



1015 Cultural Park Blvd.
Cape Coral, FL 33990

Transportation Advisory Commission

September 21, 2022	9:00 AM	Conference Room A200 - Green Room
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- 1. Meeting called to order**
 - A. Chair Gunter
 - B. Pledge of Allegiance
- 2. ROLL CALL**
 - A. Gunter, Hayden, Long, Sheppard, Welsh, and Alternate Nelson
- 3. CHANGES TO AGENDA/ADOPTION OF AGENDA**
- 4. APPROVAL OF MINUTES**
 - A. Meeting Minutes - August 17, 2022
- 5. PUBLIC INPUT**

**Input of citizens on matters concerning City Government;
3 minutes per individual.**
- 6. BUSINESS**
- 7. OLD BUSINESS**
 - A. Regulations for Alternate Modes of Transportation such as Electric Bikes and Electric Scooters (Persides Zambrano, Transportation Manager)
- 8. WORKSHOP DISCUSSIONS**
 - A. Hurricane Evacuation Study (David P. Aron, PTP, Project Manager, CDM Smith)
 - B. Update on the SR-78 Corridor Plan (Persides Zambrano, Transportation Manager)

- C. Presentation on the Cartegraph Asset Management System
(Persides Zambrano, Transportation Manager)

9. MEMBERS COMMENTS

10. Time and Place of Next Meeting

- A. The next Transportation Advisory Commission meeting will be held on Wednesday, October 12, 2022, at 9:00 a.m. in Conference Room A200/Green Room.

11. Motion to Adjourn

In accordance with the Americans with Disabilities Act and Florida Statutes 286.26, persons needing a special accommodation to participate in this proceeding should contact the Office of the City Clerk whose office is located at City Hall, 1015 Cultural Park Boulevard, Florida; telephone number is 1-239-574-0411, at least forty-eight (48) hours prior to the meeting for assistance. If hearing impaired, telephone the Florida Relay Service Numbers, 1-800-955-8771 (TDD) or 1-800-955-8700 (v) for assistance.

If a person decides to appeal any decision made by the Board/Commission/Committee with respect to any matter considered at such meeting or hearing, he will need a record of the proceedings, and for such purpose, he may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is based.

Item Number:	4.A.
Meeting Date:	9/21/2022
Item Type:	APPROVAL OF MINUTES

**AGENDA REQUEST
FORM**
CITY OF CAPE CORAL



TITLE:

Meeting Minutes - August 17, 2022

SUMMARY:

Meeting minutes from the August 17, 2022 meeting for review and approval.

ADDITIONAL INFORMATION:

Sheri Rhine, Recording Secretary, 1-239-574-0743

ATTACHMENTS:

Description

Type

▢ Meeting Minutes - August 17, 2022

Backup Material

**MINUTES FROM THE REGULAR MEETING AND WORKSHOP OF THE
CAPE CORAL TRANSPORTATION ADVISORY COMMISSION (CTAC)**

Wednesday, August 17, 2022

Conference Room A200 Green Room/Nicholas Annex

9:00 A.M.

Meeting called to order by Chair Gunter at 9:00 a.m.

PLEDGE OF ALLEGIANCE

ROLL CALL: Commissioners Gunter, Long, Sheppard, and Alternate Commissioner Nelson were present. Commissioner Hayden participated remotely. Commissioner Welsh arrived at 9:07 a.m.

Also Present: Michael Ilczyszyn, Public Works Director
Persides Zambrano, Public Works Maintenance Manager
William Corbett, CIP Design and Construction Manager
Kevin Smith, Public Works Project Manager
Omar Leon, Public Works Arborist
Mahmoud Khodr, Public Works Traffic Engineer
Stacy Maine, Public Works Business Manager
Kaitlyn Pearson, Public Information Specialist

Commissioner Nelson moved, seconded by Commissioner Long, to allow the remote participation by Commissioner Hayden. Voice Poll: All "ayes." Motion carried.

CHANGES TO AGENDA/ADOPTION OF AGENDA

Chair Gunter asked for a motion to adopt the agenda if there were no changes.

Commissioner Nelson moved, seconded by Commissioner Long, to adopt the Agenda, as presented. Voice Poll: All "ayes." Motion carried.

APPROVAL OF MINUTES

Meeting Minutes – July 27, 2022

Commissioner Nelson moved, seconded by Commissioner Long, to approve the minutes from the meeting of July 27, 2022, as presented. Voice Poll: All "ayes." Motion carried.

PUBLIC INPUT

Jim Jeskie appeared to discuss information he distributed to CTAC and Council last year concerning traffic study requirements for other cities. He voiced concerns about the four corners near his home where 97 apartments are being built. He mentioned a traffic impact study was not required unless there were 681 apartments built. He noted how many peak hour trips may require a traffic study. He suggested that developers be fully aware before undertaking their new construction projects.

Don Apking appeared to discuss low speed vehicles which have increased in the City. He included his discussion on battery powered bikes and where they are allowed to travel. He noted that he has seen a lot of golf carts on bike paths and sidewalks. Sometimes you cannot see these vehicles when crossing a bridge. He questioned if these vehicles should be licensed. He suggested that the public needs to be educated.

Commissioner Welsh arrived at 9:07 a.m.

Tom Shadrach appeared to discuss that he did not see design criteria on how long signs can be up. He discussed language in traffic impact studies. He also discussed the MPO, hurricane study, and lack of funds for the PD&E.

Chair Gunter withheld his comments on the traffic study and low speed vehicles until that part of the agenda.

Commissioner Welsh would like to have a discussion before it goes to City Council on time limit for signs and how long the City would need to maintain those signs.

Vice Chair Hayden commented on MPO funding for projects, it is the State, County, or the municipality especially when it comes to the PD&E study.

BUSINESS

None.

OLD BUSINESS

Median Beautification Sign Layout Adopted Guidelines (Michael Ilczyszyn, Public Works Director)

Public Works Director Ilczyszyn provided the following:

- Median Beautification Program Sign Recognition Guidelines
- Timeline for the sign to be up
- Viewing this similar to our Adopt-A-Road Program
- As long as that entity is in place and businesses are still valid and registered in the City, then the sign would stay up.
- If they closed, no sense in having the sign

- Sign will be fabricated and installed by the City at no cost to participants in the Median Beautification Program
- Beautified medians less than 400 feet in length +/- 10% will be able to place one recognition sign
- Medians 400 ft and longer in length will be granted two recognition signs
- Each sign will recognize one donor
- Improved sign has the scroll top with the City logo, light blue, white with logo at the bottom
- Sign will be mounted on a square post and installed per MUTCD (Manual Uniform Traffic Control Devices) standard height.
- At the onset of the project, the City will post an educational sign.
- Applicants will determine if there are multiple signs which donor sign faced which direction of traffic
- Open for discussion before finalization - \$10,000 minimum per sign

Chair Gunter shared the timeline desire and minimum requirement needed as far as the value of the donation.

There was no objection to allowing Mr. Apking to speak.

Mr. Apking agreed that as long as a business is in Cape Coral, they should be recognized. He agreed with the minimum donation of \$10,000.

Commissioner Welsh commented:

- Minimum should be 400 feet in length
- Did not understand why you want to limit one logo on a sign
- Length of time for sign – what is the City's responsibility/cost to replace the sign
- Donor can replace the sign at City's cost after the timeframe of City's responsibility to replace the sign

Chair Gunter had no desire to revisit the criteria for the signs since this had already been discussed in prior meetings.

Commissioner Sheppard inquired about the life expectancy of the signs.

Director Ilczyszyn stated it depended on the quality of the product as well as the direction of the face. Signs that face east and west because of the direct sunlight last longer than signs that face north and south.

Vice Chair Hayden commented:

- Agreed with \$10,000 per sign
- Sign should be displayed as long as the company is still in existence in the City

Consensus agreed that \$10,000 is the threshold for a minimum donation in order to get a sign.

Director Ilczyszyn requested the Commission be agreeable to have an affidavit.

Consensus agreed.

Chair Gunter suggested the City could request additional information at any time. There should be a mechanism in place upon request to verify information.

Director Ilczyszyn stated language could be added that upon periodic requests there could be some inspection of records to make sure that the affidavit is accurate.

Commissioner Long moved, seconded by Commissioner Sheppard, to set the minimum threshold at \$10,000 with the stipulation that the City reserves the right on request to verify the funding and to set the threshold for the length of time to be active as long as the business is active and registered with the Florida Division of Corporations or the individual still resides in the City.

Commission polled as follows: Gunter, Hayden, Long, Sheppard, Welsh, and Nelson voted "aye." All "ayes." Motion carried 6-0.

WORKSHOP DISCUSSIONS

Traffic Impact Studies (Mahmoud Khodr, Traffic Engineer)

Director Ilczyszyn stated this item has been discussed several times over the past couple of months. It was a topic at the March 23rd COW meeting. He discussed the following:

- When a developer pays for transportation network improvements, it is an administrative transfer of risk
- No Code related to Transportation Impact Studies (TIS) – City would recover impacts to development through the Road Impact Fee
- Assume no TIS and no program to transfer the development cost to the developer – every development would pay a Transportation Road Impact Fee
- Turn lanes, traffic signals, additional lanes, road widening are paid with Road Impact Fees
- In the end the developers are paying for those improvements
- When you layer in a TIS, you are shifting the time of when that impact is going to be recognized by the transportation network
- Who is going to administer the project?
- City would do the trip count analysis to determine if road level services are failing
- Design plan for budget, contract, and inspect that property
- Impacts from development significant enough - it should not be on City to budget, contract, inspect, and perform

- As part of a development project, submit a design, contract with the contractor, and put the improvements in the system
- Off site improvements are eligible for Road Impact Fee credits
- Transfer administrative risk of performing the network improvements to the contractor or to the developer
- When they contribute those assets to the City as a contributory asset, those assets become Road Impact Fee eligible
- All needed improvements will happen, just a matter of who funds it and when
- Open for discussion

Discussion held regarding:

- How Lee County handles impact studies
- Development Agreements (Road and Utilities)

Traffic Engineer Khodr presented the following slides:

- Traffic Impact Studies Process
- Current Transportation Concurrency System
- Why is a Traffic Study Required? (two slides)

Director Ilczyszyn stated concurrency review is done at permit application.

Traffic Engineer Khodr continued presentation with the following slide:

- Institute of Transportation Engineers (ITE) Trip Generation Manual

Director Ilczyszyn stated this Manual is used by all states. Phased projects look at the peak volume at the buildout year. Split project that triggers the offsite improvement would require the intersection upgrade.

Discussion held regarding:

- Changing parameters to have the first project trigger the development agreement
- Different trigger sizes based on individual areas
- Minimum standard for new commercial development requires on-site curbs, gutters, sidewalks, and streetlights
- Off-site improvements impacted by the new commercial development

Traffic Engineer Khodr discussed the following slides:

- Institute of Transportation Engineers (ITE) Trip Generation Manual
- Trip Generation Rates & Trips Example

Director Ilczyszyn stated the developer would need to provide the information shown in the table on the slide presented.

Traffic Engineer Khodr continued presenting the following slides:

- Trip Generation Rates & Trips Example

- What is Required at Permitting?
- TIS Recommendations
- Revenue to Support Capacity Improvements Three-Prong Approach
- Why is a Traffic Study Required?
- Examples of Measures Supporting Capacity Improvements
- Lane Widening, Curb, Gutter, and Sidewalks Improvements as Part of Commercial Development
- Road Impact Fee Payments as Part of New Construction
- Road Impact Fee Creditable Off-Site Improvements

Director Ilczyszyn stated when looking at Road Impact Fee credits, only a percentage is given to the City.

Traffic Engineer Khodr continued presenting the following slide:

- Road Impact Fee Creditable Off-Site Improvements

Public Works Maintenance Manager Zambrano reminded everyone that all methodologies and agreements are approved by Council. We follow Best Practices and mirror Lee County.

Director Ilczyszyn provided an example of one development agreement not approved by Council, but they negotiated further items being added to the development agreement.

Discussion held regarding:

- Timeframe for when updates are required to intersections with new developments
- Roundabouts versus signals at intersections
- Threshold/trigger for requiring a traffic study by developers
- Balance out resources and timeframe for improvements

Chair Gunter commented:

- Levels of service on each roadway
- Would like to see what other municipalities of similar size do in other counties (Charlotte, Collier, and Lee)
- Capacity of the intersection to see if the first project would trigger an upgrade to the intersection
- Multi-level approach and what triggers a traffic study

Discussion held regarding:

- Drive time in a radius around the new development
- Roundabouts used in rural areas
- Multi-tiered approach to trigger traffic study

Commissioner Sheppard suggested looking at other communities but recognize we are a unique community.

Director Ilcyszyn stated he would poll three counties (Charlotte, Collier, and Lee) and three municipalities (Port St. Lucie, Fort Lauderdale, and Northport). Two of those are pre-platted. Three at a County level, and three at similar-sized cities. Will do comparative analysis and will speak to their Staff to understand what their thoughts are and bring it back to the Commission at the next workshop.

Discussion held regarding:

- Traffic Impact Statement (TIS) Guidelines Cape Coral versus City of Naples
- At buildout at the last phase of a project – what are the peak hour trips
- Over 300, look for offsite improvement
- Three small individual construction projects
- Road Impact Fees
- Traffic patterns and accidents analyzed to find where improvements are needed
- Roadway level of service at four corners will confirm it is a B level
- See if roundabout can be obtained with land from the developer
- Develop a policy that can be applied Citywide
- Criteria for soft areas
- Try to get a roundabout versus a signal
- Not developing a plan just based on the four corners
- Look at the City as a whole

Chair Gunter looked forward to another discussion once information is provided by Staff.

Low Speed Vehicles (LSV) on Public Roadways
(Mahmoud Khodr, Traffic Engineer)

Director Ilcyszyn stated this topic was added as a workshop item for education as a result of Board Member Comments. He discussed the following:

- At our last meeting Commissioner Hayden requested that we look into a business operating in the CRA and whether or not they were fully compliant and legal.
- As a result, we went out and met with the operator of the low-speed vehicle.
- We took pictures and verified they had a Business Tax Receipt.
- CCPD verified that their vehicle is a low-speed vehicle, not a golf cart.
- It is registered with the State as a low-speed vehicle.
- Speed on the roadways on which they are operating is 35 mph or less.
- Business is a legally operating business in the CRA as a low-speed vehicle providing transportation services.
- The City is required to allow low-speed vehicles by Florida Statute 316.2122 without City Council approval.
- Low-speed vehicles are allowed to operate on streets 35mph or less.

Traffic Engineer Khodr presented the following slides:

- Golf Carts on Residential Streets (COW meeting – 2/10/21 selected slides)
- Golf Carts vs. Low-Speed Vehicles

- Picture of a Golf Cart
- Picture of a Low-Speed Vehicle
- Golf Carts vs. Low-Speed Vehicles Chart

Chair Gunter commented:

- Golf Carts can be made into Low-Speed Vehicles with modifications
- Must be registered

Discussion held regarding:

- State preempts local laws
- Technology ahead of legislation – other modes of transportation
- Golf cart issue straightforward

Chair Gunter suggested a possible topic for a future meeting would be to discuss regulations for alternate modes of transportation.

Commissioner Welsh commented about Sanibel bike paths and motorized bicycle policies.

Chair Gunter requested Staff to research similar sized cities and surrounding jurisdictions and what they are doing with those other types of modes of transportation excluding golf carts.

Director Ilczyszyn noted that in the State of Florida a bicycle in the roadway is considered a vehicle, so they have to follow the same laws as a vehicle. Staff can look at whether or not a unicycle, motorized or not, follows that same Statute. Staff can also go a step further and see if there have been any other municipalities or counties that have tried to address this with Home Rule powers.

Chair Gunter suggested Staff research the use of an electric bike traveling above a certain speed in the bike lane, not on the sidewalk. Those are some of the regulations that the Commission should review and consider.

Director Ilczyszyn stated they would poll the same three counties/cities and possibly reach out to the Florida League of Cities.

MEMBERS COMMENTS

None.

Time and Place of Next Meeting

The next Transportation Advisory Commission meeting will be held on Wednesday, September 21, 2022, at 9:00 a.m. in Conference Room A200/Green Room.

Motion to Adjourn

There being no further business, the meeting was adjourned at 10:52 a.m.

Submitted by,

Sheri Rhine
Recording Secretary

Transcribed by Barbara Kerr 8/23/2022

SUBJECT TO APPROVAL

Item Number: 7.A.
Meeting Date: 9/21/2022
Item Type: OLD BUSINESS

AGENDA REQUEST FORM
CITY OF CAPE CORAL



TITLE:

Regulations for Alternate Modes of Transportation such as Electric Bikes and Electric Scooters
(Persides Zambrano, Transportation Manager)

SUMMARY:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Description	Type
1. Regulations for Alternate Modes of Transportation - E-Bikes and E-Scooters CTAC - Transportation Workshop	Backup Material



Regulations for Alternate Modes of Transportation – E-Bikes and E-Scooters

CTAC – Transportation Workshop

September 21, 2022



Definitions

2022 F.S.316.003

ELECTRIC BICYCLE.—A bicycle or tricycle equipped with fully operable pedals, a seat or saddle for the use of the rider, and an electric motor of less than 750 watts which meets the requirements of one of the following three classifications:

- (a) “Class 1 electric bicycle” means an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the electric bicycle reaches the speed of 20 miles per hour.
- (b) “Class 2 electric bicycle” means an electric bicycle equipped with a motor that may be used exclusively to propel the electric bicycle and that ceases to provide assistance when the electric bicycle reaches the speed of 20 miles per hour.
- (c) “Class 3 electric bicycle” means an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the electric bicycle reaches the speed of 28 miles per hour.

E-Bikes



Electric Bicycle Regulations

2022 F.S.316.20655

(1) Except as otherwise provided in this section, an electric bicycle or an operator of an electric bicycle shall be afforded all the rights and privileges, and be subject to all of the duties, of a bicycle or the operator of a bicycle, including s. 316.2065. An electric bicycle is a vehicle to the same extent as a bicycle. However, this section may not be construed to prevent a local government, through the exercise of its powers under s. 316.008, from adopting an ordinance governing the operation of electric bicycles on streets, highways, sidewalks, and sidewalk areas under the local government's jurisdiction; to prevent a municipality, county, or agency of the state having jurisdiction over a bicycle path, multiuse path, or trail network from restricting or prohibiting the operation of an electric bicycle on a bicycle path, multiuse path, or trail network; or to prevent a municipality, county, or agency of the state having jurisdiction over a beach as defined in s. 161.54(3) or a dune as defined in s. 161.54(4) from restricting or prohibiting the operation of an electric bicycle on such beach or dune.

E-Bikes



Bicycle Regulations

2022 F.S. 316.2065

(1) Every person propelling a vehicle by human power has all of the rights and all of the duties applicable to the driver of any other vehicle under this chapter, except as to special regulations ...



Definitions

2022 F.S.316.003 Definitions:

(48) **MOTORIZED SCOOTER.**—Any vehicle or micromobility device that is powered by a motor with or without a seat or saddle for the use of the rider, which is designed to travel on **not more than three wheels**, and which is **not capable of propelling the vehicle at a speed greater than 20 miles per hour on level ground**. The term does not include an electric bicycle.

E-Scooters



Powers of Local Authorities

2022 F.S. 316.008 Powers of local authorities.

(7)(a) A county or municipality may enact an ordinance to permit, control, or regulate the operation of vehicles, golf carts, mopeds, motorized scooters, electric bicycles, and electric personal assistive mobility devices **on sidewalks or sidewalk areas** when such use is permissible under federal law. **The ordinance must restrict such vehicles or devices to a maximum speed of 15 miles per hour in such areas.**



Powers of Local Authorities

2022 F.S. 316.008 Powers of local authorities.

7 (b)1. Except as provided in subparagraph 2., a personal delivery device and a mobile carrier may be operated on sidewalks and crosswalks within a county or municipality when such use is **permissible under federal law**. This paragraph does not restrict a county or municipality from otherwise adopting regulations for the safe operation of personal delivery devices and mobile carriers.

2. A personal delivery device may not be operated on the **Florida Shared-Use Nonmotorized Trail Network (SUN Trail)** created under s. 339.81 or components of the Florida Greenways and Trails System created under chapter 260.



Powers of Local Authorities

2022 F.S. 320.01

320.01 Definitions, general. — As used in the Florida Statutes, except as otherwise provided, the term:

(1) “**Motor vehicle**” means:

(a) An automobile, motorcycle, truck, trailer, semitrailer, truck tractor and semitrailer combination, or any other vehicle operated on the roads of this state, used to transport persons or property, and propelled by power other than muscular power, **but the term does not include** traction engines, road rollers, **motorized scooters**, micromobility devices, personal delivery devices and mobile carriers as defined in s. 316.003, special mobile equipment as defined in s. 316.003, vehicles that run only upon a track, bicycles, **electric bicycles**, swamp buggies, or mopeds.



Summary

- Under F.S. local jurisdictions have the power to regulate the use of e-bikes and e-scooters.
- Applicability, best practices and recommendations regarding micro-mobility (e-bikes and e-scooters) will be studied as part of the Multimodal Transportation Plan.



THANK YOU

Any Questions?



Item Number:	8.A.
Meeting Date:	9/21/2022
Item Type:	WORKSHOP DISCUSSIONS

**AGENDA REQUEST
FORM**
CITY OF CAPE CORAL



TITLE:

Hurricane Evacuation Study (David P. Aron, PTP, Project Manager, CDM Smith)

SUMMARY:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Description		Type
▢ 1. City of Cape Coral Hurricane Evacuation Study	- Presentation	Backup Material
▢ 2. City of Cape Coral Hurricane Evacuation Study	- Handout	Backup Material
▢ 3. City of Cape Coral Hurricane Evacuation Study	- Schedule	Backup Material

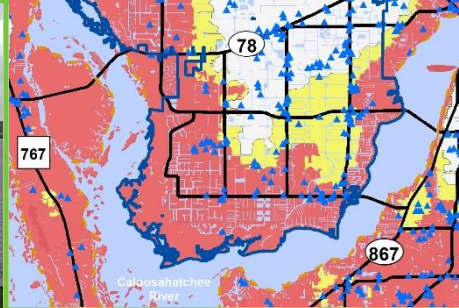
City of Cape Coral

Hurricane Evacuation Study

*Performed on behalf of the City of Cape Coral and the
Lee County Metropolitan Planning Organization*

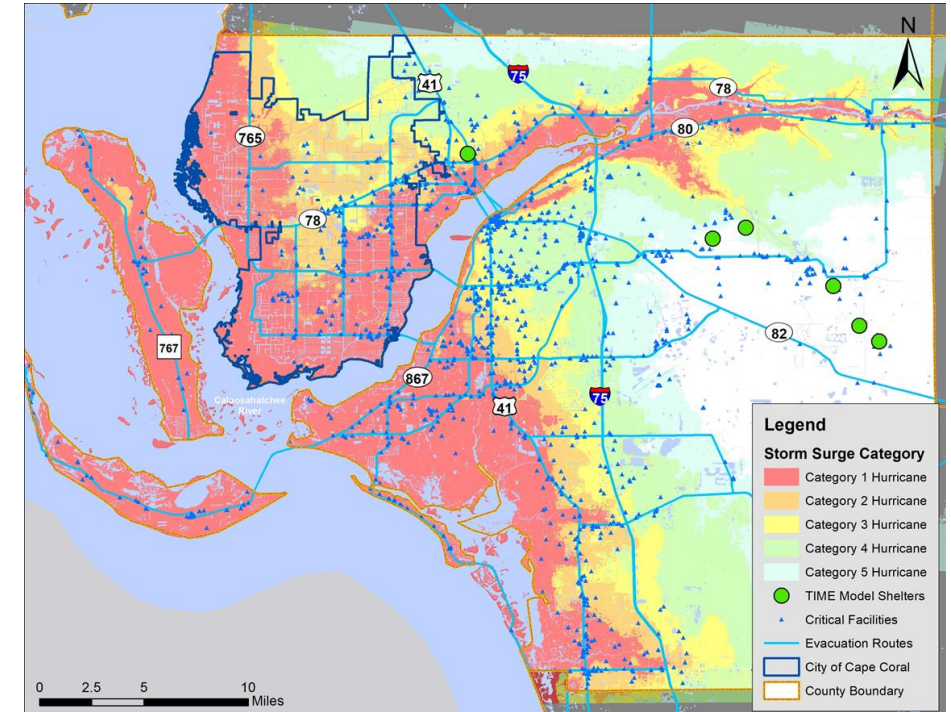
Study Overview for City Transportation Advisory Commission

September 21, 2022



Study Objectives

- “Determine whether regional roadway improvements can maintain or reduce the out-of-city, -county and -regional evacuation times during a major storm event.”
- Develop a Refined Evacuation Model
 - 2020 and 2045 levels
 - Utilize the latest TIME Model from the Florida Division of Emergency Management (FDEM)
 - Review and update model inputs (Socioeconomics, Evacuation Zones, Networks, Input Data)
 - Updates / Review focus on the City of Cape Coral, with attention given to relevant Lee County roadways, evacuation zones, shelter facilities, and other variables
- Use the model to evaluate up to 20 evacuation scenarios
- Provide the City of Cape Coral and the Lee County MPO with recommended strategies that will help to reduce clearance times



Study Tasks - Model Inputs

- **Task A: Demographic/Socioeconomic Profile and Land Use Analysis**
 - Review 2020 Socioeconomic Assumptions
 - Develop 2045 Socioeconomic Assumptions based on Regional Travel Demand Model Forecasts
 - Review Current and Future Land Use Assumptions
- **Task B: Hazard Analysis for Hurricane Storm Surge**
 - Obtain the latest flood plain and surge zone information
 - Assess if any changes to the model evacuation zones are needed
- **Task C: Behavioral Analysis**
 - Review behavioral data assumptions (percent evacuation, evacuation destination, etc...)
 - Use Florida Statewide Regional Evacuation Study Program Regional Behavioral Analysis, June 2021 (latest dataset)
- **Task D: Shelter Analysis**
 - Develop an inventory of city and county evacuation shelters, including shelter capacities
 - Quantify evacuation shelter demand
- **Task E: Regional Transportation Networks**
 - Review assumed network capacities and configurations for the 2020 network
 - Develop a 2045 network based on the latest Long-Range Transportation Plan cost-feasible assumptions
- **Task F: Evacuation Population and Vulnerability Analysis**
 - Evaluation of the levels of vulnerability by zone, population-at-risk, and effects on critical facilities in the City
 - Population analysis by evacuation zone

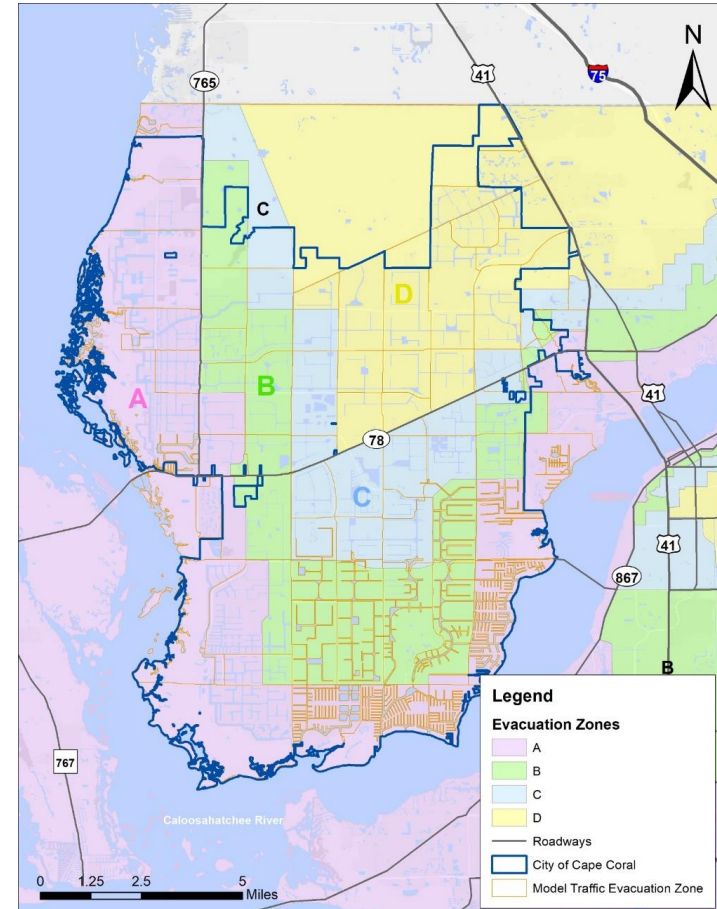
Study Tasks – Modeling and Project Management

- **Task G: Transportation Analysis**

- Update the most recent TIME Model based on Tasks A - F
- Develop up to 20 Scenarios for Testing using the Refined Evacuation Model
- Model Outputs reported at a County Level:
 - Evacuation clearance times (Total Time by Scenario)
 - Number of evacuees
 - Evacuation routes
- Provide the Lee County MPO and the City of Cape Coral with recommendations that will help to reduce clearance times.
- Recommendations may include strategies such as phasing, alternative evacuation routes, and capacity improvements

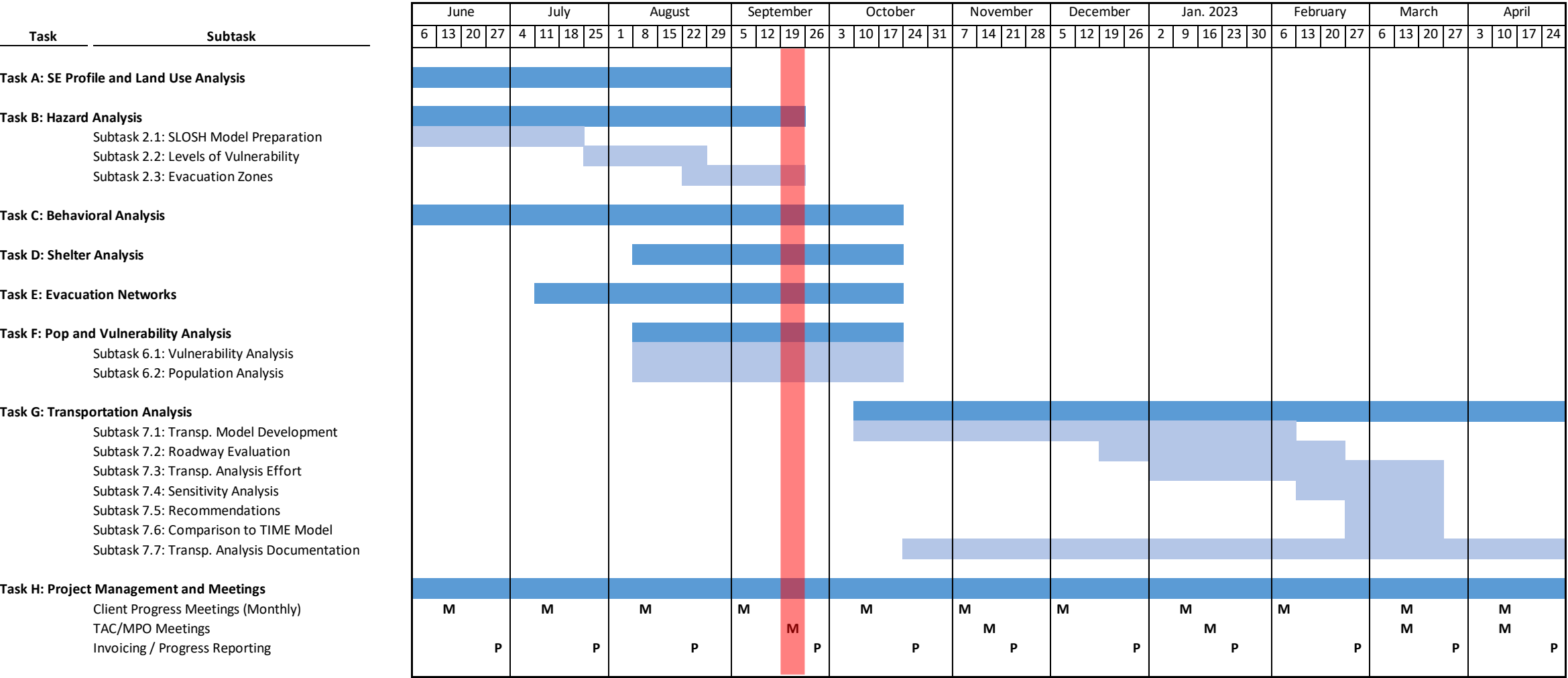
- **Task H: Study Management and Coordination**

- Incorporate Project Stakeholders – including CTAC



Study Schedule

Week Beginning (Monday)



Task Duration

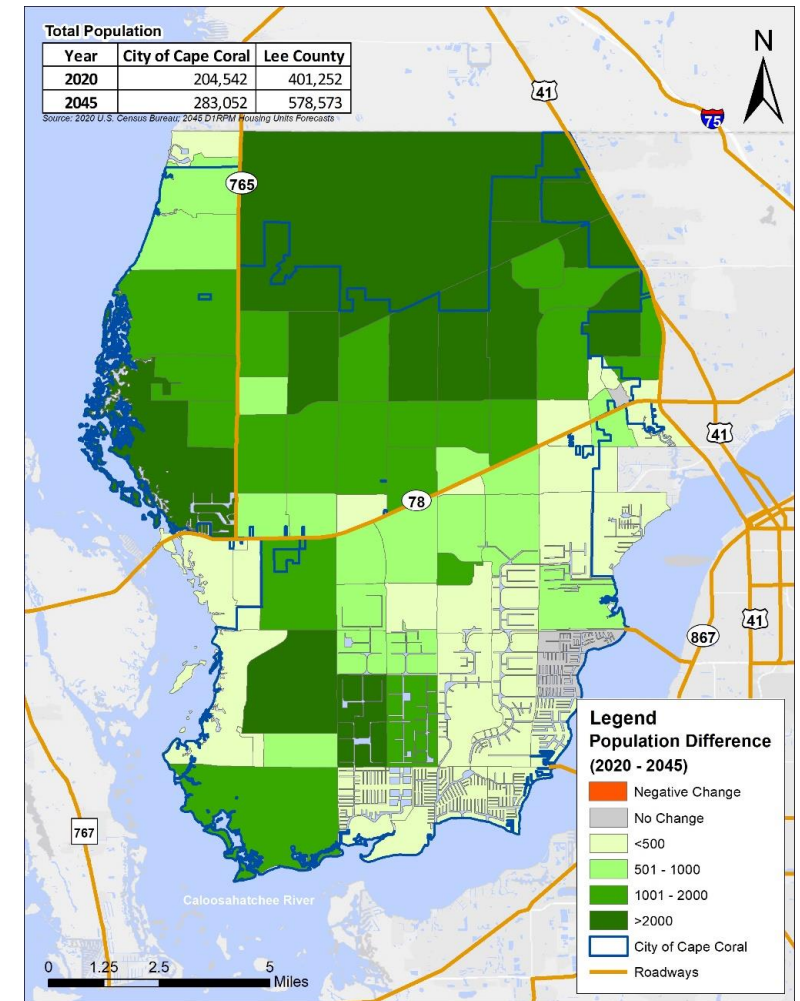
Subtask Duration

M Proposed Meeting

P Progress Report

Study Progress and Next Steps

- Study Progress:
 - Tasks A – C
 - Data review components are complete
 - Initial data summaries have been submitted
 - Task E: Regional Transportation Networks
 - 2020 and 2045 highway networks have been developed
- Next Steps:
 - Complete Documentation for Tasks A – C (Ongoing)
 - Task D: Shelter Analysis (Ongoing)
 - Confirm shelter assumptions
 - Quantify evacuation shelter demand
 - Task F: Evacuation Population and Vulnerability Analysis (Ongoing)
 - Task G: Transportation Analysis
 - Develop model scenarios with stakeholders (through Dec. 2022)
 - Run the model and perform the analysis (Jan. / Feb. 2023)
 - Produce the Analysis Results (March 2023)
 - Develop Summary Report (April 2023)



Questions / Discussion

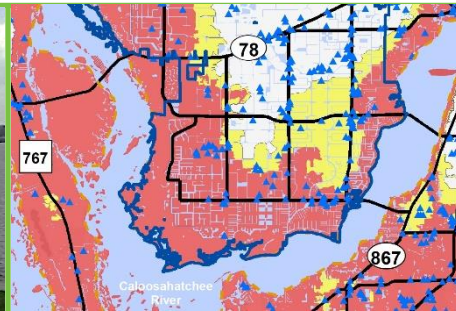
City of Cape Coral

Hurricane Evacuation Study

*Performed on behalf of the City of Cape Coral and the
Lee County Metropolitan Planning Organization*

Meeting Handout for City Transportation Advisory Commission

September 21, 2022

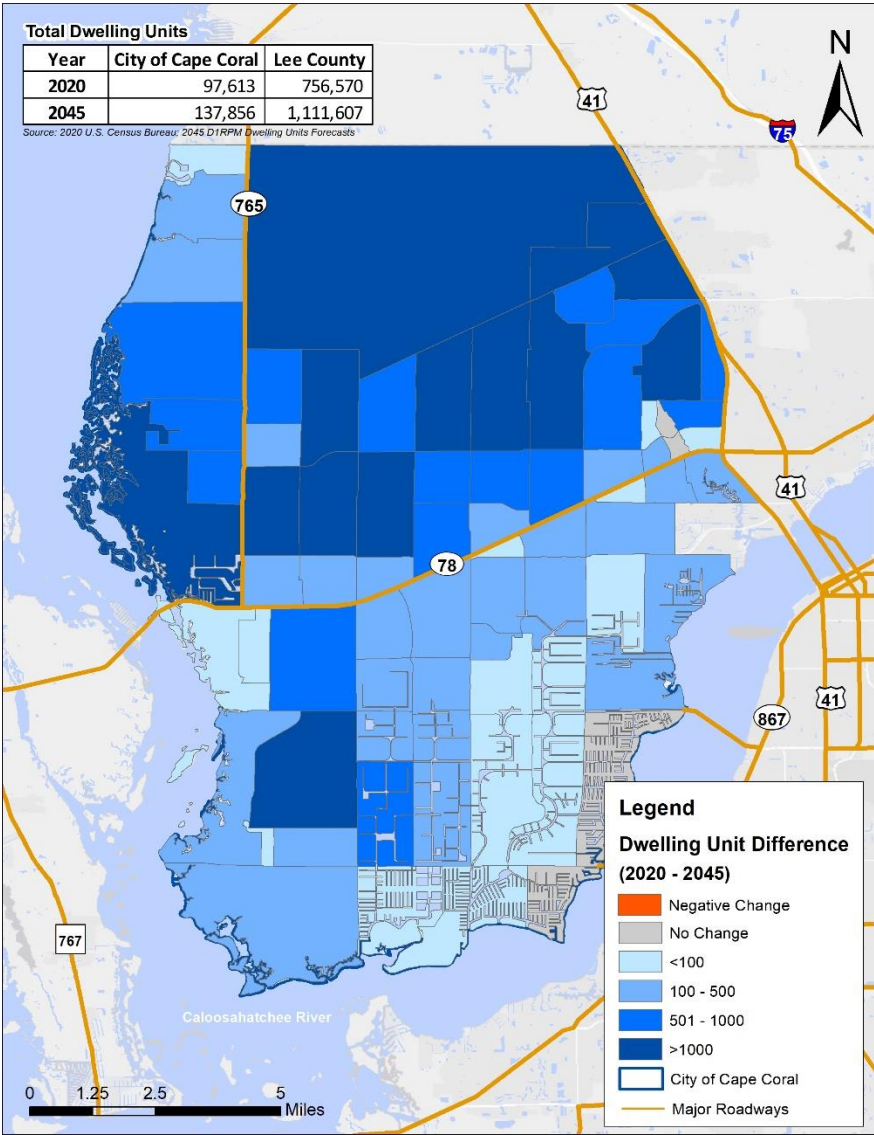
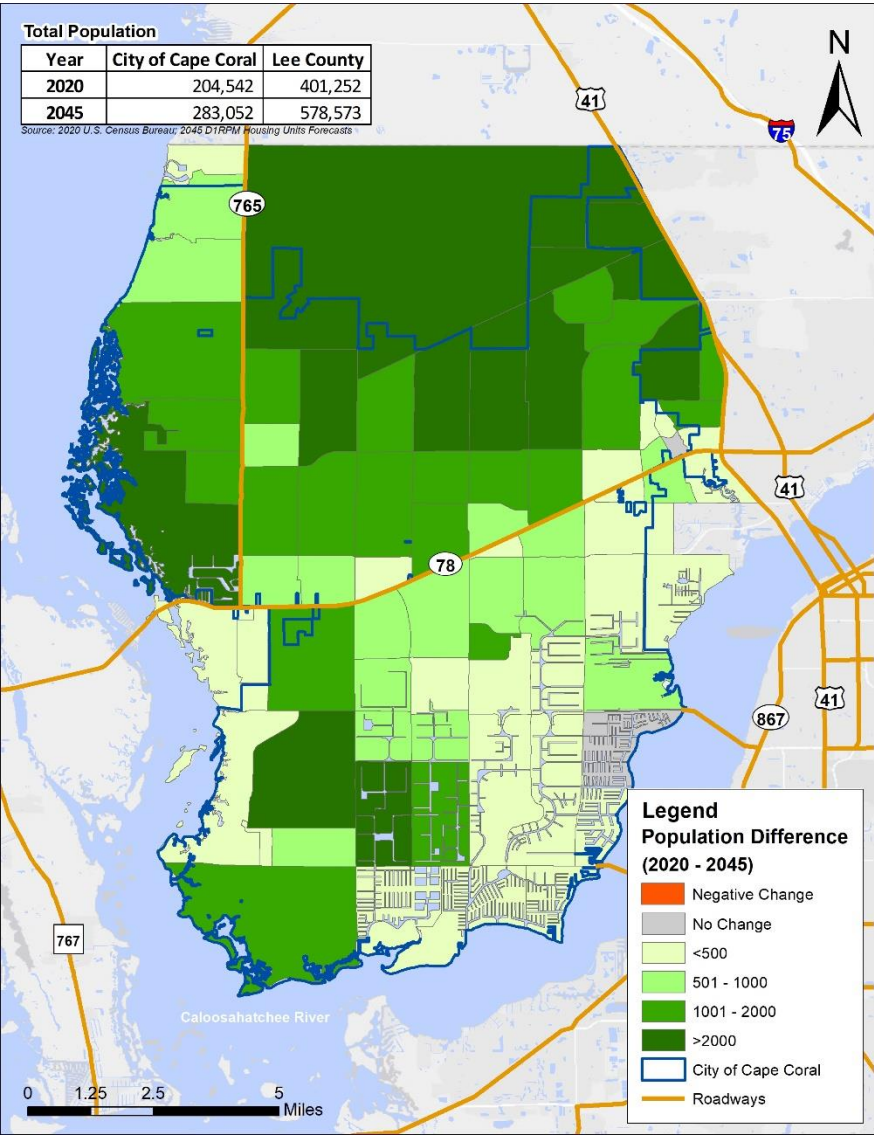


Task A: Socioeconomic Profile and Land Use Analysis

Forecast of Population and Dwelling Units

	2015	2015 to 2020 Change	2015 - 2020 CAGR	2020	2020 to 2045 Change	2020 - 2045 CAGR	2045	2015 to 2045 Change	2015 - 2045 CAGR
Population (000s)									
Lee County									
D1RPM Model Estimates	715.5	70.2	1.9%	785.7	350.8	1.5%	1,136.4	420.9	1.6%
Census and Rebenchmarked Forecast	663.7	92.9	2.7%	756.6	355.0	1.6%	1,111.6	447.9	1.7%
City of Cape Coral									
D1RPM Model Estimates	198.8	15.6	1.5%	214.5	78.2	1.3%	292.7	93.9	1.3%
Census and Rebenchmarked Forecast	180.3	24.3	2.6%	204.5	78.5	1.3%	283.1	102.8	1.5%
Housing Units (000s)									
Lee County									
D1RPM Model Estimates	384.9	35.5	1.8%	420.4	177.3	1.4%	597.7	212.8	1.5%
Census and Rebenchmarked Forecast	374.3	26.9	1.4%	401.3	177.3	1.5%	578.6	204.2	1.5%
City of Cape Coral									
D1RPM Model Estimates	97.6	8.0	1.6%	105.6	40.2	1.3%	145.9	48.3	1.3%
Census and Rebenchmarked Forecast	88.5	9.1	2.0%	97.6	40.2	1.4%	137.9	49.4	1.5%
Sources: 2015 ACS Estimates and 2020 Census Data, U.S. Census Bureau; 2015 and 2045 Socioeconomic Estimates, District 1 Regional Planning Model (D1RPM) v. 2.0. CAGR - Compound Annual Growth Rate.									

Map of Population and Dwelling Unit Growth Forecast



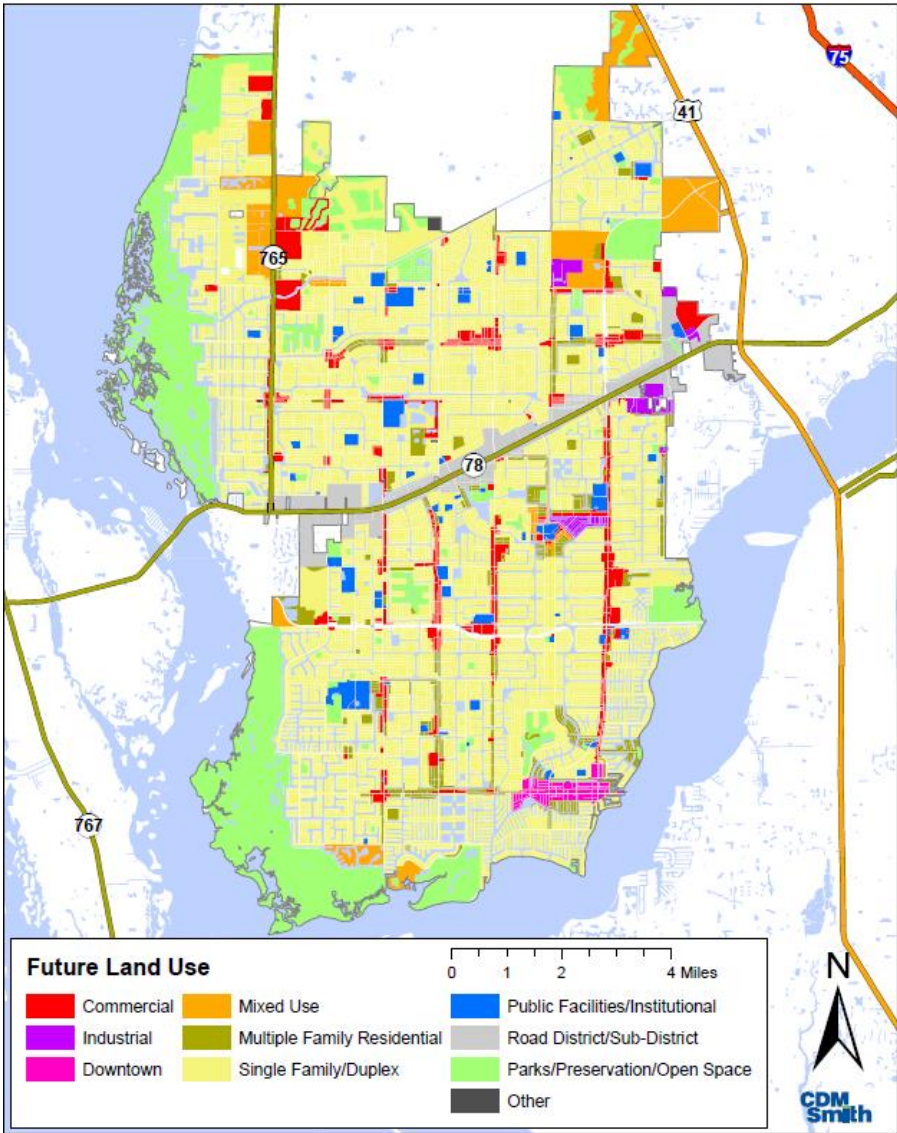
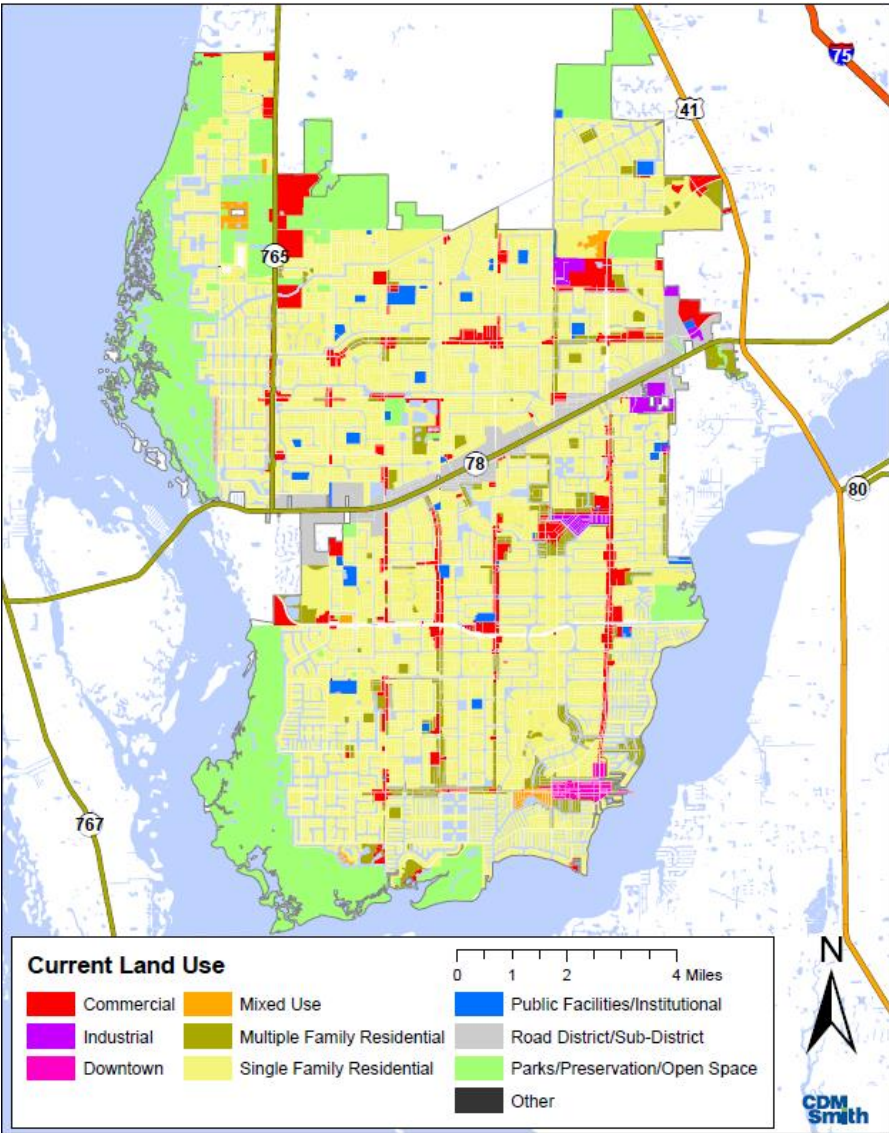
Population Forecast by Age

Age Range	2020 Census				Rebenchmarked 2045 Forecast			
	Lee County		City of Cape Coral		Lee County		City of Cape Coral	
	Population (000s)	Percent of Total	Population (000s)	Percent of Total	Population (000s)	Percent of Total	Population (000s)	Percent of Total
Under 5 years	34.7	4.6%	8.6	4.2%	52.3	4.7%	12.4	4.4%
5 to 9 years	34.9	4.6%	9.0	4.4%	51.5	4.6%	12.7	4.5%
10 to 14 years	40.2	5.3%	10.7	5.2%	61.0	5.5%	15.3	5.4%
15 to 19 years	38.5	5.1%	10.1	4.9%	60.6	5.5%	14.6	5.2%
20 to 24 years	37.0	4.9%	9.3	4.5%	58.0	5.2%	12.6	4.5%
25 to 29 years	42.2	5.6%	9.4	4.6%	61.7	5.6%	12.7	4.5%
30 to 34 years	40.6	5.4%	11.4	5.6%	60.1	5.4%	15.5	5.5%
35 to 39 years	39.7	5.2%	10.7	5.2%	58.2	5.2%	15.0	5.3%
40 to 44 years	38.3	5.1%	11.1	5.4%	55.7	5.0%	15.2	5.4%
45 to 49 years	42.5	5.6%	13.4	6.6%	61.1	5.5%	17.9	6.3%
50 to 54 years	45.7	6.0%	13.7	6.7%	67.4	6.1%	19.2	6.8%
55 to 59 years	51.7	6.8%	16.5	8.1%	74.9	6.7%	23.4	8.3%
60 to 64 years	54.6	7.2%	17.0	8.3%	78.4	7.1%	23.4	8.3%
65 to 69 years	60.2	8.0%	15.9	7.8%	86.7	7.8%	21.7	7.7%
70 to 74 years	57.2	7.6%	14.6	7.1%	82.3	7.4%	20.0	7.1%
75 to 79 years	43.9	5.8%	9.8	4.8%	63.1	5.7%	13.8	4.9%
80 to 84 years	28.1	3.7%	6.2	3.0%	40.5	3.6%	8.1	2.9%
85 years and over	26.6	3.5%	7.1	3.5%	38.1	3.4%	9.6	3.4%
Total Population	756.6	100.0%	204.5	100.0%	1,111.6	100.0%	283.1	100.0%
Average Age	45.9		46.1		45.4		45.8	
Sources: 2020 Census Data, U.S. Census Bureau; Population Estimates, District 1 Regional Planning Model (D1RPM) v. 2.0.								

Additional Socioeconomic Variables

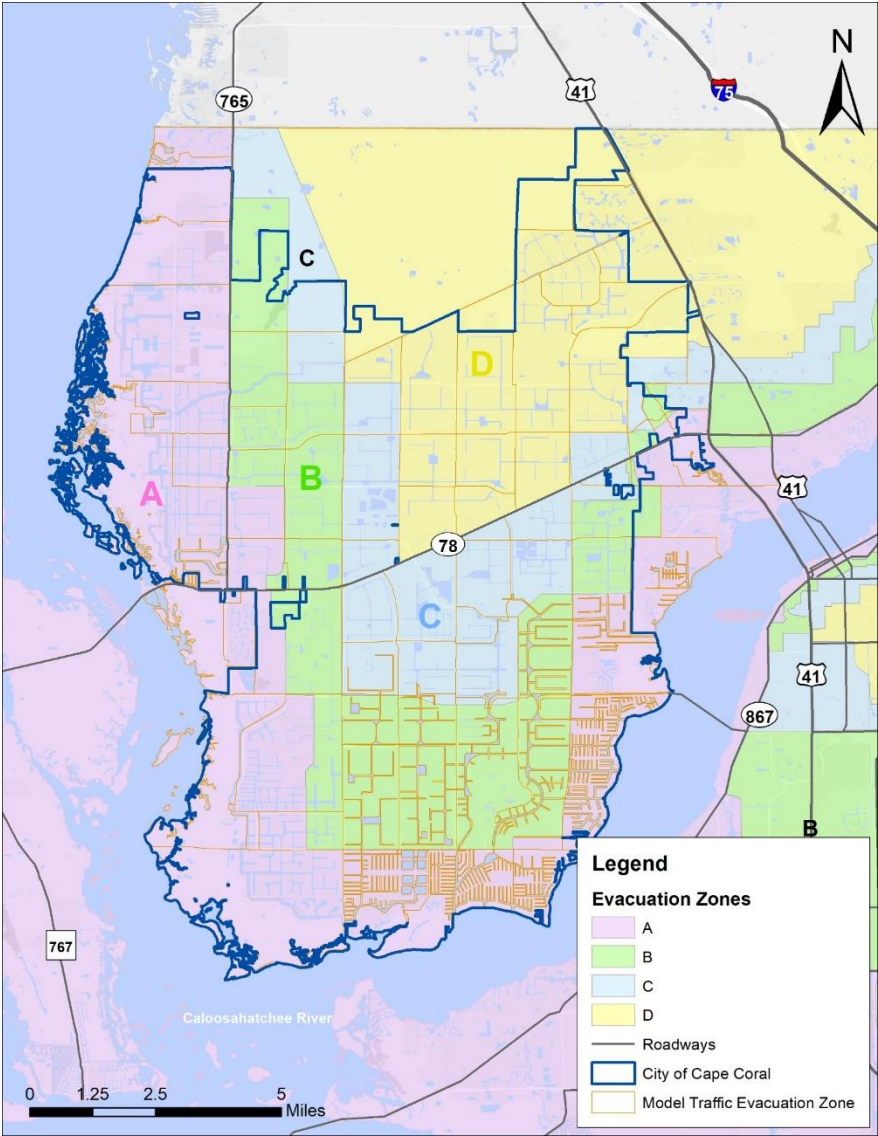
Variable	2020 Census				Rebenchmarked 2045 Forecast			
	Lee County		City of Cape Coral		Lee County		City of Cape Coral	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Total Population (000s)	756.6	100.0%	204.5	100.0%	1,111.6	100.0%	283.1	100.0%
Population in Occupied Single Family Units	557.4	73.7%	173.6	84.9%	838.6	75.4%	245.6	86.8%
Population in Occupied Multi Family Units	143.1	18.9%	23.1	11.3%	202.0	18.2%	29.5	10.4%
Population in Occupied Mobile Homes	46.1	6.1%	7.0	3.4%	46.1	4.1%	7.0	2.5%
Population in Group Quarters	10.0	1.3%	0.8	0.4%	24.9	2.2%	1.0	0.4%
Elderly Living Alone	45.6	6.0%	11.5	5.6%	67.2	6.0%	16.1	5.7%
Speaks English Less Than "Very Well"	69.3	9.2%	18.6	9.1%	97.7	8.8%	24.7	8.7%
Population Below Poverty Level	88.3	11.7%	19.8	9.7%	129.2	11.6%	26.9	9.5%
Disabled	103.5	13.7%	28.9	14.1%	152.2	13.7%	39.7	14.0%
Total Housing Units (000s)	401.3	100.0%	97.6	100.0%	578.6	100.0%	137.9	100.0%
Occupied Housing Units	289.0	72.0%	77.6	79.5%	425.6	73.6%	111.7	81.0%
Vacant Housing Units	112.3	28.0%	20.0	20.5%	153.0	26.4%	26.2	19.0%
Single Family Dwelling Units	244.8	61.0%	75.9	77.8%	380.6	65.8%	112.7	81.8%
Multi Family Dwelling Units	116.3	29.0%	15.8	16.2%	157.8	27.3%	19.3	14.0%
Mobile Homes	40.2	10.0%	5.9	6.0%	40.2	6.9%	5.9	4.3%
Total Households (000s)	288.9	100.0%	77.6	100.0%	422.4	100.0%	108.9	100.0%
Average People per Household	2.6		2.6		2.6		2.6	
Households with No Vehicles	14.6	5.1%	2.7	3.5%	20.8	4.9%	3.7	3.4%
Total Vehicles (000s)	499.2	100.0%	136.2	100.0%	725.3	100.0%	188.5	100.0%
Average Vehicles per Household	1.7		1.8		1.7		1.7	
Vehicles in Single Family Units	370.8	74.3%	114.9	84.4%	557.6	76.9%	162.6	86.3%
Vehicles in Multiple Family Units	96.4	19.3%	16.5	12.1%	135.9	18.7%	21.1	11.2%
Vehicles in Mobile Homes	32.0	6.4%	4.8	3.5%	31.8	4.4%	4.8	2.5%
Sources: 2020 Census Data, U.S. Census Bureau; Population Estimates, District 1 Regional Planning Model (D1RPM) v. 2.0.								

Current and Future Cape Coral Land Use

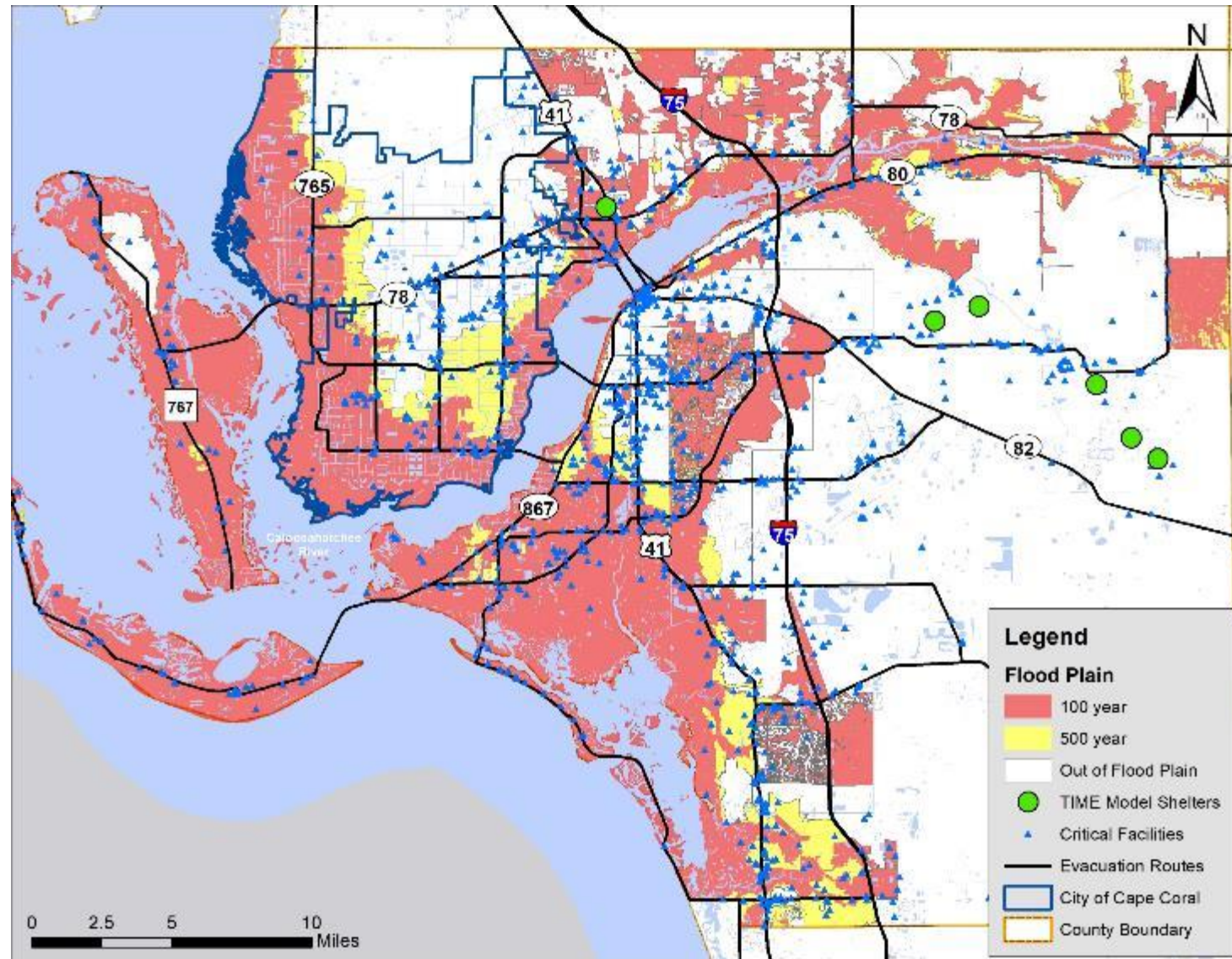


Task B: Hazard Analysis

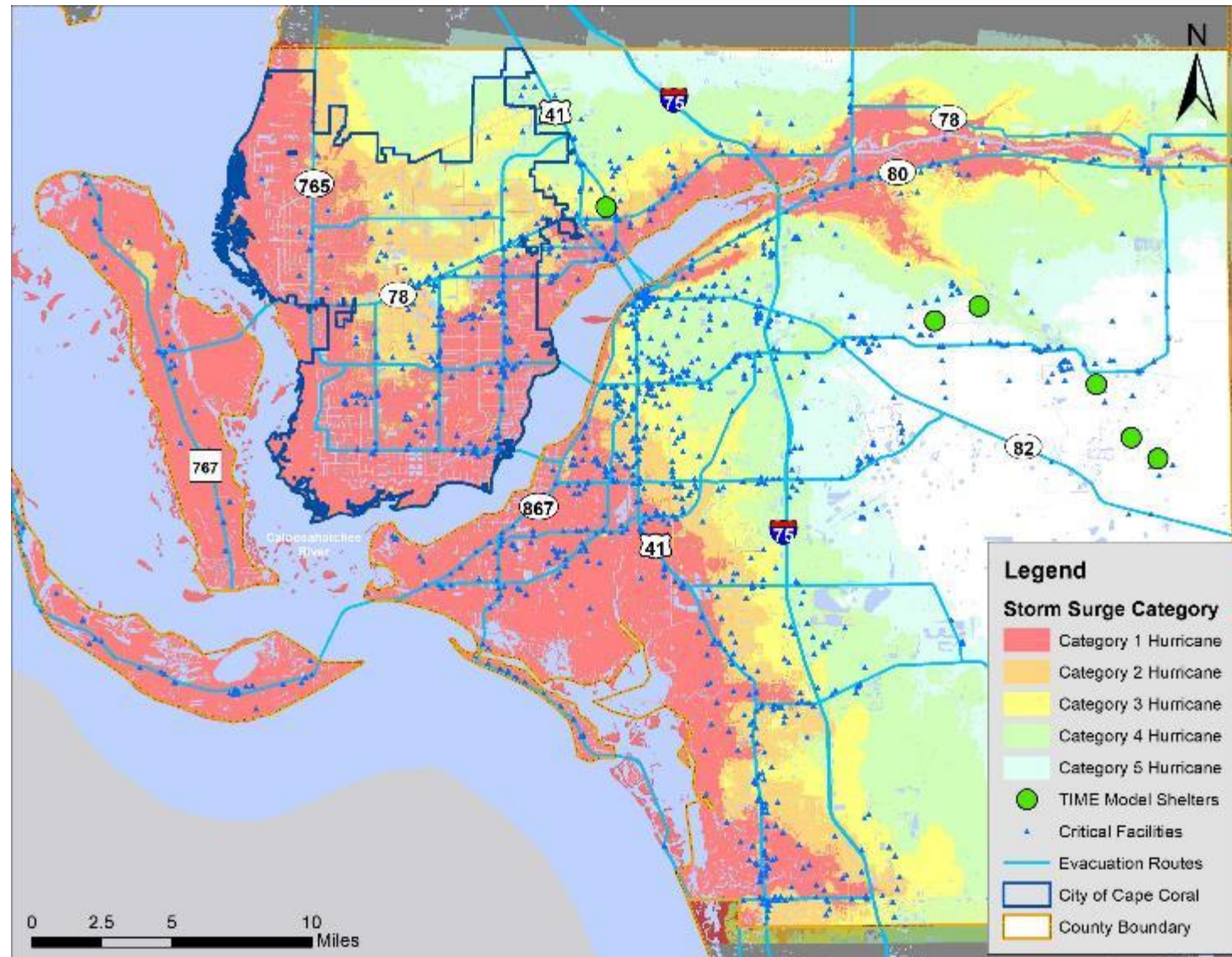
Cape Coral Evacuation Zones



Lee County Flood Zones, Shelters, and Critical Facilities



Lee County Surge Zones, Shelters, and Critical Facilities



Historical Major Storm Activity

Storm	Max. Category	Florida Landfall	Formed	Dissipated	Notes
Hermine	1	9/2/2016 (St. Marks, FL)	8/16/2016	9/3/2016	Minor impact to Lee County
Matthew	5	None in Florida	9/28/2016	10/10/2016	Tracked Parallel to West Coast
Irma	5	9/10/2017 (Cudjoe Key, FL)	8/30/2017	9/14/2017	---
Nate	1	None in Florida	10/4/2017	10/8/2017	Minor impact to Lee County
Michael	5	10/10/2018 (Panama City, FL)	10/7/2018	10/16/2018	---
Dorian	5	None in Florida	8/24/2019	9/7/2019	Tracked Parallel to East Coast
Isaias	1	None in Florida	7/30/2020	8/4/2020	Tracked Parallel to East Coast
Sally	2	9/12/2020 (Cutler Bay, FL)	9/11/2020	9/17/2020	Tropical Storm during its pass over Southern Florida
Eta	4	11/9/2020 (Lower Matecumbe Key, FL)	10/31/2020	11/13/2020	Tropical Storm during its pass over Southern Florida
Elsa	1	7/20/2021 (Taylor County, FL)	6/30/2021	7/9/2021	Tracked Parallel to West Coast, Tropical Storm at Landfall

Source: National Weather Service, NOAA.

Task C: Behavioral Analysis

2021 TIME Model Behavioral Survey

- Behavioral Data used to Convert Population to Evacuation Trips
 - Percent Evacuating
 - Percent Evacuating to Out-of-County
 - Refuge-Type Destination of Evacuation Population
 - Vehicle Use Rates and Vehicle Occupancy Rates
- Propose Using the Behavioral Data included in the 2022 TIME Model for the Current Study Effort
 - Florida Statewide Regional Evacuation Study Program Regional Behavioral Analysis, June 2021
 - Based on Observed Movements (using Cell Phone data) from three prior Hurricane Events
 - Hurricane Matthew (9/28/2016-10/10/2016)
 - Hurricane Irma (8/30/2017-9/14/2017)
 - Hurricane Michael (10/7/2018-10/16/2018)

Lee County Evacuation Participation Rates

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	43%	50%	63%	73%	82%
Site-Built	B	28%	43%	55%	65%	78%
Site-Built	C	23%	30%	50%	63%	69%
Site-Built	D	18%	20%	35%	58%	64%
Site-Built	E	13%	18%	28%	48%	58%
Site-Built	Inland	12%	13%	20%	28%	35%
Mobile-Home	A	58%	65%	78%	83%	89%
Mobile-Home	B	48%	60%	70%	80%	88%
Mobile-Home	C	48%	58%	65%	78%	84%
Mobile-Home	D	43%	50%	63%	73%	79%
Mobile-Home	E	40%	48%	60%	70%	78%
Mobile-Home	Inland	39%	43%	55%	65%	73%
Source: 2022 TIME Model based on June 2021 Behavioral Survey						

Lee County Out-of-County Trip Rates

- Evacuation to locations outside of Lee County can be toggled on or off, by county
- Current model assumes evacuation to counties in the “Southwest Region”

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	51%	54%	56%	61%	61%
Site-Built	B	51%	56%	61%	61%	61%
Site-Built	C	54%	59%	61%	61%	61%
Site-Built	D	49%	59%	61%	61%	61%
Site-Built	E	54%	59%	61%	61%	61%
Site-Built	Inland	56%	56%	59%	61%	61%
Mobile-Home	A	44%	46%	51%	51%	51%
Mobile-Home	B	41%	44%	46%	46%	46%
Mobile-Home	C	41%	41%	44%	46%	46%
Mobile-Home	D	36%	36%	36%	41%	41%
Mobile-Home	E	36%	36%	36%	41%	41%
Mobile-Home	Inland	36%	36%	36%	41%	41%

Source: 2022 TIME Model based on June 2021 Behavioral Survey

Lee County Destination Rates

Public Shelter

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	4%	4%	4%	4%	5%
Site-Built	B	4%	4%	4%	5%	5%
Site-Built	C	4%	4%	5%	5%	5%
Site-Built	D	4%	4%	4%	4%	5%
Site-Built	E	4%	4%	4%	5%	5%
Site-Built	Inland	5%	5%	5%	6%	6%
Mobile-Home	A	7%	7%	7%	7%	8%
Mobile-Home	B	7%	7%	7%	8%	8%
Mobile-Home	C	8%	8%	8%	9%	9%
Mobile-Home	D	8%	8%	9%	9%	9%
Mobile-Home	E	10%	10%	10%	10%	11%
Mobile-Home	Inland	10%	10%	10%	11%	11%

Friends and Family

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	74%	74%	75%	75%	74%
Site-Built	B	74%	75%	75%	74%	74%
Site-Built	C	75%	75%	74%	74%	75%
Site-Built	D	73%	74%	74%	73%	73%
Site-Built	E	74%	74%	73%	73%	74%
Site-Built	Inland	74%	75%	75%	74%	74%
Mobile-Home	A	77%	77%	77%	77%	77%
Mobile-Home	B	77%	77%	77%	77%	77%
Mobile-Home	C	74%	74%	75%	75%	74%
Mobile-Home	D	74%	75%	75%	74%	74%
Mobile-Home	E	74%	74%	75%	75%	74%
Mobile-Home	Inland	74%	75%	75%	74%	74%

Hotel / Motel

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	22%	22%	21%	21%	21%
Site-Built	B	22%	21%	21%	21%	21%
Site-Built	C	21%	21%	21%	21%	20%
Site-Built	D	19%	18%	18%	18%	18%
Site-Built	E	18%	18%	18%	18%	17%
Site-Built	Inland	21%	20%	20%	20%	20%
Mobile-Home	A	19%	19%	19%	19%	18%
Mobile-Home	B	19%	19%	19%	18%	18%
Mobile-Home	C	19%	19%	18%	18%	18%
Mobile-Home	D	19%	18%	18%	18%	18%
Mobile-Home	E	16%	16%	15%	15%	15%
Mobile-Home	Inland	16%	15%	15%	15%	15%

Other

Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	0%	0%	0%	0%	0%
Site-Built	B	0%	0%	0%	0%	0%
Site-Built	C	0%	0%	0%	0%	0%
Site-Built	D	0%	0%	0%	0%	0%
Site-Built	E	0%	0%	0%	0%	0%
Site-Built	Inland	0%	0%	0%	0%	0%
Mobile-Home	A	0%	0%	0%	0%	0%
Mobile-Home	B	0%	0%	0%	0%	0%
Mobile-Home	C	0%	0%	0%	0%	0%
Mobile-Home	D	0%	0%	0%	0%	0%
Mobile-Home	E	0%	0%	0%	0%	0%
Mobile-Home	Inland	0%	0%	0%	0%	0%

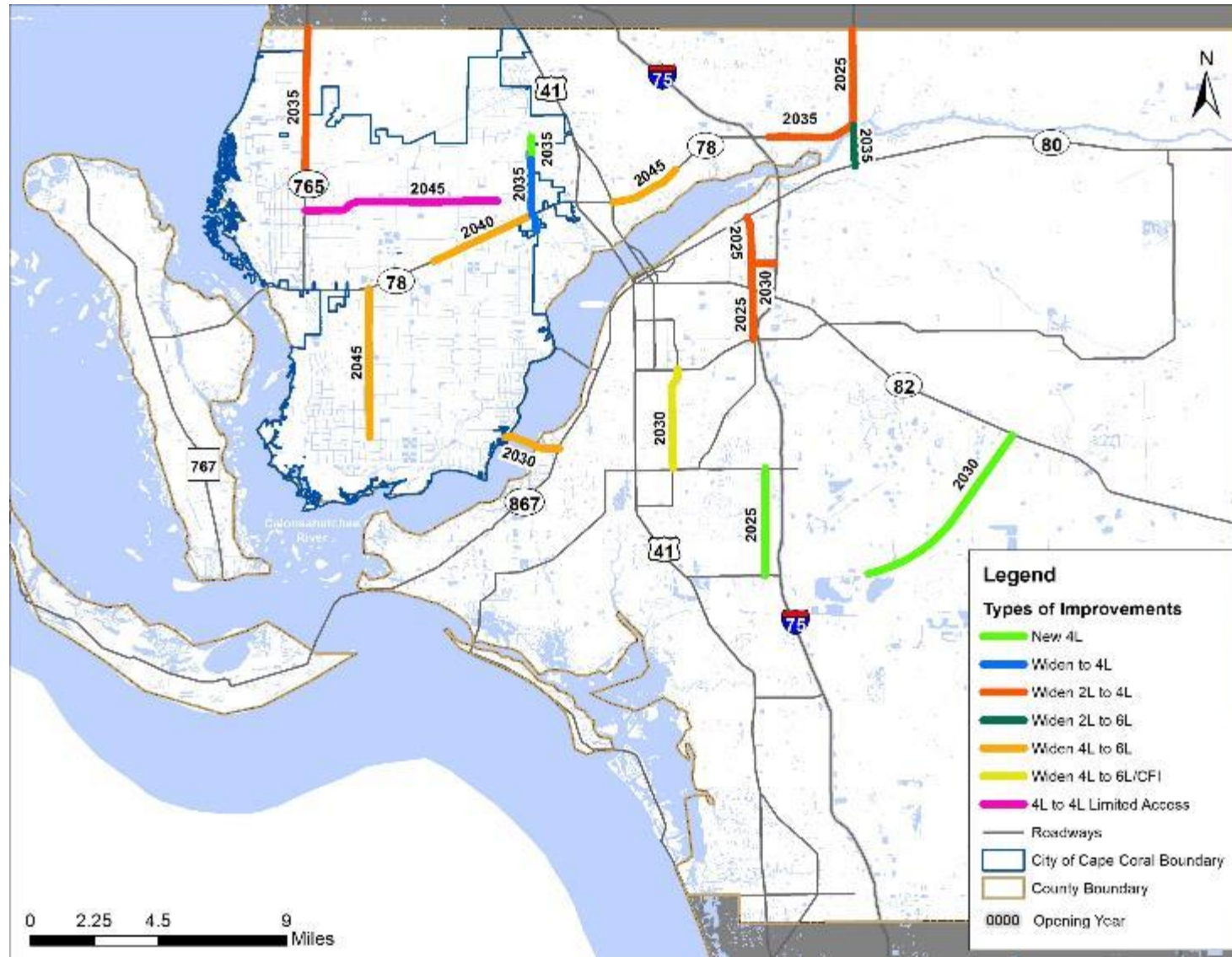
Source: 2022 TIME Model based on June 2021 Behavioral Survey

Lee County Vehicle Use Rates

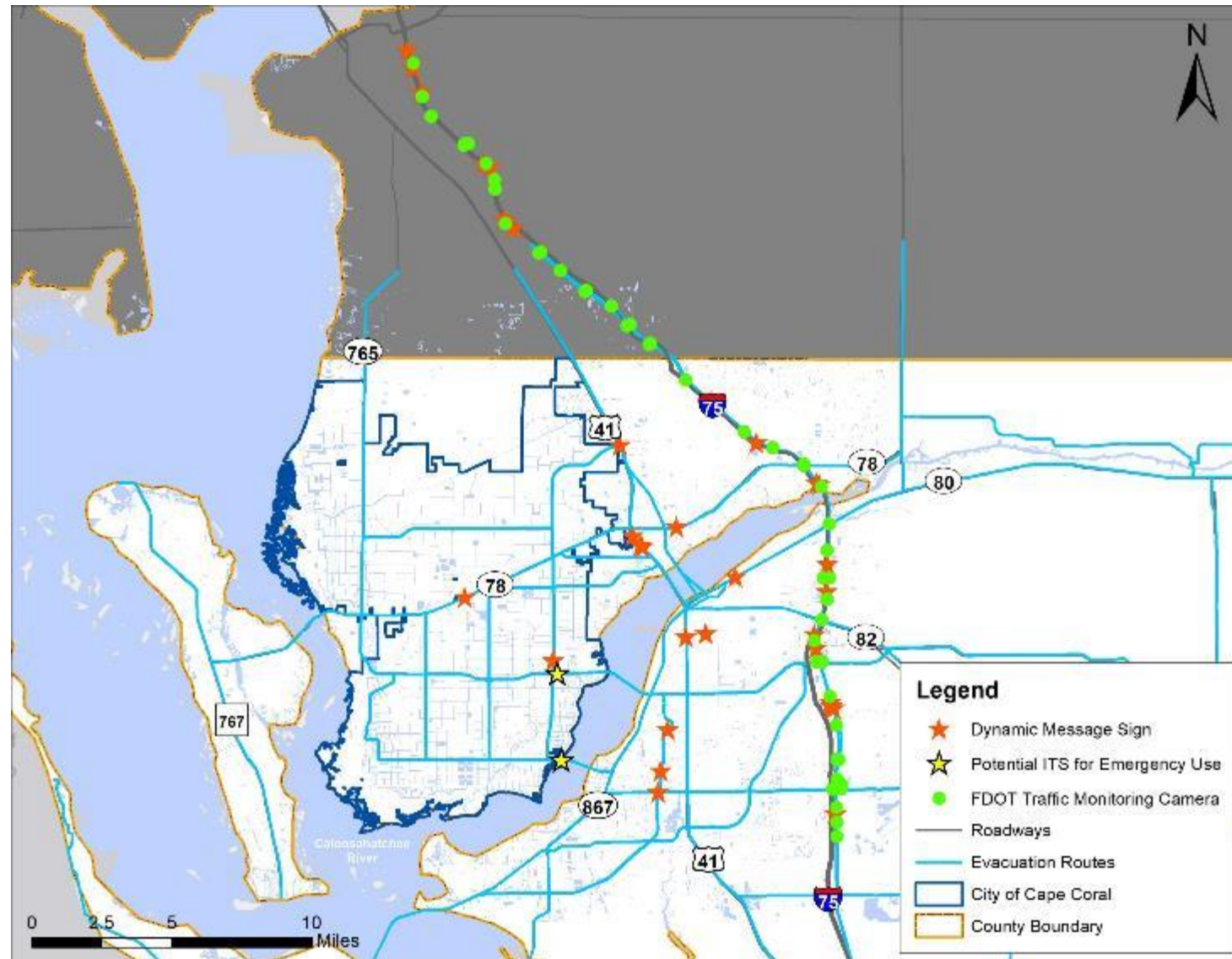
Home Type	Evacuation Zone	Storm Category				
		1	2	3	4	5
Site-Built	A	75%	75%	75%	75%	75%
Site-Built	B	75%	75%	75%	75%	75%
Site-Built	C	75%	75%	75%	75%	75%
Site-Built	D	75%	75%	75%	75%	75%
Site-Built	E	75%	75%	75%	75%	75%
Site-Built	Inland	75%	75%	75%	75%	75%
Mobile-Home	A	80%	80%	80%	80%	80%
Mobile-Home	B	80%	80%	80%	80%	80%
Mobile-Home	C	80%	80%	80%	80%	80%
Mobile-Home	D	80%	80%	80%	80%	80%
Mobile-Home	E	80%	80%	80%	80%	80%
Mobile-Home	Inland	80%	80%	80%	80%	80%
Source: 2022 TIME Model based on June 2021 Behavioral Survey						

Task E: Evacuation Networks

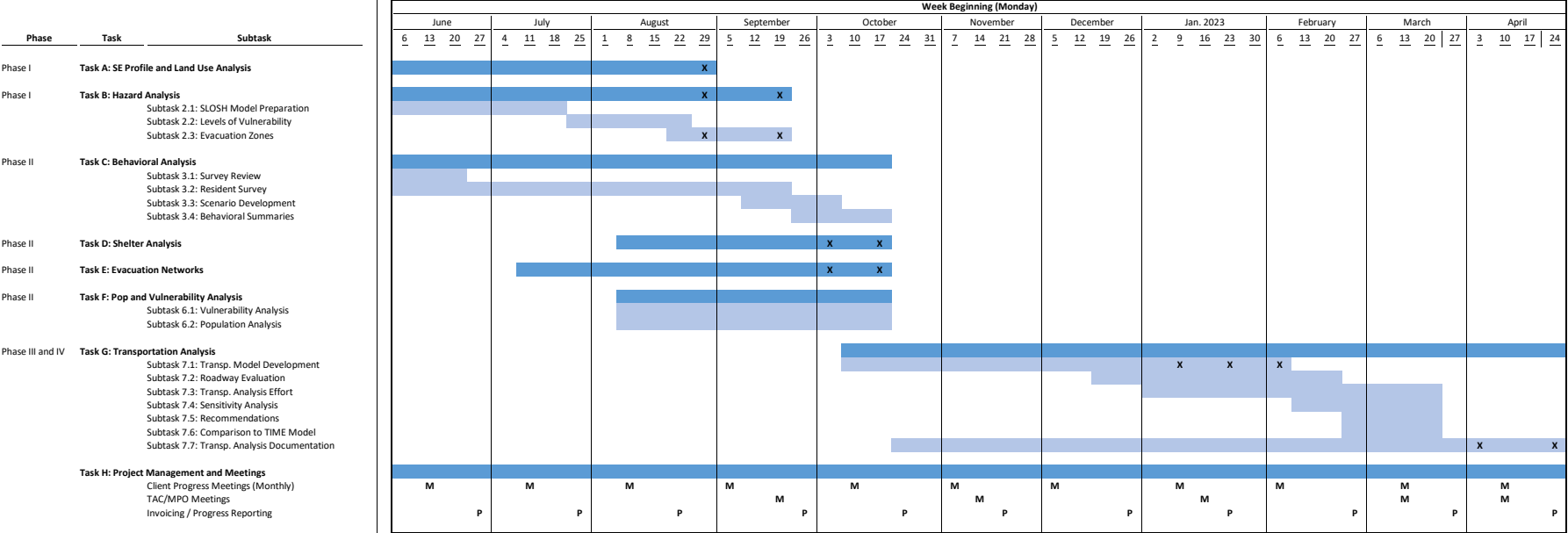
Cape Coral Highway Improvement Assumptions



Lee County Intelligent Transportation System (ITS) Facilities



Cape Coral Hurricane Evacuation Study
Study Schedule



- Key:
- Task Duration
 - Subtask Duration
 - X Deliverable
 - M Proposed Meeting
 - P Progress Report

Item Number:	8.B.
Meeting Date:	9/21/2022
Item Type:	WORKSHOP DISCUSSIONS

**AGENDA REQUEST
FORM**
CITY OF CAPE CORAL



TITLE:

Update on the SR-78 Corridor Plan (Persides Zambrano, Transportation Manager)

SUMMARY:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Description	Type
1. SR-78 Corridor Planning Update	Backup Material



Pine Island Road

Corridor Vision & Action Plan

SR-78 Corridor Plan Update
CTAC – Transportation Workshop
September 21, 2022



Purpose

- The purpose of this study is to help the City of Cape Coral and the Lee County community develop a vision plan for the SR 78 (Pine Island Road) corridor (9.2 miles long, Burnt Store Road to US 41).
- This study should guide transportation and land use decisions over the next 50 years.



Project Goals

- Develop a vision for what the future of the corridor should look like
- Create an action plan to realize this vision by guiding decisions regarding:
 - Land Use; and
 - Transportation.



Project Status

Tasks Completed:

- The existing SR-78 corridor conditions report in August 2022
- Conducted and reported on a comprehensive stakeholder field review (FDOT, Lee Tran, LCDOT, City of Cape Coral)
- Created a project website
- Developed a MetroQuest public survey



Project Status (cont.)

Tasks Completed:

- Public Survey

The screenshot shows a web application interface for a survey titled "Investing in the Cooridor". The interface is divided into five vertical panels, each with a number and a title:

- Panel 1 (WELCOME):** A dark teal panel with a white left arrow and the word "WELCOME" in white.
- Panel 2 (PRIORITIZE IMPROVEMENTS):** A teal panel with a white left arrow, the number "2", and the title "Investing in the Cooridor". Below the title is the instruction "Please prioritize 5 of the 8 items above the line in your preferred order." The main content area has a dashed line at the top with the text "↑ Order your top 5 items above this line ↑". Below this line are eight horizontal buttons with the following text: "Street Lighting", "Crosswalks", "Multi-use Path / Trails", "Sidewalks", "Additional Travel Lanes", "Transit", "Bike Lanes", and "Median Improvements". To the right of these buttons is the instruction "Please drag 5 of the items above the line in your preferred order." The panel also has a white right arrow and the word "PRIORITIZE IMPROVEMENTS" in white.
- Panel 3 (MAP MARKERS):** A light green panel with the number "3" and the title "MAP MARKERS" in white.
- Panel 4 (WHAT WOULD YOU DO?):** A light teal panel with the number "4" and the title "WHAT WOULD YOU DO?" in white.
- Panel 5 (WRAP UP):** An orange panel with the number "5" and the title "WRAP UP" in white.



Project Status (cont.)

Tasks Completed:

- Public Survey

The screenshot shows a web-based survey interface with a green and orange color scheme. A vertical navigation bar on the left contains five steps: 1. WELCOME, 2. PRIORITIZE IMPROVEMENTS, 3. MAP MARKERS, 4. WHAT WOULD YOU DO?, and 5. WRAP UP. Step 3, 'MAP MARKERS', is currently active. The main content area has a green background and displays a modal window titled 'Map Your Improvements' with a close button (X). The modal contains the text: 'Let us know where you would improve the corridor.' followed by a horizontal line, and then 'Please drag markers on the map to give your input.' with a green checkmark icon below it. The top of the main area shows the title 'Map Your Improvements' and a sub-instruction: '2. Please note on the map the types of improvements you would like to see.' A share icon is visible in the bottom right corner of the main area.

Project Status (cont.)

Tasks Completed:

- Public Survey

WELCOME < < 3 4 Tell Us What You Would Do 5

3. How do you envision the corridor in the future (2050)?

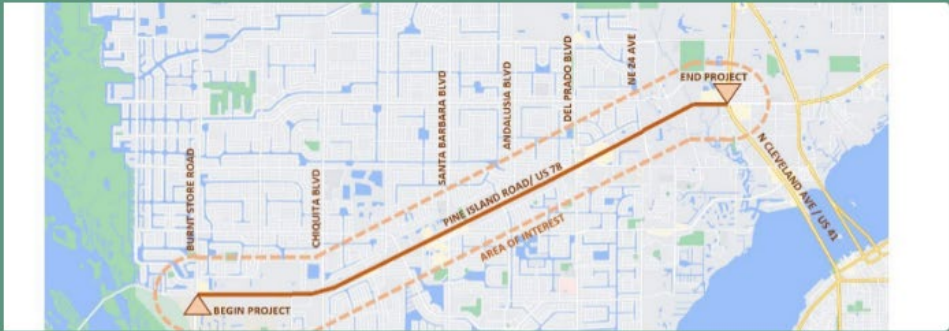
How do you envision SR 78 / Pine Island Road in the year 2050? Please provide your vision for the corridor in the space below.

Type...

0/500

Submit → Next

WHAT WOULD YOU DO? WRAP UP



Project Status (cont.)

Tasks Completed:

- Public Survey

Wrap Up
Tell us a bit about yourself. Please click finish when you are done.

Final Questions (Optional)

- > What is your home zip code?
12345
- > What is your age?
Type...
- > What is your primary mode of travel?
Select...
- > What is your primary use of the road?
Select...
- > How often do you travel Pineland?
Select...

Thank You!
Thank you for participating in this survey.
Your answers have been recorded and will be used to help shape the future of transportation.
For more information and to see how your input is being used, click on the links below.

Wrap Up
Thank you!
Thank you for your input so far! It has been recorded. Please answer a few optional questions. Your private information will be kept private. Please share this survey and spread the word!

Answer the questions you want to, then click Finish:
Finish

Project Partners
Project Site
and spread the word!

Cape Coral FLORIDA

Project Status (cont.)

Tasks Completed:

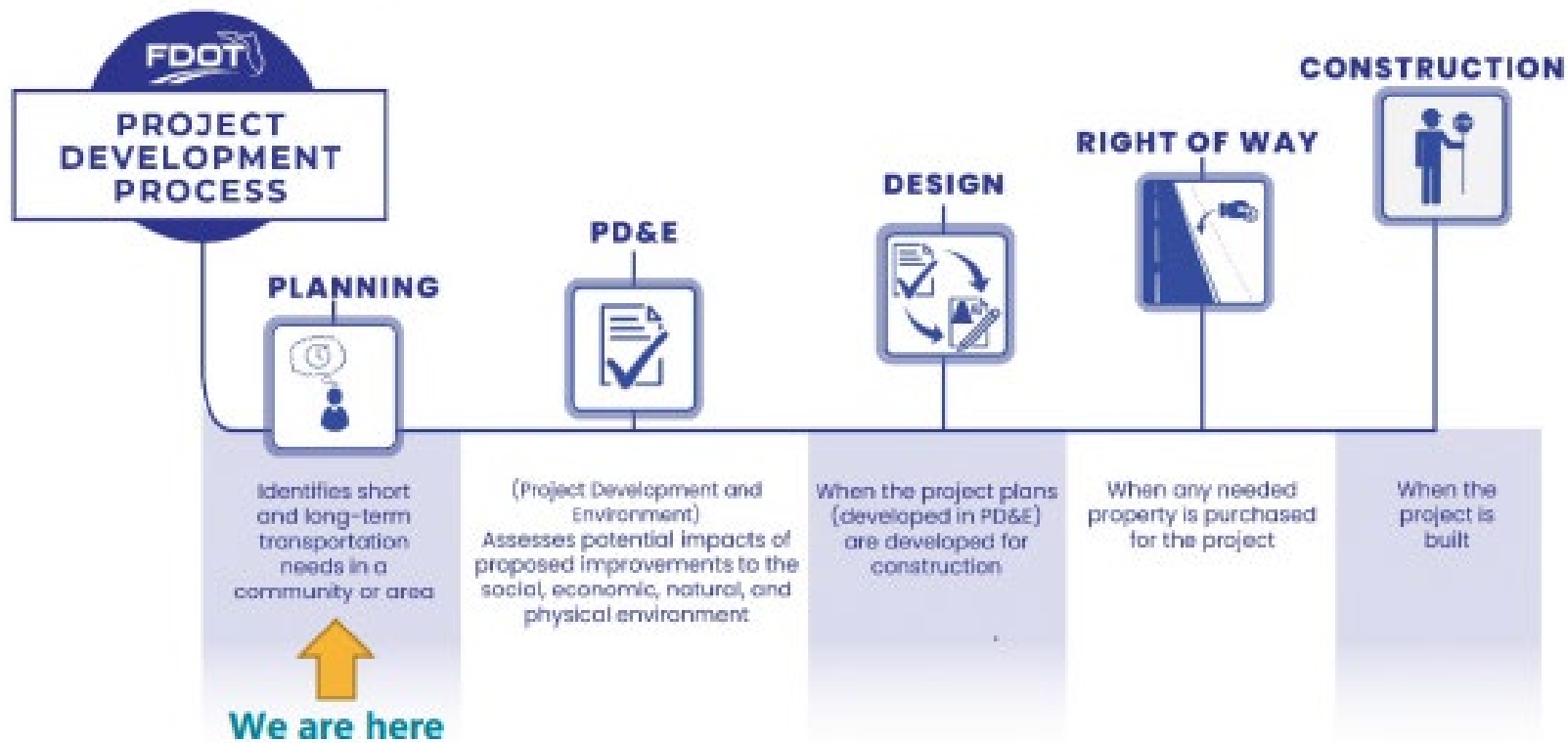
- In-person public meeting/workshop open house held on September 15th



Next steps

- A virtual meeting is to scheduled for September 22nd
- The comments from these meetings will be tabulated and presented to the FDOT D-1 team by about early October.
- The team will then produce a draft Corridor Vision Plan report by approximately November for stakeholder review.
- In the meantime, bi-weekly update meetings (the first and third Fridays of the month) are held with FDOT D-1 staff and their consultant, City of Cape Coral staff, and Lee County MPO staff





Early Outcomes

- FDOT is working on the Access Classification Change Justification Memo, to go from Access Class 2 to Access Class 3.
- Anticipated draft by early October



THANK YOU

Any Questions?



Item Number:	8.C.
Meeting Date:	9/21/2022
Item Type:	WORKSHOP DISCUSSIONS

**AGENDA REQUEST
FORM**
CITY OF CAPE CORAL



TITLE:

Presentation on the Cartegraph Asset Management System (Persides Zambrano, Transportation Manager)

SUMMARY:

ADDITIONAL INFORMATION: