
Lee	10,601	2,762	2,868	99	1,831	1,061	19,222
Miami-Dade	2,839	0	29	220	178	2,344	5,610
Broward	1,882	16	0	226	68	1,628	3,820
Charlotte	26	232	291	0	24	48	621
Hendry	1,563	134	104	20	200	90	2,111
Other Counties	725	2,597	2,085	56	88	925	6,476
Total	17,636	5,742	5,383	621	2,389	6089	37,860

Looking closer at the routes of these pass-through trips, Figure 5 illustrates the daily volume of pass-through traffic crossing the county line at key gateway locations and traveling through the network. I-75 acts as the primary thoroughfare for this regional movement of traffic through Collier County. Table 4 provides additional details on the regional roadways with information regarding total daily trips and pass-through trips entering and exiting Collier County at the key gateway locations.

Within the county, the percentage of trips on each roadway can vary depending on the roadway and time of day. This most clearly exhibited on I-75 where the total number of pass-thru trips remain relatively constant, and the percentage of pass-thru trips varies significantly. North of Golden Gate Parkway, this percentage is roughly 15% (18,000 of 120,000), is close to 30% between CR 951 and Golden Gate Parkway (18,000 of 66,000) and more than 50% (15,000 of 29,000) heading east on Alligator Alley toward Broward County. This change in trips also illustrates the heavier interstate use in the urbanized

US 41 (Miami-Dade County)	5,600	4,600	2,700	2,100	47.1%

3.0 Collier County Subareas

Evaluating and identifying trip patterns for the 17 subareas within Collier County includes a review of trip origins and destinations associated with each subarea as well as a review of work commuting patterns. Utilizing home and works locations captured through the mobile-source data available with Replica, a matrix association of residents' home subarea and work subarea was created. Reviewing trip purpose to isolate work trips originating from a residents' home subarea provided trip characteristics for home to work commuting on a typical weekday during the Spring 2021 Season. Changes in working and commuting habits have emerged because of the COVID-19 pandemic. New data provided by Replica was used to identify the percentage of workers working from home.

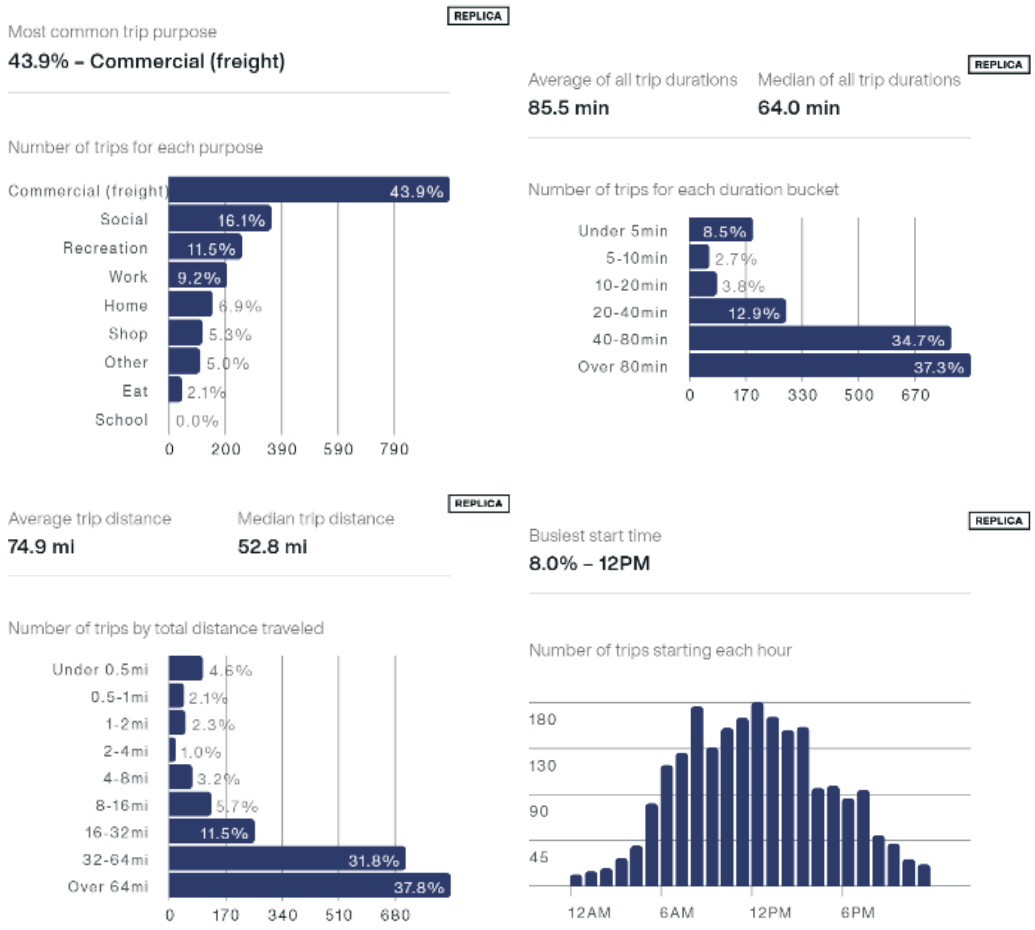
For comparison with statistics presented for each of the subareas, select countywide measures are shown in Table 5. Given the newest trends in working from home, additional clarification has been added to the footnotes of Table 5. Presented as a typical weekday pattern, work locations is based on the conditions observed on an average Thursday during the 2021 Spring Season. Not all workers work from home every day. This means that the Collier County residents working from home may have an in-office physical location not in Collier County.

Table 5: Select Countywide Trip Characteristics

Measure	Countywide Value
Average Trip Length	17.4 miles
Median Trip Length	4.7 miles
Average Trip Duration	20 minutes
Median Trip Duration	9 minutes
Countywide Residents	373,600
Employed Countywide ~~Workers~~Residents[1]	158,000
Residents Working in Collier ~~County~~County[2]	137,300
Residents Working in Lee ~~County~~County[2]	14,300
Residents Working from ~~Home~~Home[3]	34,000

Footnotes:
1- Number of residents living in Collier County that are employed, regardless of employment location.
2 – Number of Collier County residents with an "in-person" office location in the listed county. For Collier County, this includes residents working from home.
3 – Number of Collier County residents working from home regardless of "in-person" work location.
Source: Replica 2021 Spring Season, Typical Weekday (Thursday)

Figure 13: Selected Trip Characteristics for Big Cypress Destinations



3.2.3 Work Location

As a very sparsely populated area of Collier County, there are very few people in the labor force for evaluating the impacts of work trips originating from this subarea. Table 9 indicates that work trips made by residents of Big Cypress are predominantly to the South Naples subarea. A total of ~~13~~12 workers travel to South Naples from Big Cypress.

Shown in Figure 13 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that 16 of the 121 (13.2%) Big Cypress subarea residents worked from home during the Spring 2021 quarter.

3.3 Central Naples

The Central Naples subarea is adjacent to the City of Naples and extends north to Pine Ridge Road and as far east as I-75 as shown in the image to the right.

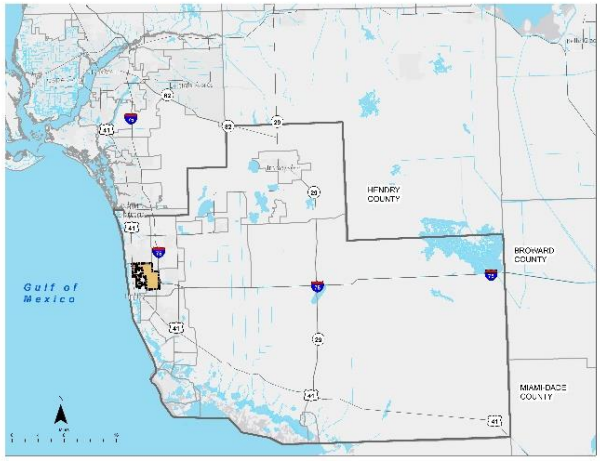


Table 10 identifies the number of trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the Central Naples subarea. The trip origins listed have a destination in the Central Naples subarea and vice-versa for the destinations listed. Of the 82,000 daily trips originating from this area, nearly 24% (19,331) stay within the subarea. Other areas highly associated with trips in this area include North Naples and the City of Naples where a diverse mix of land uses, and an integrated roadway network connectivity support this relationship

Table 10: Central Naples Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Central Naples (internal)	19,331	19,331	City of Marco Island	847	814
North Naples	13,657	13,643	San Carlos	756	754
City of Naples	12,924	13,102	Estero	635	648
Golden Gate	6,892	6,938	Fort Myers	470	635
Urban Estates	6,228	6,493	South Fort Myers	337	475
East Naples	5,781	5,763	Lehigh Acres	328	486
South Naples	4,197	3,742	Immokalee	327	364
Rural Estates	2,409	2,677	Heritage Bay	277	316
Bonita Springs	1,766	1,497	Miami-Dade County	268	242
Out of Region	915	1,035	Cape Coral	239	415

3.3.1 Trips Beginning in Subarea

Figure 16 provides a summary of the trip purpose, trip distance, trip duration and the busiest start time statistics for the area. Trips originating in Central Naples have a high home trip purpose at about 22,000 or 27% of the daily trips generated in the subarea. Shopping trip purposes is also relatively high at roughly 20,000 or 24% of total trips daily. The more predominant activities in Central Naples include residential dwelling, ~~golfing,~~ commercial services, and other public services including schools and health center. The average distance traveled is 14 miles, and the average duration is estimated at 17 minutes for trips originating in Central Naples. Trip distances for trips starting in Central Naples follow a normal distribution with the highest frequency of trips travel between four and eight miles. More than half of the trips originating from Central Naples have a travel time of less than 10 minutes. With the median trip length less than five miles and trip time less than 10 minutes, many of the trips originating

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Appendices

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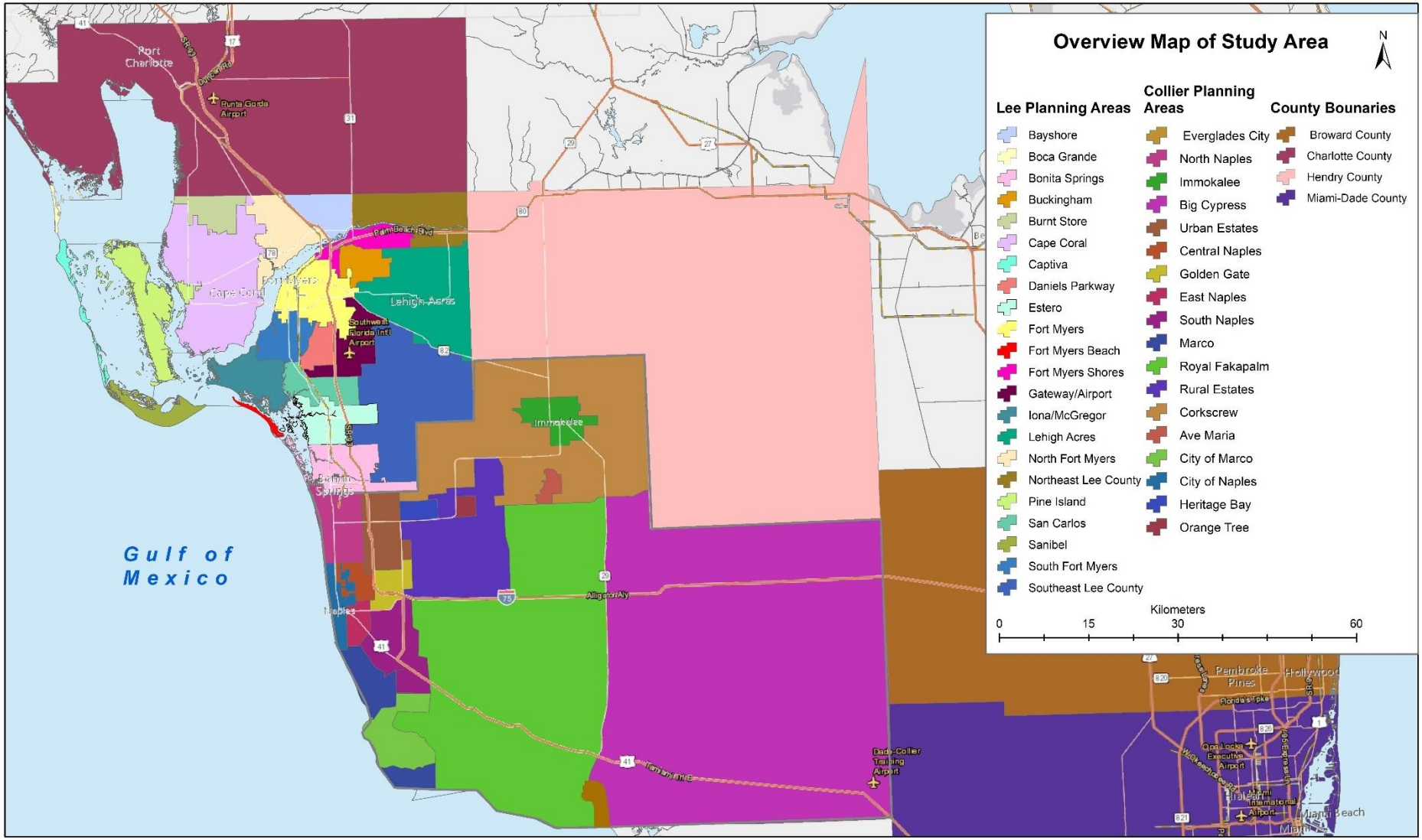
Figure 1: Customized Subareas for O-D Study



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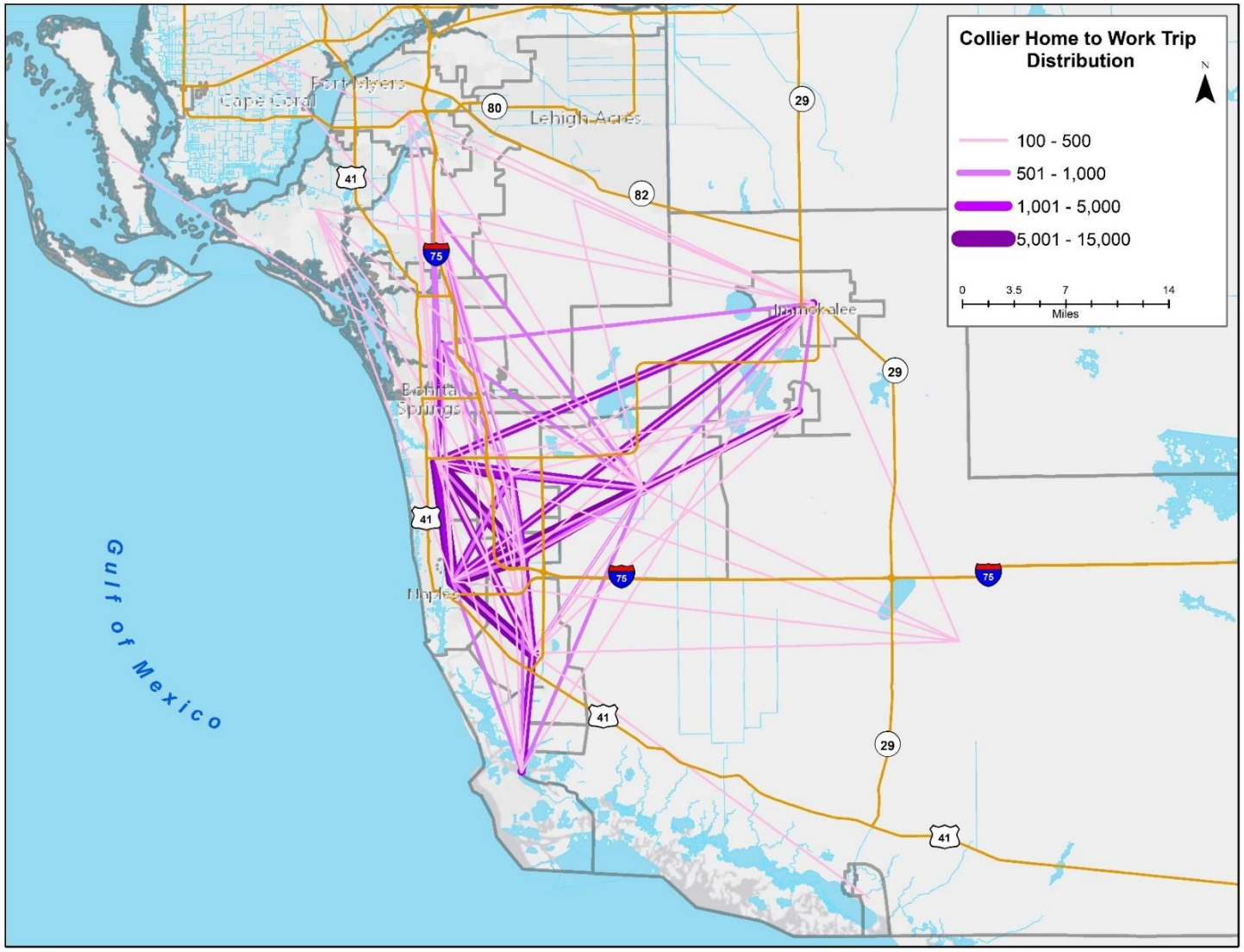
Looking at these pairings, 50% of working residents have a work location in the sub areas of Central Naples, City of Naples, East and North Naples; all of which are West of I-75. Additionally, 9% of working residents have a work location located in Lee County.

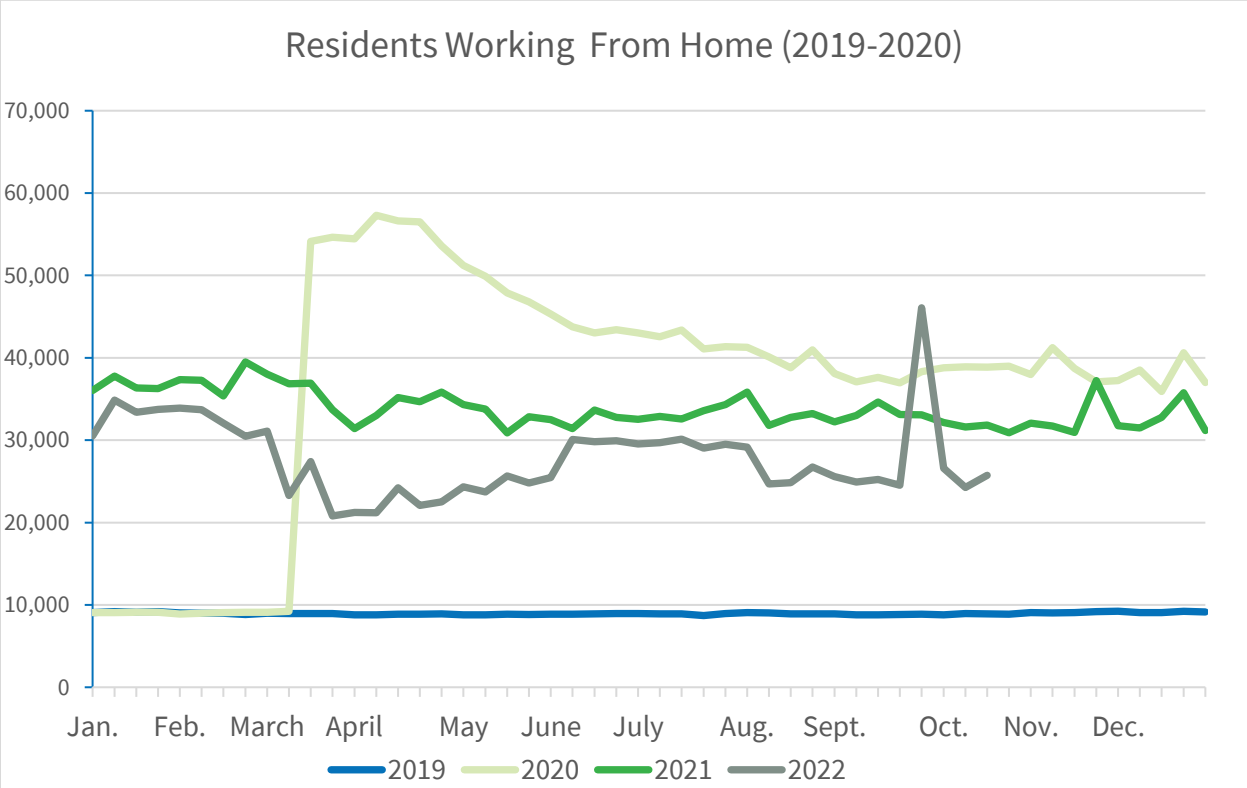
Figure 2: Home to Work Patterns



According to the US Census Bureau, the number of people primarily working from home between 2019 and 2021 has tripled.[1] This pattern has held true for Collier County as well. Figure 3 illustrates the recent trends in the number of people working from home from January 2019 through the week of October 17, 2022. Prior to the onset of the COVID-19 pandemic, less than 9,000 people worked from home on a typical weekday as reported in the American Community Survey. During 2020, a sudden spike of residents working from home began to level off during 2021 and stabilize through 2022. In 2022, the number of people working from home has varied, and currently is around 25,000 people on a typical weekday. This is equal to about 16% of workers and 7% of the total population. A recent spike in late September is associated with the landfall of Hurricane Ian.

With slightly more than one-year worth of stable data, it's likely too soon to draw conclusions regarding seasonal fluctuations or expectations for impacts to future travel demand. However, the lowest observed work from home numbers during the spring of 2022 followed by an increase during the summer months should be monitored for continued understanding of this newer trend.

Figure 3: Work from Home Trends



Collier County residents work from home, typical weekday 2019 to 2022 (Replica Trends)

[1] https://www.census.gov/newsroom/press-releases/2022/people-working-from-home.html?utm_campaign=20220915mspios1ccpuprs&utm_medium=email&utm_source=govdelivery

1.2.3 Next Steps

In addition to exploring the results of this analysis, several observations can be made towards identifying future next steps. These next steps include a deeper exploration of certain observations and patterns that were observed as well as expanding the scope of this analysis to investigate additional travel characteristics. A few of these observations and possible next steps are summarized below.

- During the Origin/Destination Study it was discovered that transit trips were not included as part of the Replica data set. Discussions were conducted with the data provider to review the applications data model. Future releases of travel data will have transit trip information included. Exploring key transit trip patterns will aid the MPO and Collier Area Transit in understanding and planning for the transportation needs of the public.
- Certain areas, such as North Naples were identified as a high employment location for many areas. Evaluating high employment areas as the destination and examining trips made during the day as compared with home-to-work commute trips can provide insights into the peak traveling periods and assist the MPO in developing future congestion management strategies on congested corridors.
- Evaluating high employment locations from the destination perspective will provide insight into the number of people working in Collier County and living in one of the regions other counties.
- A deeper review of areas with high internally capture origin and destination pairs can provide insights into the trip patterns and land use dependency as a complement to future land use and transportation planning. This level of review can also aid in better understanding shorter-distance trips and efforts to promote walking and biking as alternatives to driving.
- As part of the MPO's upcoming 2050 LRTP, incorporation of Environmental Justice areas into the analysis of trip patterns would identify areas where transportation options are limited and inform the selection of future project.

2.0 Collier County Trips

Utilizing the Replica Places data platform, information regarding number of trips and certain trip characteristics for Collier County have been summarized. This summary compares trip origins and destinations for trips starting and/or ending with Collier County as well as those passing through the county on major regional roadways.

2.1 Trips in Collier County

On an average weekday during the Spring of 2021, there were more than 1.26 million trips made on roadways in Collier County with at least one trip end (origin or destination) occurring in the county. Illustrated in Figure 4, more than 75% of these trips start and end within Collier County and nearly 20% of the trips cross the county line using one of the region's major transportation facilities. Table 2 provides a further breakdown or trip origins and destinations for counties in South Florida and other areas beyond the region. It's important to note for these trips that at least one trip end (origin or destination) is within Collier County.

Figure 4: Daily Trips in Collier County

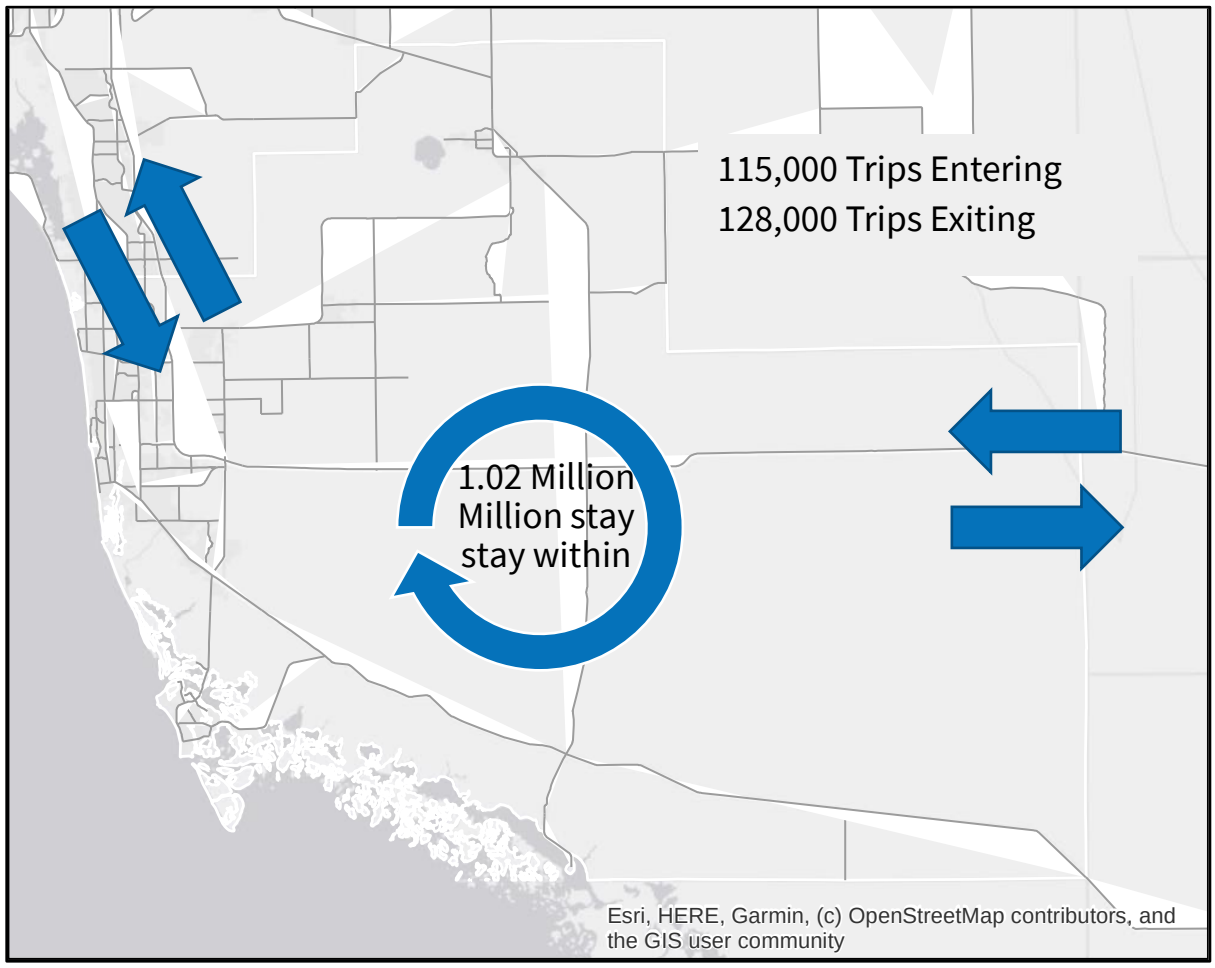


Table 2: Daily Trip Origins and Destinations by County

County	Trip Origin	Trip Destination
Collier (Internal)	1,024,000	1,024,000
Lee	87,000	96,000
Broward	3,000	4,800
Miami-Dade	5,000	4,900
Hendry	3,000	3,500
Charlotte	1,700	2,600
Other Counties	15,000	16,400
Total	**1,138,700**	**1,152,200**

2.2 Trips Passing Through Collier County

In addition to the more than 1 million daily trips occurring in Collier County daily, an additional 38,000 daily trips pass through the County. A breakdown of these pass-through trips by county origin is listed in Table 3. Of specific note is the high number of trips (10,600) passing through Collier County that have both an origin and a destination in Lee County. Exploring this observation in detail, revealed that 9,300 of these trips are the result of a small segment of Bonita Beach Road just west of Vanderbilt Drive being located within Collier County.

Table 3: County to County Pass-Through Trips

Origin County	Lee	Miami-Dade	Broward	Charlotte	Hendry	Other Counties	Total
Lee	10,601	2,762	2,868	99	1,831	1,061	19,222
Miami-Dade	2,839	0	29	220	178	2,344	5,610
Broward	1,882	16	0	226	68	1,628	3,820
Charlotte	26	232	291	0	24	48	621
Hendry	1,563	134	104	20	200	90	2,111
Other Counties	725	2,597	2,085	56	88	925	6,476
Total	17,636	5,742	5,383	621	2,389	6089	37,860

Looking closer at the routes of these pass-through trips, Figure 5 illustrates the daily volume of pass-through traffic crossing the county line at key gateway locations and traveling through the network. I-75 acts as the primary thoroughfare for this regional movement of traffic through Collier County. Table 4 provides additional details on the regional roadways with information regarding total daily trips and pass-through trips entering and exiting Collier County at the key gateway locations.

Within the county, the percentage of trips on each roadway can vary depending on the roadway and time of day. This most clearly exhibited on I-75 where the total number of pass-thru trips remain relatively constant, and the percentage of pass-thru trips varies significantly. North of Golden Gate Parkway, this percentage is roughly 15% (18,000 of 120,000), is close to 30% between CR 951 and Golden Gate Parkway (18,000 of 66,000) and more than 50% (15,000 of 29,000) heading east on Alligator Alley toward Broward County. This change in trips also illustrates the heavier interstate use in the urbanized area for daily trip making as the total number of trips are nearly five-times greater north of Golden Gate

Parkway than they are on Alligator Alley. With only 15% of the trips on I-75 entering/exiting Lee County passing through, the remaining 85% (more than 119,000 daily trips) on I-75 begin or end in Collier County.

Figure 5: Daily Pass-Through Trips at Key Gateways

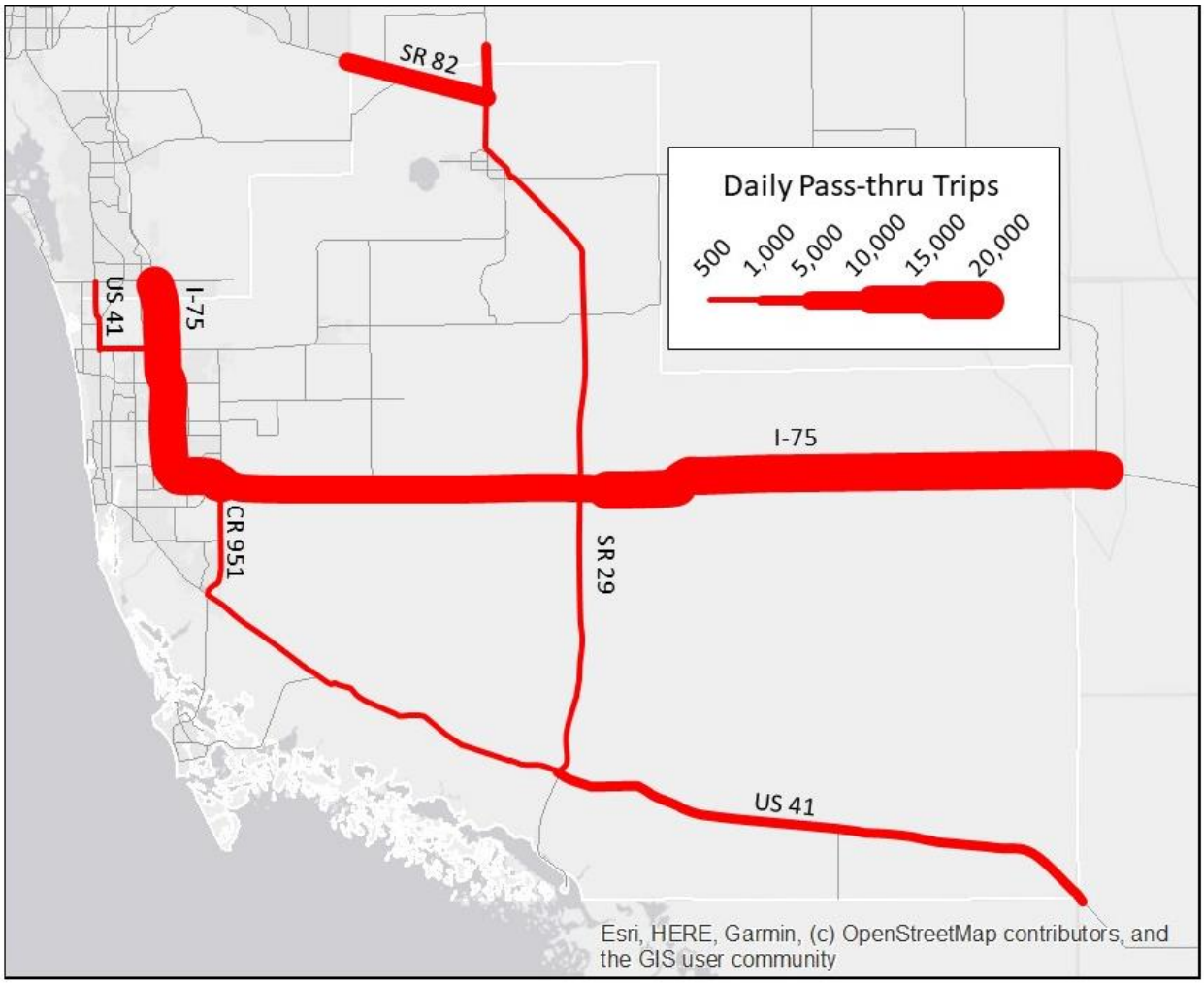


Table 4: Daily Trips at Major County Line Crossings

Roadway Facility	Total Trips Entering	Total Trips Exiting	Pass-Thru Trips Entering	Pass-Thru Trips Exiting	Percent Pass-thru (Regional) Trips
I-75 (Lee County)	65,000	74,000	11,000	8,700	14.2%
SR 82 (Lee County	12,000	12,000	4,000	3,800	32.5%
SR 29 (Lee County)	6,200	7,100	2,400	3,000	40.6%
US 41 (Lee County	28,000	21,000	200	100	<1%
I-75 (Broward County)	13,000	17,000	7,800	10,000	59.3%
US 41 (Miami-Dade County)	5,600	4,600	2,700	2,100	47.1%

3.0 Collier County Subareas

Evaluating and identifying trip patterns for the 17 subareas within Collier County includes a review of trip origins and destinations associated with each subarea as well as a review of work commuting patterns. Utilizing home and works locations captured through the mobile-source data available with Replica, a matrix association of residents' home subarea and work subarea was created. Reviewing trip purpose to isolate work trips originating from a residents' home subarea provided trip characteristics for home to work commuting on a typical weekday during the Spring 2021 Season. Changes in working and commuting habits have emerged because of the COVID-19 pandemic. New data provided by Replica was used to identify the percentage of workers working from home.

For comparison with statistics presented for each of the subareas, select countywide measures are shown in Table 5. Given the newest trends in working from home, additional clarification has been added to the footnotes of Table 5. Presented as a typical weekday pattern, work locations is based on the conditions observed on an average Thursday during the 2021 Spring Season. Not all workers work from home every day. This means that the Collier County residents working from home may have an in-office physical location not in Collier County.

Table 5: Select Countywide Trip Characteristics

Measure	Countywide Value
Average Trip Length	17.4 miles
Median Trip Length	4.7 miles
Average Trip Duration	20 minutes
Median Trip Duration	9 minutes
Countywide Residents	373,600
Employed Countywide Residents[1]	158,000
Residents Working in Collier County[2]	137,300
Residents Working in Lee County[2]	14,300
Residents Working from Home[3]	34,000

Footnotes:
1- Number of residents living in Collier County that are employed, regardless of employment location.
2 – Number of Collier County residents with an "in-person" office location in the listed county. For Collier County, this includes residents working from home.
3 – Number of Collier County residents working from home regardless of "in-person" work location.
Source: Replica 2021 Spring Season, Typical Weekday (Thursday)

Summary level information for each of the 17 subareas of Collier County is provided in the following sections along with a matrix of trips origins and destinations, and workers by home and work location for each subarea in Appendix B.

3.1 Ave Maria

Ave Maria is an unincorporated community in northern Collier County. Shown in the image to the right, Ave Maria is south of Immokalee and located along Oil Well Road.

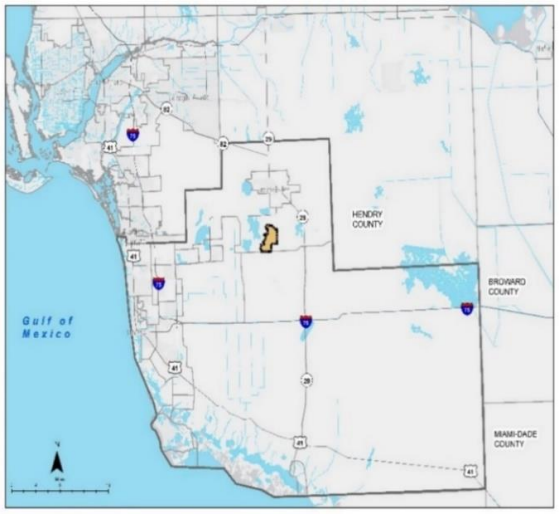


Table 6 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in Ave Maria subarea. The trip origins listed have a destination in the Ave Maria subarea and vice-versa for the destinations listed. The 5,014 trips originating daily within the Ave Maria subarea and remaining within the area represent 45% of the roughly 11,000 daily trips originating from the area. The nearby areas of Immokalee and the Rural Estates, also experience a high trip interaction with Ave Maria. Of note, are the more than 500 daily trips coming from the North Naples area when compared with other areas which are closer.

3.1.1 Trips Beginning in Subarea

Trips originating in Ave Maria have a high home trip purpose, or destination, with about 2,800 trips or 26% of the daily trips generated in the subarea as shown in Figure 6. Ave Maria is a recently built Village in Rural Collier County that is somewhat isolated from other suburban communities. The pattern of trips associated with this style of development is identifiable as nearly 40% of all trips originating within Ave Maria having a trip distance less than 4 miles in length while more than 30% of trips travel between 16 and 64 miles daily. Many trips can be satisfied within a short distance while others take a greater distance to accomplish for certain activities. This results in an average travel distance of 22 miles and an average time of 29 minutes. Even though there are a high number of trips that travel within the area, there are a significant number of trips originating from the area travelling long distances. Figure 7 illustrates the geographic distribution of destinations for trips originating in the subarea.

Table 6: Ave Maria Subarea Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trip To
Ave Maria (internal)	5,014	5,014	Corkscrew	172	171
Immokalee	928	901	Bonita Springs	171	140
Rural Estates	917	839	Central Naples	167	143
North Naples	507	394	City of Naples	165	134
Urban Estates	457	364	East Naples	164	132
Hendry County	354	413	South Naples	146	113
Orange Tree	342	298	Fort Myers	124	112
Golden Gate	217	170	Heritage Bay	124	120
Lehigh Acres	207	263	Miami-Dade County	117	125
Out of Region	203	221	Estero	97	68

Figure 6: Selected Trip Characteristics for Ave Maria Origins

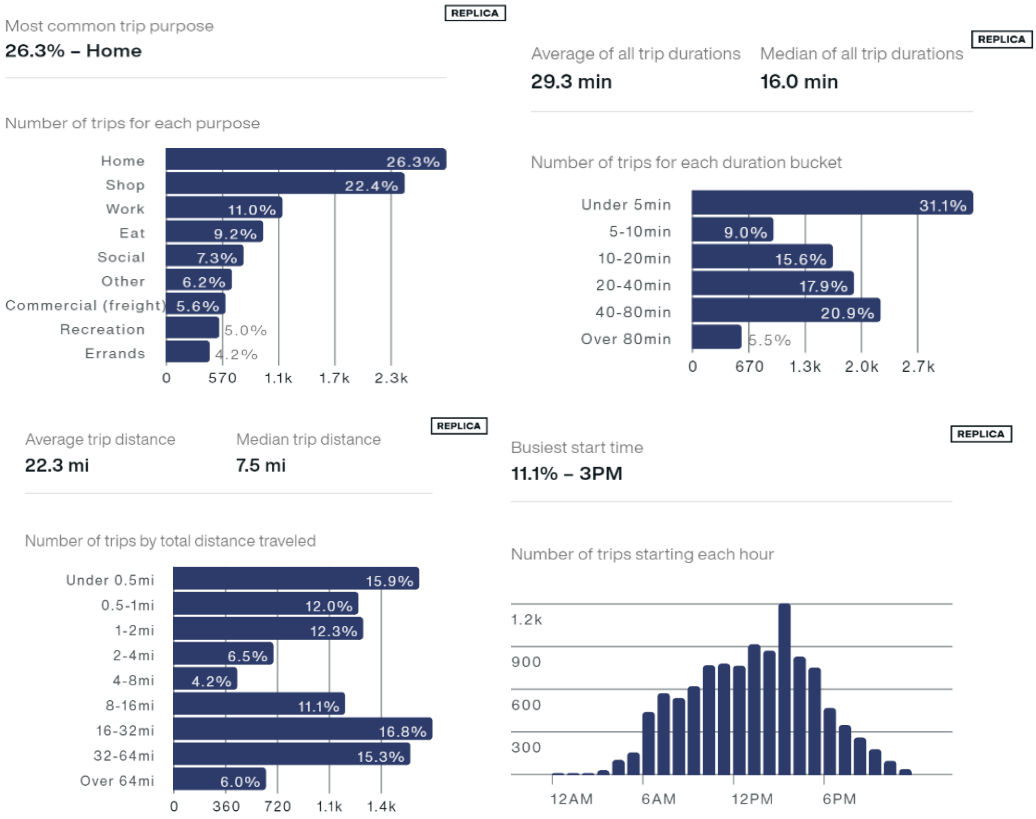
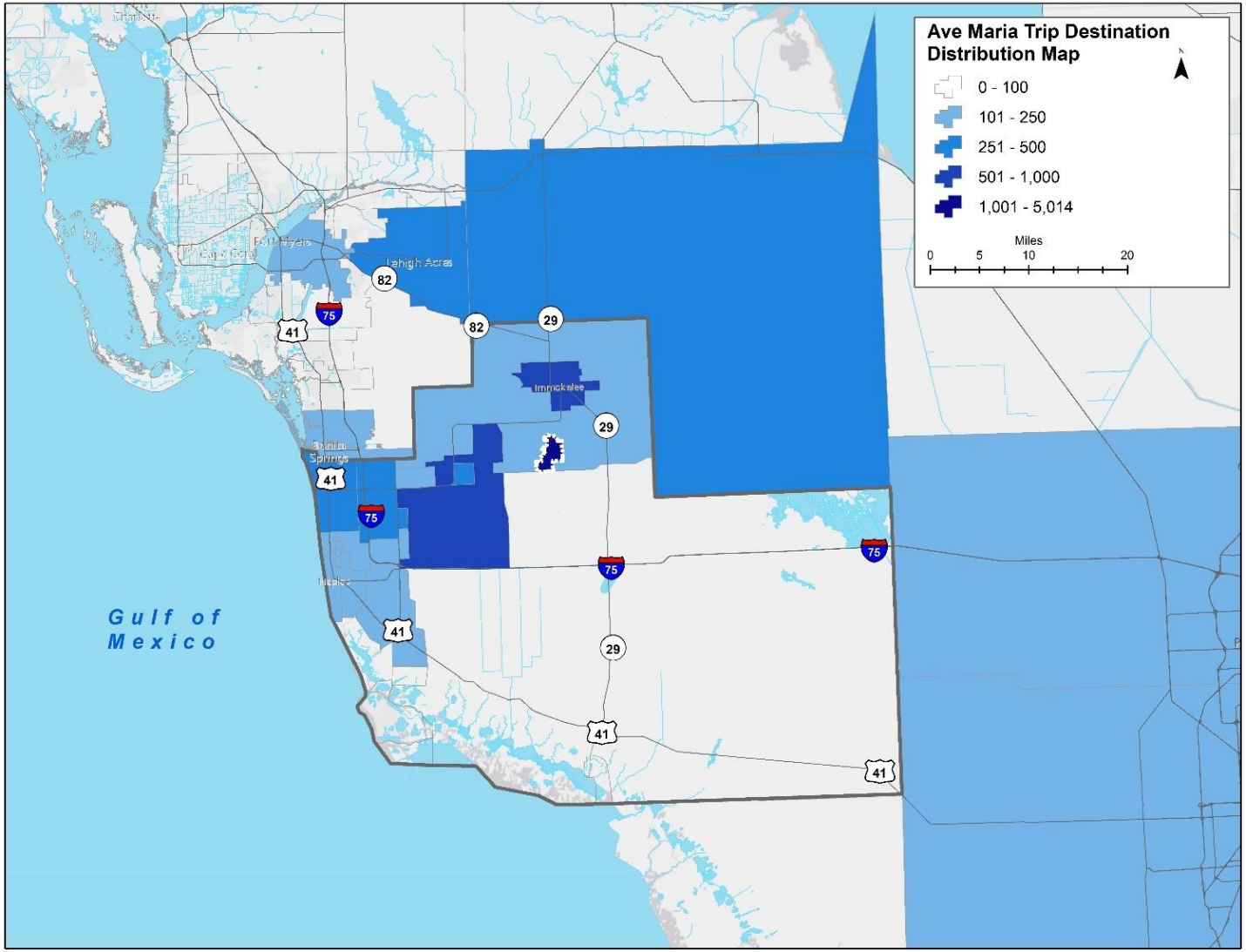


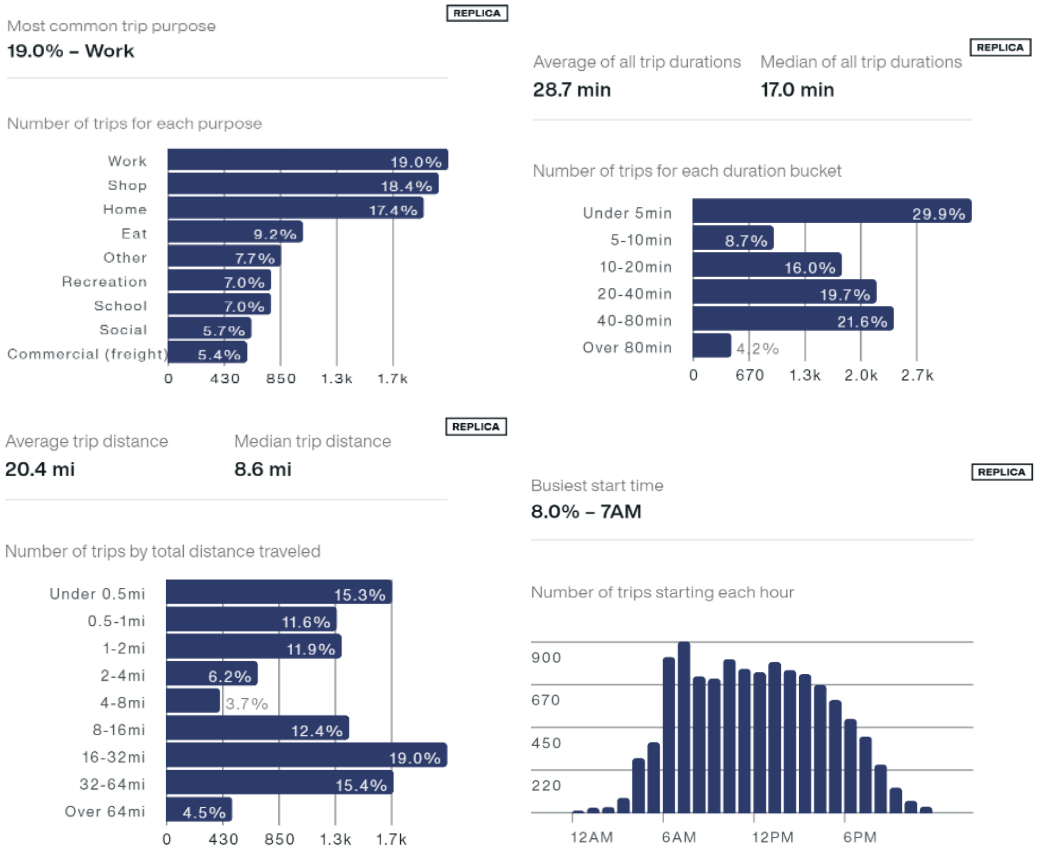
Figure 7: Destinations for trips Originating in Ave Maria Subarea



3.1.2 Trips Ending in Subarea

Since the Ave Maria subarea includes the Arthrex Medical Facility as well as other service-related businesses, 19% of all trips ending within the subarea are for work. Shopping and home are also high destinations as shown in Figure 8. Average trip duration and travel distance are similar for trips ending within Ave Maria and trips beginning in Ave Maria. The distribution of trips throughout the day however varies for trips originating and trips ending within the subarea and are understandable given the predominate origin purpose (home) and destination purpose (work). Figure 9 illustrates the geographic distribution of origins for trips ending in the Ave Maria subarea.

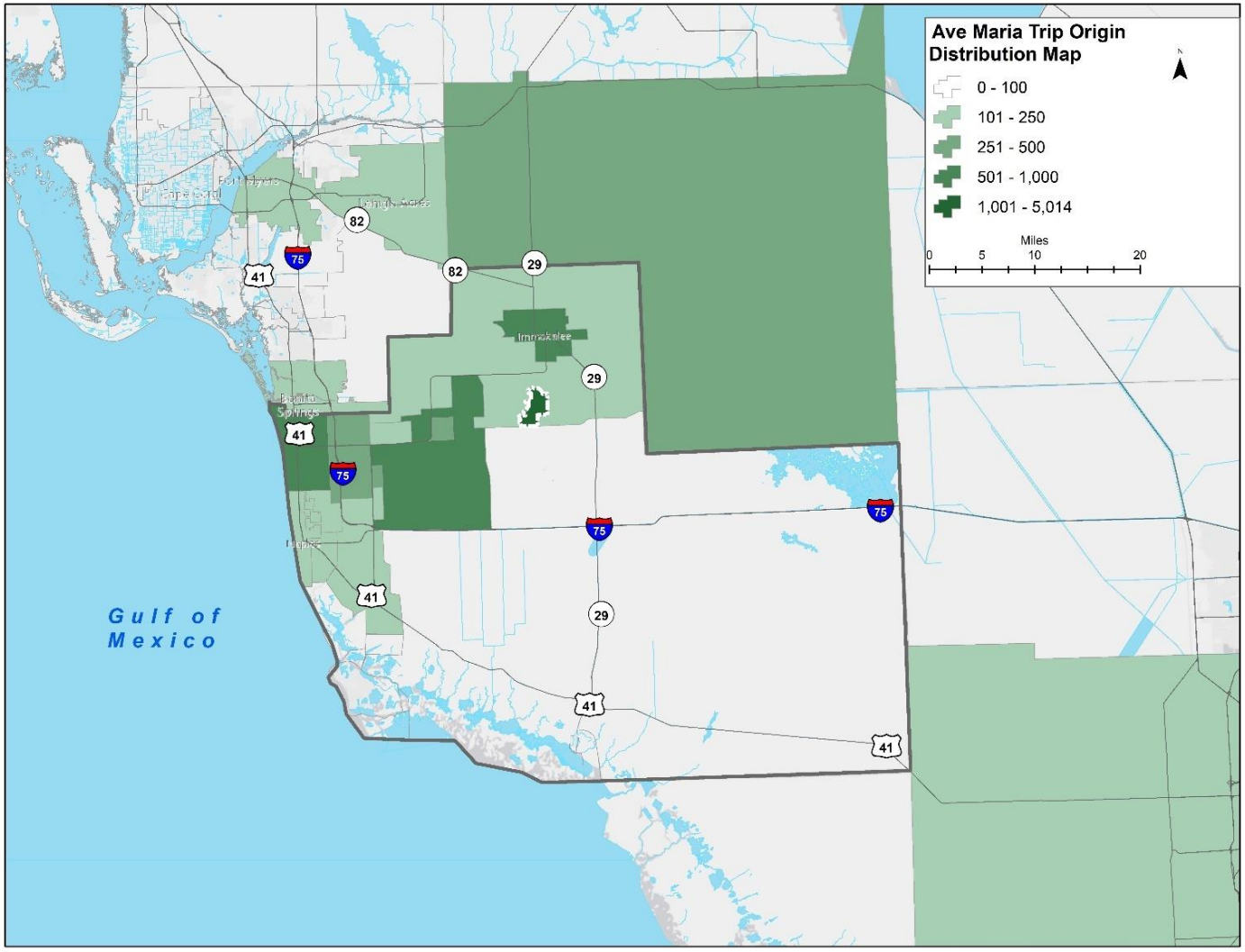
Figure 8: Selected Trip Characteristics for Ave Maria Destinations



3.1.3 Work Location

Table 7 lists the top work location subareas for the more than 1,250 workers living in the Ave Maria subarea. Consistent with observed trip length and duration patterns, the two highest work locations are the Ave Maria subarea and the North Naples subarea. Residents of Ave Maria have work opportunities nearby or at a considerable distance.

Figure 9: Origins for trips Ending in Ave Maria Subarea

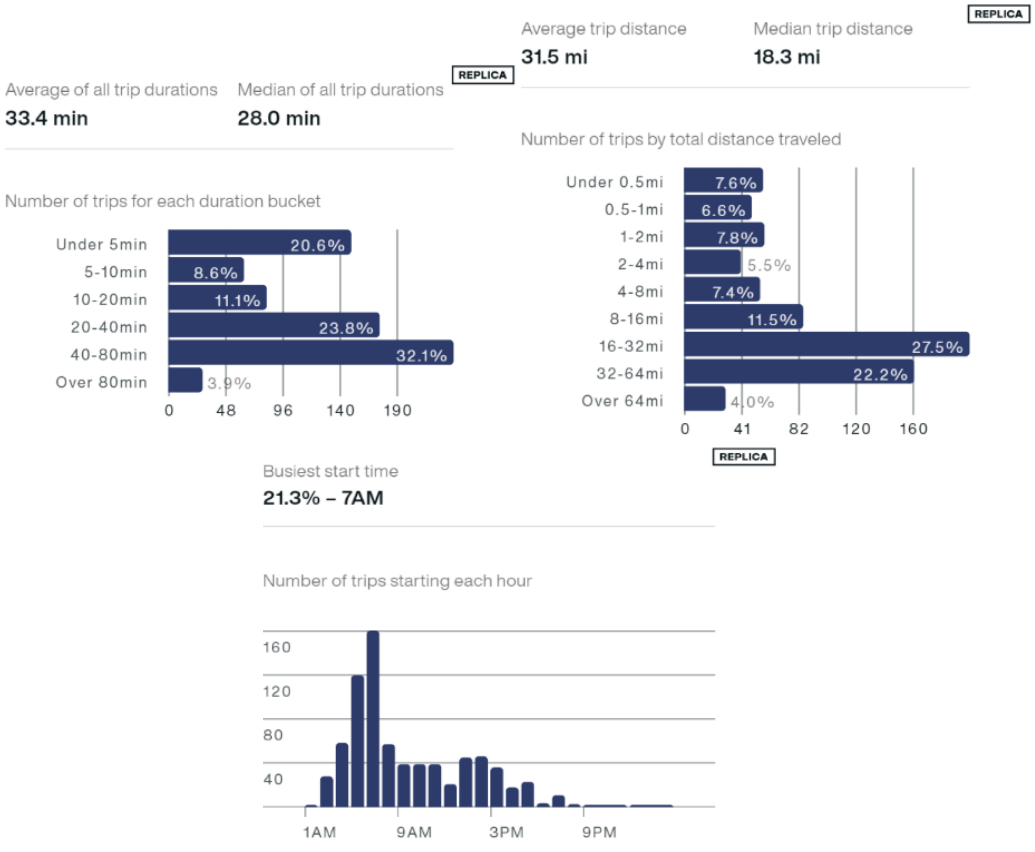


Shown in Figure 10 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that nearly 275 or 10.5% of the 2,500 Ave Maria subarea residents worked from home during the Spring 2021 quarter.

Table 7: Work Locations for Residents of Ave Maria

Work Location	Population	Work Location	Population
Ave Maria	226	Orange Tree	32
North Naples	171	San Carlos	27
Rural Estates	136	South Fort Myers	23
City of Naples	105	Miami-Dade County	22
Central Naples	87	East Naples	22
Urban Estates	71	Golden Gate	19
Immokalee	64	Out of Region	16
Bonita Springs	56	Southeast Lee County	15
Heritage Bay	51	Corkscrew	15
South Naples	43	North Fort Myers	12

Figure 10: Ave Maria Home to Work Trip Characteristics



3.2 Big Cypress

Big Cypress is the largest subarea in Collier County analyzed for this study as shown in the image to the right. This easternmost location in Collier County includes the Big Cypress National Preserve as a dominant feature. Several isolated rural communities within this subarea, including Carnestown, Copeland, Copeland, and Ochopee contribute to the traffic characteristics summarized below. Since this subarea also includes the Rest Area along Alligator Alley, traffic characteristics summarized below are influenced by the long-distance nature of the Interstate 75 traffic.

Table 8 shows the trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the Big Cypress subarea. The trip origins listed have a destination in the Big Cypress subarea and vice-versa for the destinations listed. While the number of trips that originate within the Big Cypress subarea are low, 15% of the 2,300 daily trips stay internal to the area. Other areas highly associated with trips in this area are external to Collier County and even beyond the region. This relationship of trip origins and destinations supports the impact of the I-75 Rest Area.

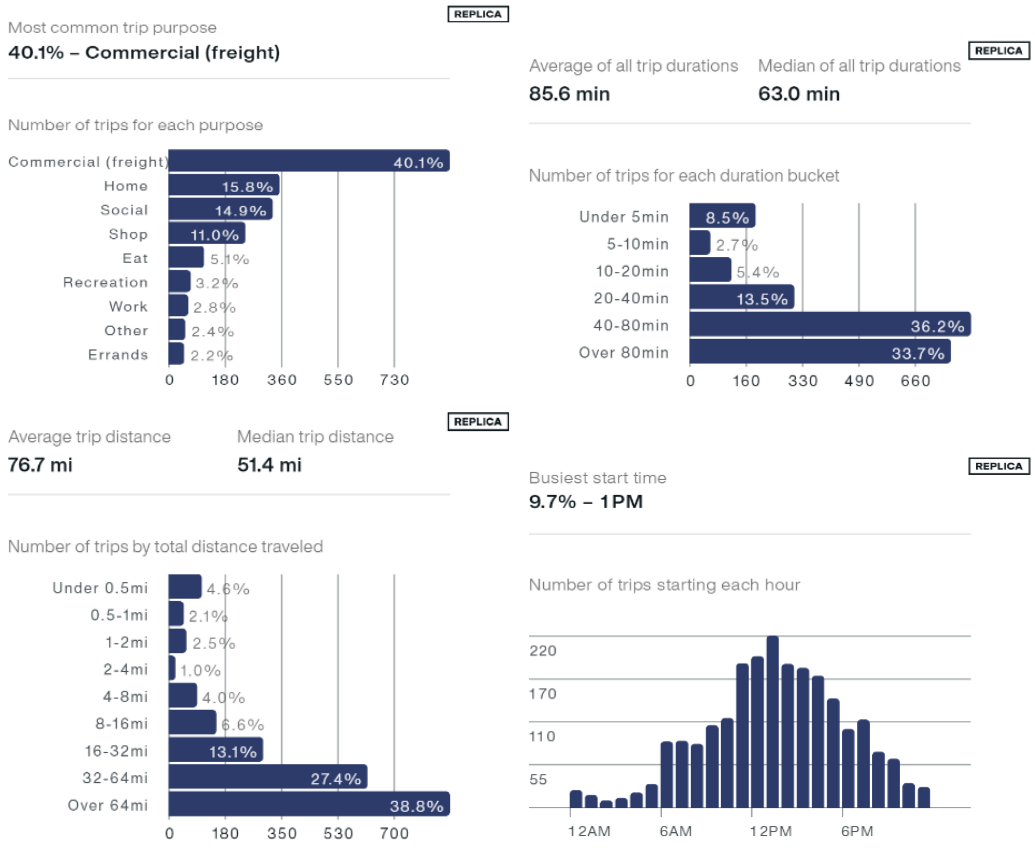
Table 8: Big Cypress Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Big Cypress (internal)	349	349	Rural Estates	46	50
Out of Region	291	286	Immokalee	41	45
Broward County	254	286	City of Marco Island	45	45
Miami-Dade County	275	271	City of Naples	45	37
Everglades City	67	122	Cape Coral	35	35
Royal Fakapalm	120	118	North Naples	33	30
South Naples	112	101	Corkscrew	25	29
Hendry County	124	100	Lehigh Acres	17	22
Fort Myers	41	79	North Fort Myers	24	22
Charlotte County	45	59	Gateway/Airport	23	20

3.2.1 Trips Beginning in Subarea

Trips originating in this subarea have a high commercial trip purpose as shown in Figure 11. While many trips originated from within this subarea have long travel times and trip distances, it is interesting to note the number of short distance trips that are under two miles. These shorter distance trips would indicate that these trips are staying within the isolated rural communities mentioned previously. Figure 12 illustrates the geographic distribution of destinations for trips originating in the Big Cypress subarea.

Figure 11: Selected Trip Characteristics for Big Cypress Origins



3.2.2 Trips Ending in Subarea

Figure 13 illustrates characteristics for trips ending in the Big Cypress subarea. Average trip duration and travel distance are similar for trips ending within the subarea as those beginning there. The highest purpose for trips ending in this subarea, like those originating here, is for commercial purposes. The two highest personal trip purposes ending in this subarea are for social and recreation purposes. These trip purposes being higher than the others is a unique condition compared to the other subareas and indicate the influence of the state and national park lands contained within the subarea. Figure 14 illustrates the geographic distribution of origins for trips ending in the Big Cypress subarea.

Figure 12: Destinations for trips Originating in Big Cypress Subarea

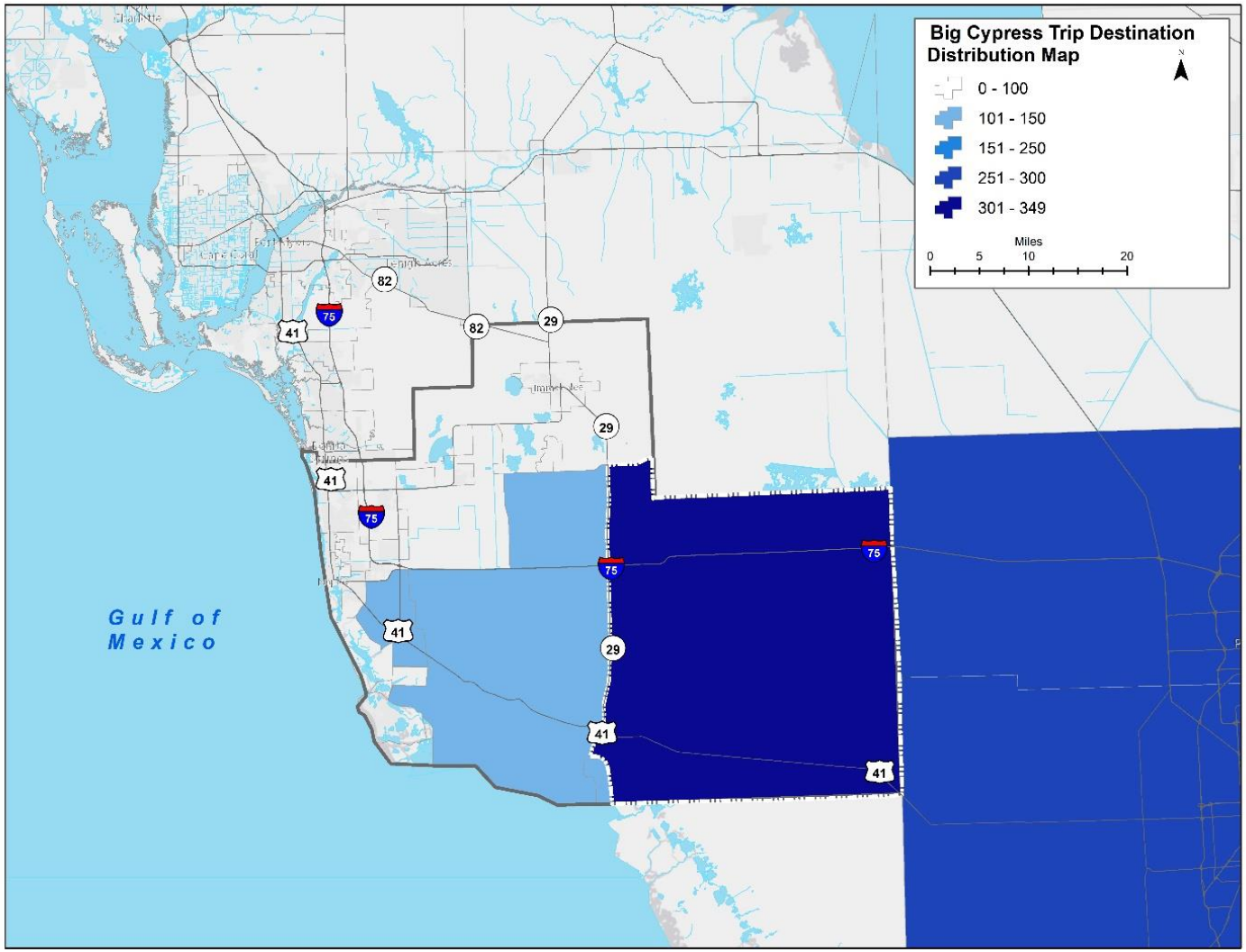
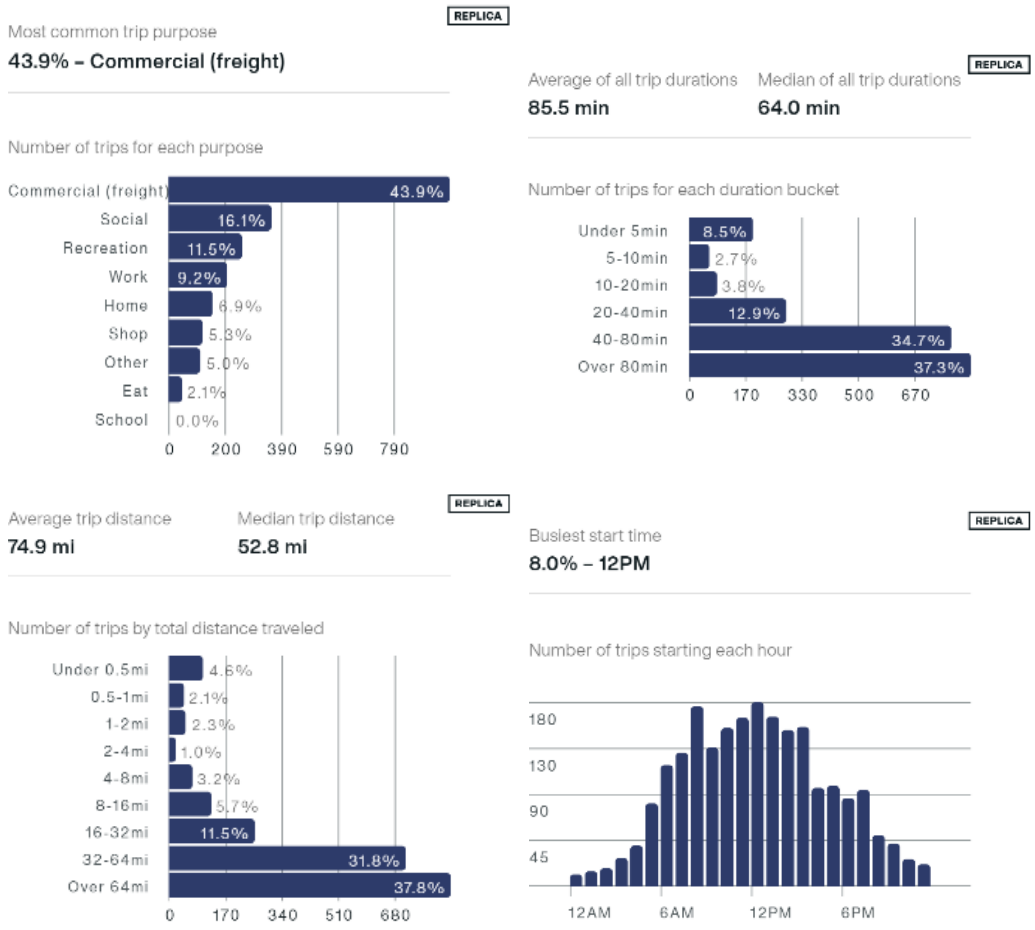


Figure 13: Selected Trip Characteristics for Big Cypress Destinations



3.2.3 Work Location

As a very sparsely populated area of Collier County, there are very few people in the labor force for evaluating the impacts of work trips originating from this subarea. Table 9 indicates that work trips made by residents of Big Cypress are predominantly to the South Naples subarea. A total of 12 workers travel to South Naples from Big Cypress.

Shown in Figure 13 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that 16 of the 121 (13.2%) Big Cypress subarea residents worked from home during the Spring 2021 quarter.

Figure 14: Origins for trips Ending in Big Cypress Subarea

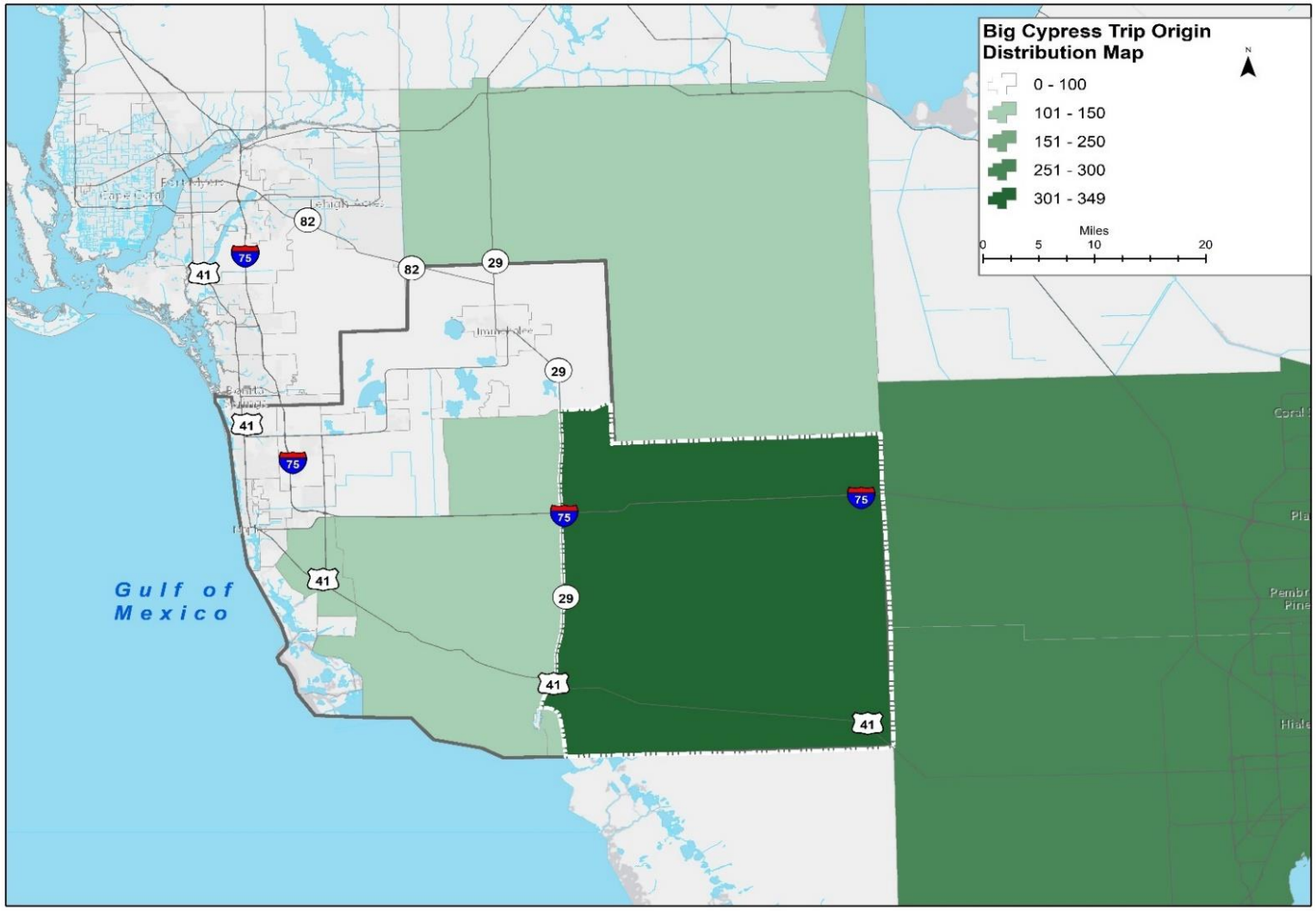
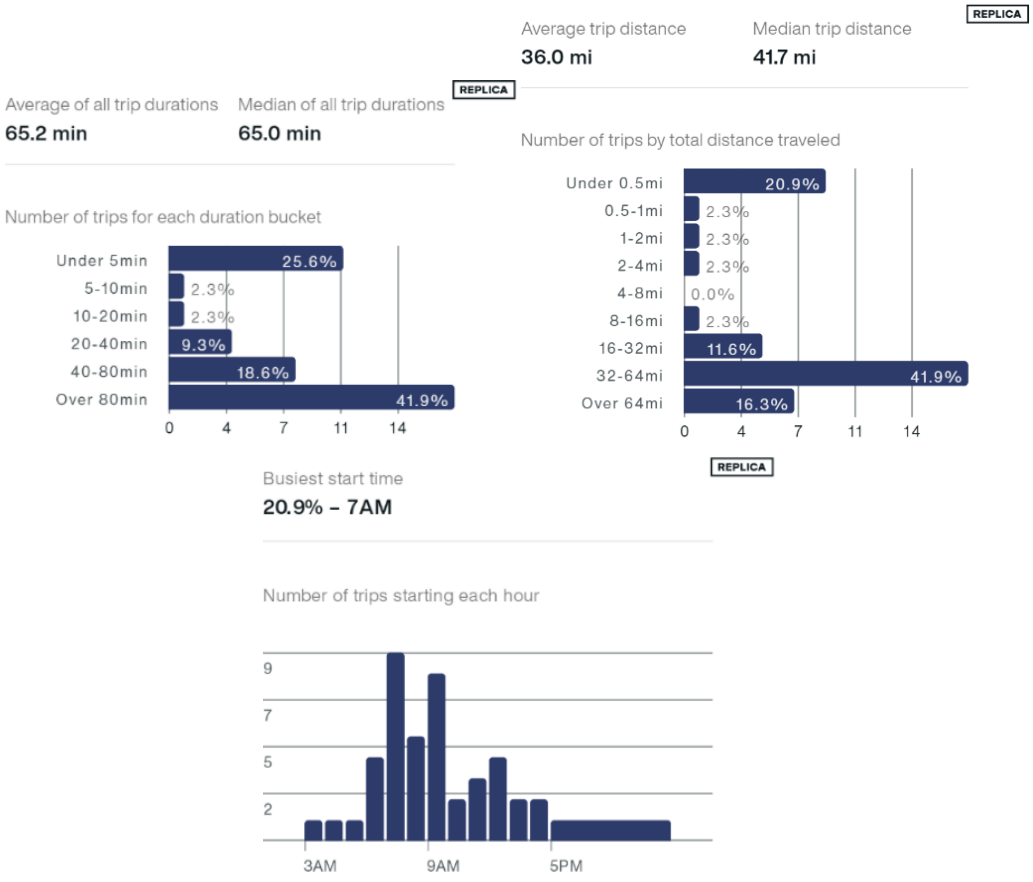


Table 9: Work Locations for Residents of Big Cypress

Work Location	Population	Work Location	Population
South Naples	12	City of Naples	2
Miami-Dade County	7	Fort Myers	1
Royal Fakapalm	6	Immokalee	1
Ave Maria	6	Rural Estates	1
Central Naples	5	Big Cypress	1
North Naples	5	Corkscrew	1
City of Marco Island	3	East Naples	1
Broward County	2	Orange Tree	1
Everglades City	2		

Figure 15: Big Cypress Home to Work Trip Characteristics



3.3 Central Naples

The Central Naples subarea is adjacent to the City of Naples and extends north to Pine Ridge Road and as far east as I-75 as shown in the image to the right.

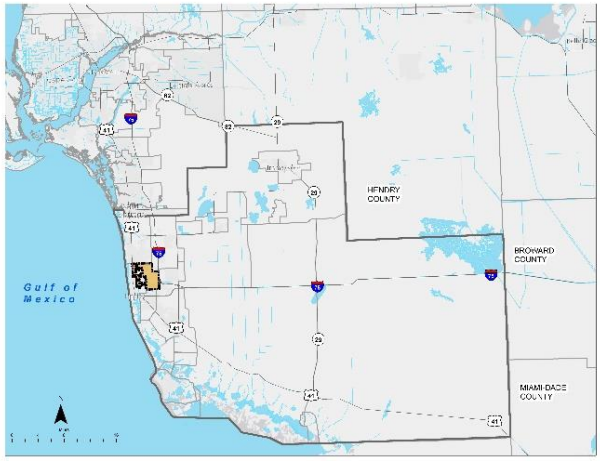


Table 10 identifies the number of trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the Central Naples subarea. The trip origins listed have a destination in the Central Naples subarea and vice-versa for the destinations listed. Of the 82,000 daily trips originating from this area, nearly 24% (19,331) stay within the subarea. Other areas highly associated with trips in this area include North Naples and the City of Naples where a diverse mix of land uses, and an integrated roadway network connectivity support this relationship

Table 10: Central Naples Trip Origins and Destinations

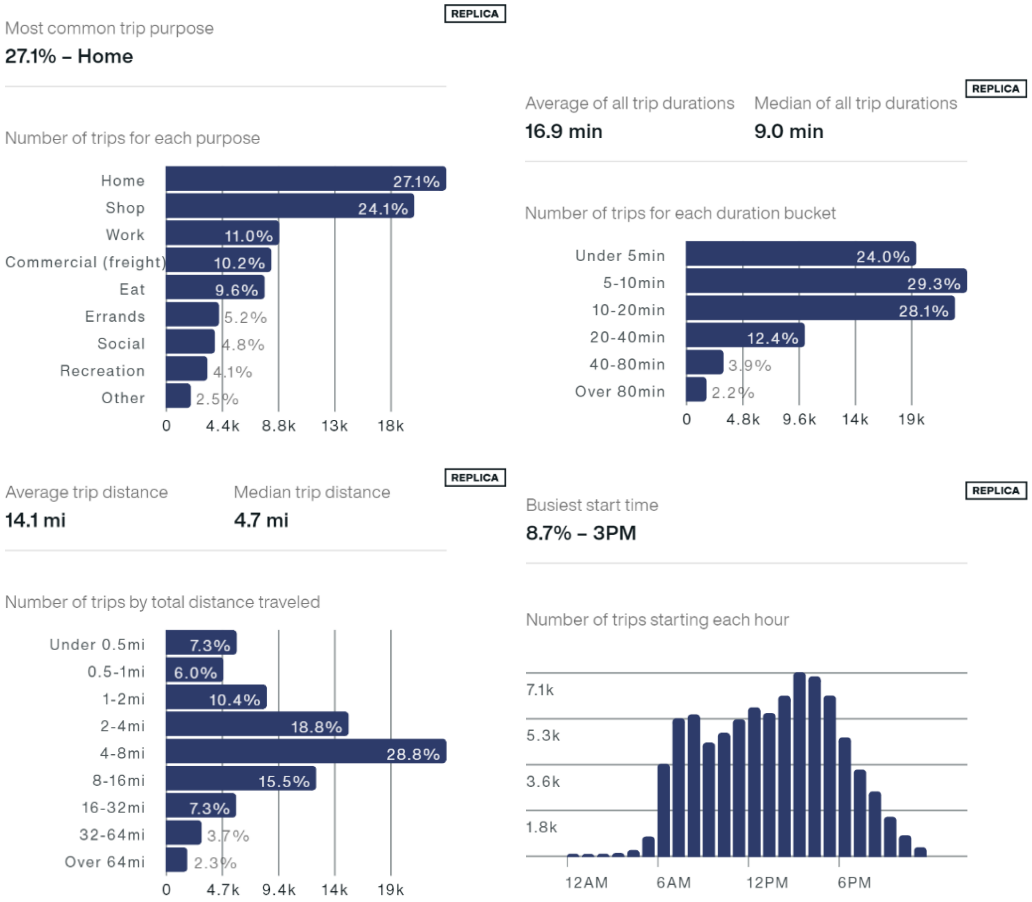
Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Central Naples (internal)	19,331	19,331	City of Marco Island	847	814
North Naples	13,657	13,643	San Carlos	756	754
City of Naples	12,924	13,102	Estero	635	648
Golden Gate	6,892	6,938	Fort Myers	470	635
Urban Estates	6,228	6,493	South Fort Myers	337	475
East Naples	5,781	5,763	Lehigh Acres	328	486
South Naples	4,197	3,742	Immokalee	327	364
Rural Estates	2,409	2,677	Heritage Bay	277	316
Bonita Springs	1,766	1,497	Miami-Dade County	268	242
Out of Region	915	1,035	Cape Coral	239	415

3.3.1 Trips Beginning in Subarea

Figure 16 provides a summary of the trip purpose, trip distance, trip duration and the busiest start time statistics for the area. Trips originating in Central Naples have a high home trip purpose at about 22,000 or 27% of the daily trips generated in the subarea. Shopping trip purposes is also relatively high at roughly 20,000 or 24% of total trips daily. The more predominant activities in Central Naples include residential dwelling, commercial services, and other public services including schools and health center. The average distance traveled is 14 miles, and the average duration is estimated at 17 minutes for trips originating in Central Naples. Trip distances for trips starting in Central Naples follow a normal distribution with the highest frequency of trips travel between four and eight miles. More than half of the trips originating from Central Naples have a travel time of less than 10 minutes. With the median trip length less than five miles and trip time less than 10 minutes, many of the trips originating in this

subarea can be considered short distance trips. Figure 17 illustrates the geographic distribution of destinations for trips originating in the Central Naples subarea.

Figure 16: Selected Trip Characteristics for Central Naples Origins



3.3.2 Trips Ending in Subarea

Figure 18 provides a summary of trips ending in the Central Naples subarea. The highest trips purposes, distribution of travel distance and travel times for these trips is very similar to origin trips. This suggests that trip-making is more single purpose rather than chaining trips together for multiple purposes. Trips ending in the Central Naples subarea average less than 14 miles and last around 16 minutes. Figure 19 illustrates the geographic distribution of origins for trips ending in the Central Naples subarea.

Figure 17: Destinations for trips Originating in Central Naples Subarea

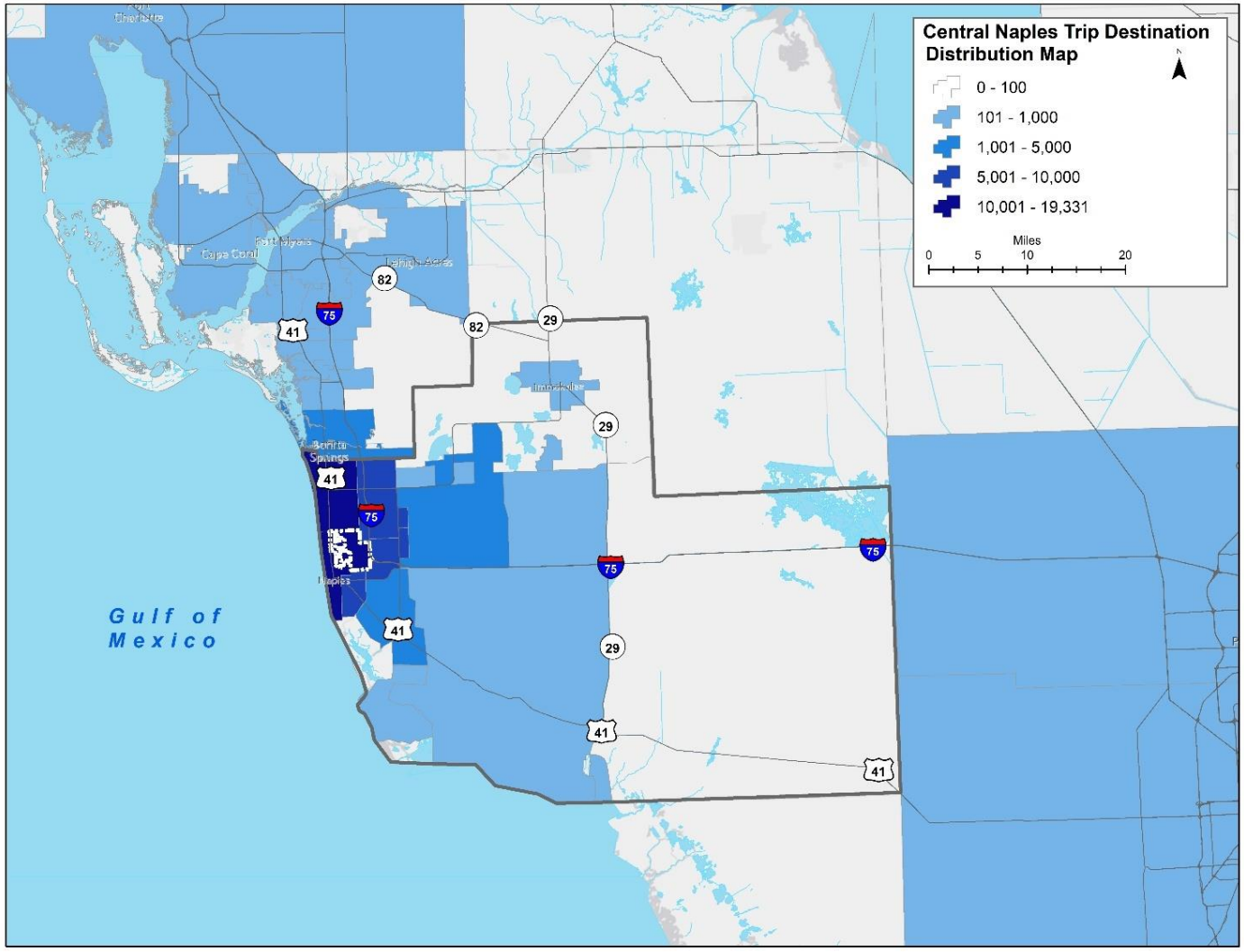
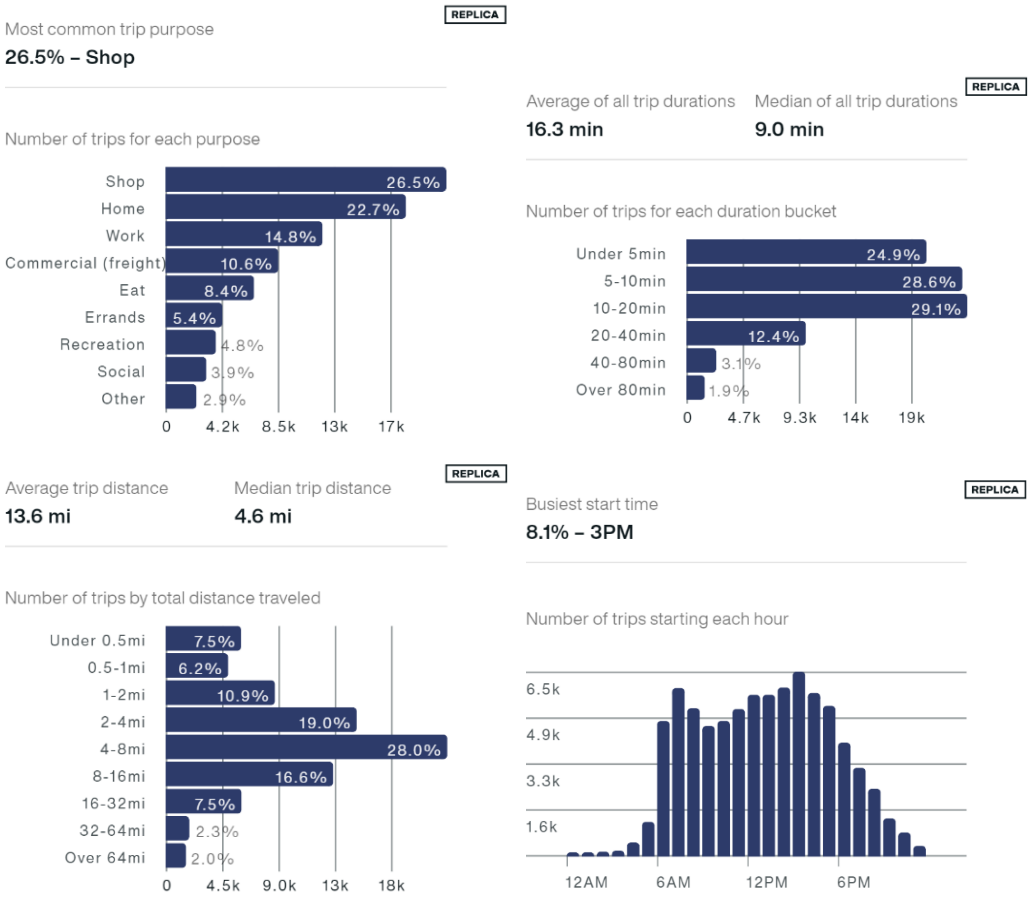


Figure 18: Selected Trip Characteristics for Central Naples Destinations



3.3.3 Work Location

Table 11 lists the top work location subareas for the nearly 9,400 works residing in the Central Naples subarea. This table indicates that work trips made by residents of Central Naples are predominantly to the City of Naples, the North Naples subarea or within the Central Naples subarea.

Shown in Figure 20 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that 2,100 or 10% of the 21,000 Central Naples residents worked from home during the Spring 2021 quarter.

Figure 19: Origins for trips Ending in Central Naples Subarea

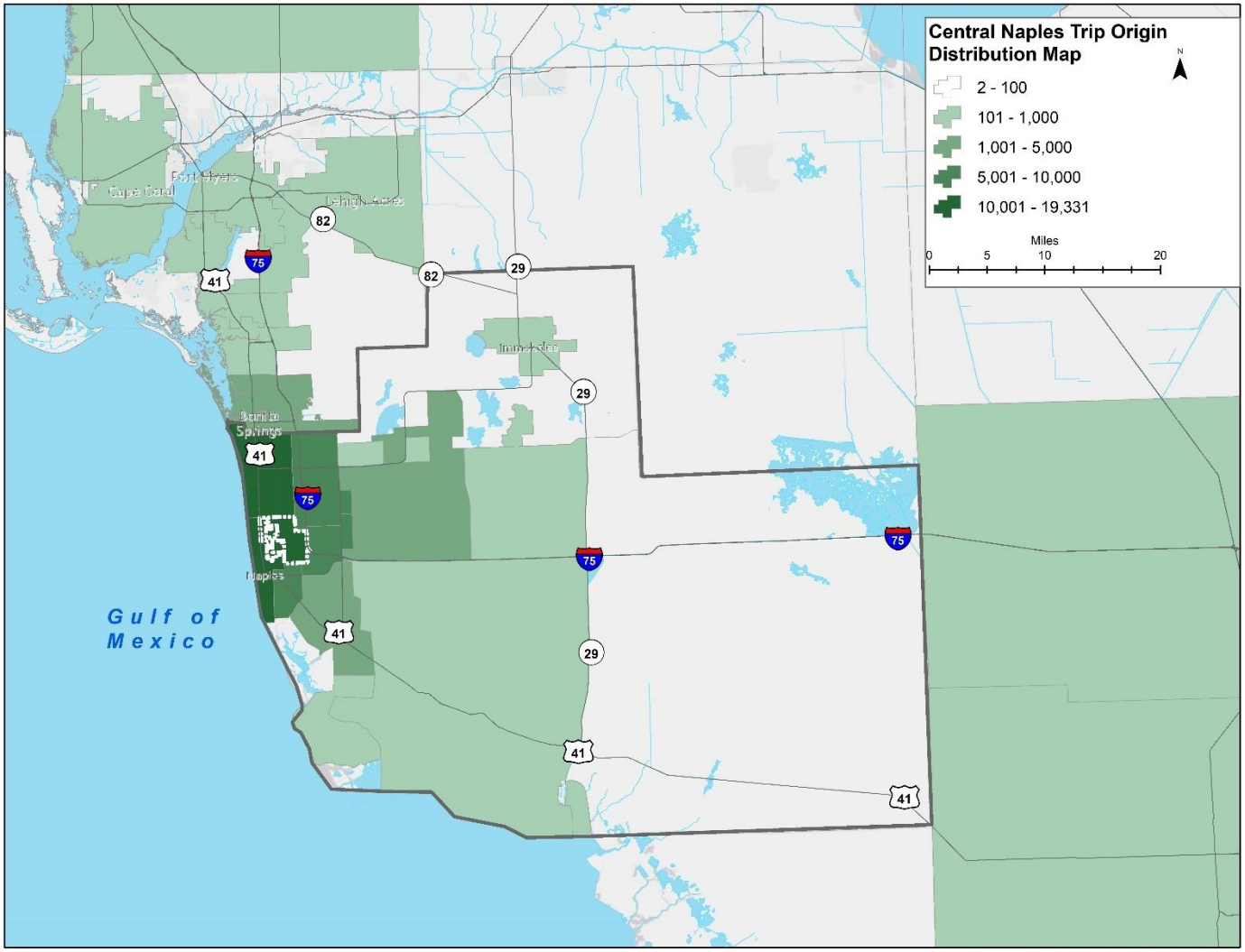
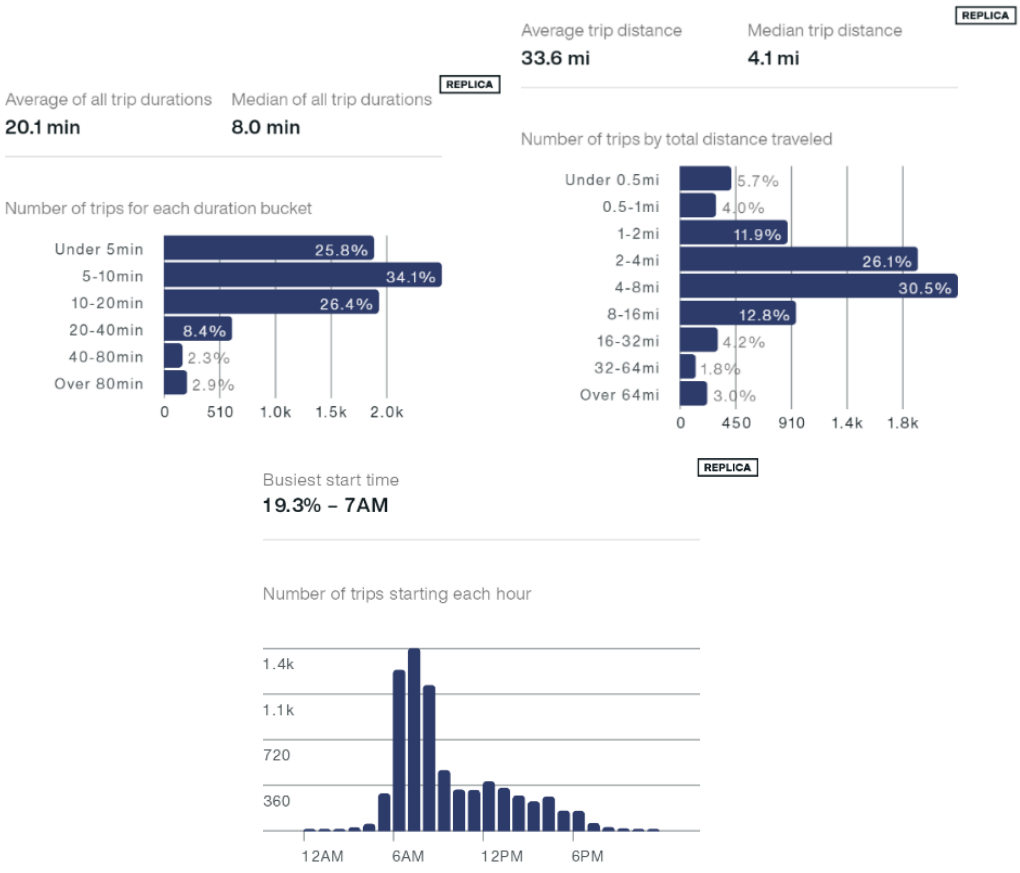


Table 11: Work Locations for Residents of Central Naples

Work Location	Population	Work Location	Population
City of Naples	2,542	Immokalee	157
North Naples	2,026	South Fort Myers	134
Central Naples	1,724	Fort Myers	120
East Naples	501	City of Marco Island	120
Urban Estates	439	Miami Dade County	109
Golden Gate	299	Bonita Springs	53
South Naples	295	Ave Maria	38
Rural Estates	260	Iona/McGregor	34
San Carlos	227	Estero	27
Out of Region	216	Broward County	14

Figure 20: Central Naples Home to Work Trip Characteristics



3.4 City of Marco Island

The City of Marco Island subarea encompasses the areas of unincorporated Collier County that are beyond the city's official limits but are close in proximity and character to the city. This expansion includes the neighboring areas of Goodland, the Isles of Capri and Hammock Bay as shown in the image to the right. The subarea is predominantly a residential area with several coastline resorts/hotels, commercial activities, and other recreational features.

Table 12 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in this subarea. Trip origins listed have a destination in the City of Marco Island subarea and vice-versa for the destinations listed. The 43,800 trips originating in the City of Marco Island subarea and remaining in the area represents 66% of the nearly 66,000 daily trips originating in the subarea. Other areas highly associated with trips in this area include South Naples, the City of Naples, and East Naples subareas. There are also a high number of trips that originate or end out of the region being studied.

Table 12: City of Marco Island Trip Origins and Destinations

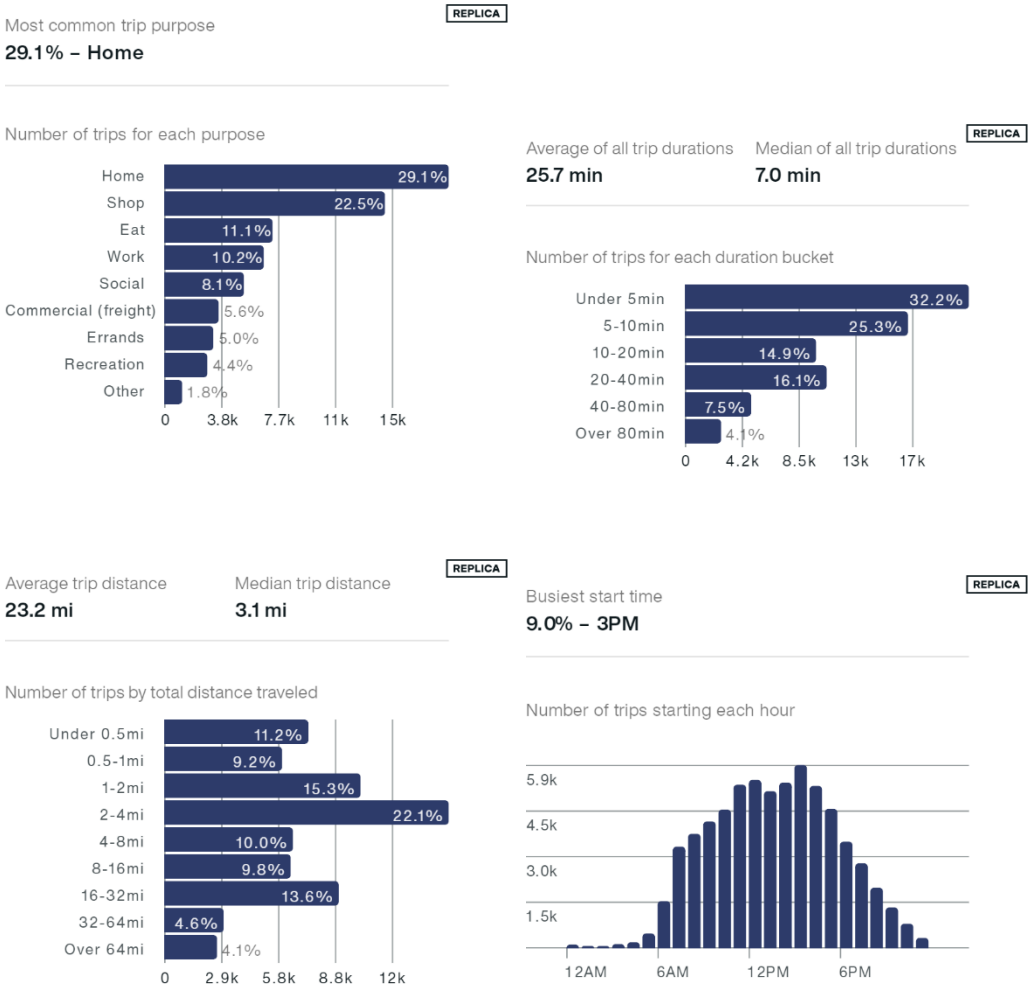
Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
City of Marco Island (internal)	43,800	43,800	Royal Fakapalm	419	401
South Naples	7,503	7,537	Miami-Dade County	393	376
City of Naples	1,560	1,566	Bonita Springs	305	363
Out of region	1,522	1,651	Fort Myers	234	334
East Naples	1,470	1,495	Estero	205	228
North Naples	1,276	1,418	Everglades City	171	146
Golden Gate	1,263	1,444	Broward County	170	305
Central Naples	814	847	San Carlos	168	268
Urban Estates	755	920	South Fort Myers	134	235
Rural Estates	576	926	Immokalee	129	136

3.4.1 Trips Beginning in Subarea

Figure 21 provides a summary of the trip purpose, trip distance, trip duration, and start time statistics for the area. Trips originating in the City of Marco Island subarea have a high home trip purpose at about 29% of the daily trips generated in the subarea, while shopping trip purposes are an estimated 23% of trips daily in the area. The average trip distance of 23 miles and duration of 26 minutes overstates the high number of short distance trips where one in three trips lasts less than five minutes and shorter

than 2 miles. These shorter distance trips support the high percentage of trips internal to the subarea. Figure 22 illustrates the geographic distribution of destinations for trips originating in the City of Marco Island subarea.

Figure 21: Selected Trip Characteristics for City of Marco Island Origins



3.4.2 Trips Ending in Subarea

Figure 23 shows the characteristics of trips ending in the City of Marco Island subarea. Since there is such a high number of trips that stay internal to the subarea, these characteristics are very similar to the origin trips shown previously. This relationship is influenced by the subarea's high-end shopping, resort, and residential land use features. Figure 24 graphically illustrates the geographic distribution of origins for trips ending in the City of Marco Island subarea.

Figure 22: Destinations for trips Originating in City of Marco Island Subarea

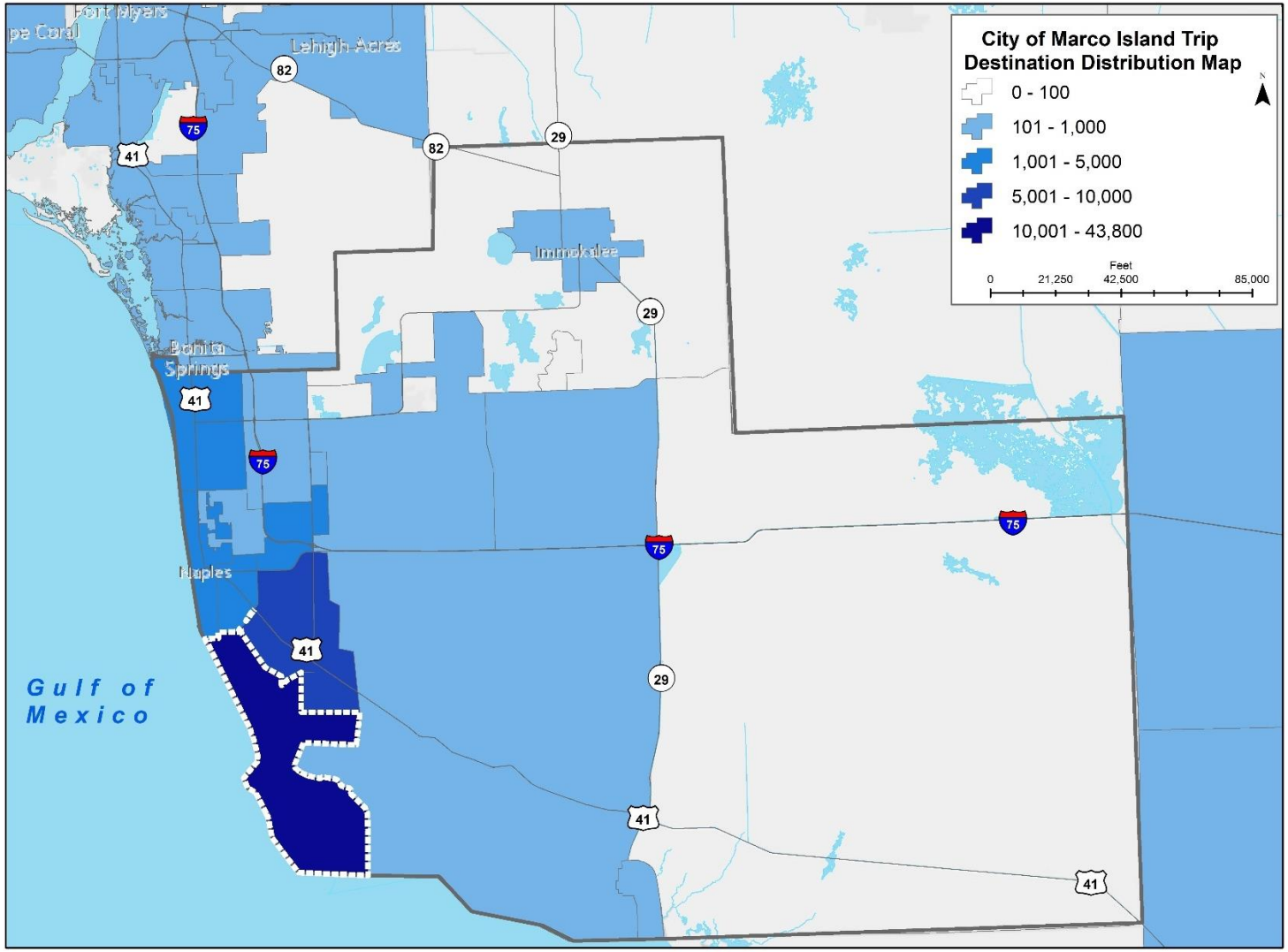
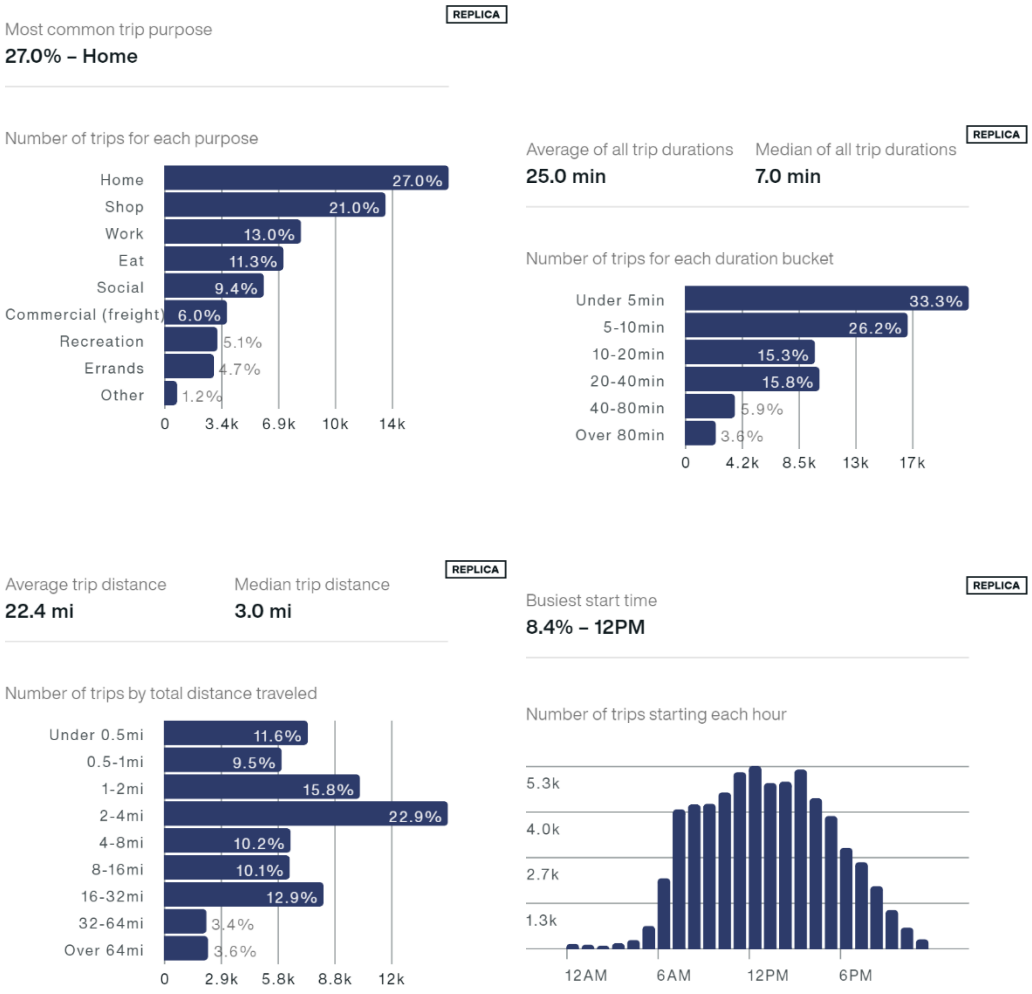


Figure 23: Selected Trip Characteristics for City of Marco Island Destinations



3.4.3 Work Location

Table 13 lists the top work locations for residents of the City of Marco Island subarea. This table indicates that work trips made by residents of the City of Marco Island are predominantly within the City of Marco Island subarea. More than 60% of the 6,900 workers living in the City of Marco Island subarea also work within the subarea.

Shown in Figure 25 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips follow a similar pattern as all trips originating from the subarea. The average trip distance of 55 miles and average trip duration of 44 minutes illustrate the impact of the 348 workers traveling outside of the region. It was estimated that 2,100 or 11% of the 19,000 people residing in the City of Marco Island subarea worked from home during the Spring 2021 quarter.

Figure 24: Origins for trips Ending in City of Marco Island Subarea

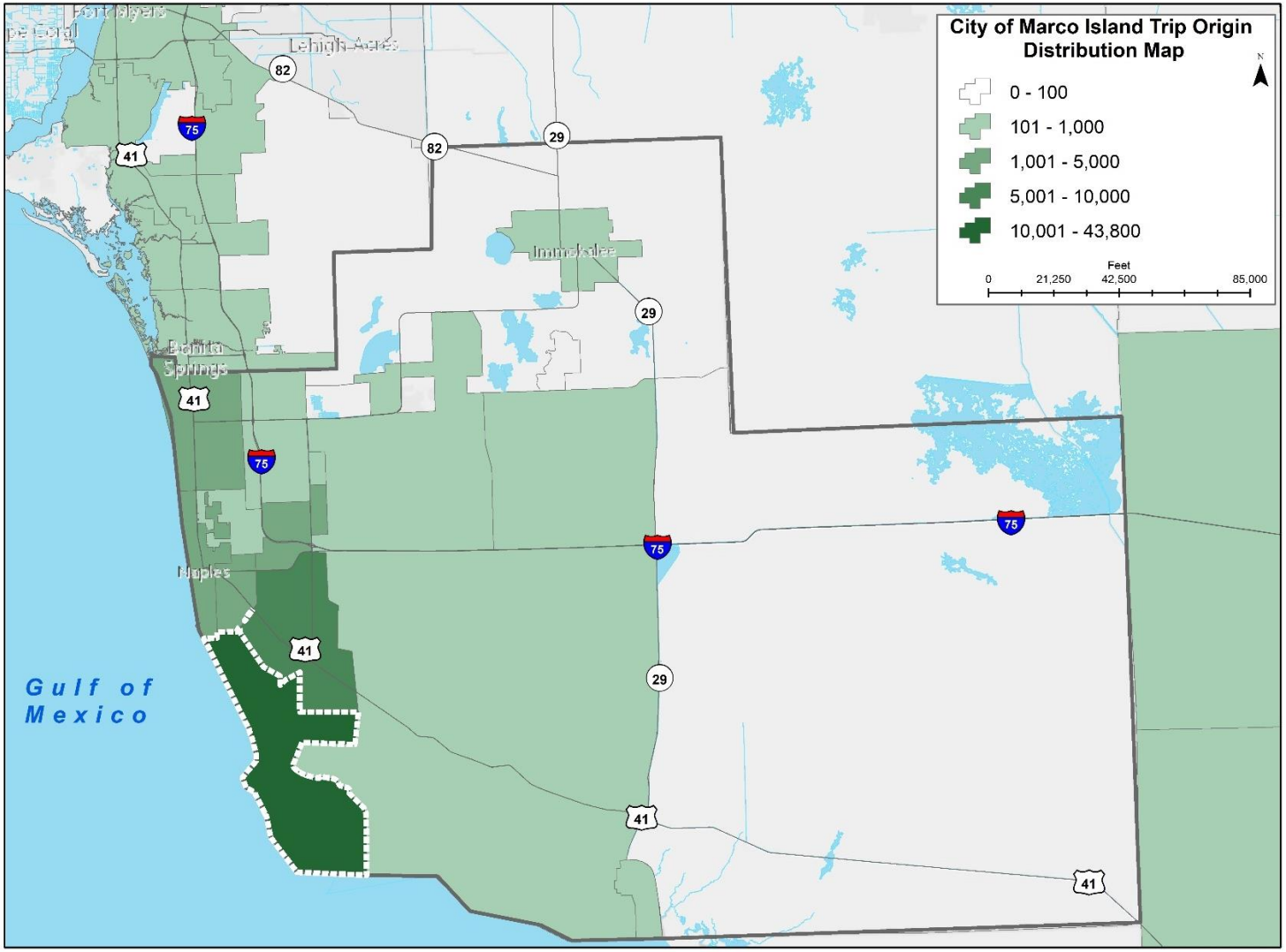


Table 13: Work Locations for Residents of City of Marco Island

Work Location	Population	Work Location	Population
City of Marco Island	4,363	Broward County	91
North Naples	405	South Fort Myers	85
South Naples	399	Golden Gate	77
Out of region	348	Royal Fakapalm	45
City of Naples	295	Immokalee	35
Central Naples	229	Ave Maria	25
Miami-Dade County	191	Everglades City	25
East Naples	142	Rural Estates	23
San Carlos	137	Estero	12
Urban Estates	115	Orange Tree	11

Figure 25: City of Marco Island Home to Work Trip Characteristics

3.5 City of Naples

The City of Naples subarea is inclusive of the current city limits as shown in the image to the right.

Table 14 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the City of Naples subarea. Trip origins listed have a destination in the City of Naples subarea and vice-versa for the destinations listed. The 52,570 trips originating in the City of Naples subarea and remaining within the area represent 40% of the more than 130,000 daily trips originating in the subarea. The nearby areas of North Naples, Central Naples and East Naples have high trip interactions with more than 10,000 daily trips coming into the City of Naples.

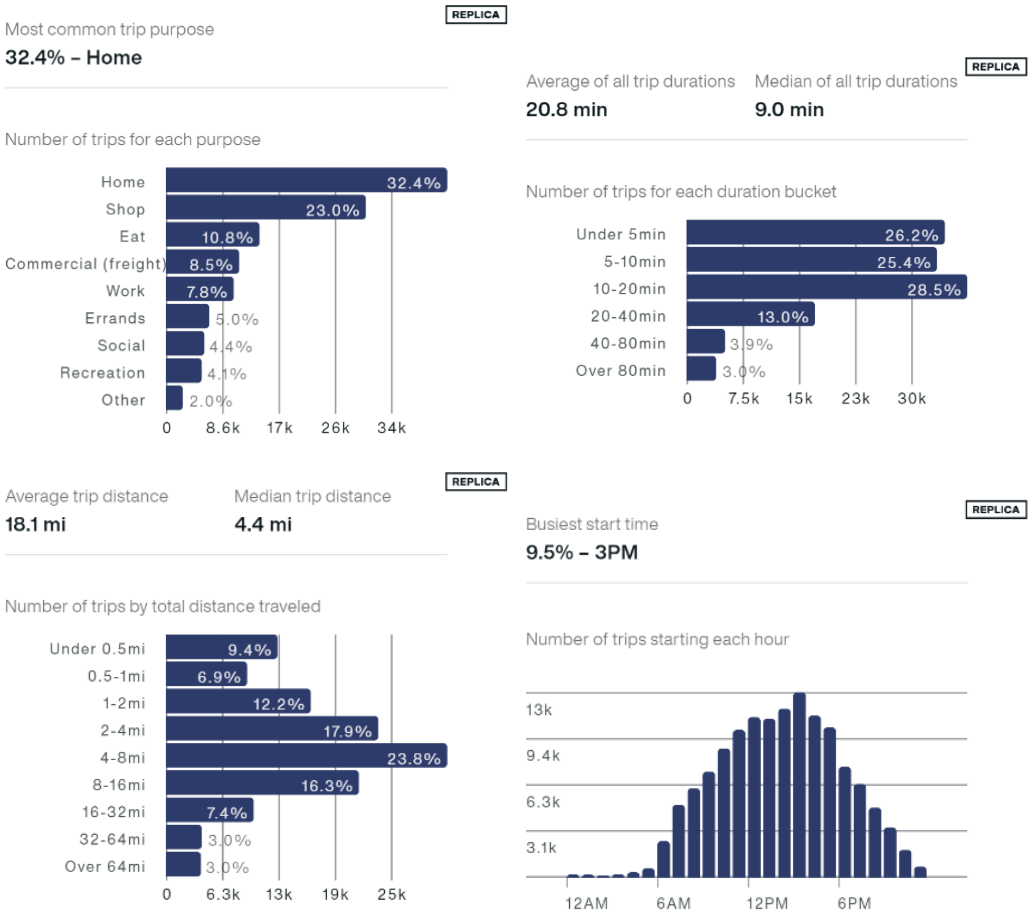
Table 14: City of Naples Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
City of Naples (Internal)	52,570	52,570	City of Marco Island	1,566	1,560
North Naples	18,196	17,337	Estero	907	940
Central Naples	13,102	12,924	San Carlos	668	791
East Naples	10,454	10,465	Fort Myers	574	820
South Naples	7,812	6,818	Miami-Dade County	527	545
Golden Gate	7,360	7,159	South Fort Myers	461	569
Urban Estates	6,857	6,550	Immokalee	423	407
Bonita Springs	3,047	2,377	Heritage Bay	387	337
Rural Estates	2,781	3,089	Lehigh Acres	362	566
Out of region	2,404	2,466	Broward County	336	57

3.5.1 Trips Beginning in Subarea

Figure 26 provides a summary of the trips purpose, trip distance, trip duration and start time statistics for the area. Trips originated in the City of Naples have a high home trip purpose at about 32% of the trips daily in the area. The average trip distance of 18 miles and the average trip duration of 21 minutes are more than double the median values for these measures. As seen in the graphs, a large portion of trips originated here are shorter distance. However, the regional nature of the uses in this subarea explains the longer trips. Figure 27 illustrates the geographic distribution of destinations for trips originating in the City of Naples subarea.

Figure 26: Selected Trip Characteristics for City of Naples Origins



3.5.2 Trips Ending in Subarea

Figure 28 shows the characteristics of trips ending in the City of Naples subarea. These trips demonstrate very similar characteristics in terms of trip distance and duration compared with the trip origins. While shopping is the top purpose for trips ending in the City of Naples subarea, the percentage of work trips ending in the subarea (15.5%) is twice the percentage of work trips when the origin is the City of Naples (7.8%). This indicates that a significant number of individuals working within the subarea are commuting from another subarea. The distribution of starting times for trips ending in the subarea is also another distinct difference when compared with trips originating within the subarea. Figure 29graphically illustrates the geographic distribution of origins for trips ending in the City of Naples subarea.

Figure 27: Destinations for trips Originating in City of Naples Subarea

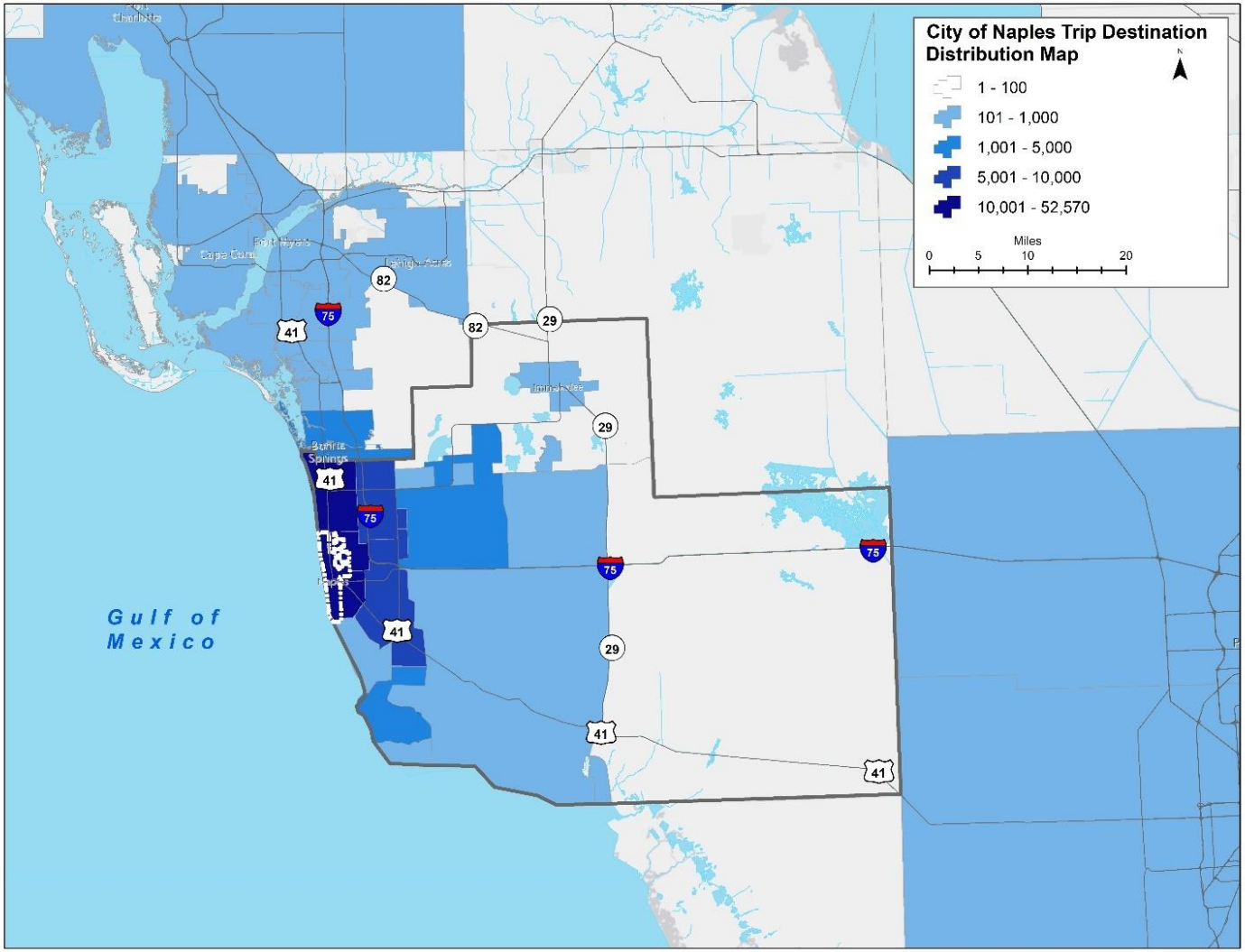
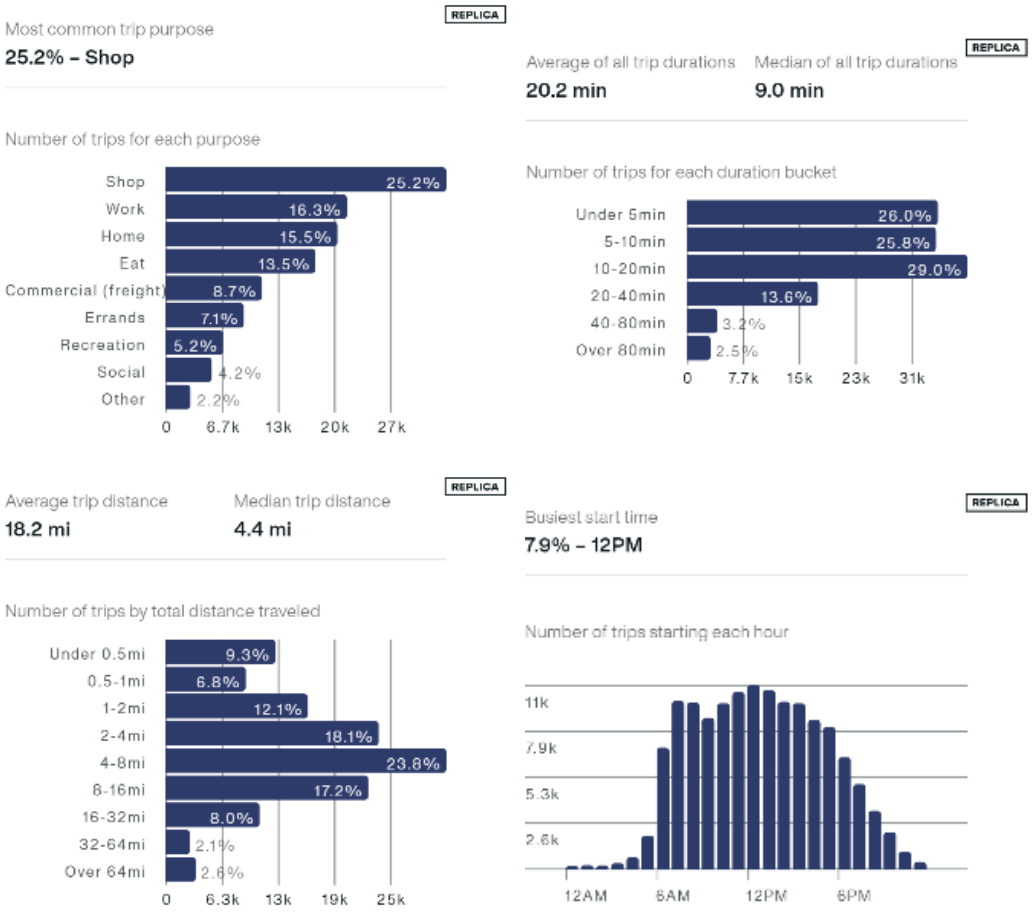


Figure 28: Selected Trip Characteristics for City of Naples Destinations



3.5.3 Work Location

Table 15 lists the top work locations for the more than 6,400 workers residing in the City of Naples. This table indicates that residents of the City of Naples also predominantly work within the City of Naples. The North Naples and Central Naples nearby subareas are the workplace for more than 500 residents each.

Shown in Figure 30 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originating within the study area, work trips exhibit a more disparate pattern with longer averages and lower median values. These trips also demonstrate a distinct A.M. peak pattern. Trips are most commonly between two to eight miles or under 10 minutes. Information regarding working from home is also made available through Replica. It was estimated that 1,600 or 10% of 16,374 residents in the City of Naples subarea worked from home during the Spring 2021 quarter.

Figure 29: Origins for trips Ending in City of Naples Subarea

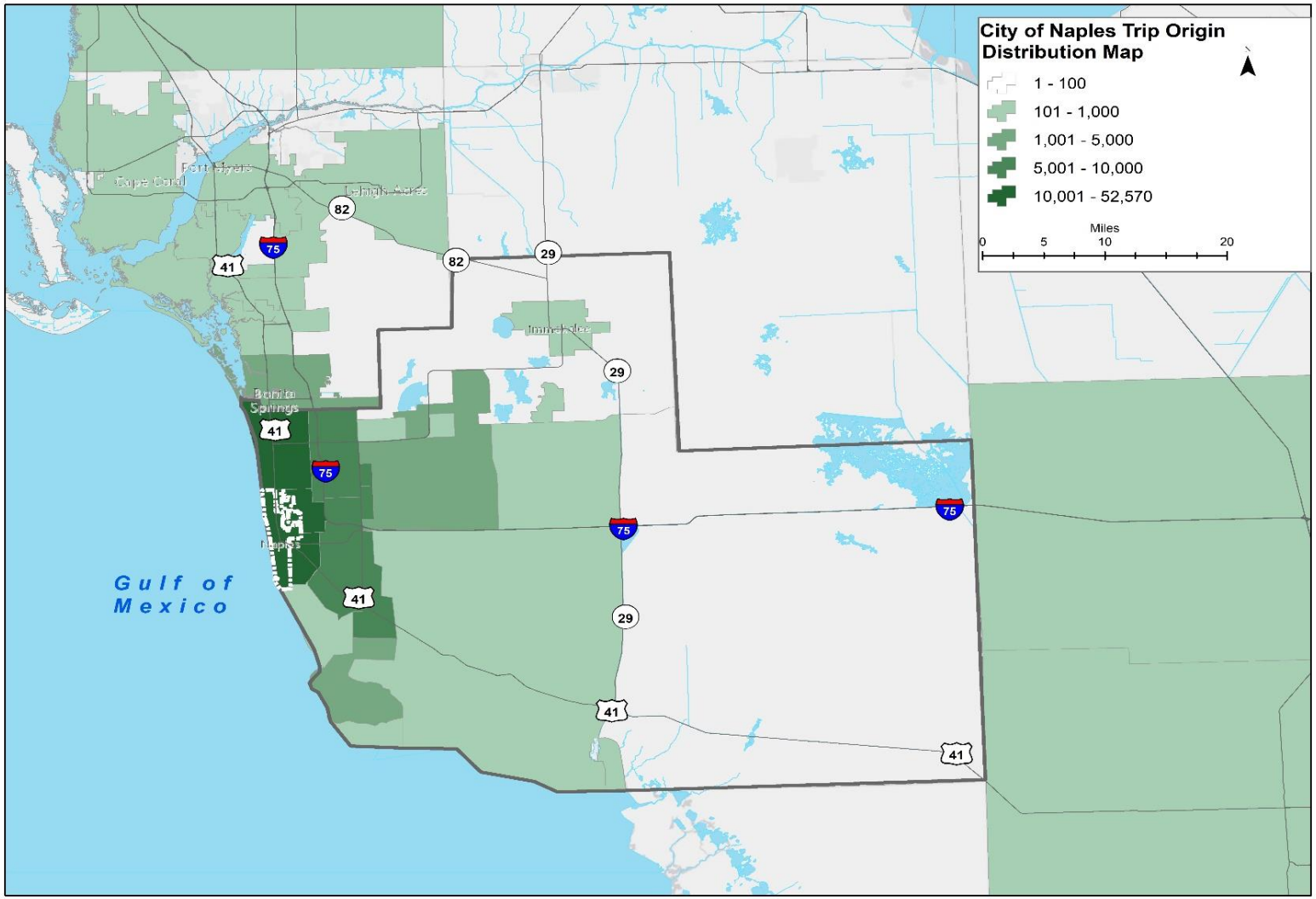
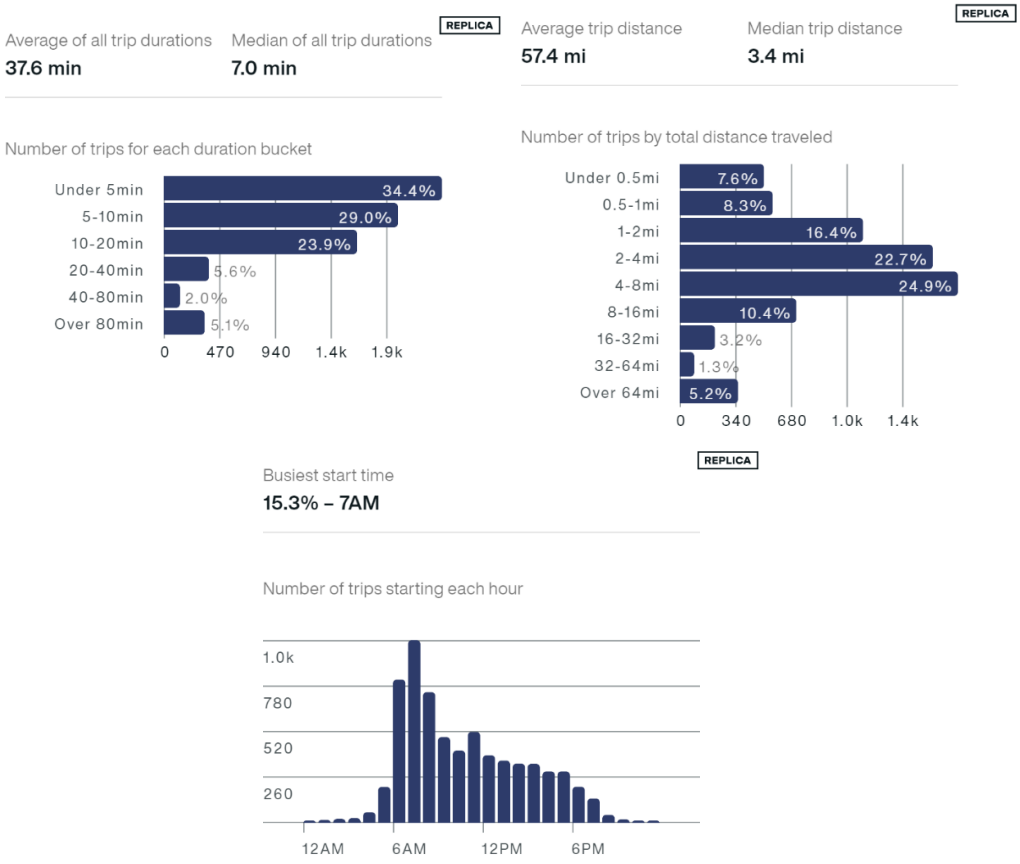


Table 15: Work Locations for Residents of City of Naples

Work Location	Population	Work Location	Population
City of Naples	3,165	Miami-Dade County	82
North Naples	771	South Fort Myers	80
Central Naples	537	Rural Estates	51
East Naples	428	Cape Coral	41
Out of region	410	Ave Maria	35
Urban Estates	219	Broward County	32
San Carlos	147	City of Marco Island	27
South Naples	110	Fort Myers	19
Golden Gate	106	Immokalee	16
Bonita Springs	90	Iona/McGregor	13

Figure 30: City of Naples Home to Work Trip Characteristics



3.6 Corkscrew

The Corkscrew subarea is in northern Collier County and surrounds Immokalee. The Corkscrew subarea is primarily comprised of wetland features, agricultural land uses, and rural residential communities.

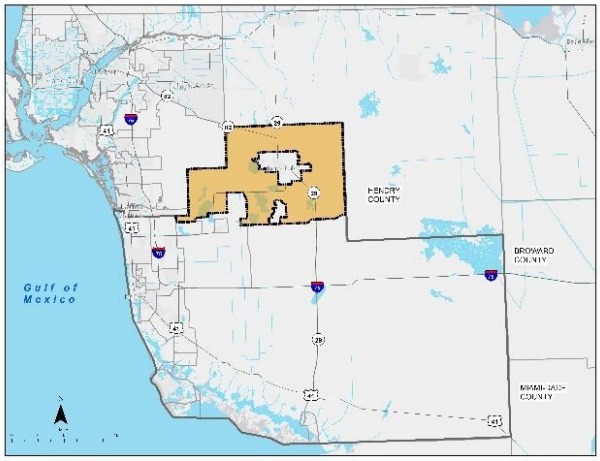


Table 16 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the Corkscrew subarea. The trip origins listed have a destination in the Corkscrew subarea and vice-versa for the destinations listed. The 685 trips originating in the Corkscrew subarea and remaining within the area represent 22% of the more than 3,000 daily trips originating from the area. The nearby subareas of Immokalee, Rural Estates and Ave Maria have a have trip generation with Corkscrew compared to the other subareas. As a more rural area, the overall daily trips in to and out of this area are relatively low.

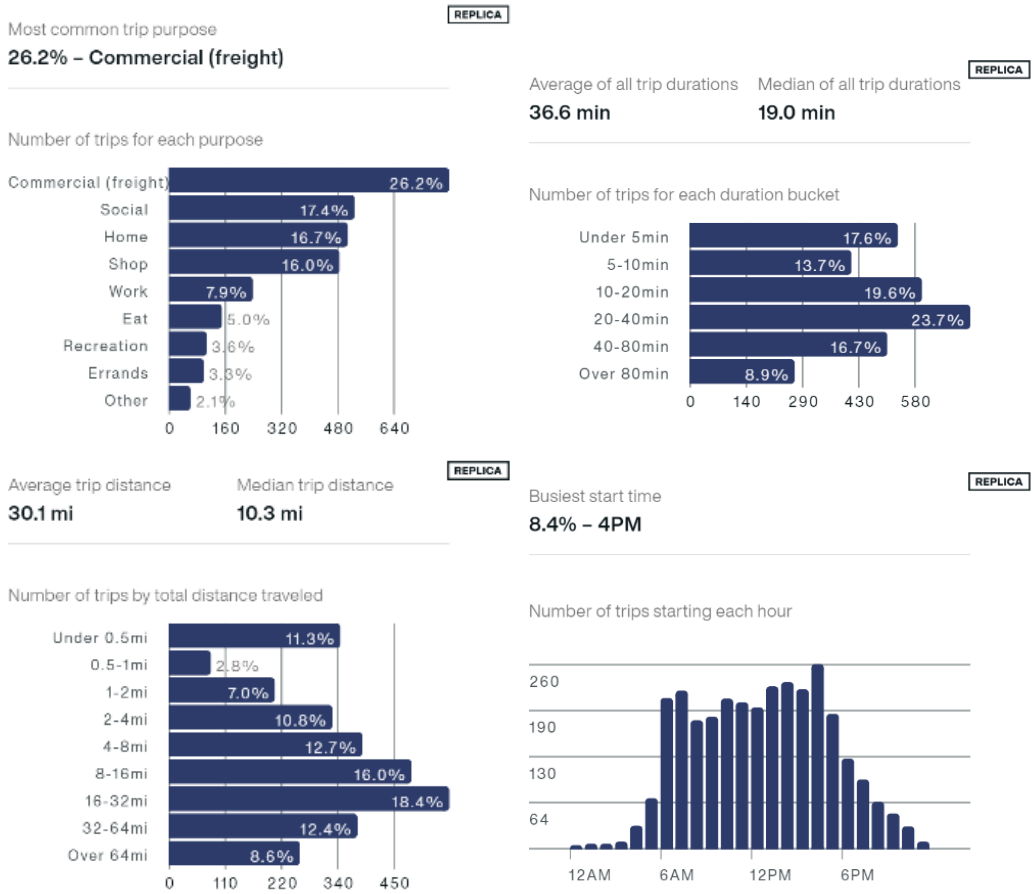
Table 16: Corkscrew Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Corkscrew (internal)	685	685	Royal Fakapalm	56	49
Immokalee	573	608	Miami-Dade County	53	58
Rural Estates	307	249	Orange Tree	51	61
Ave Maria	171	172	Bonita Springs	47	42
Out of Region	150	132	City of Naples	46	39
North Naples	150	104	Broward County	42	59
Hendry County	141	129	South Naples	39	28
Lehigh Acres	112	141	San Carlos	34	31
Urban Estates	110	80	Central Naples	33	32
Golden Gate	60	37	Fort Myers	32	53

3.6.1 Trips Beginning in Subarea

Figure 31 provides a summary of the trip purpose, trip distance, trip duration and start time statistics for the area. Trips originating in the Corkscrew subarea have a high commercial trip purpose at about 26% of the daily trips, which is consistent with the agricultural and mining uses in the area. The average trip distance traveled is around 30 miles and the average trip duration is 36 minutes. Both of which are indicative of the rural nature of this area. Figure 32 illustrates the geographic distribution of destinations for trips originating in the Corkscrew subarea.

Figure 31: Selected Trip Characteristics for Corkscrew Origins



3.6.2 Trips Ending in Subarea

Figure 33 shows characteristics for trips ending in the Corkscrew subarea. Along with the map in Figure 34 illustrating the geographic distribution of origins for trips ending in the Corkscrew subarea, these characteristics are like those for trips originating within the area. Social and shopping trips are among some of the main trip purposes for trips in the area.

Figure 32: Destinations for trips Originating in Corkscrew Subarea

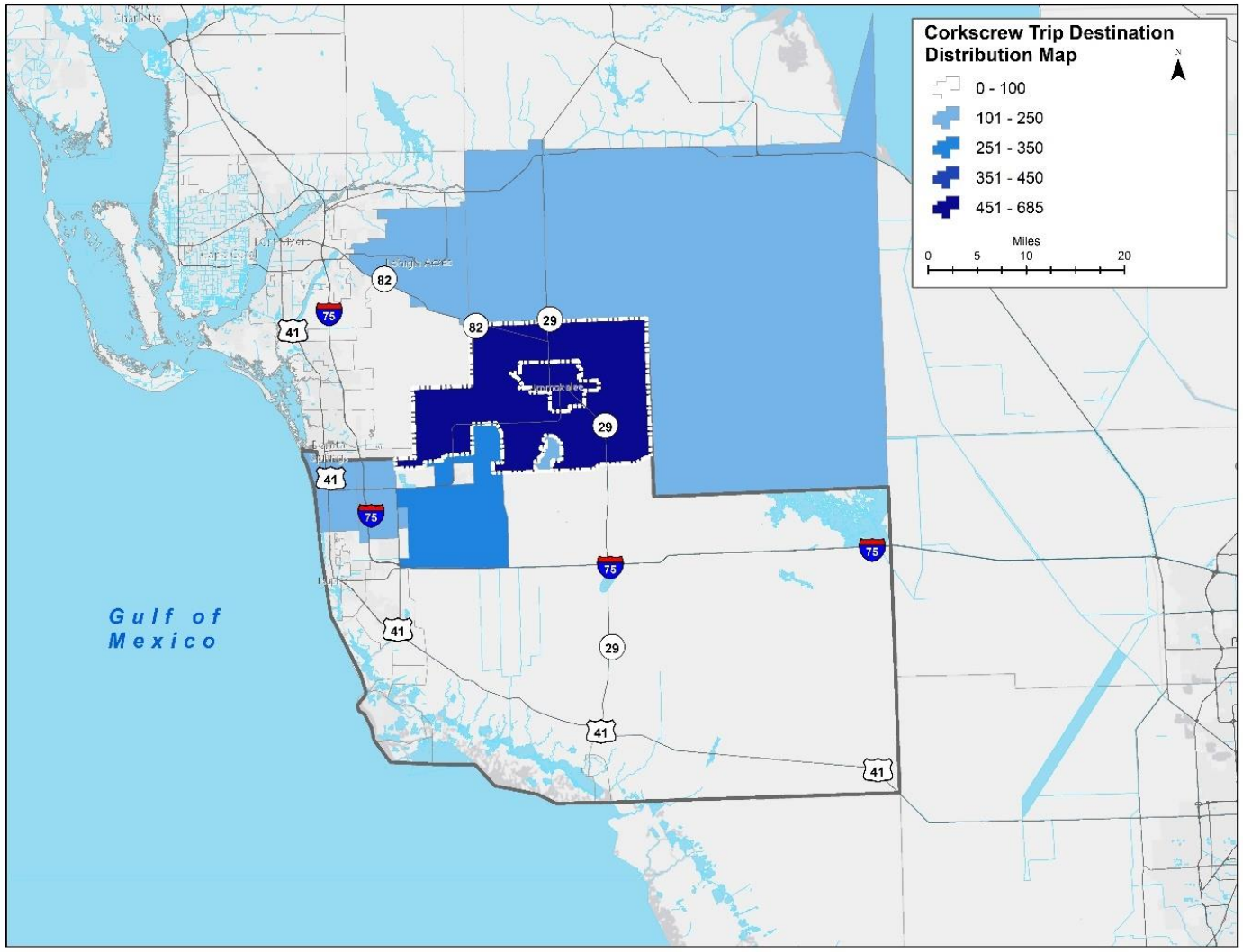
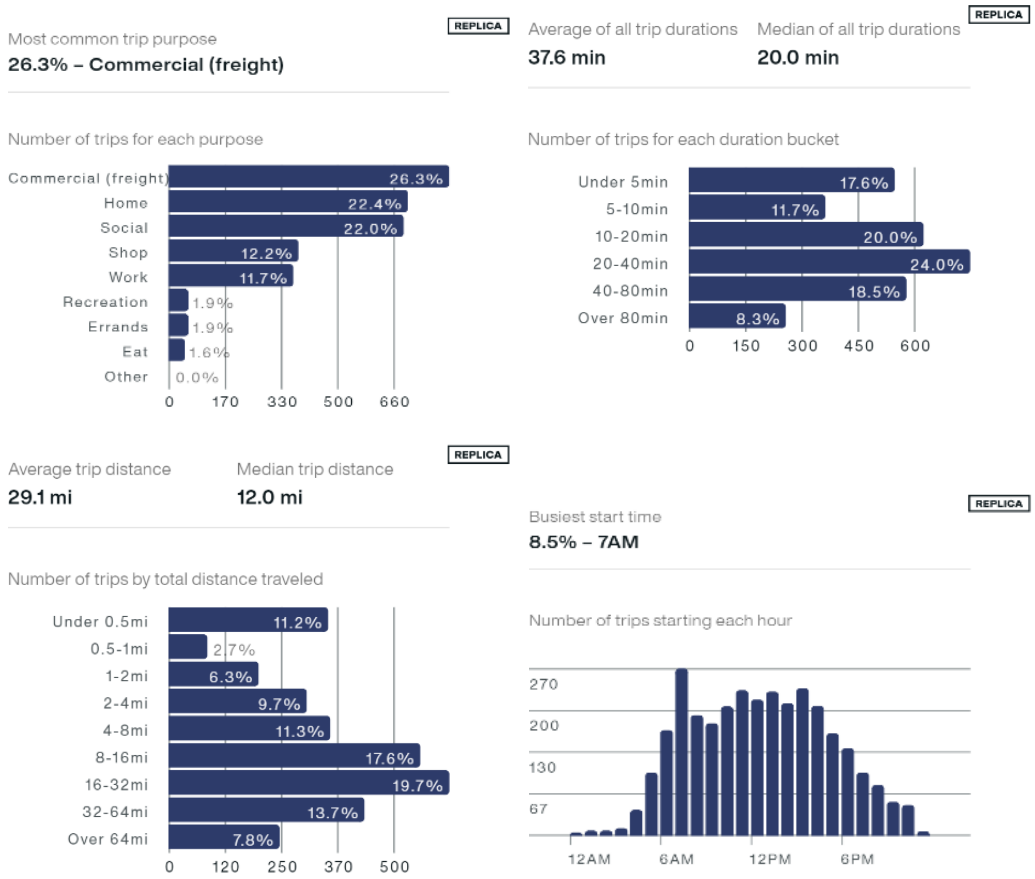


Figure 33: Selected Trip Characteristics for Corkscrew Destinations



3.6.3 Work Location

Table 17 lists the top work location subareas for the 900 workers living in the Corkscrew subarea. This table indicates that work trips made by residents of Corkscrew are predominantly to the nearby Immokalee subarea as well as North Naples

Shown in Figure 35 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are shorter in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that 80 or 8.8% of the people residing in the Corkscrew subarea worked from home during the Spring 2021.

Figure 34: Origins for trips Ending in Corkscrew Subarea

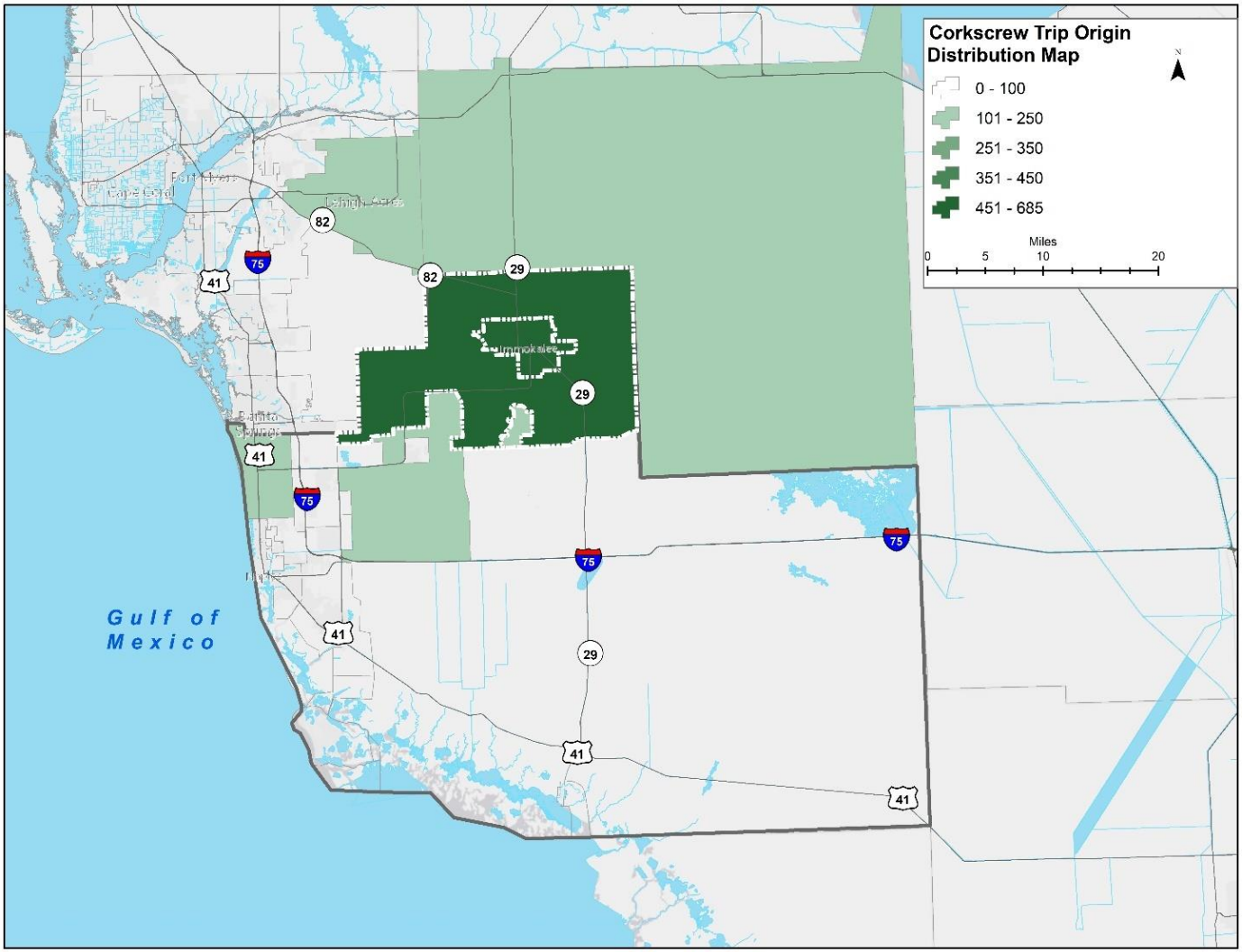
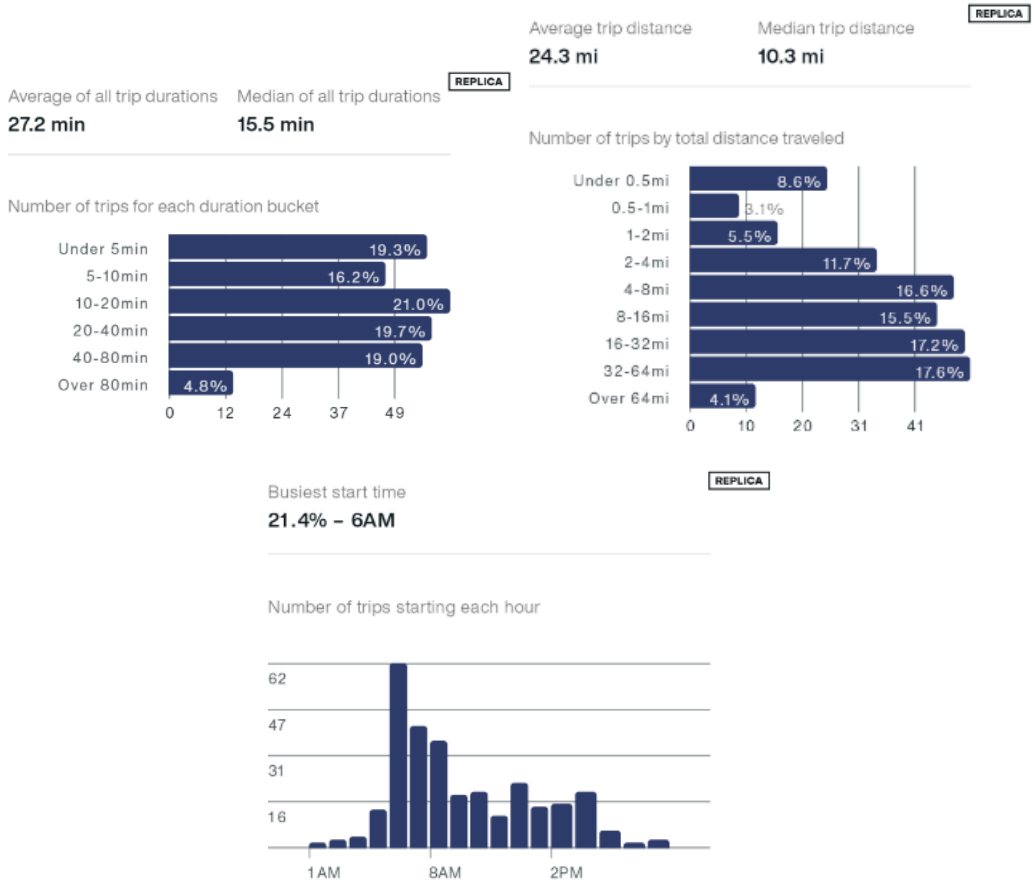


Table 17: Work Locations for Residents of Corkscrew

Work Location	Population	Work Location	Population
Immokalee	101	Fort Myers	12
North Naples	57	East Naples	12
Ave Maria	30	South Fort Myers	10
City of Naples	28	Heritage Bay	7
San Carlos	20	Miami-Dade County	5
Rural Estates	20	Estero	5
Central Naples	20	Lehigh Acres	5
South Naples	17	Sanibel	5
Urban Estates	17	Bonita Springs	4
Corkscrew	13	Fort Myers Shores	4

Figure 35: Corkscrew Home to Work Trip Characteristics



3.7 East Naples

East Naples is in southwest Collier County as illustrated in the image to the right.

Table 18 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the East Naples subarea. The trip origins listed have a destination in the East Naples subarea and vice-versa for the destinations listed. The 28,132 trips originating in the East Naples subarea and remaining in the area represent 34% of the more than 82,000 daily trips originating in the area. This percentage is a relatively higher percentage than the internal trips in other subareas. Other areas of high trip interaction include the neighboring South Naples and City of Naples subareas

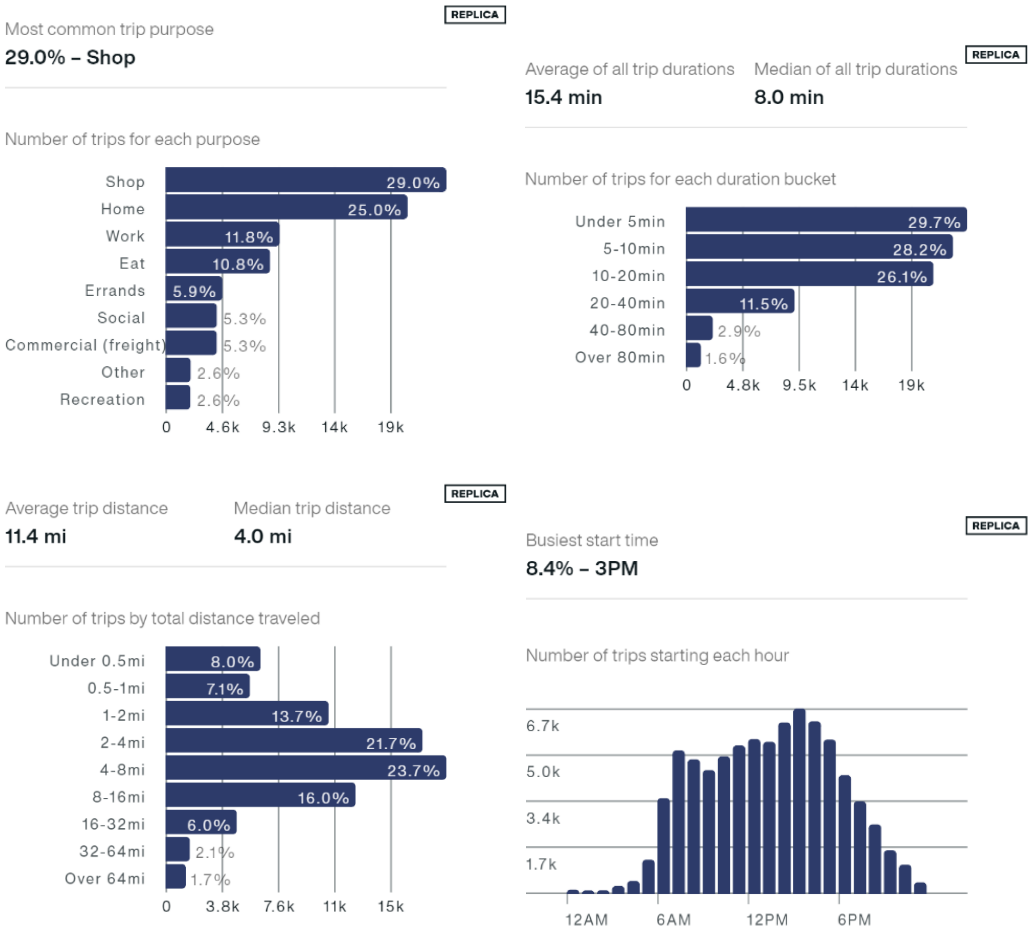
Table 18: East Naples Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
East Naples (Internal)	28,132	28,132	Out of Region	788	896
South Naples	12,327	12,263	Estero	346	339
City of Naples	10,465	10,454	San Carlos	307	441
Golden Gate	6,706	6,962	Fort Myers	304	487
Central Naples	5,763	5,781	Immokalee	254	328
North Naples	5,230	5,449	South Fort Myers	252	390
Urban Estates	2,843	2,969	Royal Fakapalm	244	239
Rural Estates	1,538	1,881	Miami-Dade County	230	214
City of Marco Island	1,495	1,289	Heritage Bay	182	197
Bonita Springs	1,148	936	Gateway/Airport	174	350

3.7.1 Trips Beginning in Subarea

Figure 36 provides a summary of the trip purpose, trip distance, trip duration and the start time statistics for the area. Trips originating from East Naples have a high home trip purpose at 30% of the daily trips generated in the subarea, while shopping trips are a quarter of the total trips at 21,000 trips in the area. The average trip distance traveled is around 11 miles and the average trip duration is 15 minutes. Figure 37 illustrates the geographic distribution of destinations for trips originating in the East Naples subarea.

Figure 36: Selected Trip Characteristics for East Naples Origins



3.7.2 Trips Ending in Subarea

Figure 38 shows the characteristics of trips ending in East Naples, including features such as trip's purpose, trip distance, trip duration and the busiest start time trips. More than 30% of the trips ending in East Naples have a high home destination, while shopping trips account for one-in-four trips ending in the area. Like the trip origins where these two top purposes are reversed combined with the high percentage of trips internal to the area, the average trip distance and trip duration are nearly the same for these destination trips and the origin trips. The busiest start time shows an early afternoon spike during the 3 P.M. hour. Figure 39 graphically illustrates the geographic distribution of origins for trips ending in the East Naples subarea.

Figure 37: Destinations for trips Originating in East Naples Subarea

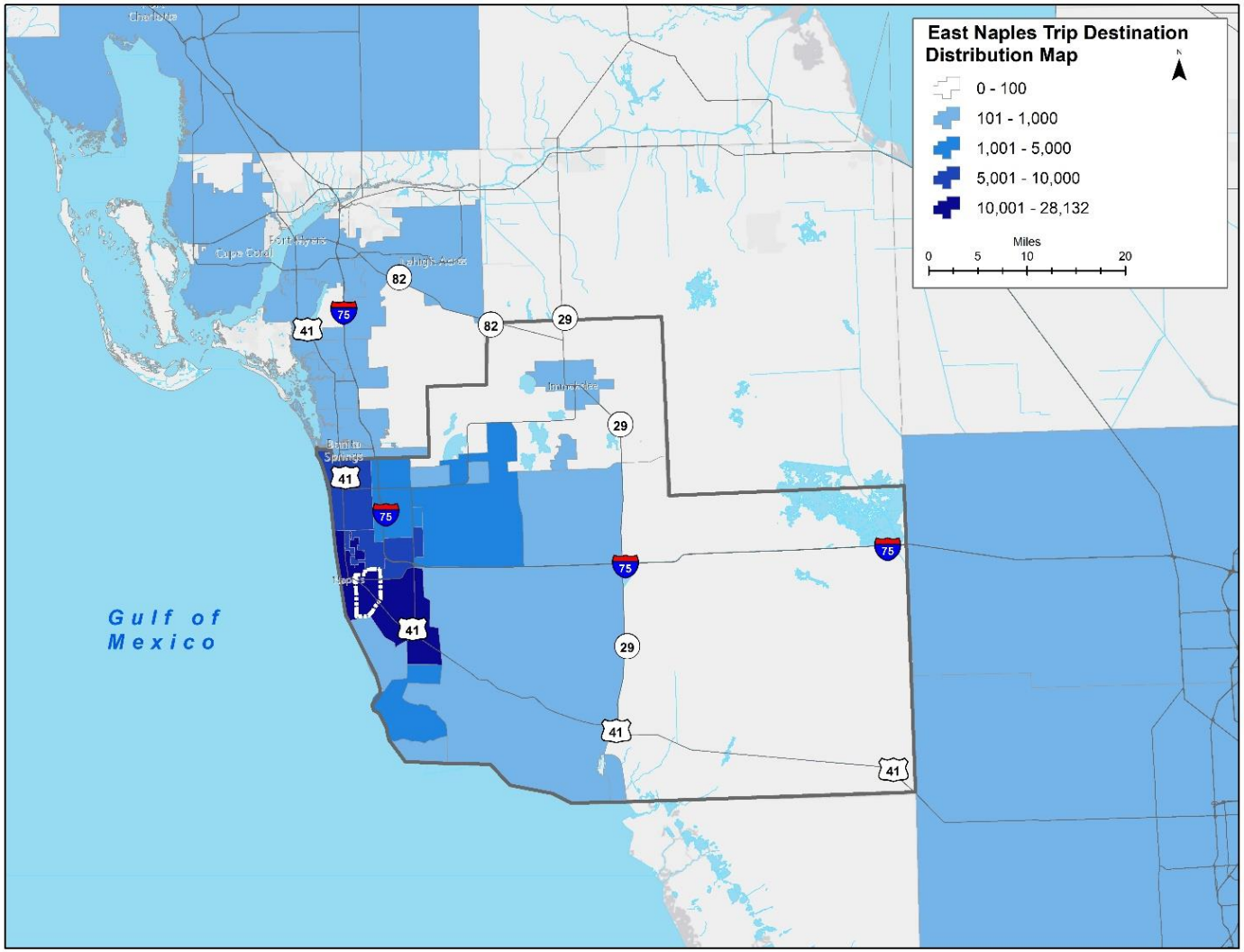
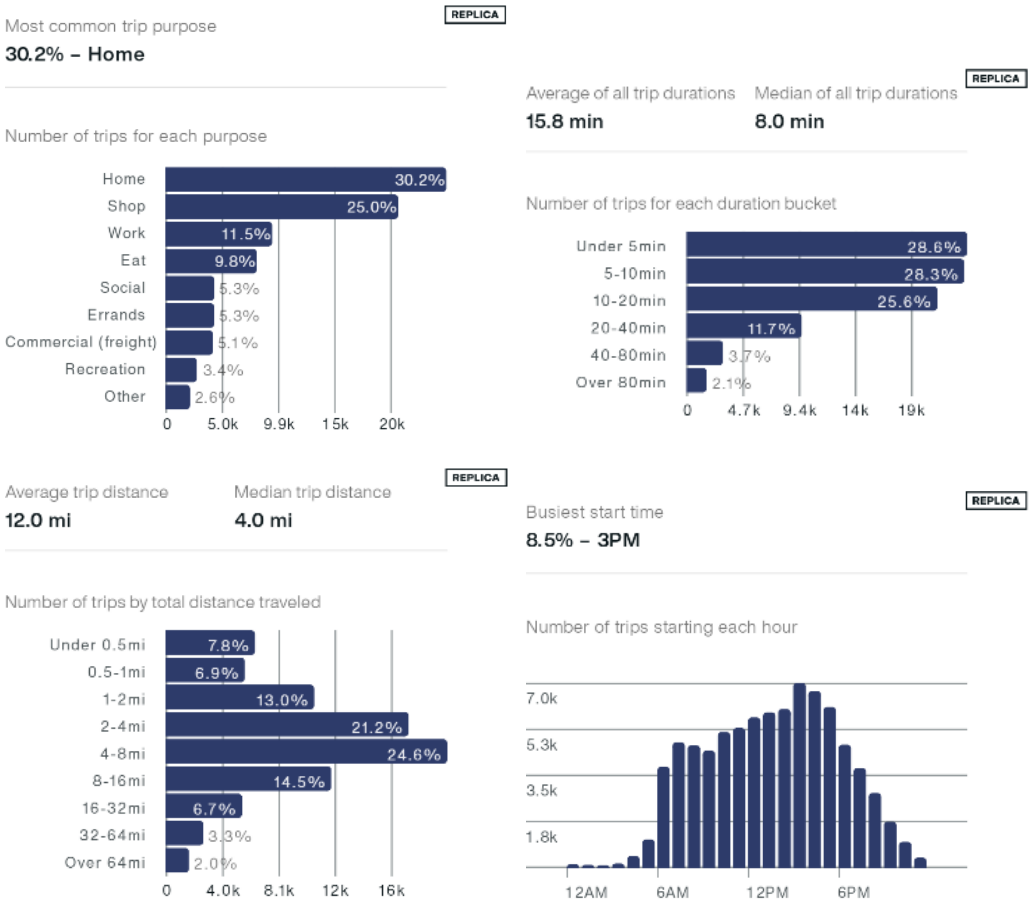


Figure 38: Selected Trip Characteristics for East Naples Destinations



3.7.3 Work Location

Table 19 lists the top work location subareas for the 9,900 workers residing in the subarea. This table indicates that work trips made by residents of East Naples are predominantly internal to the East Naples subarea, the City of Naples, or North Naples.

Shown in Figure 40 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance on average, and demonstrate a distinct A.M. peak starting as early as 5 A.M. While these trips are longer than the average trips in the subarea, more than 40% are less than 4 miles in length. Information regarding working from home is also made available through Replica. It was estimated that 1,650 or 7.2% of the 22,800 residents in the East Naples subarea worked from home during the Spring 2021 quarter.

Figure 39: Origins for trips Ending in East Naples Subarea

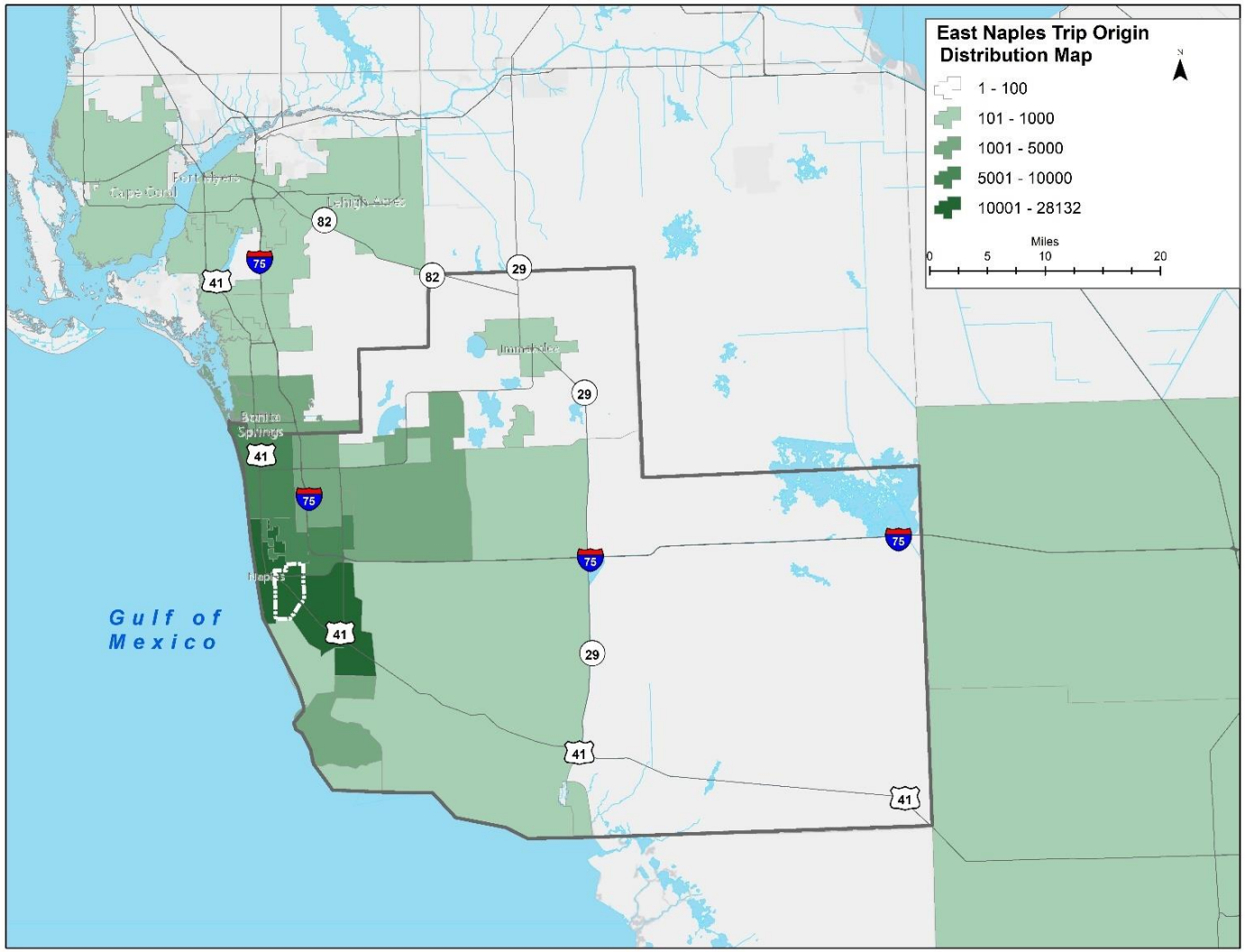
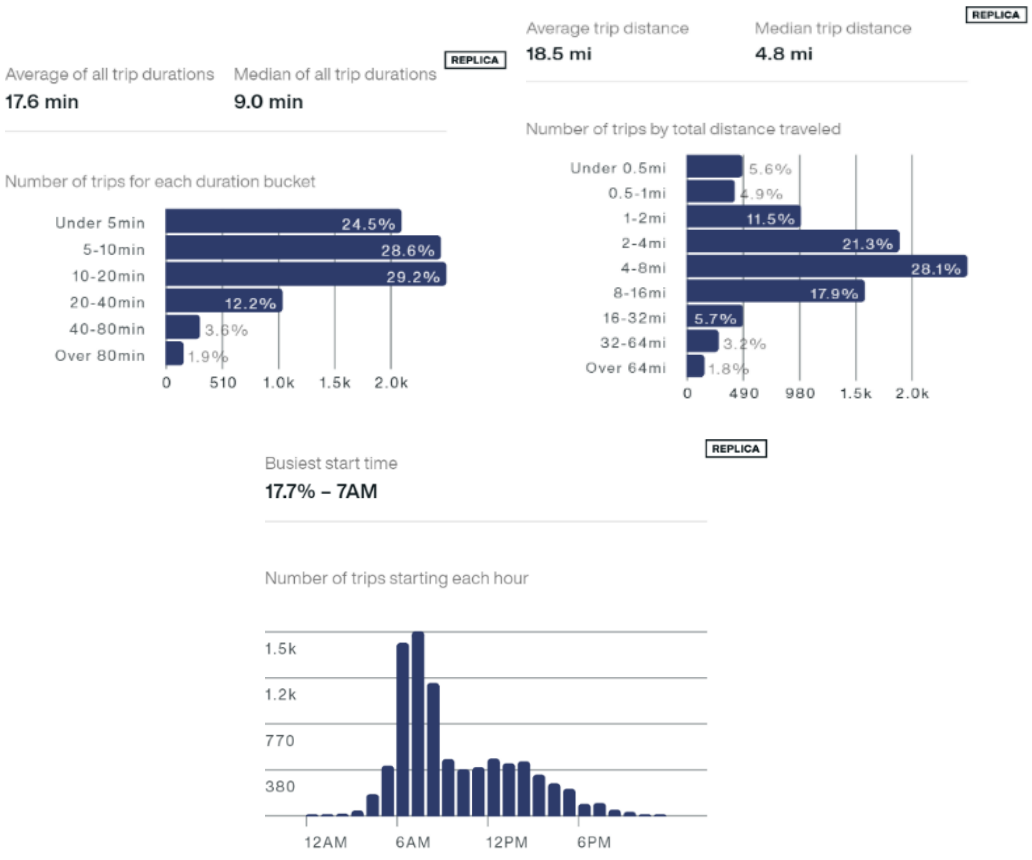


Table 19: Work Locations for Residents of East Naples

Work Location	Population	Work Location	Population
East Naples	2,753	Rural Estates	156
City of Naples	2,348	Out of Region	119
North Naples	1,179	Immokalee	107
Central Naples	760	Miami-Dade County	107
South Naples	567	Ave Maria	86
City of Marco Island	393	Bonita Springs	70
Golden Gate	379	Fort Myers	54
Urban Estates	299	Royal Fakapalm	28
San Carlos	191	Estero	23
South Fort Myers	167	Broward County	18

Figure 40: East Naples Home to Work Trip Characteristics



3.8 Everglades City

The Everglades City subarea is inclusive of the City of Everglades City, Chokoloskee, and Plantation Island. These small communities, located in southern Collier County, have a long history with connections to fishing and nature.

Table 20 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the Everglades City subarea. The trip origins listed have a destination in the Everglades City subarea and vice-versa for the destinations listed. The 1,668 trips originating in the Everglades City subarea and remaining in the area represent 45% of the more than 3,700 daily trips originating in the subarea. Separated from other built areas by large distances, reduces the amount of direct interaction with external locations. While more than half of the trips leave the area, no single external area exhibits a high correlation of trips.

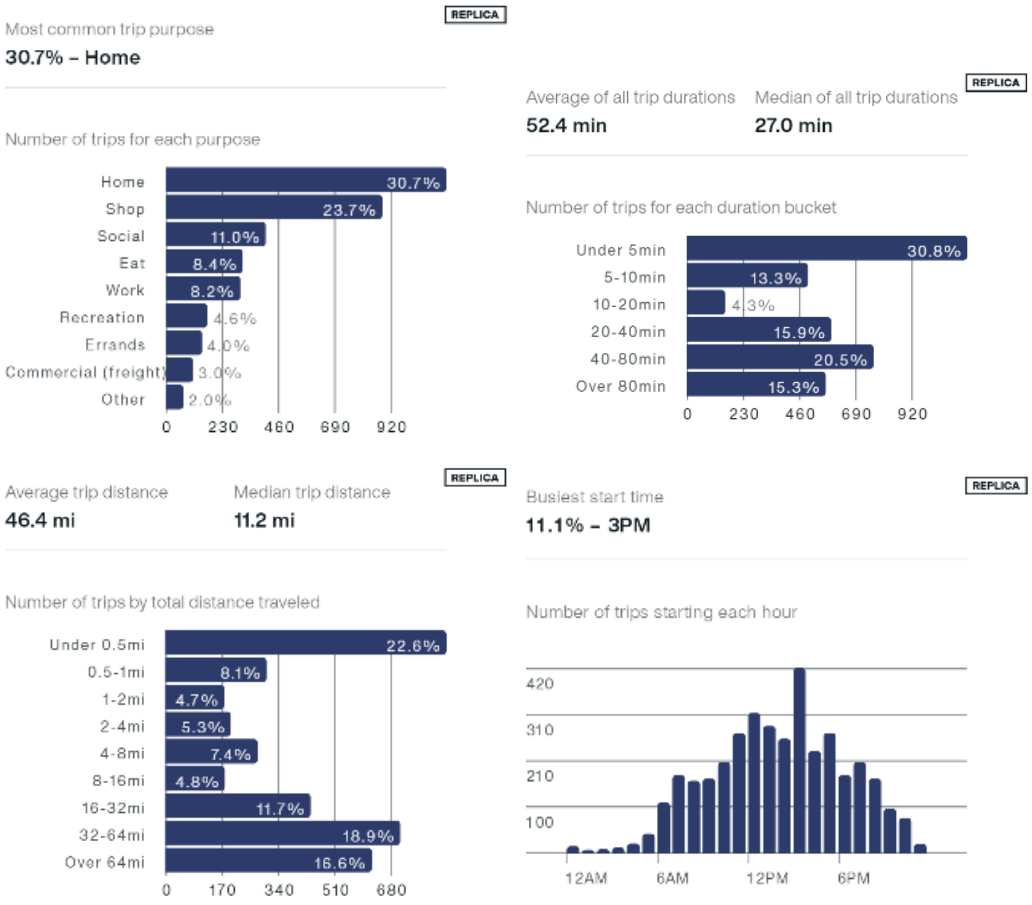
Table 20: Everglades City Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Everglades City (internal)	1,668	1,668	Big Cypress	122	67
South Naples	375	368	Golden Gate	46	63
Royal Fakapalm	333	294	Urban Estates	27	52
Out of Region	261	268	Central Naples	35	42
City of Marco Island	146	171	Bonita Springs	35	40
Miami-Dade County	115	108	Lehigh Acres	22	39
East Naples	77	86	Fort Myers	11	27
Broward County	64	78	Immokalee	24	27
North Naples	64	76	Rural Estates	12	23
City of Naples	57	74	South Fort Myers	11	21

3.8.1 Trips Beginning in Subarea

Figure 41 provides a summary of the trip purpose, trip distance, trip duration and start time statistics for the area. Trips originating in the Everglades City subarea have a high home trip purpose at about 31% of the daily trips, while shopping trips are at estimated at 24% of daily trips generated in the subarea. While a considerable number of trips originating within the area are less than ½ mile in distance and less than 5 minutes, the average trip distance of 46 miles and trip duration of 52 minutes underscore the remote location of this subarea. Figure 42 illustrates the geographic distribution of destinations for trips originating in the Everglades City subarea.

Figure 41: Selected Trip Characteristics for Everglades City Origins



3.8.2 Trips Ending in Subarea

Figure 43 shows the characteristics of trips endings in the Everglades City subarea. As expected, these trip characteristics are similar for trips originating in the area. High trip purposes for trips ending in the Everglades City subarea are slightly different than trip origins and the other subareas with shopping and social trips being the highest. Like some of the other rural subareas (Big Cypress and Corkscrew), social trips do make up a higher percentage. This could be a result of the lower total number of trips and the connected feel of the established rural communities within these subareas. Average trip distance and trip duration measures however are comparable with those for origin trips. The distribution and frequency of these trips are also similar to those of origin trips. The distribution of trip start times however follows a different pattern than that of the trip origins. This could be attributed to the length of time it takes to travel for longer distance trips and the amount of time it takes to reach the Everglades City subarea. Figure 44 graphically illustrates the geographic distribution of origins for trips ending in the Everglades City subarea.

Figure 42: Destinations for trips Originating in Everglades City Subarea

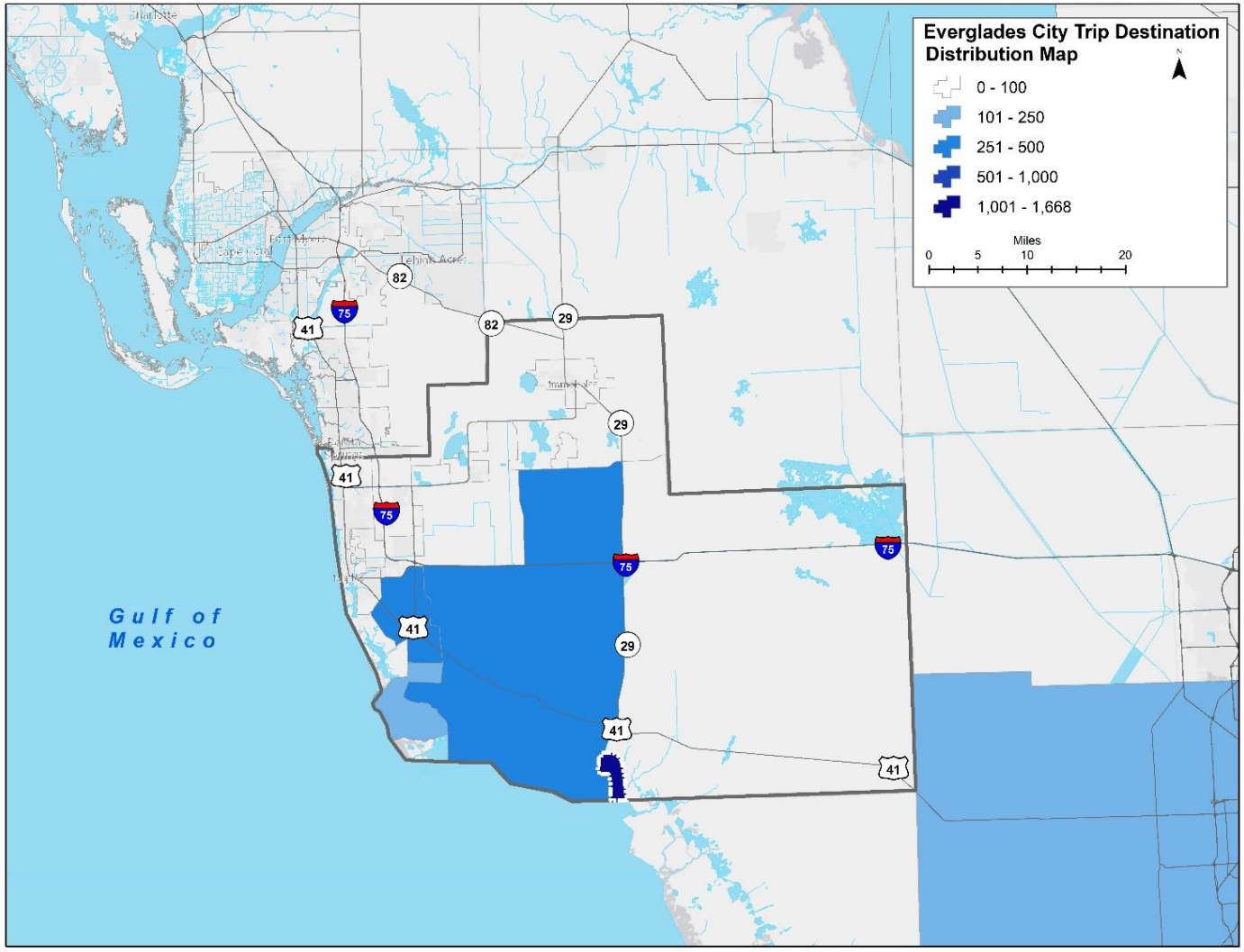
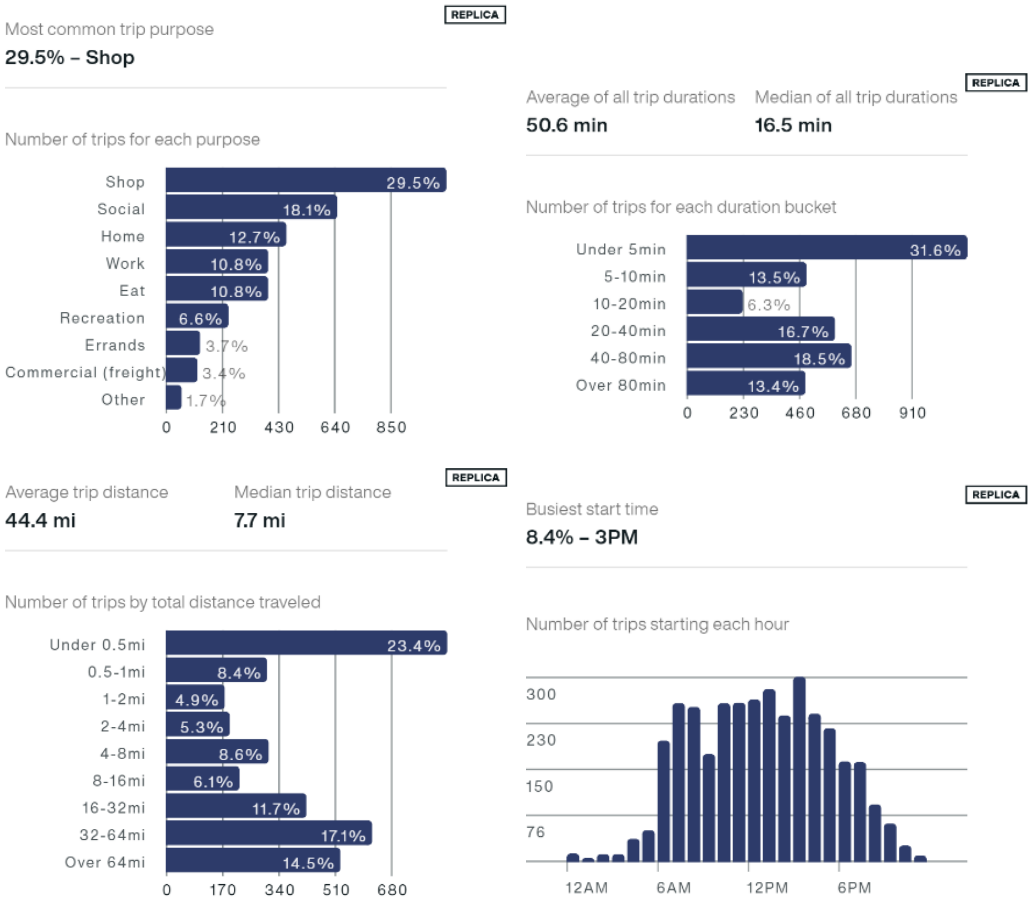


Figure 43: Selected Trip Characteristics for Everglades City Destinations



3.8.3 Work Location

Table 21 lists the top work locations for 239 workers residing in the Everglades City subarea. There is not a strong relationship between work locations for residents of this area. However, the highest locations of South Naples, North Naples and the City of Naples are a great distance away. This is illustrated in Figure 45 where the average and median travel times for this subarea are nearly equal. Most other subareas, excluding the nearby Big Cypress area, have median commute times that are significantly less than the average. There are a considerable number of trips ending at work with a relatively short distance. This can be explained by the compact size of the subarea and the ability to travel short distances during the workday. Information regarding working from home is also made available through Replica. Less than 50 of the 480 people (10.3%) residing in the Everglades City subarea worked from home during the Spring 2021 quarter.

Figure 44: Origins for trips Ending in Everglades City Subarea

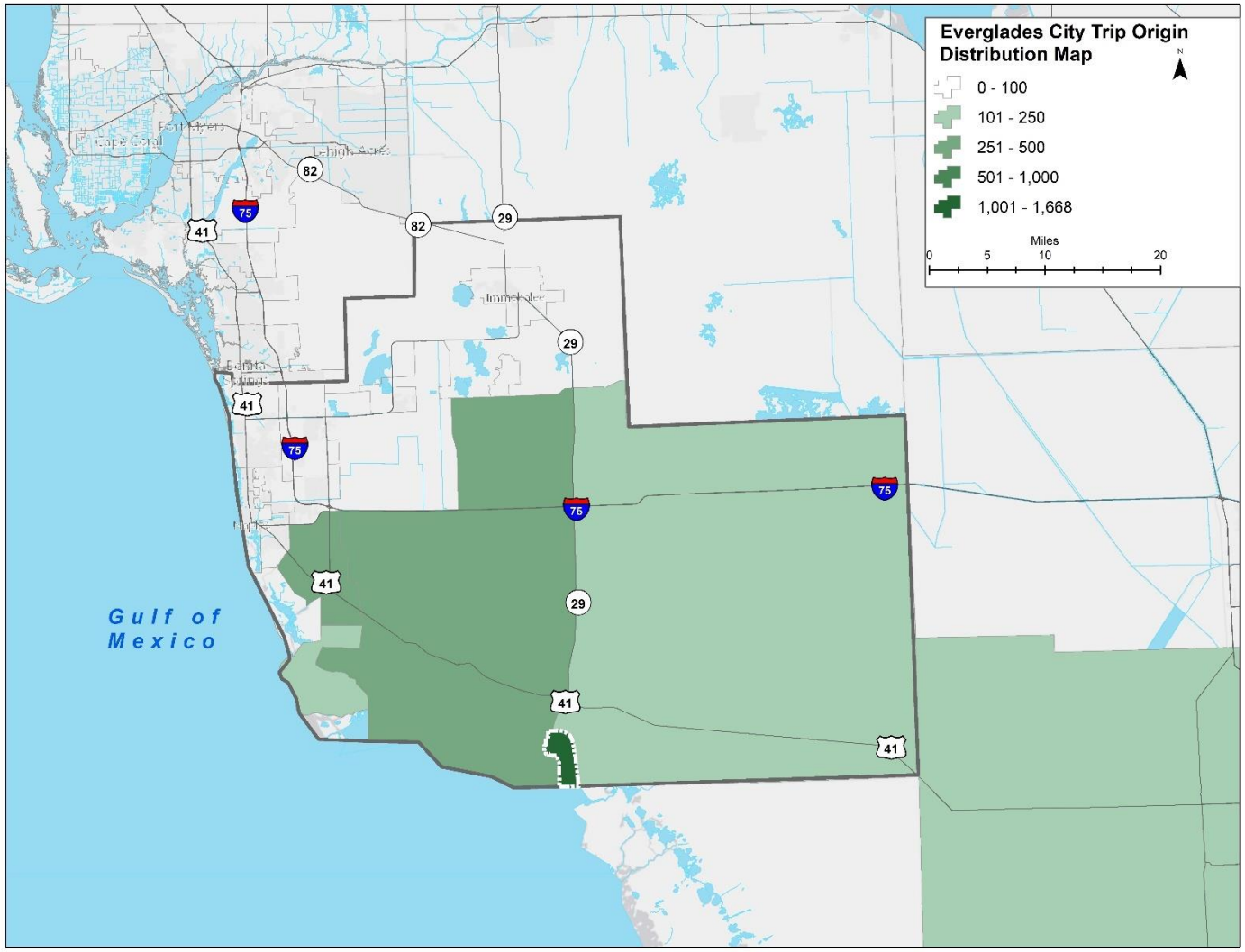
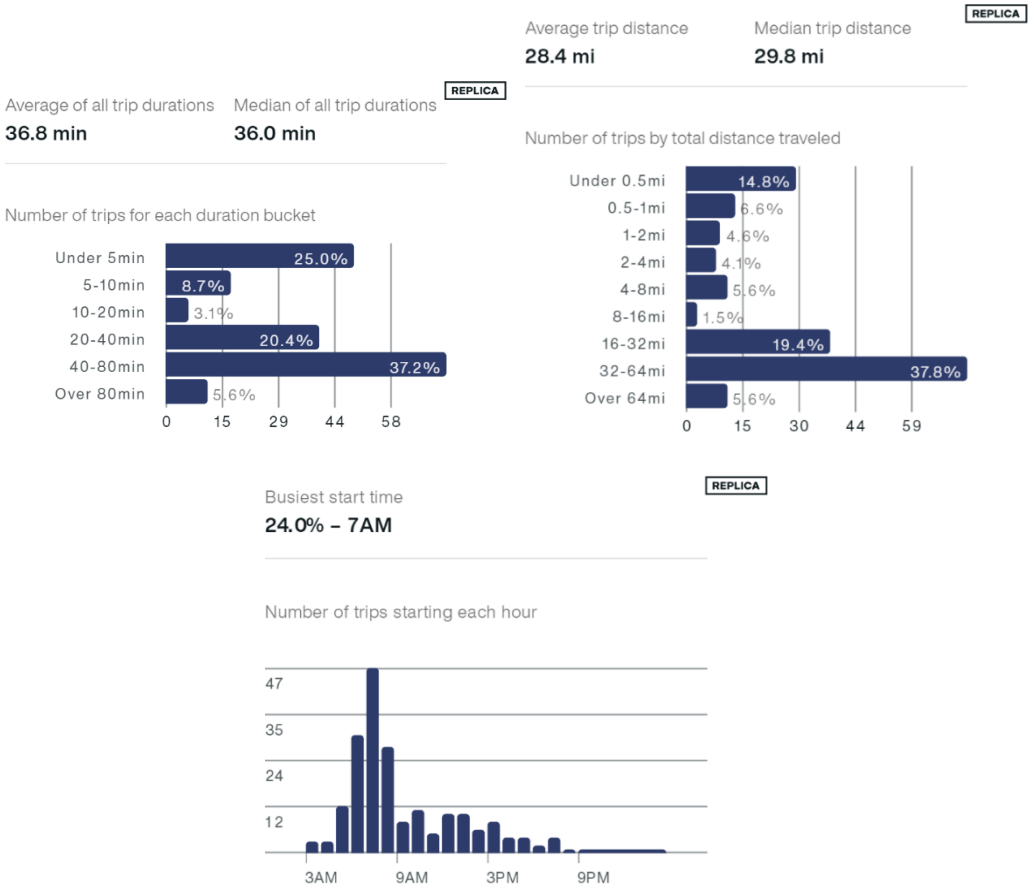


Table 21: Work Locations for Residents of Everglades City

Work Location	Population	Work Location	Population
South Naples	60	Big Cypress	4
North Naples	44	Ave Maria	4
City of Naples	20	San Carlos	3
Everglades City	18	Gateway/Airport	2
Miami-Dade County	17	Immokalee	2
East Naples	13	Marco	2
Royal Fakapalm	11	South Fort Myers	1
City of Marco Island	10	Golden Gate	1
Central Naples	8	Out of Region	0
Urban Estates	7		

Figure 45: Everglades City Home to Work Trip Characteristics



3.9 Golden Gate

The Golden Gate Community is in western Collier County and includes Golden Gate City as illustrated in the image to the right.

Table 22 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end occurs in the Golden Gate subarea. The trip origins listed have a destination in the Golden Gate subarea and vice-versa for the destinations listed. The 45,537 trips originating daily within the Golden Gate subarea and remaining within the area represent 42% of the more than 108,000 daily trips originating from the area. The nearby areas of North Naples, Urban Estates, South Naples, and City of Naples also experience high trip interaction with the Golden Gate subarea. These areas have diverse land use patterns and integrated road network connectivity with Golden Gate.

Table 22: Golden Gate Trip Origins and Destinations

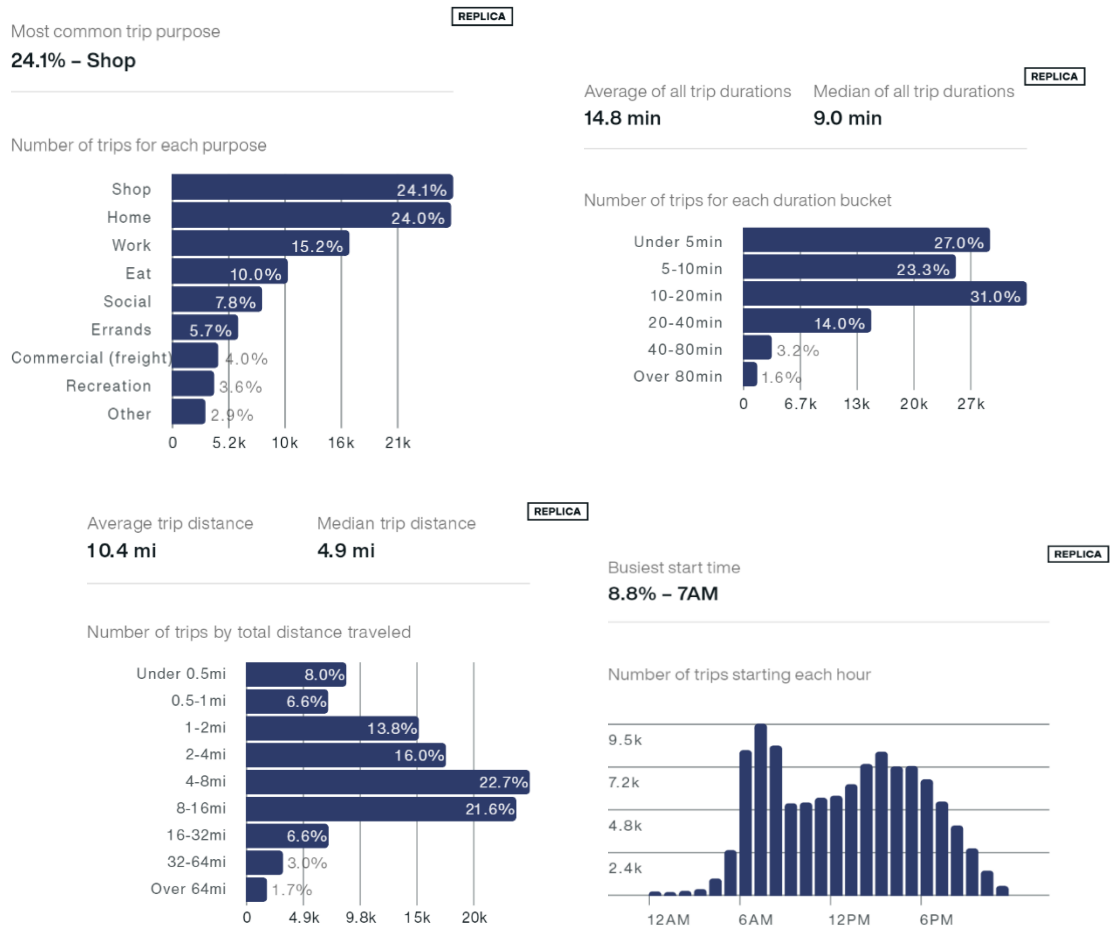
Subarea	Trips From	Trips To	Subarea	Trips From	Trip To
Golden Gate (internal)	45,537	45,537	San Carlos	773	907
North Naples	8,427	8,639	Out of Region	732	836
Urban Estates	8,311	8,291	Fort Myers	341	687
South Naples	8,381	7,881	Estero	673	622
City of Naples	7,159	7,360	South Fort Myers	263	565
Central Naples	6,938	6,892	Orange Tree	381	494
East Naples	6,962	6,706	Lehigh Acres	264	479
Rural Estates	5,348	5,667	Immokalee	396	459
Bonita Springs	1,508	1,565	Miami-Dade County	465	413
City of Marco Island	1,444	1,263	Broward County	304	374

3.9.1 Trips Beginning in Subarea

Trips originating in Golden Gate have a high shopping trip purpose at about 26,000 or 24% of the daily trips generated in the subarea. Similarly, home trip purposes are 24% as shown in Figure 46. The Golden Gate subarea is primarily residential with a few commercial services and schools which could account for the high shopping and home trip purposes in the area. Figure 46 also provides summary statistics regarding travel distance and travel times. The average distance traveled in the area is around 10 miles with an average duration of 15 minutes for trips originating from within the subarea. This suggests that on average, residents travel to areas near the Golden Gate or within the area. Nearly half of the trips originating in Golden Gate travel between 4 and 16 miles. Trips originating from Golden Gate have a relatively short trip duration, as most trip journeys are between 10 and 20 minutes. Furthermore, more than a quarter of the trips (i.e., 29,000 trips) are under 5 minutes. Around 50% of the overall trips in the area are made within 10 minutes, which suggests that there are a significant number of persons making

short trips within the Golden Gate area or in neighboring areas. Figure 47 illustrates the geographic distribution of destinations for trips originating in the Golden Gate subarea.

Figure 46: Selected Trip Characteristics for Golden Gate Origins



3.9.2 Trips Ending in Subarea

About 40% of all trips ending in Golden Gate are for home purposes with about 43,000 trips, while only 22,000 trips end in Golden Gate for shopping purposes. The average trip distance is around 10 miles, and the average travel time is about 14 minutes. Almost one quarter of the trips ending in Golden Gate have a 4-8-mile travel distance. While around 20% of total trips travel 8-16 miles before ending in Golden Gate. This accounts for about 22,000 trips. Many of the trips in the area (34,000 trips) have a 10–20-minute travel time (32.2% of total trips). There is also a significant number of shorter distance trips, under 5 minutes, that ended in Golden Gate. Figure 48 provides summary statistics regarding travel distance and travel times for these trips. Figure 49 illustrates the geographic distribution of origins for trips ending in the Golden Gate subarea.

Figure 47: Destinations for trips Originating in Golden Gate Subarea

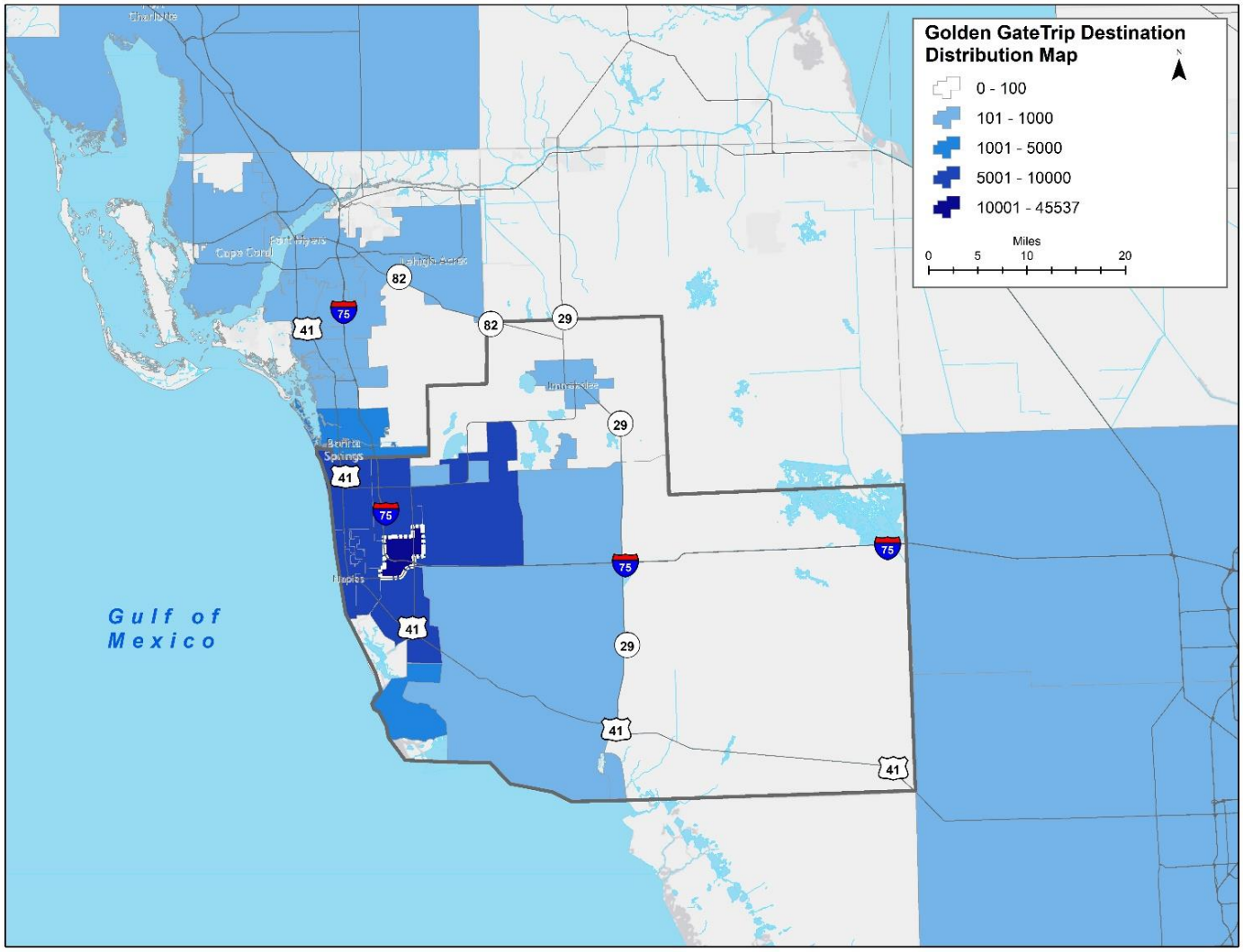
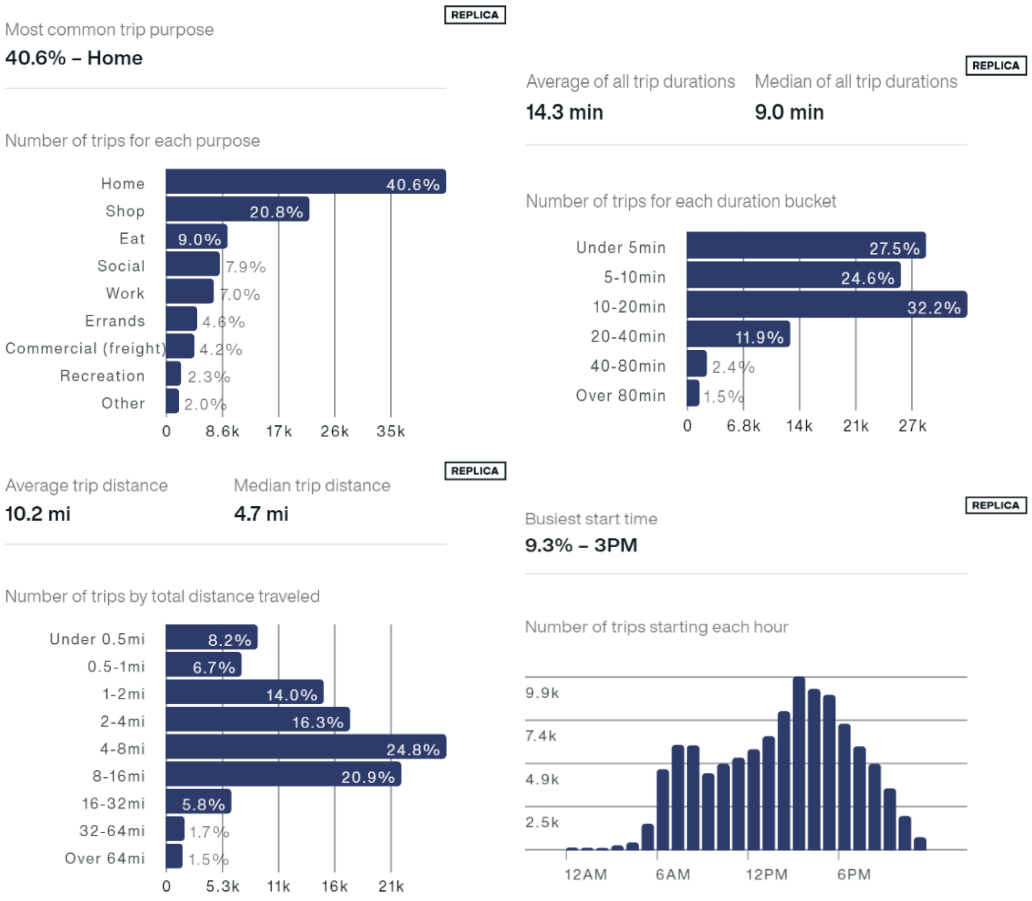


Figure 48: Selected Trip Characteristics for Golden Gate Destinations



3.9.3 Work Location

Table 23 lists the top work location subareas for 26,700 workers living in the Golden Gate subarea. This table indicates that work trips made by residents of Golden Gate are predominantly to the North Naples subarea.

Shown in Figure 50 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It is estimated that 3,600 or 6.9% of the residents in the Golden Gate subarea worked from home during the Spring 2021 quarter.

Figure 49: Origins for trips Ending in Golden Gate Subarea

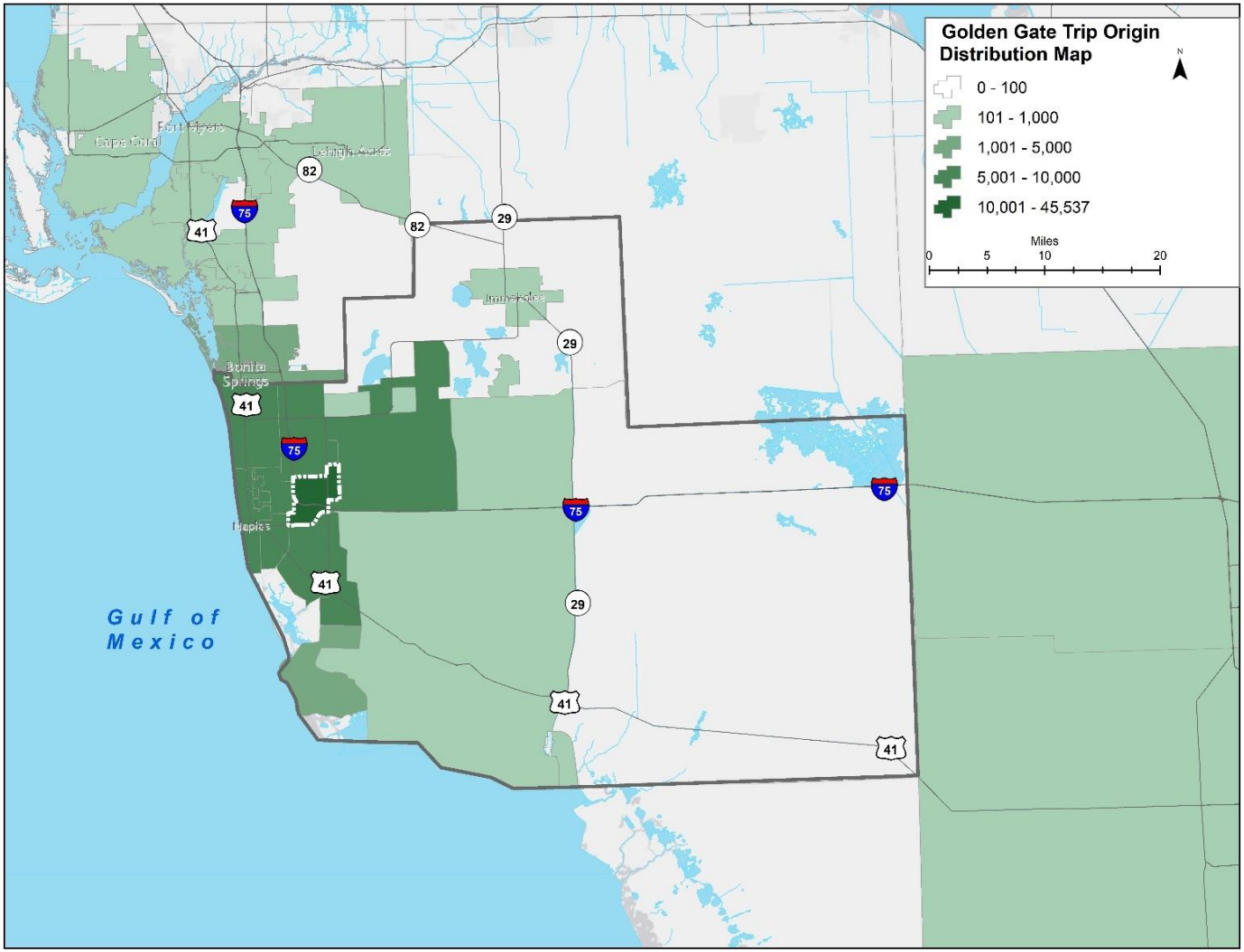
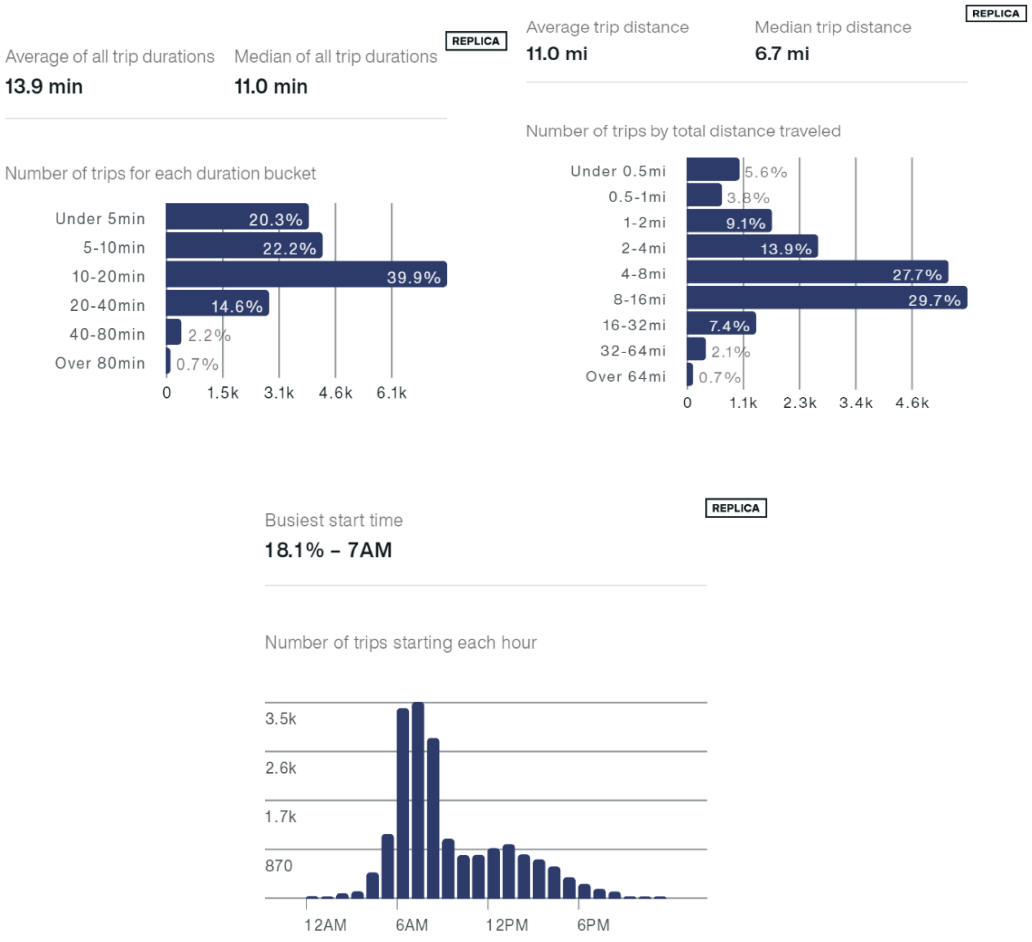


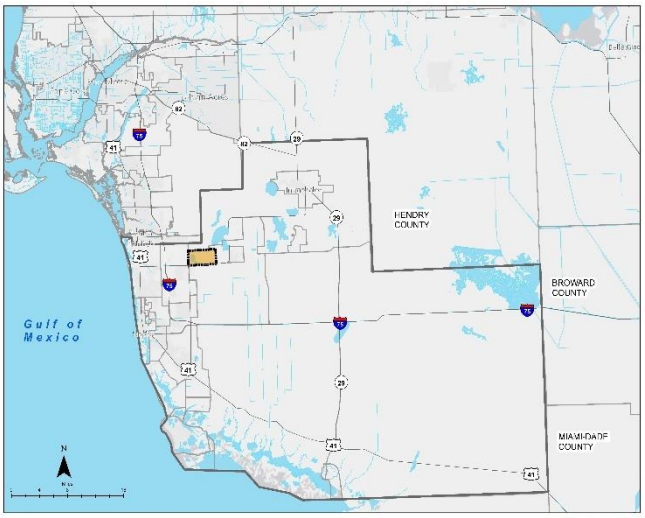
Table 23: Work Locations for Residents of Golden Gate

Work Location	Population	Work Location	Population
North Naples	4,428	Bonita Springs	366
Golden Gate	3,502	South Fort Myers	327
City of Naples	3,212	Miami-Dade County	295
Central Naples	2,434	Ave Maria	227
East Naples	1,935	Estero	199
Urban Estates	1,519	Fort Myers	132
Rural Estates	1,141	Immokalee	118
South Naples	908	Out of Region	92
City of Marco Island	739	Broward County	43
San Carlos	573	Orange Tree	36

Figure 50: Golden Gate Home to Work Trip Characteristics



3.10 Heritage Bay



The Heritage Bay subarea is located northern Collier County along CR 846 (Immokalee Road) as shown in the image to the right. This subarea was developed based on its unique land use pattern compared with the surrounding area and the Growth Management Plan.

Table 24 lists the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the subarea. Trip origins listed have a destination in the Heritage Bay subarea and vice-versa for the destinations listed. With 24% of the trips originating in the Heritage Bay subarea and remaining, the percentage of internal trips for this subarea is lower than many other areas in the County, reflecting the dependent nature of the shopping and retail uses this subarea for other nearby areas. The Urban Estates, Rural Estates, and North Naples subareas have a high trip interaction with the Heritage Bay subarea. The diverse development of these areas reflects the dependency of trip making in this part of the county between adjacent subareas where single-use development is more predominant.

Table 24: Heritage Bay Trip Origins and Destinations

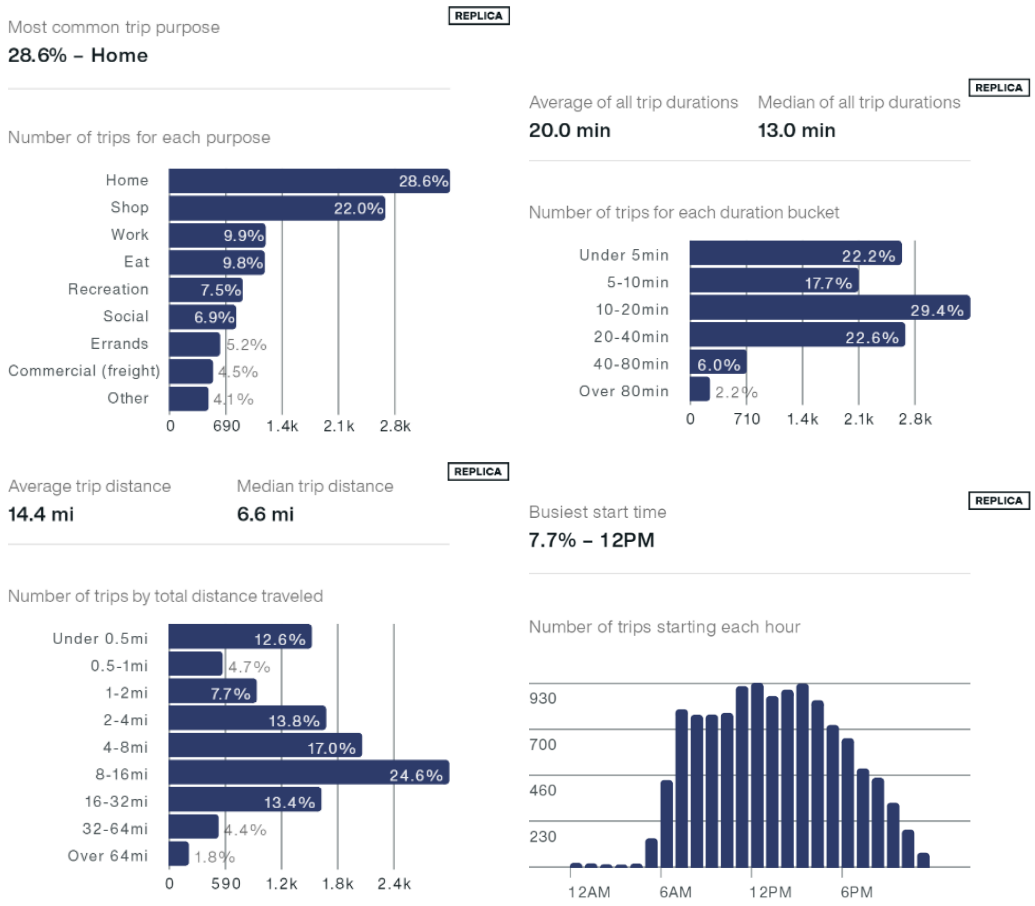
Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Heritage Bay (internal)	2,949	2,949	East Naples	197	182
Urban Estates	2,584	2,511	South Naples	210	156
Rural Estates	1,817	1,695	Out of region	111	127
North Naples	1,239	1,185	Ave Maria	120	124
Bonita Springs	519	446	Fort Myers	64	106
Orange Tree	351	419	San Carlos	112	105
Golden Gate	357	390	Estero	108	101
City of Naples	337	387	Lehigh Acres	43	99
Central Naples	316	277	South Fort Myers	63	91
Immokalee	194	198	Gateway/Airport	46	75

3.10.1 Trips Beginning in Subarea

Figure 51 provides a summary of the trip purpose, trip distance, trip duration, and start time statistics for the area. Trips originating in the Heritage Bay have a high home trip purpose at about 29% of total trips with shopping comprising roughly 22% of the daily trips. Heritage Bay is primarily a residential community with a commercial node located at the intersection of Collier Blvd and Immokalee Road. The average trip distance of 14 miles and average trip duration of 20 minutes are comparable with other

areas in Collier County where a diverse mix of uses exist. Figure 52 illustrates the geographic distribution of destinations for trips originating in the Heritage Bay subarea.

Figure 51: Selected Trip Characteristics for Heritage Bay Origins



3.10.2 Trips Ending in Subarea

Figure 53 shows the characteristics for trips ending in the Heritage Bay subarea. Trips ending in Heritage Bay are influenced by the commercial and restaurant uses as indicated by the high number of shopping and eating trips. The average trip distance and duration measures are equal to those for trips originating in the subarea. While these destination trips occur throughout the day, an early afternoon spike around 3 P.M. is noticeable. Figure 54 graphically illustrates the geographic distribution of origins for trips ending in the Heritage Bay subarea.

Figure 52: Destinations for trips Originating in Heritage Bay Subarea

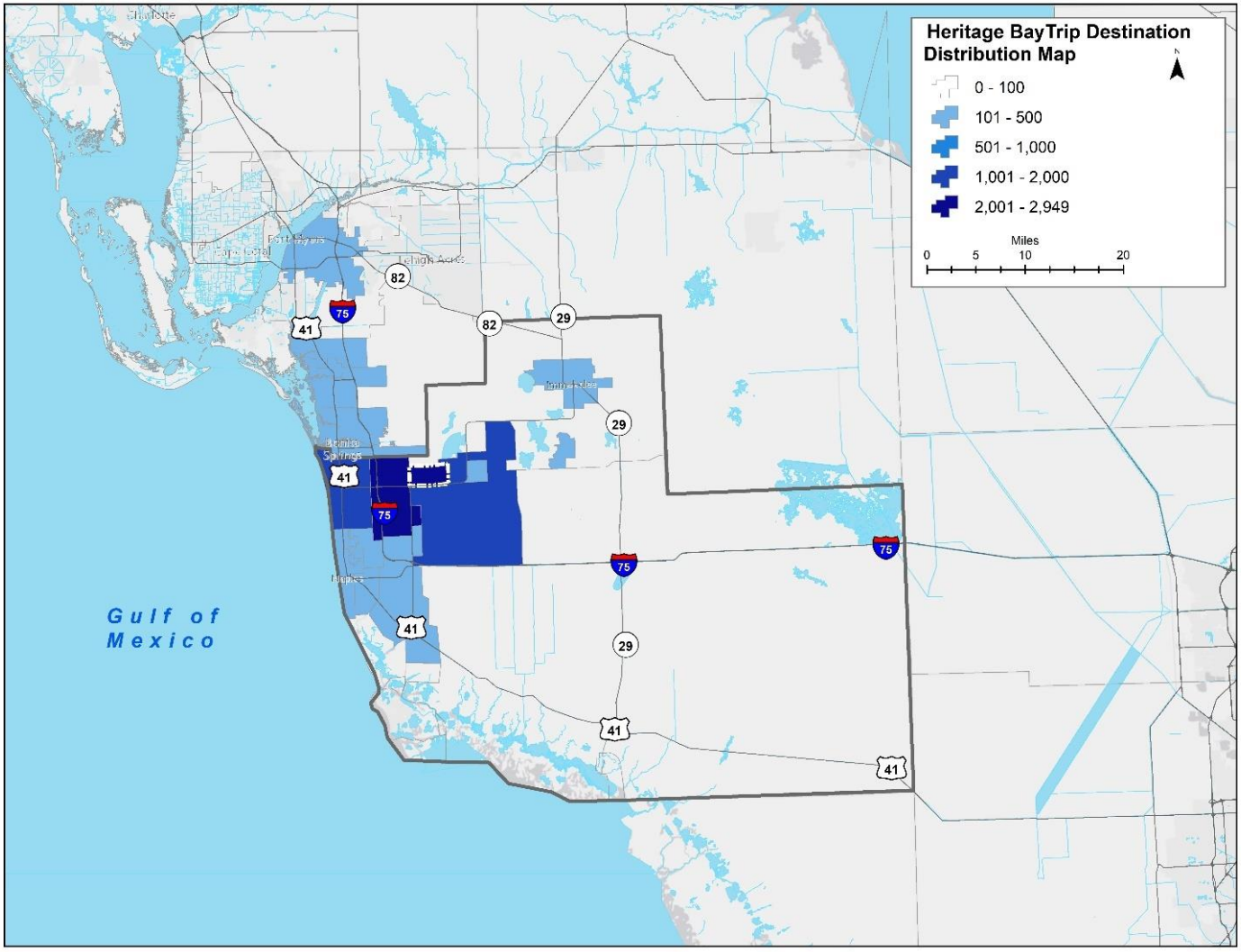
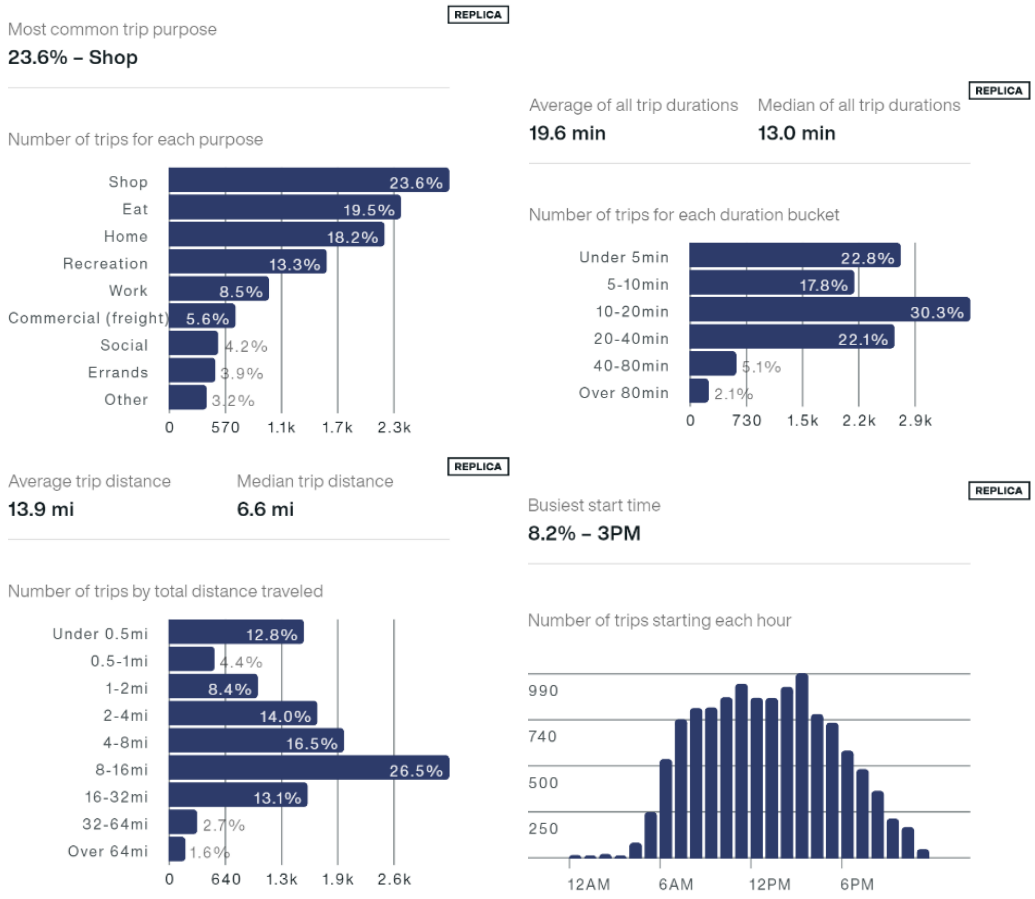


Figure 53: Selected Trip Characteristics for Heritage Bay Destinations



3.10.3 Work Location

Table 24 lists the top work location subareas for 1,200 workers living in the Heritage Bay subarea. This table indicates that residents predominantly work in the to the North Naples and Ave Maria subareas.

Shown in Figure 55 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originating within the study area, work trips on average are longer and take longer. There is distinct peak period in the morning between 6 A.M. to 9 A.M. Information regarding working from home is also made available through Replica. It was estimated that 370 of the 3,000 people (12.1%) residing in the Heritage Bay subarea worked from home during the Spring 2021 quarter.

Figure 54: Origins for trips Ending in Heritage Bay Subarea

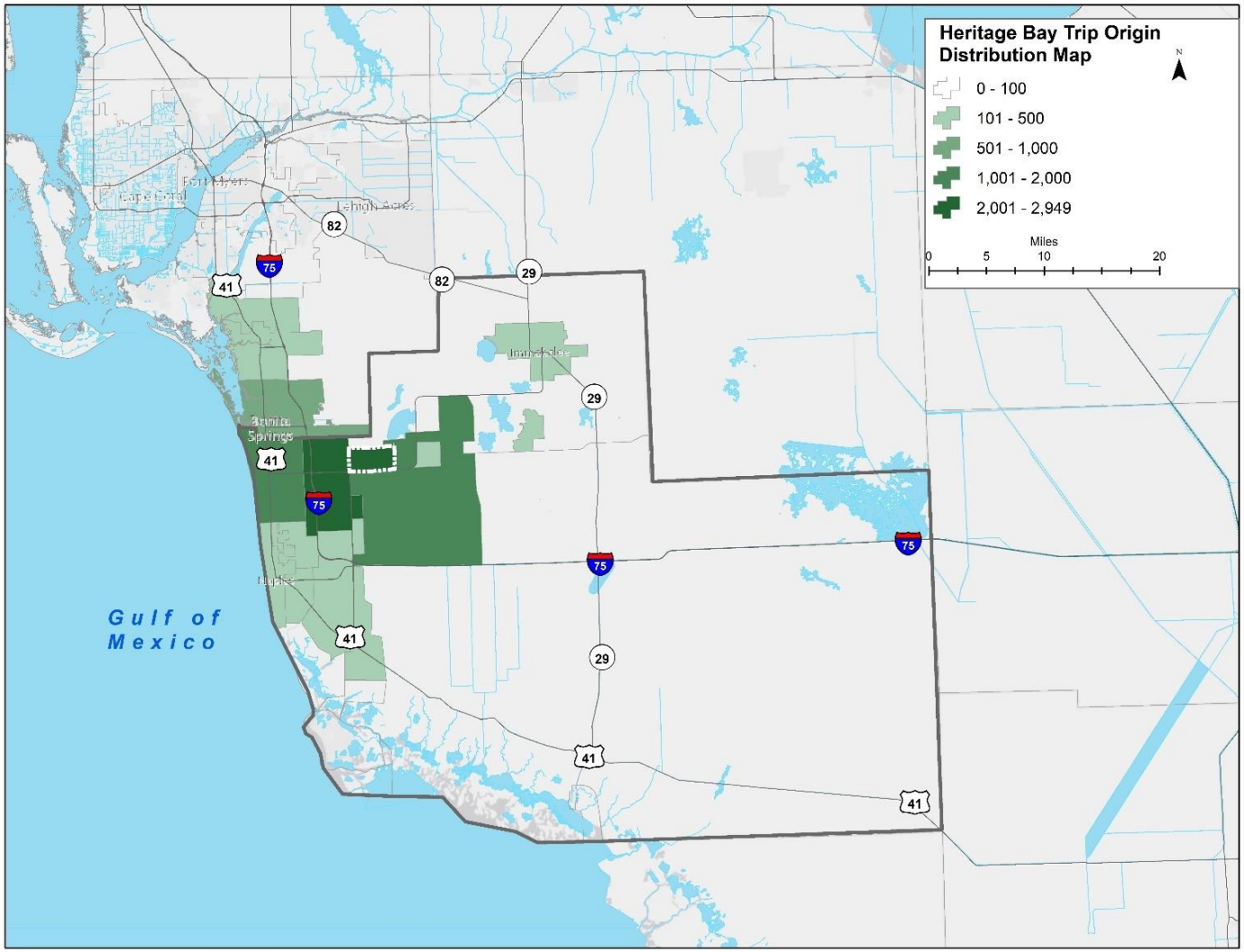
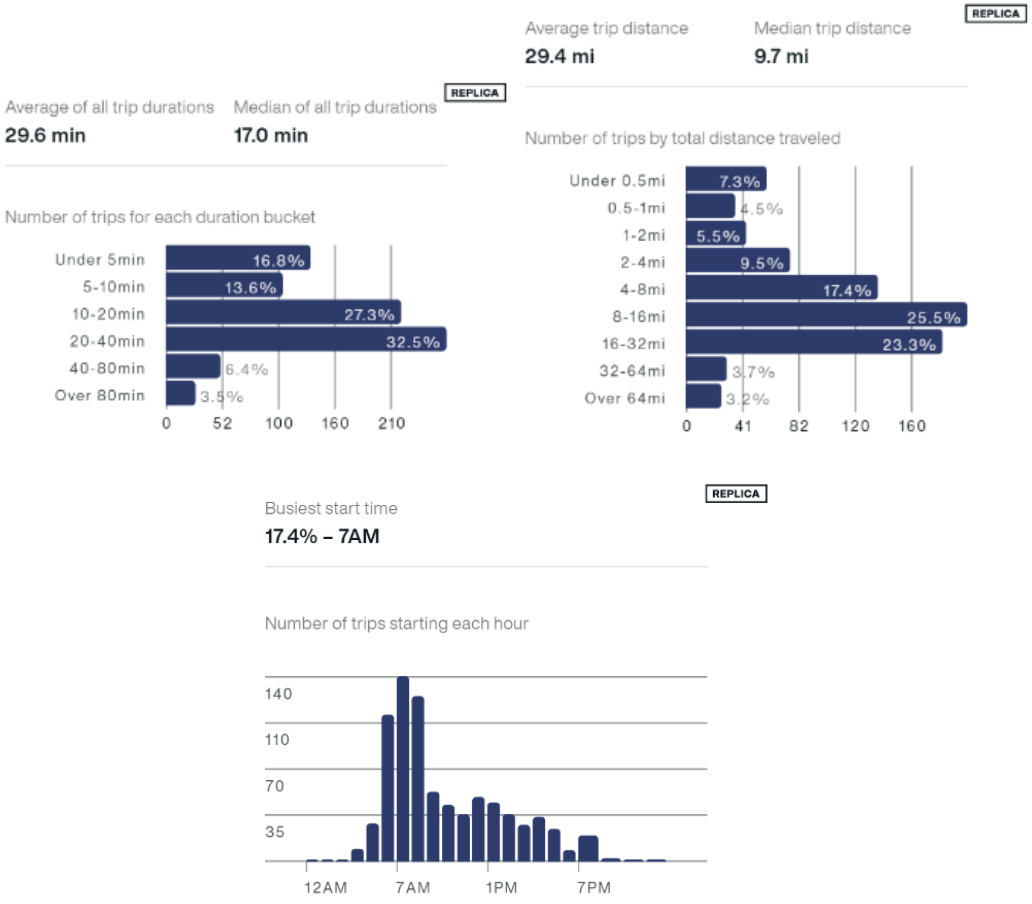


Table 25: Work Locations for Residents of Heritage Bay

Work Location	Population	Work Location	Population
North Naples	165	Bonita Springs	31
Ave Maria	156	South Fort Myers	26
Rural Estates	133	Orange Tree	26
Central Naples	115	Miami-Dade County	24
City of Naples	103	East Naples	23
Urban Estates	97	North Fort Myers	20
San Carlos	53	City of Marco Island	20
Immokalee	39	Golden Gate	16
South Naples	36	Out of Region	14
Heritage Bay	32	Estero	13

Figure 55: Heritage Bay Home to Work Trip Characteristics



3.11 Immokalee

The Immokalee subarea is an urban area located in northeast Collier County.

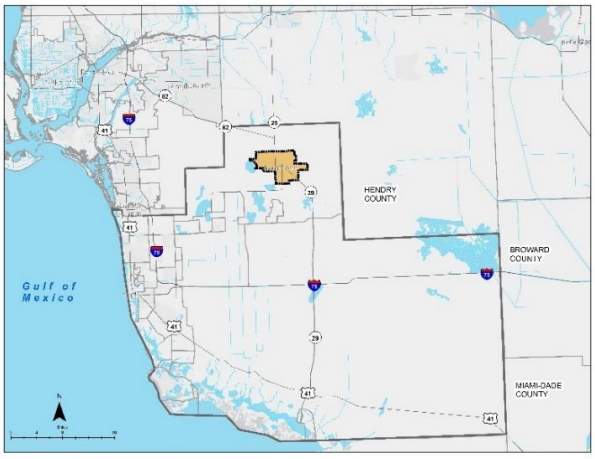


Table 26 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end takes place in the Immokalee subarea. Trip origins listed have a destination in the Immokalee subarea and vice-versa for the destinations listed. 72% of the 60,000 daily trips originating in the Immokalee subarea, remained in the area. This internal rate is the highest rate for all subareas in Collier County. Other areas of higher trip interaction include Lehigh Acres in Lee County and Hendry County. As a more isolated urban area Immokalee provides shopping and other service-related needs for the residents and surrounding lower density rural areas.

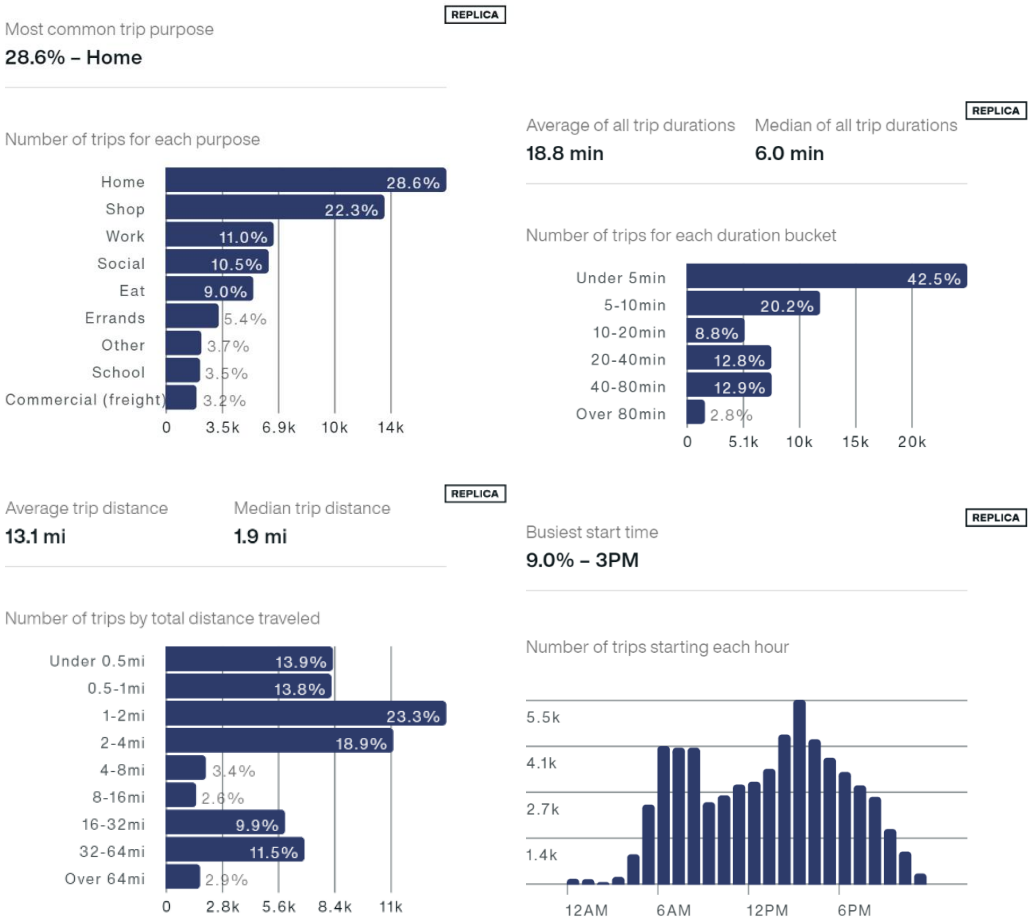
Table 26: Immokalee Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Immokalee (internal)	43,465	43,465	South Fort Myers	328	534
Lehigh Acres	2,639	2,542	San Carlos	453	439
Hendry County	1,695	1,944	City of Naples	407	423
Fort Myers	967	1,230	Golden Gate	459	396
Rural Estates	1,258	1,150	Central Naples	364	327
Out of Region	1,073	1,001	Estero	423	311
Ave Maria	901	928	South Naples	391	291
North Naples	902	820	Cape Coral	211	276
Urban Estates	872	751	Bonita Springs	319	264
Corkscrew	608	573	East Naples		254

3.11.1 Trips Beginning in Subarea

Figure 56 provides a summary of the trip purpose, trip distance, trip duration, and start time statistics for the area. Trips originating from Immokalee have a high home or shopping trip purpose. Combined with the high number of internal trips occurring in this area, this relationship can be expected as and relate a higher rate of single purpose trips. The number of shorter distance trips is a result of the compact size of this area and internal nature of the trips. Because of the isolated nature of Immokalee from other areas results in extremely different average and median travel distances. Half of the trips originating in Immokalee are less than two miles in length. The two highest external (not Immokalee) subareas for trip interaction are Lehigh Acres and Hendry County. While these subareas are not in Collie County, they are closer in location than the developed areas of Collier County. Figure 57 illustrates the geographic distribution of destinations for trips originating in the Immokalee subarea.

Figure 56: Selected Trip Characteristics for Immokalee Origins



3.11.2 Trips Ending in Subarea

Figure 58 shows the characteristics of trips ending in the Immokalee subarea. Due to the high number of internal trips within the subarea, these characteristics nearly mirror those of origin trips. Any slight variation in these measures is a result of trips beginning outside of the subarea when the purpose for entering the subarea is different than the purpose for leaving the subarea. Figure 59 graphically illustrates the geographic distribution of origins for trips ending in the Immokalee subarea.

Figure 57: Destinations for trips Originating in Immokalee Subarea

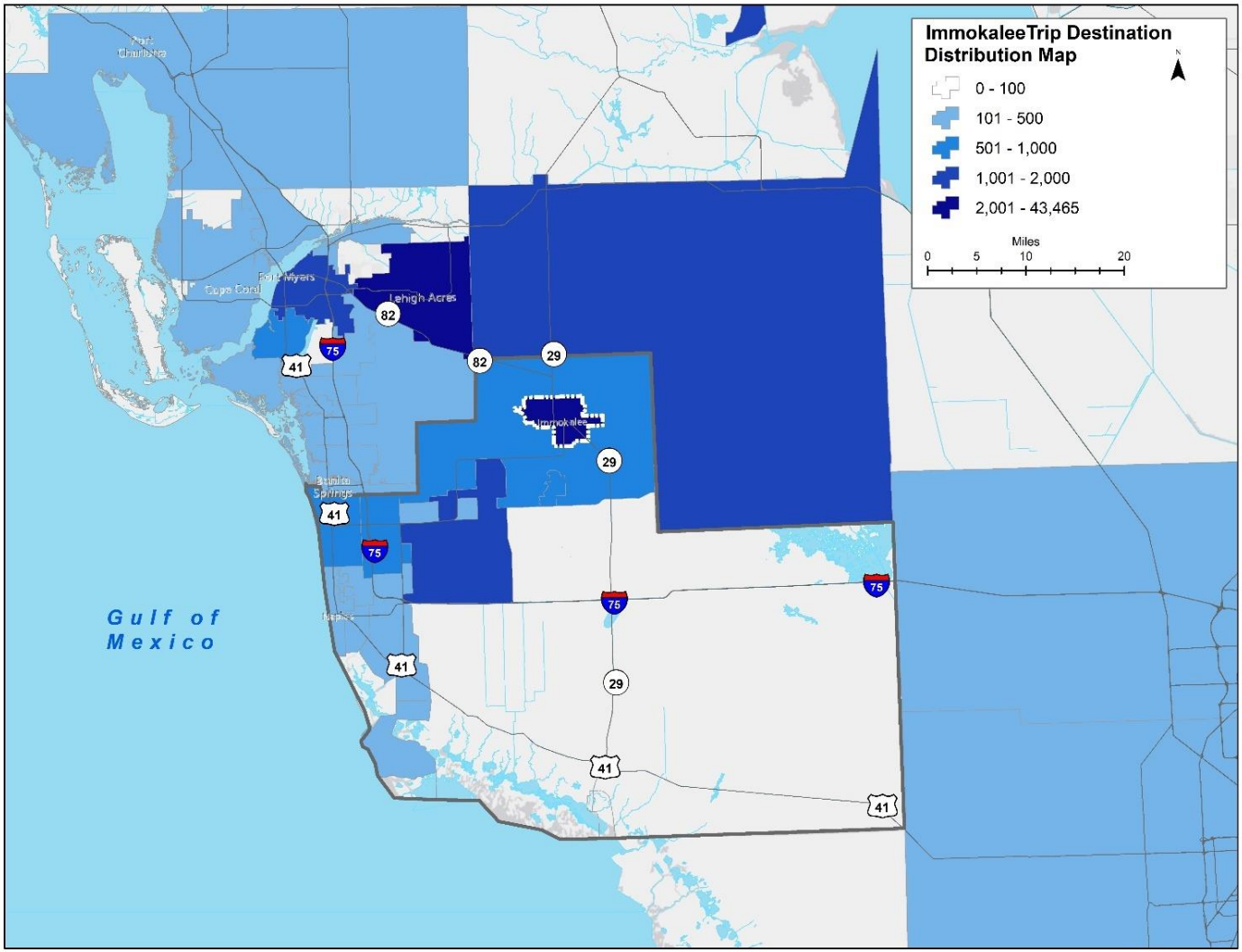
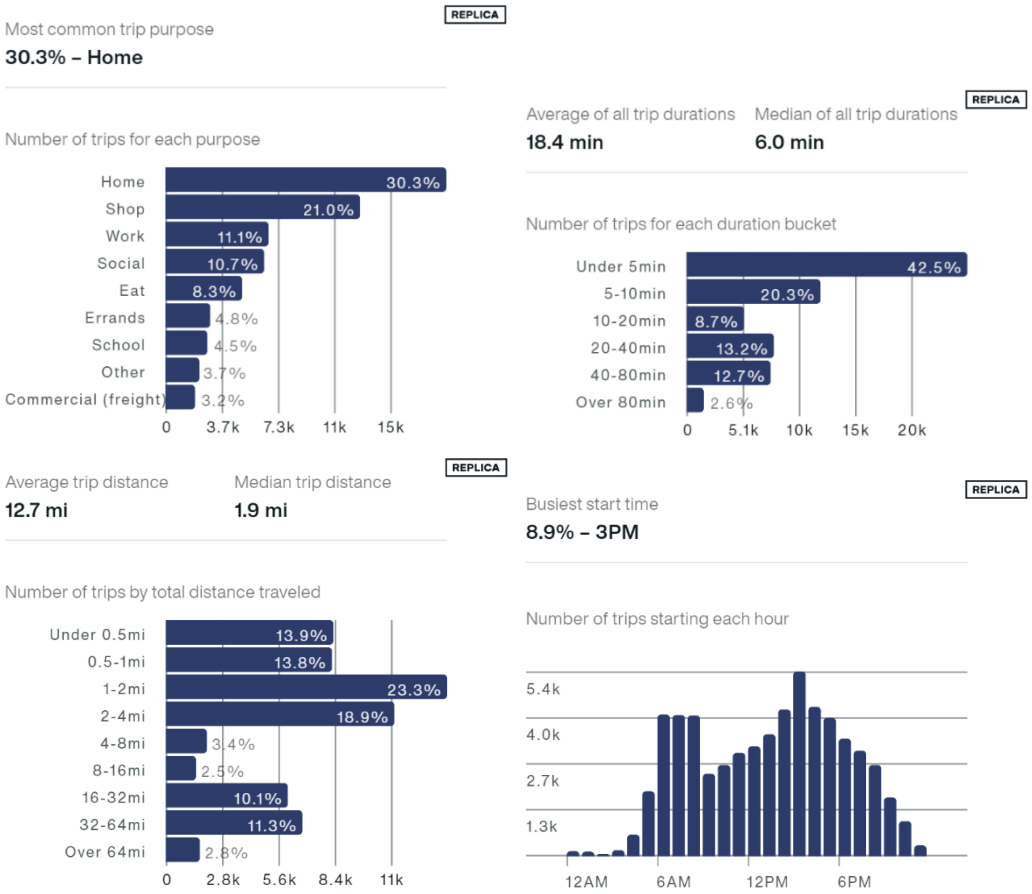


Figure 58: Selected Trip Characteristics for Immokalee Destinations



3.11.3 Work Location

Table 27 lists the top work locations for11,500 workers living in the Immokalee subarea. This table indicates that work trips made by residents of Immokalee are predominantly within the Immokalee subarea. A significant number of residents also work in the North Naples area which greatly influences the home to work trip measures as shown in Figure 60. These home to work trips reflect the single purpose trip and eliminate any trips that were chained or for multiple purposes. While there are a considerable number of work locations outside of the area, the high number of jobs located within the area result in work commute trips that are similar in time and distance as all other trips. Work trips however exhibit a distinct peak at 6 A.M. Information regarding working from home is also made available through Replica. It was estimated that 1,400 or 5.4% of the 26,500 residents in the Immokalee subarea worked from home during the Spring 2021 quarter.

Figure 59: Origins for trips Ending in Immokalee Subarea

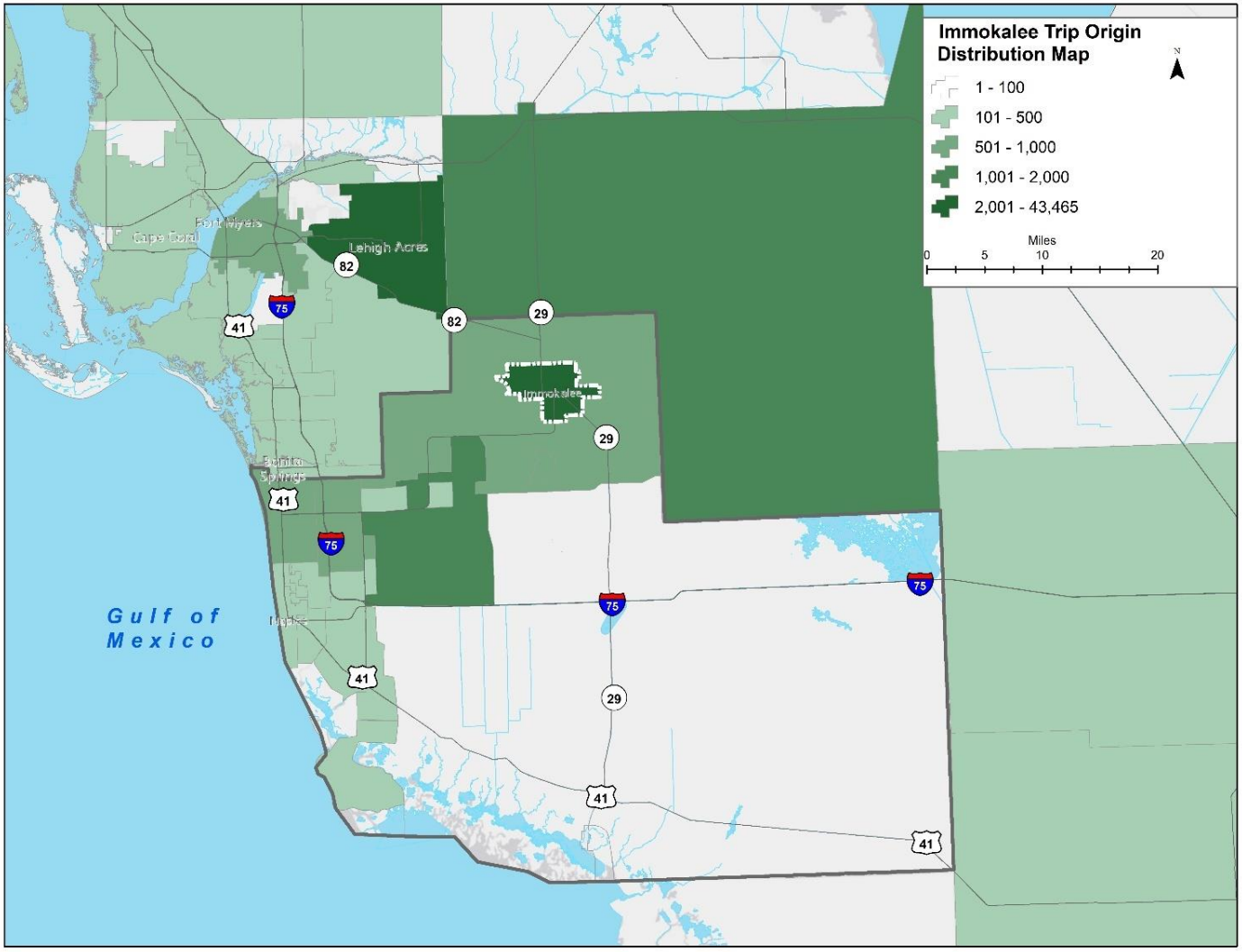
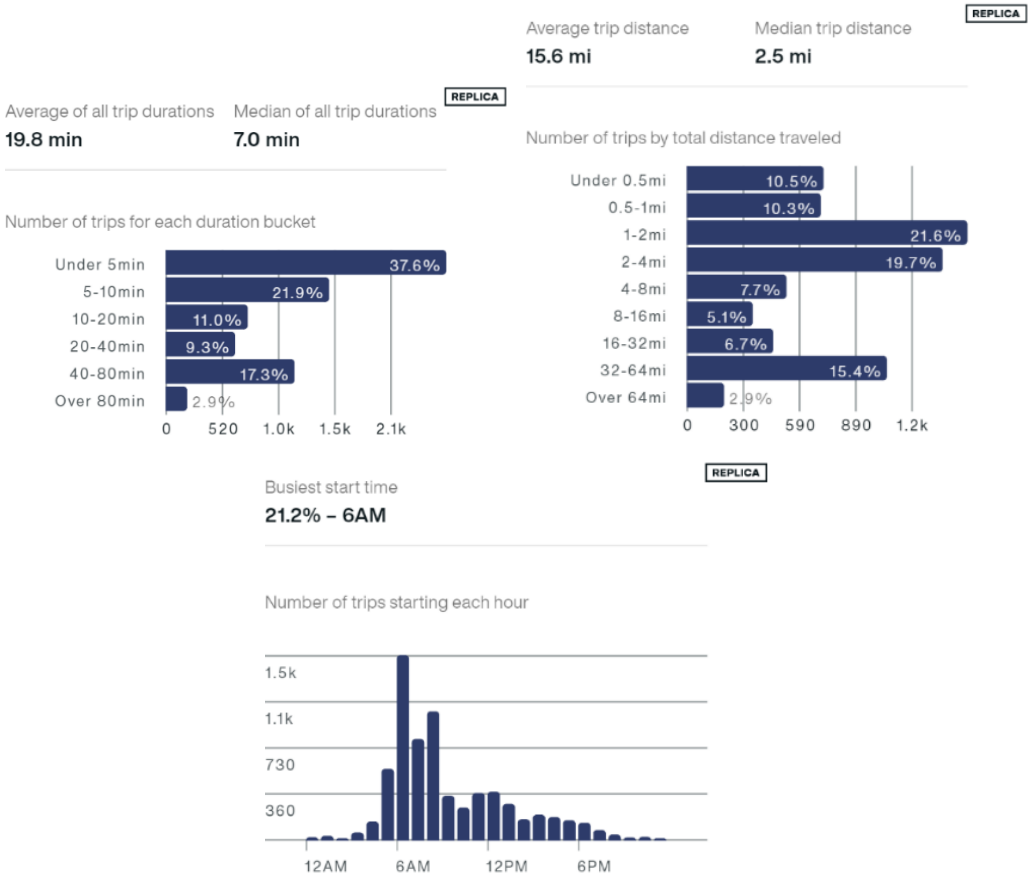


Table 27: Work Locations for Residents of Immokalee

Work Location	Population	Work Location	Population
Immokalee	5,737	Urban Estates	185
North Naples	1,017	South Fort Myers	177
Ave Maria	626	Bonita Springs	164
City of Naples	534	Golden Gate	159
Estero	492	South Naples	159
Rural Estates	321	Fort Myers	156
San Carlos	295	Out of region	153
Central Naples	288	City of Marco Island	126
Corkscrew	211	Heritage Bay	115
East Naples	193	Orange Tree	86

Figure 60: Immokalee Home to Work Trip Characteristics



3.12 North Naples

The North Naples subarea, located in northwest Collier County, is adjacent to Lee County Line as shown in the image to the right.

Table 28 identifies the number of trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the North Naples subarea. Trip origins listed have a destination in the North Naples subarea and vice-versa for the destinations listed. The 111,944 trips originating in North Naples subarea and remaining in the area represent about 47% of the 240,000 daily trips originating in the subarea are. The nearby areas of Urban Estates, City of Naples, Bonita Spring and Central Naples experience a high connection to the North Naples areas with over 10,000 daily trips.

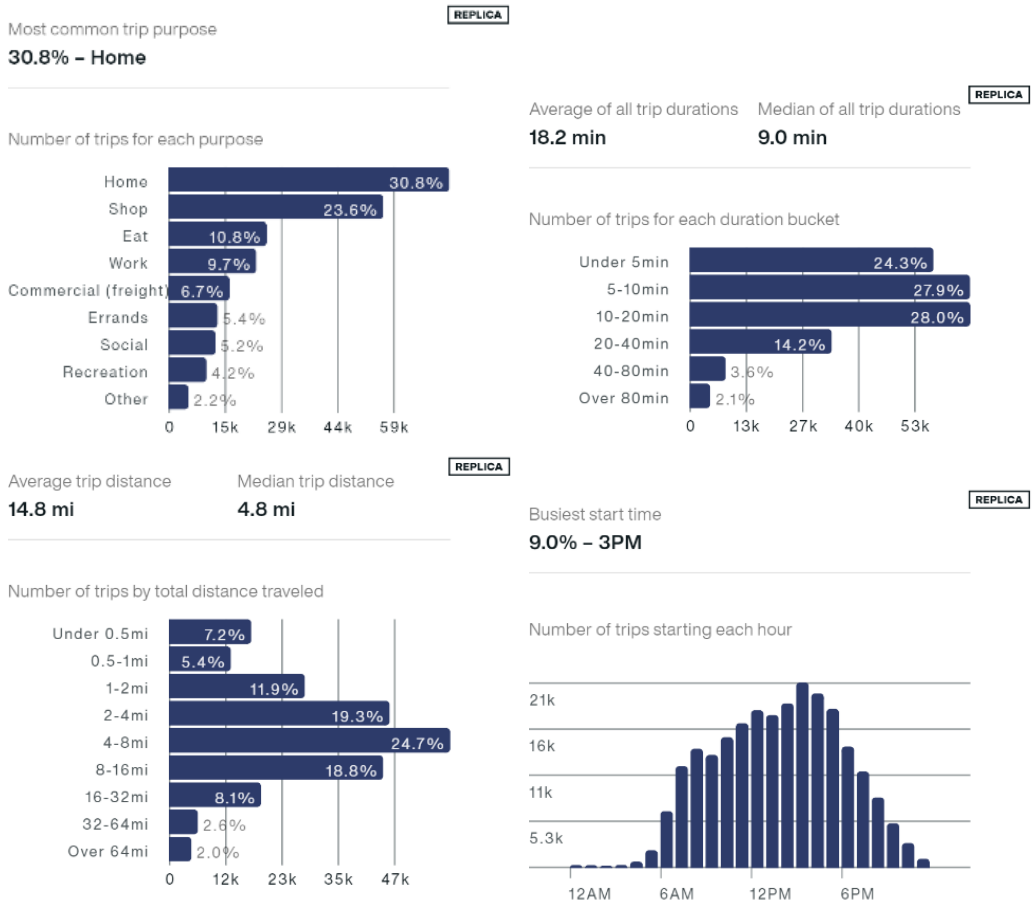
Table 28: North Naples Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
North Naples (internal)	111,944	111,944	Out of region	3,044	3,357
Urban Estates	26,095	25,896	San Carlos	1,950	2,539
Bonita Springs	18,387	15,689	Fort Myers	1,649	2,051
City of Naples	17,337	18,196	South Fort Myers	1,438	1,554
Central Naples	13,643	13,657	City of Marco Island	1,418	1,276
Golden Gate	8,639	8,427	Heritage Bay	1,185	1,239
Rural Estates	5,993	7,270	Cape Coral	927	1,278
East Naples	5,449	5,230	Lehigh Acres	916	1,307
South Naples	5,043	4,926	Immokalee	820	902
Estero	3,392	3,437	Orange Tree	737	1,084

3.12.1 Trips Beginning in Subarea

Figure 61 provides the trip purpose, trip distance, trip duration and start time statistics for the area. 31% of the daily trips originating in North Naples subarea have a high home trip purpose. Shopping trips are also a dominant trip purpose accounting for 24% of total trips daily. North Naples possesses a diverse mixed land use that offers a wide range of resources and services to residents and nearby subareas. The average trip generated in this area travels 14 miles and lasts 18 minutes. More than 50% of these trips have a destination that is less than 5 miles away. As with other subareas in northern Collier County close to the I-75 corridor, subareas in southern Lee County (Bonita Springs and Estero) have a high trip interaction with the North Naples subarea. Figure 62 illustrates the geographic distribution of destinations for trips originating in the North Naples subarea.

Figure 61: Selected Trip Characteristics for North Naples Origins



3.12.2 Trips Ending in Subarea

Figure 63 shows the characteristics of trips ending in the North Naples subarea. Trips ending in North Naples also have a high shopping trip purpose (26% of daily trip destinations) or home trip purpose (22% of daily trip destinations). At 13% of the daily trip destinations, more work trips end in the North Naples than those that originate within the area. The average trip distance of 15 miles and average travel time of 19 minutes are roughly the same as those measures for trip origins. Figure 64 illustrates the geographic distribution of origins for trips ending in the North Naples subarea.

Figure 62: Destinations for trips Originating in North Naples Subarea

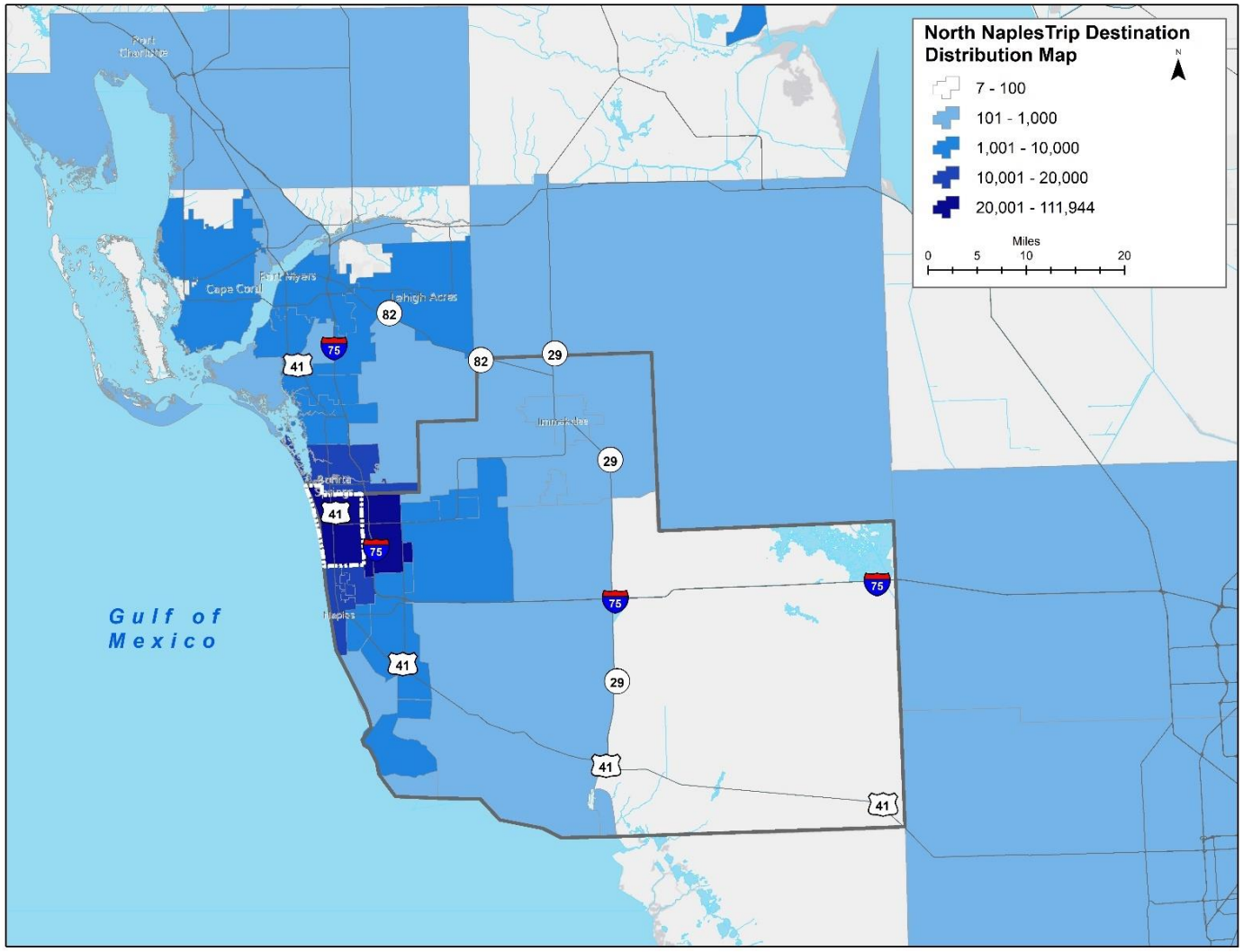
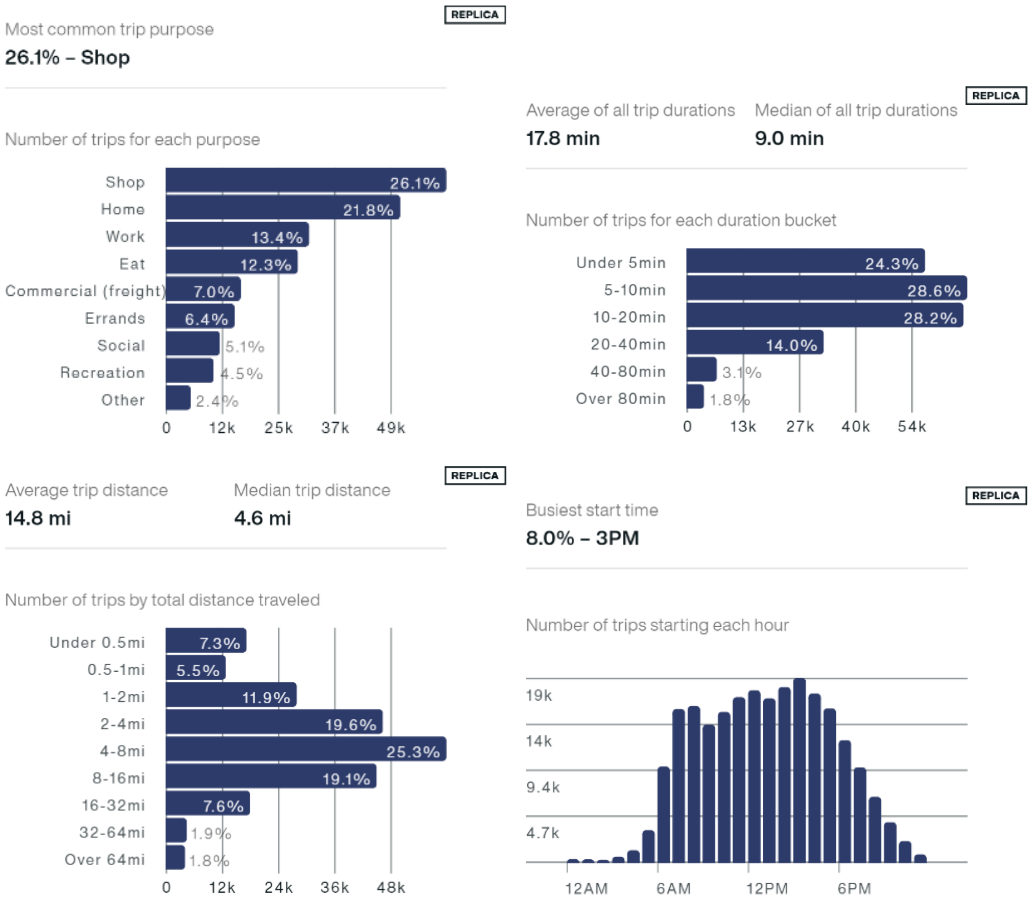


Figure 63: Selected Trip Characteristics for North Naples Destinations



3.12.3 Work Location

Table 29 lists the top work locations for the more than 21,500 workers living in the North Naples subarea. This table indicates that residents of North Naples also have jobs that are predominantly within the subarea.

Shown in Figure 65 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average have longer travel times and distances. The average work trip of 38 miles is more than 2.5 times longer than the average trip originating within the North Naples area. However then median trip distance of just under 5 miles is comparable with the same measure for all trips originating in the area. The work trips also demonstrate a distinct A.M. peak pattern. Information regarding working from home is also made available through Replica. It was estimated that 5,600 or 9.8% of North Naples subarea 57,000 residents worked from home during the Spring 2021 quarter.

Figure 64: Origins for trips Ending in North Naples Subarea

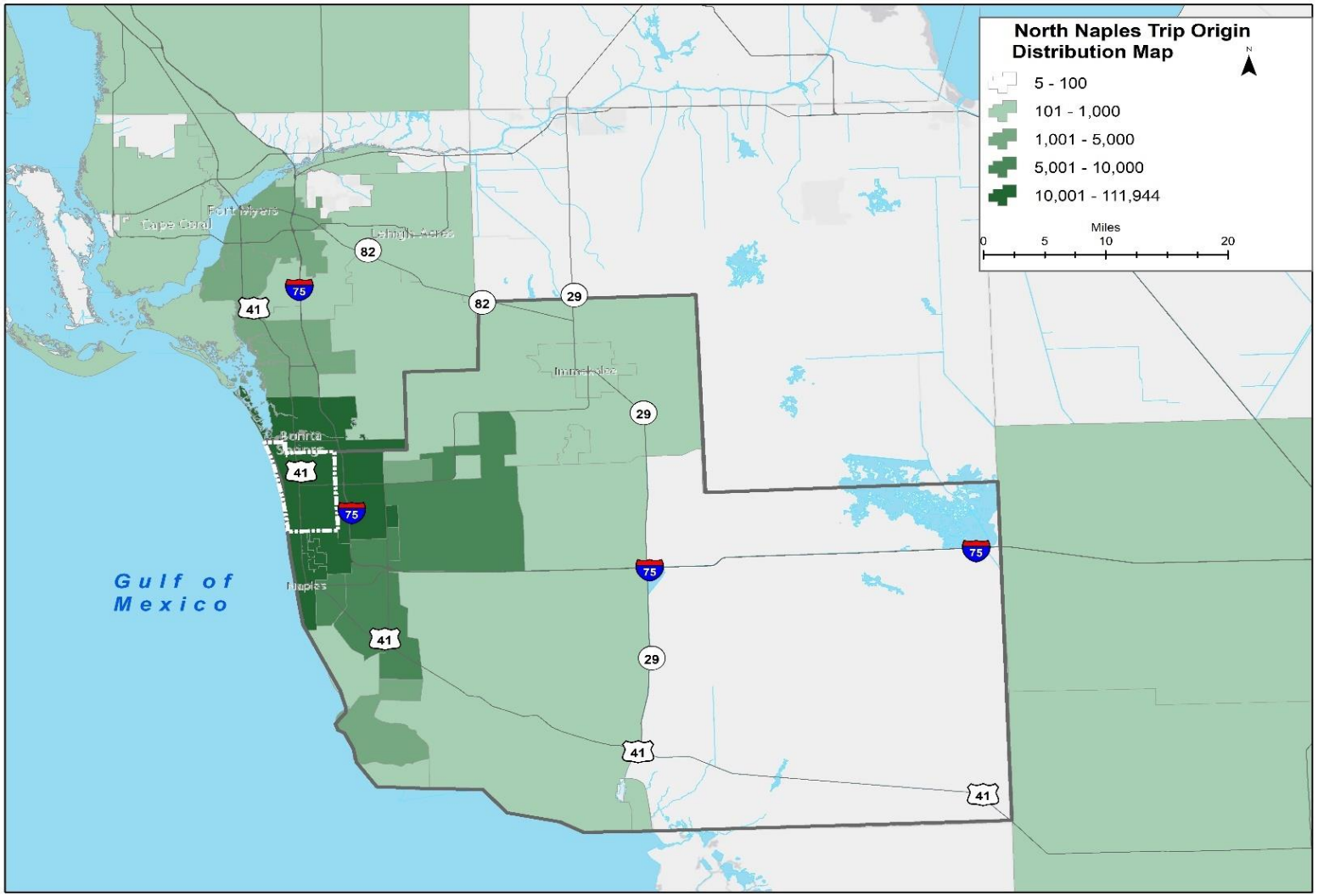
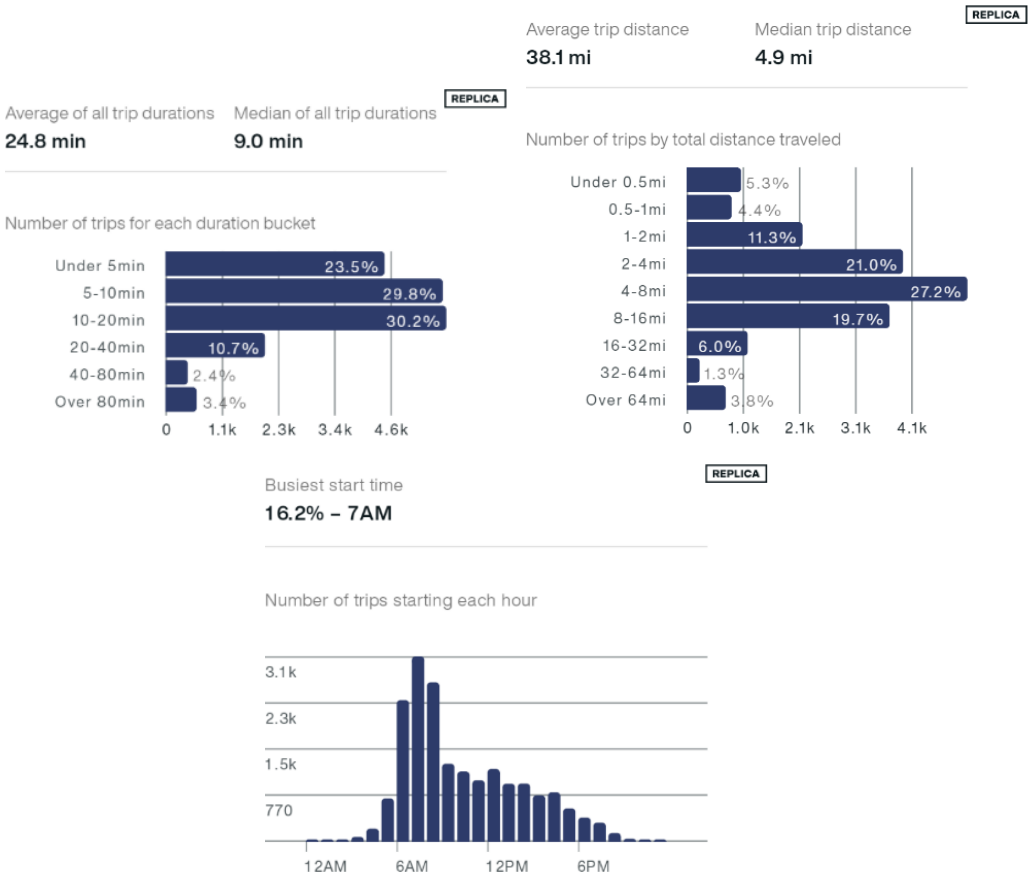


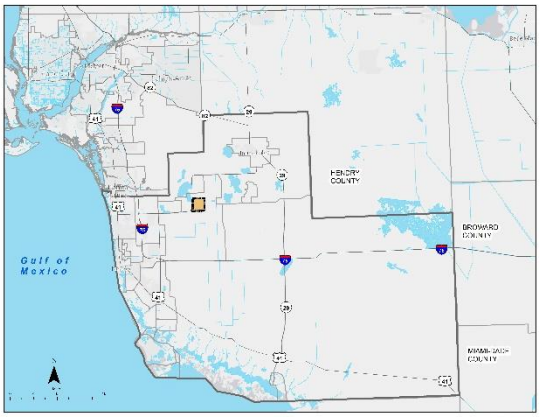
Table 29: Work Locations for Residents of North Naples

Work Location	Population	Work Location	Population
North Naples	9,810	South Naples	336
City of Naples	2,937	Miami-Dade County	294
Central Naples	1,525	Fort Myers	290
Urban Estates	1,087	Estero	248
Out of region	935	Rural Estates	222
Bonita Springs	876	City of Marco Island	120
East Naples	700	Ave Maria	105
San Carlos	645	Immokalee	102
Golden Gate	607	Sanibel	66
South Fort Myers	342	Iona/McGregor	64

Figure 65: North Naples Home to Work Trip Characteristics



3.13 Orange Tree



The Orange Tree subarea is a small community located in central Collier County. This subarea was created specifically for this analysis base on review of the Growth Management Plan and the areas distinct development pattern compared with surrounding areas.

Table 30 identifies the trip origins and destinations for the top 20 subarea locations when at least one trip end occurs in the Orange Tree subarea. The trip origins listed have a destination in the Orange Tree subarea and vice-versa for the destinations listed. 3,434 trips originated in the Orange Tree subarea and remained within the area representing 18% of the more than 19,000 daily trips originating from the area. More trips originated from the Rural Estates subarea and ended in Orange Tree. Shopping and school-related trips within this subarea are attractive to the trips originating in the predominantly residential Rural Estates.

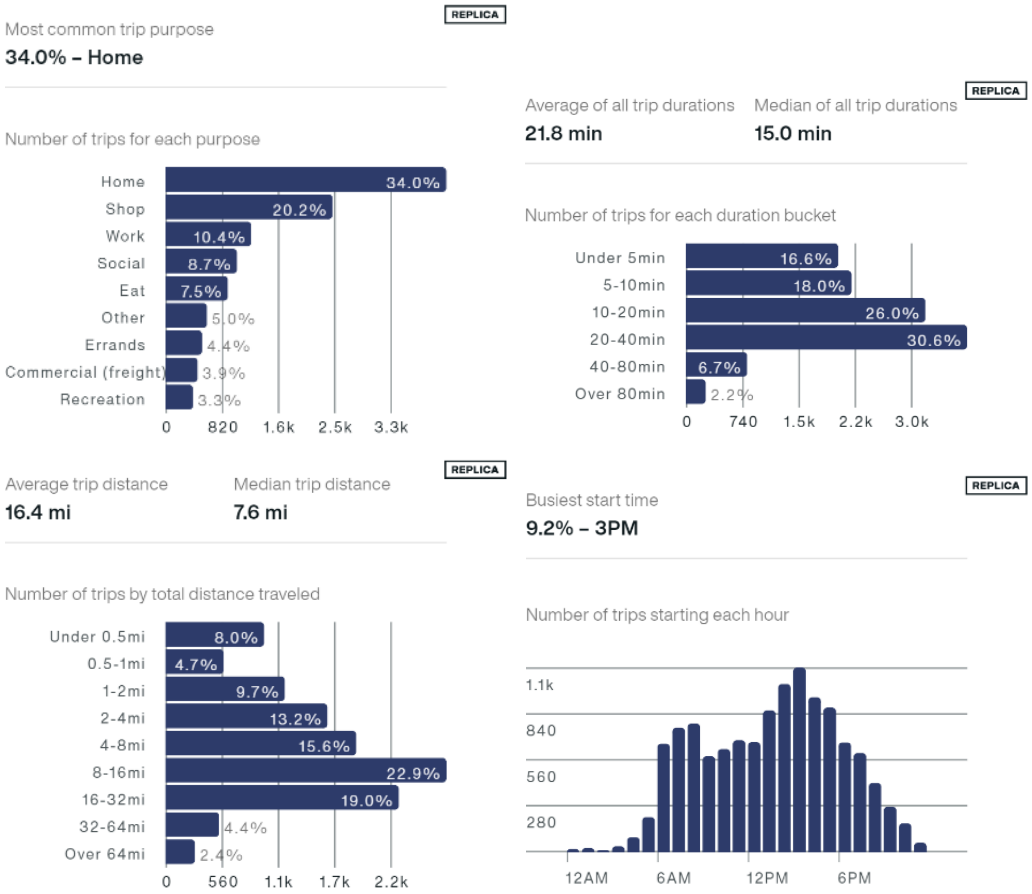
Table 30: Orange Tree Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Rural Estates	3,698	3,421	Central Naples	263	229
Orange Tree (Internal)	3,434	3,434	Immokalee	240	309
Urban Estates	1,341	990	East Naples	179	122
North Naples	1,084	737	San Carlos	135	101
Golden Gate	494	381	Out of Region	119	124
Heritage Bay	419	351	Estero	109	75
City of Naples	380	293	City of Marco Island	78	66
Bonita Springs	365	253	Corkscrew	61	51
South Naples	326	191	Fort Myers	53	90
Ave Maria	298	342	Lehigh Acres	52	68

3.13.1 Trips Beginning in Subarea

Figure 66 documents characteristics of trips originating in Orange Tree, including trip purpose, trip distance, trip duration and start time. Trips originating from the Orange Tree area have a high home trip purpose at 34%. With an average trip distance of 16 miles and an average trip duration of 20 minutes, the distribution of trips indicates that short distance trips are not common. Figure 67 illustrates the geographic distribution of destinations for trips originating in the Orange Tree subarea and the clustering that occurs in the eastern portion of the county.

Figure 66: Selected Trip Characteristics for Orange Tree Origins



3.13.2 Trips Ending in Subarea

Figure 68 illustrates the characteristics of trips ending in Orange Tree. Trips ending in Orange Tree have a high shopping trip purpose 27% of total trips, while home trips purposes are slightly lower at 25% of total trips ending in the area. The average trip distance of 15 miles and average trip duration of 21 minutes are nearly equal to trips originating from the area. Additionally, the distribution of trips across the time and distance bands are comparable for the origin and destination trips. The distribution of these trips, shown in Figure 69, would also imply that there is a direct connection with trips being made for a single purpose rather than combining trips purposes since less than 20% of the trips are internal to the subarea. The distribution of trips made throughout the day is also comparable for trips ending in the area with those that originate there.

Figure 67: Destinations for trips Originating in Orange Tree Subarea

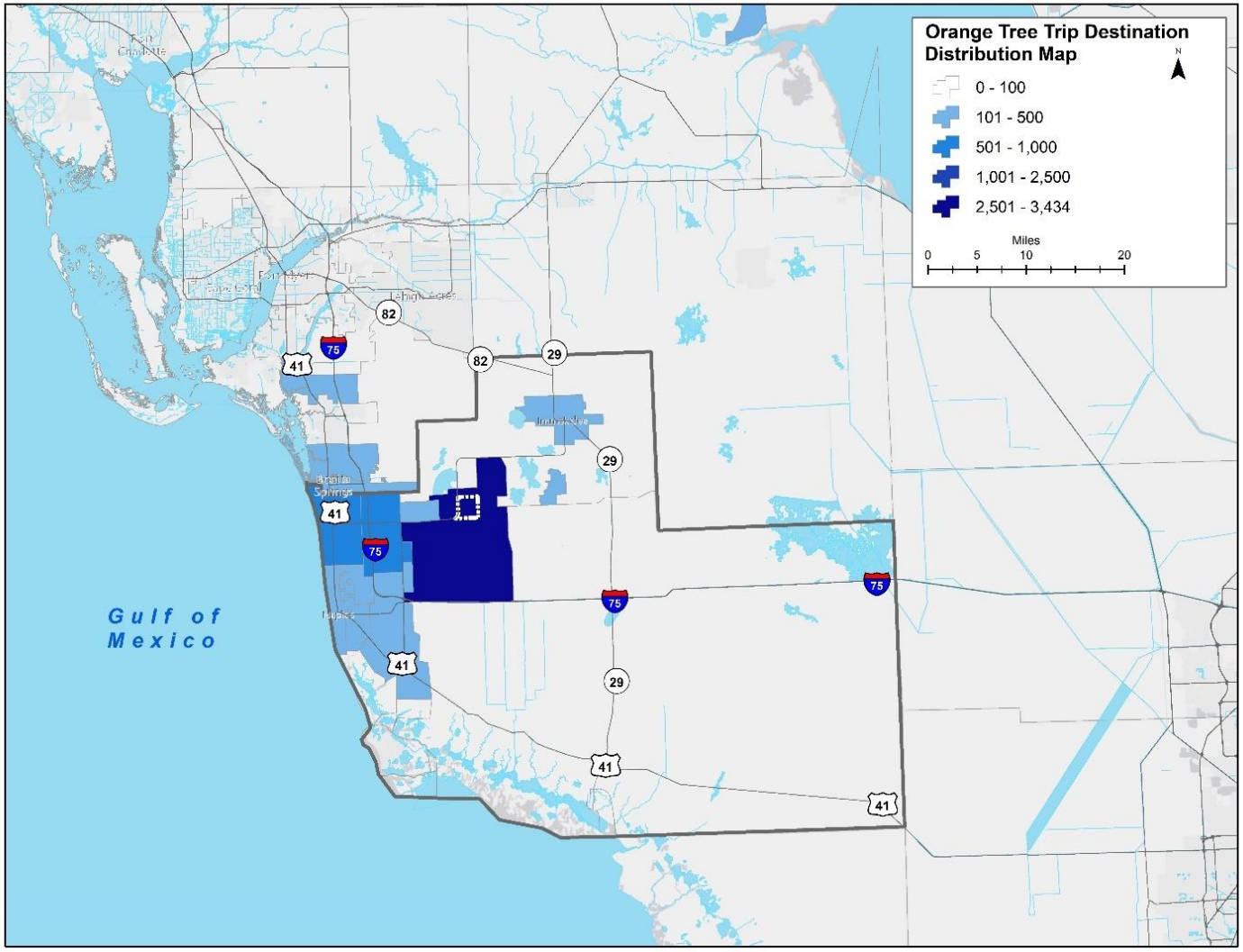
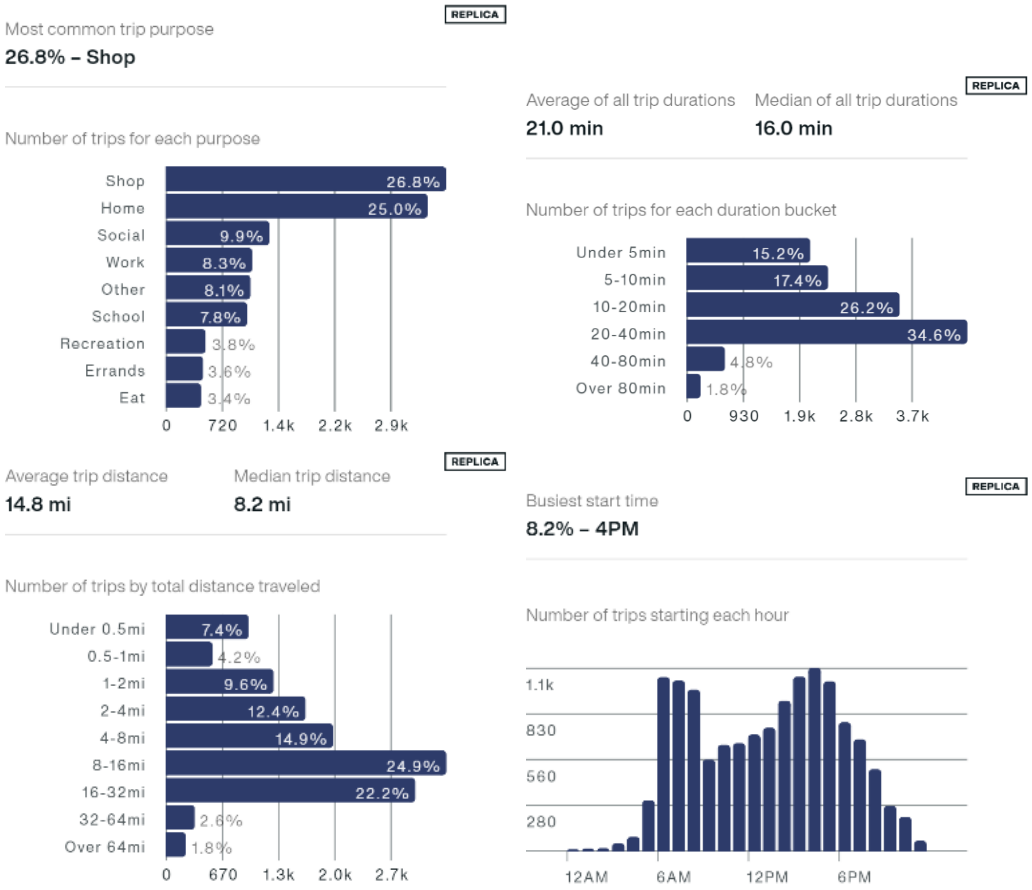


Figure 68: Selected Trip Characteristics for Orange Tree Destinations



3.13.3 Work Location

Table 31 lists the top work locations for nearly 2,500 workers living in the Orange Tree subarea. No single area has a high percentage of employee location and only a small percentage of residents work in the Orange Tree subarea. Shown in Figure 70 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance and demonstrate a distinct A.M. peak pattern. This is reflective of the few numbers of workers that have jobs located within the subarea or nearby. Information regarding working from home is also made available through Replica. It was estimated that nearly 600 of the Orange Tree subarea's 4,600 residents (12.9%) worked from home during the Spring 2021 quarter.

Figure 69: Origins for trips Ending in Orange Tree Subarea

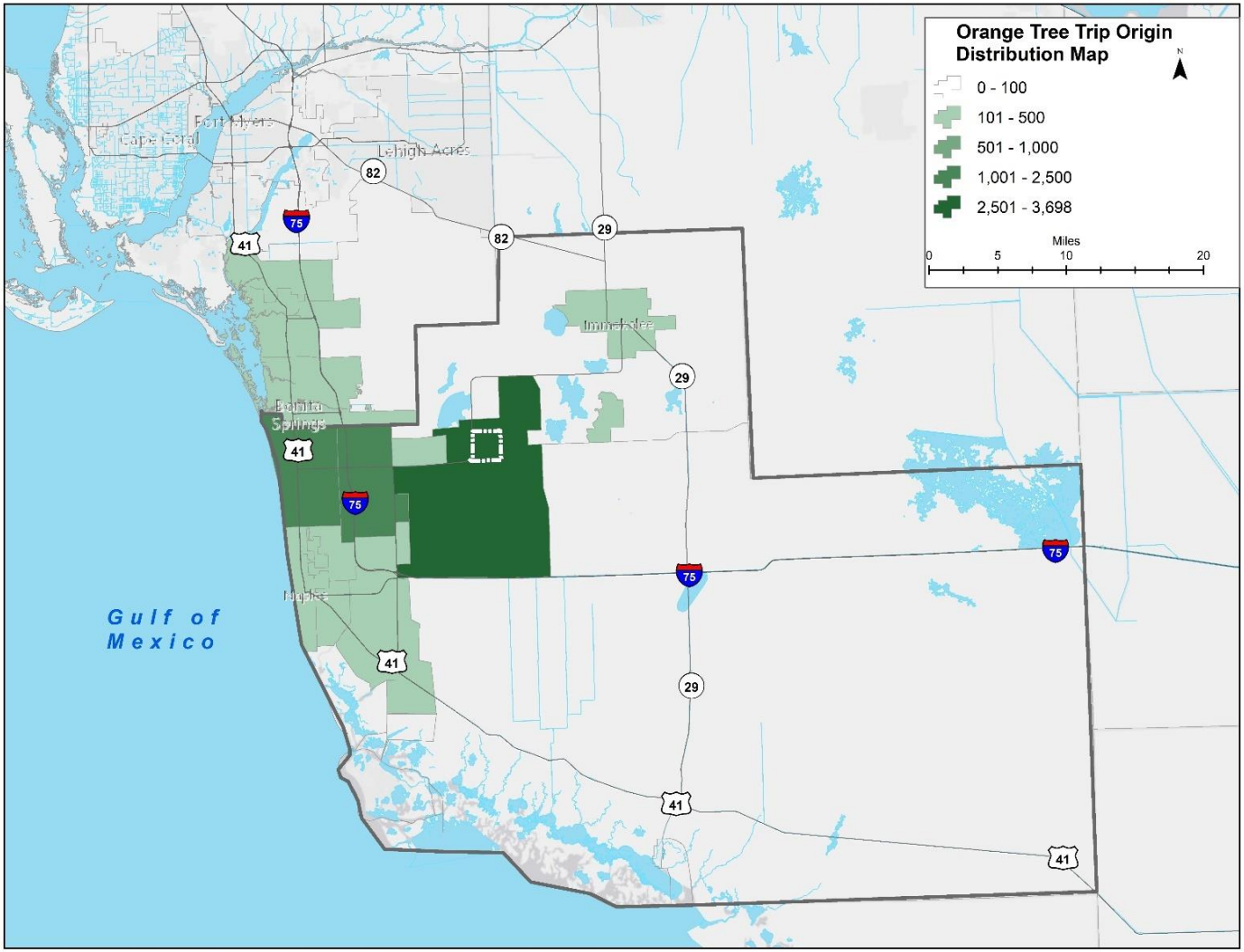
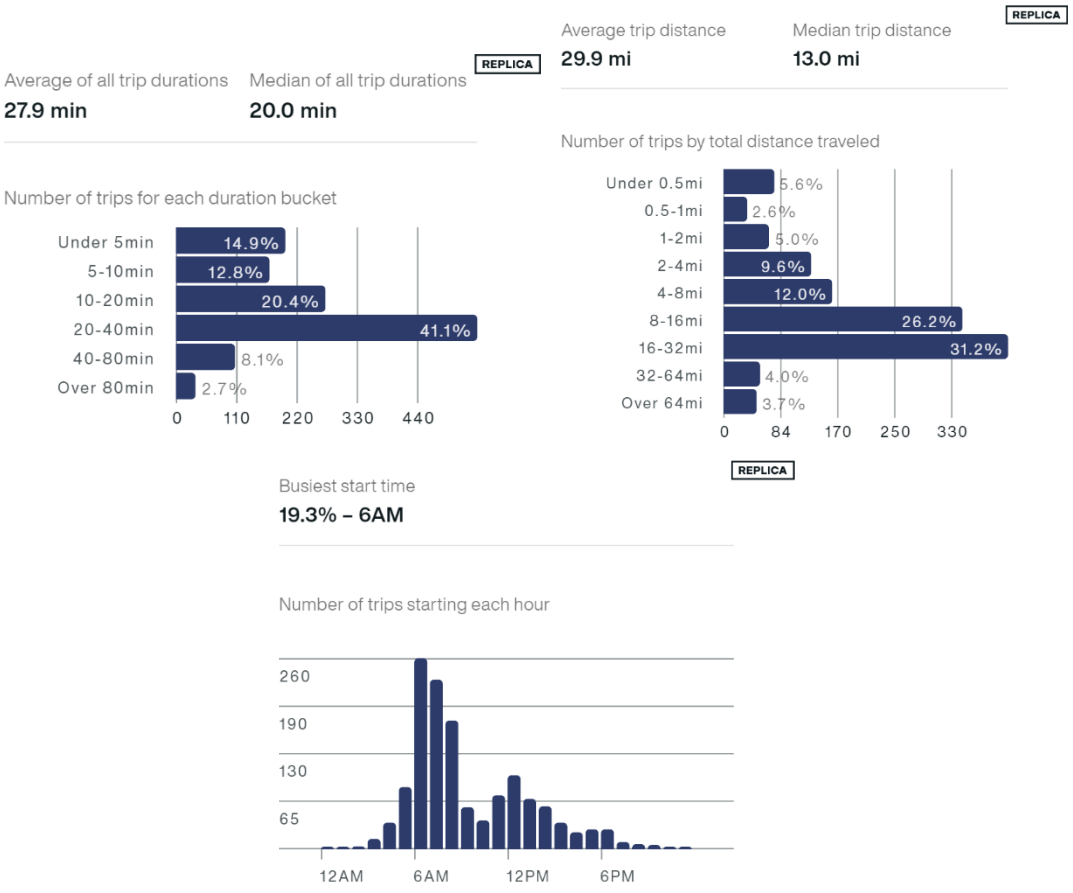


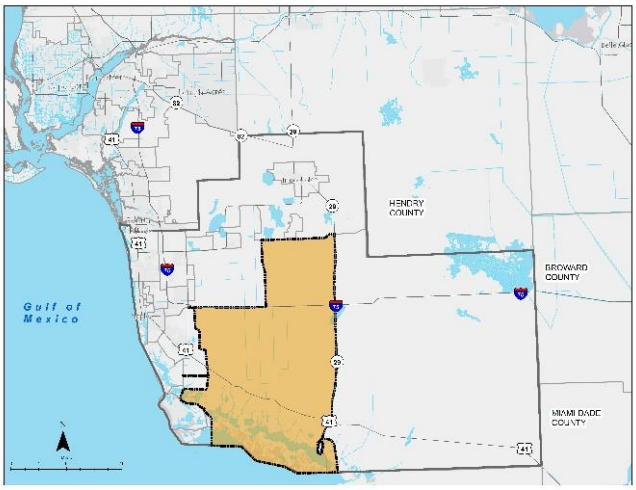
Table 31: Work Locations for Residents of Orange Tree

Work Location	Population	Work Location	Population
North Naples	375	San Carlos	55
Rural Estates	230	Bonita Springs	51
City of Naples	224	Heritage Bay	39
Ave Maria	209	East Naples	32
Central Naples	170	Charlotte County	29
Urban Estates	134	City of Marco Island	29
Orange Tree	115	Out of Region	28
South Naples	90	South Fort Myers	28
Immokalee	72	Miami-Dade County	27
Golden Gate	61	Estero	26

Figure 70: Orange Tree Home to Work Trip Characteristics



3.14 Royal Fakapalm



The Royal Fakapalm subarea is the second largest subarea, and like the Corkscrew area is largely dominated by environmentally protected areas including the Florida Panther National Wildlife Refuge. Isolated areas of development include Port of the Islands and Royal Hammock along Tamiami Trail East as well as other rural communities.

Table 32 shows the trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the Royal Fakapalm subarea. The trip origin shows the number of trips that begin in the subareas with Royal Fakapalm as the destination and vice versa for the trip destination listed. More than 6,400 trips originated in the Royal Fakapalm on an average weekday during the Spring of 2021, with 24% of those trips staying internal to the subarea. Due to the nature of the developed portions of this subarea the South Naples subarea is also a high destination area for trips originating in the Royal Fakapalm subarea

Table 32: Royal Fakapalm Trip Origins and Destinations

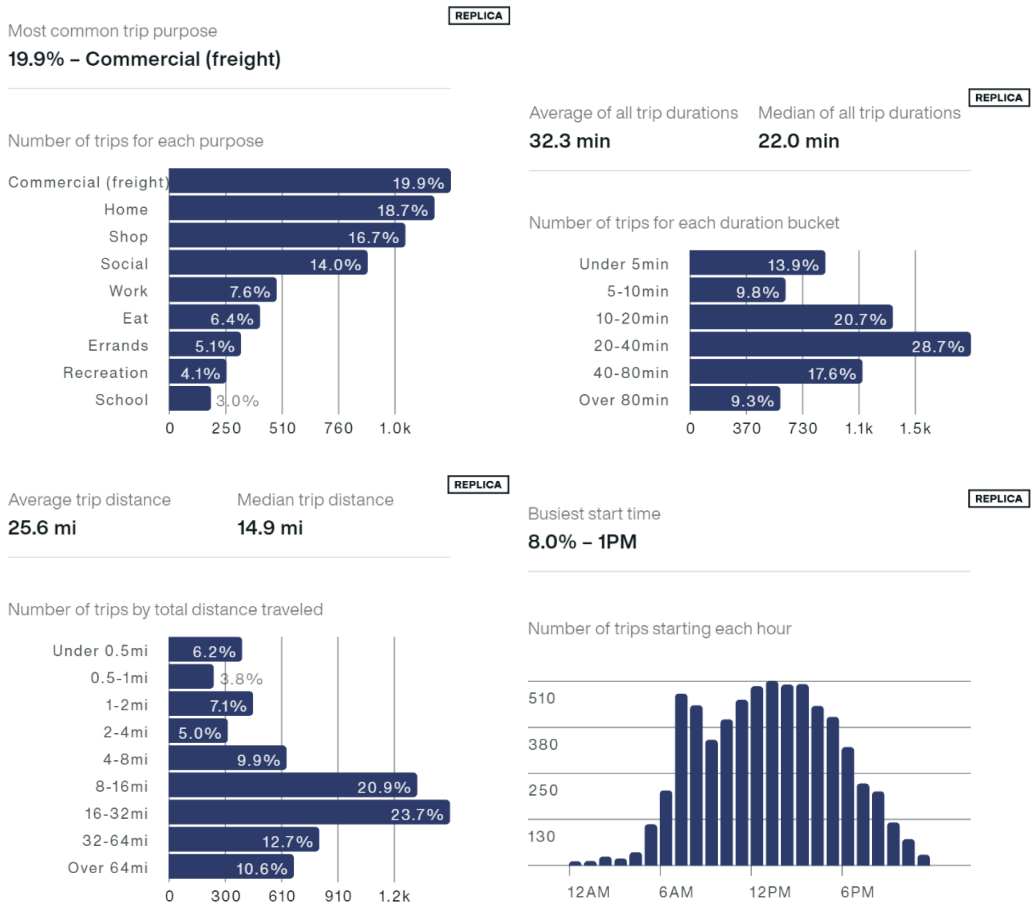
Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Royal Fakapalm (internal)	1,500	1,500	Out of region	163	162
South Naples	1,223	1,174	Broward County	144	120
City of Marco	457	433	Urban Estates	137	132
Rural Estates	313	331	Central Naples	136	134
Everglades City	273	301	Bonita Springs	109	104
East Naples	257	253	Big Cypress	86	84
Miami-Dade County	252	258	Fort Myers	83	61
North Naples	240	207	Immokalee	82	94
City of Naples	234	195	San Carlos	68	52
Golden Gate	216	217	Gateway/Airport	54	56

3.14.1 Trips Beginning in Subarea

Figure 71 includes charts showing the purpose, duration, distance and start time of trips originating in the Royal Fakapalm subarea. Trips Originating in Royal Fakapalm have a high commercial (freight) trip purpose at about 20% of the daily trips generated in the subarea. The average of trip distance of more than 25 miles and the average trip duration of 32 minutes are among the highest averages for the subareas studied. Like the Big Cypress subarea, the influence of commercial trips could be influencing these higher averages. Unlike the Big Cypress subarea, agricultural land uses within the Royal Fakapalm subarea are contributing to these commercial trips. Less than 3% of the trips originating from this area have a destination outside of the South Florida region. Figure 75 illustrates the geographic distribution

of destinations for trips originating in the Royal Fakapalm subarea which shows the high association of trips within the area and the neighboring South Naples subarea.

Figure 71: Selected Trip Characteristics for Royal Fakapalm Origins



3.14.2 Trips Ending in Subarea

Like trips starting in the subarea, Figure 73 illustrates the trip characteristics for trips ending in the Royal Fakapalm subarea. These summary statistics suggest that roughly a quarter or 1,600 of the total trips ending in Royal Fakapalm are a return to home trip. The average trip distance of 26 miles and average trip duration of 33 minutes are comparable to those measures for the trips originating within the area. The distribution of trip lengths is indicative of the development pattern with very few short distance trips compared with those traveling between 16 and 32 miles. Figure 74 graphically illustrates the geographic distribution of origins for trips ending in the Royal Fakapalm subarea.

Figure 72: Destinations for trips Originating in Royal Fakapalm Subarea

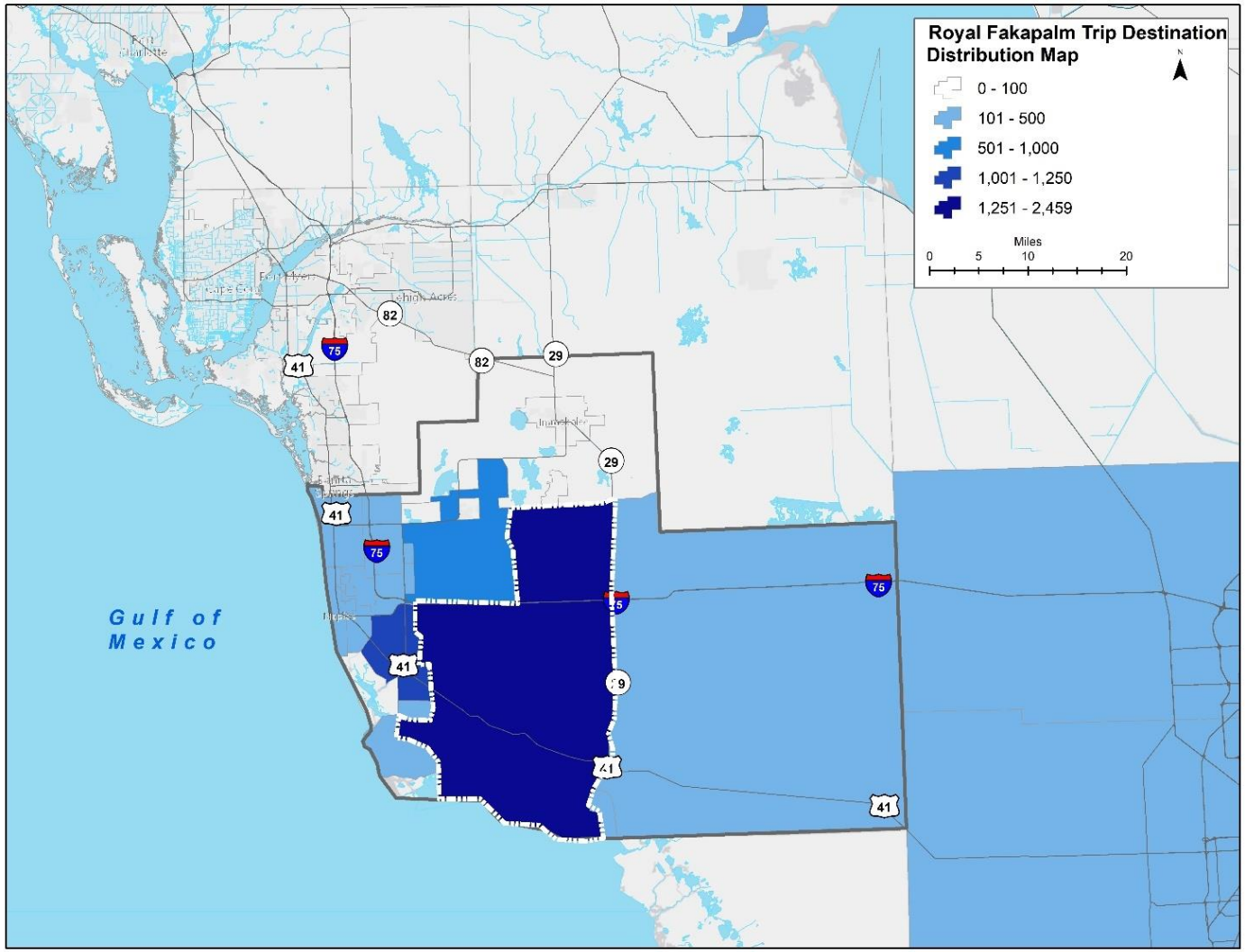
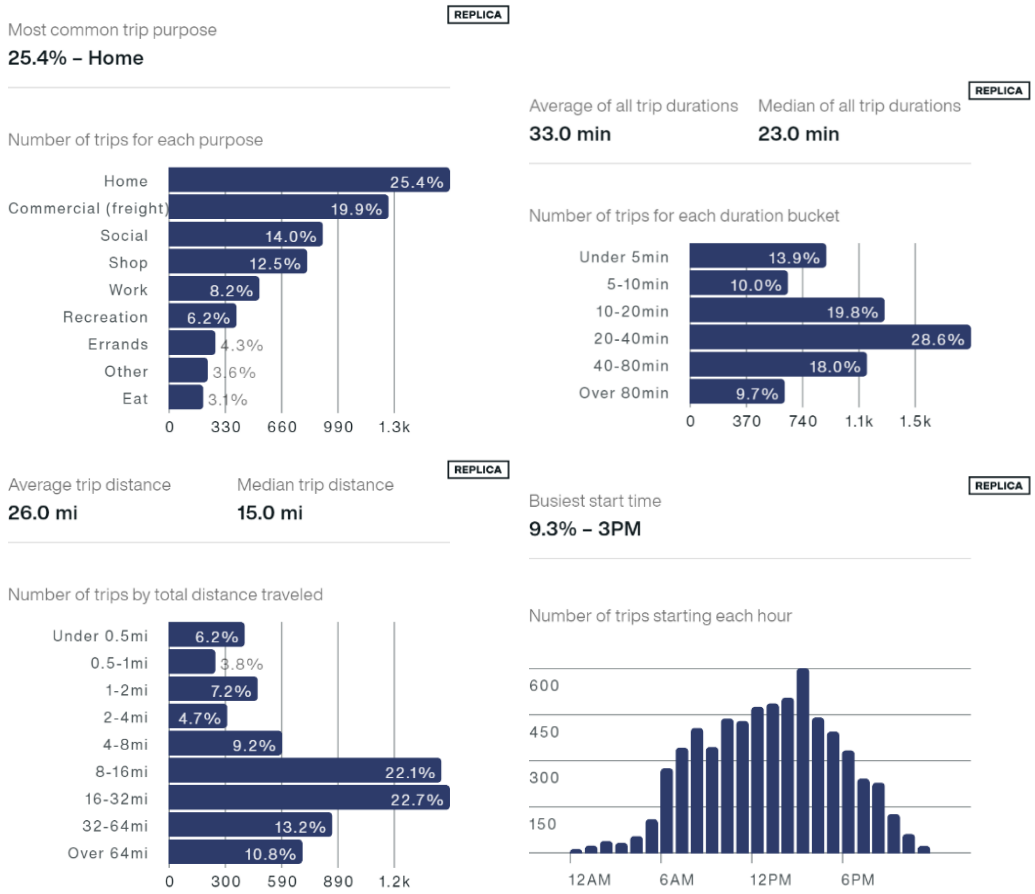


Figure 73: Selected Trip Characteristics for Royal Fakapalm Destinations



3.14.3 Work Location

Table 33 provides a breakdown of the top work subareas for 900 workers living in the Royal Fakapalm subarea. Due to the rural nature of this area and sparse development, more than 90% of these workers are required to travel outside of the subarea for employment. This is illustrated further in Figure 75 by the low percentage of home to work trips that are less than 5 miles in distance compared to those over 40 miles.

The statistics shown for the home to work commute eliminate any trip chaining and focuses on the single purpose trips. These trips have a distinct A.M. peak with a mid-day bump as well. Information regarding working from home is also made available through Replica. It was estimated that 250 or 11% of the 2,300 people residing in the Royal Fakapalm subarea worked from home during the Spring 2021 quarter.

Figure 74: Origins for trips Ending in Royal Fakapalm Subarea

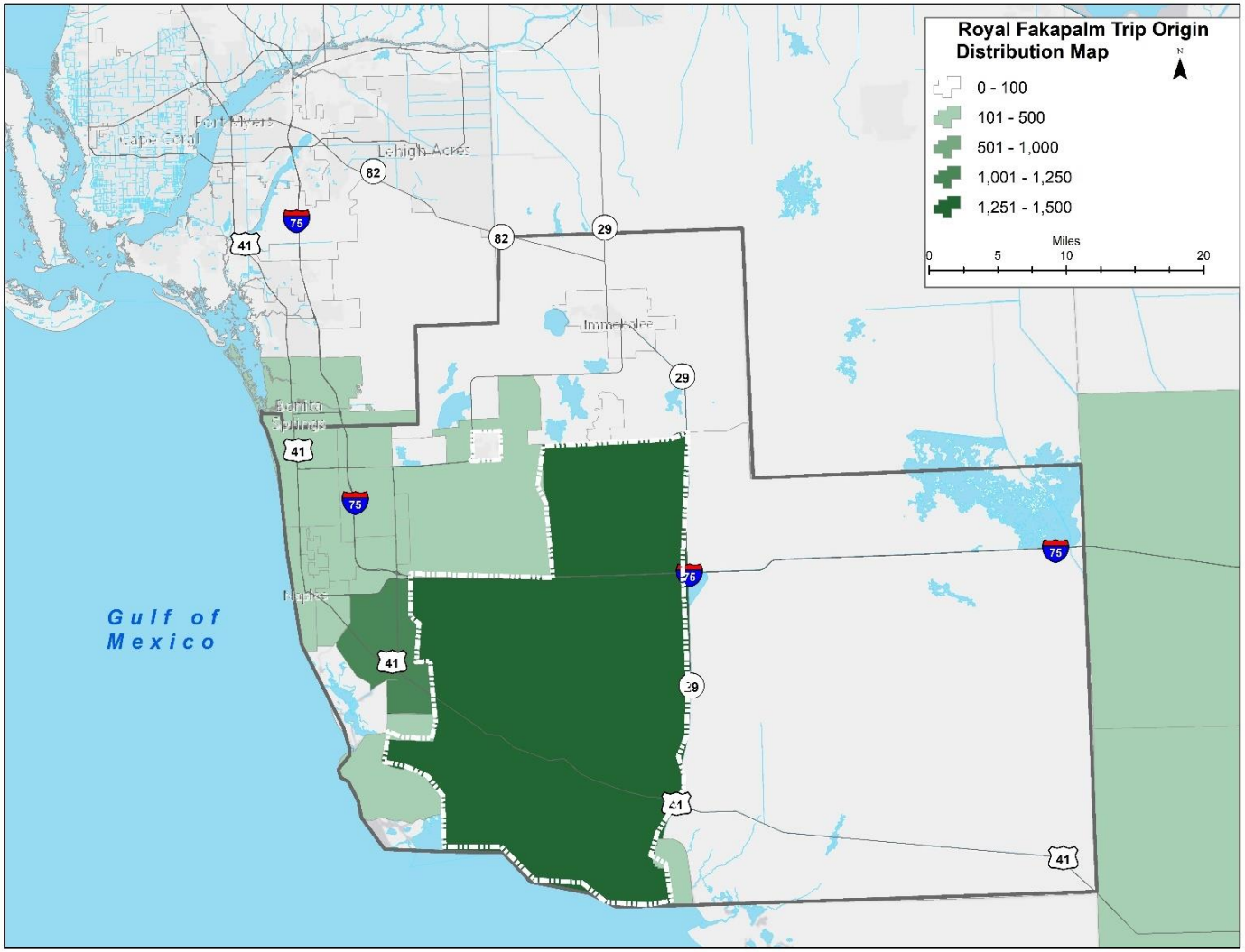
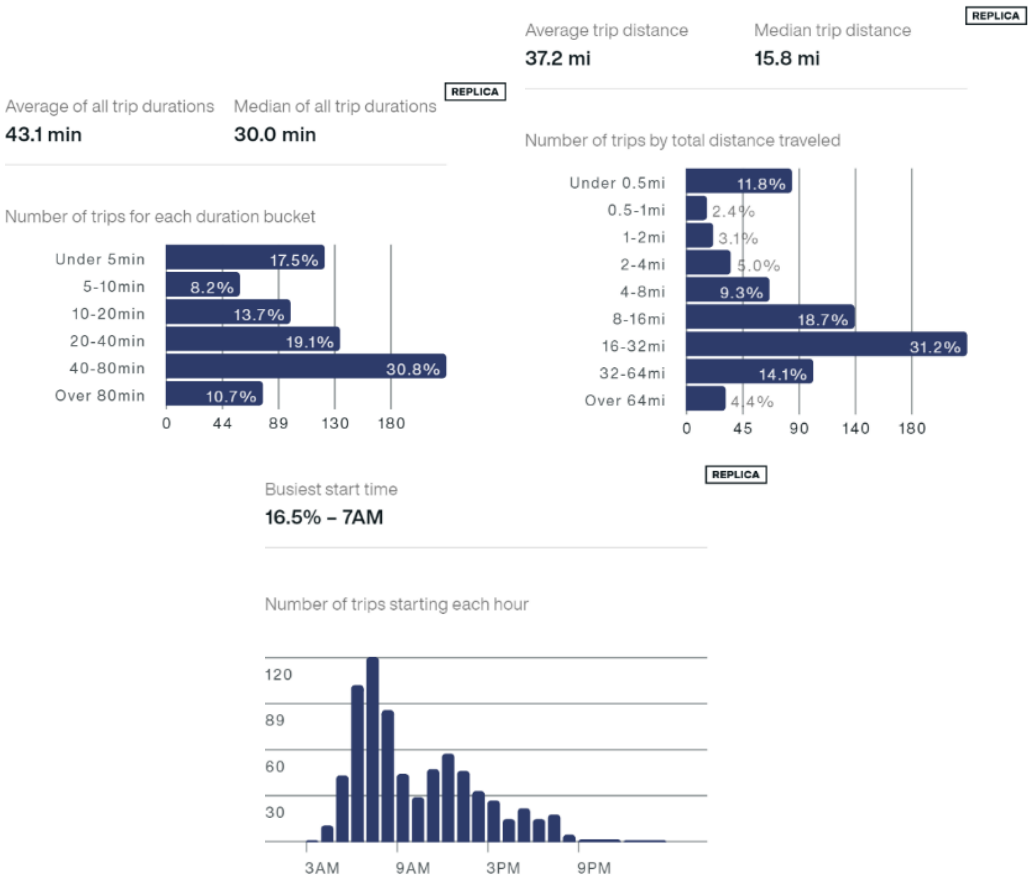


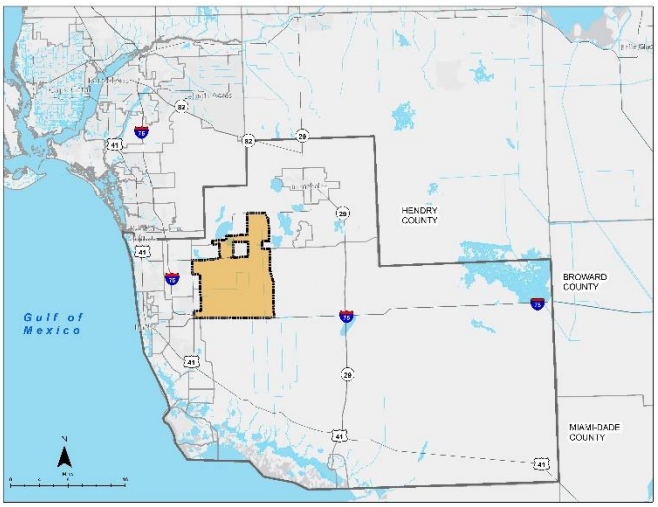
Table 33: Work Locations for Residents of Royal Fakapalm

Work Location	Population	Work Location	Population
South Naples	194	Central Naples	19
North Naples	97	San Carlos	18
East Naples	89	Big Cypress	17
City of Marco Island	76	Gateway/Airport	13
Royal Fakapalm	63	Ave Maria	11
City of Naples	59	Fort Myers	10
Everglades City	47	Golden Gate	9
Urban Estates	33	Rural Estates	9
Out of region	23	South Fort Myers	6
Miami-Dade County	22	Immokalee	5

Figure 75: Royal Fakapalm Home to Work Trip Characteristics



3.15 Rural Estates



The Rural Estates subarea is dominated by large lot single-family land uses located east of CR 951. Much of the area is divided by canals and waterways with limited transportation routes connecting through the area and beyond.

Table 34 shows the trip origins and destinations for the top 20 subareas when at least one trip end takes place in the Rural Estates subarea. The trip origins are shown as the number of trips coming from the subareas having a destination within the Rural Estates and vice versa for the trip destinations listed as the trips going to that subarea. There are an estimated 69,000 trips made originating in the Rural Estates on an average weekday, one-third of the trips staying within the subarea.

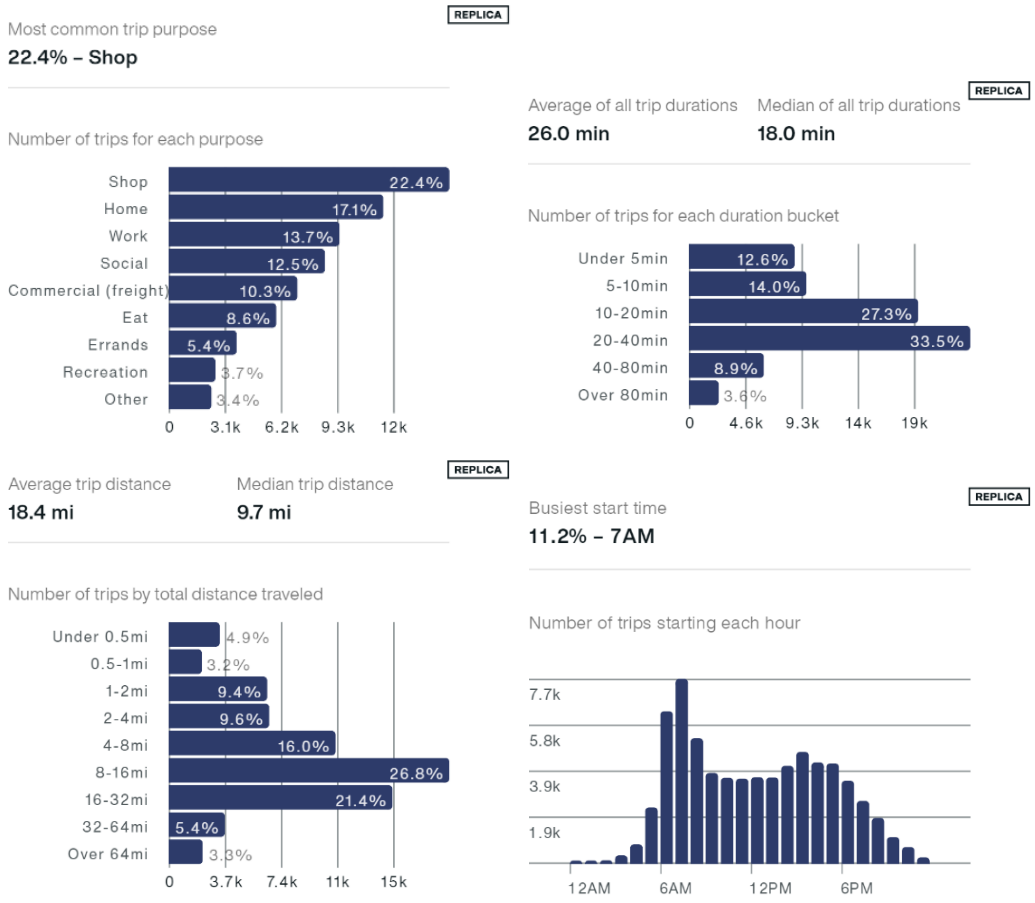
Table 34: Rural Estates Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Rural Estates (internal)	22,777	22,777	Bonita Springs	1,957	1,340
Urban Estates	9,501	8,782	Immokalee	1,150	1,258
North Naples	7,270	5,993	Out of Region	997	1,070
Golden Gate	5,667	5,348	Ave Maria	839	917
Orange Tree	3,421	3,698	San Carlos	689	674
City of Naples	3,089	2,781	Fort Myers	432	652
South Naples	3,167	2,491	City of Marco Island	926	576
Central Naples	2,677	2,409	Miami-Dade County	505	515
Heritage Bay	1,695	1,817	Estero	674	484
East Naples	1,881	1,538	Royal Fakapalm	527	463

3.15.1 Trips Beginning in Subarea

Figure 76 illustrates trip purpose, trip duration, trip distance and start time for the trips originating in the Rural Estates. The trips have a high shopping trip purpose at account for more than 22% of the daily trips generated in the subarea. The average trip distance of 18 miles and the average trip duration of 26 minutes are influenced by the number of trips that travel longer distance. As is common with other areas of a more rural development pattern there is a lower percentage of short distance trips. Figure 77 illustrates the geographic distribution of destinations for trips originating in the Rural Estates subarea which includes a considerable number of trips traveling to locations outside of Collier County.

Figure 76: Selected Trip Characteristics for Rural Estates Origins



3.15.2 Trips Ending in Subarea

Figure 78 provides an overview of the characteristics for trips ending in the Rural Estates. This summary shows that nearly half of the ending in the Rural Estates are a return home trip. This is not unexpected given the predominately single-family land use of the area. While the distribution of trip purpose is different for the destination trips compared with the origin trips, the average trip distances and travel times are comparable. With a distinct A.M. peak for trip origins and P.M. peak for trip destinations, it's reasonable to conclude that these times are dominated by the journey to work trips. Figure 79 graphically illustrates the geographic distribution of origins for trips ending in the Rural Estates subarea.

Figure 77: Destinations for trips Originating in Rural Estates Subarea

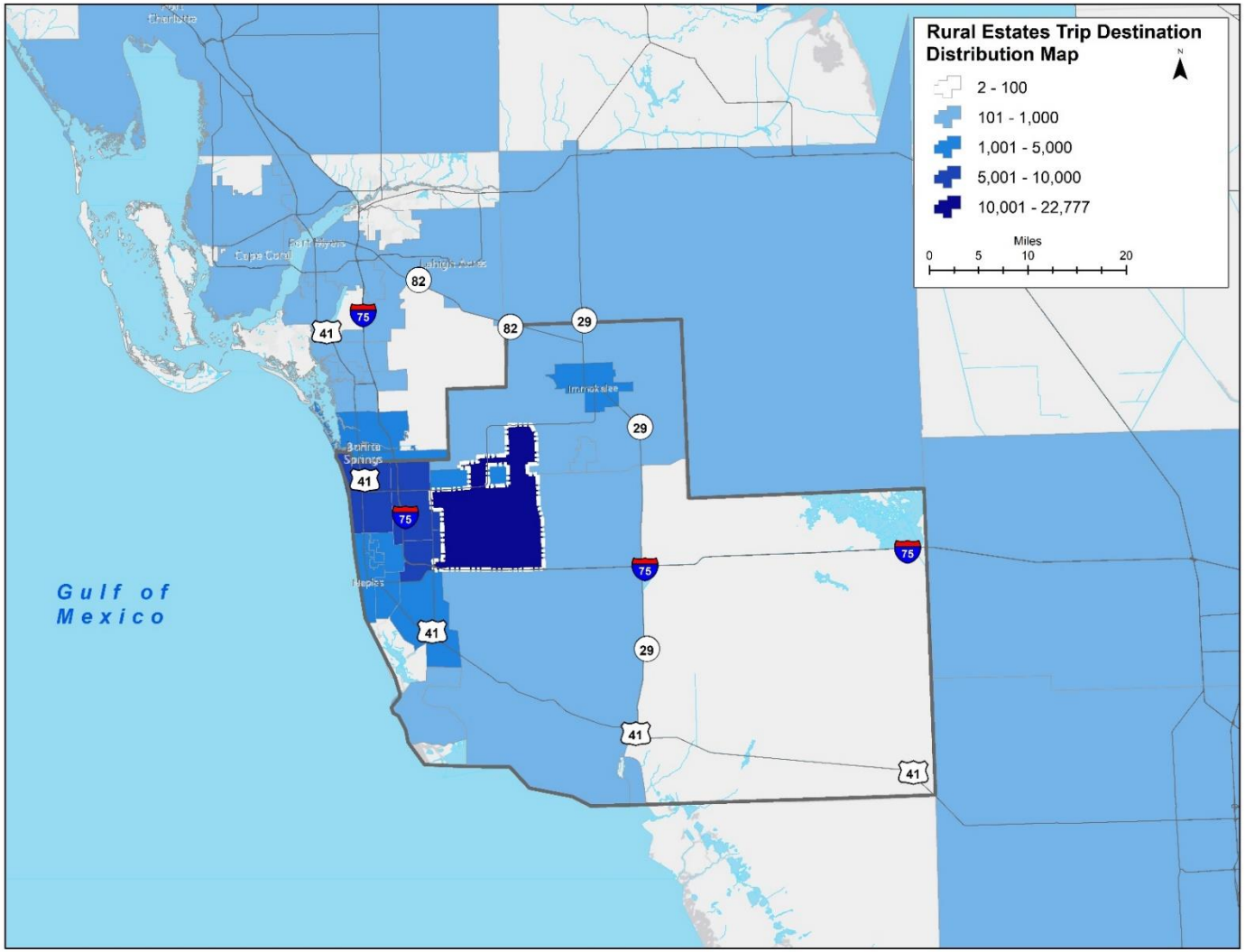
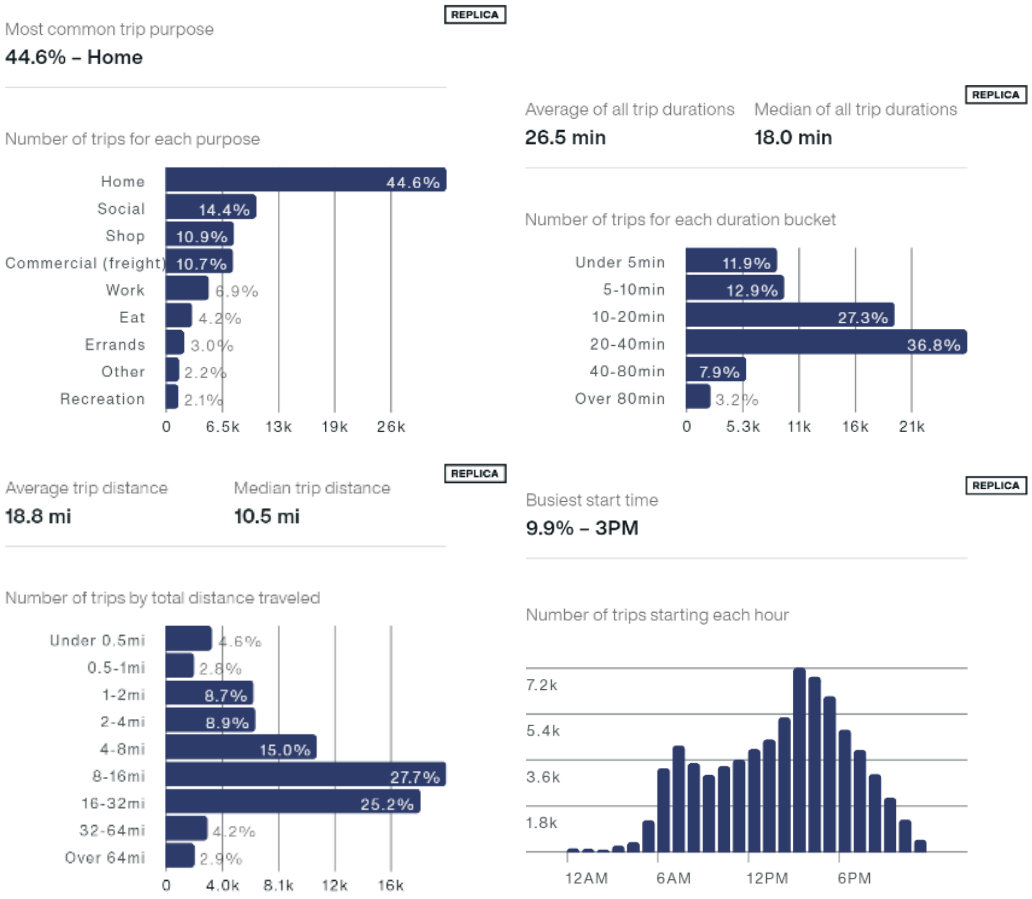


Figure 78: Selected Trip Characteristics for Rural Estates Destinations



3.15.3 Work Location

Table 35 lists the top work locations for 20,100 workers living in the Rural Estates subarea. Shown in Figure 80 are characteristics related to the work commute trip. Compared with trip time and distance for all trips originating in the subarea, work trips on average are shorter in time but longer in distance. Information regarding working from home is also made available through Replica. It was estimated that 11.3% or 4,600 of the 41,0000 people residing in the Golden Gate subarea worked from home during the Spring 2021 quarter.

Figure 79: Origins for trips Ending in Rural Estates Subarea

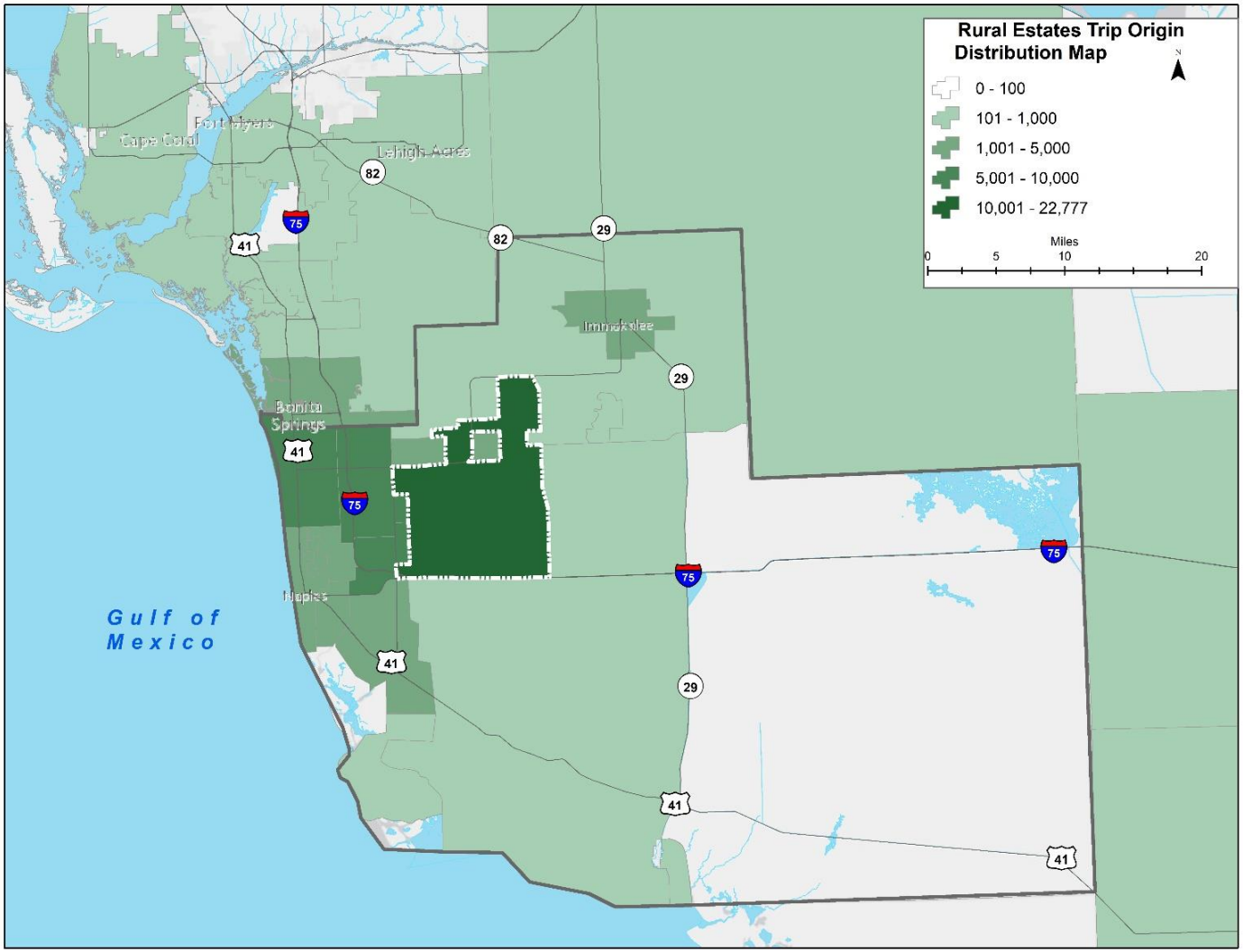
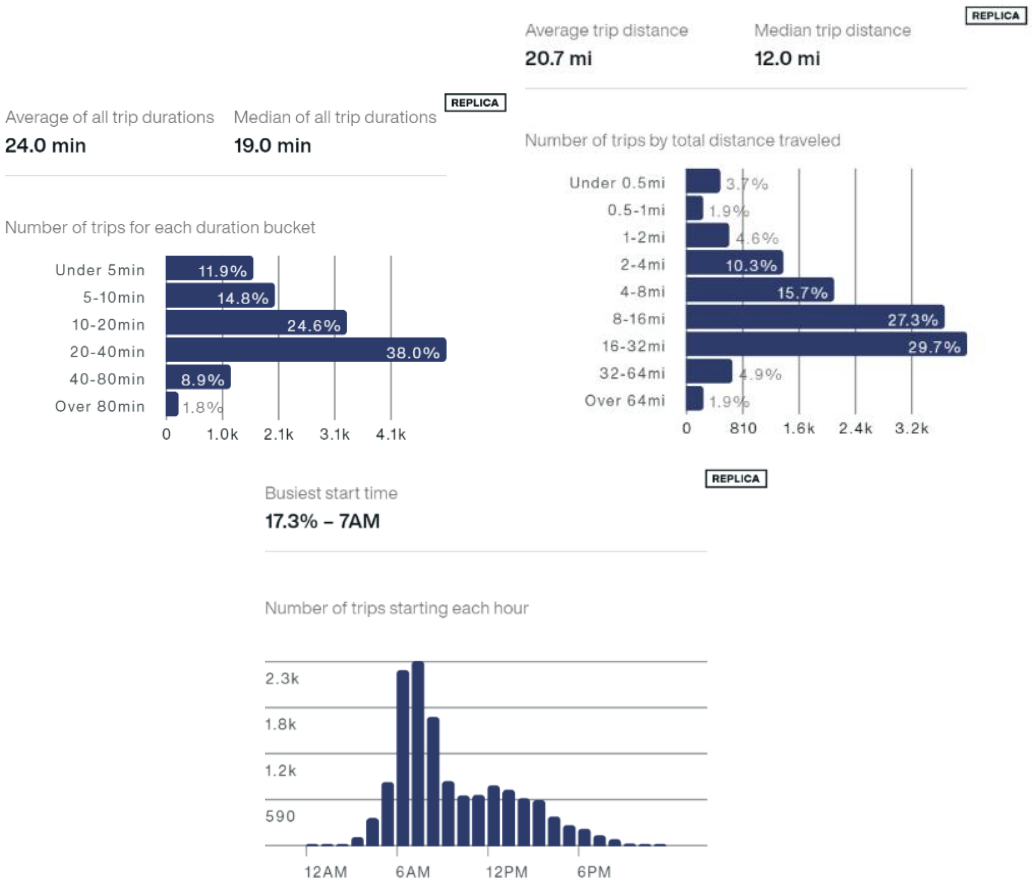


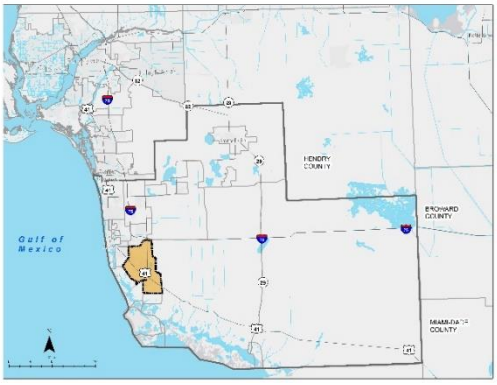
Table 35: Work Locations for Residents of Rural Estates

Work Location	Population	Work Location	Population
North Naples	3,616	Golden Gate	538
Rural Estates	2,612	City of Marco Island	487
City of Naples	2,546	Immokalee	438
Urban Estates	1,680	Orange Tree	403
Central Naples	1,389	South Fort Myers	374
Ave Maria	1,078	Miami-Dade County	350
East Naples	1,072	Fort Myers	318
Bonita Springs	665	Estero	194
South Naples	653	Heritage Bay	193
San Carlos	575	Out of Region	158

Figure 80: Rural Estates Home to Work Trip Characteristics



3.16 South Naples



The South Naples Subarea was another of the initial planning communities that was expanded based on review of the GMP map. Areas east of Collier Blvd (CR 951) as well as areas south of Tamiami Trail East were consolidated into this area based on the similarity of land uses and development.

Table 36 identifies the number of trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the South Naples subarea. The trip origins listed have a destination in the South Naples subarea and vice-versa for the destinations listed.

With 48% of the more than 120,000 average daily trips originating in the subarea staying internal, the South Naples subarea has one of the highest rates of trips staying within the area. This can be attributed to this subarea having one of the better mixes of land uses to accommodate multiple trip purposes. The nearby areas of East Naples, Golden Gate, City of Naples, and City of Marco Island also have a high trip interaction with the South Naples subarea.

Table 36: South Naples Trip Origins and Destinations

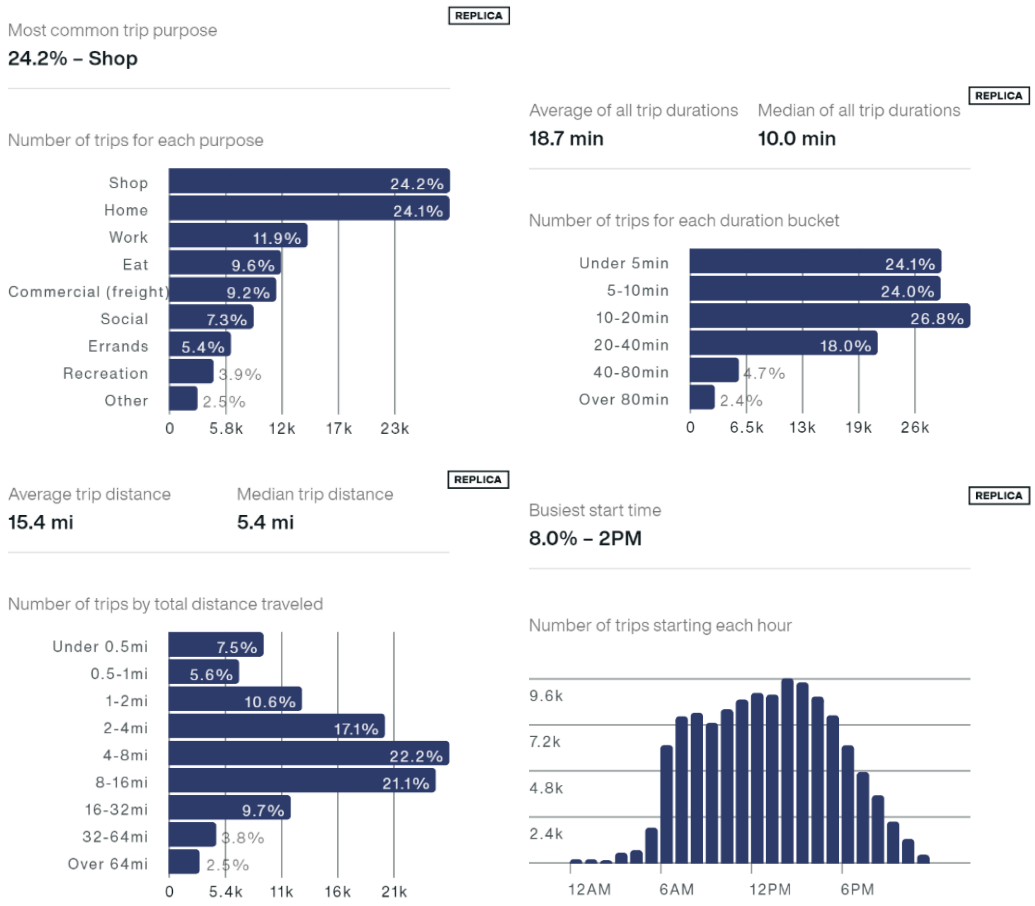
Subareas	Trips From	Trips To	Subarea	Trips From	Trips To
South Naples (internal)	57,338	57,338	Royal Fakapalm	1,147	1,163
East Naples	12,263	12,327	Bonita Springs	1,149	1,091
Golden Gate	7,881	8,381	Fort Myers	572	873
City of Naples	6,818	7,812	San Carlos	590	777
City of Marco Island	7,537	7503	South Fort Myers	378	554
North Naples	4,926	5,043	Cape Coral	248	551
Central Naples	3,742	4,197	Estero	454	542
Urban Estates	2,908	3,269	Lehigh Acres	265	512
Rural Estates	2,491	3,167	Gateway/Airport	268	495
Out of region	1,335	1,488	Miami-Dade County	521	490

3.16.1 Trips Beginning in Subarea

Figure 81 provides a summary of trip purpose, trip distance, trip duration and start time statistics. Nearly 50% of the trips originating in this area are for shopping or home purposes. These purposes seem to contribute to the large number of trips that can be taken in less than 10 minutes and less than 5 miles. Even with many short distance trips, the average trip distance for the South Naples subarea is 15 miles and the average trip duration is nearly 19 minutes. The distribution of trips throughout the day also

reflects a high rate of trips being produced throughout the day with the absence of a strong A.M or P.M. peak. Figure 82 illustrates the geographic distribution of destinations for trips originating in the South Naples subarea.

Figure 81: Selected Trip Characteristics for South Naples Origins



3.16.2 Trips Ending in Subarea

Figure 83 shows the purpose, distance, duration and start time for trips ending in the South Naples subarea. Trips ending in South Naples have a high home trip purpose at about 35% of average weekday trips. The average trip distance is around 15 miles and a travel time of 18 minutes. Like trips originating in this area, the number of trips increases throughout the day with a peak in the early afternoon. Figure 84 shows the geographic distribution of trips ending in the South Naples subarea.

Figure 82: Destinations for trips Originating in South Naples Subarea

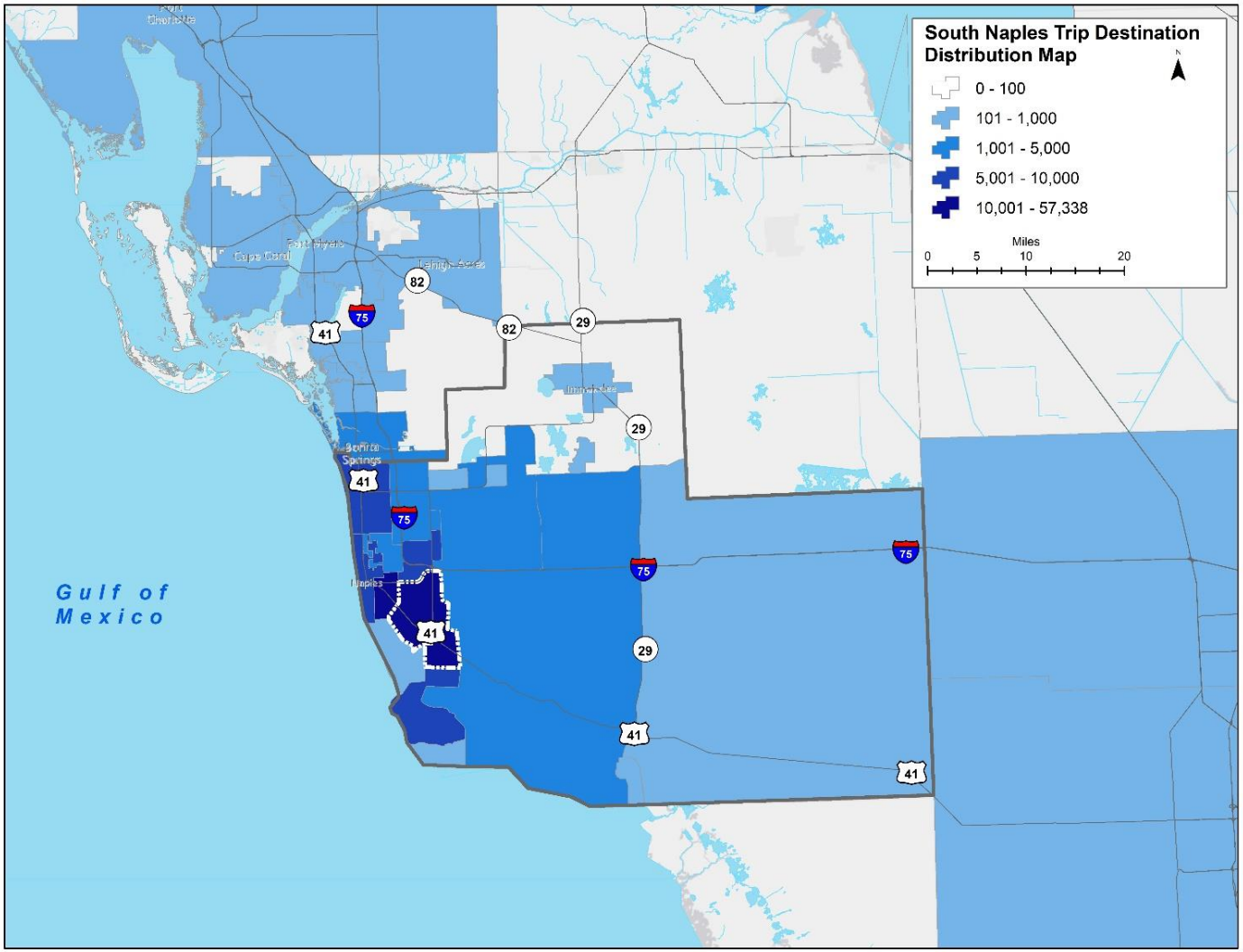
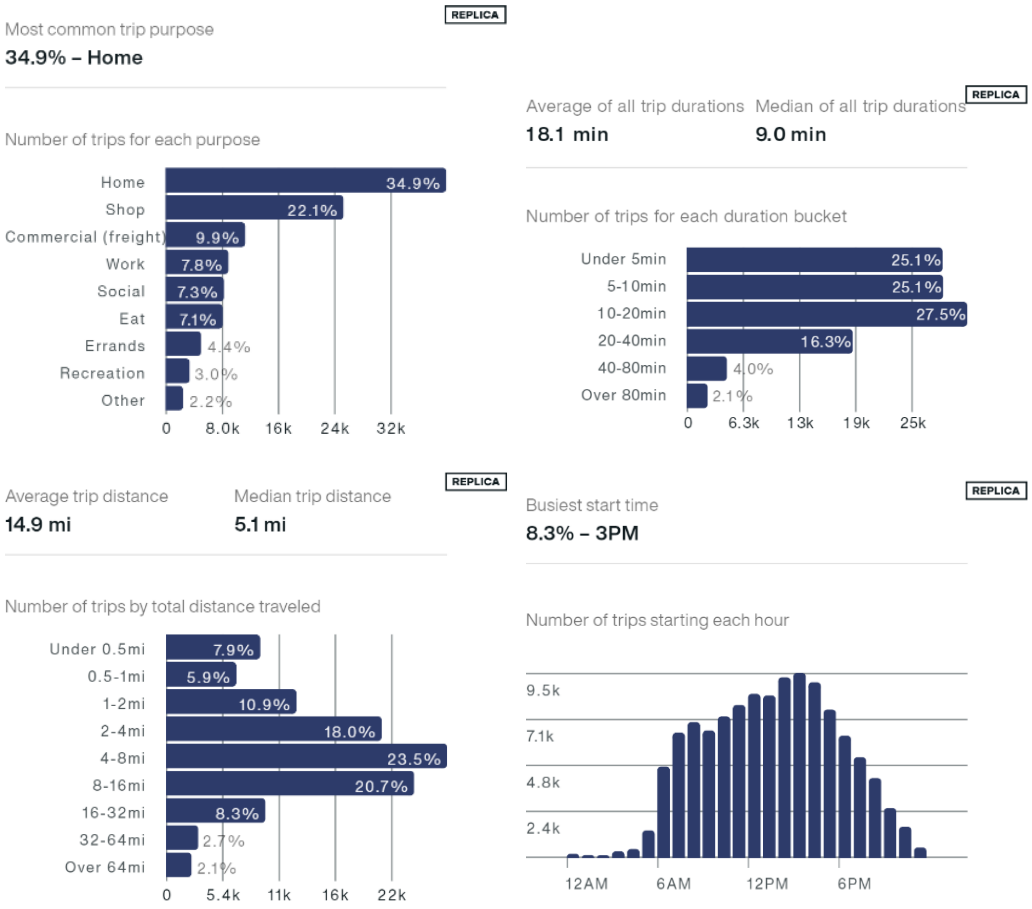


Figure 83: Selected Trip Characteristics for South Naples Destinations



3.16.3 Work Location

Table 37 provides a list of the top work location subareas for 17,500 workers living in the South Naples subarea. This table indicates that residents of South Naples predominantly work in the South Naples subarea or one of the neighboring areas.

Shown in Figure 85 are selected characteristics related to the work commute trip. Even though a high number of residents work within the South Naples subarea, the home-to-work trips exhibit longer travel times and travel greater distances when compared with all trips generated daily. Information regarding working from home is also made available through Replica. It was estimated that 3,800 or 8% of residents in the South Naples subarea worked from home during the Spring 2021 quarter.

Figure 84: Origins for trips Ending in South Naples Subarea

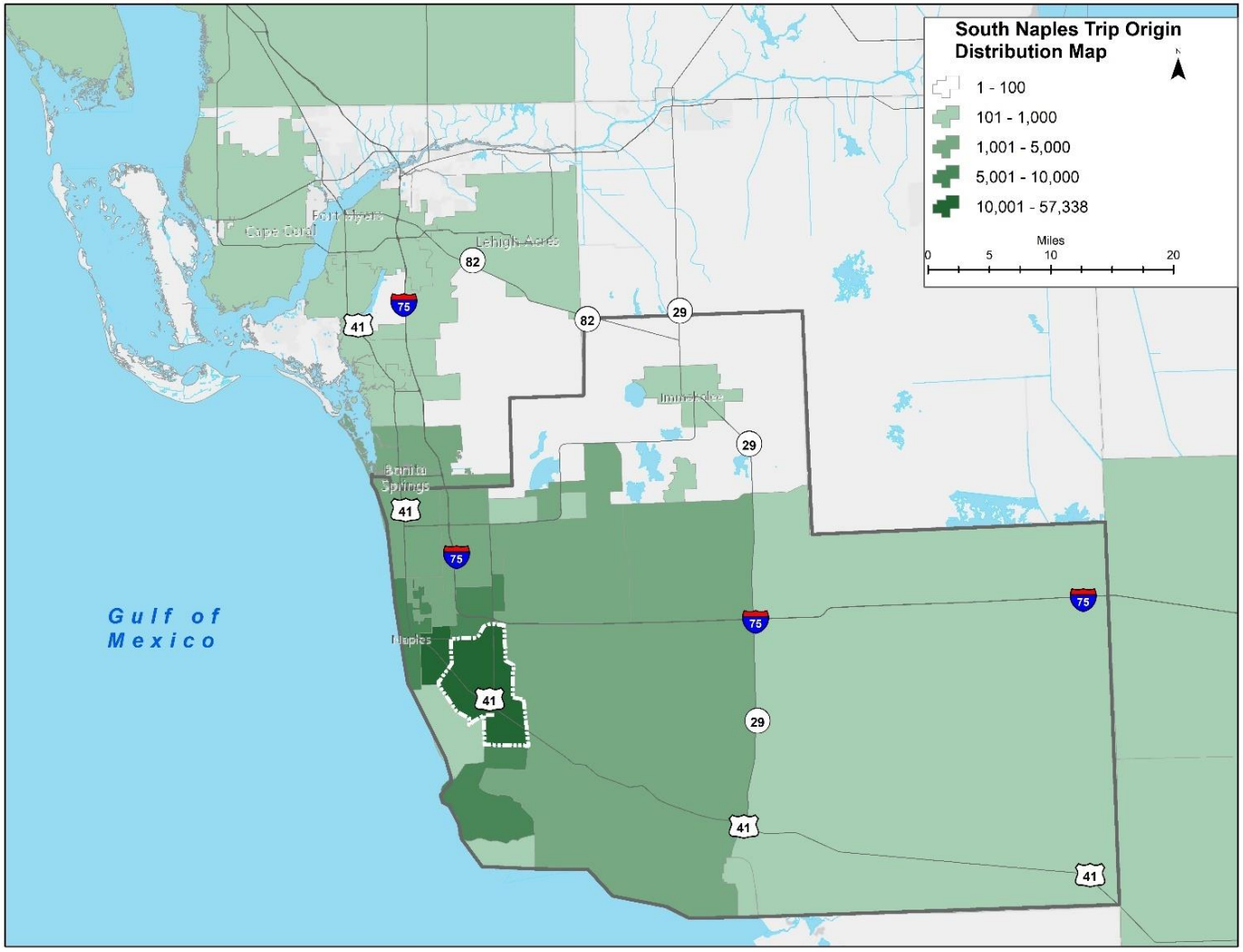
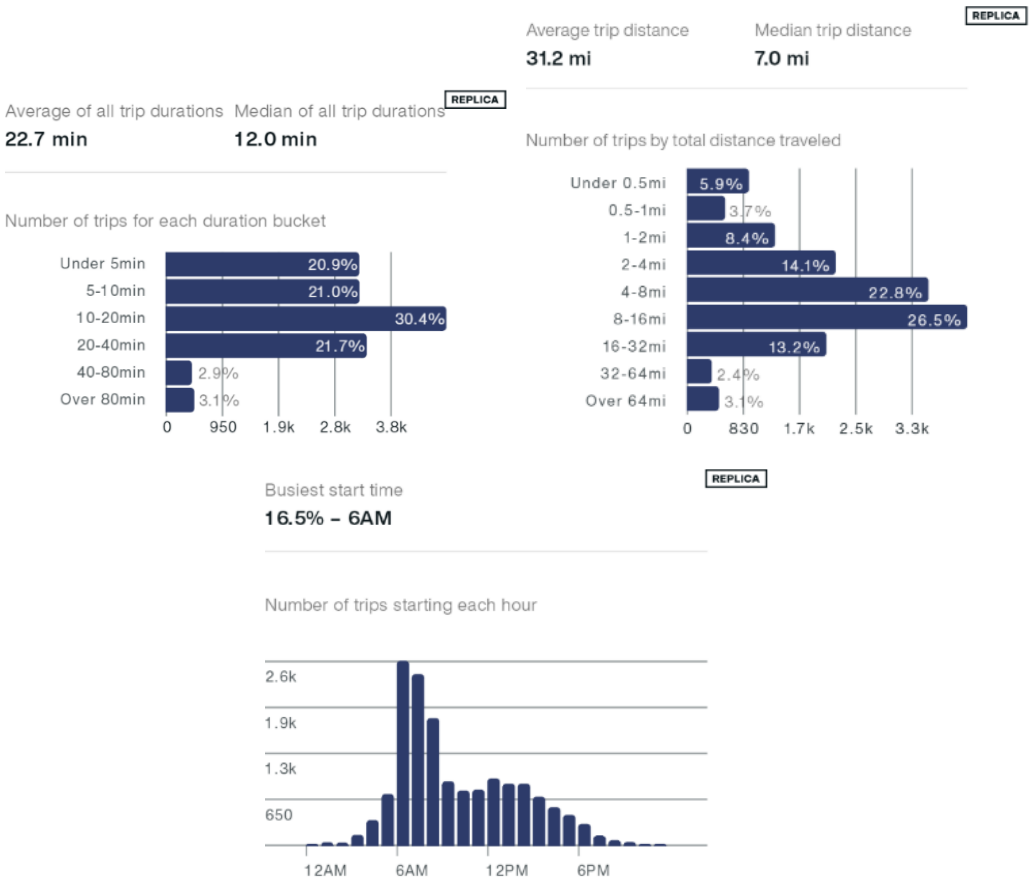


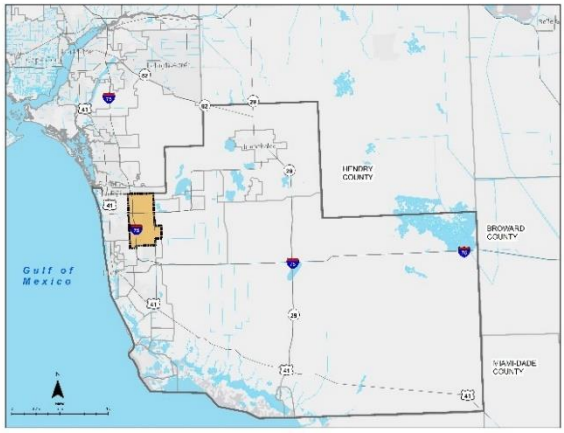
Table 37: Work Locations for Residents of South Naples

Work Location	Population	Work Location	Population
South Naples	4,433	Rural Estates	335
City of Naples	2,706	Miami-Dade County	310
North Naples	2,015	Royal Fakapalm	281
City of Marco	1,600	Everglades City	264
East Naples	1,410	South Fort Myers	252
Central Naples	1,021	Ave Maria	235
Urban Estates	642	Bonita Springs	141
Golden Gate	475	Immokalee	127
Out of region	449	Big Cypress	113
San Carlos	444	Broward County	89

Figure 85: South Naples Home to Work Trip Characteristics



3.17 Urban Estates



The Urban Estates subarea is located west of CR 951 in northern Collier County. This area contains a mix of retail shopping centers, estate lot residences and gated single-family residential communities.

Table 38 identifies the number of trip origin and destination for the top 20 subarea locations when at least one trip end takes place in the Urban Estates subarea. The trip origins listed have a destination in the Urban Estates subarea and vice-versa for the destinations listed. The 55,270 trips originating in Urban Estates subarea and remaining within the area represents about 39% of the more than 140,000 trips originating within the area on an average weekday. There is also a strong connection between this area and adjacent North Naples subarea.

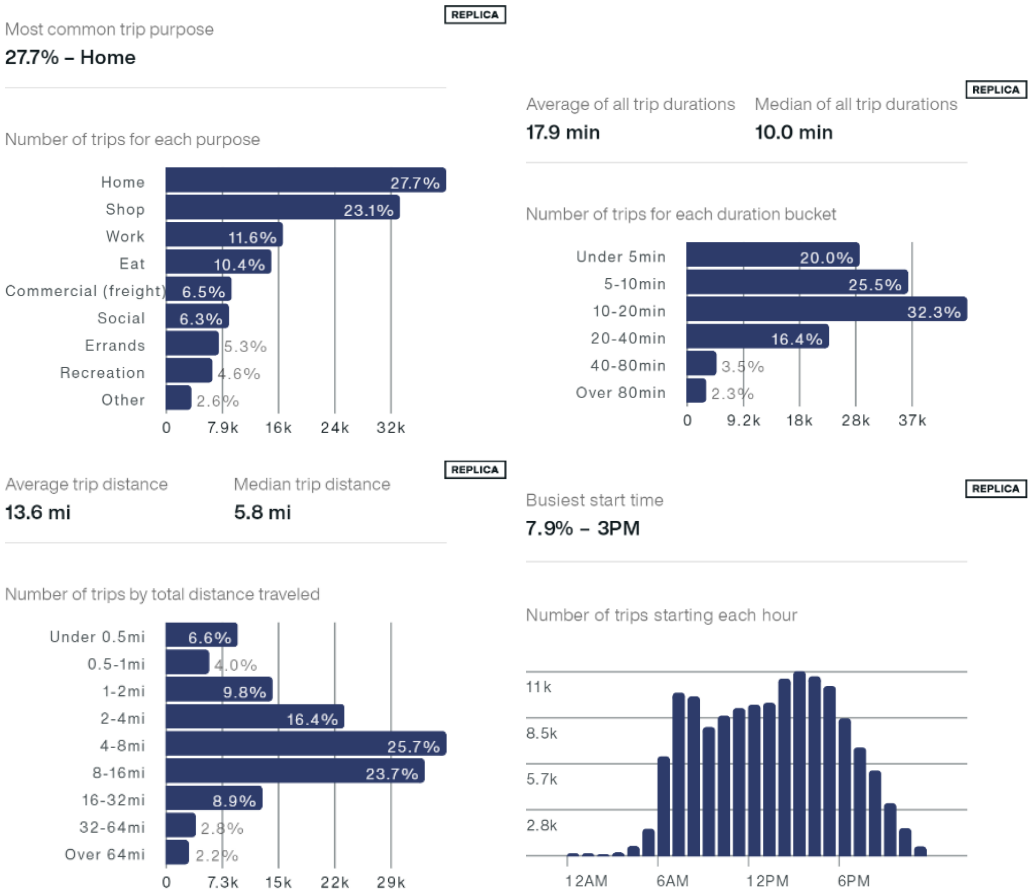
Table 38: Urban Estates Trip Origins and Destinations

Subarea	Trips From	Trips To	Subarea	Trips From	Trips To
Urban Estates (internal)	55,270	55,270	Out of region	1,617	1,929
North Naples	25,896	26,095	San Carlos	1,085	1,407
Rural Estates	8,782	9,501	Fort Myers	772	1,378
Golden Gate	8,291	8,311	Estero	1,452	1,360
City of Naples	6,550	6,857	Orange Tree	990	1,341
Central Naples	6,493	6,228	South Fort Myers	726	1,137
Bonita Springs	6,796	5,748	Lehigh Acres	472	912
South Naples	3,269	2,908	Gateway/Airport	437	903
East Naples	2,969	2,843	Immokalee	751	872
Heritage Bay	2,511	2,584	City of Marco Island	920	755

3.17.1 Trips Beginning in Subarea

Figure 86 summarizes the trip purpose, trip distance, trip duration and start time for trips originating in the area. Trips originating in Urban Estates have a high home trip purpose at about 28% of the average daily weekday trips generated in the subarea. The average distance traveled is 13 miles and the average duration is estimated at 18 minutes for these trips. Figure 87 illustrates the geographic distribution of destinations for trips originating in the Urban Estates subarea. In addition to the high number of internal trips and trips to adjacent areas, there are a high number of trips to other areas within Collier County as well as subareas is southern Lee County.

Figure 86: Selected Trip Characteristics for Urban Estates Origins



3.17.2 Trips Ending in Subarea

Figure 88 provides the trip characteristics summary for trips ending in the Urban Estates subarea. These summary statistics suggest that 30% in the Urban Estates have a home purpose. The consistent trip purposes of home and shopping for origin and destination trips speaks to the blend of land uses that exist within this area. While there are some short distance trips, the most common trips ending in this area are between 4-8 miles in length. Figure 89 graphically illustrates the geographic distribution of origins for trips ending in the Urban Estates subarea.

Figure 87: Destinations for trips Originating in Urban Estates Subarea

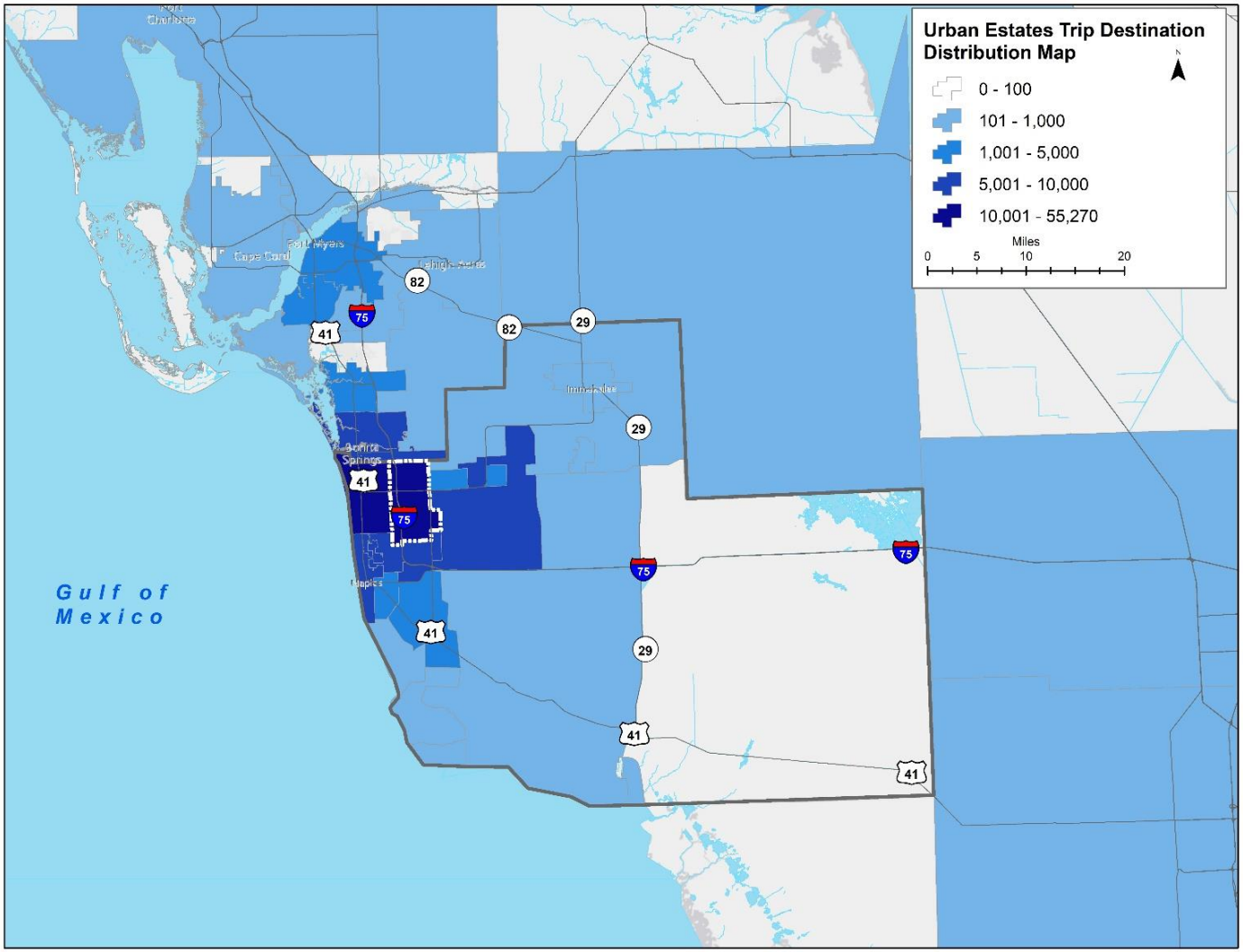
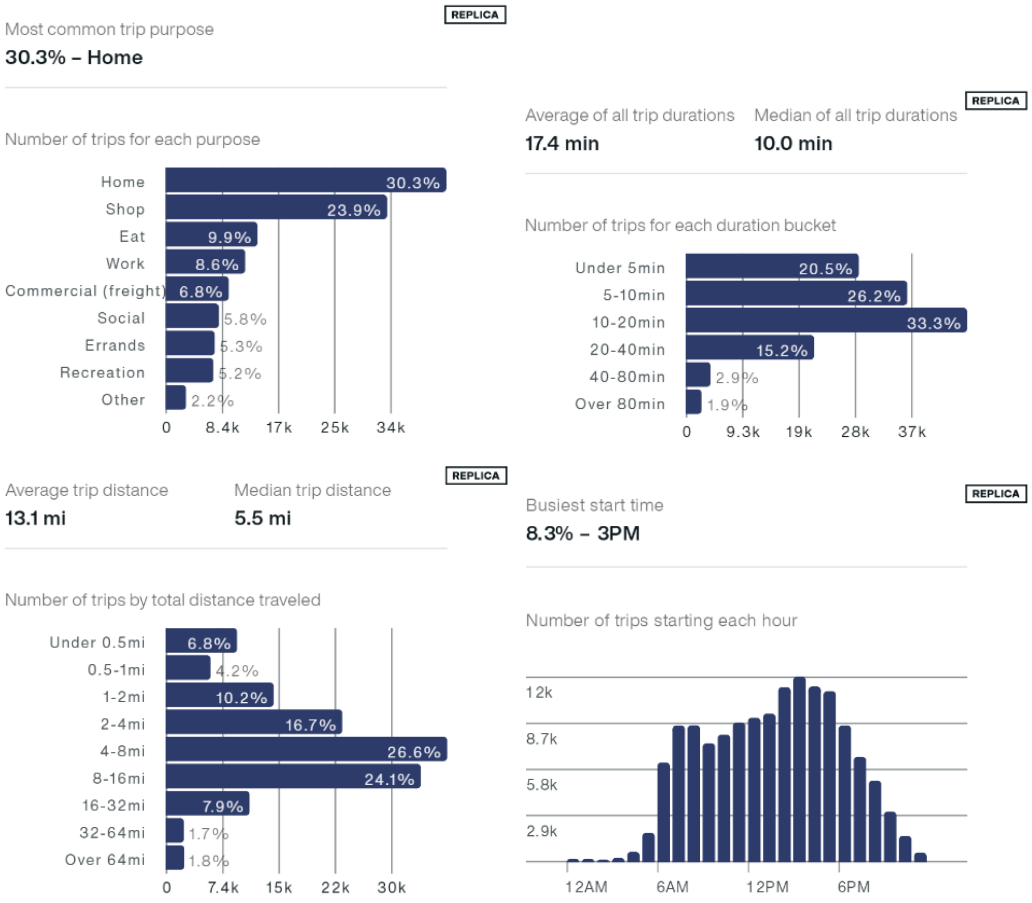


Figure 88: Selected Trip Characteristics for Urban Estates Destinations



3.17.3 Work Location

Table 39 lists the top work location subareas for the 21,000 workers living in the Urban Estates subarea. While there is a high number of residents who work within the subarea, the highest number of jobs are held in the North Naples subarea.

Shown in Figure 90 are selected characteristics related to the work commute trip. Compared with trip time and distance for all trips originated within the study area, work trips on average are longer in time and distance. Information regarding working from home is also made available through Replica. It was estimated that 5,000 or 10.4% of the 48,500 residents in the Urban Estates subarea worked from home during the Spring 2021 quarter.

Figure 89: Origins for trips Ending in Urban Estates Subarea

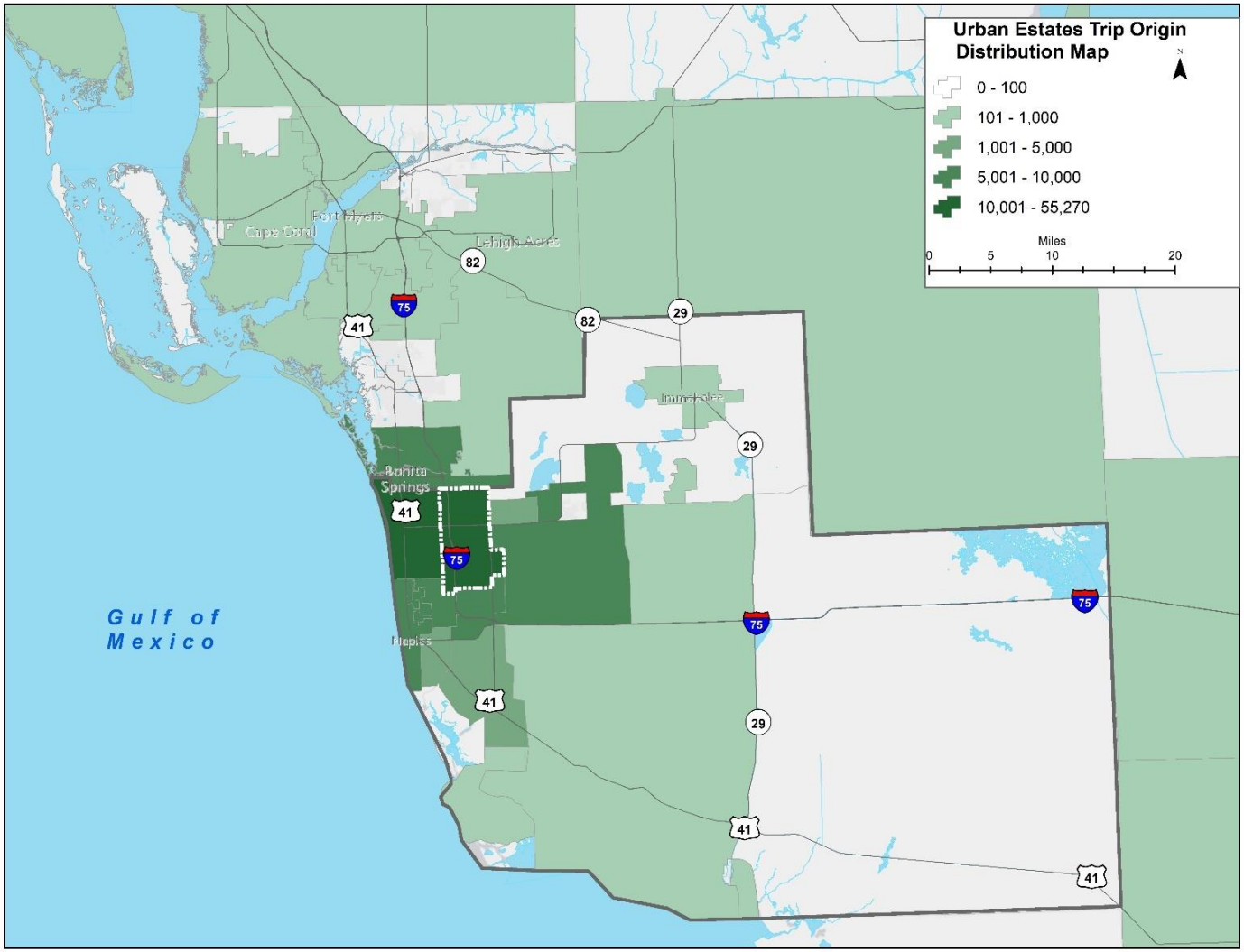
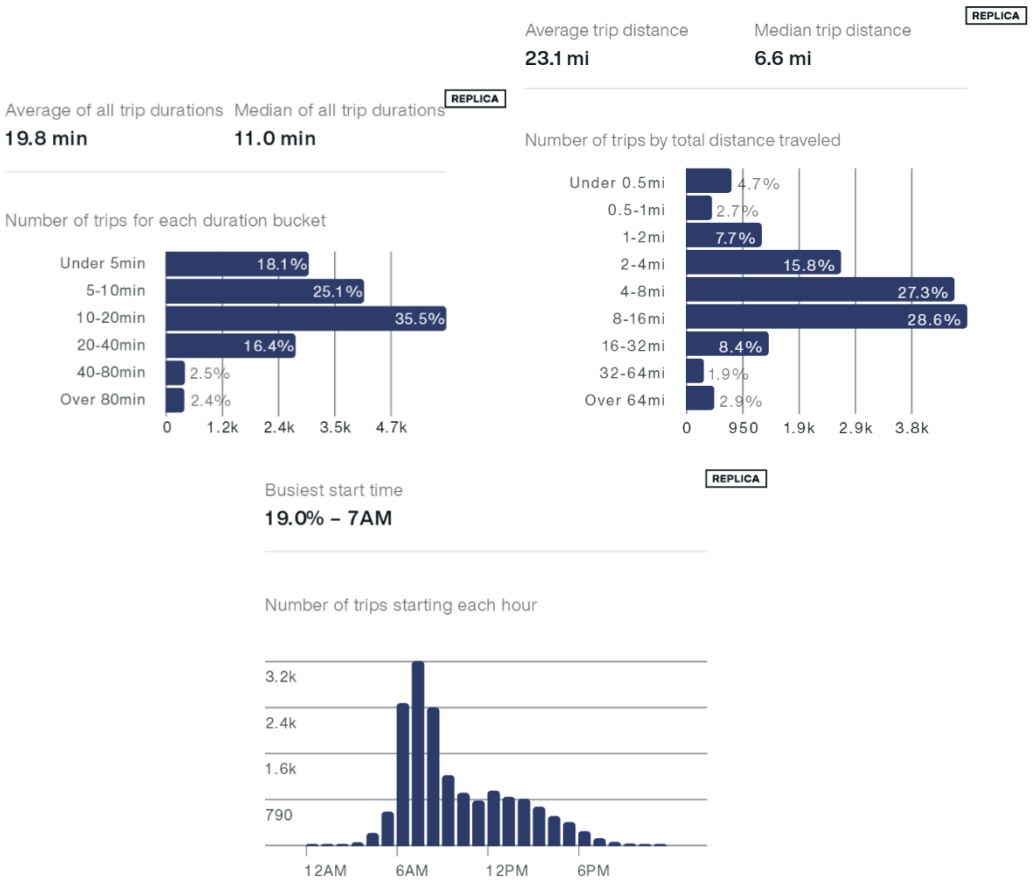


Table 39: Work Locations for Residents of Urban Estates

Work Location	Population	Work Location	Population
North Naples	5403	Out of region	382
Urban Estates	4884	South Naples	376
City of Naples	2431	Miami-Dade County	325
Central Naples	1288	City of Marco	302
East Naples	1174	Immokalee	232
Golden Gate	642	Fort Myers	207
Rural Estates	595	Ave Maria	207
San Carlos	555	Broward County	193
South Fort Myers	477	Estero	121
Bonita Springs	462	Gateway/Airport	97

Figure 90: Urban Estates Home to Work Trip Characteristics



4.0 Appendices

Appendix A: O&D Study Methodology

1.0 Purpose and Objective

The once distinct urbanized areas of Naples, Bonita Springs and Cape Coral have coalesced into a larger urbanized area within the context of the rapidly growing region of Southwest Florida. Facilitated through the regional transportation connections of Interstate 75, US 41 and SR 29, growth and connectivity in Collier and Lee Counties has resulted in continuous urban and suburban development patterns where trip-making patterns cross the county line with routine frequency. In Collier County population has grown from around 150,000 to 375,000, nearly 150%, from 1990 to 2020 based on the decennial Census. Additionally, recent growth in the eastern rural lanes of Collier County known as the Rural Lands Stewardship Area, has resulted in new travel patterns beginning to emerge with connections to the east coast of Florida.

As a result of this growth, as with other areas in the United States, transitioning from a smaller metro area to a medium-sized and large area brings with it the challenge of addressing congestion on the transportation system. Identifying root causes of congestion and prioritizing implementable solutions as part of the Congestion Management Process is a core requirement that the MPO is addressing. To that end, the Collier MPO desires to better understand trip origin and destination patters to better plan for and develop the multimodal transportation system.

2.0 Approach

The Replica data platform will be used as the basis for conducting this origin and destination study. The Replica platform utilizes a composite set of data provided by third-party sources in order to extrapolate observed trip making patterns and travel behaviors to the entire population. These data sources include multiple types of mobile location data, consumer transaction data, census reported data and observed "ground-truth" data.

The data sources utilized by Replica are intended to cover a broad spectrum of sources and activities in order to minimize a sample size bias that may exist from relying on a single data source. This approach also provides a more resilient data stream to protect against disruptions in individual data sources. Below is a summary of each data source and its purpose.

- Mobile location data is used to create a representative sample of daily movement patterns. Four unique sources of data, collected from personal mobile devices and in-dash vehicle systems, are used to provide de-identified (anonymous) location and travel data.
  a. Location-based services (LBS) data:
  b. Cellular network data:
  c. Vehicle in-dash GPS data
  d. Point-of-interest (POI) data
- Consumer resident data provides demographic data from public and private sources for determining the basis of where people work and live, as well as the characteristics of the population.
- Land use / real estate data includes building, land use, and transportation network data that are used in determining where people travel and by what means the travel occurs.
- Credit transaction data provided by financial companies, this data captures consumer spending and is used to support levels of activity and spending by time and place.

- Ground truth data is included as a final step in calibrating and improving overall accuracy of the Replica output, The ground truth data includes auto and freight volumes, transit ridership, and bicyclist and pedestrian counts.

Utilizing the Places module within Replica allows for the creation of customized geographies and sub-areas for reporting travel. As the initial basis for evaluating trip origins and destination, a county-to-county level summary will be provided to illustrate the trips that are contained within Collier County, pass through Collier County without stopping, enter from outside with a destination in Collier and exit Collier County having an origin inside the county. The basis for this analysis is the average weekday travel observed during the Spring (March -May) 2021.

A further narrowing of areas used for reporting origins and destinations will utilize the Planning Community boundaries that have been established by Lee and Collier counties. Maps illustrating these areas are shown below in Figure 1 and Figure 2.

Figure 1: Collier County Planning Communities

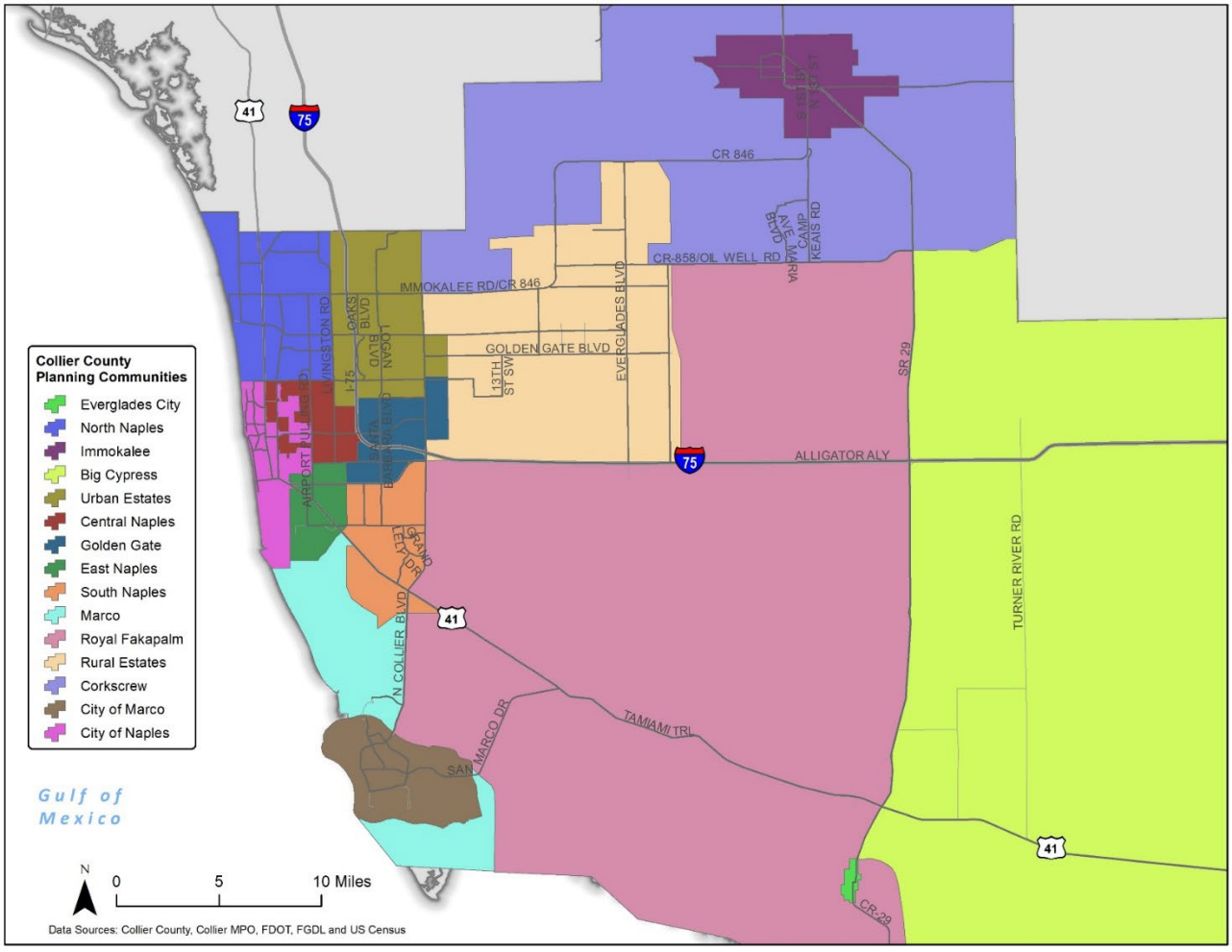
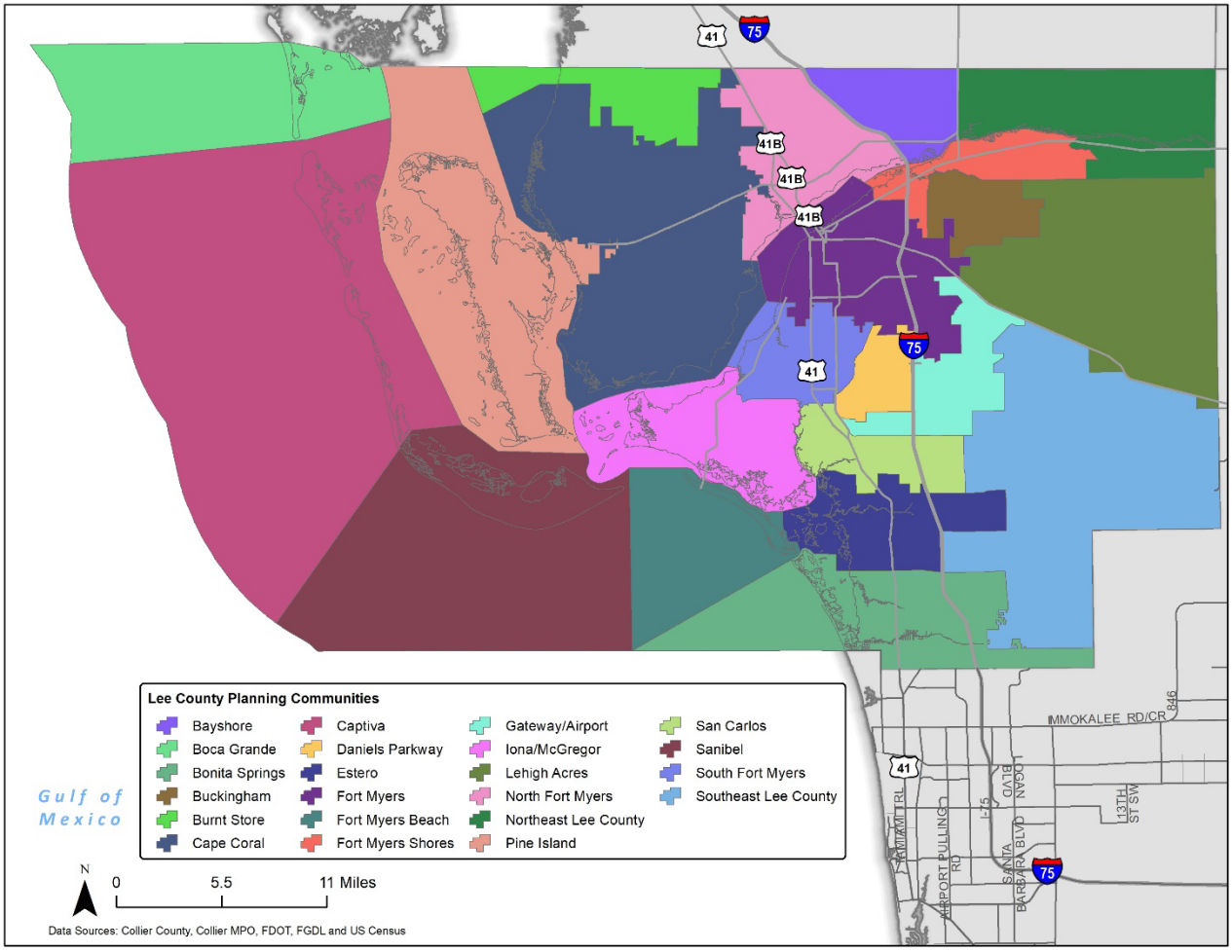


Figure 2: Lee County Planning Communities



In addition to these 37 sub areas, trip origins and destinations will be summarized for the three adjacent counties of Broward, Hendry, and Miami-Dade, along with Charlotte County to the north of Lee County. Trips originating or destined for locations outside of these areas will be listed as other in the trip tables and will be included in the total trip count.

Trips that cross the Collier County line to the north or east will be summarized based on transportation facility. This summarization will be limited to the major regional facilities listed below.

1. Interstate 75
2. Livingston Road
3. SR 29
4. SR 82
5. US 41 / Tamiami Trail

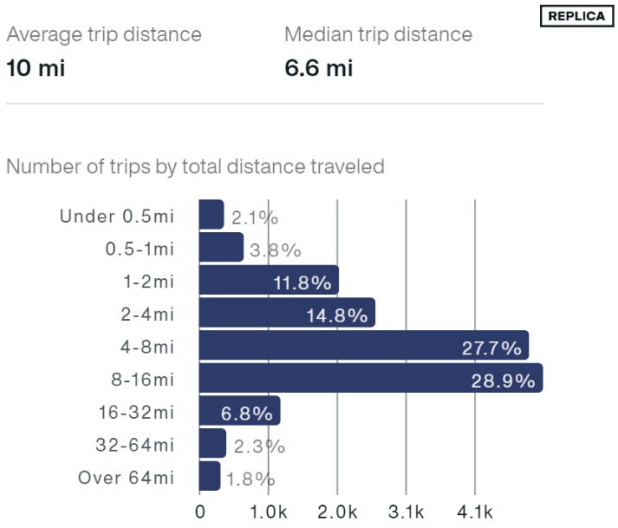
3.0 Analysis and Results

Adding the Planning Community Areas into the Replica data platform will provide trip characteristic information that can be summarized across multiple data elements. Maps illustrating travel patterns will be prepared to illustrate the highest destinations and origins paired with the Collier County Planning Areas. Additional details will be provided in tabular format and summarized to identify key patterns and observations. Focused on the county-wide travel patterns and the 15 Planning Communities in Collier County, it is anticipated that these summaries will be 3-5 pages in length.

Key variables to be summarized in tabular format will include trips made on a daily-basis as well as those made during the AM (6-9) and PM (4-7) peak periods. Characteristics such as trip purpose will also be presented to illustrate high origin-destination pairs for work trips in the AM peak and home trips in the PM peak. As discussed previously, trips passing through Collier County will be summarized as well to illustrate larger regional trip patterns. It is envisioned that these trip tables will aid the MPO in validating the regional travel demand model and other tools used in developing the Long Range Transportation Plan.

Additional charts and graphics illustrating averages and frequency distribution of trip characteristics such as trip length, trip distance, and trip purpose will also be prepared for each of the sub-area summaries. An example of one these charts is provided below in Figure 3.

Figure 3: Example Trip Distance Chart



Appendix B: Subarea Origin and Destination Trip Matrix

Destinations	Collier County Subarea: Origins																
	Ave Maria	Big Cypress	Central Naples	City of Macro Island	City of Naples	Corkscrew	East Naples	Everglades City	Golden Gate	Heritage Bay	Immokalee	North Naples	Orange Tree	Royal Fakapalm	Rural Estates	South Naples	Urban Estates
Ave Maria	5,014	12	143	46	134	172	132	12	170	120	901	394	298	26	839	113	364
Big Cypress	18	349	14	37	37	25	17	122	18	1	45	30	5	86	50	101	17
Central Naples	167	17	19,331	847	13,102	32	5,763	35	6,938	316	364	13,643	263	136	2,677	3,742	6,493
City of Marco Island	39	35	814	43,800	1,560	24	1,470	171	1,263	70	129	1,276	66	419	576	7,503	755
City of Naples	165	45	12,924	1,566	52,570	39	10,465	57	7,159	337	407	17,337	380	234	3,089	6,818	6,550
Corkscrew	172	25	32	27	39	685	20	3	37	35	608	104	61	48	249	28	80
East Naples	164	26	5,781	1,495	10,454	20	28,132	77	6,962	197	328	5,449	179	257	1,881	12,263	2,969
Everglades City	10	67	42	146	74	3	86	1,668	63	4	27	76	1	273	23	368	52
Golden Gate	217	17	6,892	1,444	7,360	37	6,706	46	45,537	357	459	8,639	494	216	5,667	7,881	8,291
Heritage Bay	124	1	277	84	387	35	182	2	390	2,949	198	1,185	419	10	1,695	156	2,511
Immokalee	928	41	327	136	423	608	254	24	396	194	43,465	820	240	82	1,150	291	751
North Naples	507	33	13,657	1,418	18,196	104	5,230	64	8,427	1,239	902	111,944	1,084	240	7,270	4,926	25,896
Orange Tree	342	5	229	78	293	61	122	3	381	351	309	737	3,434	24	3,421	191	-
Royal Fakapalm	35	120	120	401	173	49	244	333	190	10	96	196	18	1,500	527	1,147	126
Rural Estates	917	46	2,409	926	2,781	249	1,538	12	5,348	1,817	1,258	5,993	3,698	313	22,777	2,491	8,782
South Naples	146	112	4,197	7,537	7,812	28	12,327	375	8,381	210	391	5,043	326	1,223	3,167	57,338	3,269
Urban Estates	457	26	6,228	920	6,857	80	2,843	27	8,311	2,584	872	26,095	1,341	137	9,501	2,908	55,270
Bayshore	1	3	8	7	4	3	12	-	16	-	19	41	5	3	18	11	21
Boca Grande	-	-	2	1	1	1	1	1	-	-	2	6	1	1	-	1	2
Bonita Springs	171	29	1,766	363	3,047	42	1,148	35	1,508	519	319	18,387	109	365	1,957	1,149	6,796
Buckingham	5	3	9	5	20	3	4	-	9	3	27	30	3	1	13	35	31
Burnt Store	-	-	5	2	5	-	1	-	4	-	1	5	-	-	2	1	3
Cape Coral	43	35	239	269	322	23	153	3	127	25	211	927	46	36	249	248	344
Captiva	-	2	5	9	15	-	6	2	8	6	1	35	4		2	4	10
Daniels Parkway	17	14	60	43	83	3	27	1	34	8	46	202	17	-	76	73	126
Estero	97	10	635	228	907	20	346	7	673	108	423	3,392	30	109	674	454	-
Fort Myers	124	41	470	334	574	53	304	11	341	64	967	1,649	83	53	432	572	772
Fort Myers Beach	7	6	48	44	146	-	33	9	47	5	29	538	6	11	38	48	155
Fort Myers Shores	39	5	40	37	84	7	37	9	29	9	144	157	9	9	76	45	72
Gateway/Airport	34	23	232	305	313	7	174	6	147	46	211	689	54	30	256	268	437
Iona/McGregor	11	13	89	46	196	5	66	8	101	16	104	460	12	10	103	97	191
Lehigh Acres	207	17	328	221	362	141	160	22	264	43	2,639	916	48	52	341	265	472
North Fort Myers	23	24	77	53	53	9	40	1	50	13	122	289	28	22	92	100	153
Northeast Lee County	8	2	10	14	9	4	10	1	8	-	47	31	10	3	11	18	15
Pine Island	2	3	14	14	49		6	1	5	5	14	33	2	1	28	11	10
San Carlos	67	14	756	268	668	31	307	8	773	112	453	1,950	68	135	689	590	-
Sanibel	11	3	19	46	56	6	22	7	26	7	9	138	11	18	70	43	115
South Fort Myers	55	14	337	235	461	24	252	11	263	63	328	1,438	34	42	332	378	726
Southeast Lee County	24	7	86	20	61	27	37	-	44	19	147	186	8	28	109	75	225
Broward County	90	254	180	305	336	59	166	64	304	23	153	366	144	22	310	215	290
Charlotte County	44	45	112	115	127	9	68	6	86	23	239	311	38	21	125	200	183
Hendry County	354	124	33	17	43	129	16	17	33	42	1,695	92	38	46	129	42	137
Miami-Dade County	117	275	268	376	527	58	230	115	465	28	144	630	252	51	505	521	467
Out of Region	203	291	915	1,651	2,404	132	788	261	732	111	1,073	3,044	163	119	997	1,335	1,617
Grand Total	**11,176**	**2,234**	**80,160**	**65,936**	**133,125**	**3,047**	**79,945**	**3,637**	**106,068**	**12,089**	**60,326**	**234,903**	**13,530**	**6,412**	**72,193**	**115,064**	**135,546**

Origins	Collier County Subarea: Destinations																
	Ave Maria	Big Cypress	Central Naples	City of Macro Island	City of Naples	Corkscrew	East Naples	Everglades City	Golden Gate	Heritage Bay	Immokalee	North Naples	Orange Tree	Royal Fakapalm	Rural Estates	South Naples	Urban Estates
Ave Maria	5,014	18	167	39	165	171	164	10	217	124	928	507	35	342	917	146	457
Big Cypress	12	349	17	35	45	29	26	67	17	1	41	33	120	5	46	112	26
Central Naples	143	14	19,331	814	12,924	33	5,781	42	6,892	277	327	13,657	120	229	2,409	4,197	6,228
City of Marco Island	46	37	847	43,800	1,566	27	1,495	146	1,444	84	136	1,418	78	401	926	7,537	920
City of Naples	134	37	13,102	1,560	52,570	46	10,454	74	7,360	387	423	18,196	173	293	2,781	7,812	6,857
Corkscrew	171	29	33	24	46	685	19	2	60	27	573	150	56	51	307	39	110
East Naples	132	17	5,763	1,470	10,465	19	28,132	86	6,706	182	254	5,230	244	122	1,538	12,327	2,843
Everglades City	12	122	35	171	57	2	77	1,668	46	2	24	64	333	3	12	375	27
Golden Gate	170	18	6,938	1,263	7,159	60	6,962	63	45,537	390	396	8,427	190	381	5,348	8,381	8,311
Heritage Bay	120	1	316	70	337	27	197	4	357	2,949	194	1,239	10	351	1,817	210	2,584
Immokalee	901	45	364	129	407	573	328	27	459	198	43,465	902	96	309	1,258	391	872
North Naples	394	30	13,643	1,276	17,337	150	5,449	76	8,639	1,185	820	111,944	196	737	5,993	5,043	26,095
Orange Tree	298	5	263	66	380	51	179	1	494	419	240	1,084	18	3,434	3,698	326	1,341
Royal Fakapalm	24	118	110	419	200	56	239	294	173	7	80	212	2,459	19	463	1,163	116
Rural Estates	839	50	2,677	576	3,089	307	1,881	23	5,667	1,695	1,150	7,270	527	3,421	22,777	3,167	9,501
South Naples	113	101	3,742	7,503	6,818	39	12,263	368	7,881	156	291	4,926	1,147	191	2,491	57,338	2,908
Urban Estates	364	17	6,493	755	6,550	110	2,969	52	8,291	2,511	751	25,896	126	990	8,782	3,269	55,270
Bayshore	-	2	10	7	24	1	10	-	29	6	17	75	7	2	26	34	38
Boca Grande	-	-	-	-	1	-	-	1	-	-	-	7	-	1	4	-	2
Bonita Springs	140	13	1,497	305	2,377	47	936	40	1,565	446	264	15,689	77	253	1,340	1,091	5,748
Buckingham	8	1	22	4	28	1	12	-	10	5	39	53	3	1	17	33	48
Burnt Store	-	-	4	2	4	-	1	-	6	-	3	7	-	-	3	-	4
Cape Coral	51	35	415	97	527	23	267	17	374	53	276	1,278	40	45	360	551	688
Captiva	-	-	7	16	22	-	3	-	3	1	4	49	2	1	2	6	11
Daniels Parkway	6	2	112	26	155	6	76	2	108	16	92	269	7	10	70	78	201
Estero	68	8	648	205	940	26	339	13	622	101	311	3,437	32	75	484	542	1,360
Fort Myers	112	79	635	234	820	32	487	27	687	106	1,230	2,051	59	90	652	873	1,378
Fort Myers Beach	7	7	47	26	97	1	34	4	34	9	30	424	6	5	41	47	132
Fort Myers Shores	40	4	103	16	145	9	91	6	86	10	186	308	11	16	79	111	193
Gateway/Airport	26	20	381	120	525	10	350	14	342	75	237	1,152	55	38	358	495	903
Iona/McGregor	11	11	92	66	173	7	61	13	67	19	135	384	10	13	86	71	152
Lehigh Acres	263	22	486	92	566	112	414	39	479	99	2,542	1,307	51	68	458	512	912
North Fort Myers	27	22	142	31	142	8	83	7	147	28	148	387	31	25	143	181	296
Northeast Lee County	9	-	12	8	18	3	7	4	16	-	48	66	6	-	8	31	31
Pine Island	4	2	28	5	31	1	12	4	14	3	26	41	2	3	26	19	28
San Carlos	69	9	754	168	791	34	441	17	907	105	439	2,539	41	101	674	777	-
Sanibel	11	2	17	46	57	4	26	2	25	9	13	124	3	14	54	28	83
South Fort Myers	62	18	475	134	569	15	390	21	565	91	534	1,554	33	62	452	554	1,137
Southeast Lee County	40	2	28	18	64	22	31	-	52	18	141	217	6	20	100	73	213
Broward County	174	286	270	170	657	42	221	78	374	35	201	562	116	43	425	439	571
Charlotte County	48	59	187	50	267	17	136	15	189	46	182	482	32	43	223	238	349
Hendry County	413	100	61	12	52	141	39	12	41	59	1,944	127	28	59	185	70	172
Miami-Dade County	125	271	242	393	545	53	214	108	413	31	191	561	208	63	515	490	460
Out of Region	221	286	1,035	1,522	2,466	150	896	268	836	127	1,001	3,357	234	124	1,070	1,488	1,929
Grand Total	**10,822**	**2,269**	**81,551**	**63,743**	**132,178**	**3,150**	**82,192**	**3,715**	**108,231**	**12,092**	**60,327**	**237,662**	**7,028**	**12,454**	**69,418**	**120,665**	**141,505**

Work Location	Collier County Subarea: Home Location																
	Ave Maria	Big Cypress	Central Naples	City of Macro Island	City of Naples	Corkscrew	East Naples	Everglades City	Golden Gate	Heritage Bay	Immokalee	North Naples	Orange Tree	Royal Fakapalm	Rural Estates	South Naples	Urban Estates
Ave Maria	226	6	38	25	35	30	86	4	275	156	626	105	270	11	1,078	235	207
Big Cypress	2	1	3	9	-	2	15	4	9	3	8	4	3	17	12	113	15
Central Naples	87	5	1,724	229	537	20	760	10	2,918	115	288	1,525	192	19	1,389	1,021	1,288
City of Marco Island	12	3	120	4,363	27	5	393	12	950	20	126	120	33	76	487	1,600	302
City of Naples	105	2	2,542	295	3,165	28	2,348	23	3,679	103	534	2,937	258	59	2,546	2,706	2,431
Corkscrew	15	1	5	-	-	13	1	-	18	10	211	32	14	1	111	6	8
East Naples	22	1	501	137	428	12	2,753	15	2,345	23	193	700	39	89	1,072	1,410	1,174
Everglades City	3	2	4	23	3	-	15	18	17	-	-	1	-	47	9	264	10
Golden Gate	19	-	299	45	106	2	379	1	4,260	16	159	607	72	9	538	475	642
Heritage Bay	51	-	7	-	-	7	13	-	41	32	115	24	48	3	193	45	49
Immokalee	64	1	157	25	16	101	107	2	132	39	5,737	102	107	5	438	127	232
North Naples	171	5	2,026	405	771	57	1,179	47	5,205	165	1,017	9,810	431	97	3,616	2,015	5,403
Orange Tree	32	1	5	10	5	2	9	-	51	26	86	26	138	2	403	51	38
Royal Fakapalm	3	6	10	35	1	-	28	11	22	-	4	6	2	63	12	281	18
Rural Estates	136	1	260	12	51	20	156	-	1,503	133	321	222	285	9	2,612	335	595
South Naples	43	13	295	399	110	17	567	62	1,067	36	159	336	97	194	653	4,433	376
Urban Estates	71	-	439	91	219	17	299	7	1,757	97	185	1,087	146	33	1,680	642	4,884
Bayshore	-	-	-	-	-	-	1	-	-	-	3	-	-	-	7	-	1
Boca Grande	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bonita Springs	56	-	53	3	90	4	70	-	409	31	164	876	57	1	665	141	462
Buckingham	-	-	-	-	-	1	-	-	-	-	7	5	-	-	-	-	-
Burnt Store	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cape Coral	1	-	1	6	41	-	-	-	-	1	59	22	2	-	52	1	45
Captiva	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daniels Parkway	1	-	-	-	-	-	-	-	9	6	-	18	2	-	11	-	21
Estero	10	-	27	11	12	5	23	-	236	13	492	248	29	-	194	53	121
Fort Myers	3	1	120	9	19	12	54	-	152	7	156	290	14	10	318	44	207
Fort Myers Beach	-	-	5	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Fort Myers Shores	-	-	-	-	-	3	1	-	4	-	52	11	-	-	9	-	3
Gateway/Airport	-	-	5	3	8	1	-	2	11	2	7	29	-	13	83	39	97
Iona/McGregor	-	-	34	-	13	-	1	-	20	-	-	36	-	-	-	-	-
Lehigh Acres	1	-	10	-	6	5	-	-	31	-	77	4	-	-	30	2	38
North Fort Myers	12	-	-	-	-	1	-	-	26	20	42	8	25	-	84	-	-
Northeast Lee County	-	-	-	-	-	-	1	-	-	-	-	-	-	-	5	-	-
Pine Island	-	-	-	-	-	-	-	-	-	-	3	-	-	-	13	-	1
San Carlos	27	-	227	115	147	20	191	3	660	53	295	645	67	18	575	444	555
Sanibel	7	-	-	-	7	4	-	-	-	9	-	64	26	1	87	-	50
South Fort Myers	23	-	134	77	80	10	167	1	386	26	177	342	29	6	374	252	477
Southeast Lee County	15	-	3	-	3	1	-	-	-	7	32	9	10	-	56	-	8
Broward County	4	2	14	85	32	2	18	-	49	2	18	66	3	1	72	89	193
Charlotte County	8	-	-	-	4	1	-	-	-	9	7	-	31	-	111	-	-
Hendry County	1	-	-	-	-	-	-	-	17	-	8	-	-	-	-	-	11
Miami-Dade County	22	7	109	142	82	5	107	17	346	24	50	294	34	22	350	310	325
Out of Region	16	-	216	348	410	3	119	-	100	14	153	935	31	23	158	449	382
Grand Total	**1,269**	**58**	**9,393**	**6,902**	**6,430**	**411**	**9,861**	**239**	**26,705**	**1,198**	**11,571**	**21,546**	**2,495**	**829**	**20,103**	**17,583**	**20,669**

7A Attachment 3
CMC 11/16/22

Collier County Transportation Planning Comments/Responses

General Comments:

- A short Executive Summary or Conclusion of the report would be helpful.
    - **Text was updated to clarify executive summary and key sub-categories**
- During the presentation to the TAC on 9/26/22, Benesch provided what seemed like a useful map of the higher volume areas. I believe this map may be very useful for determining patterns or traffic trends between subarea. That map and an explanation of what it depicts should be added to the report. Possibly in a conclusion section or ES section.
    - **Map and chart used in presentation have been added to the executive summary section**
- It would be helpful to have some trend analysis to be used in future plans or the AUIR. For example – can the quarterly or seasonal data provided in this report be extrapolated for annual trends? Can it be used in the AUIR, LRTP, Bike Ped Master Plan Update, congestion plan/report?
    - **I believe there is some value as indicated. One of the more recent opportunities Replica provides is the ability for us to grant access to our clients on a limited basis to explore the application and data. It comes with a presentation/introduction from Replica. I think there is value in letting you and others see/use the application to better understand the capabilities and uses. I'd like to discuss this with you to better understand your expectations before proceeding.**
- Could a reason for the larger amounts of people considered working from home data be that this was during season, and people may have come down to this area for a vacation but were also working remotely? Did the work from home trend increase in other jurisdictions (other areas of the country)? Is the work from home trend still increasing in other areas?
    - **It's possible that the relocation of people could be impacting the amount of people working from home. In the graph that was added, there was a higher number of people working from home in the summer of 2022 than in the spring of 2022.**
- Can some of the locations for the short trip data be used in the future when determining locations for sidewalks, bike lanes, SUP for a future Bike/Ped Master Plan? This could help determine potential usage areas.
    - **I definitely think there could be ways to explore this. I have seen some examples where others have created an index of expected walking potential based on land-use compared with walking data from Replica as a way of identifying areas where walking could be increase. It's also possible to look at where walking trips are occurring and overlaying that with existing/planned infrastructure.**

Specific Comments:

- Page 1 – 5th paragraph – 1st Sentence should start with The remainder…. not This remainder….
    - **This was corrected.**
- Page 8 – Table 5. Define the label "Countywide Workers". When all Residents Working are added (137,300 + 14,300 + 34,000 = 185,600) it does not equal the Countywide Worker total = 158,000. Should it? A better explanation of the categories would help.

    - **Clarification was added to the table. Specifically, those working from home are a subset of the total workers.**
- Page 18-20 the text is 3.2.2 indicates 13 workers travel to South Naples from Big Cypress but Table 9 indicated only 12 people.
    - **This was changed for consistency between the table and text**
- Page 21 – 3.3.1 indicates that the predominant activity included golfing but page 22 – figure 14 does not specify golfing. Is that a recreational activity? Recreational purposes are not a large category in this location. Should there be a better explanation here?
    - **Golfing was removed since this was more indicative of the subarea's land use and not representative of the major trip generators.**

Congestion Management Process Update: Origin-Destination Study

Congestion Management Committee

November 16, 2022

Tindale Oliver is now benesch

1

Origin-Destination Study

- Recap Origin-Destination Report
- Changes since September meeting
- Today's Action

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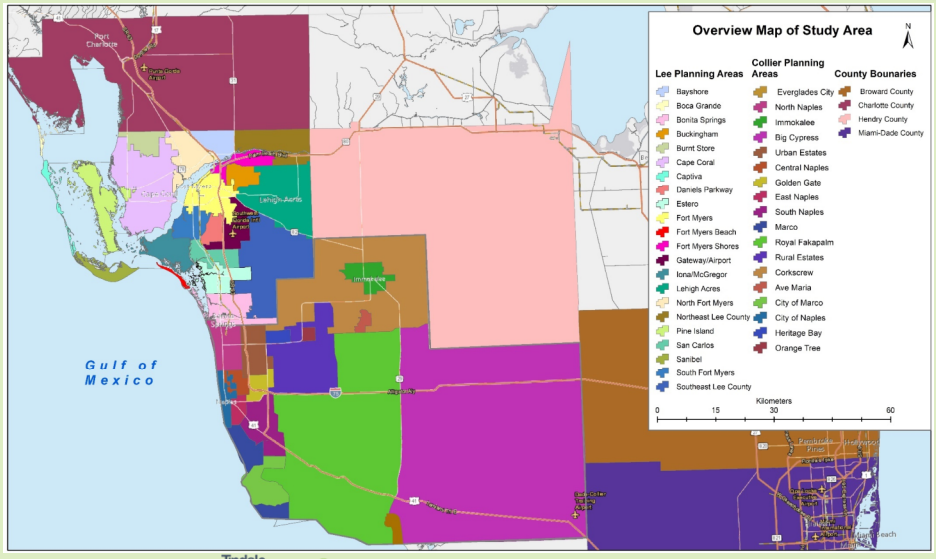
2

Origin-Destination Report Overview

- 17 land-use / planning subareas in Collier County
- 22 planning subareas in Lee County
- 4 regional / neighboring counties



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3

Origin-Destination Report Overview

- Daily Trips Generated

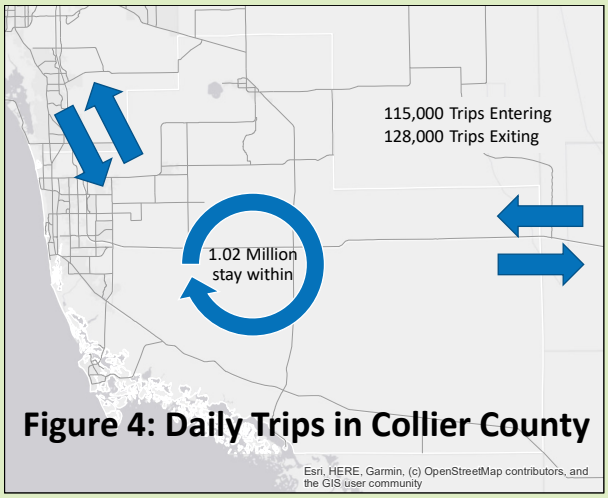

Figure 4: Daily Trips in Collier County

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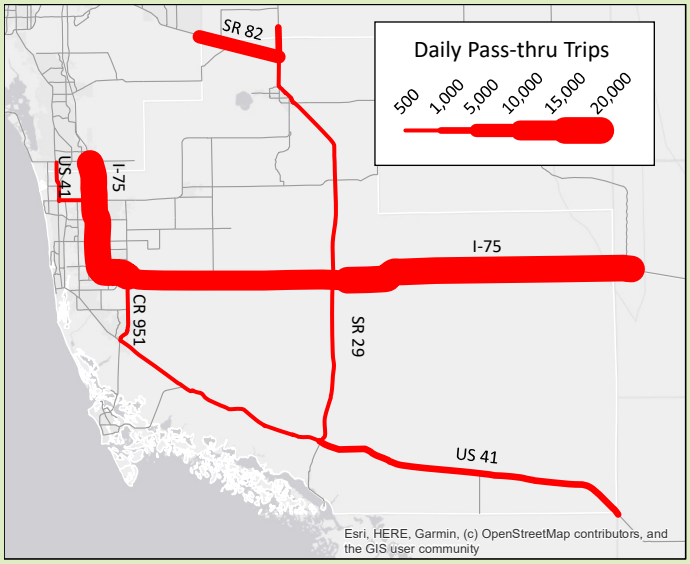
4

Origin-Destination Report Overview

- Daily Trips Generated
- Trips Passing Through Collier County

Figure 5: Daily Pass-Through Trips at Key Gateways



5

Origin-Destination Report Overview

- Daily Trips Generated
- Trips Passing Through Collier County
- Home to Work Trip Patterns

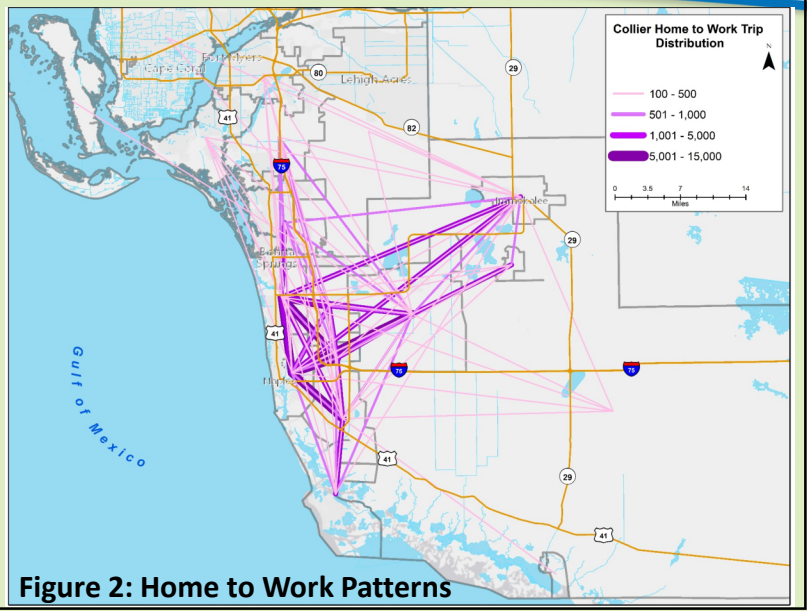


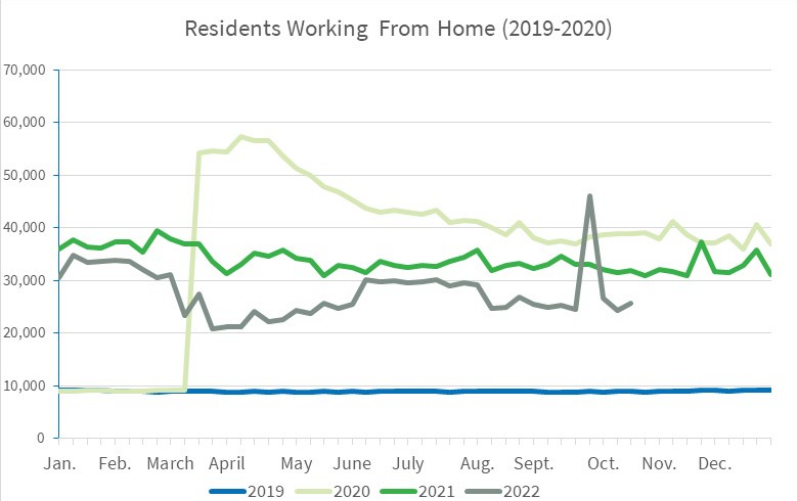
Figure 2: Home to Work Patterns

6

Origin-Destination Report Overview

- Daily Trips Generated
- Trips Passing Through Collier County
- Home to Work Trip Patterns
- Work from Home

Figure 3: Work from Home Trends

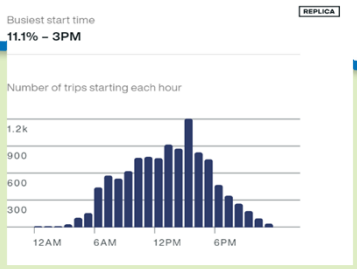


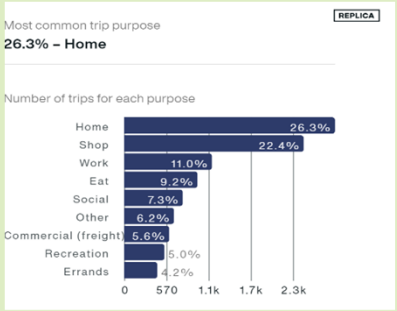
Collier County residents work from home, typical weekday 2019 to 2022 (Replica Trends)

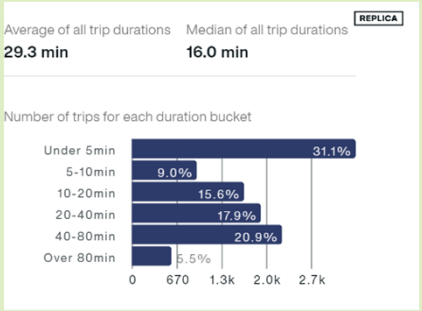
7

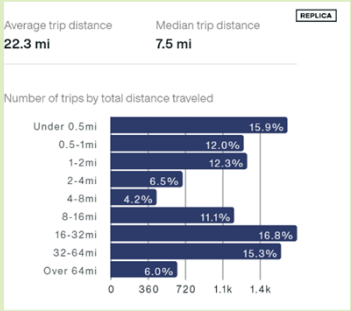
Subarea Reporting

- Trip Characteristics for Origin, Destination, and Home-to-Work Trips









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Changes since September

- Corrections to typos and text inconsistencies with tables.
- Updates to the Executive Summary section;
  - Home-to-work detail added
  - Work from home trends added
- Clarification added to Table 5 and text for explaining work locations.
- Revised text describing the number of trips passing through Collier County with an origin and a destination in Lee County.

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9

Today's Action

CMC endorse the findings of the Origin-Destination Report and forward to MPO for approval.

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10

Contact

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Congestion Management Process Update: Origin-Destination Study

Congestion Management Committee
November 16, 2022

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12

EXECUTIVE SUMMARY
DISTRIBUTION
ITEM 10A

Carbon Reduction Program

OBJECTIVE: For the committee to receive information on the Infrastructure Investment and Jobs Act (IIJA) Carbon Reduction Program.

CONSIDERATIONS: The IIJA is also referred to as the Bipartisan Infrastructure Law (BIL). It requires the Florida Department of Transportation (FDOT) to develop a Carbon Reduction Strategy by November 15, 2023, to support the IIJA's Carbon Reduction Program (CRP) to reduce transportation emissions from on-road highway sources by:

- Reducing single-occupancy vehicle trips.
- Facilitating the use of vehicles or modes of travel that result in lower emissions.
- Facilitating approaches to construction that result in lower emissions.

FDOT is developing the statewide Carbon Reduction Strategy in consultation with the State's 27 MPOs, beginning with a webinar on December 12, 2022.

Eligible Activities include:

- Traffic monitoring, management, and control facility or program, including advanced truck stop electrification systems.
- Public transportation capital projects, such as the construction of a bus rapid transit corridor or dedicated bus lanes.
- Transportation Alternatives projects, such as construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation.
- Projects that maximize the existing right-of-way for accommodation of nonmotorized modes and transit options that increase safety, equity, accessibility, and connectivity.

Refer to the Carbon Reduction Program Implementation Guidance shown in **Attachment 1** for a more extensive list of eligible activities. **Attachment 2** provides a summary of federal formula fund apportionments increased by the passage of the BIL. The Carbon Reduction formula fund is expected to add $660,447 to the amount available to fund congestion management, transit and bike/ped projects locally.

STAFF RECOMMENDATION: N/A.

Prepared By: Anne McLaughlin, MPO Executive Director

ATTACHMENT(S):

1. Carbon Reduction Program Implementation Guidance
2. BIL Formula Funds Summary

U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: **INFORMATION:** Carbon Reduction Program (CRP) Implementation Guidance

Date: April 21, 2022

In Reply Refer To:
HEP-1

From: Gloria M. Shepherd
Associate Administrator, Office of Planning, Environment, and Realty

To: Division Administrators
Directors of Field Services

On November 15, 2021, the President signed the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the "Bipartisan Infrastructure Law") (BIL) into law. The BIL authorizes a new Carbon Reduction Program codified at 23 United States Code (U.S.C.) 175 to reduce transportation emissions. The attached Carbon Reduction Program (CRP) Implementation Guidance provides information on funding, eligible activities, and requirements of the CRP.

Except for the statutes and regulations cited, the contents of this document do not have the force and effect of law and are not meant to bind the States or the public in any way. This document is intended only to provide information regarding existing requirements under the law or agency policies.

This document will be accessible on the Sustainability Website (FHWA Sustainability Website), the BIL Website (FHWA Bipartisan Infrastructure Law Website), and through the Policy and Guidance Center (FHWA Policy and Guidance Center).

If you have questions, please contact: Becky Lupes (202-366-7808 or Rebecca.Lupes@dot.gov) or John Davies (202-366-6039 or JohnG.Davies@dot.gov) of the Office of Natural Environment.

Attachment

Carbon Reduction Program Implementation Guidance
(April 21, 2022)

TABLE OF CONTENTS

A. Definitions

In this guidance, the following definitions apply:

Consultation means that one or more parties confer with other identified parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken (*See* 23 CFR 450.104).

Coordination means the cooperative development of plans, programs, and schedules among agencies and entities with legal standing and adjustment of such plans, programs, and schedules to achieve general consistency, as appropriate (23 CFR 450.104).

Metropolitan Planning Organization means the policy board of an organization established as a result of the designation process under 23 U.S.C. 134(d) (23 U.S.C. 134(b)(2); 23 U.S.C. 175(a)(1)).

Transportation Emissions means carbon dioxide emissions from on-road highway sources of those emissions within a State (23 U.S.C. 175(a)(2)).

Transportation Management Area means a transportation management area identified or designated by the Secretary under 23 U.S.C. 134(k)(1) (*See* 23 U.S.C. 175(a)(3)).

Urbanized Area means a geographic area with a population of 50,000 or more, as determined by the Bureau of the Census (23 U.S.C. 134(b)(7); 23 U.S.C. 175(a)(1)).

B. PROGRAM PURPOSE

The purpose of the Carbon Reduction Program (CRP) is to reduce transportation emissions through the development of State carbon reduction strategies and by funding projects designed to reduce transportation emissions (See 23 U.S.C. 175 as established by the Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the "Bipartisan Infrastructure Law" (BIL)) (BIL § 11403).

C. GUIDANCE ON ADMINISTRATION PRIORITIES AND USE OF THE FEDERAL-AID HIGHWAY FORMULA FUNDING

1. **Overview:** This document provides background and guidance to clarify eligibility requirements for the CRP. On December 16, 2021, FHWA issued guidance, *Policy on Using Bipartisan Infrastructure Law Resources to Build a Better America*, that serves as an overarching framework to prioritize the use of BIL resources on projects that will Build a Better America. That policy is available on FHWA's BIL resources implementation website at the following URL: https://www.fhwa.dot.gov/bipartisan-infrastructure-law/building_a_better_america-policy_framework.cfm.

2. **Safety:**

Prioritizing Safety in All Investments and Projects

The National Roadway Safety Strategy (NRSS) (issued January 27, 2022) commits the United States Department of Transportation (USDOT) and FHWA to respond to the current crisis in traffic fatalities by "taking substantial, comprehensive action to significantly reduce serious and fatal injuries on the Nation's roadways," in pursuit of the goal of achieving zero highway deaths. FHWA recognizes that zero is the only acceptable number of deaths on our roads and achieving that is our safety goal. FHWA therefore encourages States and other funding recipients to prioritize safety in all Federal highway investments and in all appropriate projects, using relevant Federal-aid funding, including funds from CRP.

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes. It involves a paradigm shift to improve safety culture, increase collaboration across all safety stakeholders, and refocus transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. To achieve the vision of zero fatalities, safety should be fully reflected in a State's transportation investment decisions, from planning and programming, environmental analysis, project design, and construction, to maintenance and operations. States should use data-driven safety analyses to ensure that safety is a key input in any decision made in the project development process and fully consider the safety of all road users in project development.

FHWA encourages State and local agencies to consider the use of funds from CRP to address roadway safety and implement the Safe System approach wherever possible. Improvements to safety features, including traffic signs, pavement markings, and multimodal accommodations that are routinely provided as part of a broader Federal-aid highway project can and should be funded from the same source as the broader project as long as the use is eligible under that funding source.

Because of the role of speed in fatal crashes, FHWA is also providing new resources on the setting of speed limits and on re-engineering roadways to help "self-enforce" speed limits. To achieve the vision of zero fatalities on the Nation's roads, FHWA encourages States to assess safety outcomes for all project types and promote and improve safety for all road users, particularly vulnerable users. FHWA recommends that streets be designed and operated to maximize the existing right-of-way for accommodation of nonmotorized modes and transit options that increase safety and connectivity. Pedestrian facilities in the public right-of-way must comply with the Americans with Disabilities Act.

Complete Streets

As one approach to ensuring the safety of all roadway users, FHWA encourages States and communities to adopt and implement Complete Streets policies that prioritize the safety of all users in transportation network planning, design, construction and operations. Section 11206 of the BIL defines Complete Streets standards or policies as

those which "ensure the safe and adequate accommodation of all users of the transportation system, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles." A complete street includes, but is not limited to, sidewalks, bike lanes (or wide paved shoulders), special bus lanes, accessible public transportation stops, safe and accommodating crossing options, median islands, pedestrian signals, curb extensions, narrower travel lanes, and roundabouts. A Complete Street is safe, and feels safe, for everyone using the street.

3. **Transit Flex:** FHWA, working with FTA, seeks to help Federal-aid recipients plan, develop, and implement infrastructure investments that prioritize safety, mobility, and accessibility for all transportation network users, including pedestrians, bicyclists, transit riders, micromobility users, freight and delivery services providers, and motorists. This includes the incorporation of data sharing principles and data management.

   Funds from CRP can be "flexed" to FTA to fund transit projects. For title 23 funds that are flexed to FTA, section 104(f) of title 23, U.S.C., allows funds made available for transit projects or transportation planning to be transferred to FTA and administered in accordance with chapter 53 of title 49, U.S.C., except that the Federal share requirements of the original fund category continue to apply (See 23 U.S.C. 104(f)(1)).

   The use of Federal-aid funding on transit and transit-related projects can provide an equitable and safe transportation network for travelers of all ages and abilities, including those from marginalized communities facing historic disinvestment. FHWA encourages recipients to consider using funding flexibility for transit or multimodal-related projects and to consider strategies that: (1) improve infrastructure for nonmotorized travel, public transportation access, and increased public transportation service in underserved communities; (2) plan for the safety of all road users, particularly those on arterials, through infrastructure improvements and advanced speed management; (3) reduce single-occupancy vehicle travel and associated air pollution in communities near high-volume corridors; (4) offer reduced public transportation fares as appropriate; (5) target demand-response service towards communities with higher concentrations of older adults and those with poor access to essential services; and (6) use equitable and sustainable practices while developing transit-oriented development.

4. **Transferability Between FHWA Programs:** Section 126 of title 23, U.S.C., provides that a State may transfer up to 50 percent of the amount apportioned for the fiscal year for certain highway programs, including CRP, to other eligible apportioned highway programs.[1] *See also* FHWA Order 4551.1, "Fund Transfers to Other Agencies and Among Title 23 Programs", (Fund Transfers to Other Agencies and Among Title 23 Programs). Historically States have used this flexibility to address unmet needs in areas where apportioned funding was insufficient.

   The BIL made historic investments in highway programs including more than $300 billion in Contract Authority from the Highway Trust Fund. This represents an average

[1] States may only transfer CRP funds that are allocated for use anywhere in the State.

annual increase of 29 percent in Federal-aid funding over the amount of Contract Authority for FHWA programs compared to fiscal year 2021. Congress also established more than a dozen new highway programs to help address urgent surface transportation needs.

States have the flexibility to transfer funds out of CRP to other apportioned programs, but we encourage States to first consider the need to transfer in light of the significant increase in apportioned funding and the considerable funding for new programs. States, working with FHWA, should determine the need for CRP funds – including the ability to apply CRP funds to eligible assets owned by local governments, counties, and Tribes – and identify and prioritize projects that maximize the CRP funding before deciding to transfer funds out of the CRP.

5. **ADA:** The Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973 prohibit discrimination against people with disabilities and ensure equal opportunity and access for persons with disabilities. The Department of Transportation's Section 504 regulations apply to recipients of the Department's financial assistance (*See* 49 CFR 27.3(a)). Title II of the ADA applies to public entities regardless of whether they receive Federal financial assistance (*See* 28 CFR 35.102(a)). The ADA requires that no qualified individual with a disability shall, because a public entity's facilities are inaccessible to or unusable by individuals with disabilities, be excluded from participation in, or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any public entity (*See* 28 CFR 35.149). A public entity's pedestrian facilities are considered a "service, program, or activity" of the public entity. As a result, public entities and recipients of Federal financial assistance are required to ensure the accessibility of pedestrian facilities in the public right-of-way, such as curb ramps, sidewalks, crosswalks, pedestrian signals, and transit stops in accordance with applicable regulations.

   If the project reduces transportation emissions, funds from CRP are available to improve accessibility and to implement recipients' ADA transition plans and upgrade their facilities to eliminate physical obstacles and provide for accessibility for individuals with disabilities. FHWA will provide oversight to recipients of CRP funds to ensure that each public agency's project planning, design, and construction programs comply with ADA and Section 504 accessibility requirements.

6. **Equity:** The BIL provides considerable resources to help States and other funding recipients advance projects that consider the unique circumstances affecting community members' mobility needs and allocate resources consistently with those needs, enabling the transportation network to effectively serve all community members. FHWA will work with States to ensure consideration of using CRP funds for projects and inclusion of project elements that proactively address racial equity, workforce development, economic development, and remove barriers to opportunity, including automobile dependence in both rural and urban communities as a barrier to opportunity or to redress prior inequities and barriers to opportunity.

Federal-aid recipients, including recipients of CRP funds, are responsible for involving the public, including traditionally underserved and underrepresented populations in transportation planning and complying with participation and consultation requirements in 23 CFR 450.210 and 23 CFR 450.316, as applicable. "Underserved populations" include minority and low-income populations but may also include many other demographic categories that face challenges engaging with the transportation process and receiving equitable benefits (*See* FHWA's Environmental Justice Reference Guide for additional information). In addition, CRP projects can support the Justice40 Initiative, which establishes a goal that at least 40 percent of the benefits of federal investments in climate and clean energy infrastructure are distributed to disadvantaged communities. (*See* OMB's Interim Implementation Guidance for the Justice40 Initiative or its successor for additional information).

To assist with these public engagement efforts, FHWA expects recipients of CRP funds to engage with all impacted communities and community leaders to determine which forms of communication are most effective. Recipients should gain insight on the unique circumstances impacting various disadvantaged and underrepresented groups so that new channels for communication may be developed. And, the recipients should use this information to inform decisions across all aspects of project delivery including planning, project selection, and the design process.

Among other things, recipients of CRP funds are also required to assure equitable treatment of workers and trainees on highway projects through compliance with Equal Employment Opportunity requirements under 23 CFR Part 230, Subpart A, as well as ensuring nondiscrimination in all of their operations on the basis of race, color, or national origin under Title VI of the Civil Rights Act of 1964. Recipients of CRP funds should ensure that they have the capacity and expertise to address Federal civil rights protections that accompany grant awards.

7. **Climate Change and Sustainability:** The United States is committed to a whole-of-government approach to reducing economy-wide net greenhouse gas pollution by 2030. The BIL provides considerable resources—including new programs and funding—to help States and other funding recipients advance this goal in the transportation sector. In addition, the BIL makes historic investments to improve the resilience of transportation infrastructure, helping States and communities prepare for hazards such as wildfires, floods, storms, and droughts exacerbated by climate change.

   FHWA encourages the advancement of projects that address climate change and sustainability. To enable this, FHWA encourages recipients to consider climate change and sustainability throughout the planning and project development process, including the extent to which projects under CRP align with the President's greenhouse gas reduction, climate resilience, and environmental justice commitments. In particular, consistent with the statute and guidance below, recipients should fund projects that reduce carbon dioxide emissions. FHWA encourages recipients to fund projects that support fiscally responsible land use and transportation efficient design, or incorporate electrification or zero emission vehicle infrastructure. In addition, FHWA encourages

recipients to consider projects under CRP that support climate change resilience, including consideration of the risks associated with wildfires, drought, extreme heat, and flooding, in line with guidance for projects in floodplains. FHWA also encourages recipients to consider projects under CRP that address environmental justice concerns.

8. **Labor and Workforce**: Highway programs, including CRP, may provide opportunities to support the creation of good-paying jobs, including jobs with the free and fair choice to join a union, and the incorporation of strong labor standards, such as the use of project labor agreements; employer neutrality with respect to union organizing; the use of an appropriately trained workforce (in particular registered apprenticeships and other joint labor-management training programs); and the use of an appropriately credentialed workforce in project planning stages and program delivery.

   Recipients should work with FHWA, to the extent possible, to identify opportunities for Federal-aid highway investments to advance high-quality job creation through the use of local or other geographic or economic hire provisions authorized under section 25019 in the BIL, and Indian employment preference for projects that are located on or near Tribal reservations authorized under 23 U.S.C. 140(d), or other workforce strategies targeted at expanding workforce training opportunities for people to get the skills they need to compete for these jobs, especially underrepresented populations: women, people of color, and groups with other systemic barriers to employment (people with disabilities, formerly incarcerated, etc.).

9. **Truck Parking:** Truck parking shortages are a national concern affecting the efficiency of U.S. supply chains and safety for truck drivers and other roadway users. Jason's Law, which was passed in 2012, established a national priority on addressing the shortage of long-term parking for commercial motor vehicles on the National Highway System (NHS).

   Many Federal-aid highway funding programs have eligibility for truck parking projects, including the CRP. CRP funds may be obligated for a project on an eligible facility that reduces transportation emissions. FHWA anticipates that such projects may support progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the NHS. Advanced truck stop electrification systems are eligible under 23 U.S.C. 175(c)(1)(A) and projects that reduce transportation emissions at port facilities are eligible under 23 U.S.C. 175(c)(1)(M).

   States should consider working with private sector truck stop operators and the trucking community in the siting and development of specific truck parking projects. States also are encouraged to offer opportunities for input from commercial motor vehicle drivers and truck stop operators through their State Freight Advisory Committees established under 49 U.S.C. 70201.

D. GOVERNING AUTHORITIES

1. Section 11101 of the BIL authorizes contract authority for the CRP.

2. Section 11104 of the BIL updates apportionment instructions in 23 U.S.C. 104.
3. Section 11403 of the BIL establishes the CRP in 23 U.S.C. 175.

E. FUNDING

1. **Authorization Levels:** Estimated annual CRP funding under the BIL is:

Estimated Annual CRP Funding	
Fiscal Year (FY) 2022	$1.234 B
FY 2023	$1.258 B
FY 2024	$1.283 B
FY 2025	$1.309 B
FY 2026	$1.335 B

The BIL sets each State's initial share of Federal-aid highway program apportioned (formula) funds annually based on the share of formula funds each State received in fiscal year 2021. The methodology for calculating the apportionments for FY 2022 under 23 U.S.C. 175 is discussed in FHWA Notice N4510.858. For FY 2023 through 2026 funds, please revisit FHWA's Notice website at the appropriate future time.

The Fiscal Management Information System Program Codes for these CRP funds are as follows:

Program Code	Program Description	Title 23 Reference
Y600	Carbon Reduction Program (CRP) Flexible	Section 175(e)(1)(B); Section 104(b)(7)
Y601	CRP – Urbanized Areas with Population Over 200K	Section 175(e)(1)(A)(i)
Y606	CRP – Urbanized Areas with Population 50K to 200K	Section 175(e)(1)(A)(ii)
Y607	CRP – Urban Areas with Population 5K to 49,999	Section 175(e)(1)(A)(iii)
Y608	CRP – Areas with Population less than 5K	Section 175(e)(1)(A)(iv)

For urbanized areas with population over 200K and urbanized areas with population 50K to 200K, the CRP funding in FMIS will be provided at the individual urbanized area level.[2]

[2] For example see FHWA Notice N 4510.864 Fiscal Year (FY) 2022 Supplementary Tables – Table 18 - Apportionments Pursuant to the Infrastructure Investment and Jobs Act and FHWA Notice N 4510.864 Fiscal Year (FY) 2022 Supplementary Tables – Table 19 - Apportionments Pursuant to the Infrastructure Investment and Jobs Act.

2. **Period of Availability:** CRP funds are contract authority. CRP obligations are reimbursed from the Highway Account of the Highway Trust Fund. CRP funds are available for obligation for a period of 3 years after the last day of the fiscal year for which the funds are authorized (*See* 23 U.S.C. 118(b)). Thus, CRP funds are available for obligation for up to 4 years.

3. **Obligation Limitation:** CRP funds are subject to the annual obligation limitation imposed on the Federal-aid highway program.

   In general, a State that is required under 23 U.S.C. 175(e) to obligate CRP funds in an urbanized area with an urbanized area population of 50,000 or more shall make available during the period of fiscal years 2022 through 2026 an amount of obligation authority distributed to the State for Federal-aid highways and highway safety construction programs for use in the area that is equal to the amount obtained by multiplying:
   a. the aggregate amount of funds that the State is required to obligate in the area under this subsection during the period; and
   b. the ratio that—
      i. the aggregate amount of obligation authority distributed to the State for Federal-aid highways and highway safety construction programs during the period; bears to
      ii. the total of the sums apportioned to the State for Federal-aid highways and highway safety construction programs (excluding sums not subject to an obligation limitation) during the period. (*See* 23 U.S.C. 175(e)(6)(A))

   Each State, each affected Metropolitan Transportation Planning Organization (MPO), and the Secretary shall jointly ensure compliance with 23 U.S.C. 175(e)(6)(A). (*See* 23 U.S.C. 175(e)(6)(B))

4. **Federal share:** The Federal share for CRP-funded projects is governed by 23 U.S.C. 120, as amended by the BIL. It is generally 80 percent (*See* 23 U.S.C. 120(b)).

5. **Combining CRP Funds with Other Eligible USDOT funding:** CRP funds can be spread further by combining them with other eligible USDOT funding for projects that support the reduction of transportation emissions, if the eligibility requirements and applicable Federal share are met for each program.

6. **Deobligations of Other Title 23 Obligated Funds:** Project Agreements should not be modified to replace one Federal fund category with another unless specifically authorized by statute (*See* 23 CFR 630.110(a)).

7. **Suballocation Within a State** (*See* 23 U.S.C. 175(e))
   Specified Areas
   For each fiscal year, 65 percent of funds apportioned to the State for the CRP shall be obligated, in proportion to their relative shares of the population in the State:

- In urbanized areas of the State with an urbanized area population of more than 200,000 (these funds may be obligated in the metropolitan area established under 23 U.S.C.134 that encompasses the urbanized area.);
- In urbanized areas of the State with an urbanized population of not less than 50,000 and not more than 200,000;
- In urban areas of the State with a population of not less than 5,000 and not more than 49,999; and
- In other areas of the State with a population of less than 5,000.

The State may obligate these funds suballocated for specified areas based on other factors if the State and relevant MPOs jointly apply to the Secretary for permission to base the obligation on other factors, and the request is approved by the Secretary.

Any Area of State
The remaining 35 percent of funds apportioned to a State for the CRP each fiscal year may be obligated in any area of the State.

F. CARBON REDUCTION STRATEGIES

1. **General:** By November 15, 2023, States are required to develop a Carbon Reduction Strategy in consultation with any MPO designated within the State (23 U.S.C. 175(d)(1)). The State Carbon Reduction Strategy shall support efforts to reduce transportation emissions and identify projects and strategies to reduce these emissions. The Carbon Reduction Strategy must be updated at least once every four years (23 U.S.C. 175(d)(3) and (4)). States and MPOs are encouraged to obligate CRP funding for projects that support implementation of the State's Carbon Reduction Strategy.

2. **Development:** States, in coordination with MPOs, are encouraged to develop their Carbon Reduction Strategies as an integral part of their transportation planning processes, such as by integrating them into the State's Long-Range Statewide Transportation Plan (LRSTP), the MPO's Metropolitan Transportation Plan (MTP), or by developing a separate document which is incorporated by reference into the LRSTP and MTP.

   States may request technical assistance from FHWA for the development of their Carbon Reduction Strategy (*See* 23 U.S.C. 175(d)(5)).

   Development of a Carbon Reduction Strategy is an allowable use of CRP funds (see Eligibilities below).

3. **Contents:** Each Carbon Reduction Strategy shall (*See* 23 U.S.C. 175(d)(2)):
   A. support efforts to reduce transportation emissions;
   B. identify projects and strategies to reduce transportation emissions, which may include projects and strategies for safe, reliable, and cost-effective options—
      i. to reduce traffic congestion by facilitating the use of alternatives to single-occupant vehicle trips, including public transportation facilities, pedestrian facilities, bicycle facilities, and shared or pooled vehicle trips within the State

or an area served by the applicable MPO, if any;

ii. to facilitate the use of vehicles or modes of travel that result in lower transportation emissions per person-mile traveled as compared to existing vehicles and modes; and

iii. to facilitate approaches to the construction of transportation assets that result in lower transportation emissions as compared to existing approaches;

C. support the reduction of transportation emissions of the State;

D. at the discretion of the State, quantify the total carbon emissions from the production, transport, and use of materials used in the construction of transportation facilities within the State; and

E. be appropriate to the population density and context of the State, including any metropolitan planning organization designated within the State.

4. **Review:** Not later than 90 days after the State submits a request for the approval of a Carbon Reduction Strategy, the Secretary will review the process used to develop the Carbon Reduction Strategy and either certify that the Carbon Reduction Strategy meets the requirements of 23 U.S.C. 175(d)(2) or deny certification and specify the actions necessary for the State to take to correct the deficiencies in the State's process for developing the Carbon Reduction Strategy (23 U.S.C. 175(d)(4)).

G. ELIGIBILITIES AND COORDINATION REQUIREMENTS

1. **General:** CRP funding may be used on a wide range of projects that support the reduction of transportation emissions. Projects must be identified in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and be consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s). (23 U.S.C. 134 and 23 U.S.C. 135)

   Projects are subject to requirements under the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*), the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (42 U.S.C. 4601 *et seq.*), and other applicable Federal laws. Projects funded with CRP funds are required to be treated as projects on Federal-aid highways (23 U.S.C. 175(g)).

2. **Program Evaluation**

   States are encouraged to incorporate program evaluation including associated data collection activities from the outset of their program design and implementation to meaningfully document and measure their progress towards meeting an agency priority goal(s). Title I of the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), Pub. L. No. 115-435 (2019) urges federal awarding agencies to use program evaluation as a critical tool to learn, to improve equitable delivery, and to elevate program service and delivery across the program lifecycle. Evaluation means "an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency." Evidence Act § 101 (codified at 5 U.S.C. § 311). Credible program evaluation activities are implemented with relevance and utility, rigor,

independence and objectivity, transparency, and ethics (OMB Circular A-11, Part 6 Section 290).

Evaluation costs are allowable costs unless prohibited by statute or regulation, and such costs may include the personnel and equipment needed for data infrastructure and expertise in data analysis, performance, and evaluation. (2 CFR Part 200).

3. **Eligible Activities:** Subject to the general eligibility requirements described in Section E.1 of this memorandum, the following activities are listed as eligible under 23 U.S.C. 175(c):

   A. a project described in 23 U.S.C. 149(b)(4) to establish or operate a traffic monitoring, management, and control facility or program, including advanced truck stop electrification systems;
   B. a public transportation project eligible for assistance under 23 U.S.C. 142 (this includes eligible capital projects for the construction of a bus rapid transit corridor or dedicated bus lanes as provided for in BIL Section 11130 (23 U.S.C. 142(a)(3));
   C. a transportation alternatives project as described in 23 U.S.C. 101(a)(29) as in effect prior to the enactment of the FAST Act,[3] including the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation;
   D. a project described in section 23 U.S.C. 503(c)(4)(E) for advanced transportation and congestion management technologies;
   E. a project for the deployment of infrastructure-based intelligent transportation systems capital improvements and the installation of vehicle-to-infrastructure communications equipment, including retrofitting dedicated short-range communications (DSRC) technology deployed as part of an existing pilot program to cellular vehicle-to-everything (C-V2X) technology;
   F. a project to replace street lighting and traffic control devices with energy-efficient alternatives;
   G. development of a carbon reduction strategy (as described in the Carbon Reduction Strategies section above);
   H. a project or strategy designed to support congestion pricing, shifting transportation demand to nonpeak hours or other transportation modes, increasing vehicle occupancy rates, or otherwise reducing demand for roads, including electronic toll collection, and travel demand management strategies and programs;
   I. efforts to reduce the environmental and community impacts of freight movement;
   J. a project to support deployment of alternative fuel vehicles, including—
      (i.) the acquisition, installation, or operation of publicly accessible electric vehicle charging infrastructure or hydrogen, natural gas, or propane vehicle fueling infrastructure; and
      (ii.) the purchase or lease of zero-emission construction equipment and vehicles, including the acquisition, construction, or leasing of required supporting facilities;
   K. a project described under 23 U.S.C. 149(b)(8) for a diesel engine retrofit;
   L. certain types of projects to improve traffic flow that are eligible under the CMAQ

[3] See Transportation Alternatives Set-Aside Implementation Guidance as Revised by the Infrastructure Investment and Jobs Act

program, and that do not involve construction of new capacity; (23 U.S.C. 149(b)(5) and 175(c)(1)(L)); and

M. a project that reduces transportation emissions at port facilities, including through the advancement of port electrification.

Other projects that are not listed above may be eligible for CRP funds if they can demonstrate reductions in transportation emissions over the project's lifecycle. Consistent with the CRP's goal of reducing transportation emissions, projects to add general-purpose lane capacity for single occupant vehicle use will not be eligible absent analyses demonstrating emissions reductions over the project's lifecycle. For example, the following project types may be eligible for CRP funding:

Sustainable pavements and construction materials
Sustainable pavements technologies that reduce embodied carbon during the manufacture and/or construction of highway projects could be eligible for CRP if a lifecycle assessment (LCA) demonstrates substantial reductions in CO_2 compared to the implementing Agency's typical pavement-related practices. The LCA Pave Tool can be used to assess the CO_2 impacts of pavement material and design decisions.

Climate Uses of Highway Right-of-Way
Projects including alternative uses of highway right-of-way (ROW) that reduce transportation emissions are also eligible. For example, renewable energy generation facilities, such as solar arrays and wind turbines, can reduce transportation emissions. And, biologic carbon sequestration practices along highway ROW to capture and store CO_2 may demonstrate potential for substantial long-term transportation emissions reductions. State DOTs Leveraging Alternative Uses of the Highway Right-of-Way Guidance provides information on these practices.

Mode Shift
Projects that maximize the existing right-of-way for accommodation of nonmotorized modes and transit options that increase safety, equity, accessibility, and connectivity may be eligible. Projects that separate motor vehicles from pedestrians and bicyclists, match vehicle speeds to the built environment, increase visibility (e.g., lighting), and advance implementation of a Safe System approach and improve safety for vulnerable road users may also be eligible. Micromobility and electric bike projects, including charging infrastructure, may also be eligible.

States should work with the FHWA on eligibility questions for specific projects. The CMAQ Emissions Calculator Toolkit is an available resource for estimating the CO_2 emissions benefits of certain projects.

4. Flexibility on Use of Funds and Certification of Emissions Reduction

In addition to the above eligibilities, a State may use funds apportioned under CRP for any project eligible under the Surface Transportation Block Grant program (23 U.S.C 133(b)) if the Secretary certifies that the State has demonstrated a reduction in

transportation emissions (1) as estimated on a per capita basis, and (2) as estimated on a per unit of economic output basis. In the first year of this program, States should initially focus on developing their Carbon Reduction Strategies and using CRP funding to begin implementing their Carbon Reduction Strategies once adopted to establish a baseline; for this reason, the Secretary will not certify flexibility for the CRP until at least FY 2023. FHWA will publish additional guidance on the process under which the Secretary will certify state transportation emissions reductions. Section C.4 of this memo discusses the separate flexibility on transferability between FHWA programs.

5. Consultation and Coordination

Coordination in Urbanized Areas
Before obligating funds for eligible projects in an urbanized area that is not a transportation management area, a State must coordinate with any MPO that represents the urbanized area prior to determining which activities should be carried out under the project (23 U.S.C. 175(e)(4)). The State and MPO must also use their documented public involvement processes, including their process for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services (23 U.S.C. 450.210(a)(1)(viii) and 450.316(a)(1)(vii)).

Consultation in Rural Areas
Before obligating funds for an eligible project in a rural area, a State must consult with any regional transportation planning organization or MPO that represents the rural area prior to determining which activities should be carried out under the project (23 U.S.C. 175(e)(5)). The State and MPO must also use their documented public involvement processes, including their process for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services (23 U.S.C. 450.210(a)(1)(viii) and 450.316(a)(1)(vii)).

H. DAVIS-BACON ACT REQUIREMENTS

As provided at 23 U.S.C 175(g), all projects funded with CRP funding shall be treated as located on a Federal-aid highway. Accordingly, 23 U.S.C 113 applies, and Davis-Bacon wage rates must be paid. In general, Davis-Bacon requires that all laborers and mechanics employed by the applicant, subrecipients, contractors or subcontractors in the performance of construction, alteration, or repair work on an award or project in excess of $2000 funded directly by or assisted in whole or in part by funds made available under CRP shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code commonly referred to as the “Davis-Bacon Act” (DBA).

For additional guidance on how to comply with DBA provisions and clauses, see https:/www.dol.gov/agencies/whd/government-contracts/construction and

https:/www.dol.gov/agencies/whd/government-contracts/protections-for-workers-in-construction. See also https://www.fhwa.dot.gov/construction/cqit/dbacon.cfm.

BIPARTISAN INFRASTRUCTURE LAW - Formula Funds applicable to Collier MPO

Federal Formula Fund Apportionments Increased by:

- TA $389,178
- SU $422,724
- PL $150,283

New Formula Fund Program Added:

- Carbon Reduction $660,447

Total Increase Available for Projects: $1.5 million

EXECUTIVE SUMMARY
DISTRIBUTION
ITEM 10B

Draft 2023 MPO Meeting Calendar

OBJECTIVE: For the committee to receive a copy of the draft 2023 MPO Meeting Calendar.

CONSIDERATIONS: The draft 2023 MPO Meeting Calendar is provided in **Attachment 1**. The MPO Board will approve a final 2023 Meeting Calendar at their December 8th meeting.

STAFF RECOMMENDATION: N/A.

Prepared By: Anne McLaughlin, MPO Executive Director

ATTACHMENT(S):

1. Draft 2023 MPO Meeting Calendar

2023 Meeting Schedule

Collier Metropolitan Planning Organization (MPO)
2885 S. Horseshoe Drive, Naples, FL 34104
www.CollierMPO.com
(239) 252-5814

10/14/2022 MPO BOARD MEETING DRAFT

~~STRIKETHROUGH~~ = CANCELLED MEETING
DATES IN RED = ADDED MEETING

***Note that locations have changed for meetings previously held in Conference Room 609/610, Collier County Growth Management Division, Planning & Regulation Bldg., 2800 North Horseshoe Drive, Naples, FL, due to unavailability of the Conference Room.**

Metropolitan Planning Organization (MPO) – Monthly at 9:30 a.m.

MPO Board Meetings are held on the second Friday of the month at the Board of County Commissioners Chambers, Admin. Bldg. F, 3299 Tamiami Trail East, Naples, FL, 34112, unless otherwise noted.

February 10, 2023	March 10, 2023	April 14, 2023	May 12, 2023
June 9, 2023	September 8, 2023	October 13, 2023	*November 17, 2023
December 8, 2023			
*TENTATIVE JOINT MEETING with Lee County MPO, location and time TBD. Date subject to change.			

Technical Advisory Committee (TAC) – Monthly at 9:30 a.m.

TAC Meetings are held on the fourth Monday of the month at the County Transportation Management Services Bldg., Main Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.

January 23, 2023	February 27, 2023	March 27, 2023	April 24, 2023
May 22, 2023	August 28, 2023	September 25, 2023	*October 23, 2023
November 27, 2023			
* TENTATIVE JOINT MEETING with Lee County TAC, location and time TBD. Date subject to change.			

Citizen Advisory Committee (CAC) – Monthly at 2:00 p.m.

CAC Meetings are held on the fourth Monday of the month at the County Transportation Management Services Bldg., Main Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.

January 23, 2023	February 27, 2023	March 27, 2023	April 24, 2023
May 22, 2023	August 28, 2023	September 25, 2023	*October 23, 2023
November 27, 2023			
* TENTATIVE JOINT MEETING with Lee County CAC, location and time TBD. Date subject to change.			

Bicycle/Pedestrian Advisory Committee (BPAC) – Monthly at 9:00 a.m.

BPAC Meetings are held on the third Tuesday of the month at the Collier County Government Center, Admin. Bldg. F, IT Training Room, 5th Floor, 3299 Tamiami Trail East, Naples, 34112, unless otherwise noted.

January 17, 2023	February 21, 2023	March 21, 2023	April 18, 2023
May 16, 2023	August 15, 2023	September 19, 2023	*October 17, 2023
November 21, 2023			
* TENTATIVE JOINT MEETING with Lee County BPCC, location and time TBD. Date subject to change.			

Congestion Management Committee (CMC) – Bi-Monthly at 2:00 p.m.

CMC Meetings are held on the third Wednesday of every other month at the Collier County Transportation Management Services Bldg., South Conference Room, 2885 South Horseshoe Drive, Naples, FL, 34104, unless otherwise noted.

January 18, 2023	March 15, 2023	May 17, 2023	July 19, 2023
September 20, 2023	November 15, 2023		

Local Coordinating Board (LCB) for the Transportation Disadvantaged – Quarterly at 1:30 p.m.

LCB Meetings are held quarterly on the first Wednesday of the corresponding month at the Collier County Government Center, Admin. Bldg. F, IT Training Room, 5th Floor, 3299 Tamiami Trail East, Naples, 34112, unless otherwise noted.

March 1, 2023	May 3, 2023	September 6, 2023	December 6, 2023

EXECUTIVE SUMMARY
DISTRIBUTION
ITEM 10C

Revised/Final Congestion Management Process (CMP) Corridor Fact Sheets

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OBJECTIVE: For the committee to receive copies of the revised/final CMP corridor fact sheets.

CONSIDERATIONS: The CMP Corridor Fact Sheets shown in **Attachment 1** have been revised in response to the committee's comments at the September 20th meeting.

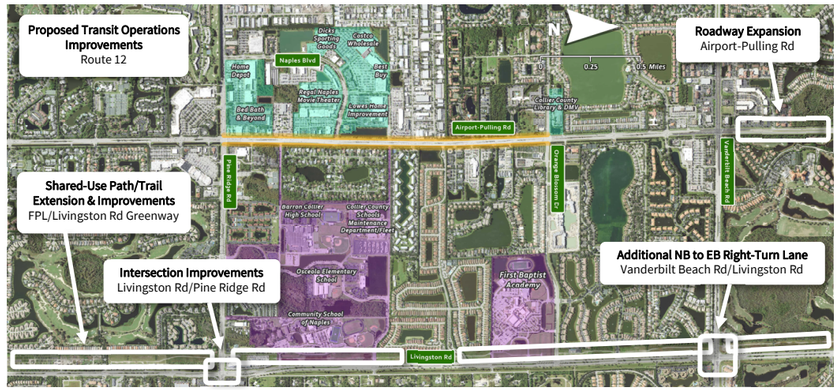
STAFF RECOMMENDATION: N/A

Prepared By: Anne McLaughlin, MPO Executive Director

ATTACHMENT(S):

1. Revised/Final Corridor Fact Sheets

What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Evaluate the feasibility of removing the bulbout north of Cougar Dr to allow existing right-turn lane to be extended and used as an auxiliary/merge lane for school buses exiting the County facility*
- *Consider expanding traffic signal capabilities through technology and communications improvements*
- *Conduct a study to evaluate possible intersection improvements at Pine Ridge Rd and Airport-Pulling Rd*
- *Work with local schools to stagger arrival/dismissal times if possible, and optimize signal timing at Cougar Dr during times of increased school traffic*
- *Evaluate the feasibility of and estimated right-of-way needed for constructing additional turn lanes at the J and C Blvd / Airport-Pulling Rd intersection to better accommodate truck traffic*
- *Evaluate the feasibility of a new southbound dedicated right-turn lane at YMCA Rd (Bed Bath & Beyond Plaza), or extending the existing turn at Pine Ridge Rd back to this location*
- *Consider increasing transit frequency and/or expand hours of operation for routes along and adjacent to the corridor so that it becomes a more viable option for employees in the area*
- *Evaluate the feasibility of removing the striping south of Cougar Dr to extend the northbound right-turn lane queue length and allow for additional school traffic vehicles*
- *Conduct a study to develop alternatives for a new buffered bike lane or shared-use path along the corridor, which has been identified as a network gap priority by the most recent Bicycle & Pedestrian Master Plan based on public feedback*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
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- *Using transit when possible*
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- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R12 Airport Rd to Creekside Commerce Park

R20 Pine Ridge Road

R26 Pine Ridge Road/ Naples Blvd/ Clam Pass

RideCAT.com rideCAT COLLIER AREA TRANSIT

How Do I Get Involved?

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We want to hear your feedback!

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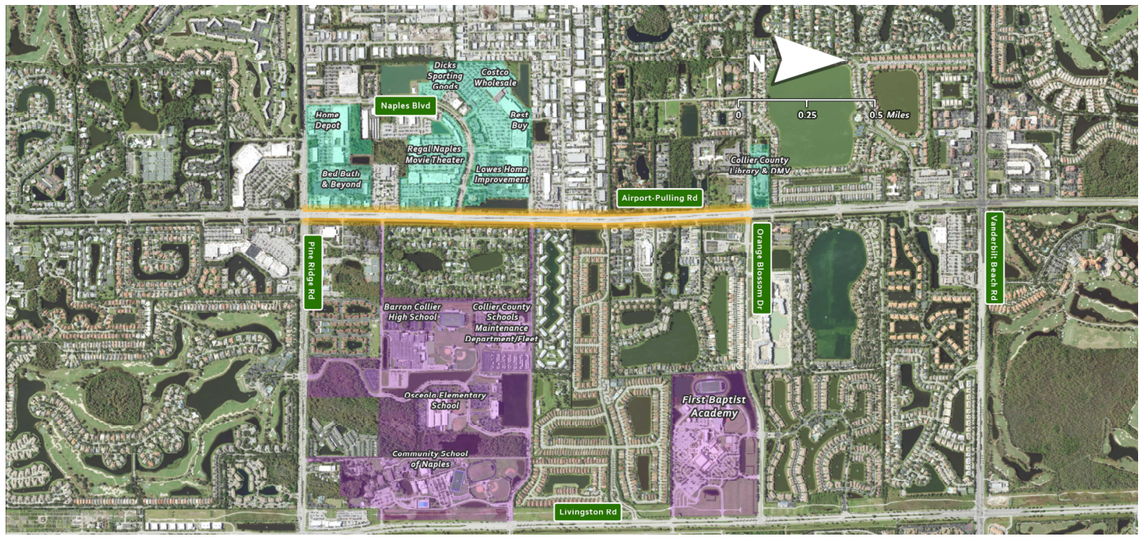
COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 31 / Airport-Pulling Rd

(From CR 896 / Pine Ridge Rd to Orange Blossom Dr)



What is Congestion Management?

Congestion management describes all of the activities used to help reduce the negative impacts of traffic congestion and improve roadway performance in urban areas.

Transportation planning agencies, such as the Collier MPO, follow a detailed Congestion Management Process (CMP) when making decisions about the best ways to address traffic congestion in specific areas, and eventually how improvement strategies should be prioritized for available funding.

Once a congestion reduction strategy or policy decision has been implemented, the CMP then evaluates its effectiveness using measurable data to determine if the intended outcome was achieved or if other solutions may be needed.

Why is the MPO Evaluating Hotspot Corridors?

As a part of the ongoing effort to reduce congestion on Collier County roadways, the MPO regularly identifies corridors with high levels of recurring traffic congestion. This usually occurs every two years when the MPO's Transportation System Performance (TSP) Report is updated. This process consists of traffic data analysis and forecasting that is based on other MPO planning efforts such as the Long Range Transportation Plan (LRTP).

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Collier MPO
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(239) 252-5814

Collier County's Congestion Hotspots

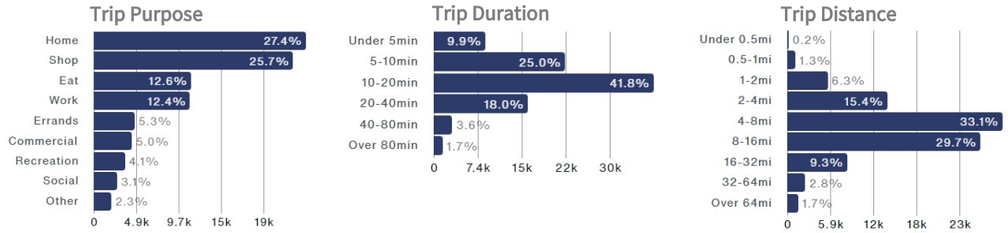
CR 31 / Airport-Pulling Rd (From CR 896 / Pine Ridge Rd to Orange Blossom Dr)

Quick Facts

Corridor Length: 1.4 Miles
Number of Major Intersections: 5
Number of Daily Trips (Avg. Weekday): ~89k

~14 min
Avg. Daily Duration of Bottleneck Conditions

~7k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Freight & Small Truck Traffic:** Truck traffic accessing the large industrial/warehouse area west of the corridor can worsen traffic congestion when making trips to/from Pine Ridge Rd and the I-75 interchange.
- **School Traffic:** Multiple schools east of the corridor, along with the County school bus maintenance facility, can create additional stress on the corridor during times of heavy activity.
- **Signal Coordination:** Four signalized intersections exist along this relatively short corridor. Additional traffic signals also exist along Pine Ridge Road creating challenges related to timing and coordination.

Corridor Opportunities

- **Naples Boulevard:** Most of the large concentration of retail stores and restaurants on the southwest end of the corridor is already accessed primarily by a large signalized intersection at Naples Boulevard, which reduces the number of turning movements along the corridor and connects to Pine Ridge Road.
- **Canal Right-of-Way:** The canal along the east side the corridor provides an opportunity for creating future multi-use path segments for recreation and connecting to other non-motorized facilities or transit stop locations.

Where is Congestion Usually the Worst?

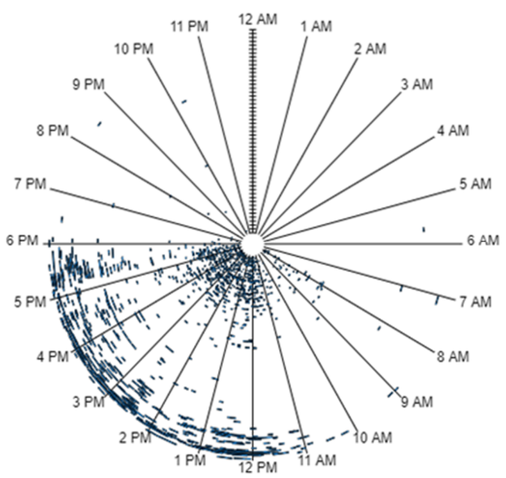
Direction
Southbound

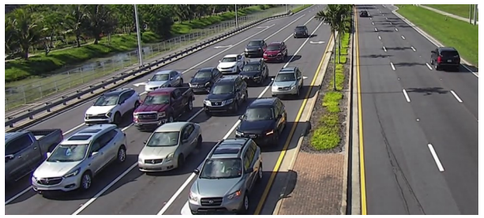
Location
Approaching Pine Ridge Rd

Time
12-6 PM

Bottleneck Occurrences

Each line in this circular graph represents a traffic bottleneck during 2021 in the southbound direction at Pine Ridge Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the early-afternoon and PM peak period at the beginning and end of the year. These conditions are noticeably less common during the middle of the year.



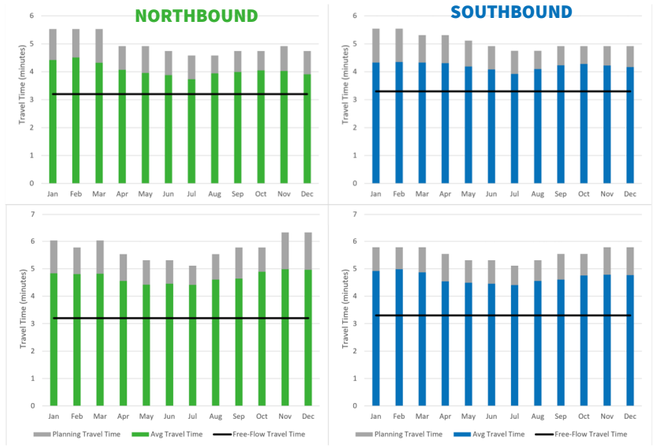


Airport-Pulling Rd at Orange Blossom Dr – Facing South

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor during months when visitors and part-time residents are more common can be seen in the longer travel times from roughly November to March. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases. A similar pattern is shown below by the higher monthly delay costs. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

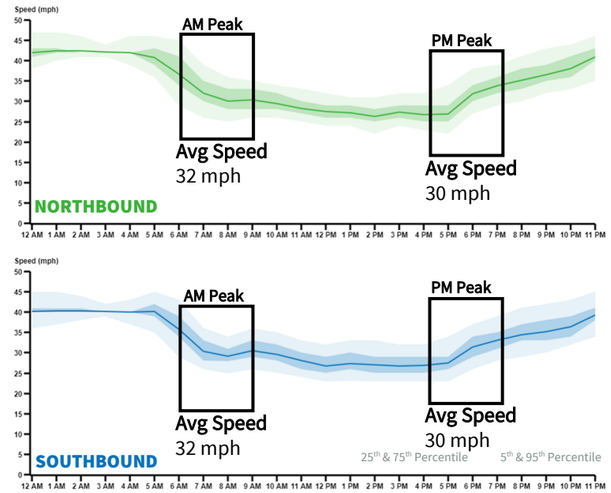
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$$	$$$$	$$$	$$$								
2021	$$$	$$$	$$$	$$	$$	$$	$$	$$	$$	$$	$$$	$$$
2020	$$$$	$$$$	$$$	$	$$	$$	$$	$$	$$	$$	$$	$$$
2019	$$$	$$$	$$	$$	$$	$	$$	$$$	$$$	$$$$	$$$$	$$$$

Data Sources: *All data shown or referenced on these two pages is from 2021 unless otherwise noted. Information related to congestion, delay, travel times, travel speeds, and bottleneck conditions is from RITIS HERE data. Information related to trip characteristics is from Replica.*

Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Although speeds drop noticeably during the AM and PM peak periods, they become the lowest in both directions during mid-afternoon, reaching roughly 26 MPH and remaining at similar levels until the end of the PM peak. As shown in the circular graph to the left, most bottlenecks occur during this same time, roughly between 12 and 6 PM. Trip purposes also change throughout the day. Work trips are most common in the morning and home trips in evening. Shopping trips are numerous in this area throughout the day, and when combined with trips home, account for almost 70% of all trips made on this corridor during the PM peak.

Average Weekday Travel Speeds



What Improvements Are Planned for This Corridor?

What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Incorporate Complete Streets principles on new roadways and identify opportunities to add new bike facilities to existing roadways to make better connections to the existing share-use path along the canal on the east side of the corridor*
- *Provide funding assistance for promoting existing car/vanpool awareness and app availability*
- *Consider upgrading signage and pavement markings at locations where the shared-use path crosses roadways and driveway entrances to make drivers more aware of potential conflicts and enhance safety conditions*
- *Consider Alternative Intersection Design concepts at major intersections following the construction of the Vanderbilt Beach Drive Extension project*
- *Evaluate the feasibility of extending the southbound right-turn lane used for accessing Oakridge Middle School, and work with the school to identify feasible locations for curbing/waiting areas that will not obstruct traffic patterns and create delays while parents are waiting to drop off/pick up their students*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

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- *Using transit when possible*
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- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R27 Immokalee Road

RideCAT.com

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COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 951 / Collier Blvd

(From CR 862 / Vanderbilt Beach Rd to CR 846 / Immokalee Rd)

What is Congestion Management?

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Collier County's Congestion Hotspots

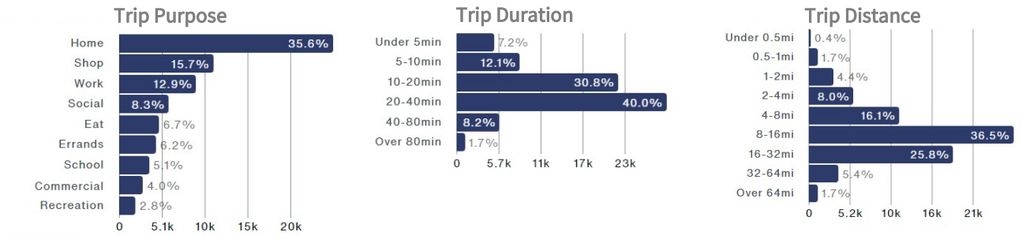
CR 951 / Collier Blvd (From CR 862 / Vanderbilt Beach Rd to CR 846 / Immokalee Rd)

Quick Facts

Corridor Length: 2.01 Miles
Number of Major Intersections: 6
Number of Daily Trips (Avg. Weekday): ~72k

~1 min
Avg. Daily Duration of Bottleneck Conditions

~4k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Surrounding Roadway Network:** The layout of newer residential developments on both sides of the corridor does not provide many alternatives for making short trips or re-routing without using major arterial roadways.
- **Access to I-75:** A limited number of access points to I-75 in the area can create additional congestion along the corridor from commuters trying to access the Immokalee Road interchange and those trying to avoid it by using Vanderbilt Beach Road instead.

Corridor Opportunities

- **Additional Commuting Options:** The upcoming Vanderbilt Road Extension Project should help relieve congestion along this corridor to some degree as it provides east-west commuters with an alternative route.
- **Residential Traffic Patterns:** The congestion along this corridor is mostly generated from residential land uses, which would indicate that it's less affected by surges in seasonal visitors and can be easier to manage than corridors with a mix of trip types and destinations.

Where is Congestion Usually the Worst?

Direction
Southbound

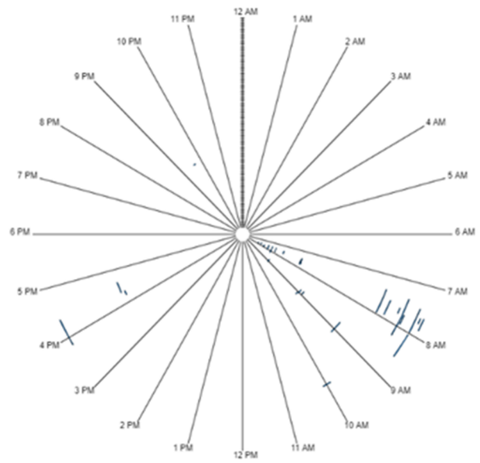
Location
Approaching Vanderbilt Beach Rd

Time
7-9 AM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the southbound direction at Vanderbilt Beach Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred mostly during the AM peak period and during the second half of the year.

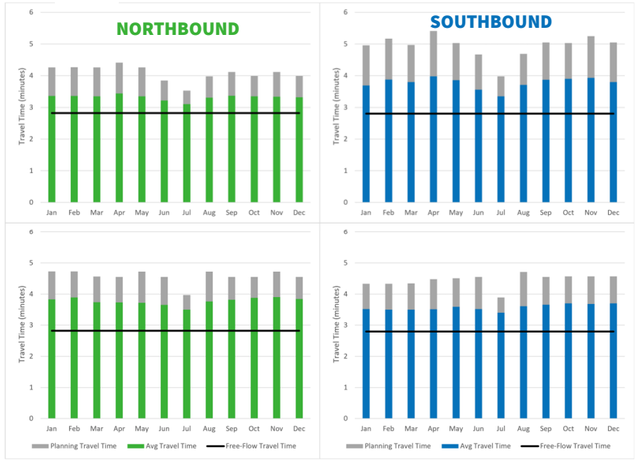
Collier Blvd at Immokalee Rd – Facing South



Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor are not as pronounced as in some areas, but can still be seen in the longer travel times from roughly September to May, which coincides with school activity. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases during the same months. A similar pattern is shown below by the higher monthly delay costs over the past two years. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



AM Peak 6-9 AM

PM Peak 4-7 PM

Estimated Traffic Delay Costs

Lowest cost — Highest cost — Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$$$	$$$$	$$$$	$$$$								
2021	$$	$$	$$$	$$$	$$$	$$	$	$$	$$$	$$$	$$$	$$$
2020	$$	$$	$	$	$	$	$	$$	$$	$$	$$	$$
2019	$	$	$	$	$	$	$	$$	$$	$$$	$$$	$$

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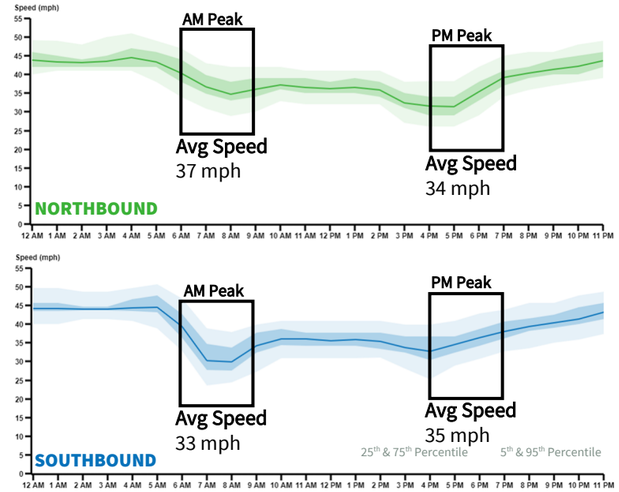
Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Speeds are lowest during the AM and PM peak periods at roughly 30 MPH, with a slight recovery period in between those two times. As shown in the circular graph to the left, most bottlenecks only occur during the peak periods and are not overly common occurrences. Trip purposes also change throughout the day. While home trips are most common throughout the entire day and even more so during the PM peak period, school trips along this corridor are equally as common as work trips during the AM peak period with each accounting for roughly 26% of all trips made.

Average Weekday Travel Speeds



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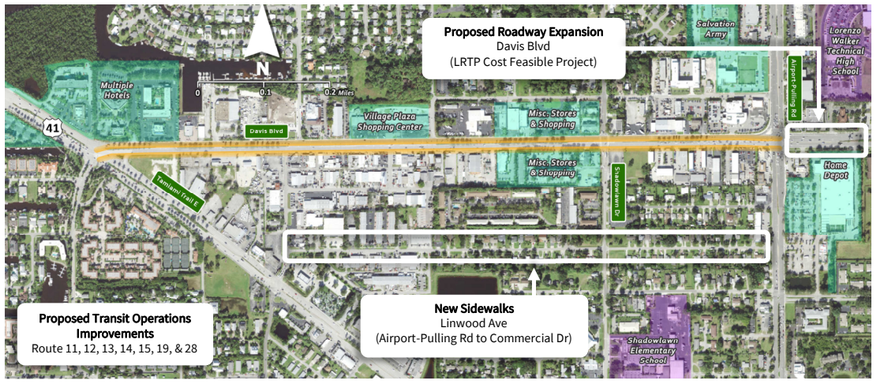

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- *Work with FDOT to conduct an access management study to identify opportunities for consolidating driveways, limiting left turn locations, or implementing other solutions for reducing potential vehicle conflict points*
- *Consider increasing transit frequency and/or expanding hours of operation for routes in this area so that it becomes a more viable option for employees in the area, as well as those making trips to the Lorenzo Walker Technical College and the Salvation Army Social Services/Youth Center*
- *Evaluate the feasibility of constructing new dedicated right-turn lanes in key areas with high levels of activity during peak periods such as the eastbound approach to Airport-Pulling Rd, shopping center entrances, or smaller roadways used for accessing neighborhoods or multiple businesses*
- *Coordinate with the City of Naples and Collier County to create appropriate and place-specific policies that encourage mixed-use, dense, and transit-oriented development patterns in the areas surrounding the corridor*
- *Incorporate Complete Streets principles into the planning and design of the surrounding roadway network as new development and improvement projects are approved and advanced*
- *Provide funding assistance promoting awareness of and incentives for using existing carpool/vanpool and transit options for commuters who pass through the corridor while traveling from home to work and back on a regular basis*

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Common strategies that people can use to help with congestion include:

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Transit Routes Available:

R11	US 41 to Creekside Commerce Park	R13	NCH & Coastland Center Mall
R12	Airport Rd to Creekside Commerce Park	R16	Golden Gate City (Santa Barbara)
R14	Bayshore Drive to Coastland Mall	R19	Golden Gate Estates & Immokalee
R15	Golden Gate City (Santa Barbara)	R28	Golden Gate Estates Everglades Blvd, Ave Maria

RideCAT.com

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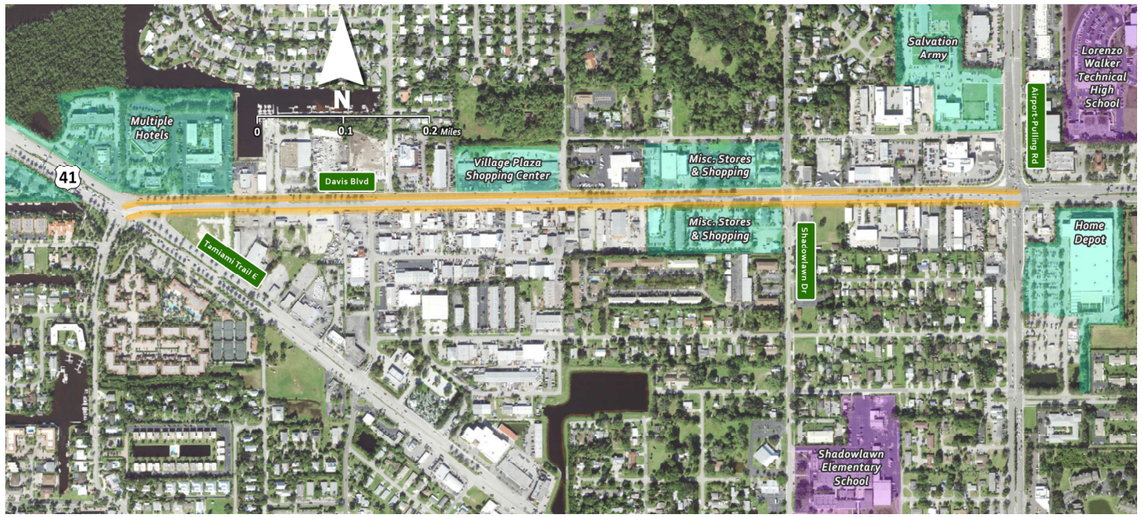
COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

SR 84 / Davis Blvd

(From US 41 / Tamiami Trail to CR 31 / Airport-Pulling Rd)



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Collier County's Congestion Hotspots

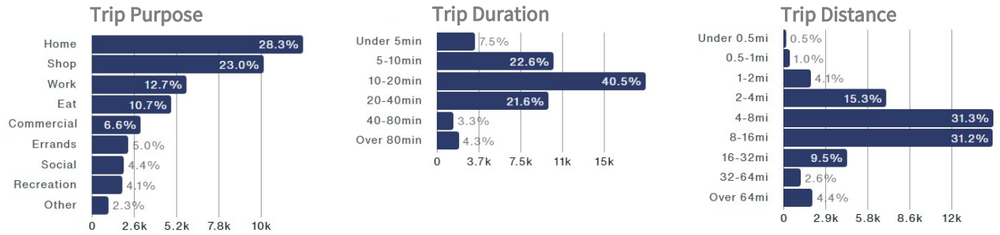
SR 84 / Davis Blvd (From US 41 / Tamiami Trail to CR 31 / Airport-Pulling Rd)

Quick Facts

Corridor Length: 1.01Miles
Number of Major Intersections: 3
Number of Daily Trips (Avg. Weekday): ~46k

~9 min
Avg. Daily Duration of Bottleneck Conditions

~1k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Traffic on US 41:** The west end of the corridor intersects with another busy corridor, which can worsen traffic problems during times of high activity.
- **Freight & Small Truck Traffic:** Industrial, warehouse, or repair/service businesses are numerous along the corridor. Frequent freight trucks, box trucks, or other similar vehicles can worsen traffic congestion.

Corridor Opportunities

- **Transit-Oriented Development (TOD):** The corridor's existing density provides a long-term option of developing a variety of land uses that provide housing, employment, and recreation activities in one area, which makes non-motorized and transit trips easier and more practical.
- **Location & Proximity:** The location of this corridor allows it to be one of the primary gateways to the City of Naples. Proximity to the City's Community Redevelopment Agency (CRA) District also offers additional benefits for planning and implementing transportation improvements, as well as "placemaking" elements that could make the corridor inviting for users of all types of transportation in the future.

Where is Congestion Usually the Worst?

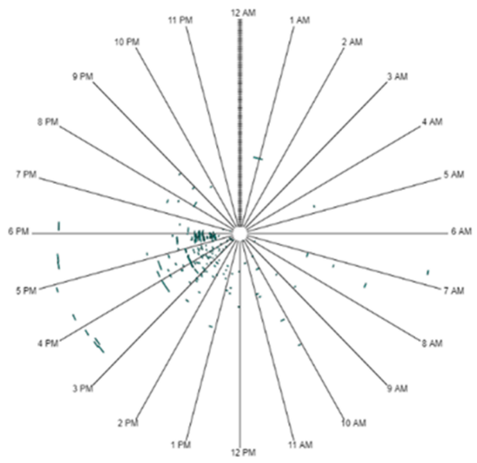
Direction
Eastbound

Location
Approaching Airport-Pulling Rd

Time
3-6 PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the eastbound direction at Airport-Pulling Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the PM peak period towards the beginning and the year.

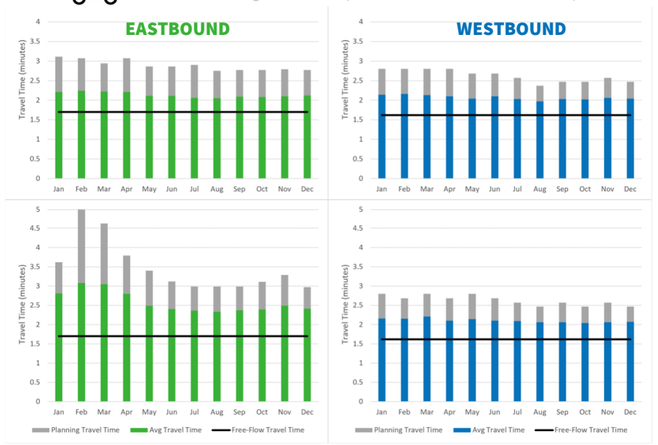


Davis Blvd at Airport-Pulling Rd – Facing West

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor can be seen in the longer travel times during the first part of the year, especially in the eastbound direction. Seasonal patterns in travel time may not be as distinct along this corridor because of its short length, but additional unpredictability associated with delay is present throughout the year. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases at the beginning of the year. A similar pattern is shown below by the higher monthly delay costs from 2019 through 2021. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$	$$	$$	$								
2021	$$$	$$$	$$$	$$$	$$	$	$	$	$	$	$	$
2020	$$$	$$$$	$$$	$$	$$	$$	$$	$$	$$	$$	$$	$$
2019	$$$	$$$	$$$	$$	$$	$$	$$	$$$	$$$	$$$	$$$	$$$

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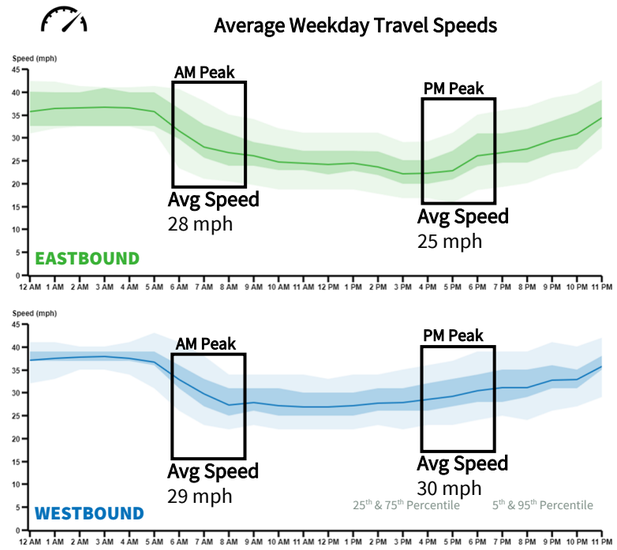
Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Although speeds drop to the lowest in the eastbound direction during the PM peak at roughly 22 MPH, they remaining consistently low in both directions throughout the middle of the day as well. As shown in the circular graph to the left, most bottlenecks occur during the first part of year between 3 and 6 PM in the eastbound direction. Trip purposes also change throughout the day. Work trips are most common in the morning and home trips in evening. Shopping trips are the second most common trip purpose throughout the day, accounting for 13% of all trips during the AM peak period and 24% during the PM peak period.

Average Weekday Travel Speeds



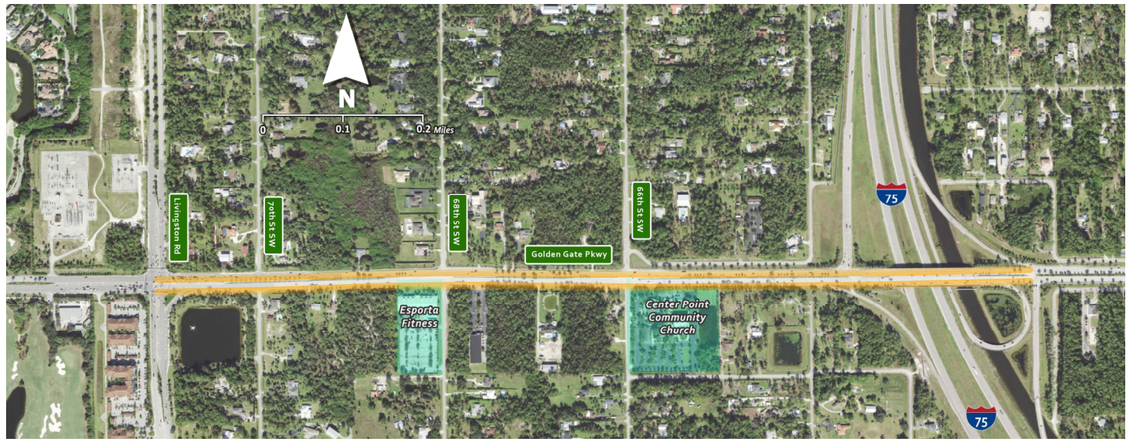
COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 886 / Golden Gate Pkwy

(From CR 881 / Livingston Rd to I-75)



What is Congestion Management?

Congestion management describes all of the activities used to help reduce the negative impacts of traffic congestion and improve roadway performance in urban areas.

Transportation planning agencies, such as the Collier MPO, follow a detailed Congestion Management Process (CMP) when making decisions about the best ways to address traffic congestion in specific areas, and eventually how improvement strategies should be prioritized for available funding.

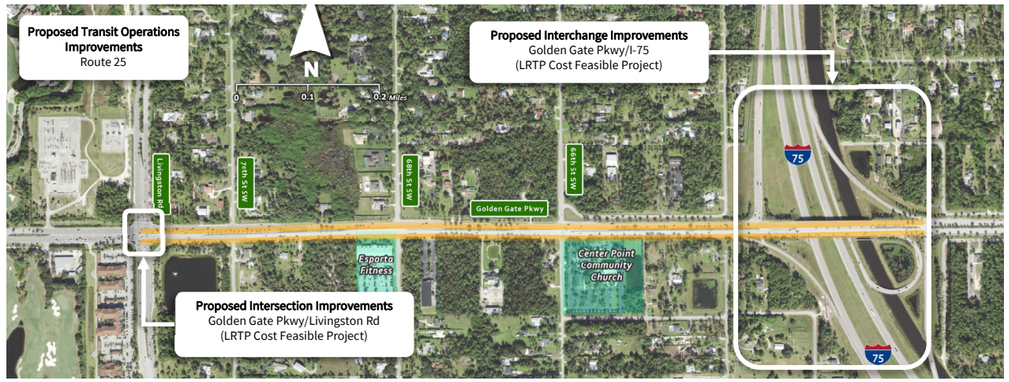
Once a congestion reduction strategy or policy decision has been implemented, the CMP then evaluates its effectiveness using measurable data to determine if the intended outcome was achieved or if other solutions may be needed.

Why is the MPO Evaluating Hotspot Corridors?

As a part of the ongoing effort to reduce congestion on Collier County roadways, the MPO regularly identifies corridors with high levels of recurring traffic congestion. This usually occurs every two years when the MPO's Transportation System Performance (TSP) Report is updated. This process consists of traffic data analysis and forecasting that is based on other MPO planning efforts such as the Long Range Transportation Plan (LRTP).

The corridor featured in this fact sheet was identified in the most recent TSP Report as having unmet needs related to safety, congestion, or other causes that are not likely to be addressed by currently planned improvements. The MPO is now evaluating it in greater detail to develop potential improvement strategies and better understand which strategies could be the most effective based on current conditions.

What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Provide funding assistance for promoting existing car/vanpool awareness and app availability*
- *Evaluate the feasibility of a grade-separated intersection at Golden Gate Pkwy and Livingston Rd*
- *Consider expanding regional transit options to provide express bus service for commuters routinely traveling to/from southwest Collier County during peak hours, as well as identifying potential opportunities for dedicated bus lanes that could help improve travel times for passengers*
- *Consider expanding traffic signal capabilities through technology and communications improvements*
- *Coordinate with the analysis performed as part of the upcoming intersection improvements at Livingston Rd to identify opportunities for reducing crossing-related conflicts and delays once future regional greenway connections are made and non-motorized crossings become more frequent*
- *Program funding for the evaluation, design, and construction of interchange improvements at Golden Gate*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
- *Checking for alternate routes based on traffic conditions*
- *Using transit when possible*
- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R25 Golden Gate Parkway & Goodlette – Frank

RideCAT.com

How Do I Get Involved?

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We want to hear your feedback!

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(239) 252-5814

Collier County's Congestion Hotspots

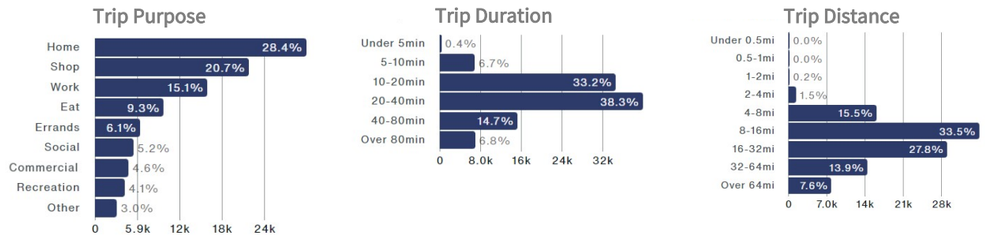
CR 886 / Golden Gate Pkwy (From CR 881 /Livingston Rd to I-75)

Quick Facts

Corridor Length: 1.03 Miles
Number of Major Intersections: 3
Number of Daily Trips (Avg. Weekday): ~100k

~11 min
Avg. Daily Duration of Bottleneck Conditions

~6k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Commuter Traffic:** This corridor experiences high congestion levels during AM and PM peak hours primarily because it becomes overloaded by commuter traffic traveling between the southwest part of the County and the I-75 interchange, as well as the Golden Gate area east of I-75.
- **Freight & Small Truck Traffic:** Truck traffic from the large industrial/warehouse area south of the Golden Gate Canal between Airport-Pulling Rd and Livingston Rd can add to commuter traffic and worsen congestion when using this corridor to access I-75.

Corridor Opportunities

- **Lack of Development Density:** The large lot sizes and less-dense development patterns along the corridor on both sides of the I-75 interchange do not currently contribute to worsening congestion levels, and can provide flexibility for future development and transportation improvements.
- **Regional Greenway Connections:** This corridor provides important east-west connection opportunities to/from the existing shared-use path/greenway along Livingston Road both west to the Gordon River Greenway and east along the proposed Golden Gate Canal Greenway (Paradise Coast Trail).

Where is Congestion Usually the Worst?

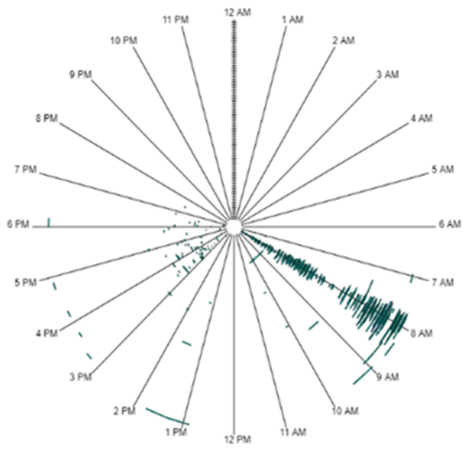
Direction
Westbound

Location
Approaching Livingston RD

Time
7-9 AM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the westbound direction at Livingston Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred mostly during the AM peak period just before and after 8 AM. These conditions are noticeably less common during the middle of the year.

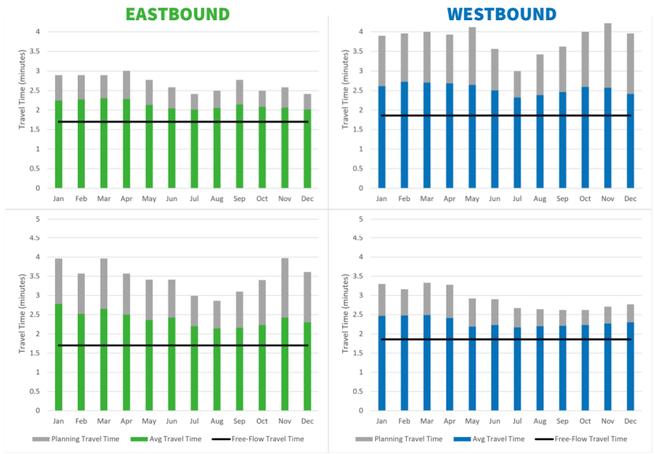


Golden Gate Pkwy at I-75 – Facing West

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor can be seen in the longer travel times from roughly September to May, which coincides with school activity and may be worsened by seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases during the same months. A similar, though less consistent, pattern is shown below by the higher monthly delay costs. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

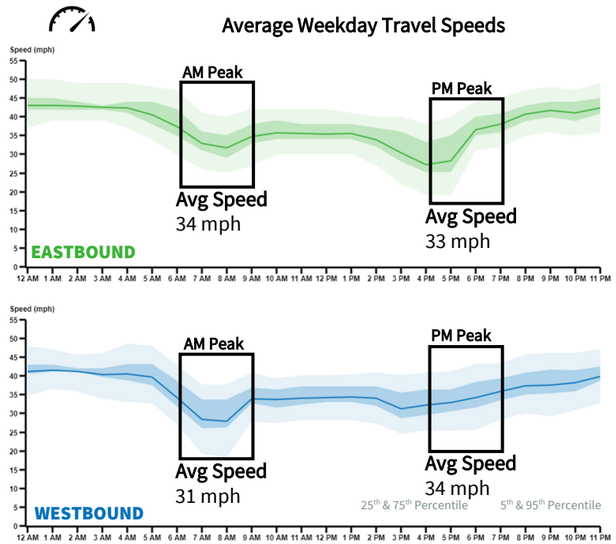
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$	$$	$$	$$								
2021	$$$	$$	$$$	$$	$$	$$	$	$	$	$	$$	$$
2020	$$$$	$$$$	$$$	$	$$	$$	$$	$$	$$	$$	$$	$$
2019	$$$	$$$	$$	$$	$$	$	$$	$$$	$$$$	$$$$	$$$$	$$$

Data Sources: *All data shown or referenced on these two pages is from 2021 unless otherwise noted. Information related to congestion, delay, travel times, travel speeds, and bottleneck conditions is from RITIS HERE data. Information related to trip characteristics is from Replica.*

Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Speeds are lowest during the AM and PM peak periods at roughly 27 MPH, with a slight recovery period in between those two times. As shown in the circular graph to the left, most bottlenecks only occur during the peak periods with those in the westbound direction mostly just before and after 8 AM. Trip purposes also change throughout the day. Work trips are most common in the morning and home trips in evening. School trips and shopping trips are the second most common during AM and PM peak periods, respectively.

Average Weekday Travel Speeds



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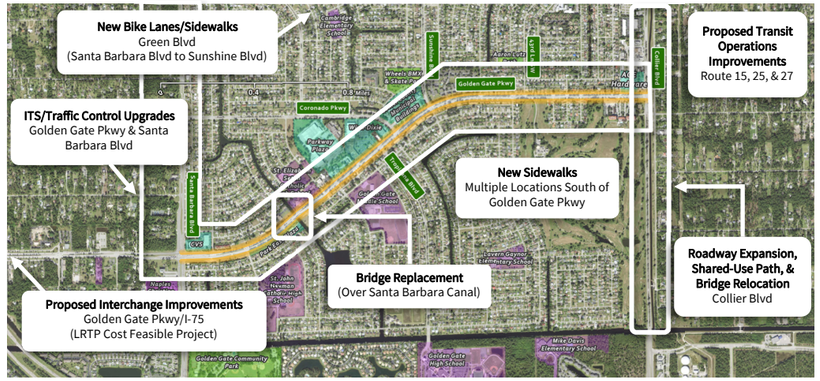

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Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Work with nearby private schools, especially on the west side of the corridor, to identify feasible locations for off-site parking lots and/or curbing/waiting zones that will not obstruct traffic patterns and create delays while parents are waiting to drop off/pick up their students*
- *Consider upgrading crosswalk visibility at intersections providing non-motorized access to nearby schools, and consider pedestrian signals/beacons in high-activity locations*
- *Conduct a localized public awareness campaign to help reduce careless driving behavior and create a safer environment for the large number of school children in the area*
- *Advance the recommended improvements from the MPO's recent Golden Gate City Walkable Community Study to enhance safety conditions and add new non-motorized options along surrounding roadways to better connect existing schools, parks, and other destinations, including the proposed Golden Gate Canal Greenway*
- *Consider a new limited-stop Express Bus pilot route from the Golden Gate Community Center lot that is intended for residents of the surrounding area commuting to/from high employment areas in the western part of the County*
- *Work with local schools to stagger arrival and/or dismissal times if possible, and optimize corridor signal timing during times with increased school traffic*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

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- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R15	Golden Gate City (Santa Barbara)	R25	Golden Gate Parkway & Goodlette – Frank
R16	Golden Gate City (Santa Barbara)	R27	Immokalee Road
R19	Golden Gate Estates & Immokalee	R28	Golden Gate Estates Everglades Blvd, Ave Maria
R20	Pine Ridge Road		

RideCAT.com

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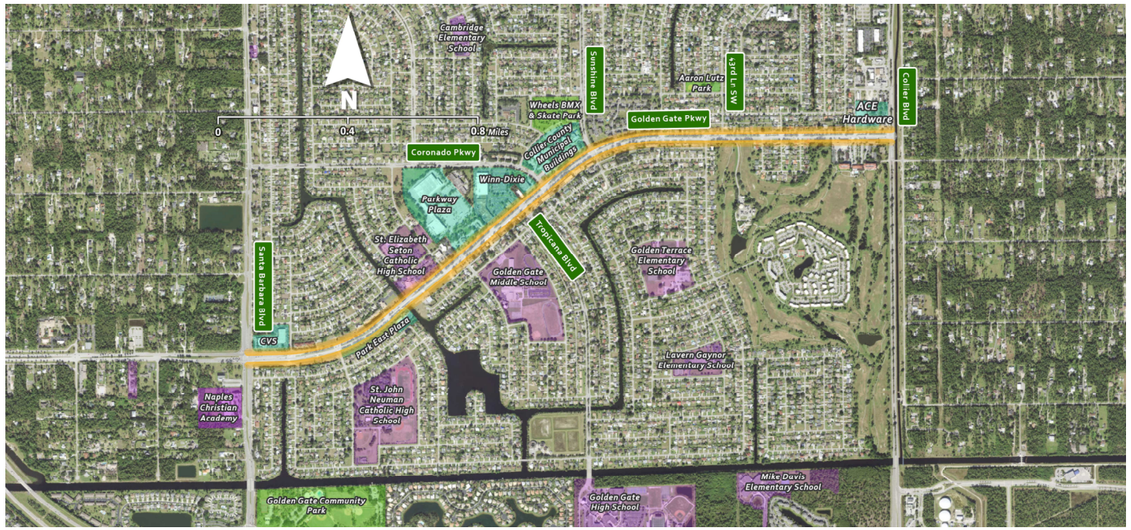
COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 886 / Golden Gate Pkwy

(From Santa Barbara Blvd to CR 951 / Collier Blvd)



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Collier County's Congestion Hotspots

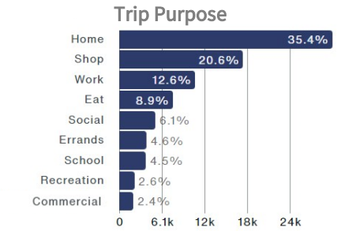
CR 886 / Golden Gate Pkwy (From Santa Barbara Blvd to CR 951 / Collier Blvd)

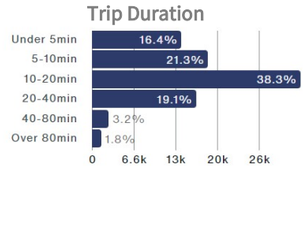
Quick Facts

Corridor Length: 2.19 Miles
Number of Major Intersections: 8
Number of Daily Trips (Avg. Weekday): ~86k

~8 min
Avg. Daily Duration of Bottleneck Conditions

~2k
Annual Vehicle Hours of Delay





Corridor Challenges

- **School Traffic:** The high concentration of schools along this corridor creates spikes in traffic volumes on a roadway not designed so support them.
- **Trips from Surrounding Neighborhoods:** Multiple signalized intersections connecting to residential areas can create situations in which traffic along the corridor is stopped at frequent intervals for a small number of vehicles.
- **Local & Regional Traffic:** This corridor provides access to an I-75 interchange from either end, which can intensify congestion when regional "pass through" trips coincide with local or school-related traffic.

Where is Congestion Usually the Worst?

Direction
Eastbound

Location
Approaching Sunshine Blvd

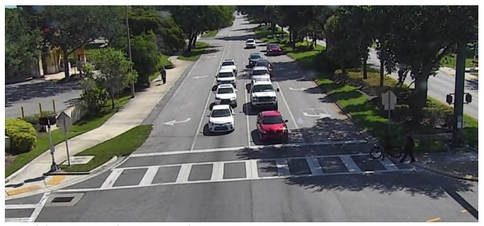
Time
4-5 PM

Corridor Opportunities

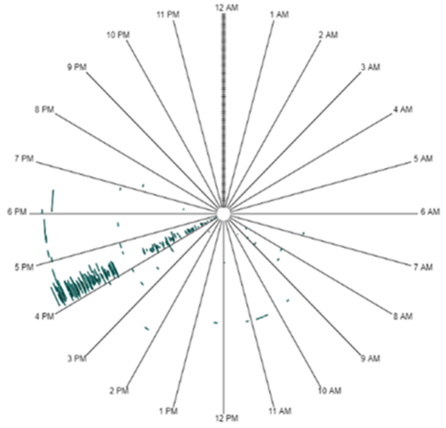
- **Non-Motorized Improvements:** The combination of schools, residential areas, and parallel streets with minimal traffic provides options and increases the benefits for new bicycle and pedestrian facilities that can be used for both neighborhood recreation and short trips to destinations in the Golden Gate area.
- **Roadway Connections:** Despite residential development patterns that lack a full grid roadway network, the areas surrounding the corridor contain several alternative routes that make connections to major roadways without using Golden Gate Parkway.
- **Existing Transit Routes:** This corridor offers a sizeable number of options for existing transit services and transfer opportunities to/from a variety of destinations due to centralized location.

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the eastbound direction at Sunshine Blvd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred mostly during the early PM peak period between 4 and 5 PM at the beginning and end of the year. These conditions are noticeably less common during the middle of the year.



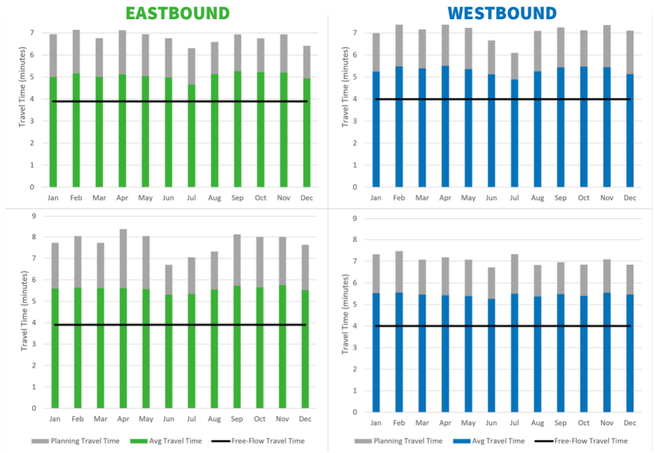
Golden Gate Pkwy at 50th St – Facing East



Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor can be seen in the longer travel times from roughly September to May, which coincides with activity from the numerous schools in the area. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases during the same months. A similar pattern is shown below by the higher monthly delay costs, especially during the first part of the year. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$	$$	$$	$$								
2021	$$	$$	$$	$$	$$	$	$$	$$	$$	$$	$$	$$
2020	$$$$	$$$$	$$$	$	$$	$	$	$	$$	$$	$$	$$
2019	$$$	$$$	$$$	$$$	$$$	$$	$$	$$$$	$$$$	$$$$	$$$$	$$$$

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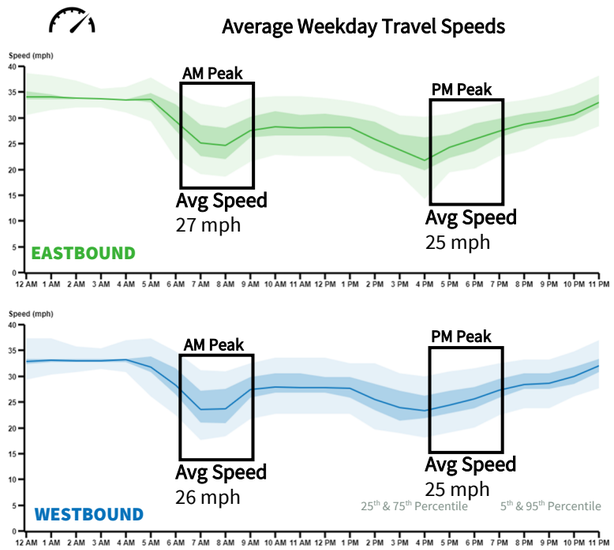
Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 35 MPH. Although speeds reach their lowest during the PM peak period in the eastbound direction at roughly 21 MPH, they also experience a noticeable but slightly less severe drop in the westbound direction to roughly 24 MPH during both peak periods. As shown in the circular graph to the left, most bottlenecks only occur during the peak periods with those in the eastbound direction mostly just after 4 PM. Trip purposes also change throughout the day. Work trips are most common in the morning and home trips in evening. School trips are also common, accounting for nearly 20% of all trips along this corridor during the AM peak period.

Average Weekday Travel Speeds



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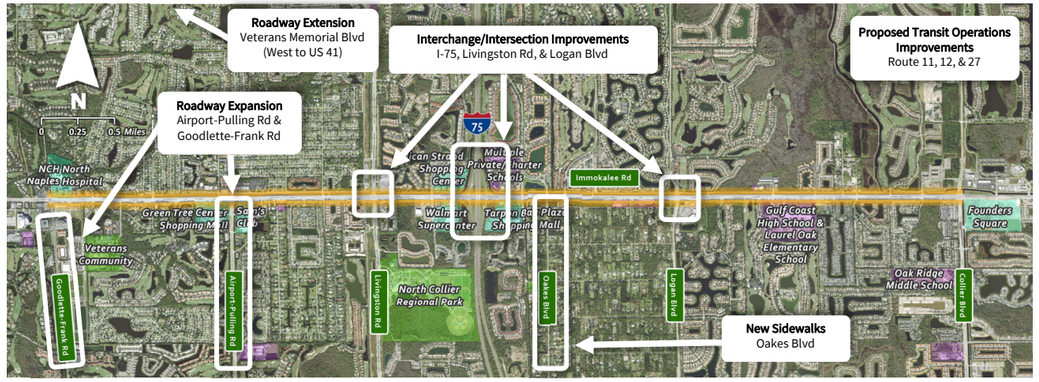

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- *Improve incident management, especially near I-75 to account for higher crash rate*
- *Consider a new Park-and-Ride lot with an Express Bus route to serve longer commute trips to Lee County, Naples, Marco Island, or other parts of Collier*
- *Conduct a study to develop alternatives for new or improved bicycle/pedestrian facilities that can connect to the shared-use path on the north side of the corridor (west of Northbrooke Dr) to encourage non-motorized trips*
- *Identify opportunities for making parallel roadway connections to create alternate routes for short vehicle trips along the corridor*
- *Provide funding assistance for promoting car/vanpool awareness and app availability*
- *Consider expanding traffic signal capabilities through technology and communications improvements*
- *Evaluate carpool or ridesharing program options for nearby schools, and identify potential funding sources*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

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- *Checking for alternate routes based on traffic conditions*
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- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

LINC	LinC Lee-Collier
R11	US 41 to Creekside Commerce Park
R12	Airport Rd to Creekside Commerce Park
R27	Immokalee Road

RideCAT.com

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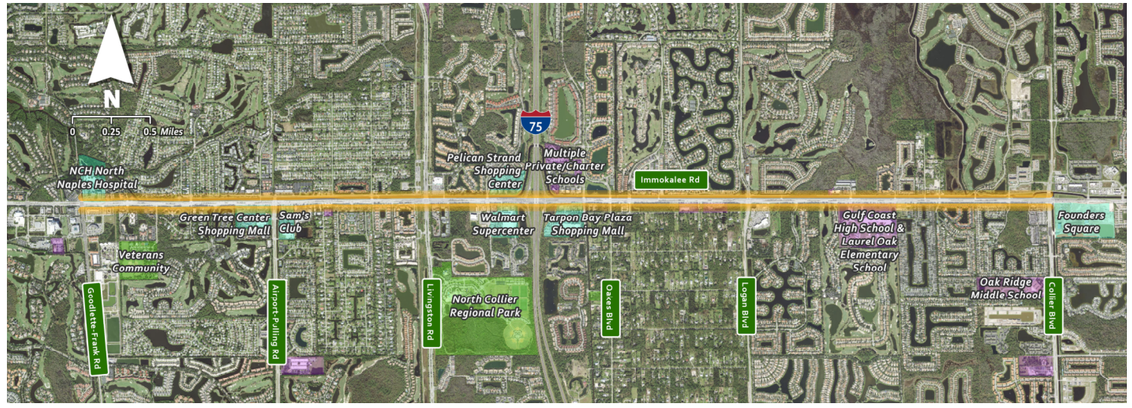
COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 846 / Immokalee Road

(From CR 851 / Goodlette-Frank Road to CR 951 / Collier Blvd)



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Collier County's Congestion Hotspots

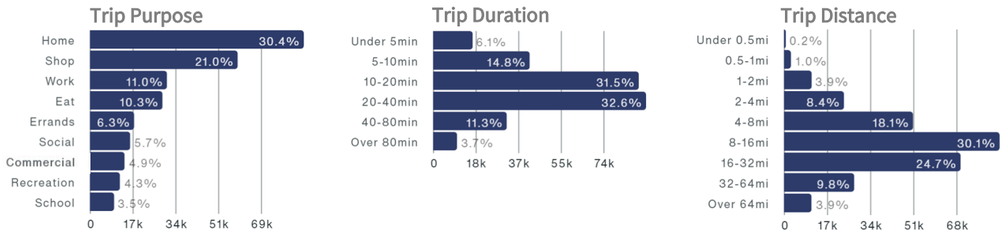
CR 846 / Immokalee Road (From CR 851 / Goodlette-Frank Road to CR 951 / Collier Blvd)

Quick Facts

Corridor Length: 6.25 Miles
Number of Major Intersections: 14
Number of Daily Trips (Avg. Weekday): ~280k

~32 min
Avg. Daily Duration of Bottleneck Conditions

~90k
Annual Vehicle Hours of Delay



Corridor Challenges

- **I-75 Interchange:** Vehicles going to/from I-75 result in higher traffic volumes and more "pass through" trips along the corridor with more growth expected in the future.
- **High-Intensity Land Uses**: Major activity generators which include a mix of retail, office, school, and residential land uses are also found on all four corners of I-75.

Corridor Opportunities

- **Right-of-Way:** Unused right-of-way and median space could allow for new turn lanes or intersection upgrades in key locations to be implemented more easily.
- **Parallel Facilities:** Existing roadways, such as Piper Boulevard or 24th Avenue, and existing segments of shared use path on the north side of the Cocohatchee Canal west of Livingston Road could provide the foundation for alternative travel routes used for local or non-motorized trips along the corridor.

Where is Congestion Usually the Worst?

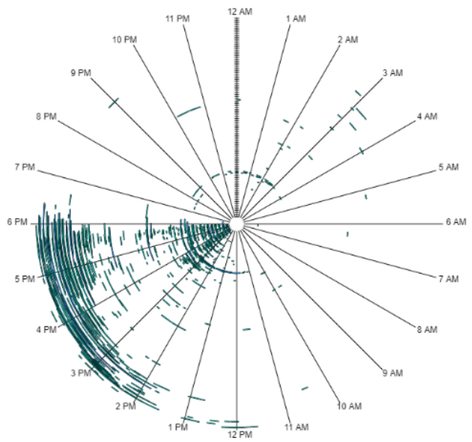
Direction
Eastbound

Location
Approaching I-75

Time
3-6 PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the eastbound direction at I-75. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the mid-afternoon and PM peak period at the beginning and end of the year. These conditions are noticeably less common during the middle of the year.

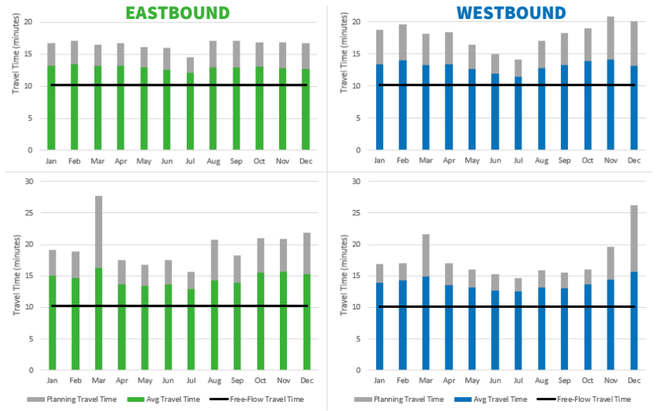


Immokalee Rd at Strand Blvd – Facing West

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor during months when visitors and part-time residents are more common can be seen in the longer travel times from roughly October to March. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases. The same pattern is shown below by the higher monthly delay costs. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

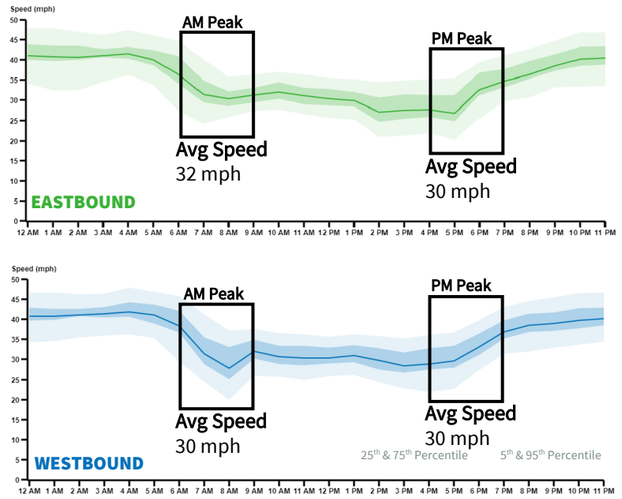
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$$	$$$$	$$$	$$$								
2021	$$	$$$	$$$	$$	$$	$$	$$	$$	$$	$$	$$$	$$$
2020	$$$$	$$$$	$$$	$	$$	$$	$	$	$$	$$	$$	$$
2019	$$	$$	$$	$	$	$	$	$$	$$	$$$	$$$	$$$

Data Sources: *All data shown or referenced on these two pages is from 2021 unless otherwise noted. Information related to congestion, delay, travel times, travel speeds, and bottleneck conditions is from RITIS HERE data. Information related to trip characteristics is from Replica.*

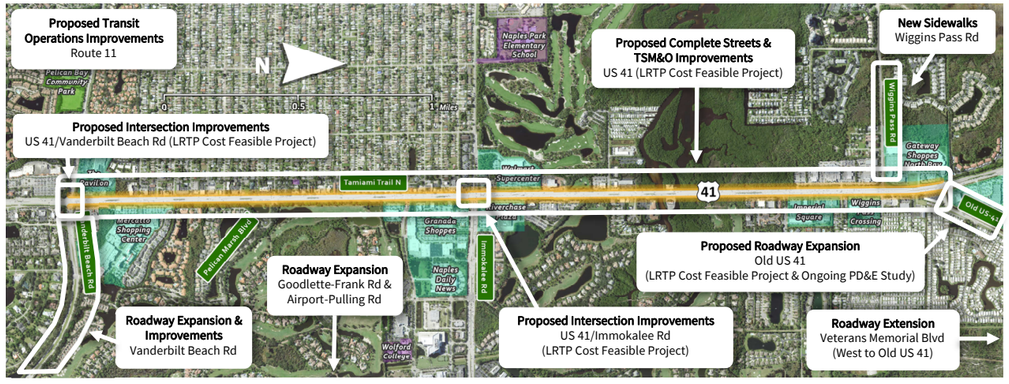
Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Although speeds are lowest during the AM and PM peak periods at roughly 30 MPH, there is also a noticeable drop in travel speeds in between those times. As shown in the circular graph to the left, most bottlenecks occur roughly between 2 and 6 PM. Trip purposes also change throughout the day along this corridor, with work being the most common purpose during the AM peak and home being the common purpose during the PM peak.

Average Weekday Travel Speeds



What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Consider establishing a new regional Bus Rapid Transit (BRT) or Express Bus service along US 41, with the potential for dedicated bus lanes to help improve travel times and a new Park-and-Ride lot at the Creekside Transfer Center*
- *Coordinate with FDOT to identify innovative, effective Connected Vehicle (CV) technologies associated with the US 41 Florida's Regional Advanced Mobility Elements (FRAME) effort in Lee County, and adopt complimentary strategies that can be deployed along this corridor*
- *Consider expanding traffic signal capabilities through technology and communications improvements*
- *Improve incident management, especially during times of the year with additional seasonal visitors on the roadways*
- *Consider upgrading and adding pedestrian facilities such as signage, signals, crosswalks, and other pavement markings near areas with high vehicle turning movements, especially near transit stops, to improve safety conditions for bicyclists and pedestrians*
- *Program funding for the evaluation, design, and construction of intersection improvements at US 41 and Immokalee Rd, as called out in the MPO's 2045 LRTP*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
- *Checking for alternate routes based on traffic conditions*
- *Using transit when possible*
- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

LINC	LinC Lee-Collier
R11	US 41 to Creekside Commerce Park
R12	Airport Rd to Creekside Commerce Park
R27	Immokalee Road

RideCAT.com

How Do I Get Involved?

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We want to hear your feedback!

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COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

US 41 / Tamiami Trail

(From CR 862 / Vanderbilt Beach Rd to CR 887 / Old US 41)

What is Congestion Management?

Congestion management describes all of the activities used to help reduce the negative impacts of traffic congestion and improve roadway performance in urban areas.

Transportation planning agencies, such as the Collier MPO, follow a detailed Congestion Management Process (CMP) when making decisions about the best ways to address traffic congestion in specific areas, and eventually how improvement strategies should be prioritized for available funding.

Once a congestion reduction strategy or policy decision has been implemented, the CMP then evaluates its effectiveness using measurable data to determine if the intended outcome was achieved or if other solutions may be needed.

Why is the MPO Evaluating Hotspot Corridors?

As a part of the ongoing effort to reduce congestion on Collier County roadways, the MPO regularly identifies corridors with high levels of recurring traffic congestion. This usually occurs every two years when the MPO's Transportation System Performance (TSP) Report is updated. This process consists of traffic data analysis and forecasting that is based on other MPO planning efforts such as the Long Range Transportation Plan (LRTP).

The corridor featured in this fact sheet was identified in the most recent TSP Report as having unmet needs related to safety, congestion, or other causes that are not likely to be addressed by currently planned improvements. The MPO is now evaluating it in greater detail to develop potential improvement strategies and better understand which strategies could be the most effective based on current conditions.

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Collier MPO
2885 S. Horseshoe Dr., Naples, FL 34104
(239) 252-5814

Collier County's Congestion Hotspots

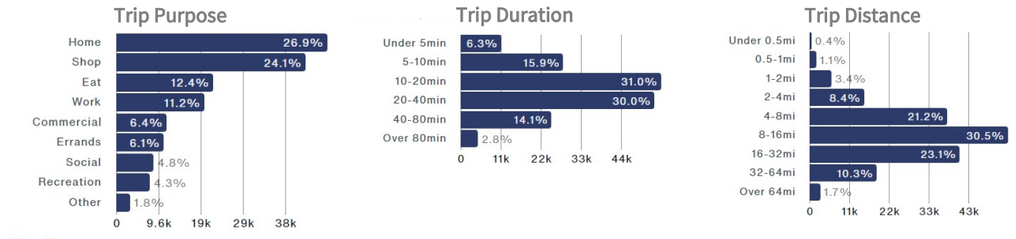
US 41 / Tamiami Trail (From CR 862 / Vanderbilt Beach Rd to CR 887 / Old US 41)

Quick Facts

Corridor Length: 3.25 Miles
Number of Major Intersections: 9
Number of Daily Trips (Avg. Weekday): ~180k

~4 min
Avg. Daily Duration of Bottleneck Conditions

~87k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Regional Traffic:** Being one of the few continuous north-south corridors that can be used for regional trips between Lee and Collier counties, and the primary one in the western part of the county, results in higher traffic volumes.
- **High Activity Areas & Visitor Destinations:** Big box retail, dining, and recreational clusters are common on multiple corners of all three major intersections along this corridor. This activity is intensified during seasonal months when visitors add to traffic conditions.

Corridor Opportunities

- **Lack of Development Density:** A combination of conservation/drainage areas and undeveloped land on the north end of the corridor can provide opportunities for Collier and Lee counties to plan and control future growth and development, which can help limit the worsening of traffic congestion.
- **Right-of-Way & Setback Space:** Wide right-of-way conditions and median areas along this corridor, combined with large areas of adjacent parking lots, can provide flexibility and additional options for designing roadway improvements or dedicating space for premium, limited-stop regional transit services in the future.

Where is Congestion Usually the Worst?

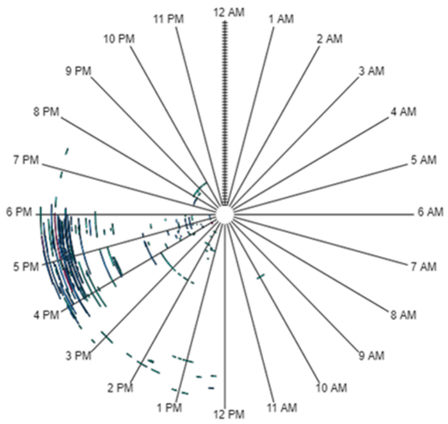
Direction
Northbound

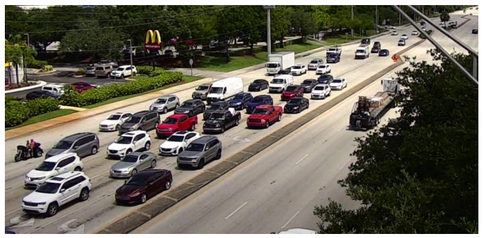
Location
Approaching Immokalee Rd

Time
4-6 PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the northbound direction at Immokalee Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the PM peak period and are noticeably more common towards the end of the year.



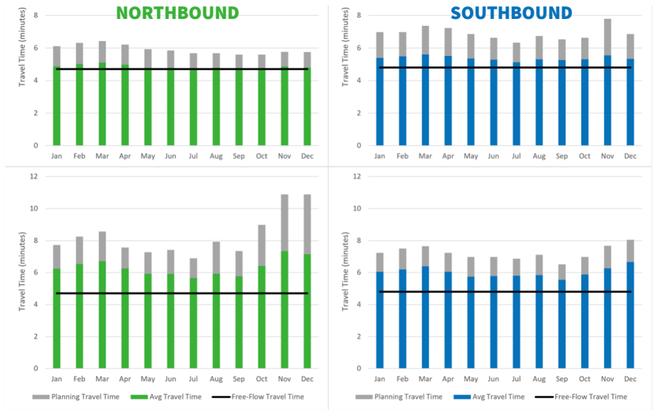


US 41 at Immokalee Rd – Facing North

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor during months when visitors and part-time residents are more common can be seen in the longer travel times from roughly October to March, especially during the PM peak period. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases. A similar pattern is shown below by the higher monthly delay costs, especially during the first part of the year. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



AM Peak 6-9 AM

PM Peak 4-7 PM

Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$$	$$$	$$$	$$								
2021	$$	$$	$$$	$$	$	$	$	$	$	$	$$	$$
2020	$$$$	$$$$	$$	$	$	$	$	$	$	$	$	$$
2019	$$	$$	$$	$	$	$	$	$	$	$$	$$$	$$$

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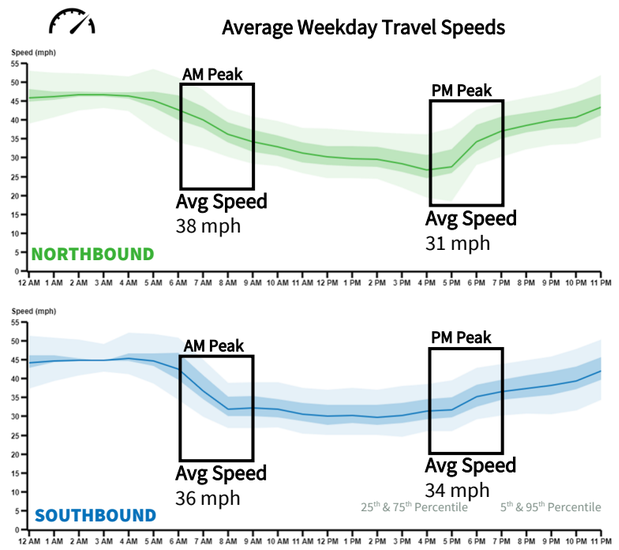
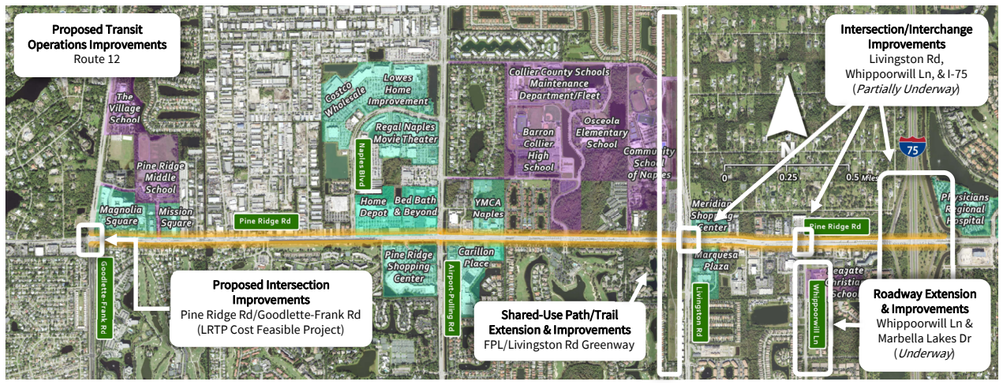
Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 50-55 MPH. Speeds reach their lowest during the PM peak period in the northbound direction at roughly 26 MPH, but experience a more prolonged and less severe drop in the southbound direction beginning during the AM peak period and reaching a low of roughly 29 MPH during mid-day. As shown in the circular graph to the left, most bottlenecks occur during the peak periods with those in the northbound direction mostly between 4 and 6 PM. Trip purposes also change throughout the day. Typically, work trips are most common in the morning and home trips in evening. Along this corridor, however, shopping trips are more common than trips to work during the AM peak period and only slightly less common that trips home during the PM peak period.

Average Weekday Travel Speeds



What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Consider a new Park-and-Ride lot at Physicians Regional Hospital with an Express Bus route to serve longer commute trips*
- *Provide funding assistance for promoting existing car/vanpool awareness and app availability, and evaluate the potential for new carpool or ridesharing programs for nearby schools*
- *Consider increasing transit frequency and/or expanding hours of operation for routes along and adjacent to the corridor so that it becomes a more viable option for employees in the area*
- *Improve incident management, especially near I-75 to account for a higher crash rate*
- *Advance the intersection improvement recommendations at Livingston Rd, Whippoorwill Ln, and I-75 made by the County's recent Corridor Congestion Study, and evaluate the feasibility of similar intersection improvements at Airport-Pulling Rd*
- *Evaluate the need for and feasibility of constructing additional turn lanes or extending existing storage capacity for accessing Osceola Trail from both directions to accommodate potential spikes in school traffic at this location*
- *Work with schools to stagger arrival/dismissal times if possible, and optimize signal timing at Airport-Pulling Rd, Osceola Trail, and Livingston Rd for times of increased school traffic*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
- *Checking for alternate routes based on traffic conditions*
- *Using transit when possible*
- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R12	Airport Rd to Creekside Commerce Park
R20	Pine Ridge Road
R25	Golden Gate Parkway & Goodlette – Frank
R26	Pine Ridge Road/ Naples Blvd/ Clam Pass

RideCAT.com

How Do I Get Involved?

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COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 896 / Pine Ridge Rd

(From CR 851 / Goodlette-Frank Rd to I-75)

What is Congestion Management?

Congestion management describes all of the activities used to help reduce the negative impacts of traffic congestion and improve roadway performance in urban areas.

Transportation planning agencies, such as the Collier MPO, follow a detailed Congestion Management Process (CMP) when making decisions about the best ways to address traffic congestion in specific areas, and eventually how improvement strategies should be prioritized for available funding.

Once a congestion reduction strategy or policy decision has been implemented, the CMP then evaluates its effectiveness using measurable data to determine if the intended outcome was achieved or if other solutions may be needed.

Why is the MPO Evaluating Hotspot Corridors?

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Collier County's Congestion Hotspots

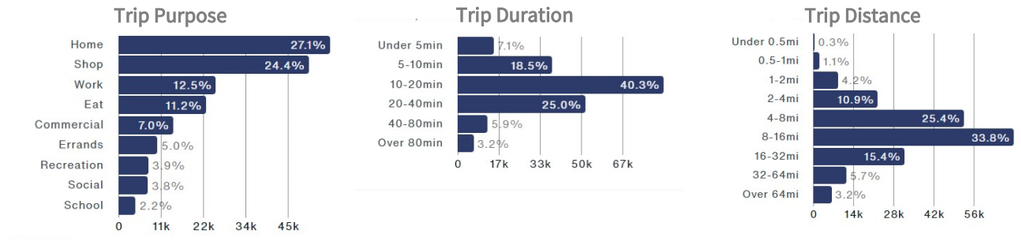
CR 896 / Pine Ridge Rd (From CR 851 / Goodlette-Frank Rd to I-75)

Quick Facts

Corridor Length: 3.67 Miles
Number of Major Intersections: 13
Number of Daily Trips (Avg. Weekday): ~210k

~22 min
Avg. Daily Duration of Bottleneck Conditions

~277k
Annual Vehicle Hours of Delay



Corridor Challenges

- **I-75 Interchange:** This corridor's access to I-75 creates demand from other neighboring arterial roadways, resulting in higher traffic volumes and more "pass through" trips.
- **Mix of Trip Purposes:** The variety of commuter traffic, trucks associated with warehouse/ industrial areas, shopping/recreational trips, and school traffic can create a high number of vehicles and difficulty proposing solutions to address all activity effectively.

Corridor Opportunities

- **Regional Non-Motorized Connections:** This corridor intersects with multiple north-south shared-use path segments. These areas could become opportunities for bicycle and pedestrian connections to the larger countywide greenway network in the future.
- **Existing Transit Routes:** This corridor offers a variety options for existing transit services and transfer opportunities for traveling in multiple directions throughout the county.

Where is Congestion Usually the Worst?

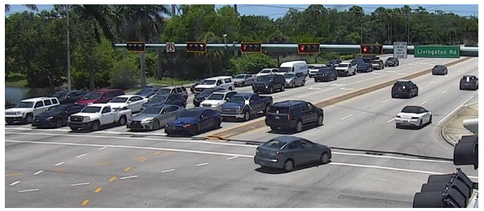
Direction
Eastbound

Location
Approaching Livingston Rd

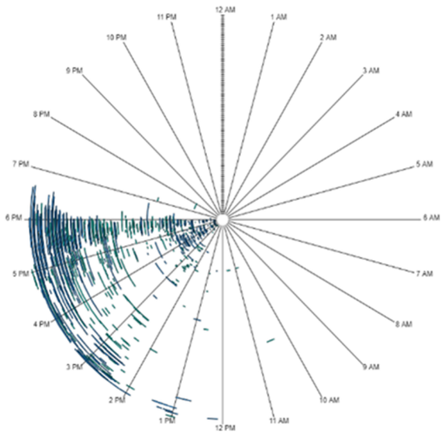
Time
4-6 PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the eastbound direction at Livingston Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the mid-afternoon and PM peak period. These conditions are less common during the middle of the year, especially those occurring before 5 PM.



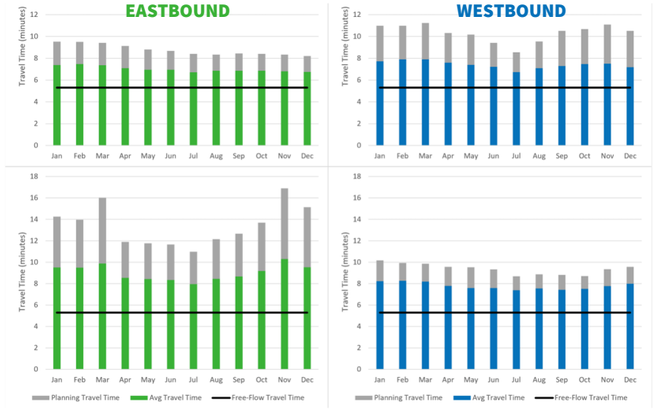
Pine Ridge Rd at Livingston Rd – Facing West



Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor can be seen in the longer travel times from roughly September to May, which coincides with school activity and may be worsened by seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases during the same months. A similar pattern is shown below by the higher monthly delay costs. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$$	$$$	$$$	$$$								
2021	$$$	$$$	$$$	$$	$$	$$	$	$	$$	$$	$$$	$$$
2020	$$$$	$$$$	$$$	$	$$	$$	$$	$$	$$	$$	$$	$$$
2019	$$$	$$	$$	$$	$$	$	$$	$$$	$$	$$$	$$$$	$$$$

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Congestion Throughout the Day...

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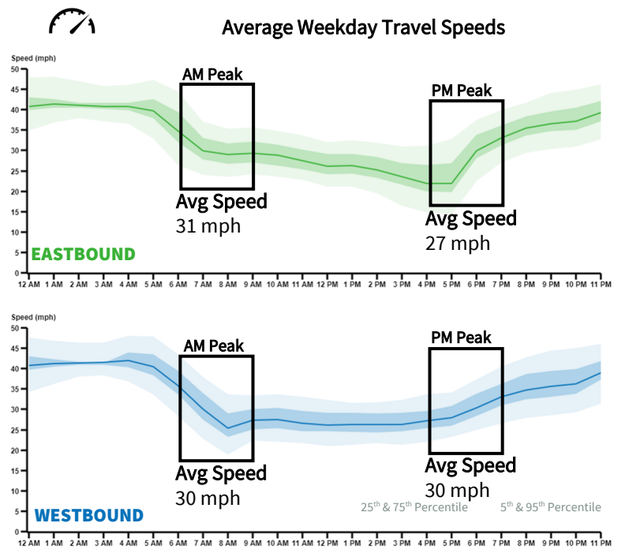
Average Weekday Travel Speeds



COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 862 / Vanderbilt Beach Rd

(From CR 31 / Airport-Pulling Rd to CR 881 / Livingston Rd)

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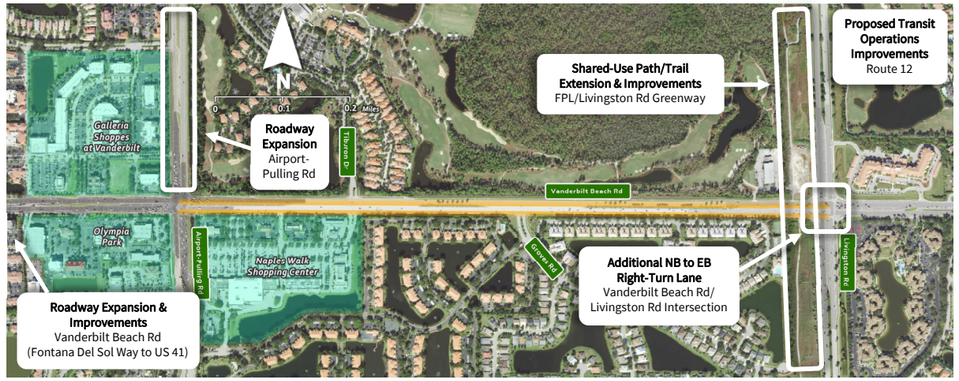
What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Consider upgrading non-motorized crossing facilities on the west side of the Livingston Rd intersection to improve safety conditions and accommodate additional greenway crossings in the future without affecting traffic conditions*
- *Consider expanding traffic signal capabilities through technology and communications improvements to optimize turning movements during peak periods at Livingston Rd*
- *Evaluate the feasibility of adding capacity and additional turn lanes to Orange Blossom Dr to serve as an alternative route for accessing Airport-Pulling Rd and Livingston Rd*
- *Provide funding assistance for promoting existing car/ vanpool awareness and app availability*
- *Evaluate the feasibility of a new interchange at Vanderbilt Beach Rd and I-75*
- *Advance the displaced-left design concept from the Transportation Systems Performance Report Action Plan or evaluate other innovative intersection solutions at Vanderbilt Beach Rd and Livingston Rd to accommodate additional traffic volumes once the Vanderbilt Beach Rd Extension Project is completed*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
- *Checking for alternate routes based on traffic conditions*
- *Using transit when possible*
- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R12 Airport Rd to Creekside Commerce Park

RideCAT.com rideCAT Collier Area Transit

How Do I Get Involved?

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We want to hear your feedback!

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Collier MPO
2885 S. Horseshoe Dr., Naples, FL 34104
(239) 252-5814

Collier County's Congestion Hotspots

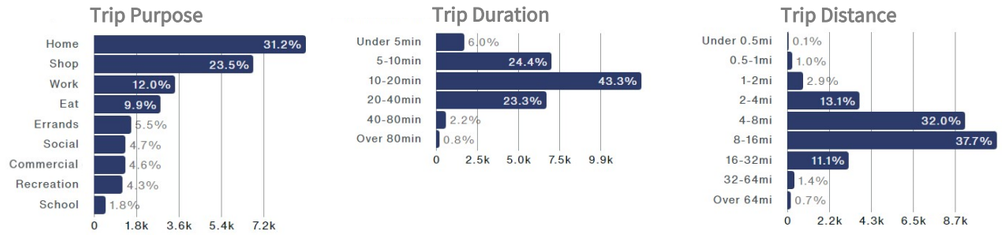
CR 862 / Vanderbilt Beach Rd (From CR 31 / Airport-Pulling Rd to CR 881 / Livingston Rd)

Quick Facts

Corridor Length: 1.01 Miles
Number of Major Intersections: 2
Number of Daily Trips (Avg. Weekday): ~29k

~3 min
Avg. Daily Duration of Bottleneck Conditions

~2k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Commuter Traffic:** This corridor experiences surges in commuter traffic in the morning and afternoon, especially in the eastbound direction during the PM peak period, which is likely worsened by vehicles trying to access the I-75 interchanges and creating a burden on turning capacity at the Livingston Road intersection.
- **Potential Bicycle & Pedestrian Conflicts:** As future connections and improvements are made to the greenway along Livingston Rd, the crossing at this corridor could experience increased activity that could lead to safety problems without adequate investments in facility upgrades.

Corridor Opportunities

- **Lack of Development Density:** The combination of natural areas, parks, golf courses, and undeveloped land north of this corridor do not currently contribute to the significant worsening of congestion levels.

Where is Congestion Usually the Worst?

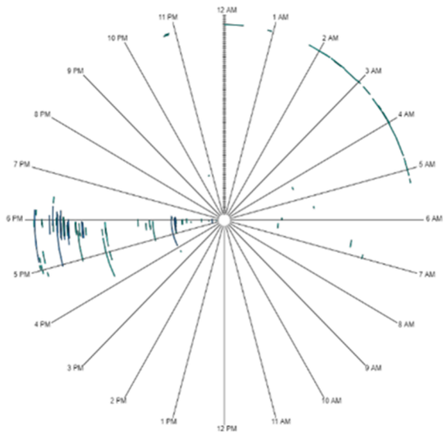
Direction
Eastbound

Location
Approaching Livingston Rd

Time
5-6 PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the eastbound direction at Livingston Rd. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Bottlenecks at this location occurred more often during the PM peak period between 5 and 6 PM. Note that the overnight bottleneck conditions occurring 2 and 5 AM towards the end of the year are likely related to planned maintenance or construction activity.

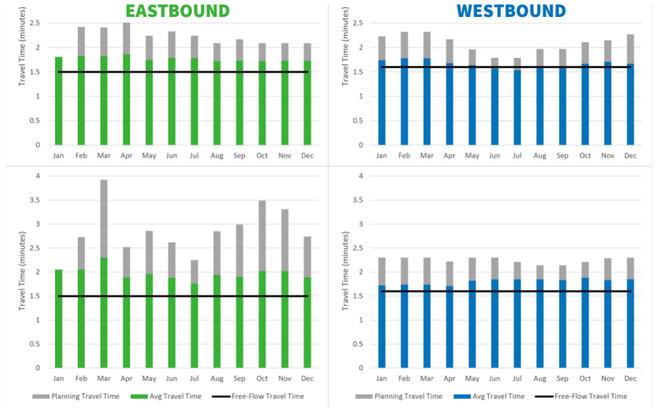


Vanderbilt Beach Rd at Livingston Rd – Facing West

Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor can be seen in the longer travel times from roughly September to May, which coincides with school activity and may be worsened by seasonal visitors at the beginning and end of the year combined with commuting patterns. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases during the same months. A similar, although less pronounced, pattern is shown below by the higher monthly delay costs. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

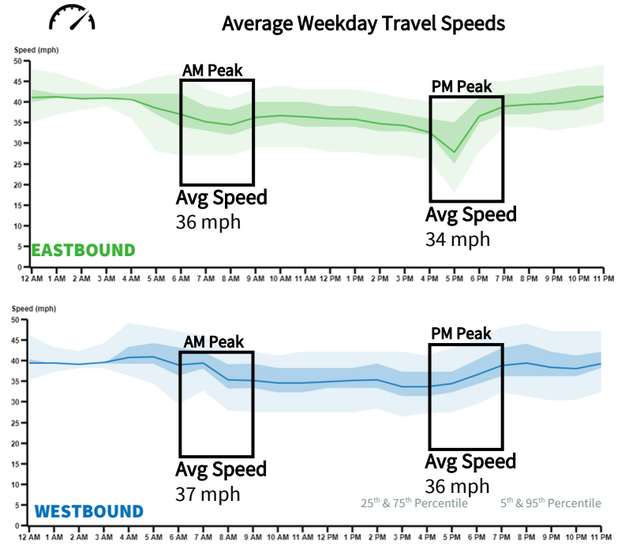
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$	$$	$$	$								
2021	$$	$$	$$	$	$	$	$	$	$	$	$	$$
2020	$$$$	$$$$	$$	$	$	$	$	$	$	$	$	$$
2019	$	$	$	$	$	$	$	$$$	$$$	$$$$	$$$$	$$$$

Data Sources: *All data shown or referenced on these two pages is from 2021 unless otherwise noted. Information related to congestion, delay, travel times, travel speeds, and bottleneck conditions is from RITIS HERE data. Information related to trip characteristics is from Replica.*

Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 45 MPH. Although speeds drop most severely during the PM peak period in the eastbound direction, they remain relatively more stable in the westbound direction throughout the day. As shown in the circular graph to the left, most bottlenecks occur roughly between 5 and 6 PM in the eastbound direction. Trip purposes also change throughout the day. Work trips are most common in the morning and home trips in evening. Shopping trips are the second most common purpose throughout the day.

Average Weekday Travel Speeds



COLLIER METROPOLITAN PLANNING ORGANIZATION

Fall 2022

Collier County's Congestion Hotspots

CR 862 / Vanderbilt Beach Rd

(From CR 901 / Vanderbilt Dr to US 41 / Tamiami Trail)

What is Congestion Management?

Congestion management describes all of the activities used to help reduce the negative impacts of traffic congestion and improve roadway performance in urban areas.

Transportation planning agencies, such as the Collier MPO, follow a detailed Congestion Management Process (CMP) when making decisions about the best ways to address traffic congestion in specific areas, and eventually how improvement strategies should be prioritized for available funding.

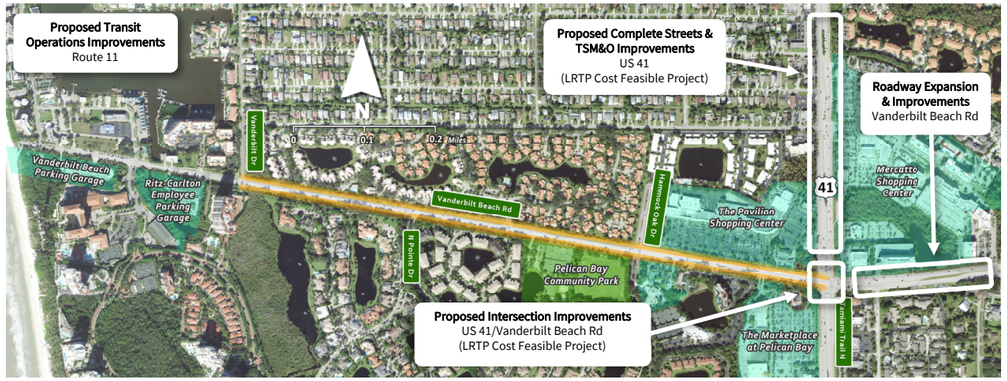
Once a congestion reduction strategy or policy decision has been implemented, the CMP then evaluates its effectiveness using measurable data to determine if the intended outcome was achieved or if other solutions may be needed.

Why is the MPO Evaluating Hotspot Corridors?

As a part of the ongoing effort to reduce congestion on Collier County roadways, the MPO regularly identifies corridors with high levels of recurring traffic congestion. This usually occurs every two years when the MPO's Transportation System Performance (TSP) Report is updated. This process consists of traffic data analysis and forecasting that is based on other MPO planning efforts such as the Long Range Transportation Plan (LRTP).

The corridor featured in this fact sheet was identified in the most recent TSP Report as having unmet needs related to safety, congestion, or other causes that are not likely to be addressed by currently planned improvements. The MPO is now evaluating it in greater detail to develop potential improvement strategies and better understand which strategies could be the most effective based on current conditions.

What Improvements Are Planned for This Corridor?



What Else Can Be Done to Reduce Congestion?

Although CMP strategies are focused on reducing traffic congestion, they are more than just roadway improvements and adding new lanes. In fact, well-planned CMP strategies can include multiple modes of transportation and often produce low-cost projects that can be completed in a short timeframe. In addition to the improvements shown on the map above, strategies that may help address congestion along this corridor if pursued by the MPO and its transportation partner agencies include:

- *Develop a pilot project for a community shuttle/circulator route connecting the Creekside Transfer Center to the commercial areas surrounding US 41/Vanderbilt Beach Rd intersection via Gulf Shore Dr*
- *Evaluate the feasibility of converting existing off-street sidewalk into a shared-use path to encourage non-motorized transportation and reduce short vehicle trips from surrounding hotels and condominiums*
- *Consider expanding traffic signal capabilities through technology and communications improvements to optimize traffic flow at US 41 during seasonal months*
- *Consider upgrading existing bike lanes with additional signage, pavement markings, green paint, audible pavement markings, and/or traffic separators to increase safety conditions, and extending west to Gulfshore Dr, which has been identified as a network gap priority by the most recent Bicycle & Pedestrian Master Plan based on public feedback*
- *Evaluate the feasibility of constructing a roundabout at Hammock Oak Dr, Vanderbilt Dr, and/or Gulf Shore Dr*
- *Evaluate the feasibility of a new dedicated right-turn lane at the eastbound entrance to the Vanderbilt Beach Public*

What Can I Do to Help Reduce Congestion?

Common strategies that people can use to help with congestion include:

- *Changing your trips to less busy time periods when possible*
- *Checking for alternate routes based on traffic conditions*
- *Using transit when possible*
- *Walking or biking for short trips*
- *Joining or starting a carpool with nearby coworkers or commuters*
- *Taking advantage of flex schedule or telecommuting opportunities if offered by your employer*
- *Practicing safe driving techniques to avoid crash incidents*

Transit Routes Available:

R11 US 41 to Creekside Commerce Park

RideCAT.com

How Do I Get Involved?

If you want to learn more about the Collier MPO's efforts to improve our transportation system, please visit our website: *www.colliermpo.org*

We want to hear your feedback!

This fact sheet was created by the Collier MPO, and has been financed in part through grants from the FHWA, FTA, and U.S. DOT, under the Metropolitan Planning Program, 23 USC Sections 134 & 135.

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Collier County's Congestion Hotspots

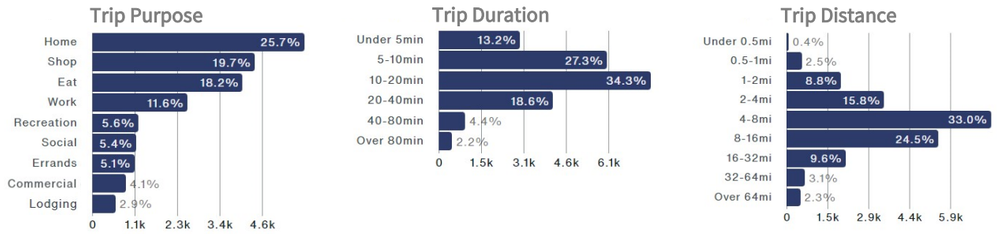
CR 862 Vanderbilt Beach Rd (From CR 901 / Vanderbilt Dr to US 41 / Tamiami Trail)

Quick Facts

Corridor Length: 1 Mile
Number of Major Intersections: 4
Number of Daily Trips (Avg. Weekday): ~22k

~2 min
Avg. Daily Duration of Bottleneck Conditions

~1k
Annual Vehicle Hours of Delay



Corridor Challenges

- **Seasonality:** This corridor is a small roadway that is highly susceptible to spikes in traffic during months with increased seasonal visitors because of its location between coastal hotels/condominiums and shopping/dining destinations to the east.
- **Beach Trips:** The public beach parking on the far west end, combined with "turnaround trips" and regular traffic from local residents and visitors, can create congestion that accumulates and eventually affects this corridor.

Corridor Opportunities

- **Non-Motorized Facilities:** The existing space along this corridor provides an opportunity for upgrading and expanding the existing sidewalk into a larger share-use path. The surrounding density of hotels/condominiums and proximity to the beach could likely produce a high demand for recreational and short non-motorized trips for other purposes.
- **Alternative Route Options:** The grid network of neighborhood streets east of Vanderbilt Drive can provide multiple alternative northern routes to US 41 that could be modified to incorporate elements of Complete Streets or used for re-routing in cases of severe delays or crash incidents.
- **Employee Shuttles/Vanpools:** The concentration of hotels and resorts in this area could provide an opportunity to provide alternative transportation options to employees who use this corridor on a regular basis for commuting to work.

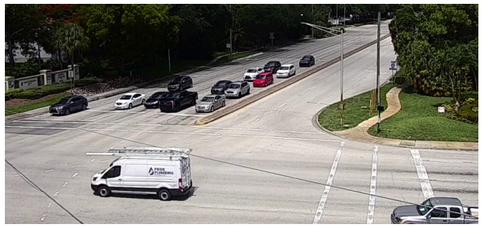
When is Congestion Usually the Worst?

Direction
Eastbound

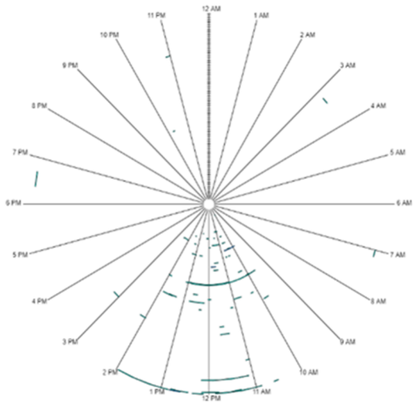
Time
11AM- 4PM

Bottleneck Occurrences

Each line in this graph represents a traffic bottleneck during 2021 in the westbound direction at Gulfshore Dr. The length of the line shows how long it lasted. The line placement shows the time of day throughout the year, with January 1 at the center of the circle and December 31 at the outside edge. Unlike roadways with a high degree of commuter traffic, bottlenecks at this location occurred more often during mid-day rather than the AM and PM peak periods typically associated with congestion. These conditions are consistent with recreational trips by seasonal visitors/retirees and regular beach activity in the area.



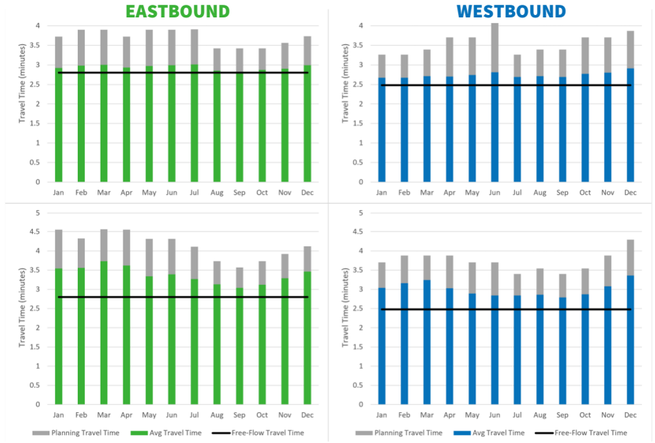
Vanderbilt Beach Rd at US 41 – Facing West



Congestion Throughout the Year...

The seasonal patterns of congestion occurring along this corridor during months when visitors and part-time residents are more common can be seen in the longer travel times from roughly November to June. Not only is congestion worse due to seasonal patterns, but delay is also more unpredictable. The grey lines on these graphs show the amount of additional time needed for "planning ahead" to arrive on time, which also increases. A similar pattern is shown below by the higher monthly delay costs, especially during the first part of the year. Expressed in terms of relative costs, months with higher delay costs are shown as red and orange where lower delay costs are shown as shades of green.

Average Weekday Travel Times & Reliability



Estimated Traffic Delay Costs

Lowest cost — Highest cost; Data Unavailable

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	$$	$$$	$$$	$$								
2021	$$	$$	$$$	$$	$$	$$	$	$	$	$	$	$$
2020	$$$$	$$$$	$$$	$	$	$	$	$	$	$	$	$$
2019	$$	$$$	$$$	$	$	$	$$	$$$	$$$	$$	$$$	$$$

Data Sources: *All data shown or referenced on these two pages is from 2021 unless otherwise noted. Information related to congestion, delay, travel times, travel speeds, and bottleneck conditions is from RITIS HERE data. Information related to trip characteristics is from Replica.*

Congestion Throughout the Day...

Recurring congestion patterns vary during the average weekday based on time period. Typically, roadway activity is higher in the morning and evening during what are known as the peak periods. The graph on the right shows how average travel speeds change throughout the day along this corridor that has a posted speed limit of 35 MPH. Reductions in speed to do not follow the typical peak pattern for most congested corridors, but rather decline more gradually as morning activity increases, remain relatively low throughout the mid-day, and then gradually recover again in the late afternoon. This reflects the lack heavy commuting traffic and high level of visitors or recreational trips to the beach using the corridor. Similarly, the circular graph to the left shows that most bottlenecks occur between 10 AM and 2 PM, and are not overly common occurrences. Trip purposes also indicate a similar pattern of mid-day visitor or non-work-related activity, with trips for shopping, eating, recreational, or social purposes accounting for nearly 50% of all activity along the corridor.

Average Weekday Travel Speeds