



Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan



Adopted August 22, 2016



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Introduction

1.1 Purpose and Overview

In an effort to identify and prioritize transportation improvement projects more effectively, the City of Casselberry elected to develop a Multimodal Transportation Master Plan (“MTMP”). The MTMP, known by its accompanying slogan “Connecting Casselberry”, began in January 2015 and was a collaborative effort between the City of Casselberry and those that live and/or work within the City. The product of this effort was a 10 year master plan which programs transportation projects for funding between Fiscal Years 2016-2025.

The MTMP also serves as a policy and design guidance document. It is intended to help support, implement, and add specificity to objectives and policies contained in the Traffic Circulation Element of the City’s Comprehensive Plan, especially the Complete Streets Policy. The MTMP is intended to complement the City’s Mobility Study, and it is intended to update, integrate, and replace the City’s Bicycle Master Plan and Neighborhood Improvement Program.

This document covers the development of this plan; presents the transportation projects to be programmed; presents policy and design guidelines; and identifies additional future studies and tasks to better refine and implement the City’s transportation vision.



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Project Identification

2.1 Introduction

Projects included for consideration for funding were identified from a variety of sources. They included:

- City of Casselberry Project List for the 3rd Generation One Cent Infrastructure Sales Tax (hereafter referred to as the Sales Tax Project List)
- City of Casselberry Bicycle Master Plan
- City of Casselberry Transportation Mobility Study
- List of projects compiled based on resident and community association requests/concerns
- List of projects identified by City of Casselberry staff, including from the Neighborhood Improvement Program

Cumulatively, 80 projects were identified within Casselberry City Limits. These projects were very diverse in nature and included items such as traffic calming, installation of new sidewalks, upgrading existing traffic signals, and construction of new trails, just to name a few.

As part of an initial screening, projects that were completed or were in the process of being implemented were removed from further consideration. This brought the total number of projects down to 64.

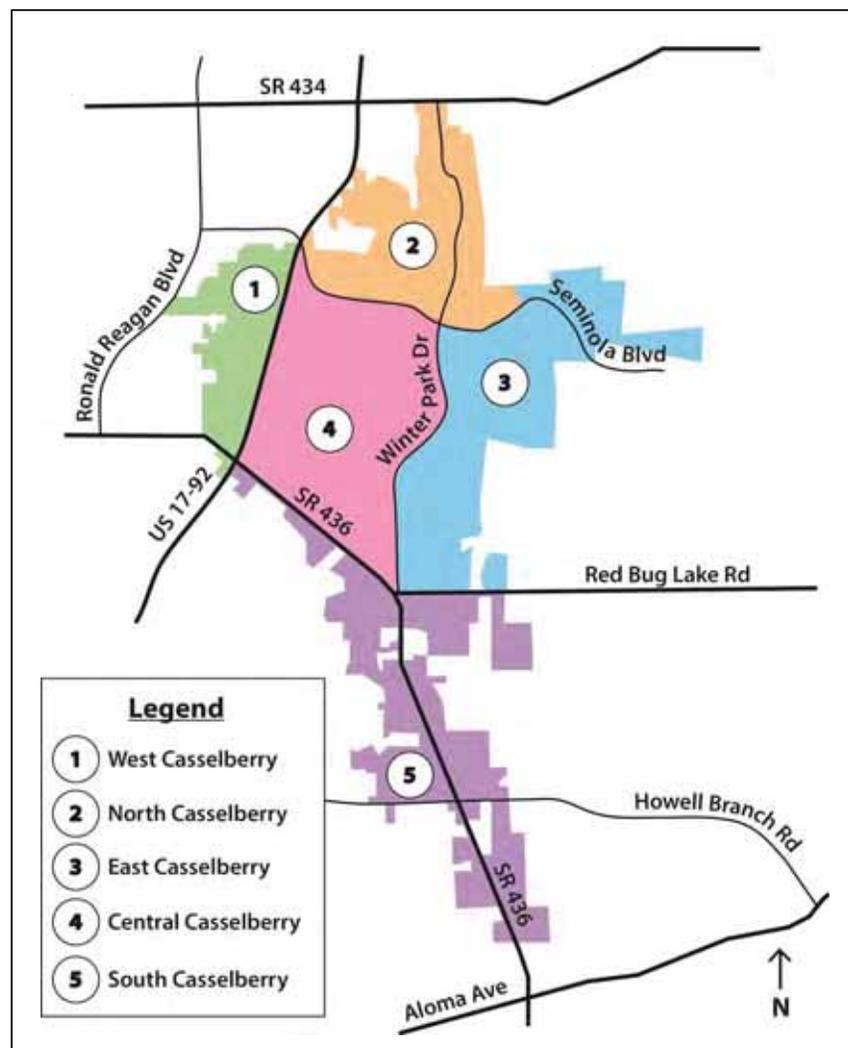
2.2 Project Mapping

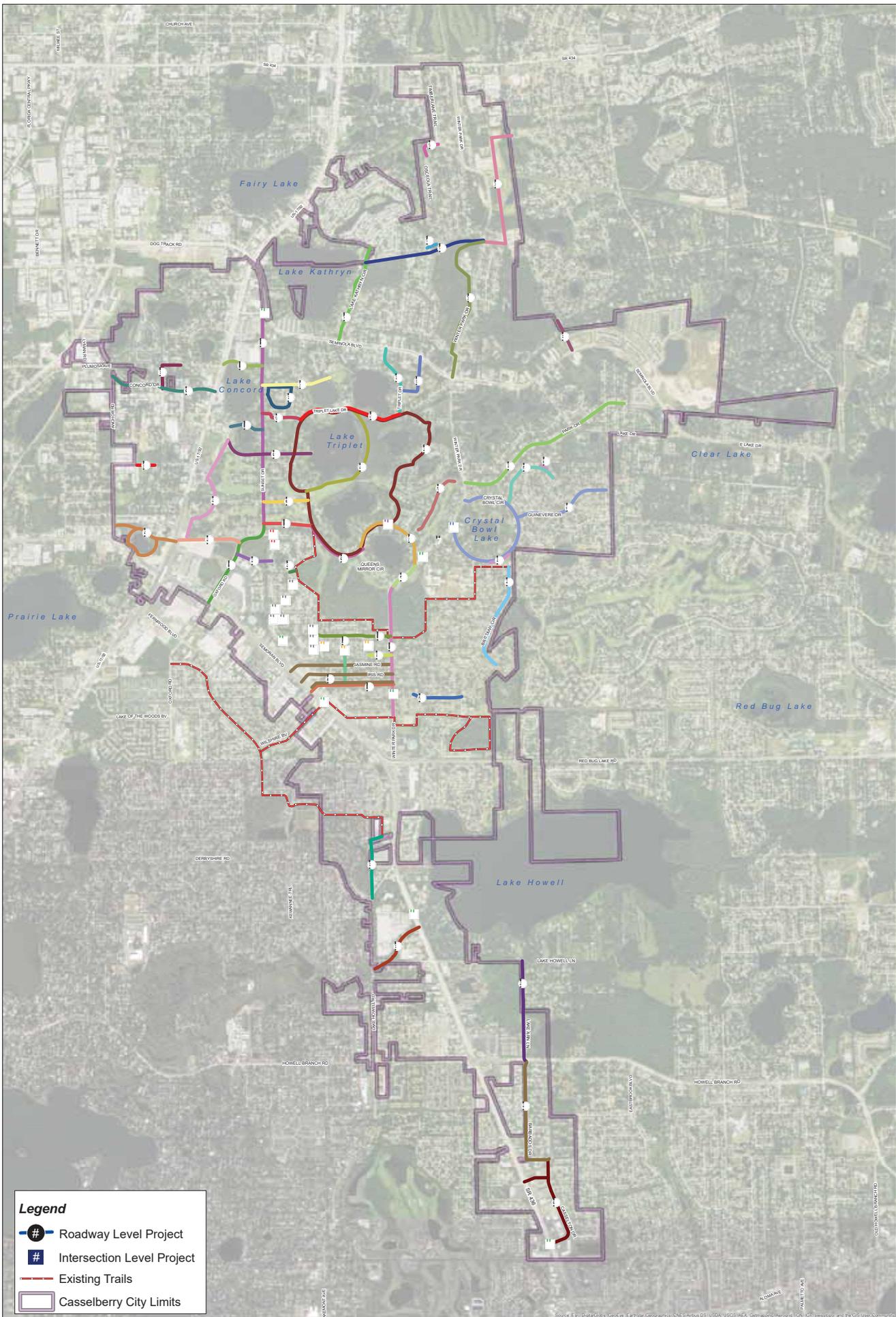
As part of the project identification process, all 64 projects were mapped out in ArcGIS.

For purposes of this mapping and subsequent project prioritization efforts, the City of Casselberry was divided into five different planning districts: East, West, North, South, and Central (each of these districts are illustrated by the five colors in Figure 2.2-1). Each of the 64 projects was then assigned a district, based on the extents of the project.

The intent of creating these districts was to simplify the public input process (described in the next chapter) and to ultimately provide a means to allocate projects geographically within the City.

Figure 2.2-1: City of Casselberry Planning Districts





Legend

- Roadway Level Project
- Intersection Level Project
- - - Existing Trails
- Casselberry City Limits



Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan
 Figure 2.2-2: Location of all Mapped Projects





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2.3 Inventory of Projects

Following the mapping and identification of districts, a database was created to better track and analyze each project during the project prioritization phases. Each project was assigned a unique project number for recordkeeping purposes. For some projects, project names and descriptions were created if they were not already available. In addition, an inventory was taken to determine what type of project was being proposed (bicycle, pedestrian, traffic signal, traffic calming, resurfacing, or other). A description of each of the 64 projects that were considered is included in Appendix A.



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3

Public Involvement Process

3.1 Introduction

One of the key components of the development of this Multimodal Transportation Master Plan was to seek public input. Since it was important for the City to identify which projects had stronger community support, a series of public workshops were held prior to the project prioritization process.

Five public workshops (each targeting a separate planning district) were held during March and April 2015. Flyers for these workshops were distributed in the utility bills. The public workshops were open to the general public; however, each workshop was primarily targeted at residents and businesses within the corresponding planning district within Casselberry City Limits.



The workshops were held on the following dates:

- Workshop 1 – West Casselberry: March 19, 2015 (6-8 PM)
- Workshop 2 – North Casselberry: March 26, 2015 (6-8 PM)
- Workshop 3 – East Casselberry: March 31, 2015 (6-8 PM)
- Workshop 4 – Central Casselberry: April 2, 2015 (6-8 PM)
- Workshop 5 – South Casselberry: April 7, 2015 (6-8 PM)

3.2 Public Involvement Activities

At each public workshop, three activities were planned to solicit public feedback. They were as follows:

- A survey to determine attendees' preference on a variety of transportation issues

- A dot voting exercise where individuals could vote on which projects they would like to see funded (individuals could only vote for the projects that were being presented that evening for that particular district in Casselberry)
- A sticker exercise where individuals could select where they would like bus stops
- A comment form for individuals to suggest projects not included in the dot voting exercise

Activity 1: Survey

The survey consisted of nine questions that asked attendees for feedback on various transportation issues such as how often they used SunRail, how often they walked/biked, and what should the highest priority be for the City's transportation system. This survey was administered both in-person at each of the five workshops and was also available online via SurveyMonkey. In total, there were 31 respondents in the five workshops and 66 respondents via SurveyMonkey for a total of 97. The questions and results from the survey are included as Appendix B.

Activity 2: Dot Voting Exercise

The dot voting exercise was conducted to solicit public feedback on which projects should be funded in the district in question. To facilitate this exercise, two boards were utilized:

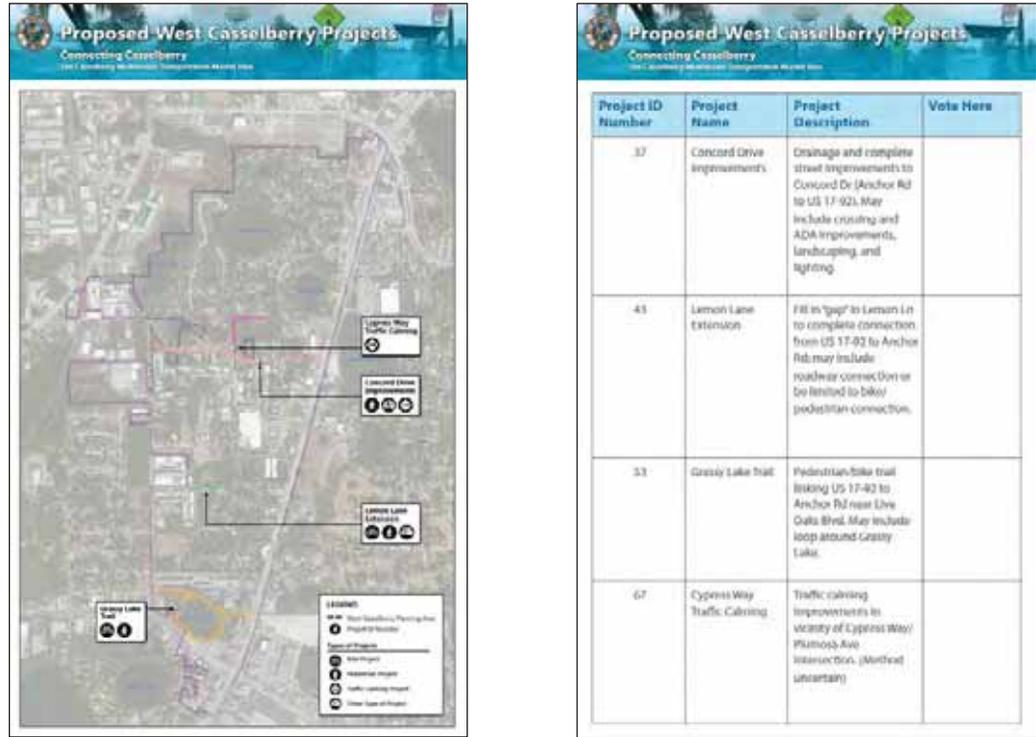
- A map of all the projects in that district along with the title of the project, the Project ID number, and the type of project (bicycle, pedestrian, traffic signal, traffic calming, resurfacing, or other)
- A table that listed each project's ID number, title, and a short description, along with space for attendees to place their voting dots

A sample of the boards used for the West Casselberry Workshop are shown below in Figure 3.2-1. A copy of all the boards produced for the five workshops are included in Appendix C.

Each attendee was given three different colored dots to use for voting. The green dot was used to denote the attendee's first choice project. The blue dot was used to denote the attendee's second choice project. The yellow dot was used to denote the attendee's third choice project. Attendees were instructed to not vote twice for the same project. They were also told that if they could not find three top projects, they could choose to not use all of their dots.



Figure 3.2-1: Boards from the West Casselberry Workshop



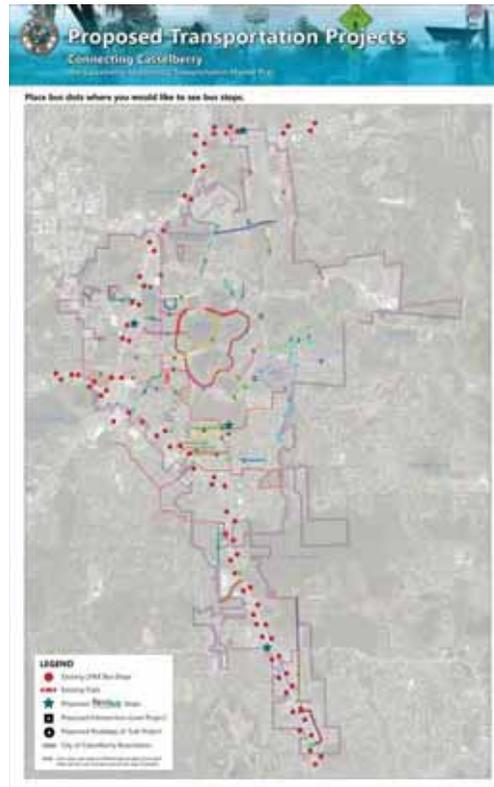
The results from the dot voting exercise were used as one of the criteria in prioritizing the projects. The results of the dot voting for the five public workshops are included in Appendix D (note that two boards were used for voting at each workshop to reduce crowding).

Activity 3: Bus Stop Exercise

Public input was sought on where they would like to see bus stops within Casselberry. While new transit projects were not the focus of the public workshops, the intent of this request was to determine where residents would like to have transit service where there is currently none today. Figure 3.2-2 shows the board that was used to collect feedback.

The results of this exercise from each of the public workshops is included as Appendix E.

Figure 3.2-2: Board Used to Collect Feedback on New Bus Stops



Activity 4: Project Suggestion Sheets

For the final activity, the public was asked to complete a project suggestion sheet if they wanted to see a project funded as part of the MTMP. A copy of all the comment sheets received (including those received via email by those unable to attend the public workshops) are included as Appendix F. They are also summarized below:

- West Casselberry: Traffic signal at Plumosa Avenue and Anchor Road
- North Casselberry: Safe road crossing for bikes/peds at Seminola Boulevard and Lake Kathryn Circle
- Central Casselberry: Recycled railcar as bridge
- Central Casselberry: Community skateparks and neighborhood skate spots/plazas
- South Casselberry: Crosswalk, traffic calming, or other improvement on Sausalito Boulevard near Bocana Drive

While none of these projects received funding as part of the MTMP, it is recommended that if additional funding is made available, consideration should be given to implementing these suggested projects.

4

Initial Project Prioritization

4.1 Introduction

The Initial Project Prioritization for the Casselberry Multimodal Transportation Master Plan utilized a set of goals and accompanying metrics in order to prioritize which projects should be funded first. These were developed, in part, by taking into consideration existing Envision metrics (Envision is a sustainable infrastructure rating system).

Six goals were developed in order to rate/rank each project. Each goal contains one or more metrics to evaluate how well each project meets the given goal. The following is the list of goals and accompanying metrics:

- Goal 1: Advance projects with the greatest public support
 - Metric 1.1: Number of “dot votes” for the project collected during the public workshop
- Goal 2: Advance projects that improve accessibility to schools and parks
 - Metric 2.1: Distance to the nearest school
 - Metric 2.2: Distance to the nearest park
 - Metric 2.3: Encourages alternative modes of transportation
- Goal 3: Advance projects that improve bicycle and pedestrian connectivity
 - Metric 3.1: Amount of new bicycle and pedestrian connectivity provided by the project
- Goal 4: Advance projects that have the greatest potential to increase bicycle and pedestrian safety
 - Metric 4.1: Amount of improvement to the safety of bicyclists and pedestrians
- Goal 5: Advance projects that minimize the need to acquire additional right of way
 - Metric 5.1: Amount of new right of way needed

- Goal 6: Advance projects that minimizes environmental/permitting issues
 - Metric 6.1: Amount of potential impact to wetland areas

Subsequent sections in this chapter discuss the methodology, the criteria, and the results of the scoring.

4.2 Methodology

The Initial Project Prioritization process was designed to use the six goals and accompanying metrics to ultimately rank a given project relative to other projects in a given district of Casselberry. Rankings were assigned relative to other projects in the same district for two major reasons.

The first reason was that the public input component of the evaluation would give an unfair advantage to projects located in Central Casselberry which has the largest amount of residents (and not surprisingly, also had the highest attendance of the workshops).

The second reason was that the City envisions funding at least one project from each district of Casselberry. By identifying the top projects for each district, additional analysis will not be needed later on to ensure a fair and equitable distribution.

4.3 Description of Criteria Used in Evaluation

This section is used to describe the ranking criteria that was used as part of this evaluation.

4.3.1 Goal 1: Advance Projects with the Greatest Public Support

Metric 1.1: Number of “dot votes” for the project collected during the public workshop

As discussed in Section 3.2, at each of the public workshops, each attendee was given three different colored dots to vote on their preferred projects: green (1st choice), blue (2nd choice), and yellow (3rd choice). The public was told that they could only vote once on a particular project (discouraging individuals from placing all their votes for a single project).

After the public workshops were completed, each dot was assigned a point value in order to determine which project earned the most points. The points per dot were as follows: Green = 5 points; Blue = 3 points; and Yellow = 1 point.

Projects were then ranked according to the number of points earned. Projects with the greatest number of points were given a rank of "1". In the event more than one project earned the same number of points, ties were awarded.

4.3.2 Goal 2: Advance Projects that Improve Accessibility to Schools and Parks

Metric 2.1: Distance to the nearest school

The shortest distance (as the crow flies) from each project to the nearest public school was determined using Google Earth. Private schools were excluded as part of this effort because they generally do not attract many students from within the surrounding community as a public school would. When the distance was measured, it was done from the parcel boundary of the school to the closest part of the project.

The thresholds were as follows:

High	Distance > or = 1.0 miles
Medium	0.5 mile < Distance < 1.0 miles
Low	Distance < or = 0.5 miles

Metric 2.2: Distance to the nearest park

The shortest distance (as the crow flies) from each project to the nearest park was determined using Google Earth. Parks were identified using the City of Casselberry's Parks and Trails Locator Map. When the distance was measured, it was done from the parcel boundary of the park to the closest part of the project.

The thresholds were as follows:

High	Distance > or = 1.0 miles
Medium	0.5 mile < Distance < 1.0 miles
Low	Distance < or = 0.5 miles

Metric 2.3: Encourages alternative modes of transportation

Since students that live close to school have the ability to walk or bike to school, projects were evaluated based on whether accommodated bicycles, pedestrians, or both.

The thresholds were as follows:

High	Accommodates <u>both</u> bicycles <u>and</u> pedestrians
Medium	Accommodates bicycles <u>or</u> pedestrians
Low	Does not accommodate bicycles and pedestrians

4.3.3 Goal 3: Advance Projects that Improve Bicycle and Pedestrian Connectivity

Metric 3.1: Amount of new bicycle and pedestrian connectivity provided by the project

Connectivity to other bicycle and pedestrian facilities enhances the overall bike/pedestrian network and increases the potential utilization of the new transportation facility. A qualitative assessment was performed utilizing the following thresholds:

High	<ul style="list-style-type: none"> Provides new bike/ped connectivity (including crosswalks)
Medium	<ul style="list-style-type: none"> Closes gap in bike/ped network Improves existing bike/ped facility Installs sharrows Provides parking to access bike/ped facility
Low	<ul style="list-style-type: none"> Traffic calming or other non-alternative mode of transportation project

4.3.4 Goal 4: Advance Projects that have the Greatest Potential to Increase Bicycle and Pedestrian Safety

Metric 4.1: Amount of improvement to the safety of bicyclists and pedestrians

The increase in safety for bikes/pedestrians was evaluated for each project. A qualitative assessment was performed utilizing the following thresholds:

Rating	Type of Projects
High	<ul style="list-style-type: none"> • Traffic calming • Crosswalks • Signal upgrades with ped detection • Add sidewalks where there was none previously
Medium	<ul style="list-style-type: none"> • Recreational trails • Improves existing facility and includes crosswalk installation or other improvements
Low	<ul style="list-style-type: none"> • Improves existing facility (e.g., widening sidewalk, sharrows) • Parking

4.3.5 Goal 5: Advance Projects that Minimize the Need to Acquire Additional Right of Way

Metric 5.1: Amount of new right of way needed

The need to acquire new right of way was evaluated based on data provided by the Seminole County Property Appraiser. Properties owned by the City of Casselberry were identified in GIS and then used to determine how much of the proposed project lies outside of right of way owned by the City.

It was assumed as part of this analysis that improvements to existing facilities could be done within existing right of way. It is also important to note that this is a preliminary right of way assessment that is used to rank projects. If a project advances into the design phase, further review of right of way will need to be done.

The right of way assessment was performed utilizing the following thresholds:

High	<ul style="list-style-type: none"> Project is an improvement to an existing facility If project is a new facility (trail, bridge, road connection), all of the right of way is already owned by the City of Casselberry
Medium	<ul style="list-style-type: none"> If project is a new facility (trail, bridge, road connection), some of the necessary right of way is owned by the City of Casselberry
Low	<ul style="list-style-type: none"> If project is a new facility (trail, bridge, road connection), none of the necessary right of way is owned by the City of Casselberry

4.3.6 Goal 6: Advance Projects that Minimizes Environmental/Permitting Issues

Metric 6.1: Amount of potential impact to wetland areas

If a project is a new facility (as opposed to improving an existing facility), impacts to wetlands were assessed. It was assumed as part of this analysis that improvements to existing facilities could be done within existing right of way which inherently does not have any wetland impacts. It is important to note that this is a preliminary environmental assessment that is used to rank projects. If a project advances into the design phase, further review of wetlands and other environmental impacts will need to be done.

The assessment was performed in GIS utilizing the 2009 Florida Land Use and Cover Classification System (FLUCCS). The following thresholds were applied:

High	<ul style="list-style-type: none"> Project will utilize existing right of way If project is a new facility (trail, bridge, road connection), project has no impact to wetlands
Medium	<ul style="list-style-type: none"> If project is a new facility (trail, bridge, road connection), less than 50% of the project lies in wetland areas
Low	<ul style="list-style-type: none"> If project is a new facility (trail, bridge, road connection), 50% or more of the project lies in wetland areas

4.4 Evaluation Weighting and Scoring

Using the previous criteria, each of the 80 projects were evaluated.

The process for determining the project ranking was a multi-step process. The procedure was as follows:

- Ratings of “high”, “medium” and “low” were converted into 5 points, 3 points, and 1 point, respectively
- For each goal, the points each project earned for the various criteria were added together
- For each goal, projects were then ranked according to the number of points earned. Projects with the greatest number of points were given a rank of “1”. In the event more than one project earned the same number of points, ties were awarded.
- To determine the overall project ranking, the project ranking for each of the six goals were used.
 - Weights were first assigned to each goal to give certain goals greater consideration in this evaluation. These weights were discussed with the City during the evaluation process. Since the weights were applied to rankings rather than points (where a lower number is better in terms of rank), goals with the greatest importance were assigned a weight of “1” while goals with the least importance were assigned a weight of “5”. Goals with moderate importance were given a weight of “3”.
 - These weights were then used to multiply the project rankings for each goal. Essentially, this step converted rank back into points.
 - Points for each goal were then summed up for each project.
 - Projects were then ranked (relative to other projects in the same district) according to the number of points earned. Projects with the least number of points were given a rank of “1”. In the event more than one project earned the same number of points, ties were awarded. Projects were ranked by district to help increase the likelihood that top ranking projects from each district would receive funding.

4.5 Results

The results from this analysis is shown in Table 4.5-1, which orders the projects by the overall project rankings for each district. The same results are also presented in Table 4.5-2, which orders the projects according to the “Public Support” ranking.



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Connecting Casselberry - The Casselberry Multimodal Transportation Master Plan
Table 4.5-1: Overall Project Ranking Results

Area	Project ID Number	Project Name	Ranking Criteria					Points Awarded	Rank
			Public Support	Proximity to Schools & Parks	Connection to Existing Transp. Fac.	Potential to Increase Safety	ROW Needs		
West	37	Concord Drive Improvements	1	1	3	4	1	29	1
	43	Lemon Lane Extension	3	1	1	1	1	30	2
	67	Cypress Way Traffic Calming	2	4	4	1	1	31	3
	53	Grassy Lake Trail	4	1	1	3	4	57	4
	44	Lake Kathryn Circle Complete Street Improvements	1	5	5	1	1	34	1
North	72	Osceola Trail Traffic Calming	5	5	6	1	1	39	2
	47	Gee Creek Bike/Ped Bridge	6	2	1	3	1	52	3
	65	Sunset Drive/Button Road/Seminola Boulevard Intersection Access and Safety Improvements	4	7	6	7	1	62	4
	45	Belle Avenue Trail	7	1	1	3	5	65	5
	46	Gee Creek Trail	2	2	1	3	5	68	6
	48	N Winter Park Drive Trail	2	2	1	3	5	68	6
	7	S Winter Park Drive Bicycle/Pedestrian Improvements	3	1	4	1	1	23	1
	30	Crosswalk Installation on S Winter Park Drive	1	5	1	1	1	30	2
	17	S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements	5	1	10	1	1	31	3
	18	S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements	5	1	10	1	1	31	3
East	23	Winter Park Drive Sidewalk Improvement/Installation - Queens Mirror Circle to Queens Mirror Circle	5	5	1	1	1	34	5
	16	S Winter Park Drive @ Wilshire Drive Traffic Signal Improvements	10	1	10	1	1	36	6
	54	Brittany Circle Complete Street Improvements	8	5	4	1	1	40	7
	70	Lancelot Way Traffic Calming	8	10	10	1	1	61	8
	75	Wilshire Drive Traffic Calming Improvements	10	10	10	1	1	63	9
	62	Murphy Road Pedestrian Improvements	10	14	1	1	1	66	10
	12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	3	5	4	12	1	68	11
	63	Park Drive Bicycle/Pedestrian Improvements	10	5	4	11	1	72	12
	80	Crystal Bowl Circle On-Street Parking	2	10	4	12	1	82	13
	10	Lancelot Way On-Street Parking	10	13	4	12	1	99	14

Connecting Casselberry - The Casselberry Multimodal Transportation Master Plan
Table 4.5-1: Overall Project Ranking Results (Continued)

Area	Project ID Number	Project Name	Ranking Criteria						Points Awarded	Rank
			Public Support	Proximity to Schools & Parks	Connection to Existing Transp. Fac.	Potential to Increase Safety	ROW Needs	Environmental		
Central	40	Queens Mirror Circle Pedestrian Safety Improvements	3	4	1	1	1	1	29	1
	4	Palm Drive Bicycle/Pedestrian Improvements	4	4	1	11	1	1	60	2
	64	NE Triplet Drive Complete Street Improvements	11	15	1	1	1	1	70	3
	8	Ouall Pond Circle Complete Street/Pedestrian Connectivity Improvements	14	4	4	11	4	1	70	3
	2	Sunset Drive Livable Street Improvements	10	4	13	11	1	1	78	5
	79	Lilac Road Safety and Accessibility Improvements	14	4	13	11	1	1	82	6
	11	"Flower Street" Traffic Calming	4	15	21	1	1	1	83	7
	69	Kentia Road Traffic Calming	14	15	21	1	1	1	93	8
	73	Paul McClure Ct Traffic Calming	14	15	21	1	1	1	93	8
	13	N Triplet Lake Drive Traffic Calming	8	22	21	1	1	1	108	10
	3	Southcot Drive Bicycle/Pedestrian Improvements	1	4	13	25	1	1	111	11
	66	Concord Woods Traffic Calming	14	22	21	1	1	1	114	12
	68	Hill Street Traffic Calming	14	22	21	1	1	1	114	12
	71	Oakwood Dr Traffic Calming	14	22	21	1	1	1	114	12
	5	Marigold Road Bicycle/Pedestrian Improvements	14	1	13	25	1	1	115	15
	6	Hibiscus Road Bicycle/Pedestrian Improvements	14	1	13	25	1	1	115	15
	78	Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements	2	22	13	11	1	1	124	17
	65	Sunset Drive/Button Road/Seminola Boulevard Intersection Access and Safety Improvements	14	4	21	25	1	1	132	18
	76	Carriage Hill/Lampite Intersection Safety and Accessibility Improvements	12	22	13	11	1	1	134	19
	77	Carriage Hill Drive and Shady Hollow Safety and Accessibility Improvements	14	22	13	11	1	1	136	20
	33	Overbrook Drive Improvements	14	22	21	25	1	1	186	21
	1	US 17-92 to Sunset Drive Pedestrian Connectivity Improvements	4	15	1	1	26	1	188	22
	56	Carriage Hill to Casselberry Greenway Trail Connection	4	15	1	11	1	28	228	23
	57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	14	1	1	11	23	24	286	24
	49	Ascension Trail	8	4	1	11	23	24	289	25
	51	Sunset Park to Secret Lake Park Trail	14	4	1	11	23	24	295	26
	50	Casselberry Exchange Trail	14	4	1	11	26	24	310	27
	74	Middle Lake Triplet Trail	14	4	1	11	26	28	330	28
	55	Wlshire Dr @ SR 436 Turn Lane Improvements	13	30	21	25	26	1	334	29
	58	N Oxford to Carriage Hill Trail	14	15	1	11	26	28	363	30
	15	Barbados Drive/Island Run Bicycle/Pedestrian Improvements	1	1	1	1	1	1	18	1
	39	SR 436 @ Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements	1	1	6	1	1	1	23	2
	59	Casselton Drive and Greencastle Drive Improvements	1	5	5	1	1	1	34	3
	14	Lake Ann Lane Complete Street Improvements	1	7	1	1	5	1	38	4
	61	SR 436 @ Casselton Traffic Signal Improvements	1	7	6	1	1	1	41	5
	60	Kewamee Trail Extension to Forest Brook Park	1	5	1	6	5	6	90	6
		Howell Creek Trail	1	1	1	6	7	7	93	7

Connecting Casselberry - The Casselberry Multimodal Transportation Master Plan
 Table 4.5-2: Overall Project Ranking Results Sorted by Public Support Ranking

Area	Project ID Number	Project Name	Ranking Criteria					Points Awarded	Rank
			Public Support	Proximity to Schools & Parks	Connection to Existing Transp. Fac.	Potential to Increase Safety	ROW Needs		
West	37	Concord Drive Improvements	1	1	3	4	1	29	1
	67	Cypress Way Traffic Calming	2	4	4	1	1	31	3
	43	Lemon Lane Extension	3	1	1	1	1	30	2
	53	Grassy Lake Trail	4	1	1	3	4	57	4
North	44	Lake Kathryn Circle Complete Street Improvements	1	5	5	1	1	34	1
	46	Gee Creek Trail	2	2	1	3	5	68	6
	48	N Winter Park Drive Trail	2	2	1	3	5	68	6
	65	Sunset Drive/Button Road/Seminola Boulevard Intersection Access and Safety Improvements	4	7	6	7	1	62	4
	72	Osceola Trail Traffic Calming	5	5	6	1	1	39	2
	47	Gee Creek Bike/Ped Bridge	6	2	1	3	1	52	3
	45	Belle Avenue Trail	7	1	1	3	5	65	5
	30	Crosswalk Installation on S Winter Park Drive	1	5	1	1	1	30	2
	80	Crystal Bowl Circle On-Street Parking	2	10	4	12	1	82	13
	7	S Winter Park Drive Bicycle/Pedestrian Improvements	3	1	4	1	1	23	1
East	12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	3	5	4	12	1	68	11
	17	S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements	5	1	10	1	1	31	3
	18	S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements	5	1	10	1	1	31	3
	23	Winter Park Drive Sidewalk Improvement/Installation - Queens Mirror Circle to Queens Mirror Circle	5	5	1	1	1	34	5
	54	Brittany Circle Complete Street Improvements	8	5	4	1	1	40	7
	70	Lancelot Way Traffic Calming	8	10	10	1	1	61	8
	16	S Winter Park Drive @ Wilshire Drive Traffic Signal Improvements	10	1	10	1	1	36	6
	10	Lancelot Way On-Street Parking	10	13	4	12	1	99	14
	62	Murphy Road Pedestrian Improvements	10	14	1	1	1	66	10
	63	Park Drive Bicycle/Pedestrian Improvements	10	5	4	11	1	72	12
	75	Wilshire Drive Traffic Calming Improvements	10	10	10	1	1	63	9

Connecting Casselberry - The Casselberry Multimodal Transportation Master Plan
Table 4.5-2: Overall Project Ranking Results Sorted by Public Support Ranking (Continued)

Area	Project ID Number	Project Name	Ranking Criteria						Points Awarded	Rank
			Public Support	Proximity to Schools & Parks	Connection to Existing Transp. Fac.	Potential to Increase Safety	ROW Needs	Environmental		
Central	3	Southcot Drive Bicycle/Pedestrian Improvements	1	4	13	25	1	1	111	11
	78	Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements	2	22	13	11	1	1	124	17
	40	Queens Mirror Circle Pedestrian Safety Improvements	3	4	1	1	1	1	29	1
	1	US 17-92 to Sunset Drive Pedestrian Connectivity Improvements	4	15	1	1	26	1	188	22
	4	Palm Drive Bicycle/Pedestrian Improvements	4	4	1	11	1	1	60	2
	11	"Flower Street" Traffic Calming	4	15	21	1	1	1	83	7
	56	Carriage Hill to Casselberry Greenway Trail Connection	4	15	1	11	1	1	228	23
	13	N Triplet Lake Drive Traffic Calming	8	22	21	1	1	1	108	10
	52	Ascension Trail	8	4	1	11	23	24	289	25
	2	Sunset Drive Livable Street Improvements	10	4	13	11	1	1	78	5
	64	NE Triplet Drive Complete Street Improvements	11	15	1	1	1	1	70	3
	76	Carriage Hill/Lampite Intersection Safety and Accessibility Improvements	12	22	13	11	1	1	134	19
	74	Wilshire Dr @ SR 436 Turn Lane Improvements	13	30	21	25	26	1	334	29
	5	Marigold Road Bicycle/Pedestrian Improvements	14	1	13	25	1	1	115	15
	6	Hibiscus Road Bicycle/Pedestrian Improvements	14	1	13	25	1	1	115	15
	8	Ouall Pond Circle Complete Street/Pedestrian Connectivity Improvements	14	4	1	11	1	1	70	3
	33	Overbrook Drive Improvements	14	22	21	25	1	1	186	21
	49	Sunset Park to Secret Lake Park Trail	14	4	1	11	23	24	295	26
	50	Middle Lake Triplet Trail	14	4	1	11	26	28	330	28
	51	Casselberry Exchange Trail	14	4	1	11	26	24	310	27
	55	N Oxford to Carriage Hill Trail	14	15	1	11	26	28	363	30
	57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	14	1	1	11	23	24	286	24
	65	Sunset Drive/Button Road/Seminola Boulevard Intersection Access and Safety Improvements	14	4	21	25	1	1	132	18
	66	Concord Woods Traffic Calming	14	22	21	1	1	1	114	12
	68	Hill Street Traffic Calming	14	22	21	1	1	1	114	12
	69	Kentia Road Traffic Calming	14	15	21	1	1	1	93	8
	71	Oakwood Dr Traffic Calming	14	22	21	1	1	1	114	12
	73	Paul McClure Ct Traffic Calming	14	15	21	1	1	1	93	8
	77	Carriage Hill Drive and Shady Hollow Safety and Accessibility Improvements	14	22	13	11	1	1	136	20
	79	Lilac Road Safety and Accessibility Improvements	14	4	13	11	1	1	82	6
	14	SR 436 @ Casselton Traffic Signal Improvements	1	7	6	1	1	1	41	5
	15	SR 436 @ Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements	1	1	6	1	1	1	23	2
	39	Casselton Drive and Greentcastle Drive Improvements	1	5	5	1	1	1	34	3
58	Barbados Drive/Island Run Bicycle/Pedestrian Improvements	1	1	1	1	1	1	18	1	
59	Lake Ann Lane Complete Street Improvements	1	1	1	1	5	1	38	4	
60	Howell Creek Trail	1	1	1	6	7	7	93	7	
61	Kewannsee Trail Extension to Forest Brook Park	1	5	1	6	5	6	90	6	

5

Revenue Estimate

5.1 Introduction

This chapter documents the revenue sources for funding projects and annual operations and maintenance expenses in the Casselberry Multimodal Transportation Master Plan. The sources of funding include:

- The One Cent Sales Tax
- The General Fund
- The Local Option Gas Tax
- A Loan against Sales Tax proceeds

The expenses included in the plan are discussed in Chapter 6.

5.2 The One Cent Sales Tax

The One Cent Sales Tax is the primary source for funding the transportation improvement projects identified in this plan.

This tax is a Seminole County tax that was renewed by a referendum in May 2014 and is in effect from January 1, 2015 to December 31, 2024. It is a local government infrastructure surtax that can be used for a variety of infrastructure improvement projects. The interlocal agreement signed by the municipalities in Seminole County allocates 2.38% of the revenues to the City of Casselberry.

The City of Casselberry has elected to spend all of the revenue on transportation projects. Over the course of the 10 years of the sales tax, it is anticipated to generate over \$17 million for the City.

5.3 The General Fund

The General Fund for the City of Casselberry is funded primarily by property taxes. Each fiscal year, a portion of the General Fund is allocated by the City of Casselberry for transportation and is generally used to fund personnel costs, operations/maintenance costs, and, to a more limited degree, capital costs.

It was assumed that the revenue for the 10 years of the plan will increase at a rate of 2% per year. The City is required to allocate from the General Fund an amount at least equal to 27% of the Local Option Gas Tax for the purpose of pavement maintenance.

5.4 The Local Option Gas Tax

The Local Option Gas Tax (LOGT) is an optional tax that local governments in Florida can levy on every gallon of motor fuel sold in a county. This tax can range between 1 to 6 cents per gallon and is authorized by an ordinance adopted by a majority vote of the governing body or voter approval in a countywide referendum. Proceeds from this tax are used to fund specified transportation expenditures.

Seminole County currently enacts a 6 cent tax on motor and diesel fuel sold within the county. Funds are distributed to local governments (including the City of Casselberry) through an interlocal agreement. Since the Local Option Gas Tax tends to vary, a conservative historical average of \$509,781 for FY 2017 to FY 2025 was used. FY 2016 values were available when this Master Plan was compiled and assumed \$569,426 of revenue.

5.5 A Loan

In order to advance projects more quickly and to reduce cost escalation (associated with waiting to fund projects as sufficient revenue is collected from the sales tax), the City of Casselberry elected to take out a \$9,894,000 loan. Funds from this loan will be available in FY 2016, the first year of the Master Plan.

The details on the loan are as follows:

- Interest: 2.25%
- Will have loan issuance costs of approximately \$46,800
- Must be repaid in 10 annual payments beginning with FY 2016 and ending in FY 2025 (see repayment schedule in Figure 6.4-1 for more information)

5.6 Other Sources

There are other sources of revenue that are not accounted for in the Master Plan which are documented below.

Street Lighting Fee Program

The City of Casselberry has a Street Lighting Fee Program that is used to primarily pay for operations and maintenance of street lights within city limits. A portion of the funds are used for the installation of new street lights to fill in areas within the city that do not currently have them.

Since this Master Plan does not analyze the impact of proposed projects on the program, the City of Casselberry will need to monitor the expenses for the Street Lighting Fee Program and adjust rates accordingly if needed.

Impact Fees

Impact Fees are funds paid by developers to mitigate traffic impacts associated with new development. Since impact fees are highly variable, the Casselberry Multimodal Transportation Master Plan made a conservative assumption that no funds are available from this source. If impact fees become available during the FY 2016 to FY 2025 time period, these funds should be used in lieu of other funds to fund projects.

Tree Fund

The Tree Fund is a dedicating funding source paid into by developers who cannot fully meet tree standards on their own properties. The Tree Fund must be spent on planting trees; however, it is not restricted to use on streets (they can be used in parks or any public land as well). Since contributions to the Tree Fund are highly variable, the Casselberry Multimodal Transportation Master Plan does not assume any funds are available from this source in order to generate a conservative estimate. If Tree Funds become available during the FY 2016 to FY 2025 time period, these funds should be used in lieu of other funds to fund the tree planting portion of a project.



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6

Project Cost Development and Estimated Expenses

6.1 Introduction

This chapter serves two purposes. The first is to document how project cost estimates were developed and the results of that effort. The second is to document annual expenses that are accounted for in the plan.

6.2 Multimodal Project Cost Development

Following the ranking of projects by district, project costs were developed for “short-term” projects identified by the City of Casselberry (projects that could be implemented within the 10 year horizon set forth by the sales tax). Projects that were seen as “longer-term” (projects to be implemented after the 2025 horizon for the sales tax) did not have project costs developed and were tabled for consideration as part of a future update to the 10-year Casselberry Multimodal Transportation Master Plan.

In total, 31 “short-term” projects were advanced by the City. The costs for these short-term projects were developed jointly between VHB and the City.

Since most of these projects are still in the planning stage (and do not have design plans), most of the estimates were generated using FDOT construction items listed in the Basis of Estimates manual. Assumptions were made for drainage, landscaping, and lighting costs because the extent of these items is not known at this stage. Other items such as pavement and sub bases, concrete, and sod were calculated based on the footprint of the improvement. The most recent average unit costs were used for each construction item, which were taken from FDOT and represent costs ranging from May 2014 to May 2015.

In general, a 25% contingency was included to account for CEI (construction engineering and inspection) and design. This number was adjusted higher or lower to account for the unique characteristics of each project.

6.2.1 Results

Table 6.2-1 shows the estimated cost for each project (which includes design and construction together unless broken out separately) and the anticipated sources of funding for each project.

For projects noted in the table as having cost estimates developed by VHB, detailed cost estimate sheets were developed for each project. These sheets are included in Appendix G.

Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Table 6.2-1: Project Cost and Sources of Funding

Project ID	Area	Cost Estimate Developed/Provided By?	Total Project Cost (FY 2015)	Funding from Sales Tax (FY 2015)	Funding from Sales Tax Rounded to Nearest \$1000 (FY 2015)	Funding from Stormwater Fund (FY 2015)	Funding from Water and Sewer Fund (FY 2015)	Funding from Utility (FY 2015)	Funding from Other Sources (FY 2015)
US 17-32 to Sunset Drive Pedestrian Connectivity Improvements (Design)	Central	VHB	\$ 52,005.78	\$ 52,005.78	\$ 53,000.00				
US 17-32 to Sunset Drive Pedestrian Connectivity Improvements (Construction)	Central	VHB	\$ 273,030.35	\$ 273,030.35	\$ 274,000.00				
Sunset Drive Livable Street Improvements (Design)	Central	Sales Tax Packet	\$ 272,728.73	\$ 272,728.73	\$ 273,000.00				
Sunset Drive Livable Street Improvements (Construction)	Central	Sales Tax Packet	\$ 1,321,825.84	\$ 1,211,825.84	\$ 1,212,000.00	\$ 100,000.00	\$ 10,000.00		
Southcot Drive Bicycle/Pedestrian Improvements (Design)	Central	Sales Tax Packet	\$ 57,836.08	\$ 57,836.08	\$ 58,000.00				
Southcot Drive Bicycle/Pedestrian Improvements (Construction)	Central	Sales Tax Packet	\$ 303,639.44	\$ 243,639.44	\$ 244,000.00	\$ 50,000.00	\$ 10,000.00		
Palm Drive Bicycle/Pedestrian Improvements (Design)	Central	Sales Tax Packet	\$ 322,319.11	\$ 168,299.11	\$ 169,000.00	\$ 121,520.00		\$ 32,500.00	
Palm Drive Bicycle/Pedestrian Improvements (Construction)	Central	Sales Tax Packet	\$ 966,957.32	\$ 966,957.32	\$ 967,000.00				
Manigold Road Bicycle/Pedestrian Improvements	Central	Sales Tax Packet	\$ 340,524.63	\$ 340,524.63	\$ 341,000.00				
Hibiscus Road Bicycle/Pedestrian Improvements	Central	Sales Tax Packet	\$ 288,052.00	\$ 288,052.00	\$ 289,000.00				
S Winter Park Drive Bicycle/Pedestrian Improvements	East	Sales Tax Packet	\$ 330,477.46	\$ 330,477.46	\$ 331,000.00				
Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements (Design)	Central	Sales Tax Packet	\$ 47,392.78	\$ 47,392.78	\$ 48,000.00				
Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements (Construction)	Central	Sales Tax Packet	\$ 248,812.11	\$ 248,812.11	\$ 249,000.00				
Lancelot Way On-Street Parking	East	VHB	\$ 36,635.67	\$ 36,635.67	\$ 37,000.00				
"Flower Street" Traffic Calming	Central	Sales Tax Packet	\$ 327,939.62	\$ 327,939.62	\$ 328,000.00				
Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	East	Sales Tax Packet	\$ 290,406.61	\$ 290,406.61	\$ 291,000.00				
N Triplet Lake Drive Traffic Calming	Central	Sales Tax Packet	\$ 95,538.23	\$ 95,538.23	\$ 96,000.00				
SR 436 @ Casselton Traffic Signal Improvements	South	Sales Tax Packet	\$ 202,000.00	\$ 101,000.00	\$ 101,000.00				\$ 101,000.00
SR 436 @ Camel/Crabel/Lake Howell Square (Walmart) Traffic Signal Improvements	South	Sales Tax Packet	\$ 202,000.00	\$ 101,000.00	\$ 101,000.00				\$ 101,000.00
S Winter Park Drive @ Wishline Drive Traffic Signal Improvements	East	Sales Tax Packet	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00				
S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements	East	Sales Tax Packet	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00				
S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements	East	Sales Tax Packet	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00				
Overbrook Drive Improvements	Central	VHB	\$ 294,227.63	\$ 294,227.63	\$ 295,000.00				
Concord Drive Improvements	West	City of Casselberry	\$ 1,221,177.59	\$ 853,893.64	\$ 853,893.64	\$ 166,191.83	\$ 201,092.12		
Casselton Drive and Greencastle Drive Improvements (Design)	South	City of Casselberry	Unknown	\$ 33,424.54	\$ 33,424.54				
Casselton Drive and Greencastle Drive Improvements (Construction)	South	City of Casselberry	\$ 2,673,803.42	\$ 1,972,948.72	\$ 1,972,948.72	\$ 356,125.36	\$ 344,729.34		
Queens Mirror Circle Pedestrian Safety Improvements (Design)	Central	VHB	\$ 8,990.00	\$ 8,990.00	\$ 9,000.00				
Queens Mirror Circle Pedestrian Safety Improvements (Construction)	Central	VHB	\$ 77,627.34	\$ 77,627.34	\$ 78,000.00				
Lemon Lane Extension	West	VHB	\$ 725,421.60	\$ 725,421.60	\$ 726,000.00				
Lake Kathryn Circle Complete Street Improvements	North	VHB	\$ 417,603.16	\$ 417,603.16	\$ 418,000.00				
Gee Creek Trail	North	VHB	\$ 5,312,497.22	\$ 5,312,497.22	\$ 5,313,000.00				
N Winter Park Drive Trail (Design)	North	VHB	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00				
N Winter Park Drive Trail (Construction)	North	VHB	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00				
Carriage Hill to Casselberry Greenway Trail Connection	Central	City of Casselberry	\$ 116,845.00	\$ 116,845.00	\$ 116,845.00				
Sunset Drive/Buttons Road/Seminola Boulevard Intersection Access and Safety Improvements	West	VHB	\$ 887,050.01	\$ 887,050.01	\$ 888,000.00				
Cypress Way Traffic Calming	Central	VHB	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00				
Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements	East	VHB	\$ 33,730.77	\$ 33,730.77	\$ 34,000.00				
Crystal Bowl Circle On-Street Parking	Central	City of Casselberry	\$ 79,037.83	\$ 79,037.83	\$ 80,000.00				
North Oxford Road	N/A	City of Casselberry	\$ 2,203,428.00	\$ 1,972,740.00	\$ 1,972,740.00	\$ 33,970.00	\$ 196,718.00		
Triplet Lake Drive Improvements	N/A	City of Casselberry	\$ 4,184,984.00	\$ 2,190,910.00	\$ 2,191,000.00				\$ 1,994,074.00



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6.3 Operations and Maintenance Expenses

This section details the various operations and maintenance (O&M) expenses that are taken into account in the plan.

All annual expenses were escalated using FDOT inflation factors (see Appendix H for more information).

6.3.1 Transit Projects

In terms of transit, the City of Casselberry has a strategic advantage of having major State arterials that run through it with good bus service, and the City currently does not contribute directly to transit operations. However, as identified in the City's Mobility Study, there are portions of the City that do not have viable access to transit, namely neighborhoods and business that are located too far away from the existing transit services on State arterials. Moreover, while SunRail stations are within reasonably close proximity to the City, the lack of convenient bus service or other connectivity options limits its usefulness for City residents.

In an attempt to fill some of these gaps, from 2010-2015, the City of Casselberry worked on the development of FlexBus, an on-demand transit service based on advanced routing technology and a shared-ride environment. FlexBus was a joint effort between the Cities of Altamonte Springs, Casselberry, Longwood, and Maitland; the Florida Department of Transportation (FDOT); LYNX; and the Federal Transit Administration (FTA). During the development of the MTMP, it was initially assumed that FlexBus would be the City's major transit project, and funding would go toward its operation for multiple years. However, the project was discontinued in late 2015 after the partners could not work out its deployment.



Public input regarding transit was requested during the public workshop phase of the MTMP development in early 2015. Overall, based on these workshops and survey results, there was a lack of any significant current regular participation in SunRail and bus services. While these results cannot be construed to apply to the entire City population, they were a factor in evaluating the current relative importance of transit compared to other travel modes and project opportunities.

Furthermore, with the advent of services such as Uber and advanced technology such as connected vehicles, self-driving vehicles, and ITS (intelligent transportation systems) enhancements, the dynamics of transit and personal mobility are expected to potentially undergo rapid change in the coming years.

As a result of all of the above factors, no transit-specific local projects or programs are proposed in this iteration of the MTMP. Rather, the MTMP recommends transit opportunities be revisited through a future study, which may result in transit projects being identified in the next major update of the MTMP. This is discussed further in Chapter 10. In the meantime, projects proposed in this iteration of the MTMP will provide transit enhancement by improving multi-modal connectivity to existing transit services.

6.3.2 Pavement Maintenance

The MTMP includes funding in order to bring the City of Casselberry's pavement to an acceptable level.

Using existing roadway inventory and assessment data derived from a PASER study conducted in 2009, as well as recent pavement rehabilitation and preservation project efforts, a high level pavement condition assessment was performed for the entire City.

In a nutshell, the assessment took the PASER data and imported it into MicroPAVER while also taking into account any recent pavement rehabilitation and preservation projects as well as normal deterioration in pavement condition over time. Roadway segments received a Pavement Condition Index (PCI) rating which was used to determine the amount of microsurfacing and mill and overlay needed on an annual basis in order to improve segments with low PCI ratings. In the MTMP, funding for these improvements was allocated into one of four subcategories: microsurfacing, mill & overlay, curb ramp/ADA accessibility improvements, and design & inspection.

The MTMP assumed that since all repaving projects (including microsurfacing) must have curb ramps installed at intersections where there are currently none, the MTMP budgeted that 40% of the repaving cost would be allocated towards this effort (this is presented as a separate line item in the plan). Design and inspection costs are also incorporated in the plan using a unit cost of \$9,800 per mile of microsurfacing and mill & overlay. More

detailed information on this analysis is included in the full report included in Appendix I.

In addition to the analysis mentioned above, the MTMP allocates some funding (\$50,000 per year on average in FY 2015 dollars) for maintenance of the City's multi-purpose trails (which are not included in the MicroPAVER analysis).

Altogether, the MTMP includes funding for pavement evaluation and five subcategories of pavement rehabilitation:

- Microsurfacing
- Mill and Overlay
- Curb Ramp/ADA Accessibility Improvements
- Design and Inspection
- Trails Rehab

When programming these costs into the MTMP, it was decided that the annual microsurfacing, mill & overlay, curb ramp/ADA accessibility improvements, and design & inspection costs would be grouped together and implemented in targeted years in order to achieve greater economies of scale. The following fiscal years were assumed to be the implementation years for the microsurfacing, mill & overlay, curb ramp/ADA accessibility improvements, and design & inspection work:

- Year 2016 for Years 2016-2018
- Year 2019 for Years 2019 and 2020
- Year 2021 for Years 2021 and 2022
- Year 2023 for Years 2023 and 2024
- Year 2025 for Year 2025

Annual funding for trail maintenance funding was grouped in a similar fashion in order to achieve economies of scale. The trail maintenance funding was grouped as follows:

- Year 2017 for all of 2017 and 80% of 2018
- Year 2019 for 20% of 2018 and all of 2019
- Year 2021 for Years 2020 and 2021
- Year 2023 for Years 2022 and 2023
- Year 2025 for Years 2024 and 2025

6.3.3 Miscellaneous Projects

To cover unforeseen miscellaneous expenses or small projects that may occur throughout the horizon of the MTMP, \$50,000 per year (FY 2015 dollars) was budgeted. Similar to the funding for pavement maintenance, funding was grouped in order to achieve economies of scale. The miscellaneous projects funding was grouped as follows:

- Year 2018 for Years 2017-2019
- Year 2020 for Years 2020 and 2021
- Year 2022 for Years 2022 and 2023
- Year 2024 for Years 2024 and 2025

6.3.4 Sidewalk Maintenance

Consistent with existing spending, this plan allocates \$50,000 per year (FY 2016 dollars) for sidewalk maintenance, escalated using FDOT highway construction cost inflation factors. It is anticipated that most of these funds will be paid out of the LOGT.

6.3.5 Road Striping, Signage, and Other Miscellaneous Expenses

This plan allocates approximately \$31,000 per year (FY 2017 dollars) for road striping, signage, and other miscellaneous roadway maintenance, escalated using FDOT highway construction cost inflation factors. It is anticipated that most of these funds will be paid out of the LOGT.

6.3.6 Utility Service Maintenance

This plan allocates \$115,000 per year (FY 2016 dollars) for utility service maintenance, escalated using FDOT highway construction cost inflation factors. It is anticipated that most of these funds will be paid out of the LOGT.

6.3.7 Landscaping Maintenance

This plan allocates \$85,392 per year (FY 2017 dollars) for landscaping maintenance along roads within Casselberry. Costs were escalated using FDOT highway construction cost inflation factors. It is anticipated that most of these will funds be paid out of the LOGT (It should be noted that significant additional landscaping costs are embedded in General Roadway

Operations and Capital costs in order to cover maintenance of State Roads, which is reimbursed by FDOT. See also Section 6.3.9).

6.3.8 Signal Maintenance

This plan allocates \$80,000 per year (FY 2016 dollars) for traffic signal maintenance, escalated using FDOT highway construction cost inflators. Signal maintenance in the City is provided by Seminole County through an Interlocal Agreement. It is anticipated that most of these funds will be paid out of the LOGT.

6.3.9 General Roadway Operations and Capital

This plan allocates \$447,426 per year (FY 2017 dollars) for capital purchases and general roadway operations/overhead, escalated an average of 0.19% per year. It is anticipated that most of these funds will be paid out of the General Fund. This figure does not cover personnel costs.

6.3.10 Personnel Costs

This plan allocates \$598,676 per year (FY 2017 dollars) for personnel costs, escalated at 3% per year. It is anticipated that most of these funds will be paid out of the General Fund.

6.3.11 Miscellaneous Repairs and Maintenance

This plan allocates \$101,491 per year (FY 2018 dollars) to miscellaneous repairs and maintenance, to be covered by the LOGT. This funding can be used for repairs as needed or to supplement funding of capital projects if unanticipated additional funding is needed.

6.4 Miscellaneous Expenses

This section details other expenses that are not O&M or new multimodal transportation projects.

6.4.1 Loan Expenses

As detailed in Section 5.5, the City of Casselberry elected to take out a \$9,894,000 loan to advance projects earlier rather than waiting until sufficient sales tax revenue was accumulated.

The Casselberry Multimodal Transportation Master Plan takes into account the following expenses associated with this loan:

- A \$50,000 expense for loan issuance in FY 2015 (rounded up from \$46,800)
- An annual repayment of the loan for 10 years beginning in FY 2016 and ending in FY 2025. The repayment schedule is shown in Figure 6.4-1.

Figure 6.4-1: Loan Repayment Schedule

BOND DEBT SERVICE					
City of Casselberry, Florida					
Infrastructure Sales Surtax Revenue Bond, Series 2015					
\$9,894,000 Bank Qualified Loan					
Level Debt Service					
Hancock Bank - 1.85% (Callable at Par on or after 1/1/20)					
*** Final Numbers ***					
Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
01/01/2016	324,000	1.850%	60,504.56	384,504.56	384,504.56
07/01/2016			88,522.50	88,522.50	
01/01/2017	987,000	1.850%	88,522.50	1,075,522.50	1,164,045.00
07/01/2017			79,392.75	79,392.75	
01/01/2018	1,005,000	1.850%	79,392.75	1,084,392.75	1,163,785.50
07/01/2018			70,096.50	70,096.50	
01/01/2019	1,024,000	1.850%	70,096.50	1,094,096.50	1,164,193.00
07/01/2019			60,624.50	60,624.50	
01/01/2020	1,043,000	1.850%	60,624.50	1,103,624.50	1,164,249.00
07/01/2020			50,976.75	50,976.75	
01/01/2021	1,062,000	1.850%	50,976.75	1,112,976.75	1,163,953.50
07/01/2021			41,153.25	41,153.25	
01/01/2022	1,082,000	1.850%	41,153.25	1,123,153.25	1,164,306.50
07/01/2022			31,144.75	31,144.75	
01/01/2023	1,102,000	1.850%	31,144.75	1,133,144.75	1,164,289.50
07/01/2023			20,951.25	20,951.25	
01/01/2024	1,122,000	1.850%	20,951.25	1,142,951.25	1,163,902.50
07/01/2024			10,572.75	10,572.75	
01/01/2025	1,143,000	1.850%	10,572.75	1,153,572.75	1,164,145.50
	9,894,000		967,374.56	10,861,374.56	10,861,374.56

6.4.2 North Oxford Road Complete Streets Improvement Project Funding

This project will include improve road, sidewalk, drainage, utility, safety, landscaping, and lighting improvements along North Oxford Road from SR 436 to Southcot Drive.

The MTMP accounts for the \$2,203,428 needed to fund construction of this project in FY 2016. This cost includes contributions from the following

sources: \$1,972,740 from the sales tax, \$33,970 from the stormwater fund, and \$196,718 from the water and sewer fund.

6.4.3 Triplet Lake Drive Improvements Project Funding

This project will reconstruct and realign a portion of Triplet Lake Drive from US 17-92 to east of the N/S Triplet Lake Drive intersection. The improvements will include drainage improvements, new sidewalks, improved lighting, and new sewer lines and water mains.

The MTMP accounts for \$4.2 million in funding (\$2,190,910 in sales tax funding, \$509,090 in funding from LOGT, and \$1,500,000 from the Neighborhood Improvement Program) in FY 2016 for construction of this project. It should be noted that this does not reflect the total cost of the project as the Community Redevelopment Agency (CRA), Stormwater Utility Fund, and Water/Sewer Utility Fund also contributed to the project.

7

Refined Project Prioritization

7.1 Introduction

Based on the results of the Initial Project Prioritization, 30 projects were advanced by the City of Casselberry as “short term” projects, ultimately resulting in each project having project costs developed (see Section 6.2 for more information). These project costs were then used to refine the project prioritization, which is discussed in greater detail in Section 7.2.

7.2 Methodology for Refined Project Prioritization

The Refined Project Prioritization centered on the calculation of a cost-benefit ratio. This cost-benefit ratio was computed by taking the amount of Sales Tax money needed for each project (some projects were anticipated to receive funding from other sources and thus needed less Sales Tax funds) and dividing it by the points awarded for each project (computed in the Initial Project Prioritization phase).

The project that had the lowest cost-benefit ratio (number closest to “1”) was given a rank of “1”. In the event that more than one project had the same cost-benefit ratio, ties were awarded.

7.3 Results

The results from the project prioritization are shown in Table 7.3-1. The projects are ranked from smallest to largest cost/benefit ratio.



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Connecting Casselberry - Multimodal Transportation Master Plan
Table 7.3-1: Results from the Refined Project Prioritization

Area	Project ID Number	Project Name	Points Awarded	Amount Needed from Sales Tax (Not Total Project Cost)*	Cost/Benefit Ratio	Rank (Overall)
Central	78	Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements**	88.00	\$33,704	383.0	1
East	30	Crosswalk Installation on S Winter Park Drive***	107.99	\$52,799	488.9	2
East	10	Lancelot Way On-Street Parking	72.00	\$36,636	508.8	3
Central	40	Queens Mirror Circle Pedestrian Safety Improvements	107.99	\$86,617	802.1	4
East	80	Crystal Bowl Circle On-Street Parking	84.01	\$79,038	940.8	5
Central	13	N Triplet Lake Drive Traffic Calming	84.00	\$95,538	1137.4	6
South	15	SR 436 @ Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements	86.01	\$101,000	1174.3	7
South	14	SR 436 @ Casselton Traffic Signal Improvements	81.99	\$101,000	1231.9	8
Central	56	Carriage Hill to Casselberry Greenway Trail Connection	88.01	\$116,845	1327.6	9
West	67	Cypress Way Traffic Calming	86.01	\$150,000	1744.0	10
East	17	S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements	90.00	\$180,000	2000.0	11
East	18	S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements	90.00	\$180,000	2000.0	11
East	16	S Winter Park Drive @ Wilshire Drive Traffic Signal Improvements	80.00	\$180,000	2250.0	13
East	7	S Winter Park Drive Bicycle/Pedestrian Improvements	100.00	\$300,000	3000.0	14
Central	8	Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements	91.99	\$296,205	3220.0	15
East	12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	85.99	\$290,407	3377.2	16
Central	1	US 17-92 to Sunset Drive Pedestrian Connectivity Improvements	94.01	\$325,036	3457.5	17
Central	3	Southcot Drive Bicycle/Pedestrian Improvements	85.99	\$301,476	3505.9	18
Central	6	Hibiscus Road Bicycle/Pedestrian Improvements	78.00	\$288,052	3693.0	19
Central	11	"Flower Street" Traffic Calming	86.01	\$327,940	3812.8	20
North	44	Lake Kathryn Circle Complete Street Improvements	96.01	\$417,603	4349.6	21
Central	5	Marigold Road Bicycle/Pedestrian Improvements	78.00	\$340,525	4365.7	22
Central	33	Overbrook Drive Improvements	62.00	\$294,228	4745.6	23
West	43	Lemon Lane Extension	91.99	\$725,422	7885.9	24
West	37	Concord Drive Improvements	85.99	\$853,894	9930.2	25
Central	4	Palm Drive Bicycle/Pedestrian Improvements	101.99	\$1,135,256	11131.1	26
North	65	Sunset Drive/Buttton Road/Seminola Boulevard Intersection Access and Safety Improvements	62.00	\$887,050	14307.3	27
North	48	N Winter Park Drive Trail	83.99	\$1,250,000	14882.7	28
Central	2	Sunset Drive Livable Street Improvements	91.99	\$1,484,555	16138.2	29
South	39	Casselton Drive and Greencastle Drive Improvements	94.00	\$2,006,373	21344.4	30
North	46	Gee Creek Trail	83.99	\$5,312,497	63251.5	31

*Note: This cost takes into account contributions from other sources, such as the Stormwater Fund and Water & Sewer Fund

**Note: Key accessibility elements of this project will be addressed as part of routine pavement maintenance rather than programming as a separate project.

***Note: This project was later adjusted and merged with project #7.



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8

Ten Year Spending Plan

8.1 Introduction

The final step in the development of the Casselberry Multimodal Transportation Master Plan was to program projects for funding. The spending plan takes into consideration:

- Various sources of revenue (Chapter 5);
- Various expenditures (Chapter 6); and
- The cost of the proposed projects (Chapter 6).

This chapter discusses the process used for programming projects throughout the 10 year duration of the Casselberry Multimodal Transportation Master Plan and presents the final 10 year funding plan.

8.2 Project Programming Process

After the Refined Project Prioritization Process, projects were ultimately programmed for funding. Several factors were taken into account when programming projects. They included:

- Prioritizing projects that had a better cost/benefit ratio than other projects
- Prioritizing projects that were listed on the Sales Tax Project List
- Prioritizing projects that could be completed at the same time as another construction effort (e.g., roadway improvements that could be completed with a sewer line replacement)
- Advancing the design components of select bicycle/pedestrian projects so that these projects would be eligible to apply for and possibly receive construction funding from MetroPlan Orlando (the region's Metropolitan Planning Organization)

- Attempting to group projects within close proximity to each other in order to achieve economies of scale in construction
- Attempting to provide an equitable spread of projects throughout the different planning districts in Casselberry

8.3 Results

Table 8.3-1 shows the results of the programming, which includes all of the various funding sources and expenses throughout the 10 year horizon of the plan. Table 8.3-1a is a condensed version of Table 8.3-1 and includes only the items expected to be funded by the sales tax. A table of the funded projects along with the expected contributions from the various funding sources for the year of implementation are included Appendix J.

In the event that additional funding is available to implement more projects, Table 8.3-2 lists additional projects that can be funded. This list is sorted in order of priority. Table 8.3-2 also lists the contributions from other funding sources (if applicable) in order to implement the project.

**Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Table 8.3-1: Ten Year Programming Plan**

	FY 2016 (9 Months)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total Total
Revenue												
Local Option Gas Tax	\$0	\$589,426	\$507,781	\$507,781	\$507,781	\$507,781	\$509,181	\$509,781	\$509,781	\$509,781	\$509,781	\$5,157,465
FDOT Reimbursements/Misc Revenue	\$0	\$33,950	\$33,744	\$33,744	\$33,744	\$33,744	\$33,744	\$33,744	\$33,744	\$33,744	\$33,744	\$337,260
Transfer from LOGT and Balance	\$0	\$37,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,410
Subtotal LOGT + FDOT/Reimbursements Revenue	\$0	1,059,780	541,525	541,525	541,525	541,525	543,925	543,525	543,525	543,525	543,525	\$5,088,071
Expenses												
Continental Sewer Service (from LOGT)	\$0	-\$51,250	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$52,531	-\$525,258
Local Option Gas Tax	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility System Operation	\$0	-\$15,000	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$178,222
Landscaping, Shrubs and Other Miscellaneous Expenses (from LOGT)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utility System Operation	\$0	-\$15,000	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$17,822	-\$178,222
Maintenance (from LOGT)	\$0	-\$117,000	-\$85,392	-\$85,392	-\$85,392	-\$85,392	-\$84,349	-\$83,886	-\$83,886	-\$83,886	-\$83,886	-\$800,517
Sanjour County Traffic Engineering Signal Maintenance (from LOGT)	\$0	-\$80,000	-\$84,050	-\$84,050	-\$84,050	-\$84,050	-\$84,306	-\$83,306	-\$83,306	-\$83,306	-\$83,306	-\$800,613
Miscellaneous Repairs and Maintenance (from LOGT)	\$0	-\$57,000	-\$2,800	-\$10,491	-\$10,029	-\$10,629	-\$115,602	-\$112,396	-\$115,602	-\$118,851	-\$122,417	-\$950,478
Road Maintenance (from LOGT)	\$0	-\$74,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$41,000	-\$410,000
Subtotal LOGT Expenses	\$0	-\$279,000	-\$313,198	-\$313,198	-\$313,198	-\$313,198	-\$329,853	-\$324,714	-\$329,853	-\$330,121	-\$324,243	-\$3,733,911
To Tripet Lake Dive Improvement	\$0	-\$609,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$609,000
Subtotal 1 - Surplus/Deficit	\$0	\$75,000	\$132,208	\$243,884	\$243,884	\$243,884	\$225,288	\$194,540	\$147,197	\$62,718	-\$82,718	\$0
LOGT Fund (Cumulative)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LOGT Available for Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Revenue												
Transfer from Neighborhood Improvement Program Fund Balance	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000,000
To Tripet Lake Dive Improvement	\$0	-\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$1,000,000
Subtotal 2 - Surplus/Deficit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Revenue												
General Fund (Sheets Maintenance)	2.00%	\$1,078,150	\$1,041,102	\$1,087,024	\$1,088,365	\$1,110,132	\$1,132,334	\$1,154,881	\$1,178,081	\$1,201,642	\$1,225,675	\$11,282,488
Operations and Capital from General Fund		\$0	-\$476,468	-\$447,426	-\$450,388	-\$458,942	-\$463,920	-\$469,952	-\$475,320	-\$481,346	-\$487,290	-\$4,588,791
Personnel Costs from General Fund		\$0	-\$601,682	-\$586,676	-\$616,638	-\$635,135	-\$673,815	-\$694,030	-\$714,850	-\$736,236	-\$758,385	-\$6,683,665
Personal Annual Increase	3%	\$0	-\$1,078,150	-\$1,041,102	-\$1,087,024	-\$1,088,365	-\$1,110,132	-\$1,154,881	-\$1,178,081	-\$1,201,642	-\$1,225,675	-\$11,282,488
Subtotal 3 - Surplus/Deficit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Revenue												
\$10 Million Loan		\$0,884,000	\$1,003,410	\$1,641,212	\$1,600,448	\$1,756,743	\$1,703,918	\$1,829,796	\$1,866,320	\$1,903,720	\$1,940,440	\$3,894,000
Subtotal Sales Tax Revenue	2.38%	\$11,058,945	\$1,583,410	\$1,724,285	\$1,756,743	\$1,756,743	\$1,703,918	\$1,829,796	\$1,866,320	\$1,903,720	\$1,940,440	\$27,346,292
Expenses (Paid by Sales Tax)												
Loan Issuance Costs (rounded from \$46,800)		-\$50,000	-\$479,027	-\$1,154,616	-\$1,154,616	-\$1,154,616	-\$1,154,320	-\$1,154,298	-\$1,154,026	-\$1,153,524	-\$1,153,173	-\$9,000,000
Payment Evaluation		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1. Microsurfing		\$0	-\$320,985	\$0	\$0	\$0	-\$365,158	\$0	-\$372,608	\$0	-\$235,679	-\$1,638,381
2. Mill and Overlay		\$0	-\$588,850	\$0	\$0	\$0	-\$324,105	\$0	-\$378,180	\$0	-\$128,794	-\$1,089,807
3. Accessibility Improvements		\$0	-\$85,306	\$0	\$0	\$0	-\$72,719	\$0	-\$78,481	\$0	-\$42,036	-\$346,602
4. Drains and Inspection		\$0	-\$85,306	\$0	\$0	\$0	-\$72,719	\$0	-\$78,481	\$0	-\$42,036	-\$346,602
5. Trails Rehab		\$0	-\$92,250	\$0	\$0	\$0	-\$113,251	\$0	-\$119,590	\$0	-\$126,724	-\$516,404
Miscellaneous Projects		\$0	\$0	\$0	\$0	\$0	-\$110,381	\$0	-\$116,309	-\$173,033	-\$0	-\$454,786
Subtotal Sales Tax Expenses		-\$50,000	-\$1,532,679	-\$1,297,165	-\$1,338,348	-\$1,297,273	-\$1,270,007	-\$1,366,230	-\$1,403,535	-\$1,366,230	-\$1,403,181	-\$17,056,910
Subtotal 4 - Surplus/Deficit		\$11,008,945	-\$288,289	-\$384,047	-\$884,100	-\$403,760	-\$483,981	-\$659,189	-\$657,143	-\$657,490	-\$657,732	\$10,288,982

**Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Table 8.3-1: Ten Year Programming Plan**

	FY 2015 (9 Months)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
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Revenues Available for Projects:												
LOGT Tax	\$11,008,945	\$11,008,945	\$394,657	\$357,109	-\$448,015	\$493,790	-\$483,591	\$558,109	-\$537,143	\$537,491	-\$1,347,752	\$10,286,997
Transfer from LOGT Fund Balance (to Triplet Lake Drive Improvement)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfer from Neighborhood Improvement Program Fund Balance (to Triplet Lake Drive Improvement)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Carryover from Previous Year	\$11,008,945	\$11,008,945	\$6,452,456	\$3,692,411	\$2,472,408	\$1,684,991	\$1,206,906	\$605,915	\$1,365,104	\$627,961	\$1,365,451	\$1,500,000
Available Revenue	\$11,008,945	\$11,008,945	\$6,855,909	\$4,044,511	\$2,024,393	\$2,369,791	\$895,919	\$1,881,104	\$2,798,961	\$1,636,451	\$1,777,191	

Project ID	Area	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1a	Central	X	\$1,072,740									
1b	Central	X	\$4,020,000									
2a	Central			\$55,809			\$310,716					
2b	Central											
3a	Central			\$61,074								
3b	Central											
4a	Central											
4b	Central											
5	Central											
6	Central											
7	Central											
8a	Central			\$50,544	\$397,149							
8b	Central						\$282,369					
10	East					\$40,922						
11	Central											
12	Central											
13	Central											
14	South						\$114,534					
15	South											
16	East					\$194,220						
17	East					\$194,220						
18	East					\$194,220						
19	Central											
20	Central											
21	West											
22	West											
23	West											
24	North											
25	North											
26	North											
27	North											
28	North											
29	North											
30	North											
31	North											
32	North											
33	North											
34	North											
35	North											
36	North											
37	West											
38a	South											
38b	South											
39	South											
40a	Central											
40b	Central											
41	West											
42	West											
43	West											
44	North											
45	North											
46	North											
47	North											
48	North											
49	North											
50	Central											
51	Central											
52	Central											
53	Central											
54	Central											
55	Central											
56	Central											
57	West											
58	West											
59	West											
60	East											
Amount Remaining to be Spent		\$11,008,945	\$6,442,456	\$3,692,411	\$2,472,408	\$1,894,991	\$1,289,906	\$895,915	\$1,365,104	\$827,961	\$1,365,451	\$1,777,191

Legend:
 (1) This amount only includes contributions from LOGT (\$500,000), the Neighborhood Improvement Program (\$1,500,000), and the sales tax (\$2,100,000). It is not the total project cost which includes contributions from the CRA, the stormwater fund, water/sewer utility fees, and water/sewer impact fees.
 (2) These projects are currently on the Metropolitan Orlando Prioritized Project List. Prior to officially programming construction of these projects in the City's FY 2020 Budget, the City should strategically evaluate (through coordination with FDOT and Metropolitan Orlando) for the availability and likely timing of regional/state/federal construction funding sources, which may free up City funds that can then be used on contingency projects instead.
 (3) The funding amounts listed here assume additional match funding will be available from other sources (e.g., County portion of sales tax or regional/state funding) in order to fully fund these projects. These projects have also been submitted for inclusion on the Metropolitan Orlando Prioritized Project List.
 *Note: This project is anticipated to be funded by FDOT.

See Appendix J for funding needs from other sources by year.

LOGT funding line items
 General fund line items
 Sales tax line items
 Neighborhood Improvement Program line items

**Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Table 8.3-1a: Condensed Ten Year Programming Plan**

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Revenues												
City Match	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
State Match	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sales Tax	\$1,064,945	\$1,039,410	\$1,041,212	\$1,000,449	\$1,724,268	\$1,759,743	\$1,793,918	\$1,828,796	\$1,866,392	\$1,903,720	\$1,941,048	\$17,452,292
Statewide Sales Tax Revenues	\$11,058,945	\$1,039,410	\$1,041,212	\$1,000,449	\$1,724,268	\$1,759,743	\$1,793,918	\$1,828,796	\$1,866,392	\$1,903,720	\$1,941,048	\$27,346,292
Expenditures (Paid by Sales Tax)												
Loan Repayment (10 Annual Payments)	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Pavement Evaluation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pavement Rehab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1. Mill (City)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2. Mill (County)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3. Curb Ramp/ADA Accessibility Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4. Design and Inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5. Trails Rehab	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Statewide Sales Tax Expenditures	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Statewide Sales Tax Expenditures	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000

Project ID	Area	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
14	Central											
15	Central											
16	Central											
17	Central											
18	Central											
19	Central											
20	Central											
21	Central											
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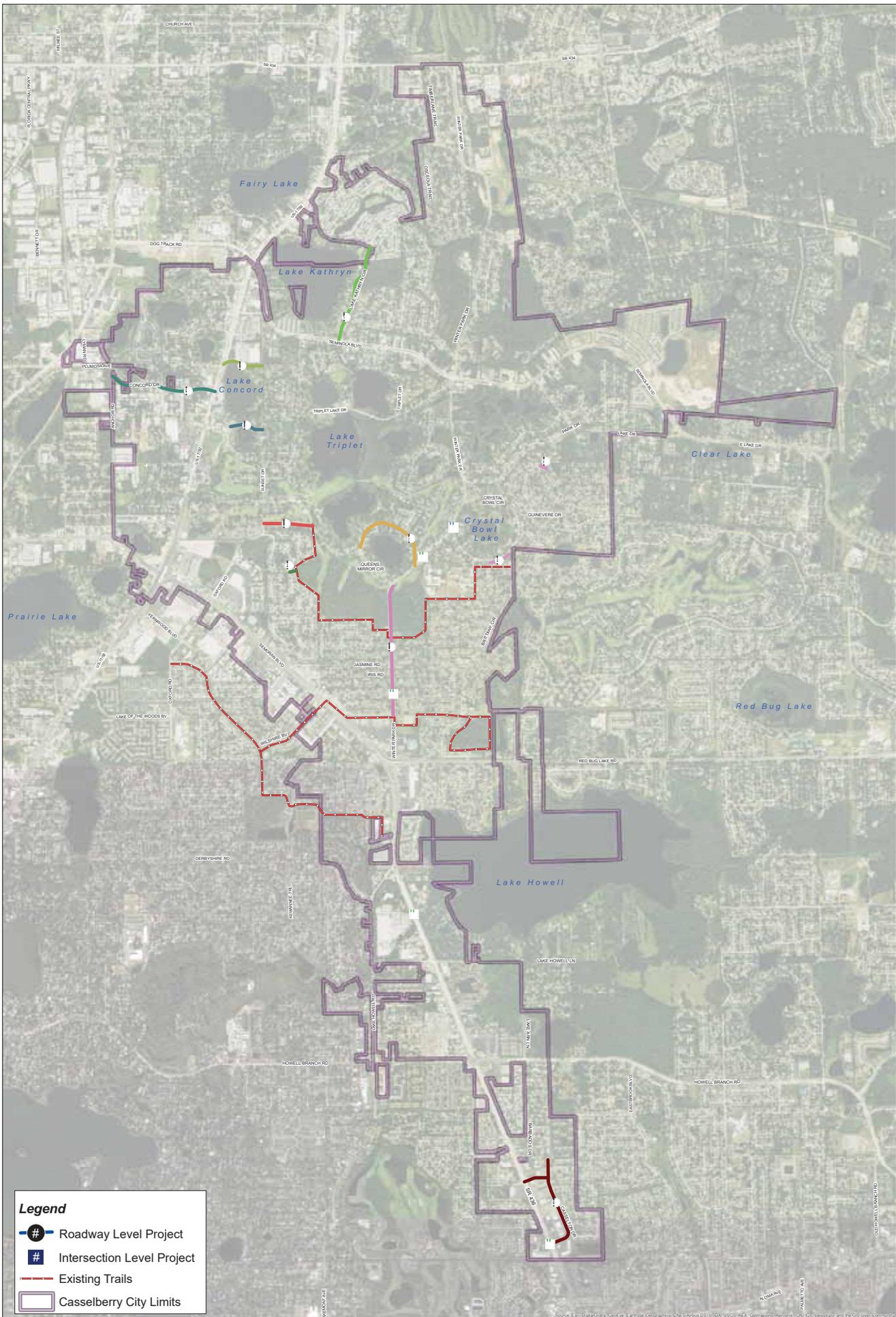
Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Table 8.3-2: Contingency Project List (in Priority Order)

Project ID Number	Area	Project	Total Project Cost (FY 2015 dollars)	Funding from Sales Tax (FY 2015 dollars)	Funding from Stormwater Fund (FY 2015 dollars)	Funding from Utility (FY 2015 dollars)	Funding from Other Sources (FY 2015 dollars)
13	Central	N Triplet Lake Drive Traffic Calming	\$96,000	\$96,000			
67	West	Cypress Way Traffic Calming	\$150,000	\$150,000			
12	East	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	\$291,000	\$291,000			
6	Central	Hibiscus Road Bicycle/Pedestrian Improvements	\$289,000	\$289,000			
11	Central	"Flower Street" Traffic Calming	\$328,000	\$328,000			
5	Central	Marigold Road Bicycle/Pedestrian Improvements	\$341,000	\$341,000			
4a	Central	Palm Drive Bicycle/Pedestrian Improvements (Design)	\$323,000	\$168,980	\$121,520	\$32,500	
4b	Central	Palm Drive Bicycle/Pedestrian Improvements (Construction)	\$967,000	\$967,000			

Note: Before dedicating funds to projects on this list, projects on the Programming Plan list in Table 8.3-1a that are only funded for design (e.g., certain projects on the MetroPlan Orlando Priority Lists) should be evaluated for construction funding status (whether it is from "freed up" Sales Tax or other local, regional, state, or federal funding sources).



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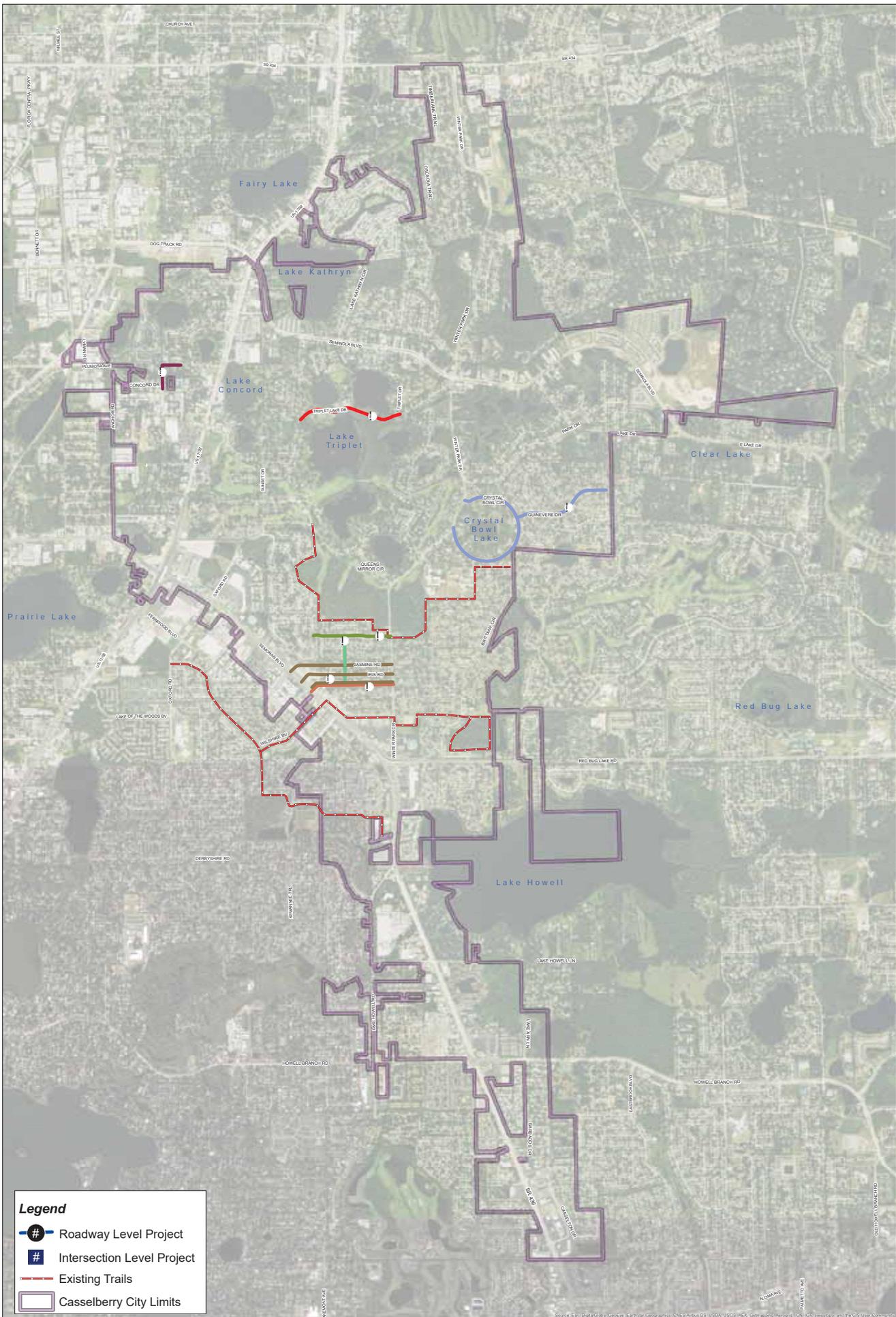
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- Roadway Level Project
- Intersection Level Project
- Existing Trails
- Casselberry City Limits



Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan
 Figure 8.3-1: Programmed Projects





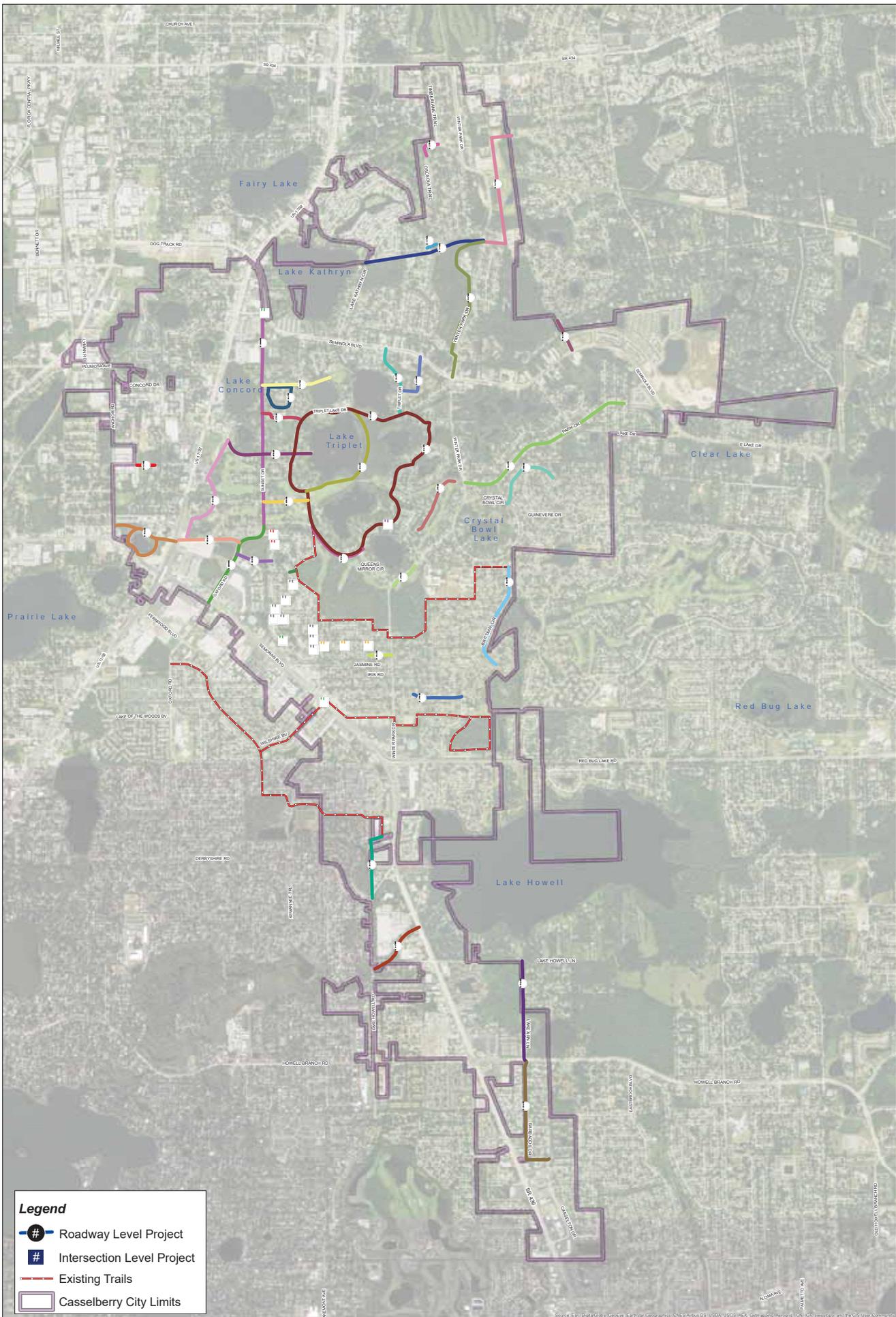
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- # Roadway Level Project
- # Intersection Level Project
- Existing Trails
- ▭ Casselberry City Limits



Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan
Figure 8.3-2: Contingency Projects





Legend

- Roadway Level Project
- Intersection Level Project
- Existing Trails
- Casselberry City Limits



Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan
 Figure 8.3-3: Unfunded Needs Projects





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9

Policy and Design Guidelines

9.1 Policy Overview and Comprehensive Plan Integration

The current Traffic Circulation Element (TCE) of the City's Comprehensive Plan (Comp Plan) establishes the following overall goal with regard to transportation:

***GOAL TCE. TRANSPORTATION CIRCULATION SYSTEM.** It shall be the goal of the City of Casselberry to ensure the planning and provision of a safe, efficient, balanced and economically feasible transportation system which meets the needs of existing and future land use activity, while maintaining environmental, residential, and economic compatibility.*

This goal is supported in the TCE by a series of objectives and policies. For reference, a copy of the entire current TCE is included within the MTMP Appendix K.

As stated in Section 1.1, the MTMP is intended to help support, implement, and add specificity to objectives and policies contained in the TCE of the Comprehensive Plan. Objective TCE 1 is the primary objective that is addressed by the MTMP:

***OBJECTIVE TCE 1. PROMOTE SAFE AND LIVABLE MULTI-MODAL TRANSPORTATION.** The City, along with other area governmental entities as appropriate, shall implement a comprehensive transportation strategy to promote mass transit, pedestrian, and bicycle use within the City and metropolitan area. This shall include a pedestrian and bicycle circulation system that addresses access to commercial areas and a sidewalk program.*

The following sections of the MTMP provide new expanded policy and guidance in support of the City's goals and objectives. It is important to note, however, that the MTMP does not encompass nor address all policies and standards established in the Comprehensive Plan and City Code with regard

to transportation. All of these documents must be used together, as well as updated cooperatively, to elucidate and carry out the City's vision for transportation.

The Comp Plan should be updated to reflect adoption of the MTMP. At the next Comp Plan update, the Bicycle Master Plan map in the Comp Plan should be replaced with the appropriate updated MTMP Project Map(s), and references should be updated as appropriate. Relevant transportation projects in the Capital Improvement Element of the Comp Plan should also be replaced with the updated MTMP schedule. For reference, a map depicting the existing and programmed trails, bike lanes, and shared lane markings is included in Appendix L.

The City's 5 year Capital Improvement Program (CIP) in future adopted budgets (beginning FY 2017) should also be aligned with the MTMP.

It should also be noted that concurrent with MTMP adoption, the 3rd Generation Sales Tax project list, Exhibit C for the City of Casselberry, should be updated to be consistent with the MTMP's programmed project list.

9.2 Sustainability Policy and Guidelines

Fiscal responsibility, sustainability, environmental stewardship, public health, safety, and welfare are core values to the City of Casselberry. In order to be part of a sustainable system that supports these values, transportation must be approached from social, economic, and environmental perspectives.

The following sub-sections describe the City's sustainability policy and guidelines as they relate to transportation. This sustainability policy shall apply to all City funded transportation projects and programs. It is also recommended as a guide for private and non-City funded public transportation projects within the City of Casselberry.

9.2.1 Program Integration

Program integration is key to fiscal responsibility and minimizing disruption to the community and environment. It is critically important to consider and align City master plans and projects related to transportation, stormwater, water/sewer, parks, and facilities. The programming of projects within the MTMP has taken into consideration coordination with other programs within Public Works, such as stormwater and water/sewer improvements that are needed within the same area as a given transportation project. Going

forward, with each iteration of the master plan, this alignment and integration of project components should be improved. For easier tracking, planning, and budget preparation, each master plan should cross-reference other master plans for relevant projects.

The City recognizes that perfect alignment may not be achievable, as certain programs may have exigent needs that require certain project components to be prioritized and completed sooner than can be practically scheduled in other programs.

9.2.2 Interagency Coordination

Similar to program integration, interagency coordination is an effective tool for improved fiscal responsibility and minimizing negative community and environmental impact. Moreover, interagency coordination can lead to an overall more efficient and effective regional transportation system that becomes an amenity to the community. Interagency coordination is important in all phases of transportation projects: planning, design, construction, operations, and maintenance.

As home of the major transportation crossroads of US 17-92 and SR 436, the City of Casselberry must coordinate and cooperate with its local, regional, and statewide partners, including MetroPlan Orlando, the Florida Department of Transportation (FDOT), LYNX, and Seminole County. Seminole County, in particular, maintains all traffic signals within the City and also has several County roads that pass through the City. In addition, neighboring sister Cities such as Altamonte Springs, Longwood, Winter Springs, Winter Park, and Maitland provide important connectivity opportunities, especially in terms of bicycle/trail connectivity and transit options such as SunRail. Each agency plays a key role in creating a viable multimodal transportation network that serves all users.

9.2.3 Sustainability Analysis & the Envision Sustainable Infrastructure Rating System

All transportation projects should be planned, designed, constructed, operated, and maintained with sustainability concepts in mind. Lifecycle costs, environmental considerations, and livability considerations should be factored into the design of all transportation projects.

For smaller projects, this may not need to be a detailed, in-depth analysis, but documentation on how sustainability concepts were considered should be recorded in the project file.

Especially for new capital projects anticipated to exceed \$1M in construction cost (not necessarily including routine roadway rehabilitation projects), a detailed analysis using the Envision sustainable infrastructure rating system should be conducted. Per the Institute for Sustainable Infrastructure (ISI):

The Envision sustainable infrastructure rating system is a comprehensive framework of 60 sustainability criteria that address the full range of environmental, social, and economic impacts to sustainability in project design, construction, and operation. These criteria—called “credits”—are arranged in five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk. The full Envision guidance manual detailing the credits is provided at no cost to users.

Envision recognizes that sustainable infrastructure isn't just about doing the project right, it's also about doing the right project. To determine the right project, Envision can be used in the earliest planning phases to evaluate infrastructure sustainability options that can result in significantly better outcomes. To do the project right, during the design and construction phases Envision provides a detailed, comprehensive set of criteria that help ensure that all significant areas of impact, as well as stakeholder views, are considered. Last but not least, when the project is complete, Envision serves as a basis for a project sustainability evaluation, helping stakeholders understand exactly how the project succeeded.

The purpose of this Envision requirement is not to add an onerous burden to a project. It is to help ensure a truly complete picture of sustainability and project impacts is created in order to help the City make appropriate, sustainable choices in the design of its transportation system. Additional information on Envision can be found at the ISI website:

<http://sustainableinfrastructure.org/envision/how-it-works/>

Staff members associated with project planning and design should be encouraged to obtain training in Envision, and the Envision analysis, if required for a project, should be included in the project scope for the design consultants.

9.2.4 Healthy Communities and Health Impact Assessments

The City's transportation system can have positive or negative impacts to health depending on how it is designed and managed. According to FHWA:

Transportation can affect human health, either positively or negatively, in several ways. For example:

- *Safety: Motor vehicle crashes are a leading cause of death. Using effective safety countermeasures and encouraging safe behaviors by all road users can reduce the number of fatalities and injuries. This is particularly important for vulnerable road users like pedestrians, bicyclists, children, and older adults.*
- *Air Quality: Transportation planning that reduces vehicle emissions improves air quality for everyone. The populations that benefit most from cleaner air are children, older adults, and individuals with respiratory diseases.*
- *Physical Activity: Incorporating bicycle and pedestrian (active transportation and recreation) infrastructure and facilities promotes physical activity. There is strong evidence that this activity can lower the risk of early death, heart disease, stroke, high blood pressure, and type 2 diabetes. Physical activity also can help prevent weight gain, reduce depression, and improve cognitive function (for older adults).*
- *Access to Goods, Services and Opportunities: Transportation systems can support individuals in leading a healthy life by improving access to recreational opportunities, healthy foods and health care as well as jobs, education and other necessities that improve quality of life. Providing affordable and convenient transportation options can promote more equitable opportunities within and between communities.*
- *Noise: Alternatives can be designed to reduce noise and thereby prevent or reduce adverse health effects like hearing loss, sleep disturbances, cardiovascular problems, performance reduction, annoyance responses, and adverse social behavior - all of which are associated with exposure to varying levels of noise.*

The built environment should be designed in such a way that physically active forms of transportation, such as cycling and walking, are integrated and encouraged – not just for recreational purposes, but for everyday mobility needs. This can have a significant positive impact on the health (including individual longevity), vibrancy, and prosperity of a community.

It is therefore important to view transportation projects and programs through the lens of community health. One means of accomplishing this is through a Health Impact Assessment (HIA). According to the National Research Council:

HIA is a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of the effects within the population. HIA provides recommendations on monitoring and managing those effects.

All transportation projects should consider community health during planning and design. Especially for small projects, this may not need to be a detailed, in-depth analysis, but documentation on how health was considered should be recorded in the project file. Especially for new capital projects anticipated to exceed \$1M in construction cost (not necessarily including routine roadway rehabilitation projects), conducting a more formal HIA very early in the project planning/design process should be considered.

The City should also seek support from local and regional stakeholders where warranted, such as the Department of Health and MetroPlan Orlando. Useful references to guide an HIA and related activities include:

- Centers for Disease Control and Prevention (CDC) *Transportation Health Impact Assessment Toolkit* (http://www.cdc.gov/healthyplaces/transportation/hia_toolkit.htm)
- National Research Council's *Improving Health in the United States: The Role of Health Impact Assessment*
- FHWA *Health in Transportation* website (http://www.fhwa.dot.gov/planning/health_in_transportation/)
- FHWA's *Statewide Transportation Planning for Healthy Communities* (https://www.planning.dot.gov/documents/VolpeFHWA_DOT_Health.pdf)
- Human Impact Partners (<http://www.humanimpact.org/>)
- MetroPlan Orlando *SR50 Health Impact Assessment* (<http://www.MetroPlanorlando.com/partnerships/sr50-health-impact-assessment/>)
- Mark Fenton's Resources website (<http://www.markfenton.com/resources.html>)

9.2.5 Maintenance and Sustainable Design Standards

The City of Casselberry recognizes the preeminent importance of maintenance of existing infrastructure above building new infrastructure. The City's existing transportation system represents an incredibly valuable asset that must above all else be effectively operated and maintained. The City recognizes lifecycle limitations and maintenance needs of transportation infrastructure. Allowing existing infrastructure to fall into a state of disrepair for the sake of constructing new projects is not an option. Maintenance must be a major factor in any transportation master plan.

The City should employ sustainable design considerations in all of its transportation construction and maintenance endeavors. Below are a few specific standards adopted as part of the MTMP. This is in no way an exhaustive list, and additional design standards and policy updates are recommended as a future task (see Chapter 10):

- 1) The City shall effectively maintain its existing roads by employing cracksealing, microsurfacing, milling and resurfacing, and other pavement preservation and rehabilitation methods on a recurring cycle to maintain road quality and extend road longevity, considering lifecycle cost/benefits of such rehabilitation efforts.
- 2) The City shall systematically repair/replace its sidewalks on a recurring cycle as needed to promote safe and accessible connectivity for all users.
- 3) In lieu of hot-mix asphalt, the City shall employ the use of warm-mix asphalt per the City's CASB 334 standard for public City projects requiring 500 tons or more of asphalt. Use of warm-mix asphalt is also highly encouraged for private development projects. (Warm-mix asphalt is produced at lower temperatures than conventional hot-mix asphalt. This has the benefit of saving energy; reducing emissions; and improving working conditions, compaction, and pavement longevity.)
- 4) To prolong the life of pavement materials, and to encourage more use of alternative transportation options such as walking, the City should maximize shading of streets, sidewalks, and trails by encouraging:
 - a. Street trees (with long term consideration for root systems, health of the tree, and potential negative impacts to infrastructure)
 - b. Trees on public and private property adjacent to streets, sidewalks, and trails (with the same considerations as above)
 - c. Architectural features that provide significant shade, especially during peak sun hours in the summer months.
- 5) Streetscape designs shall employ Florida-friendly landscaping principles and practices in both design and maintenance. Landscapes should be

designed considering the need for water conservation. Reclaimed water and/or harvested stormwater should be used when available and when needed for irrigation. Lifecycle costs of plantings shall be considered in the design of streetscapes.

9.3 Complete Streets Policy and Design Guidelines

The City of Casselberry affirms that all road projects should be designed to comfortably accommodate all users to the fullest extent possible; that bicycling, walking, the disabled, and public transit accommodations are a routine part of the city planning, design, construction, maintenance, and operating activities; and that bicycle and pedestrian ways should be considered in new construction, reconstruction, resurfacing or other retrofit projects. In developing these accommodations, the latest, best, and context-sensitive design standards will be used, while recognizing the need for flexibility in balancing user needs.

The following section expands significantly upon the Complete Streets Policy within the TCE, adding specificity and guiding implementation.

Note: This Complete Streets Policy is modeled after a 2015 draft MetroPlan Orlando Complete Streets Policy plus certain elements of the City of Longwood's Complete Street Policy, with additional content and adjustments to suit the City of Casselberry and its Comprehensive Plan.

9.3.1 Purpose

The City, through this Complete Streets Policy, shall design, build, and maintain a safe, reliable, efficient, integrated and connected multimodal transportation network that will provide access, mobility, safety and connectivity for all users. Complete Streets design will promote improved health, economic growth, public safety, recreational opportunity, and social equality throughout the City of Casselberry, and will ensure that the safety and convenience of all users of the transportation system are accommodated. The City of Casselberry will fund and support the planning, design and construction of complete streets as a fundamental component of its transportation program. This policy ensures that officials, planners, engineers, developers, and other stakeholders working on projects and programs within the City of Casselberry plan and design roadways with consideration for all users. This policy also helps ensure consistency among planned/future complete streets projects within the City of Casselberry .

9.3.2 Background

Today's changing financial, environmental, social, and economic realities are requiring regions throughout the country to rethink the previous approach towards transportation planning and decision-making. Increasingly, communities are being asked to develop project solutions that address the multimodal mobility, economic development, health, and livability needs of a community. The City of Casselberry recognizes this new challenge and seeks to incorporate "Complete Streets" thinking throughout the City's transportation investments.

Complete Streets support vibrant, sustainable communities. Complete Streets expand travel choices; increase safety and comfort for pedestrians, cyclists, and transit users; and introduce more community recreational opportunities. Consequently, Complete Streets can support economic growth by providing the multimodal and efficient connections that can strengthen the region's activity centers. Various case studies provide supporting evidence that Complete Streets can increase property values and have a positive economic impact on a community. Implementing Complete Streets supports the following overarching goals:

- Safety
- Balanced Multi-Modal System
- Integrated Regional System
- Quality of Life
- Efficiency and Cost Effectiveness
- Energy and Environmental Stewardship
- Economic Vitality

The City's Traffic Circulation Element (TCE) within the Comprehensive Plan contains the following Complete Streets Policy:

Policy TCE 3.8 Complete Streets. Implement a "complete streets" policy, as established by the Federal Highway Administration, to accommodate all modes of transportation in plans for roadway modifications within the City. The intent of this policy is to develop a comprehensive, integrated, multimodal street network by coordinating transportation planning strategies and private development activities as follows:

- ***Provide safe and convenient on-site pedestrian circulation such as sidewalks and crosswalks connecting buildings, parking areas, and existing or planned public sidewalks.***
- ***Provide cross-access connections/easements or joint driveways where available and cost effective.***

- *Deed land or convey required easements, as requested by the City, for the construction of public sidewalks, bus turn-out facilities, and/or bus shelters with appropriate credits toward developer contribution requirements.*
- *Where appropriate, developers shall provide for the following improvements with credits toward contribution requirements:*
 - Project turn lanes*
 - Bus Shelters*
 - Adjacent sidewalks*
 - Streetscaping/landscaping within the public right-of-way*
 - Additional bicycle parking*

While the overall intent of the TCE's policy is clear, its specificity is focused on Complete Streets implementation mainly from a development perspective. It is the intent of this MTMP Complete Streets Policy to provide additional policy and guidance to achieve the systemwide intent of Complete Streets, both from a public investment and private development perspective.

9.3.3 Definition

Complete Streets are planned, designed, operated, and maintained to enable safe access for all users of all ages and abilities, meaning that pedestrians, cyclists, the disabled, motorists, freight and service operators, and public transportation users are able to safely and efficiently move through the transportation network. Complete Streets provide access to all users in a manner that promotes safe, efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle. This Complete Streets Policy recognizes that, depending on context, streets may serve diverse activities, functions, and intensity of uses, and that not all uses are necessarily appropriate for all streets.

9.3.4 Vision

The City of Casselberry's Complete Streets vision is: *a safe, reliable, efficient, integrated and connected multimodal transportation network that will provide access, mobility, safety and connectivity for all users while supporting a vibrant local community.*

9.3.5 Goals

The goals of this Complete Street Policy are:

- 1) Create a network of roads and trails for all users.
- 2) Provide safe travel alternatives for vulnerable users of all ages and abilities.
- 3) Support redevelopment of and connectivity to activity centers.
- 4) Provide safe and effective walking and bicycling access to transit.

9.3.6 Applicability

This Complete Street Policy applies to all City-owned transportation facilities in the public right-of-way and public easements including, but not limited to, streets, sidewalks, and all other connecting pathways. All phases of project implementation are covered, including planning, design, right-of-way acquisition, construction, and operations and maintenance. (The City considers maintenance and operations activities as opportunities to provide safer and more accessible transportation options for all users.)

New and redeveloped privately constructed streets and parking lots should also adhere to this policy and related policies as expressed through the City of Casselberry Comprehensive Plan, City Code/Unified Land Development Regulations, and other relevant documents, with a key focus on achieving a viable interface between private development and the City's multimodal transportation system.

To the extent practicable, these guidelines and standards should also apply to State and County transportation facilities within the City of Casselberry, as coordinated with appropriate agencies including the Florida Department of Transportation and Seminole County. The City understands that these facilities are not under the City's purview and ultimately policy, standards, planning, design, and construction decisions rest with their respective jurisdictions.

The City of Casselberry recognizes the need for interdisciplinary and cross-jurisdictional coordination to effectively develop, operate, and maintain bicycle and pedestrian networks and transit facilities. The City of Casselberry supports a systems approach to developing road projects, especially to ensure coordination with nearby jurisdictions, projects, and plans. If projects are linking to or in proximity to each other, the projects should be coordinated to ensure a facility's consistency and to allow for utmost resource efficiency in project implementation.

9.3.7 Design Standards and Guidelines

Designs shall consider accommodations for all users and be sensitive to the context of the project setting. Complete Streets may look different for every project and road type. Facilities will be designed and constructed in accordance with current applicable laws and regulations, using best practices and guidance from a variety of organizations, including but not limited to the following:

- **FDOT guidelines and manuals, including the *Florida Greenbook (Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways)***
- American Association of State Highway and Transportation Officials (AASHTO) publications, including *AASHTO Guide for the Development of Bicycle Facilities, Fourth Edition* and *Guide for the Planning, Design, and Operation of Pedestrian Facilities*
- FHWA *Manual on Uniform Traffic Control Devices* (MUTCD)
- *Americans with Disabilities Act Accessibility Guidelines* (ADAAG)
- *Public Rights-of-Way Accessibility Guidelines* (PROWAG)
- *Urban Bikeway Design Guide* and the *Urban Street Design Guide* by the National Association of City Transportation Officials (NACTO)
- ITE (www.ite.org) publications and guidance, including *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice* and *Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges*
- Association of Pedestrian and Bicycle Professionals *Essentials of Bicycle Parking* (www.apbp.org)
- Smart Growth America publications (www.smartgrowthamerica.org)
- Pedestrian and Bicycle Information Center (www.pedbikeinfo.org)
- FHWA Office of Safety (www.safety.fhwa.dot.gov)
- NHTSA (www.nhtsa.gov)
- **Crash Modification Factors Clearinghouse** (www.cmfclearinghouse.org)
- TRB Highway Safety Performance Committee (www.safetyperformance.org)
- *Highway Capacity Manual (HCM) 2010*
- *Highway Safety Manual* (www.highwaysafetymanual.org)

Context Sensitivity

The City of Casselberry recognizes that Complete Streets solutions vary according to each street's land use context. Appropriate design standards and input from community members should be considered within each context that provide for a flexible, innovative, and balanced approach resulting in safety for all users.

Additional Design Guidance

Additional design standards and policy updates are recommended as a future task (see Chapter 10), but below is specific guidance on certain key issues. This should not be construed as exhaustive guidance, as the above design standards and guidance references should be employed. Rather, these specific points serve as a quick reference tool for planners, engineers, and developers in designing certain transportation components within the City of Casselberry. It is important to note that feasibility and appropriateness in context should be considered when applying these design standards and guidelines; not all will apply to every project.

1. **PROWAG** (Public Rights-of-Way Accessibility Guidelines) should be used in the design of all public streets. PROWAG is currently in draft form and is anticipated to be adopted later in 2016, but use of draft guidance now is encouraged: <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines/>.
2. **Curb ramps and other accessibility improvements** necessary for ADA/PROWAG compliance should be provided concurrently with microsurfacing or more advanced road rehabilitation.
3. Where **level of service (LOS)** is evaluated, the HCM 2010 multimodal approach to LOS evaluation should be used.
4. The **sidewalk zone system** (curb, furniture, pedestrian, frontage zones) should be employed in streetscape/sidewalk design.
5. **New sidewalks** should generally be 6 feet or greater in width where feasible.
6. **Driveways** should be built as driveways not intersections, i.e., use of concrete aprons and integrated sidewalk (as opposed to asphalt with a striped crossing); this type of design encourages slow-speed turns.
7. **Facilities Connectivity**
 - a. At a minimum, accessible paths should be provided from street sidewalk systems to public and private facilities.
 - b. Where feasible, direct pedestrian access should be provided to public and private facilities with no vehicular conflicts.
8. **Crosswalks**
 - a. Crosswalks must be designed for vehicular visibility, including:

- i. For textured/brick/paver crossings, white transverse lines should be placed along the border (typically on ribbon curb).
 - ii. For asphalt or concrete crossings, white longitudinal and transverse markings should be used, especially at midblock/unprotected crossings.
 - iii. Advance stop lines should be properly placed a sufficient distance from the actual crossing on multilane roads to reduce risk from “multiple threat” crash scenarios at crossings.
 - iv. Use of rectangular rapid flash beacons (RRFB’s) may be appropriate at certain crossing locations on low speed roads.
 - b. Design should consider realistic crossing behavior, including:
 - i. Placement of at-grade crosswalks should be at logical crossing points that are likely to be used by pedestrians.
 - ii. Planning and design for potential pedestrian bridges/grade separated crossings should consider potential for actual use vs. avoidance by pedestrians and cyclists.
 - c. Road alignments, radii, curb extensions, and other design elements should facilitate short pedestrian crossing paths and avoid awkward skew angles that decrease visibility.
 - d. Curb ramps for crosswalks should be directional in placement, i.e., typically two channelized ramps (one in each direction of pedestrian travel) are preferred at each intersection corner as opposed to a single, diagonally oriented curb ramp.
 - e. Crosswalk materials should be evaluated for safety and comfort of all users during the design phase of a project (including pavers and striping materials).

9. Signalized Intersections

- a. Signalized intersections should have marked and signalized pedestrian crosswalks on all legs of the intersection.
- b. Cyclist detection should be provided.
- c. Proper pushbutton and pedestrian signal head placement must be provided.
- d. Pushbuttons should have visible, tactile, and/or audible cues to communicate with pedestrians.
- e. Accessible Pedestrian Signals (APS) are encouraged.
- f. To help discourage pedestrians from walking against signals, signal cycles should factor in pedestrians, balancing vehicular traffic flow with reasonable wait times for pedestrians.

- g. Pedestrian detection and dilemma zone detection, where feasible, allowable, and appropriate in context, should be considered.
- h. Where feasible and appropriate in context, use of ITS (intelligent transportation systems) technology to adjust signal timing (including pedestrian signals) is encouraged.
- i. Signage and various other countermeasures (such as “No turn on red”, leading pedestrian intervals, and protected-only left turns when pedestrian buttons are pushed) should be considered to reduce pedestrian/vehicle conflicts.

10. Streetlighting

- a. Streetlighting should be designed to also effectively serve pedestrians, not just vehicles.
- b. Crosswalks should be effectively illuminated and lighting positioned to eliminate the “silhouette” effect on pedestrians.

11. Vehicular & Bicycle Parking

- a. Parking lots should not be configured such that sidewalks are encroached upon for backing.
- b. Where angled parking is proposed on public streets, back-in style (“heads out”) parking should be considered for improved safety.
- c. When used, on-street parking (and bike lanes, if provided) should be designed to mitigate door zone/cyclist conflicts.
- d. The Association of Pedestrian and Bicycle Professionals *Essentials of Bicycle Parking* should be used as a guide in the provision, placement, and design of bicycle parking facilities.

12. Transit stops should be placed to avoid “multiple threat” scenarios to pedestrians on multilane roads.

13. Construction Zone Maintenance of Traffic (MOT)

- a. MOT must consider and accommodate pedestrians, cyclists, and motorists and must meet accessibility requirements.
- b. Use of steel plates for cyclists, motorcyclists, and pedestrians is discouraged due to potential slip hazards.

9.3.8 Implementation

- A. All public transportation projects funded by the City shall be analyzed from the perspective of this Complete Streets Policy & Design Guidelines during the design phase. This analysis may not necessarily need to be in-depth, especially for small projects, but documentation of what analyses were completed and the outcomes should be a standard operating procedure for each project design.

- B. To the extent that the City is involved in the review process of transportation projects not under the City's purview (e.g., FDOT, Seminole County), reviews performed by the City shall include analysis from the perspective of this Complete Streets Policy & Design Guidelines, and relevant resulting comments shall be provided to the appropriate jurisdiction.
- C. The City shall incorporate Complete Streets into budgeting processes, work plans, and staffing projections and consider Complete Streets one of the priorities in roadway planning and funding decisions.
- D. In addition to using its own readily available funding sources, the City will actively seek additional sources of funding to implement Complete Streets, including but not limited to MetroPlan Orlando, FDOT, Seminole County, Federal agencies, and private foundations.
- E. In planning for capital transportation and maintenance projects, the City shall give extra weight to those projects that can provide a meaningful benefit to improvement of the transportation network consistent with this policy.
- F. The City shall prioritize the safe movement of pedestrians, bicycle, the disabled, and public transportation traffic in decisions regarding the use of limited public right-of-way, with consideration given to roadway context and land use.
- G. City staff shall reference this Complete Streets Policy during the Development Review process as a guide to developers.
- H. As appropriate, the City will participate in and support efforts conducted by MetroPlan Orlando and other agencies to assist local agencies in implementing Complete Streets policies; training elected officials, community leaders, and private development partners on the benefits of Complete Streets; and distributing current best practice information on Complete Streets design.

9.3.9 Evaluation/Performance Measures

The City of Casselberry shall, at a minimum, evaluate this policy every five years. The City of Casselberry will report the performance of the Complete Streets policy based on the measures listed below, compared to the previous review period, in order to evaluate the success of the policy's implementation:

- Total mileage of bike lanes and trails built or designated
- Total mileage of shared lane markings installed
- Linear feet of new or improved sidewalks
- Number of new curb ramps installed
- Number of new pedestrian and/or bicycle wayfinding and safety signs

installed

9.3.10 Interagency Coordination and Policy Updates

Complete Streets is a regional vision, not just a local one. It is important that Complete Streets Policies from various jurisdictions are congruent and coordinated sufficiently to achieve regional goals.

The Florida Department of Transportation (FDOT) recently completed both a statewide Complete Streets Policy and a Complete Streets Implementation Plan. In 2015, MetroPlan Orlando established a Complete Streets Task Force and is working to complete and adopt its own regional Complete Streets Policy in 2016. (As previously noted, the MTMP's Complete Streets Policy is based in part on a draft policy from MetroPlan Orlando.)

The City of Casselberry is also working with the Winter Park Health Foundation, Smart Growth America, the City of Winter Park, the City of Longwood, the City of Maitland, the City of Orlando, and other stakeholders to strategize implementation of Complete Streets.

All of these efforts are important to an efficient and effective regional transportation system that promotes vibrant communities. As regional work continues on Complete Streets, future updates to the City's Complete Streets Policy, guidelines, and programs may be needed to ensure policies and plans are well coordinated. (See also Chapter 10 for recommended additional tasks.)



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Future Tasks and Conclusion

10.1 Future Tasks Overview

The Casselberry Multimodal Transportation Master Plan is intended to be a living document that is updated and enhanced routinely. The MTMP establishes a foundation that can be built upon in order for the community to refine and better implement its transportation vision.

With this in mind, at least \$30,000 per year on average (from the General Fund) should be allocated from FY 2017 through FY 2025 to help cover additional studies and other tasks related to transportation. This allocation is intended to cover only moderate support from consultants. Significant staff time will also be required. Therefore, depending on staff availability and resources, studies and/or other tasks may need to be deferred, reduced in scope, or funding increased to cover additional consultant cost to offset gaps in in-house resources. Also, where certain tasks are anticipated to overlap multiple fiscal years (and cost more than a single year's allocation), full funding for the task should generally be made available in the first year it is proposed.

As noted previously, the MTMP is intended to be a living document. As future studies, tasks, and other updates are completed, they should be appended to the MTMP to help centralize information and ensure consistency of projects and programs.

Sections 10.2 through 10.7 describe the programming of these future tasks by fiscal year.

10.2 Fiscal Year 2017: Signage, Striping, Mapping, & Outreach Opportunities

It is recommended that in Fiscal Year 2017 the City work to identify relatively inexpensive opportunities to significantly enhance wayfinding and safety for transportation users. This can be accomplished by focusing on signage, striping, mapping, and outreach opportunities related to transportation.

Specific components of this task should include but not necessarily be limited to:

1. Wayfinding signage opportunities should be identified, including (but not necessarily limited to):
 - a. Additional and/or updated neighborhood identification signage (including locations, style, and verbiage).
 - b. Additional and/or updated trail wayfinding signage (including information on connectivity to regional trails) to improve access to existing trail facilities and to enhance regional connectivity. This signage need not be on trails only; on-street signage could be used to guide cyclists and pedestrians to nearby trail systems, including providing connectivity information when streets/sidewalks must be used to link between separate trails.
 - c. Freight/truck route signage field review and updates as needed.
 - d. Additional transit connectivity signage (e.g., SunRail, LYNX).
 - e. Additional signage for government facilities including parks, City Hall, post office, library, golf course, etc. Such signage may include QR codes or other link information to allow smart phones or other devices to access pre-made destination maps that show the route to either a trail, park, or government facility and tells them the estimated time (per mode) and which route to take.
2. Safety signage and striping opportunities should be identified, including (but not necessarily limited to):
 - a. Enhancements to existing pedestrian and trail crossings.
 - b. Updates to trail regulatory signage for clarity and consistency between motorist and trail-user (e.g., "Yield", "Stop" locations).
 - c. Identification of deficient or degraded existing roadway striping or signage that needs to be updated.
 - d. Improvements to "share the road" and other cyclist-related signage.

- e. Potential striping “experiments” to be conducted during road rehabilitation cycles (e.g., striping may be used to visually narrow the road on certain streets for traffic calming, or potentially formally designate parking, or improve pedestrian crossings, etc.). Striping may be able to serve as a cost effective preliminary “test” for more permanent future improvements. In some cases, removal, reduction, or reconfiguration of existing striping may also be beneficial.
3. Outreach for wayfinding and safety should include a combination of print media, web media, social media, and events that addresses:
 - a. Public input to provide guidance on the aforementioned components.
 - b. Safety guidance/“rules of the road” for cyclists, pedestrians, school age children, and motorists.
 - c. Updated and enhanced trail and pedestrian and bicycle-friendly route maps and information.
 - d. Updated freight/truck route maps (see also Section 10.3).
4. An implementation and funding plan should be developed to cover additional efforts that will be required to physically create and install the signage and striping identified as a result of this effort.

This will be a significant interdepartmental effort that will involve Public Works, Community Development, the Police Department, the City Commission, and other public and private stakeholders.

10.3 Fiscal Years 2018 and 2019: Multimodal Safety & Connectivity Opportunities

In FY 2018 and FY 2019, the City should conduct a study or studies that address multiple modes of transportation with a focus on improving safety and connectivity. This effort should have a particular focus on alternative transportation modes including pedestrians, bicycles, and golf carts.

Specific components of this task should include but not necessarily be limited to:

1. An existing and proposed system analysis should be performed, including:
 - a. Gap analysis
 - b. Crash data/safety “hot spot” analysis
 - c. GIS updates (including, but not limited to, sidewalks, trails, and freight/truck routes)

- d. Freight/truck route analysis (including conflicts)
 - e. Transit access/connectivity
2. Stakeholder involvement for various task phases should include:
 - a. Neighborhood-specific activities
 - b. Citywide activities
 - c. School activities (including Safe Routes To School)
 - d. Emergency services input
 - e. Walking audits, road safety audits, and/or other field exercises
3. Small projects should be identified that could be accomplished during this MTMP's ten-year cycle, as well as long term projects that could be considered by and incorporated into future MTMP's.
4. Potential for "Bike Boulevard" designations and signage should be identified.
5. Specific guidance should be provided for future projects that are programmed but not yet designed (e.g., design for specific mixed modes).
6. Specific guidance should be provided for signal improvements (e.g., bike detection, pedestrian detection, accessibility).
7. With assistance from relevant stakeholders, the City should complete an application for *Bicycle Friendly Community* designation from the League of American Bicyclists (www.bikeleague.org). This will, at a minimum, result in valuable feedback to the City to identify potential deficiencies and improvements, with a goal of eventually achieving Bronze or better designation.
8. Program and policy opportunities should be identified, including but not limited to:
 - a. Education (including staff and general public)
 - b. Enforcement
 - c. Policy updates (e.g., addressing mixed modes such as golf carts, bicycles, and/or automobiles on roads and/or other facilities)
9. City Code updates should be identified that address identified issues such as mixed modes and shared use of facilities. This effort should also consider Code updates related to complete streets and possibly allowing for truly mixed use projects to receive credit for pedestrian connections or other multimodal features, possibly allowing for reduction of parking requirements and/or impact fees and/or other incentives.
10. Additional funding opportunities and strategies should be identified (e.g., grants, private sector donations, SRTS funding)
11. An ADA (Americans with Disabilities Act) Self Evaluation, ADA Transition Plan, and Pedestrian Safety Action Plan should be

completed. These plans (which may or may not be consolidated) should address the following (not necessarily an exhaustive list):

- a. Curb ramps/accessibility
- b. Signal upgrades
- c. Long term, systematic approaches to address accessibility and safety
- d. Prioritization of improvements

As part of this effort, some of the analyses and results from the efforts in Section 10.2 can be incorporated and expanded upon. Also, this effort should address integration with relevant components of the Parks Master Plan.

10.4 Fiscal Year 2020: Design Standards, City Code, and Policy Updates

As presented in Chapter 9, the MTMP provides new expanded policy and guidance in support of the City's transportation goals and objectives, but it does not encompass nor address all policies and standards established in the Comprehensive Plan and City Code with regard to transportation. It is important to routinely update all pertinent, transportation-related official City documents to ensure they 1) are complementary to each other, 2) reflect the City's current transportation vision, and 3) have internal consistency.

Therefore, it is recommended that in FY 2020 the City review and update as necessary any relevant transportation policies, processes, and design standards that fall its purview, including (but not necessarily limited to) the Comprehensive Plan, City Code (including Unified Land Development Regulations), and policies and design standards contained within this MTMP. These documents should be reviewed and updated to ensure they represent the City's transportation vision, provide clear and industry-accepted guidance with regard to acceptable design standards, formalize and strengthen requirements for both public and private development, and provide sufficient consistency with other regional and statewide policies to effect a viable regional multimodal transportation system.

This effort should include the required evaluation from the Complete Streets Policy in Section 9.3.9. It should also draw from the relevant analyses, results, and recommendations from the studies/tasks identified in Sections 10.2 and 10.3.

This will be a significant interdepartmental effort that will involve Public Works, Community Development, the Planning and Zoning Commission, and

the City Commission. It may also involve the Police Department (e.g., for enforcement/education policies and programs) and other public and private stakeholders.

10.5 Fiscal Year 2021 MTMP: Mid-Course Update

Since many projects could not be funded during the assembly of this plan, it is recommended that in FY 2021, the City of Casselberry complete an interim update to this MTMP to provide an updated roadmap accounting for changing financial conditions and/or infrastructure needs. This update should focus primarily on project prioritization and programming. It should account for accomplishments and deviations from the initial MTMP project schedule. It should account for actual costs incurred, market conditions, anticipated available transportation funding sources, and changes in proposed projects (if any).

This task is only intended to be an interim update to cover FY 2022 through FY 2025, as a full MTMP update is proposed in Section 10.7 to cover FY 2026 through FY 2035.

10.6 Fiscal Year 2022 & 2023: Transit Opportunities, Commuter Options, & Personal Mobility

As noted in Section 6.3.1., no transit-specific local projects or programs are proposed in this iteration of the MTMP for a variety of reasons, including potential for significant changes in transit and personal mobility in the next few years due in part to changes in technology and various public and private mobility services.

Regarding transit, the City's 2011 *Transportation Mobility Study* analyzed existing LYNX service and transit deficiencies. It envisioned potential new LYNX service along portions of Red Bug Lake Road, N/S Winter Park Drive, and Seminola Blvd (into Winter Springs). Further, as part of the FlexBus design effort, the City identified multiple potential FlexBus stop locations throughout the City that would enhance connectivity and mobility options, including providing connectivity to three SunRail stations in the neighboring Cities of Altamonte Springs, Longwood, and Maitland. In addition, input on potential bus stop/service locations was included in the public workshops conducted as part of this MTMP effort. Also as previously noted, important corridor studies for SR 436 and other regional efforts are also underway that will impact mobility in the City of Casselberry.

Regarding commuter options, the City (as an employer) has partnered with ReThink, Central Florida's commuter assistance program offered through FDOT. With a combination of this partnership, its compressed workweek, and other commuter benefits, in 2015 the City achieved the designation of *Best Workplaces for Commuters* by the National Center for Transit Research.

During FY 2022 and FY 2023, the City should conduct a study and/or studies to further address transit, personal mobility, and commuter options Citywide. This effort should draw upon past studies and efforts. Its tasks should include, but not be limited to:

1. Soliciting significant public input and conducting travel demand analyses to better determine the true transit/mobility needs of the City. Outreach should target City residents, businesses, and visitors.
2. Identifying ways to encourage City employees, and transportation users in general within the City, to use alternative transportation choices, including bus, SunRail, carpooling, and bike/ped options.
3. Identifying ways to increase utilization of non-motorized facilities and to motivate individuals to use these facilities for a purpose-based trip (as opposed to only recreational trips).
4. Examining potential new transit and personal mobility services, such as, but not necessarily limited to:
 - a. Those LYNX bus services identified in the *Transportation Mobility Study* referenced above.
 - b. LYNX service offerings such as *Neighborlink* (curb to curb service).
 - c. Publicly or privately operated shared-ride, on demand transit services such as those envisioned in the FlexBus project. (It should be noted that, as of early 2016, a pilot program called VTA FLEX is in operation in Santa Clara, California. Very similar to the FlexBus project envisioned in Central Florida, VTA FLEX could be used as a basis of actual "lessons learned" in the City of Casselberry's future transit study.)
 - d. A local circulator service serving key activity centers, commercial areas, residential areas, and/or SunRail.
 - e. Public subsidy for and/or partnerships with private personal mobility services (such as Uber or Lyft).
 - f. Carshare (such as Zipcar) and bikeshare (such as Juice Bike Share) programs.
5. Identifying capital/infrastructure needs for new or improved transit services (and connectivity thereto.)

6. Identifying funding opportunities from both public and private sources to promote transit and commuter options, both in terms of capital and operating costs.
7. Coordinating with relevant local, regional, and state stakeholders to deliver integrated transit systems and commuter programs (e.g., LYNX, FDOT, Seminole County, surrounding Cities, Metroplan Orlando, as well as private businesses and other organizations).
8. Evaluating the accessibility of mobility options proposed, with a goal of providing a balanced transportation system that is nondiscriminatory and truly accessible to all users of all ages and abilities.

The intent of these efforts will be to gather information and plans that could then be incorporated into the next full iteration of the MTMP. In the meantime, the City should continue to monitor for potential transit and commuter program opportunities and continue interagency planning/coordination efforts.

10.7 Fiscal Years 2024 and 2025: Development of the Next Multimodal Transportation Master Plan

As the ten year period covered by the project list within the MTMP and the 3rd generation sales tax draws to a close, development of the next full iteration of the MTMP should be completed.

This update should account for accomplishments and deviations from this MTMP. It should reflect and consolidate policy and design standard updates, and it should account for anticipated available transportation funding sources and new opportunities. The new MTMP should draw significantly from the analyses, conclusions, and recommendations completed as part of the additional studies/tasks in Sections 10.2 through 10.6. In addition, the new MTMP should focus on successfully soliciting significant public input for potential new projects and feedback on proposed projects (while this was attempted with significant effort in this first MTMP iteration, it was met with limited success).

10.8 Interagency Efforts & Coordination

The MTMP is primarily focused on the City's own transportation system, i.e., that which falls under the City's jurisdiction. However, there are important

regional partnerships with efforts underway that help complement what the MTMP is attempting to achieve.

The City should continue to coordinate and cooperate with MetroPlan Orlando, Florida Department of Transportation, LYNX, Seminole County, Sister Cities and other organizations that play a role in transportation within and near the City of Casselberry.

As previously noted, the City has begun working with Sister Cities, Winter Park Health Foundation, and Smart Growth America to help implement Complete Streets in our region, and MetroPlan Orlando is also working on Complete Streets efforts. The City of Casselberry should continue participating in these efforts and, as needed, update policy and programming within the MTMP and other City documents to maintain congruency.

Important SR 436 corridor projects and studies are also underway, and more are called for in the MetroPlan Orlando Prioritized Project List. Namely, FDOT is working on concept development for improvements to SR 436 from US 17-92 to Wilshire Blvd/Dr. LYNX has also begun efforts on a new transit corridor study for SR 436 from Orlando International Airport to west of I-4. The City of Casselberry should maintain involvement in these efforts to help ensure its transportation vision is enhanced by, not diminished by, regionally proposed system improvements.

10.9 Conclusion

Connecting Casselberry – The Casselberry Multimodal Transportation Master Plan has been designed to prioritize transportation improvements within the City of Casselberry for funding from Fiscal Years 2016 through 2025. The projects programmed in the plan take into account a variety of factors including cost/benefit ratio, the ability to combine projects to reduce construction cost, and prioritizing projects that were on the original Sales Tax Project List, among others.

Beyond project prioritization and programming, however, the MTMP also serves as a guide for policy, design, and future initiatives. In this respect, it should be used by City staff and other stakeholders as a key reference when addressing changes to the City's transportation system. Furthermore, actual City accomplishments in transportation over the next ten years should be tracked against those contained within the MTMP, so that significant deviations can be noted, and future adjustments can be made.



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**Appendix A:
Project Descriptions for all
Proposed Projects**

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Proposed Transportation Improvement Project Descriptions

Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan

Project Number	Project Name	Casselberry Planning Area	Description
1	US 17-92 to Sunset Drive Pedestrian Connectivity Improvements	Central	This project will construct a combination boardwalk/sidewalk to extend pedestrian connectivity from US 17-92 @ Plumosa to Sunset Drive via the Home Depot property (it also connects to the Lake Concord Park boardwalk). It will provide an enhanced midblock crossing on Sunset to connect to the existing east side sidewalk.
2	Sunset Drive Livable Street Improvements	Central	Covering Sunset Drive from Button to Oxford, this project will widen the east side sidewalk (may include pervious sidewalk components) to approximately 8 ft wide, narrow the road (road diet) from 28-30 to 22-24 ft, and mill/resurface the road (using warm-mix asphalt). It will include onstreet parking and a midblock crossing at Sunset Park. It will include landscape improvements with rain gardens/bioretenion where feasible. A raised curb and gutter will be installed on the east side of the street for better pedestrian separation from the road. It will link existing and proposed wide sidewalks and bike paths to Button (and also to the proposed Concord Village at City Center via the Triplet Lake Drive Signature Street and to Lake Concord Park via Quail Pond Circle improvements – see Project #8). It will include bike friendly striping/signage. It may include a pedestrian crossing at Southcot or vicinity.
3	Southcot Drive Bicycle/Pedestrian Improvements	Central	Covering Southcot Drive from Sunset to S Triplet Lake Drive, this project will widen the sidewalk to 8 ft; install raised curb and gutter (north side of the street only); mill and resurface Southcot if needed. It may include a midblock crossing to link to the existing sidewalk on the south side. It may include traffic calming features.
4	Palm Drive Bicycle/Pedestrian Improvements	Central	This project will close Palm Drive from Marigold to Hibiscus to north-south traffic and convert the right of way to green space with a 10 ft wide shared use path (pervious paving material) and linear park with bioretention/rain gardens. It will reorient residential driveways (est 2) as needed; provide traffic calming brick treatments and pedestrian signage at all intersections; maintain east-west traffic movements; and include LED trail lighting.
5	Marigold Road Bicycle/Pedestrian Improvements	Central	Covering Marigold Road from Carriage Hill to Winter Park Drive, this project will include sidewalk widening to connect the proposed Palm Drive trail to the trailhead (and proposed FlexBus stop) at Winter Park Drive and Marigold. May include traffic calming improvements.
6	Hibiscus Road Bicycle/Pedestrian Improvements	Central	Covering Hibiscus Road from SR 436 to Winter Park Drive, this project will include sidewalk widening to connect the proposed Palm Drive trail to the SR 436/Wilshire bus stop. It may include additional bicycle/pedestrian striping/signage.
7	S Winter Park Drive Bicycle/Pedestrian Improvements	East	Improve trail crossing at Winter Park Drive near Cannon Way (may include on-demand RRFB flashing beacon similar to WPD crossing at Marigold, additional striping, special lighting, or similar enhancements). Improve sidewalk between Marigold and Queens Mirror (e.g., reconstruct with raised curb for better traffic separation); restripe add bike lanes to both sides of S Winter Park Drive between Marigold and Queens Mirror if feasible, especially closer to Queens Mirror Cir; may include other considerations for bicycle/pedestrian improvements. Install one new mid-block crosswalk on Winter Park Dr (in-between Crystal Bowl Cir and Queens Mirror Cir). Includes filling in sidewalk gaps and replacing existing sidewalk along the east side of S Winter Park Drive between trail crossing south of Cannon Way to Lilac; new sidewalk will be approximately 8 ft wide as feasible within existing right of way constraints. Includes sidestreet crosswalk striping, ADA accessibility/safety improvements as needed.
8	Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements	Central	This project will reconstruct a portion of Quail Pond Circle and extend a pedestrian connection from Lake Concord Park to Sunset via existing City right of way and City property between Quail Pond Circle and Sunset. Together with other projects, this will help complete a near perfect 1 mile loop around Lake Concord/Lake Concord Park via the boardwalk, Sunset sidewalk, and 17-92 to Sunset connector.
9	N Oxford Road Complete Street Improvements	Central	Covering N Oxford Road from Carriage Hill to SR 436, this project will reconstruct the road and add livability/context sensitive improvements to provide a more walkable and bike-friendly street. Improvements will include narrowing the road, adding dedicated bike lanes, adding wide sidewalks, new lighting, simplifying turn lanes, landscaping, and other aesthetic features. The project will include utility and drainage improvements, and it will address current road structural issues on N Oxford Road near Carriage Hill.

Project Number	Project Name	Casselberry Planning Area	Description
10	Lancelot Way On-Street Parking	East	This project will provide bricked onstreet parking pullouts for Lancelot Park, helping to improve accessibility of the park.
11	"Flower Street" Traffic Calming	Central	This project covers the Jasmine, Iris, and Hibiscus vicinity west of S Winter Park Drive. It will include bricked intersections at key locations on Hibiscus, Jasmine, and Iris. It may include a cul-de-sac or similar path modifications for Jasmine at Tulip. This project complements Palm Drive, Hibiscus, and Marigold bicycle/pedestrian improvements.
12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	East	This project includes brick intersections on Crystal Bowl Circle at Lancelot, Guinevere, and Avalon for traffic calming and entry features at Camelot and Crystal Bowl intersections with Winter Park Drive (3 total). It will provide traffic calming and neighborhood identification. It will include additional shared bikeway striping/signage as needed.
13	N Triplet Lake Drive Traffic Calming	Central	This project includes brick treatments on N. Triplet Lake Drive in the vicinity of the bridge near Secret Lake Park and/or other features to provide traffic calming.
14	SR 436 @ Casselton Traffic Signal Improvements	South	Improve pedestrian, bicycle, and transit safety and mobility at this intersection with fluted mast arm signal installation, and consideration for: timing/adaptive signal improvements, transit prioritization, LED streetlighting, dilemma zone protection, and smart crosswalks with pedestrian detection.
15	SR 436 @ Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements	South	Improve pedestrian, bicycle, and transit safety and mobility at this intersection with fluted mast arm signal installation, and consideration for: timing/adaptive signal improvements, transit prioritization, LED streetlighting, dilemma zone protection, and smart crosswalks with pedestrian detection.
16	S Winter Park Drive @ Wilshire Drive Traffic Signal Improvements	East	Improve pedestrian, bicycle, and transit safety and mobility at this intersection with fluted mast arm signal installation and consideration for LED streetlighting. May include bicyclist and/or automatic pedestrian detection for signal demand.
17	S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements	East	Improve pedestrian, bicycle, and transit safety and mobility at this intersection with fluted mast arm signal installation and consideration for LED streetlighting. May include bicyclist and/or automatic pedestrian detection for signal demand.
18	S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements	East	Improve pedestrian, bicycle, and transit safety and mobility at this intersection with fluted mast arm signal installation and consideration for LED streetlighting. May include bicyclist and/or automatic pedestrian detection for signal demand.
23	Winter Park Drive Sidewalk Improvement/Installation - Queens Mirror Circle to Queens Mirror Circle	East	Install new sidewalk along east side of Winter Park Drive from Queens Mirror Circle to Queens Mirror Circle.
31	Triplet Lake Drive Signature Street & Realignment	Central	Signature Street portion: reconstruct Triplet Lake Drive from roundabout to boat ramp; drainage and utility improvements; includes portions of side streets; replaces existing sidewalk with new wide sidewalk (7-8ft width); Realignment portion: reconstruct Triplet Lake Drive from US 17-92 to approximately roundabout, generally shifting north to suit City Center development; removes existing roundabout.
33	Overbrook Drive Improvements	Central	Primarily intended to address issues with existing storm pipes, this includes drainage/roadway improvements to Overbrook Drive from S Triplet Lake Drive to approx. 500 ft west. Resurface remainder of Overbrook to Sunset Drive. May include traffic calming improvements.
34	S Triplet Lake Drive Improvements	Central	Reconstruction of S Triplet Lake Drive from Southcot to Queens Mirror and intersection improvements at Lost Lake Ln
37	Concord Drive Improvements	West	Drainage and complete street improvements to Concord Drive (Anchor to 17-92- drainage focus Lake Lotus area). Will likely include midblock crossing, crossing striping, ADA improvements, roadside swales, landscaping, widened sidewalk, partial raised curb, retention, curb inlets, lighting, pipebursting.

Project Number	Project Name	Casselberry Planning Area	Description
39	Casselton Drive and Greencastle Drive Improvements	South	Lining or replacement of storm pipes along Casselton. Replacement of water main along Casselton. Road diet/complete street improvements. Reduce impervious area and add rain gardens/linear park space. Replace and widen sidewalks. Accommodate onstreet parking. Add shared lane markings for bicycles. Lighting, accessibility, and safety improvements. Approximately 1/2 mile total length.
40	Queens Mirror Circle Pedestrian Safety Improvements	Central	Safe routes to school project. Complements S Triplet Lake Drive improvements. Install permanent speed feedback devices, button activated RRFB (rectangular rapid flashing beacon - similar to Marigold/S Winter Park Drive trail crossing) for new pedestrian crossing across Queens Mirror at S Lost Lake Lane, add striping for crosswalk at Rotary Park
43	Lemon Lane Extension	West	Fill in "gap" in Lemon Lane to complete connection to Anchor Road; may include roadway connection or be limited to bike/pedestrian connection; may include improvements to remainder of Lemon Lane; may include intersection improvements at US 17-92/Lemon and Anchor/Lemon (including potentially new signals).
44	Lake Kathryn Circle Complete Street Improvements	North	Fill in sidewalk gaps; narrow portions of Lake Kathryn Circle to accommodate wider sidewalks and/or landscaping; install shared lane markings; may include midblock crossings and additional safety/stripping improvements
45	Belle Avenue Trail	North	Pedestrian/bike trail along 7th Street and Belle Avenue, crossing Gee Creek with potential connections to Buttonwood Avenue in Winter Springs (requires coordination/approval)
46	Gee Creek Trail	North	Pedestrian/bike trail along connecting Lake Kathryn Circle to N Winter Park Drive via Lake Kathryn conservation area and Gee Creek (creek/wetland)
47	Gee Creek Bike/Ped Bridge	North	bicycle pedestrian bridge linking Gee Creek Ln/Osceola Trail area to Sundown Trail/Wil O Wik area; crosses Gee Creek and retention area
48	N Winter Park Drive Trail	North	Pedestrian/bike trail parallel to N Winter Park Drive connecting N Triplet Lake Dr to N Winter Park Drive @ 7th St via City Conservation Area.
49	Sunset Park to Secret Lake Park Trail	Central	Pedestrian/bike trail connecting Sunset Park to Secret Lake Park via path along existing ditches, canals, and wetlands. May include rehabilitation and enhancements to existing trail within Secret Lake Park (to N Triplet Lake Dr)
50	Middle Lake Triplet Trail	Central	Pedestrian/bike trail connecting Secret Lake Park at N Triplet Lake Drive to S Triplet Lake Dr at golf course driving range via shoreline/wetlands of Middle Lake Triplet. May include replacement of existing golf course bridge at canal between Middle and South Lake Triplet.
51	Casselberry Exchange Trail	Central	Pedestrian/bike trail connecting N Oxford Road to US 17-92
52	Ascension Trail	Central	Pedestrian/bike trail and/or sidewalk improvements connecting Casselberry Exchange at US 17-92 to Triplet Lake Drive/City Hall complex/Lake Concord Park. Includes filling sidewalk gaps along Ascension to connect to Piney Ridge and Overbrook.
53	Grassy Lake Trail	West	Pedestrian/bike trail linking US 17-92 at Live Oaks Blvd to Anchor Rd near Live Oaks Blvd via north side of Grassy Lake and associated wetlands. May include loop around Grassy Lake.
54	Brittany Circle Complete Street Improvements	East	Narrow Brittany Circle to accommodate wider sidewalks and/or landscaping and help with traffic calming; keep/re-install shared lane markings; may include midblock crossings and additional safety/stripping improvements.
55	N Oxford to Carriage Hill Trail	Central	Pedestrian/bike trail connecting N Oxford Road to Carriage Hill Dr via southern perimeter of conservation area north of library.
56	Carriage Hill to Casselberry Greenway Trail Connection	Central	Pedestrian/bike trail connection from Carriage Hill Dr to Casselberry Greenway Trail via 201 Carriage Hill Dr.

Project Number	Project Name	Casselberry Planning Area	Description
57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	Central	Pedestrian/bike improvements to enhance ped/bike connectivity around Middle and South Lake Triplet and Lost Lake. May include new wider sidewalks, road improvements, bridge improvements, pedestrian bridge(s), trail components, lighting enhancements, etc.
58	Barbados Drive/Island Run Bicycle/Pedestrian Improvements	South	Pedestrian/bike improvements to enhance ped/bike connectivity between Casselton Dr and Howell Branch Rd via Island Run and Barbados Drive. These are currently private streets and would require Homeowner's Association permission and coordination to allow.
59	Lake Ann Lane Complete Street Improvements	South	Pedestrian/bike improvements to enhance ped/bike connectivity and safety along Lake Ann lane. A major portion of this road is in unincorporated Seminole County and would require coordination with the County. The project may include filling in sidewalk gaps, trail components, lighting, landscaping, and other enhancements.
60	Howell Creek Trail	South	Pedestrian/bike trail along Howell Creek from Lake Howell Rd to SR 436 (between two shopping centers including Walmart).
61	Kewannee Trail Extension to Forest Brook Park	South	Pedestrian/bike trail extending Kewannee Trail from Cassel Creek Blvd to Derbyshire Rd near Lake Howell Rd via Newport Colony detention pond and undeveloped City park property (Forest Brook Park). May include trailhead facilities at Forest Brook Park. Potential for additional coordination with County to improve Lake Howell Rd corridor to the south for bike accessibility.
62	Murphy Road Pedestrian Improvements	East	Add sidewalks to one or both sides of Murphy to connect to Edgemon. A portion of this project is in Winter Springs and would require coordination.
63	Park Drive Bicycle/Pedestrian Improvements	East	Bicycle and pedestrian improvements along the corridor, which may include wider sidewalks and landscape improvements. May include midblock crossing, sidewalk, and related facilities associated with potential stormwater project for the wetland area next to 1021 Park Dr.
64	NE Triplet Drive Complete Street Improvements	Central	Improvements to add sidewalks and road conditions. May include road reconstruction and drainage improvements. Also may include alignment correction to NE Triplet Ct.
65	Sunset Drive/Button Road/Seminola Boulevard Intersection Access and Safety Improvements	Central & North (border)	Adjust Seminola/Button/Sunset Drive intersection to improve emergency service access from Seminola to Sunset Drive. May include additional safety and bike/ped accessibility improvements, including coordination with potential park development on other side of Seminola. Complements Sunset Livable Street Improvements Project.
66	Concord Woods Traffic Calming	Central	Traffic calming improvements. (Method uncertain)
67	Cypress Way Traffic Calming	West	Traffic calming improvements. (Method uncertain)
68	Hill Street Traffic Calming	Central	Traffic calming improvements, especially to address lane deviation at curve. (Method uncertain)
69	Kentia Road Traffic Calming	Central	Traffic calming improvements. (Method uncertain)
70	Lancelot Way Traffic Calming	East	Traffic calming improvements. (Method uncertain. Potential additional double-yellow striping or other striping improvements.)
71	Oakwood Dr Traffic Calming	Central	Traffic calming improvements. (Method uncertain)
72	Osceola Trail Traffic Calming	North	Traffic calming improvements. (Method uncertain)
73	Paul McClure Ct Traffic Calming	Central	Traffic calming improvements. (Method uncertain)
74	Wilshire Dr @ SR 436 Turn Lane Improvements	Central	Install dedicated right turn lane on Wilshire Dr.
75	Wilshire Drive Traffic Calming Improvements	East	Traffic calming improvements. (Method uncertain)
76	Carriage Hill/Lampite Intersection Safety and Accessibility Improvements	Central	Install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.
77	Carriage Hill Drive and Shady Hollow Safety and Accessibility Improvements	Central	Install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.
78	Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements	Central	Install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.
79	Lilac Road Safety and Accessibility Improvements	Central	Install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.

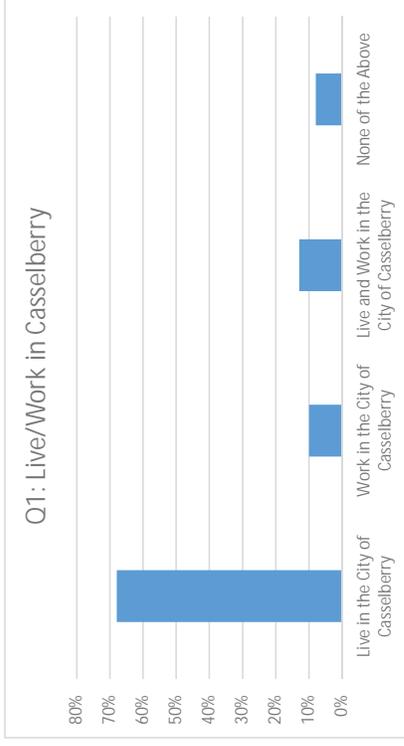
Project Number	Project Name	Casselberry Planning Area	Description
80	Crystal Bowl Circle On-Street Parking	East	This project will provide bricked onstreet parking pullouts for Crystal Bowl Park, helping to improve accessibility of the park and the Casselberry Greenway Trail (which is adjacent).

Appendix B: Survey Results

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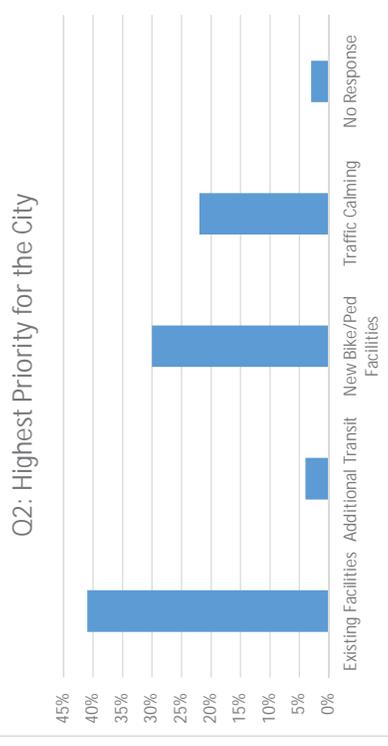
Question 1: Which of the following apply to you?

	Live in the City of Casselberry	Work in the City of Casselberry	Live and Work in the City of Casselberry	None of the Above	No Response
Workshop 1	86%	14%	0%	0%	0%
Workshop 2	70%	0%	30%	0%	0%
Workshop 3	50%	0%	0%	50%	0%
Workshop 4	50%	8%	25%	17%	0%
Online Survey	70%	12%	11%	8%	0%
All Responses	68%	10%	13%	8%	0%



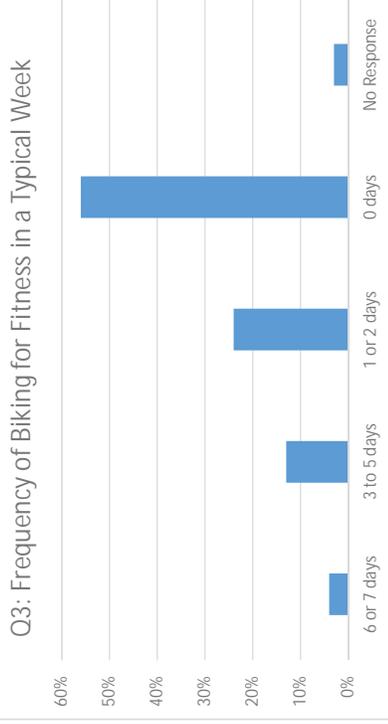
Question 2: What should be the highest priority for the City's transportation system?

	Existing Facilities	Additional Transit	New Bike/Ped Facilities	Traffic Calming	No Response
Workshop 1	86%	0%	14%	0%	0%
Workshop 2	50%	10%	30%	10%	0%
Workshop 3	0%	0%	100%	0%	0%
Workshop 4	33%	0%	17%	33%	17%
Online Survey	38%	5%	32%	24%	2%
All Responses	41%	4%	30%	22%	3%



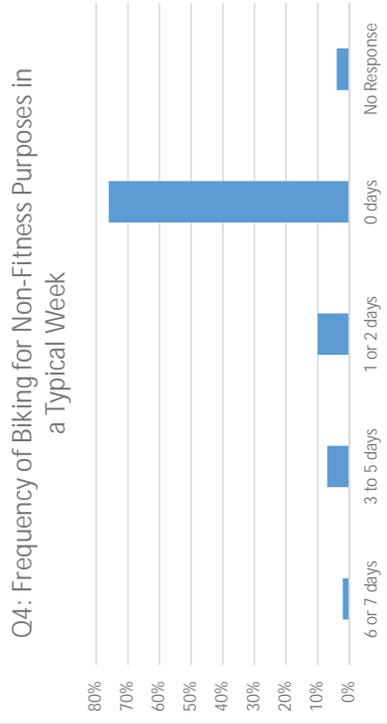
Question 3: In a typical week, how often do you bicycle for recreation or fitness?

	6 or 7 days	3 to 5 days	1 or 2 days	0 days	No Response
Workshop 1	0%	0%	14%	86%	0%
Workshop 2	0%	0%	20%	80%	0%
Workshop 3	0%	50%	0%	50%	0%
Workshop 4	0%	8%	25%	50%	17%
Online Survey	6%	17%	26%	50%	2%
All Responses	4%	13%	24%	56%	3%



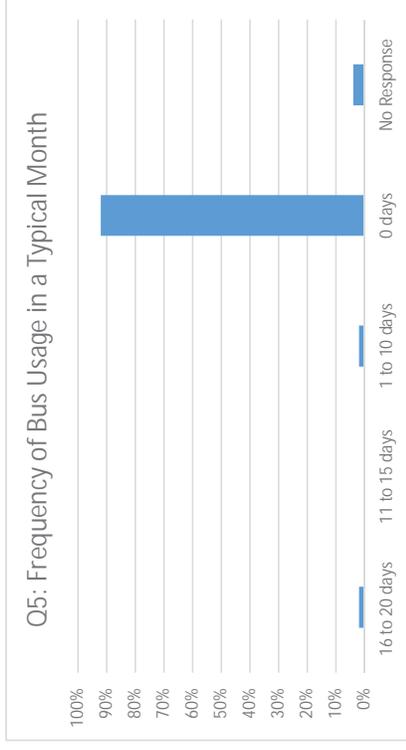
Question 4: In a typical week, how often do you bicycle for non-recreation or non-fitness purposes?

	6 or 7 days	3 to 5 days	1 or 2 days	0 days	No Response
Workshop 1	0%	0%	0%	100%	0%
Workshop 2	0%	0%	0%	100%	0%
Workshop 3	0%	50%	0%	50%	0%
Workshop 4	0%	0%	8%	67%	25%
Online Survey	3%	9%	14%	73%	2%
All Responses	2%	7%	10%	76%	4%



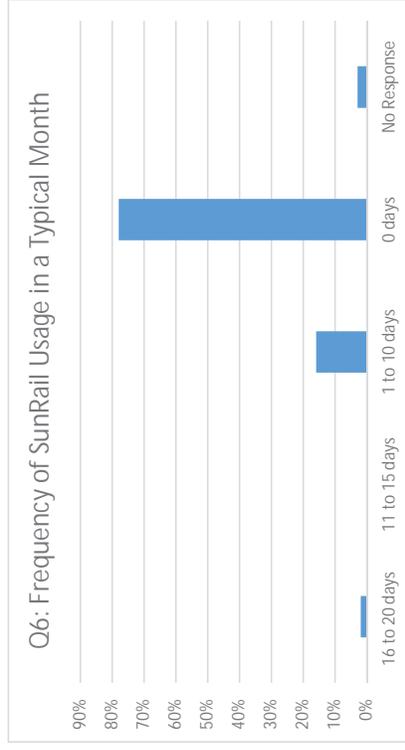
Question 5: In a typical month, how often do you use bus service in the City?

	16 to 20 days	11 to 15 days	1 to 10 days	0 days	No Response
Workshop 1	0%	0%	0%	100%	0%
Workshop 2	0%	0%	0%	90%	10%
Workshop 3	0%	0%	0%	100%	0%
Workshop 4	0%	0%	0%	75%	25%
Online Survey	3%	0%	3%	94%	0%
All Responses	2%	0%	2%	92%	4%



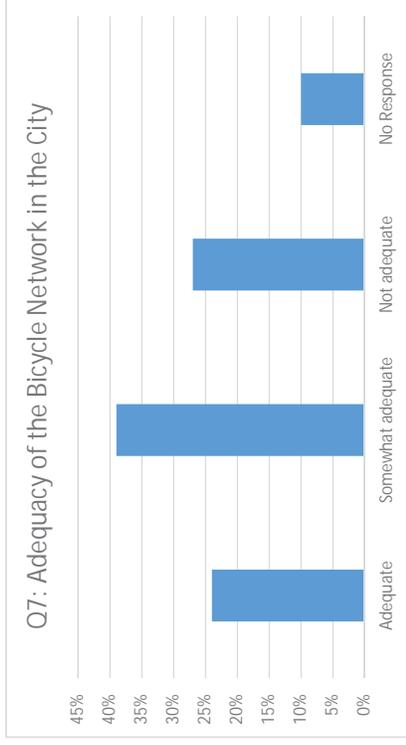
Question 6: In a typical month, how often do you use SunRail?

	16 to 20 days	11 to 15 days	1 to 10 days	0 days	No Response
Workshop 1	0%	0%	0%	100%	0%
Workshop 2	0%	0%	40%	60%	0%
Workshop 3	0%	0%	50%	50%	0%
Workshop 4	0%	0%	8%	67%	25%
Online Survey	3%	0%	15%	82%	0%
All Responses	2%	0%	16%	78%	3%



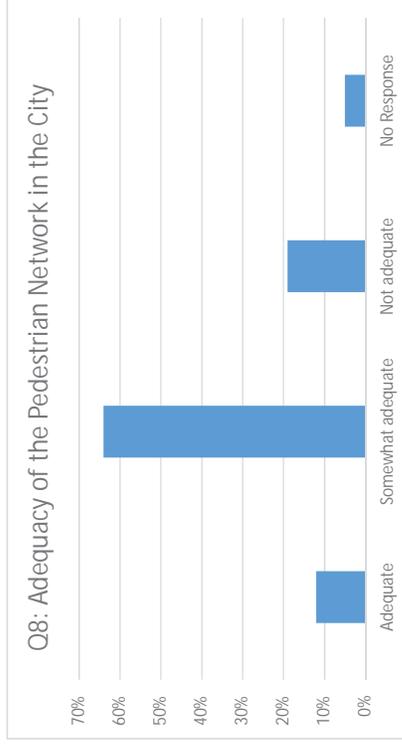
Question 7: How adequate is the bicycle network within the City?

	Adequate	Somewhat adequate	Not adequate	No Response
Workshop 1	14%	14%	14%	57%
Workshop 2	10%	30%	30%	30%
Workshop 3	0%	100%	0%	0%
Workshop 4	33%	50%	0%	0%
Online Survey	26%	39%	33%	2%
All Responses	24%	39%	27%	10%



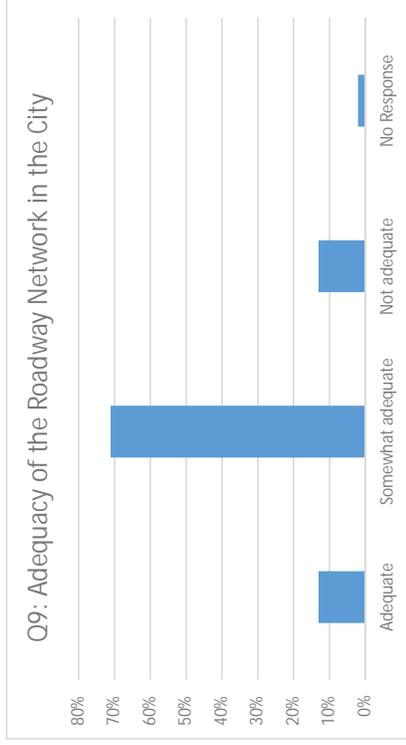
Question 8: How adequate is the pedestrian network within the City?

	Adequate	Somewhat adequate	Not adequate	No Response
Workshop 1	14%	71%	14%	0%
Workshop 2	10%	60%	20%	10%
Workshop 3	0%	100%	0%	0%
Workshop 4	17%	42%	25%	17%
Online Survey	12%	67%	18%	3%
All Responses	12%	64%	19%	5%



Question 9: How adequate is the roadway network within the City?

	Adequate	Somewhat adequate	Not adequate	No Response
Workshop 1	29%	43%	29%	0%
Workshop 2	20%	60%	20%	0%
Workshop 3	0%	100%	0%	0%
Workshop 4	0%	67%	17%	17%
Online Survey	14%	76%	11%	0%
All Responses	13%	71%	13%	2%



Appendix C:

Boards Produced for Workshops

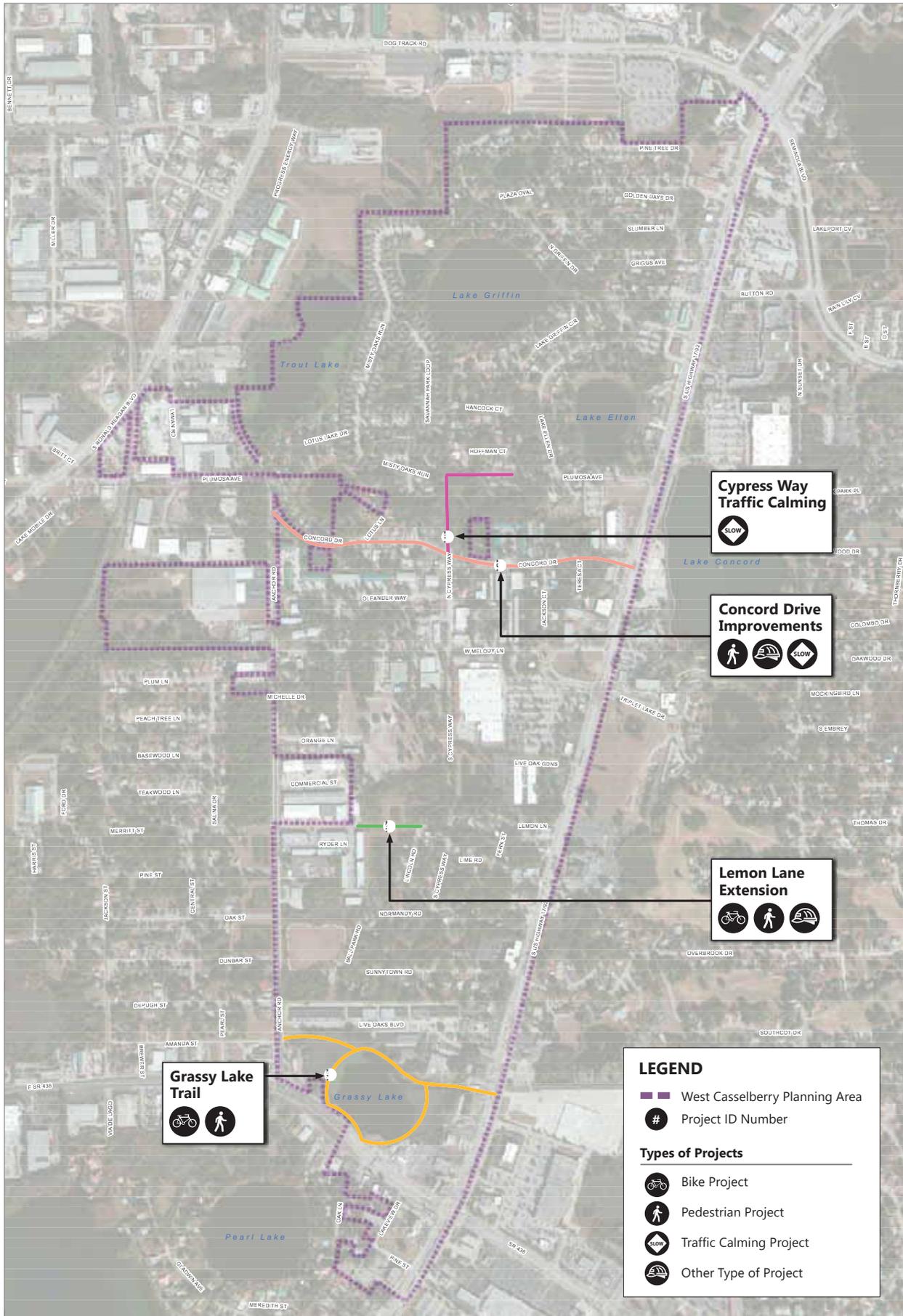
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Proposed West Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan



Cypress Way Traffic Calming

Concord Drive Improvements

Lemon Lane Extension

Grassy Lake Trail

LEGEND

- West Casselberry Planning Area
- Project ID Number

Types of Projects

- Bike Project
- Pedestrian Project
- Traffic Calming Project
- Other Type of Project



Proposed West Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Project ID Number	Project Name	Project Description	Vote Here
37	Concord Drive Improvements	Drainage and complete street improvements to Concord Dr (Anchor Rd to US 17-92). May include crossing and ADA improvements, landscaping, and lighting.	
43	Lemon Lane Extension	Fill in "gap" in Lemon Ln to complete connection from US 17-92 to Anchor Rd; may include roadway connection or be limited to bike/pedestrian connection.	
53	Grassy Lake Trail	Pedestrian/bike trail linking US 17-92 to Anchor Rd near Live Oaks Blvd. May include loop around Grassy Lake.	
67	Cypress Way Traffic Calming	Traffic calming improvements in vicinity of Cypress Way/ Plumosa Ave intersection. (Method uncertain)	



Proposed North Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

LEGEND

■ North Casselberry Planning Area

Project ID Number

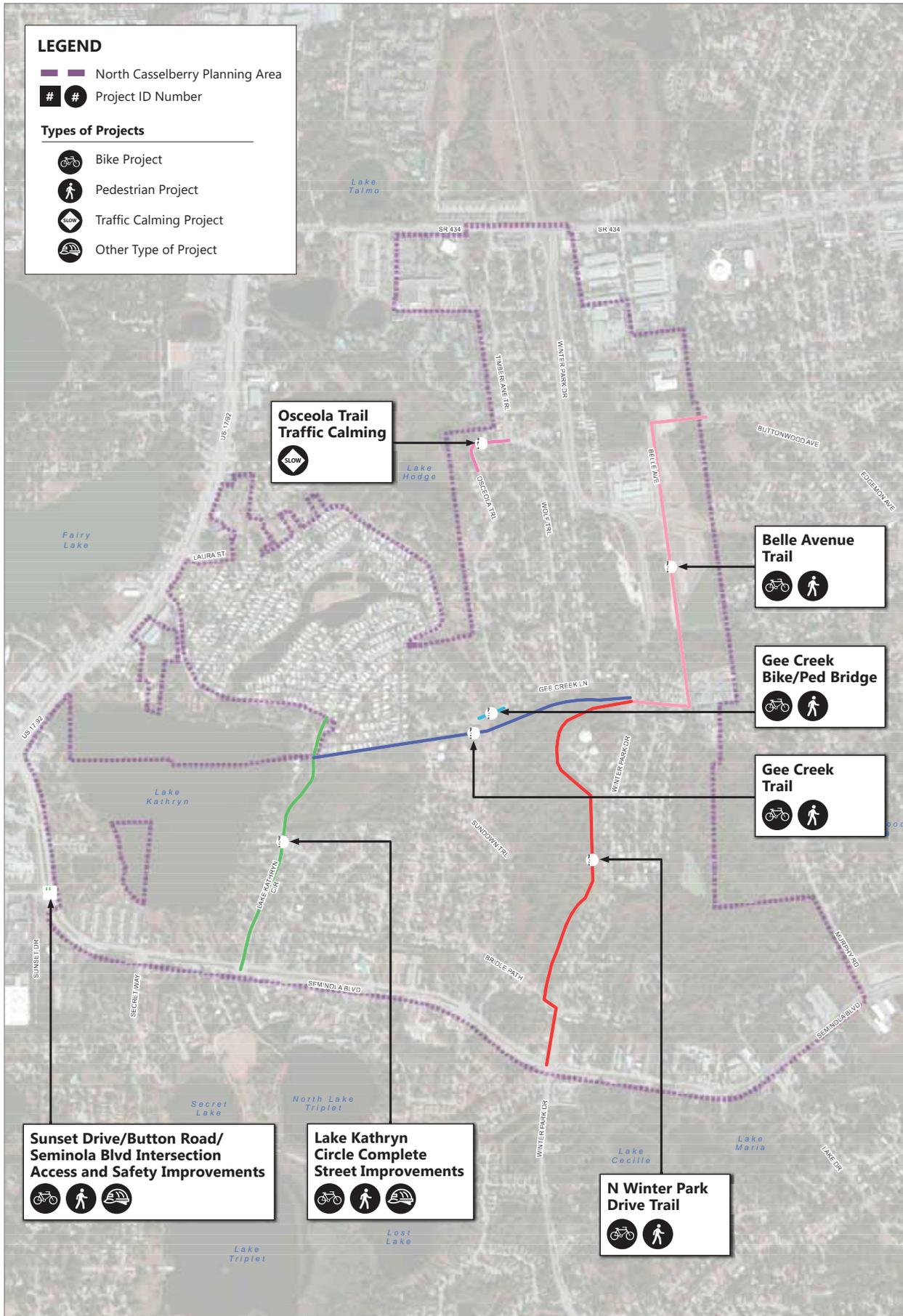
Types of Projects

Bike Project

Pedestrian Project

Traffic Calming Project

Other Type of Project





Proposed North Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

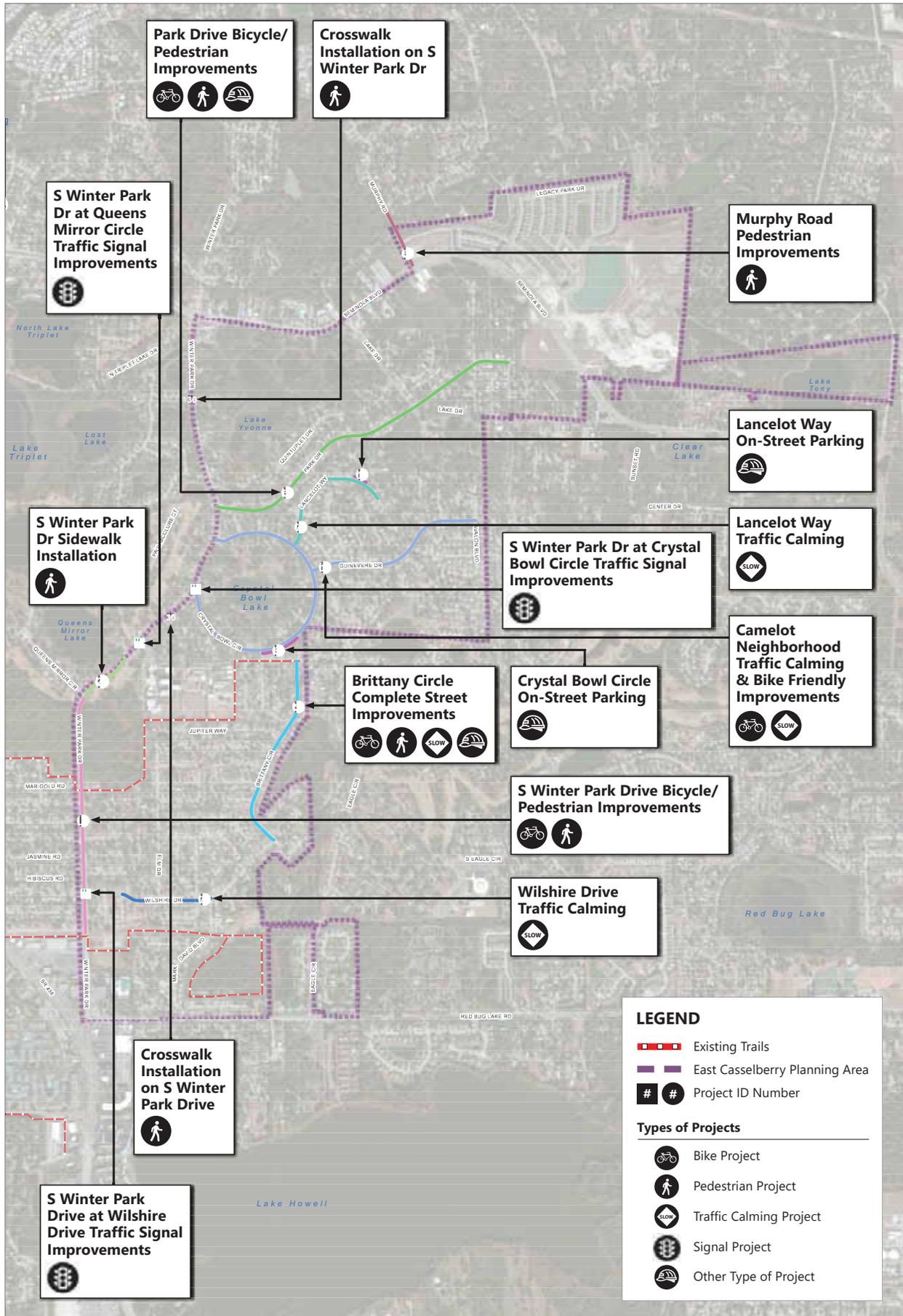
Project ID Number	Project Name	Project Description	Vote Here
44	Lake Kathryn Circle Complete Street Improvements	Fill in sidewalk gaps, install shared lane markings, and narrow portions of Lake Kathryn Circle to widen sidewalks or add landscaping. May include installation of midblock crossings or additional safety/striping improvements.	
45	Belle Avenue Trail	Pedestrian/bike trail along 7th St and Belle Ave, crossing Gee Creek with potential connections to Buttonwood Ave in Winter Springs (requires coordination/ approval).	
46	Gee Creek Trail	Pedestrian/bike trail connecting Lake Kathryn Circle to N Winter Park Dr via Lake Kathryn Conservation Area and Gee Creek.	
47	Gee Creek Bike/Ped Bridge	Pedestrian/bike bridge over Gee Creek from Gee Creek Ln/ Osceola Trl to Sundown Trl/ Wil O Wik Dr.	
48	N Winter Park Drive Trail	Pedestrian/bike trail parallel to N Winter Park Drive connecting N Triplet Lake Dr to 7th St via City Conservation Area.	
65	Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements	Adjust Seminola Blvd/Button Rd/Sunset Dr Intersection to improve emergency vehicle access. May include additional safety and bike/ ped accessibility improvements.	
72	Osceola Trail Traffic Calming	Traffic calming improvements on Osceola Trl from Timberlane Trl to Wolf Trl. (Method uncertain)	



Proposed East Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan





Proposed East Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

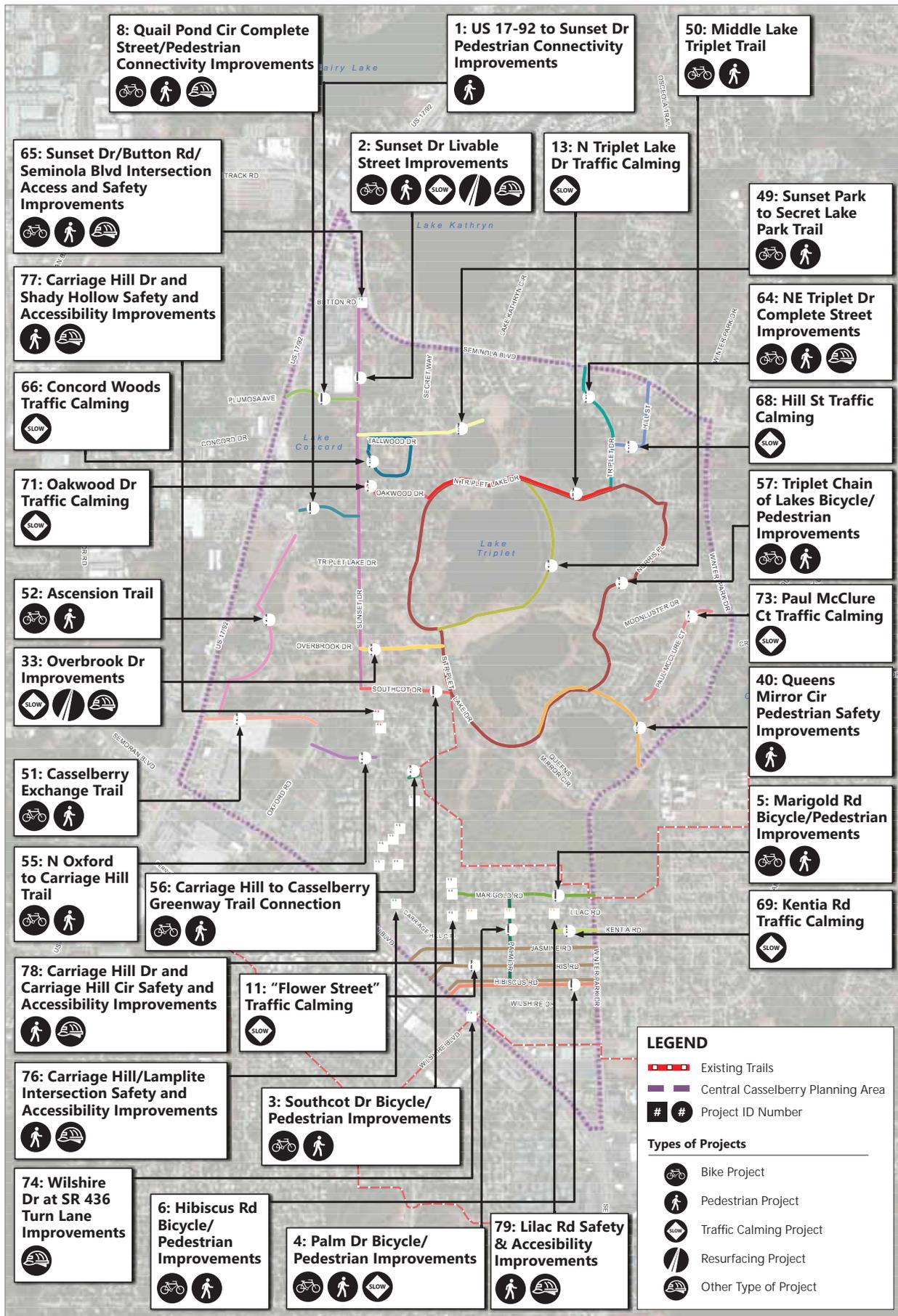
Project ID Number	Project Name	Project Description	Vote Here
7	S Winter Park Drive Bicycle/Pedestrian Improvements	Improve trail crossing at Winter Park Dr near Cannon Wy which may include rectangular flashing beacon, lighting, or striping. Improve sidewalks between Marigold Rd and Queens Mirror Cir. Will also fill in sidewalk gaps and replace existing sidewalk along east side of road from Cannon Wy to Lilac Rd.	
10	Lancelot Way On-Street Parking	Install bricked on-street parking pullouts on Lancelot Wy for Lancelot Park, helping to improve accessibility of the park.	
12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	Install brick intersections on Crystal Bowl Cir at Lancelot Wy, Guinevere Dr, and Avalon Blvd for traffic calming. Install entry features at Camelot Wy/ Winter Park Dr and Crystal Bowl Cir/Winter Park Dr intersections (2 total). Additional shared bikeway striping/signage included as needed.	
16	S Winter Park Drive at Wilshire Drive Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
17	S Winter Park Dr at Queens Mirror Circle Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
18	S Winter Park Dr at Crystal Bowl Circle Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
23	S Winter Park Drive Sidewalk Installation	Install new sidewalk along east side of Winter Park Drive from Queens Mirror Cir to Queens Mirror Cir.	
30	Crosswalk Installation on S Winter Park Drive	Install two new mid-block crosswalks on Winter Park Dr. One will be approximately 1/4 of a mile south of Seminola Blvd. Another will be in-between Crystal Bowl Cir and Queens Mirror Cir.	
54	Brittany Circle Complete Street Improvements	Narrow Brittany Circle to accommodate wider sidewalks and/or landscaping and help with traffic calming. May include midblock crossings and additional safety/striping improvements	
62	Murphy Road Pedestrian Improvements	Add sidewalks to one or both sides of Murphy Road to connect to Edgemon Ave. A portion of this project is in Winter Springs and would require coordination.	
63	Park Drive Bicycle/ Pedestrian Improvements	Widen existing sidewalks and install landscaping. May include new midblock crossing.	
70	Lancelot Way Traffic Calming	Traffic calming from Crystal Bowl Cir to vicinity of Lancelot Park. (Method uncertain)	
75	Wilshire Drive Traffic Calming	Traffic calming from Debby Dr to Mark David Blvd. (Method uncertain)	
80	Crystal Bowl Circle On-Street Parking	Install bricked on-street parking pullouts on Crystal Bowl Cir for Crystal Bowl Park, helping to improve accessibility of the park and the Casselberry Greenway Trail (which is adjacent).	



Proposed Central Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan



LEGEND

- Existing Trails
- Central Casselberry Planning Area
- Project ID Number

Types of Projects

- Bike Project
- Pedestrian Project
- Traffic Calming Project
- Resurfacing Project
- Other Type of Project



Proposed Central Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Project ID Number	Project Name	Project Description	Vote Here
1	US 17-92 to Sunset Dr Pedestrian Connectivity Improvements	Construct boardwalk/sidewalk to extend pedestrian connectivity from US 17-92 at Plumosa Ave to Sunset Dr via the Home Depot property.	
2	Sunset Dr Livable Street Improvements	From Button Rd to Oxford Rd, widen the east side sidewalk, narrow the road, and mill/resurface the road. It will include on-street parking and a midblock crossing at Sunset Park.	
3	Southcot Dr Bicycle/ Pedestrian Improvements	From Sunset Dr to S Triplet Lake Dr, widen sidewalks, install curb/gutter, and resurface if needed. Traffic calming may also be included.	
4	Palm Dr Bicycle/ Pedestrian Improvements	Close Palm Dr from Marigold Dr to Hibiscus Rd to convert right-of-way into green space with 10 foot wide shared use path. East-west traffic will be maintained. Traffic calming brick treatments at intersections and LED trail lighting will also be included.	
5	Marigold Rd Bicycle/ Pedestrian Improvements	From Carriage Hill Cir to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and existing trail at Winter Park Dr/Marigold Rd.	
6	Hibiscus Rd Bicycle/ Pedestrian Improvements	From SR 436 to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and the bus stop at SR 436/Wilshire Dr.	
8	Quail Pond Circle Complete Street/ Pedestrian Connectivity Improvements	Reconstruct portion of Quail Pond Cir and extend pedestrian connection from Lake Concord Park to Sunset Dr. With other projects, will help complete a 1 mile loop around Lake Concord.	
11	"Flower Street" Traffic Calming	Covering Jasmine Rd, Iris Rd, and Hibiscus Rd, project will install bricked intersections for traffic calming.	
13	N Triplet Lake Dr Traffic Calming	Brick intersection treatments in the vicinity of Secret Lake Park bridge to provide traffic calming. Other treatments as deemed appropriate will be applied from NE Triplet Dr to Oakwood Dr.	
33	Overbrook Dr Improvements	Drainage improvements with resurfacing from Sunset Dr to S Triplet Lake Dr. May include traffic calming improvements.	
40	Queens Mirror Circle Pedestrian Safety Improvements	Safe Routes to Schools project. From S Triplet Lake Dr to S Winter Park Dr, install permanent speed feedback devices, button activated flashing beacon for crosswalk, new pedestrian crossing at Queens Mirror Cir/Lost Lake Ln, and new striping for crosswalk at Rotary Park.	
49	Sunset Park to Secret Lake Park Trail	Pedestrian/bike trail connecting Sunset Park to Secret Lake Park. May include rehabilitation and enhancements to existing trail within Secret Lake Park.	
50	Middle Lake Triplet Trail	Pedestrian/bike trail connecting Secret Lake Park at N Triplet Lake Drive to S Triplet Lake Dr at golf course driving range via shoreline/wetlands of Middle Lake Triplet. May include replacement of existing golf course bridge at canal between Middle and South Lake Triplet.	
51	Casselberry Exchange Trail	Pedestrian/bike trail connecting N Oxford Rd to US 17-92.	
52	Ascension Trail	Pedestrian/bike trail and/or sidewalk improvements connecting Casselberry Exchange at US 17-92 to Triplet Lake Drive/City Hall complex/Lake Concord Park. Includes filling sidewalk gaps along Ascension Dr to connect to Piney Ridge Rd and Overbrook Dr.	



Proposed Central Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Project ID Number	Project Name	Project Description	Vote Here
55	N Oxford to Carriage Hill Trail	Pedestrian/bike trail connecting N Oxford Rd to Carriage Hill Dr via southern perimeter of conservation area north of library.	
56	Carriage Hill to Casselberry Greenway Trail Connection	Pedestrian/bike trail connection from Carriage Hill Dr to Casselberry Greenway Trail via 201 Carriage Hill Dr.	
57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	Pedestrian/bike improvements to enhance connectivity around Middle and South Lake Triplet and Lost Lake. May include new wider sidewalks, pedestrian bridge(s), or lighting enhancements.	
64	NE Triplet Dr Complete Street Improvements	From N Triplet Lake Dr to Seminola Blvd, sidewalks will be added. May include road reconstruction and drainage improvements. Also may include alignment correction to NE Triplet Ct.	
65	Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements	Adjust Sunset Dr/Button Rd/Seminola Blvd intersection to improve emergency vehicle access. May include additional safety and bike/ped accessibility improvements.	
66	Concord Woods Traffic Calming	Traffic calming improvements for Valmora Dr, Colombo Dr, Thornberry Dr, and Tallwood Dr. (Method uncertain)	
68	Hill St Traffic Calming	Traffic calming improvements to address lane deviation at curve. (Method uncertain)	
69	Kentia Rd Traffic Calming	Traffic calming improvements from S Winter Park Dr to Violet Dell. (Method uncertain)	
71	Oakwood Dr Traffic Calming	Traffic calming improvements from N Sunset Dr to N Triplet Lake Dr. (Method uncertain)	
73	Paul McClure Ct Traffic Calming	Traffic calming improvements in vicinity of Niblick Dr intersection. (Method uncertain)	
74	Wilshire Dr @ SR 436 Turn Lane Improvements	Install dedicated right turn lane on Wilshire Dr westbound.	
76	Carriage Hill/Lamplite Intersection Safety and Accessibility	At the Carriage Hill Dr/Carriage Hill Cir and Lamplite Wy intersection, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
77	Carriage Hill Dr and Shady Hollow Safety and Accessibility Improvements	At the Carriage Hill Dr and Shady Hollow intersections (north and south), install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
78	Carriage Hill Dr and Carriage Hill Cir Safety and Accessibility	At all other intersections (not addressed by projects 76 and 77) along Carriage Hill Dr (Apple Hill Hollow to Lamplite Wy) and Carriage Hill Cir, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
79	Lilac Rd Safety and Accessibility Improvements	From Tulip Trl to Violet Dell, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	



Proposed South Casselberry Projects

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Project ID Number	Project Name	Project Description	Vote Here
14	SR 436 at Casselton Traffic Signal Improvements	Install mast arm with consideration for LED street lighting, timing/ adaptive signal improvements, transit prioritization, dilemma zone protection, and smart crosswalks with pedestrian detection.	
15	SR 436 at Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements	Install mast arm with consideration for LED street lighting, timing/ adaptive signal improvements, transit prioritization, dilemma zone protection, and smart crosswalks with pedestrian detection.	
39	Casselton Drive and Greencastle Drive Improvements	Road diet/complete street improvements which includes replacing and/or widening sidewalks, adding on-street parking, and shared lane markings for bicycles. Will also include storm pipe replacement and storm runoff improvements.	
58	Barbados Drive/ Island Run Bicycle/ Pedestrian Improvements	Pedestrian/bicycle improvements to enhance connectivity between Casselton Dr and Howell Branch Rd via Island Run and Barbados Dr. These are currently private streets and would require Homeowner's Association permission and coordination to allow.	
59	Lake Ann Lane Complete Street Improvements	Pedestrian/bicycle improvements to enhance connectivity and safety along Lake Ann Ln. The project may include filling in sidewalk gaps, trail components, lighting, landscaping, and other enhancements.	
60	Howell Creek Trail	Pedestrian/bicycle trail along Howell Creek from Lake Howell Rd to SR 436 (between two shopping centers including Walmart).	
61	Kewanee Trail Extension to Forest Brook Park	Pedestrian/bicycle trail extending Kewanee Trail from Cassel Creek Blvd to Derbyshire Rd near Lake Howell Rd. May include trailhead facilities at Forest Brook Park. Potential for additional coordination with Seminole County to improve Lake Howell Rd corridor to the south for bike accessibility.	

**Appendix D:
Dot Voting Results for each
Workshop**

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Workshop 1 – West Casselberry

Dot Voting Results (Set 1 of 2)

March 19, 2015 (6-8 PM)

 Proposed West Casselberry Projects Connecting Casselberry <small>The Casselberry Multimodal Transportation Master Plan</small>			
Project ID Number	Project Name	Project Description	Vote Here
37	Concord Drive Improvements	Drainage and complete street improvements to Concord Dr (Anchor Rd to US 17-92). May include crossing and ADA improvements, landscaping, and lighting.	 
43	Lemon Lane Extension	Fill in "gap" in Lemon Ln to complete connection from US 17-92 to Anchor Rd; may include roadway connection or be limited to bike/pedestrian connection.	 
53	Grassy Lake Trail	Pedestrian/bike trail linking US 17-92 to Anchor Rd near Live Oaks Blvd. May include loop around Grassy Lake.	
67	Cypress Way Traffic Calming	Traffic calming improvements in vicinity of Cypress Way/ Plumosa Ave intersection. (Method uncertain)	 

Workshop 1 – West Casselberry

Dot Voting Results (Set 2 of 2)

March 19, 2015 (6-8 PM)

 Proposed West Casselberry Projects Connecting Casselberry <small>The Casselberry Multimodal Transportation Master Plan</small>			
Project ID Number	Project Name	Project Description	Vote Here
37	Concord Drive Improvements	Drainage and complete street improvements to Concord Dr (Anchor Rd to US 17-92). May include crossing and ADA improvements, landscaping, and lighting.	
43	Lemon Lane Extension	Fill in "gap" in Lemon Ln to complete connection from US 17-92 to Anchor Rd; may include roadway connection or be limited to bike/pedestrian connection.	
53	Grassy Lake Trail	Pedestrian/bike trail linking US 17-92 to Anchor Rd near Live Oaks Blvd. May include loop around Grassy Lake.	
67	Cypress Way Traffic Calming	Traffic calming improvements in vicinity of Cypress Way/ Plumosa Ave intersection. (Method uncertain)	

Workshop 2 – North Casselberry

Dot Voting Results (Set 1 of 2)

March 26, 2015 (6-8 PM)

Project ID Number	Project Name	Project Description	Vote Here
44	Lake Kathryn Circle Complete Street Improvements	Fill in sidewalk gaps, install shared lane markings, and narrow portions of Lake Kathryn Circle to widen sidewalks or add landscaping. May include installation of midblock crossings or additional safety/stripping improvements.	10 green dots
45	Belle Avenue Trail	Pedestrian/bike trail along 7th St and Belle Ave, crossing Gee Creek with potential connections to Buttonwood Ave in Winter Springs (requires coordination/approval).	
46	Gee Creek Trail	Pedestrian/bike trail connecting Lake Kathryn Circle to N Winter Park Dr via Lake Kathryn Conservation Area and Gee Creek.	5 blue dots
47	Gee Creek Bike/Ped Bridge	Pedestrian/bike bridge over Gee Creek from Gee Creek Ln/ Osceola Trl to Sundown Trl/ Wil O Wik Dr.	
48	N Winter Park Drive Trail	Pedestrian/bike trail parallel to N Winter Park Drive connecting N Triplet Lake Dr to 7th St via City Conservation Area.	8 yellow dots
65	Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements	Adjust Seminola Blvd/Button Rd/Sunset Dr Intersection to improve emergency vehicle access. May include additional safety and bike/ped accessibility improvements.	3 yellow dots
72	Osceola Trail Traffic Calming	Traffic calming improvements on Osceola Trl from Timberlane Trl to Wolf Trl. (Method uncertain)	

Workshop 2 – North Casselberry

Dot Voting Results (Set 2 of 2)

March 26, 2015 (6-8 PM)

 Proposed North Casselberry Projects Connecting Casselberry The Casselberry Multimodal Transportation Master Plan			
Project ID Number	Project Name	Project Description	Vote Here
44	Lake Kathryn Circle Complete Street Improvements	Fill in sidewalk gaps, install shared lane markings, and narrow portions of Lake Kathryn Circle to widen sidewalks or add landscaping. May include installation of midblock crossings or additional safety/stripping improvements.	1
45	Belle Avenue Trail	Pedestrian/bike trail along 7th St and Belle Ave, crossing Gee Creek with potential connections to Buttonwood Ave in Winter Springs (requires coordination/approval).	3
46	Gee Creek Trail	Pedestrian/bike trail connecting Lake Kathryn Circle to N Winter Park Dr via Lake Kathryn Conservation Area and Gee Creek.	
47	Gee Creek Bike/Ped Bridge	Pedestrian/bike bridge over Gee Creek from Gee Creek Ln/ Osceola Trl to Sundown Trl/ Wil O Wik Dr.	1
48	N Winter Park Drive Trail	Pedestrian/bike trail parallel to N Winter Park Drive connecting N Triplet Lake Dr to 7th St via City Conservation Area.	3
65	Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements	Adjust Seminola Blvd/Button Rd/Sunset Dr Intersection to improve emergency vehicle access. May include additional safety and bike/ped accessibility improvements.	1
72	Osceola Trail Traffic Calming	Traffic calming improvements on Osceola Trl from Timberlane Trl to Wolf Trl. (Method uncertain)	1

Workshop 3 – East Casselberry

Dot Voting Results (Set 1 of 2)

March 31, 2015 (6-8 PM)

Project ID Number	Project Name	Project Description	Vote Here
7	S Winter Park Drive Bicycle/Pedestrian Improvements	Improve trail crossing at Winter Park Dr near Cannon Wy which may include rectangular flashing beacon, lighting, or striping. Improve sidewalks between Marigold Rd and Queens Mirror Cir. Will also fill in sidewalk gaps and replace existing sidewalk along east side of road from Cannon Wy to Lilac Rd.	
10	Lancelot Way On-Street Parking	Install bricked on-street parking pullouts on Lancelot Wy for Lancelot Park, helping to improve accessibility of the park.	
12	Camelot Neighborhood Traffic Calming & Bike Friendly Improvements	Install brick intersections on Crystal Bowl Cir at Lancelot Wy, Guinevere Dr, and Avalon Blvd for traffic calming. Install entry features at Camelot Wy/ Winter Park Dr and Crystal Bowl Cir/Winter Park Dr intersections (2 total). Additional shared bikeway striping/signage included as needed.	●
16	S Winter Park Drive at Wiltshire Drive Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
17	S Winter Park Dr at Queens Mirror Circle Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	●
18	S Winter Park Dr at Crystal Bowl Circle Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	●
23	S Winter Park Drive Sidewalk Installation	Install new sidewalk along east side of Winter Park Drive from Queens Mirror Cir to Queens Mirror Cir.	
30	Crosswalk Installation on S Winter Park Drive	Install two new mid-block crosswalks on Winter Park Dr. One will be approximately 1/4 of a mile south of Seminola Blvd. Another will be in-between Crystal Bowl Cir and Queens Mirror Cir.	
54	Brittany Circle Complete Street Improvements	Narrow Brittany Circle to accommodate wider sidewalks and/or landscaping and help with traffic calming. May include midblock crossings and additional safety/striping improvements.	
62	Murphy Road Pedestrian Improvements	Add sidewalks to one or both sides of Murphy Road to connect to Edgemont Ave. A portion of this project is in Winter Springs and would require coordination.	
63	Park Drive Bicycle/ Pedestrian Improvements	Widen existing sidewalks and install landscaping. May include new midblock crossing.	
70	Lancelot Way Traffic Calming	Traffic calming from Crystal Bowl Cir to vicinity of Lancelot Park. (Method uncertain)	
75	Wiltshire Drive Traffic Calming	Traffic calming from Debby Dr to Mark David Blvd. (Method uncertain)	
80	Crystal Bowl Circle On-Street Parking	Install bricked on-street parking pullouts on Crystal Bowl Cir for Crystal Bowl Park, helping to improve accessibility of the park and the Casselberry Greenway Trail (which is adjacent).	● ●

Workshop 3 – East Casselberry

Dot Voting Results (Set 2 of 2)

March 31, 2015 (6-8 PM)

Project ID Number	Project Name	Project Description	Vote Here
7	S Winter Park Drive Bicycle/Pedestrian Improvements	Improve trail crossing at Winter Park Dr near Cannon Wy which may include rectangular flashing beacon, lighting, or striping. Improve sidewalks between Marigold Rd and Queens Mirror Cir. Will also fill in sidewalk gaps and replace existing sidewalk along east side of road from Cannon Wy to Lilac Rd.	●
10	Lancelot Way On-Street Parking	Install bricked on-street parking pullouts on Lancelot Wy for Lancelot Park, helping to improve accessibility of the park.	
12	Camelot Neighborhood Traffic Calming & Bike-Friendly Improvements	Install brick intersections on Crystal Bowl Cir at Lancelot Wy, Guinevere Dr, and Avalon Blvd for traffic calming. Install entry features at Camelot Wy/ Winter Park Dr and Crystal Bowl Cir/ Winter Park Dr intersections (2 total). Additional shared bikeway striping/signage included as needed.	
16	S Winter Park Drive at Wilshire Drive Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
17	S Winter Park Dr at Queens Mirror Circle Traffic Signal Improvements	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
18	S Winter Park Dr at Crystal Bowl Circle Traffic Signal Improvement	Install mast arm with consideration for LED street lighting and bicyclist and/or automatic pedestrian detection.	
23	S Winter Park Drive Sidewalk Installation	Install new sidewalk along east side of Winter Park Drive from Queens Mirror Cir to Queens Mirror Cir.	●
30	Crosswalk Installation on S Winter Park Drive	Install two new mid-block crosswalks on Winter Park Dr. One will be approximately 1/4 of a mile south of Seminola Blvd. Another will be in-between Crystal Bowl Cir and Queens Mirror Cir.	●
54	Brittany Circle Complete Street Improvements	Narrow Brittany Circle to accommodate wider sidewalks and/or landscaping and help with traffic calming. May include midblock crossings and additional safety/striping improvements.	●
62	Murphy Road Pedestrian Improvements	Add sidewalks to one or both sides of Murphy Road to connect to Edgemon Ave. A portion of this project is in Winter Springs and would require coordination.	
63	Park Drive Bicycle/ Pedestrian Improvements	Widen existing sidewalks and install landscaping. May include new midblock crossing.	
70	Lancelot Way Traffic Calming	Traffic calming from Crystal Bowl Cir to vicinity of Lancelot Park. (Method uncertain)	●
75	Wilshire Drive Traffic Calming	Traffic calming from Debby Dr to Mark David Blvd. (Method uncertain)	
80	Crystal Bowl Circle On-Street Parking	Install bricked on-street parking pullouts on Crystal Bowl Cir for Crystal Bowl Park, helping to improve accessibility of the park and the Casselberry Greenway Trail (which is adjacent).	

Workshop 4 – Central Casselberry

Dot Voting Results (Board 1 of 2, Set 1)

April 2, 2015 (6-8 PM)

 Proposed Central Casselberry Projects Connecting Casselberry The Casselberry Multimodal Transportation Master Plan			
Project ID Number	Project Name	Project Description	Vote Here
1	US 17-92 to Sunset Dr Pedestrian Connectivity Improvements	Construct boardwalk/sidewalk to extend pedestrian connectivity from US 17-92 at Plumosa Ave to Sunset Dr via the Horse Depot property.	1 dot
2	Sunset Dr Livable Street Improvements	From Button Rd to Oxford Rd, widen the east side sidewalk, narrow the road, and mill/resurface the road. It will include on-street parking and a midblock crossing at Sunset Park.	1 dot
3	Southcot Dr Bicycle/ Pedestrian Improvements	From Sunset Dr to S Triplet Lake Dr, widen sidewalks, install curb/gutter, and resurface if needed. Traffic calming may also be included.	3 dots
4	Palm Dr Bicycle/ Pedestrian Improvements	Close Palm Dr from Mangold Dr to Hibiscus Rd to convert right-of-way into green space with 10 foot wide shared-use path. East-west traffic will be maintained. Traffic calming brick treatments at intersections and LED trail lighting will also be included.	
5	Mangold Rd Bicycle/ Pedestrian Improvements	From Carriage Hill Cir to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and existing trail at Winter Park Dr/Mangold Rd.	
6	Hibiscus Rd Bicycle/ Pedestrian Improvements	From SR 436 to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and the bus stop at SR 436/Wilshire Dr.	
8	Quail Pond Circle Complete Street/ Pedestrian Connectivity Improvements	Reconstruct portion of Quail Pond Cir and extend pedestrian connection from Lake Concord Park to Sunset Dr. With other projects, will help complete a 1 mile loop around Lake Concord.	
11	"Flower Street" Traffic Calming	Covering Jasmine Rd, Iris Rd, and Hibiscus Rd, project will install bricked intersections for traffic calming.	1 dot
13	N Triplet Lake Dr Traffic Calming	Brick intersection treatments in the vicinity of Secret Lake Park bridge to provide traffic calming. Other treatments as deemed appropriate will be applied from NE Triplet Dr to Oakwood Dr.	1 dot
33	Overbrook Dr Improvements	Drainage improvements with resurfacing from Sunset Dr to S Triplet Lake Dr. May include traffic calming improvements.	
40	Queens Mirror Circle Pedestrian Safety Improvements	Safe Routes to Schools project. From S Triplet Lake Dr to S Winter Park Dr, install permanent speed feedback devices, button activated flashing beacon for crosswalk, new pedestrian crossing at Queens Mirror Cir/Lost Lake Ln, and new striping for crosswalk at Rotary Park.	2 dots
49	Sunset Park to Secret Lake Park Trail	Pedestrian/bike trail connecting Sunset Park to Secret Lake Park. May include rehabilitation and enhancements to existing trail within Secret Lake Park.	
30	Middle Lake Triplet Trail	Pedestrian/bike trail connecting Secret Lake Park at N Triplet Lake Drive to S Triplet Lake Dr at golf course driving range via shoreline/wetlands of Middle Lake Triplet. May include replacement of existing golf course bridge at canal between Middle and South Lake Triplet.	
51	Casselberry Exchange Trail	Pedestrian/bike trail connecting N Oxford Rd to US 17-92.	
52	Ascension Trail	Pedestrian/bike trail and/or sidewalk improvements connecting Casselberry Exchange at US 17-92 to Triplet Lake Drive/City Hall complex/Lake Concord Park. Includes filling sidewalk gaps along Ascension Dr. to connect to Piney Ridge Rd and Overbrook Dr.	1 dot

Workshop 4 – Central Casselberry

Dot Voting Results (Board 2 of 2, Set 1)

April 2, 2015 (6-8 PM)

Project ID Number	Project Name	Project Description	Vote Here
55	N Oxford to Carriage Hill Trail	Pedestrian/bike trail connecting N Oxford Rd to Carriage Hill Dr via southern perimeter of conservation area north of library.	
56	Carriage Hill to Casselberry Greenway Trail Connection	Pedestrian/bike trail connection from Carriage Hill Dr to Casselberry Greenway Trail via 201 Carriage Hill Dr.	2 dots
57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	Pedestrian/bike improvements to enhance connectivity around Middle and South Lake Triplet and Lost Lake. May include new wider sidewalks, pedestrian bridge(s), or lighting enhancements.	
64	NE Triplet Dr Complete Street Improvements	From N Triplet Lake Dr to Seminola Blvd, sidewalks will be added. May include road reconstruction and drainage improvements. Also may include alignment correction to NE Triplet Ct.	2 dots
65	Sunset Dr/Button Rd/ Seminola Blvd Intersection Access and Safety Improvements	Adjust Sunset Dr/Button Rd/Seminola Blvd intersection to improve emergency vehicle access. May include additional safety and bike/ped accessibility improvements.	
66	Concord Woods Traffic Calming	Traffic calming improvements for Valmore Dr, Colombo Dr, Thornberry Dr, and Tallwood Dr. (Method uncertain)	
68	Hill St Traffic Calming	Traffic calming improvements to address lane deviation at curve. (Method uncertain)	
69	Kentia Rd Traffic Calming	Traffic calming improvements from S Winter Park Dr to Violet Dell. (Method uncertain)	
71	Oakwood Dr Traffic Calming	Traffic calming improvements from N Sunset Dr to N Triplet Lake Dr. (Method uncertain)	
73	Paul McClure Ct Traffic Calming	Traffic calming improvements in vicinity of Niblick Dr intersection. (Method uncertain)	
74	Wilshire Dr @ SR 436 Turn Lane Improvements	Install dedicated right turn lane on Wilshire Dr westbound.	2 dots
76	Carriage Hill/Lampite Intersection Safety and Accessibility	At the Carriage Hill Dr/Carriage Hill Cir and Lampite Wy intersection, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	2 dots
77	Carriage Hill Dr and Shady Hollow Safety and Accessibility Improvements	At the Carriage Hill Dr and Shady Hollow intersections (north and south), install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
78	Carriage Hill Dr and Carriage Hill Cir Safety and Accessibility	At all other intersections (not addressed by projects 76 and 77) along Carriage Hill Dr (Apple Hill Hollow to Lampite Wy) and Carriage Hill Cir, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	3 dots
79	Ullac Rd Safety and Accessibility Improvements	From Tulip Trl to Violet Dell, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	

Workshop 4 – Central Casselberry

Dot Voting Results (Board 1 of 2, Set 2)

April 2, 2015 (6-8 PM)

Project ID Number	Project Name	Project Description	Vote Here
1.	US 17-92 to Sunset Dr Pedestrian Connectivity Improvements	Construct boardwalk/sidewalk to extend pedestrian connectivity from US 17-92 at Plumosa Ave to Sunset Dr via the Home Depot property.	●
2	Sunset Dr Livable Street Improvements	From Button Rd to Oxford Rd, widen the east side sidewalk, narrow the road, and mill/resurface the road. It will include on-street parking and a midblock crossing at Sunset Park.	●
3	Southcot Dr Bicycle/ Pedestrian Improvements	From Sunset Dr to S Triplet Lake Dr, widen sidewalks, install curbs/gutter, and resurface if needed. Traffic calming may also be included.	
4	Palm Dr Bicycle/ Pedestrian Improvements	Close Palm Dr from Marigold Dr to Hibiscus Rd to convert right-of-way into green space with 10 foot wide shared use path. East-west traffic will be maintained. Traffic calming brick treatments at intersections and LED trail lighting will also be included.	● ●
5	Marigold Rd Bicycle/ Pedestrian Improvements	From Carriage Hill Cir to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and existing trail at Winter Park Dr/Marigold Rd.	
6	Hibiscus Rd Bicycle/ Pedestrian Improvements	From SR 436 to Winter Park Dr, widen sidewalks to connect to proposed Palm Drive Trail and the bus stop at SR 436/Wilshire Dr.	
8	Quail Pond Circle Complete Street/ Pedestrian Connectivity Improvements	Reconstruct portion of Quail Pond Cir and extend pedestrian connection from Lake Concord Park to Sunset Dr. With other projects, will help complete a 1 mile loop around Lake Concord.	
11	"Flower Street" Traffic Calming	Covering Jasmine Rd, Iris Rd, and Hibiscus Rd, project will install bricked intersections for traffic calming.	●
13	N Triplet Lake Dr Traffic Calming	Brick intersection treatments in the vicinity of Secret Lake Park bridge to provide traffic calming. Other treatments as deemed appropriate will be applied from NE Triplet Dr to Oakwood Dr.	
31	Overbrook Dr Improvements	Drainage improvements with resurfacing from Sunset Dr to S Triplet Lake Dr. May include traffic calming improvements.	
40	Queens Mirror Circle Pedestrian Safety Improvements	Safe Routes to Schools project. From S Triplet Lake Dr to S Winter Park Dr, install permanent speed feedback devices, button activated flashing beacon for crosswalk, new pedestrian crossing at Queens Mirror Cir/Lost Lake Ln, and new striping for crosswalk at Rotary Park.	●
49	Sunset Park to Secret Lake Park Trail	Pedestrian/bike trail connecting Sunset Park to Secret Lake Park. May include rehabilitation and enhancements to existing trail within Secret Lake Park.	
50	Middle Lake Triplet Trail	Pedestrian/bike trail connecting Secret Lake Park at N Triplet Lake Drive to S Triplet Lake Dr at golf course driving range via shoreline/wetlands of Middle Lake Triplet. May include replacement of existing golf course bridge at canal between Middle and South Lake Triplet.	
51	Casselberry Exchange Trail	Pedestrian/bike trail connecting N Oxford Rd to US 17-92	
52	Aspenwood Trail	Pedestrian/bike trail and/or sidewalk improvements connecting Casselberry Exchange at US 17-92 to Triplet Lake Drive/City Hall complex/Lake Concord Park. Includes filling sidewalk gaps along Aspenwood Dr to connect to Piney Ridge Rd and Overbrook Dr.	

Workshop 4 – Central Casselberry

Dot Voting Results (Board 2 of 2, Set 2)

April 2, 2015 (6-8 PM)

Proposed Central Casselberry Projects
Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan

Project ID Number	Project Name	Project Description	Vote Here
55	N Oxford to Carriage Hill Trail	Pedestrian/bike trail connecting N Oxford Rd to Carriage Hill Dr via southern perimeter of conservation area north of library.	
56	Carriage Hill to Casselberry Greenway Trail Connection	Pedestrian/bike trail connection from Carriage Hill Dr to Casselberry Greenway Trail via 201 Carriage Hill Dr.	
57	Triplet Chain of Lakes Bicycle/Pedestrian Improvements	Pedestrian/bike improvements to enhance connectivity around Middle and South Lake Triplet and Lost Lake. May include new wider sidewalks, pedestrian bridges, or lighting enhancements.	
64	NE Triplet Dr Complete Street Improvements	From N Triplet Lake Dr to Seminola Blvd, sidewalks will be added. May include road reconstruction and drainage improvements. Also may include alignment correction to NE Triplet Ct.	
65	Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements	Adjust Sunset Dr/Button Rd/Seminola Blvd intersection to improve emergency vehicle access. May include additional safety and bike/ped accessibility improvements.	
66	Concord Woods Traffic Calming	Traffic calming improvements for Valmore Dr, Colombo Dr, Thornberry Dr, and Tallwood Dr. (Method uncertain)	
68	Hill St Traffic Calming	Traffic calming improvements to address lane deviation at curve. (Method uncertain)	
69	Kentia Rd Traffic Calming	Traffic calming improvements from S Winter Park Dr to Violet Dell. (Method uncertain)	
71	Oakwood Dr Traffic Calming	Traffic calming improvements from N Sunset Dr to N Triplet Lake Dr. (Method uncertain)	
73	Paul McClure Ct Traffic Calming	Traffic calming improvements in vicinity of Niblick Dr intersection. (Method uncertain)	
74	Wilshire Dr @ SR 436 Turn Lane Improvements	Install dedicated right turn lane on Wilshire Dr westbound.	
76	Carriage Hill/Lampite Intersection Safety and Accessibility	At the Carriage Hill Dr/Carriage Hill Cir and Lampite Wy intersection, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
77	Carriage Hill Dr and Shady Hollow Safety and Accessibility Improvements	At the Carriage Hill Dr and Shady Hollow intersections (north and south), install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
78	Carriage Hill Dr and Carriage Hill Cir Safety and Accessibility	At all other intersections (not addressed by projects 76 and 77) along Carriage Hill Dr (Apple Hill Hollow to Lampite Wy) and Carriage Hill Cir, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	
79	Lilac Rd Safety and Accessibility Improvements	From Talip Trl to Violet Dell, install curb ramps and other accessibility improvements to sidewalk. May include additional lighting, striping, signage, and other safety improvements. May include sidewalk grade correction as needed for ADA compliance.	

Workshop 5 – South Casselberry

Dot Voting Results

April 7, 2015 (6-8 PM)

There was no feedback received from South Casselberry

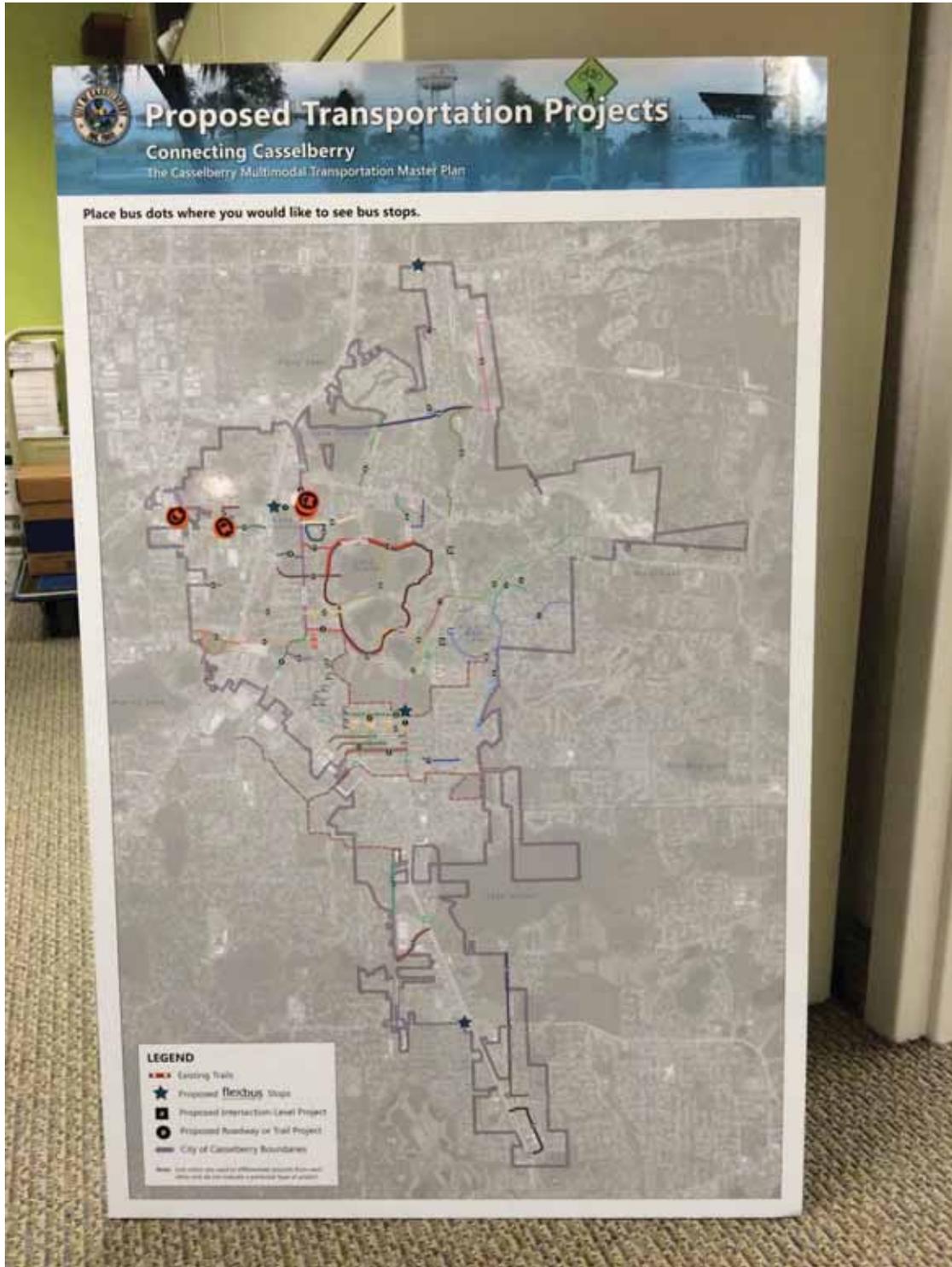
Appendix E:
Bus Stop Exercise Results for
each Workshop

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Workshop 1 – West Casselberry

Bus Stop Exercise Results (1 of 1)

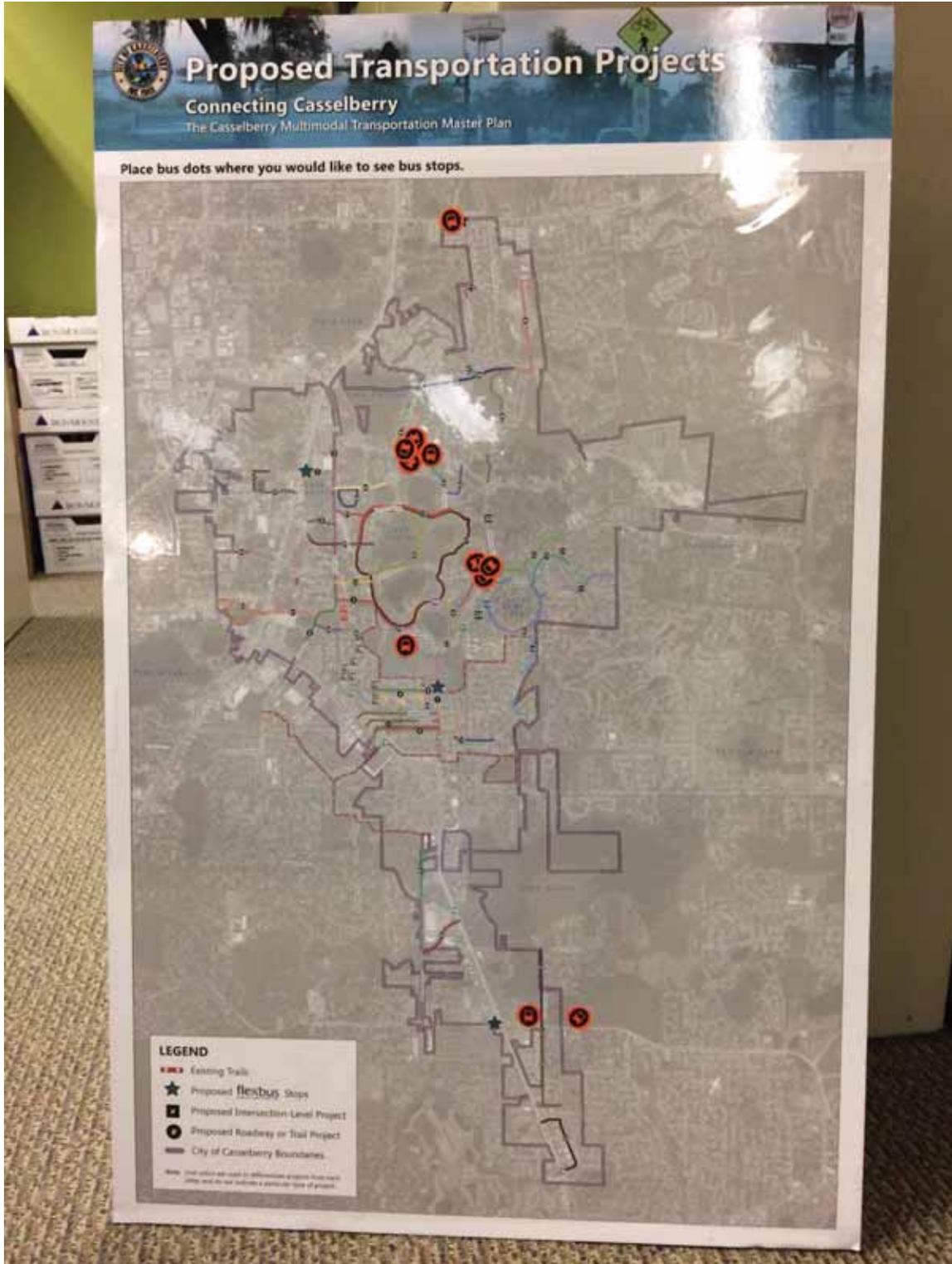
March 19, 2015 (6-8 PM)



Workshop 2 – North Casselberry

Bus Stop Exercise Results (1 of 2)

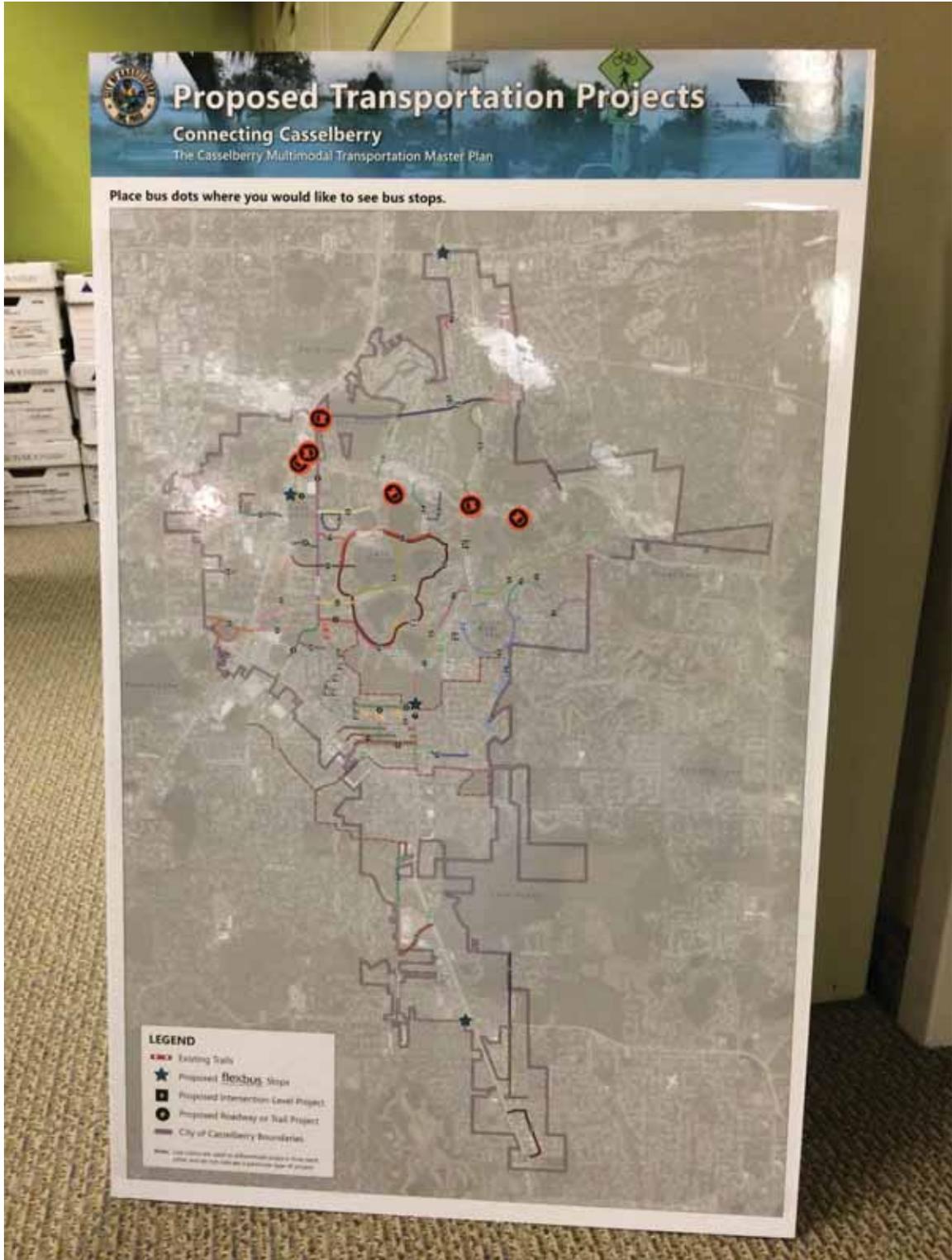
March 26, 2015 (6-8 PM)



Workshop 2 – North Casselberry

Bus Stop Exercise Results (2 of 2)

March 26, 2015 (6-8 PM)



Workshop 3 – East Casselberry

Bus Stop Exercise Results

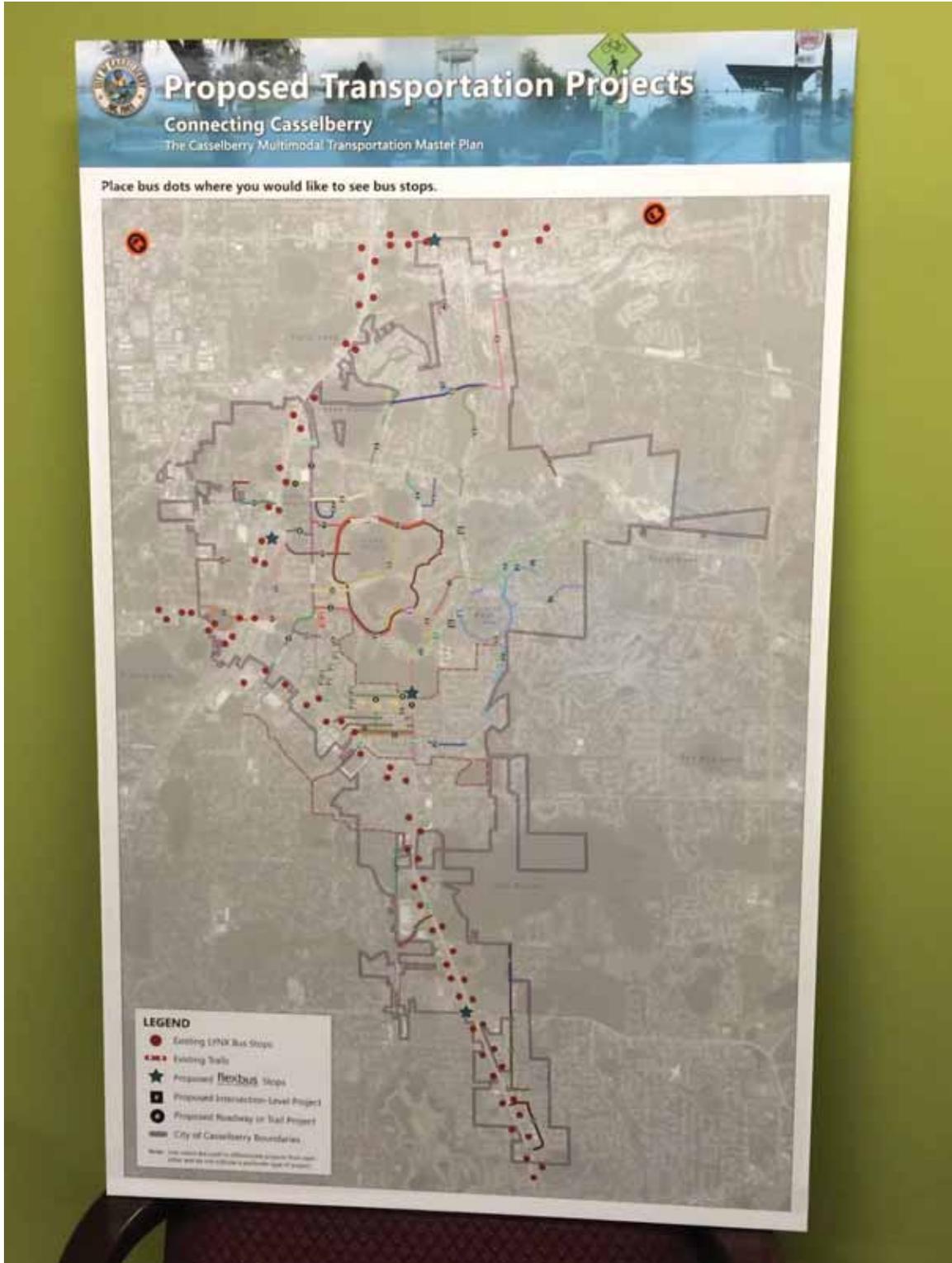
March 31, 2015 (6 – 8 PM)

There was no feedback received from East Casselberry

Workshop 4 – Central Casselberry

Bus Stop Exercise Results (1 of 2)

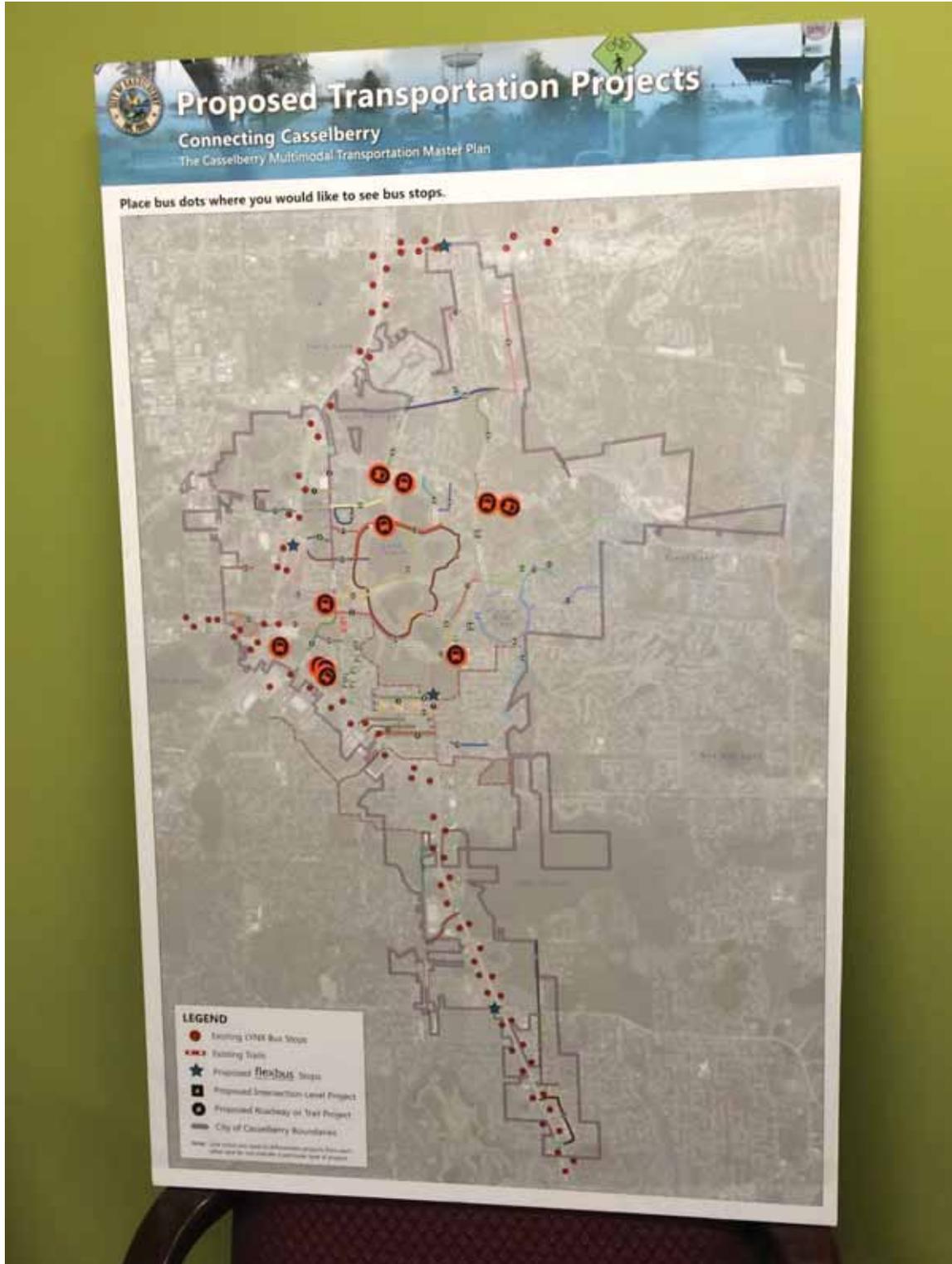
April 2, 2015 (6 – 8 PM)



Workshop 4 – Central Casselberry

Bus Stop Exercise Results (2 of 2)

April 2, 2015 (6 – 8 PM)



Workshop 5 – South Casselberry

Bus Stop Exercise Results

April 7, 2015 (6 – 8 PM)

There was no feedback received from South Casselberry

Appendix F:
Completed Project Suggestion
Sheets

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Project Suggestion Sheet for West Casselberry

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

LEGEND

■ West Casselberry Planning Area

Project ID Number

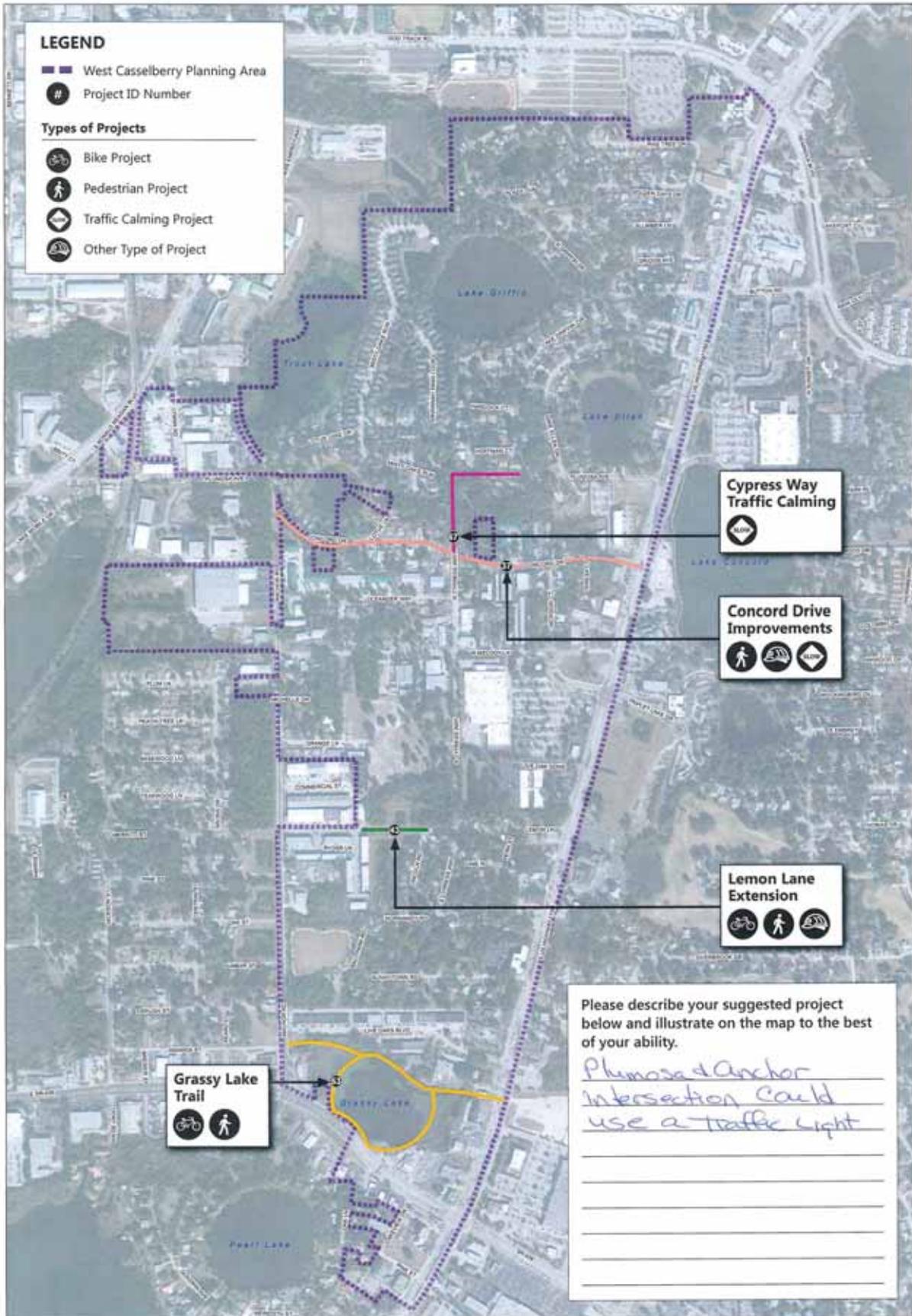
Types of Projects

🚲 Bike Project

🚶 Pedestrian Project

🚦 Traffic Calming Project

🛠 Other Type of Project



Grassy Lake Trail
🚲 🚶

Cypress Way Traffic Calming
🚦

Concord Drive Improvements
🚶 🚲 🚦

Lemon Lane Extension
🚲 🚶 🚲

Please describe your suggested project below and illustrate on the map to the best of your ability.

Phlox and Anchor intersection could use a traffic light



Project Suggestion Sheet for North Casselberry

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Please describe your suggested project below and illustrate on the map to the best of your ability.

15 million (over 10 years)
8.5 million new projects, 15 mil road,
5 million maintenance

44: Narrow road, build
sidewalks, add landscaping
(Cathedral Oaks)

Sunset Drive/Button
Road/Seminola Blvd
Intersection Access and
Safety Improvements



Osceola Trail
Traffic Calming



Belle Avenue
Trail



Gee Creek
Bike/Ped Bridge



Gee Creek
Trail



LEGEND

North Casselberry Planning Area

Project ID Number

Types of Projects

- Bike Project
- Pedestrian Project
- Traffic Calming Project
- Other Type of Project

Lake Kathryn
Circle Complete
Street Improvements



N Winter Park
Drive Trail



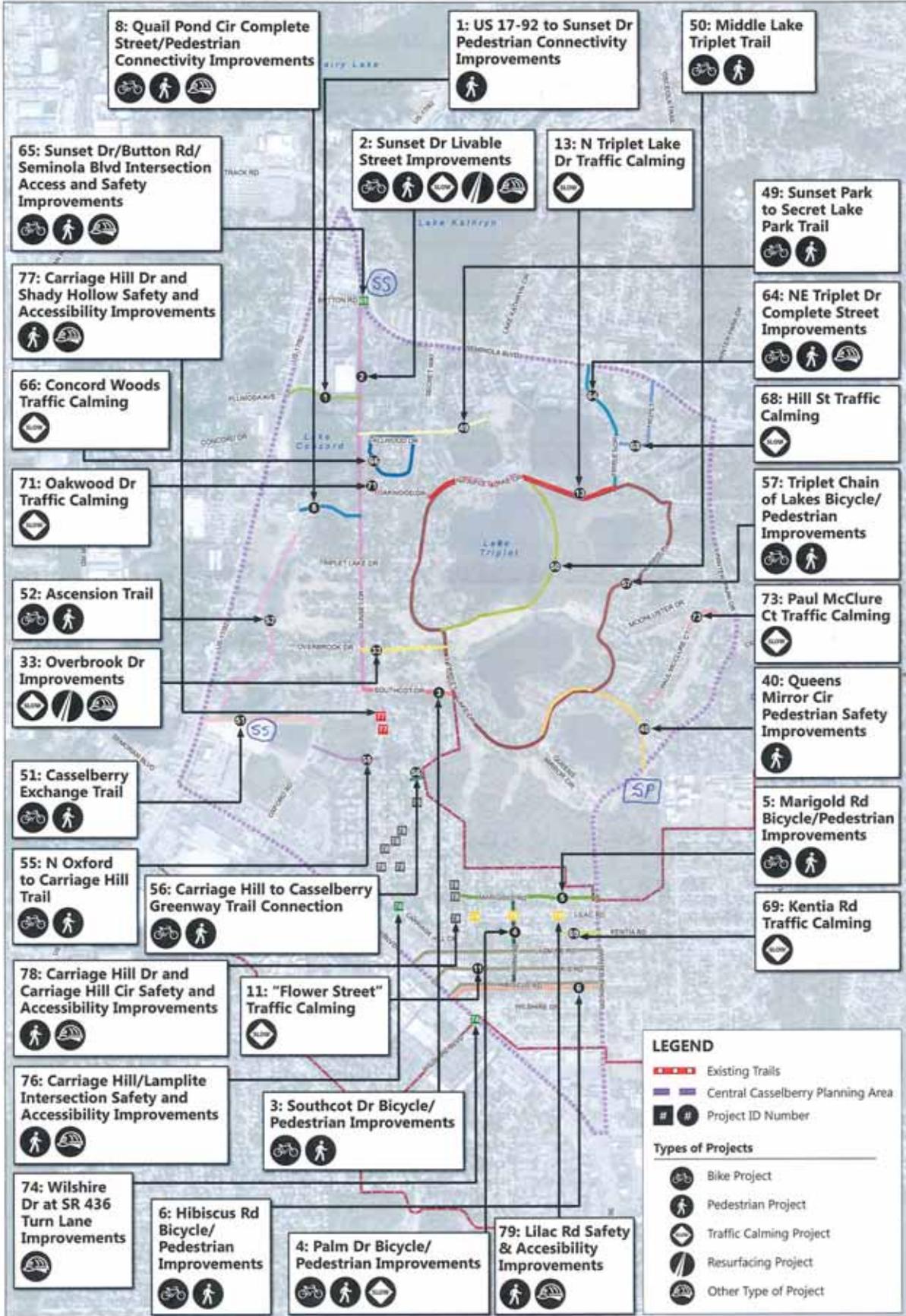


Project Suggestion Sheet for Central Casselberry

Connecting Casselberry

The Casselberry Multimodal Transportation Master Plan

Turn page over to describe your suggested project.



Please describe your suggested project below and illustrate on the map to the best of your ability.

1. PROPOSED: SKATEPARK MASTER PLAN* - ESTABLISH COMMUNITY SKATEPARK AS WELL AS NEIGHBORHOOD SKATE SPOTS/ PLAZAS.

① IMPROVED SAFETY - PREVENT CONFLICT W/ MOTORVEHICLES

- ELIMINATE SIDEWALK SAFETY ISSUES (CRACKS/UNEVEN)

- NOT ALLOWED IN CITY PARKS. (NO VENUE)

- DEFINED AS PEDS IN FSS.

② PARTICIPATION RATES WARRANT INCLUSION

③ COMMUNITY SUPPORT

④ ECONOMIC BENEFIT

⑤ RELATIVELY LOW COST VS. TRAILS/INTERSECTIONS

COMMUNITY PARK - APPX \$250K (10-12,000 FT²)

SKATE SPOT/PLAZA - APPX \$10-15K (2-4,000 FT²)

* PORTLAND, OR PHILADELPHIA, PA EXAMPLES

SP SKATE PARK

SS SKATE SPOTS

RECYCLED RAIL CAR AS
BRIDGE.

From: Brock, Kelly [<mailto:kbrock@casselberry.org>]
Sent: Thursday, April 09, 2015 3:43 PM
To: Taniguchi, Kyle; Ponce, Fabricio
Subject: FW: Pedestrian crosswalk.Sausalito Condominiums

Kyle & Fabricio,

I happened to catch this in my spam folder... I also received a similar verbal request from another resident in this vicinity.

It will be a little more complicated than just adding a crosswalk because there are significant sidewalk gaps, but it might be worth considering this in the project mix for South Casselberry, especially since we've had no other feedback yet.

Kelly H. Brock, Ph.D., P.E., CFM, LEED AP
Assistant Public Works Director/City Engineer
City of Casselberry
95 Triplet Lake Drive
Casselberry, FL 32707
(407) 262-7725 ext 1235
kbrock@casselberry.org

Find out more about City of Casselberry stormwater and lake management projects at www.casselberry.org/lakes

Find out more about City of Casselberry transportation projects at www.casselberry.org/go

From: Joan Lipsett [<mailto:joanlipsett@gmail.com>]
Sent: Thursday, March 26, 2015 7:17 PM
To: Brock, Kelly
Subject: Pedestrian crosswalk.Sausalito Condominiums

Mr. Brock

My name is Joan Lipsett, I live at [1104 Bocana Dr. Sausalito Condominiums](#). I am 77 years old. I have to cross Sausalito Blvd. quite often to walk my dog. The dog walk is by the tennis courts. I have had a close call recently. I think they are playing a game. Who can hit the old lady. I would love to have a pedestrian crossing, or some speed bumps. Please consider these suggestions.

Joan Lipsett

Thanks,
Joan

Appendix G:

Project Cost Estimate Sheets

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Project 1: US 17-92 to Sunset Drive Pedestrian Connectivity Improvements

Description	Unit	Quantity	Unit Price	Total
Timber Walking Structure	SF	900.00	\$75.00	\$67,500.00
DOT Ped Railing w/ Pickett	LF	300.00	\$75.00	\$22,500.00
Timber Piles	EA	30.00	\$1,000.00	\$30,000.00
Trees	EA	3.00	\$800.00	\$2,400.00
Sod	SF	6000	\$0.30	\$1,800.00
Clearing and Grubbing	AC	0.50	\$8,000.00	\$4,000.00
Survey	LS	1.00	\$5,000.00	\$5,000.00
Geotech	LS	1.00	\$2,500.00	\$2,500.00
Erosion and Sediment Control	LS	1.00	\$10,000.00	\$10,000.00
Embankment	CY	833.33	\$5.00	\$4,166.67
Excavation	CY	833.33	\$3.00	\$2,500.00
Drainage allowance	LS	1.00	\$35,000.00	\$35,000.00
Mobilization	LS	1.00	\$5,000.00	\$5,000.00
Right of Way	LS	1.00	\$5,000.00	\$5,000.00
Type "F" Curb and Gutter	LF	675.00	\$14.20	\$9,585.00
Concrete Sidewalk 6"	SY	572.22	\$40.53	\$23,192.17
Striping - 12" White Thermoplastic	LF	156.00	\$1.89	\$294.84
Striping - 24" White Thermoplastic	LF	168.00	\$4.02	\$675.36
Drainage Inlet (Type 6)	EA	1.00	\$10,000.00	\$10,000.00
15" RCP	LF	20.00	\$100.00	\$2,000.00
Manhole Top Type 8	EA	1.00	\$3,000.00	\$3,000.00
Aluminum Guardrail	LF	300.00	\$16.15	\$4,845.00
Bumper Guard	EA	13.00	\$50.00	\$650.00
Relocate Fire Hydrant	EA	1.00	\$3,569.09	\$3,569.09
Relocate Backflow Preventer	EA	1.00	\$1,150.00	\$1,150.00
Truncated Domes	EA	5.00	\$410.00	\$2,050.00
Pedestrian Signs	EA	6.00	\$275.13	\$1,650.78
Grand Total				\$260,028.90

25% Design, CEI, & Contingency \$65,007.23

TOTAL PROJECT COST **\$325,036.13**

Design Only (20%) \$52,005.78
Construction \$273,030.35

SALES TAX CONTRIBUTION \$325,036.13

Rounded to nearest thousand \$326,000.00

Project 10: Lancelot Way On-Street Parking (Brick Pavers)

Description	Unit	Quantity	Unit Price	Total
Mobilization	LS	1	\$5,000.00	\$5,000.00
Maintenance of Traffic	LS	1	\$2,500.00	\$2,500.00
Erosion and Sediment Control	LS	1	\$1,250.00	\$1,250.00
Demolition of existing sidewalk	SY	120.00	\$10.00	\$1,200.00
Demolition Existing Curb	LF	180.00	\$5.00	\$900.00
10" Soil Cement Base	SY	133.33	\$19.00	\$2,533.33
Brick Pavers	SF	750	\$4.90	\$3,675.00
Type "F" Curb and Gutter	LF	180.00	\$14.20	\$2,556.00
Concrete Sidewalk 6"	SY	120.00	\$38.25	\$4,590.00
Sod	SF	1080	\$0.30	\$324.00
Truncated Domes	EA	4	\$410.00	\$1,640.00
Grand Total				\$26,168.33

Assumptions

3 parallel spaces

w/ 40% contingency, CEI & design \$10,467.33

TOTAL PROJECT COST **\$36,635.67**

SALES TAX CONTRIBUTION \$36,635.67

Rounded to nearest thousand **\$37,000.00**

Project 33: Overbrook Drive Improvements

Description	Unit	Quantity	Unit Price	Total
Mobilization	LS	1.00	\$21,000.00	\$21,000.00
Preconstruction Video	LS	1.00	\$1,000.00	\$1,000.00
Maintenance of Traffic	LS	1.00	\$5,000.00	\$5,000.00
Erosion and Sediment Control	LS	1.00	\$3,000.00	\$3,000.00
Survey	LS	1.00	\$5,000.00	\$5,000.00
Geotech	LS	1.00	\$2,500.00	\$2,500.00
Milling Exist Asph Pavt, 3 1/2" avg depth	SY	3,200.00	\$4.76	\$15,232.00
Superpave Asphaltic Conc, Traffic C (1-1/2")	TN	396.00	\$82.74	\$32,765.04
Type "F" Curb and Gutter	LF	2,400.00	\$14.20	\$34,080.00
Concrete Sidewalk 4"	SY	133.33	\$30.12	\$4,016.00
Utility adjustment allowance	LS	1.00	\$10,000.00	\$10,000.00
Drainage allowance	LS	1.00	\$80,000.00	\$80,000.00
Irrigation Modifications	LS	1.00	\$5,000.00	\$5,000.00
Sod	SY	1,066.67	\$2.47	\$2,634.67
Landscape Adjustment Allowance	EA	1.00	\$5,000.00	\$5,000.00
Striping - 8" White Solid Thermoplastic	LF	2,400.00	\$1.03	\$2,472.00
Striping - 24" White Thermoplastic	LF	230.00	\$4.10	\$943.00
Striping - 12" White Solid	LF	120.00	\$2.14	\$256.80
Striping - 8" Yellow Solid	LF	2,400.00	\$1.04	\$2,496.00
Striping - Sharrow	EA	10.00	\$39.34	\$393.40
RPM - Yellow	EA	40.00	\$3.83	\$153.20
Truncated Domes	EA	4.00	\$410.00	\$1,640.00
Signs - Remove and Replace	EA	8.00	\$100.00	\$800.00
Grand Total				\$235,382.11

25% Design, CEI, Contingency

\$58,845.53

\$294,227.63

TOTAL PROJECT COST

SALES TAX CONTRIBUTION \$294,227.63

Rounded to nearest thousand \$295,000.00

Project 40: Queens Mirror Circle Pedestrian Safety Improvements

Description	Unit	Quantity	Unit Price	Total
Mobilization	LS	1.00	\$15,000.00	\$15,000.00
Radar Detection Sign	EA	2.00	\$10,000.00	\$20,000.00
Pedestrian Signal - Back to Back	EA	1.00	\$37,000.00	\$37,000.00
Striping - 24" White Thermoplastic	LF	330.00	\$4.10	\$1,353.00
Striping - 12" White Solid	LF	270.00	\$2.14	\$577.80
Grand Total				\$73,930.80

25% Design, CEI, Contingency \$12,686.54

TOTAL PROJECT COST \$86,617.34

Design Only (from Mark B.'s estimate on Sept 2015) \$8,990.00
 Construction \$77,627.34

SALES TAX CONTRIBUTION \$86,617.34
 Rounded to nearest thousand \$87,000.00

Project 43: Lemon Lane Extension					
Description	Unit	Quantity	Unit Price	Total	
Mobilization (added 15% to const. cost)	LS	1.00			
Preconstruction Video	LS	1.00	\$500.00	\$500.00	
Maintenance of Traffic (added 15% to const. cost)	LS	1.00			
Erosion and Sediment Control	LS	1.00	\$10,000.00	\$10,000.00	
Survey	LS	1.00	\$5,000.00	\$5,000.00	
Geotech	LS	1.00	\$2,500.00	\$2,500.00	
Type B Stabilization	SY	2,944.44	\$3.74	\$11,012.22	
Optional Base, Base Group 9	SY	2,944.44	\$13.11	\$38,601.67	
Superpave Asphaltic Conc, Traffic C (2-1/2")	TN	607.29	\$84.82	\$51,510.48	
Asphaltic Concrete FC, Traffic C (1-1/2")	TN	218.63	\$110.73	\$24,208.35	
Type "F" Curb and Gutter	LF	1,060.00	\$14.20	\$15,052.00	
Concrete Sidewalk 4"	SY	942.22	\$30.12	\$28,379.73	
Utility adjustment allowance	LS	1.00	\$10,000.00	\$10,000.00	
Drainage allowance	LS	1.00	\$75,000.00	\$75,000.00	
Additional Retention/Water Quality/Flood Control Allowance	LS	1.00	\$75,000.00	\$75,000.00	
Irrigation Allowance	LS	1.00	\$15,000.00	\$15,000.00	
Lighting Allowance	LS	1.00	\$20,000.00	\$20,000.00	
Sod	SF	1,884.44	\$2.47	\$4,654.58	
Landscape Adjustment Allowance	LS	1.00	\$5,000.00	\$5,000.00	
Landscape Allowance (Small Plants)	LS	1.00	\$60,000.00	\$60,000.00	
Striping - 8" White Solid Thermoplastic	LF	1,060.00	\$1.03	\$1,091.80	
Striping - 24" White Thermoplastic	LF	40.00	\$4.10	\$164.00	
Striping - 6" White Dotted	LF	1,060.00	\$0.89	\$943.40	
Striping - White Arrow	EA	8.00	\$53.00	\$424.00	
Striping - 8" Yellow Solid	LF	1,060.00	\$1.04	\$1,102.40	
Striping - 6" Yellow Dotted	LF	500.00	\$1.05	\$525.00	
RPM - Yellow	EA	40.00	\$3.83	\$153.20	
Truncated Domes	EA	8.00	\$410.00	\$3,280.00	
Signs - New	EA	8.00	\$275.00	\$2,200.00	
Excavation	CY	588.89	\$3.00	\$1,766.67	
Striping Allowance	LS	1.00	\$2,000.00	\$2,000.00	
Embankment	CY	588.89	\$5.00	\$2,944.44	
			Grand Total	\$468,013.94	

25% Design, CEI, Contingency \$117,003.48
 Mobilization (15%) \$70,202.09
 MOT (15%) \$70,202.09
 TOTAL PROJECT COST **\$725,421.60**

SALES TAX CONTRIBUTION \$725,421.60
 Rounded to nearest thousand \$726,000.00

Project 44: Lake Kathryn Circle Complete Street Improvements

Description	Unit	Quantity	Unit Price	Total
Mobilization (added 15% to const. cost)	LS	1.00	\$21,000.00	\$21,000.00
Maintenance of Traffic (added 15% to const. cost)	LS	1.00	\$3,000.00	\$3,000.00
Erosion and Sediment Control	LS	1.00	\$3,000.00	\$3,000.00
Survey	LS	1.00	\$5,000.00	\$5,000.00
Geotech	LS	1.00	\$5,000.00	\$5,000.00
Clearing and Grubbing	LS	1.00	\$10,000.00	\$10,000.00
Type "F" Curb and Gutter	LF	2,700.00	\$18.94	\$51,138.00
Truncated Domes	EA	4.00	\$410.00	\$1,640.00
Demo Existing Sidewalk	SY	300.00	\$10.00	\$3,000.00
Concrete Sidewalk 4"	SY	1,600.00	\$30.12	\$48,192.00
Concrete Sidewalk 6" - Driveways	SY	800.00	\$40.53	\$32,424.00
Utility adjustment allowance	LS	1.00	\$30,000.00	\$30,000.00
Drainage allowance	LS	1.00	\$50,000.00	\$50,000.00
Irrigation Allowance	LS	1.00	\$10,000.00	\$10,000.00
Sod	SY	2,666.67	\$2.47	\$6,586.67
Landscape Allowance (Small Plants)	LS	1.00	\$25,000.00	\$25,000.00
Enhanced Midblock Crossing Allowance	LS	1.00	\$35,000.00	\$35,000.00
Striping - Thermoplastic Remove	SF	3,600.00	\$4.18	\$15,048.00
Striping - Sharrow	EA	20.00	\$39.34	\$786.80
Signs - Remove and Replace	EA	8.00	\$210.00	\$1,680.00
Excavation	CY	1,200.00	\$5.00	\$6,000.00
Project Unknowns				\$40,000.00
			Grand Total	\$403,495.47

45% Design, CEI, Contingency \$181,572.96

TOTAL PROJECT COST \$585,068.43

SALES TAX CONTRIBUTION \$585,068.43

Rounded to nearest thousand \$586,000.00

Project 46: Gee Creek Trail (Assuming Boardwalk)				
Description	Unit	Quantity	Unit Price	Total
Timber Walking Structure	SF	38400.00	\$75.00	\$2,880,000.00
Timber Railings	LF	6400.00	\$50.00	\$320,000.00
Concrete Drill Shaft Foundation Support	LS	1.00	\$500,000.00	\$500,000.00
Mobilization	LS	1.00	\$100,000.00	\$100,000.00
Surveying	LS	1.00	\$20,000.00	\$20,000.00
Clearing and Grubbing	AC	1.50	\$10,000.00	\$15,000.00
Erosion and Sediment Control	LS	1.00	\$10,000.00	\$10,000.00
Embankment	CY	3555.56	\$5.00	\$17,777.78
Excavation	CY	3555.56	\$3.00	\$10,666.67
Additional drainage accommodation	LS	1.00	\$100,000.00	\$100,000.00
Irrigation/ROW Adjustment Allowance	LS	1.00	\$5,000.00	\$5,000.00
Irrigation/ROW Adjustment Allowance	LS	1.00	\$10,000.00	\$10,000.00
Reclaimed Extension for Irrigation	LF	1000.00	\$35.00	\$35,000.00
Irrigation	LS	1.00	\$25,000.00	\$25,000.00
Decorative Bollards	EA	60.00	\$600.00	\$36,000.00
Benches	EA	20.00	\$1,000.00	\$20,000.00
Soil Prep	SY	7111.11	\$3.00	\$21,333.33
Lighting Allowance	LS	1.00	\$100,000.00	\$100,000.00
Truncated Domes	EA	2.00	\$410.00	\$820.00
Sign Single Post Furnish & Install (Decorative)	EA	40.00	\$585.00	\$23,400.00
			Grand Total	\$4,249,997.78

25% Design, CEI, & Contingency \$1,062,499.44

TOTAL PROJECT COST **\$5,312,497.22**

SALES TAX CONTRIBUTION \$5,312,497.22

Rounded to nearest thousand \$5,313,000.00

Project 48: N Winter Park Drive Trail

Calculations based on \$1 million per mile

Construction of 0.85 mile trail (rounded to 1 mile)
Design (25%)

\$1,000,000.00
\$250,000.00

TOTAL PROJECT COST **\$1,250,000.00**

SALES TAX CONTRIBUTION \$1,250,000.00

Rounded to nearest thousand \$1,250,000.00

Project 65: Sunset Dr/Button Rd/Seminola Blvd Intersection Access and Safety Improvements				
Description	Unit	Quantity	Unit Price	Total
Demolition Existing Curb	LF	400	\$5.00	\$2,000.00
Reconstruct SBL Turn Lane	LF	300	\$946.65	\$283,996.00
New Mast Arm Locations	EA	2	\$200,000.00	\$400,000.00
Striping - 24" White Thermoplastic	LF	75	\$4.02	\$301.50
Concrete Driveway Apron 6"	SY	67	\$40.53	\$2,715.51
DEMO/CLEARING & GRUBBING	LS	1	\$20,000.00	\$20,000.00
Remove Striping	SF	150	\$4.18	\$627.00
Grand Total				\$709,640.01

25% Design, CEI, & Contingency \$177,410.00

TOTAL PROJECT COST **\$887,050.01**

SALES TAX CONTRIBUTION \$887,050.01
 Rounded to nearest thousand \$888,000.00

Project 78: Carriage Hill Drive and Carriage Hill Circle Safety and Accessibility Improvements

Description	Unit	Quantity	Unit Price	Total
Survey	LS	1.00	\$5,000.00	\$5,000.00
Demolition Existing Curb	LF	360.00	\$5.00	\$1,800.00
Concrete Sidewalk Ramps 6"	SY	120.00	\$40.53	\$4,863.60
Sod	SY	100.00	\$2.47	\$247.00
Striping - 12" White Thermoplastic	LF	400.00	\$1.89	\$756.00
Striping - 24" White Thermoplastic	LF	800.00	\$4.02	\$3,216.00
Truncated Domes	EA	18.00	\$410.00	\$7,380.00
			Grand Total	\$23,262.60

45% Design, CEI, & Contingency \$10,468.17
TOTAL PROJECT COST \$33,730.77

SALES TAX CONTRIBUTION \$33,730.77

Rounded \$34,000.00

Project 80: Crystal Bowl Circle On-Street Parking (Brick Pavers)

Description	Unit	Quantity	Unit Price	Total
Mobilization	LS	1.00	\$10,000.00	\$10,000.00
Maintenance of Traffic	LS	1.00	\$5,000.00	\$5,000.00
Erosion and Sediment Control	LS	1.00	\$2,500.00	\$2,500.00
Demolition of existing sidewalk	SY	366.67	\$10.00	\$3,666.67
Demolition Existing Curb	LF	550.00	\$5.00	\$2,750.00
10" Soil Cement Base	SY	266.67	\$19.00	\$5,066.67
Brick Pavers	SF	1500	\$4.90	\$7,350.00
Type "F" Curb and Gutter	LF	550.00	\$14.20	\$7,810.00
Concrete Sidewalk 6"	SY	366.67	\$38.25	\$14,025.00
Sod	SF	3300	\$0.30	\$990.00
Truncated Domes	EA	4.00	\$410.00	\$1,640.00
Grand Total				\$60,798.33

Assumptions

5 parallel spaces

w/ 30% contingency

\$18,239.50

TOTAL PROJECT COST

\$79,037.83

SALES TAX CONTRIBUTION

\$79,037.83

Rounded to nearest thousand

\$80,000.00

Appendix H: FDOT Inflation Factors

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Inflation Factors

This “*Transportation Costs*” report is one of a series of reports issued by the Office of Policy Planning. It provides information on inflation factors and other indices that may be used to convert Present Day Costs (PDC) to Year Of Expenditure costs (YOE) or vice versa. This report is updated annually when the factors are posted within the FDOT Work Program Instructions.

Please note that the methodology for Inflationary adjustments relating to specific transportation projects should be addressed with the district office where the project will be located. For general use or non-specific areas, the guidelines provided herein may be used for inflationary adjustments.

Construction Cost Inflation Factors

The table on the next page includes the inflation factors and present day cost (PDC) multipliers that are applied to the Department’s Work Program for highway construction costs expressed in Fiscal Year 2016 dollars.

Other Transportation Cost Inflation Factors

Other indices may be used to adjust project costs for other transportation modes or non-construction components of costs. Examples are as follows:

The Consumer Price Index (CPI, also retail price index) is a weighted average of prices of a specified set of products and services purchased by wage earners in urban areas. Restated, it is a price index which tracks the prices of a specified set of consumer products and services, providing a measure of inflation. The CPI is a fixed quantity price index and a reasonable cost-of-living index.

The Employment Cost Index (ECI) is based on the National Compensation Survey. It measures quarterly changes in compensation costs, which include wages, salaries, and other employer costs for civilian workers (nonfarm private industry and state and local government).

The monthly series, Producer Price Index for Other Non-residential Construction, is available from the Bureau of Labor Statistics (BLS). This index is not exclusively a highway construction index, but it is the best available national estimate of changes in highway costs from month to month.



**Work Program
Highway Construction Cost Inflation Factors**

Fiscal Year	Inflation Factor	PDC Multiplier
2016	Base	1.000
2017	2.5%	1.025
2018	2.7%	1.053
2019	2.8%	1.082
2020	2.6%	1.110
2021	2.5%	1.138
2022	2.7%	1.169
2023	2.8%	1.201
2024	2.9%	1.236
2025	3.0%	1.273
2026	3.1%	1.313
2027	3.2%	1.355
2028	3.3%	1.399
2029	3.3%	1.446
2030	3.3%	1.493
2031	3.3%	1.543
2032	3.3%	1.593
2033	3.3%	1.646
2034	3.3%	1700
2035	3.3%	1.756
2036	3.3%	1.814

Source: Office of Work Program and Budget,
(Fiscal Year 2016 is July 1, 2015 to June 30, 2016)

Advisory Inflation Factors For Previous Years

Another “*Transportation Costs*” report is available covering highway construction cost inflation for previous years. “*Advisory Inflation Factors For Previous Years (1987-2015)*” provides Present Day Cost (PDC) multipliers that enable project cost estimates from previous years to be updated to FY 2015. This report is updated about once a year. For the table and text providing this information, please go to

<http://www.dot.state.fl.us/planning/policy/costs/RetroCostInflation.pdf>.

Appendix I:

Pavement Management Report

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City of Casselberry Pavement Management Plan

PREPARED FOR

City of Casselberry
95 Triplet Lake Drive
Casselberry, FL 32707
407.262.7725

PREPARED BY



225 E. Robinson Street
Suite 300
Orlando, FL 32801
407.839.4006

July 2016

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Introduction

As part of the development of the Multimodal Transportation Master Plan, initial steps toward the development of a pavement management program were taken. Using visual pavement ratings developed in 2009, the foundation for a MicroPAVER™ pavement management database was developed. MicroPAVER™ is a widely used pavement management system developed by the Army Corp of Engineers. Once fully implemented, the system will allow the City to track pavement conditions and completed pavement improvement projects, as well as perform budget analyses to project overall pavement conditions under various funding scenarios and plan pavement maintenance and rehabilitation.

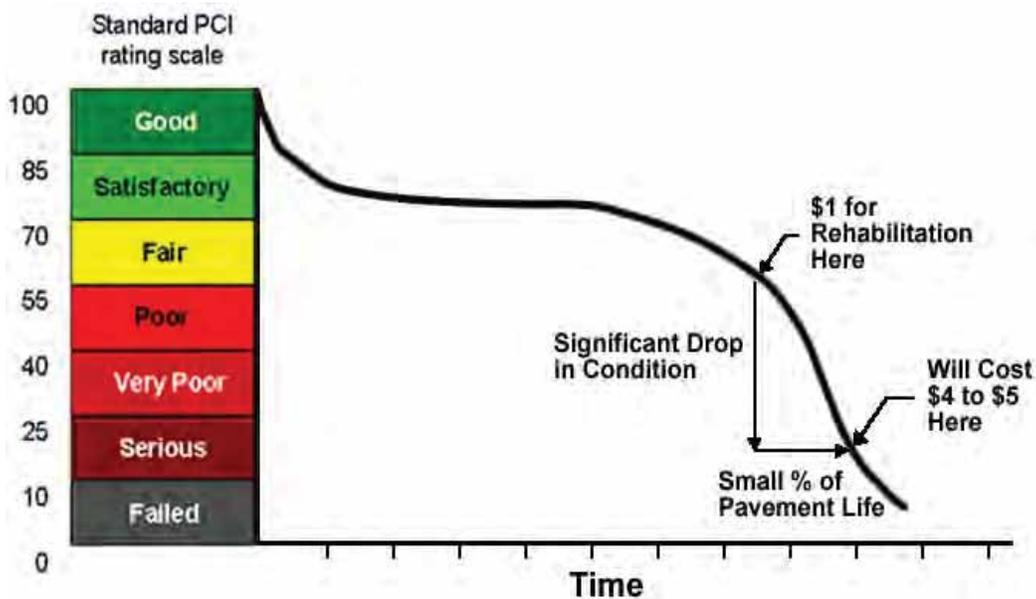
Pavement Management Approach

Pavement management is the practice of planning for pavement repairs and maintenance with the goal of maximizing the value and life of a pavement network.

To accomplish this, a community needs to have several repair techniques in its arsenal and the knowledge of when to apply them. This is where pavement management comes into play. With a comprehensive database of street conditions, pavement management software can model when to perform various repairs on a street network. Of course, engineering judgment is required to finalize any list of street repairs, as no computer model can take every variable analyzed in making a repair decision into account. The computer system is a great springboard to help a community start its repair program planning and is an excellent method of storing historical project data.

Below is a model of how a street's pavement deteriorates over time. Interpreting the curve, a street starts out in excellent condition when it is newly constructed. Midway through its life, a relatively low cost treatment such as a surface seal or thin overlay can be used. It may take only a few years for the window of opportunity to perform this low cost treatment to pass, after which the street would need structural improvement, which can be far more costly to perform. By performing timely maintenance, pavement conditions can be preserved, thereby extending the life of the street.

Figure 1: Typical Pavement Deterioration Curve (MicroPAVER™)



Pavement Condition Assessment

The MicroPAVER™ system uses the ASTM-D6433 methodology for developing a Pavement Condition Index (PCI). For each pavement section, the severity and extent of twenty pavement distresses are recorded, and then entered into a weighted formula to arrive at a PCI. PCI is expressed on a 0 to 100 scale, with a PCI of 100 representing a perfect condition. The distresses that are included in the ASTM method include:

- | | |
|--|------------------------|
| 1. Alligator Cracking | 11. Patch/Utility Cut |
| 2. Bleeding | 12. Polished Aggregate |
| 3. Block Cracking | 13. Pothole |
| 4. Bumps and Sags | 14. Railroad Crossing |
| 5. Corrugation | 15. Rutting |
| 6. Depression | 16. Shoving |
| 7. Edge Cracking | 17. Slippage Cracking |
| 8. Joint Reflection Cracking | 18. Swell |
| 9. Lane/Shoulder Drop Off | 19. Raveling |
| 10. Longitudinal and Transverse Cracking | 20. Weathering |

Pavement distress data was not available for this analysis. Existing pavement rating data derived from a study conducted in 2009 following the "PASER" pavement evaluation approach was used to approximate a PCI rating for each pavement section. The PASER approach assigns a value from 1 to 9 to each roadway segment as a general indicator of pavement condition, with a rating of 1 being a pavement in very poor condition, and a rating of 9 being a pavement in excellent condition.

Since no pavement distress data was available, the PASER 1-9 ratings were adapted to the 0 – 100 scale by multiplying the PASER rating values by a factor of 10. These values were imported to a MicroPAVER database along with basic roadway inventory data.

In addition, recent pavement rehabilitation and preservation project data was input to the MicroPAVER database to update the information for those roadway sections, thereby setting the ratings for those road segments to 100.

Treatment Methods

Broad condition ranges are used to group pavement sections into treatment bands. Treatment bands are a useful tool to summarize data on a City-wide basis. The goal is to gain a broad understanding of the existing conditions and typical maintenance or rehabilitation treatments required.

Table 1: Treatment Band Descriptions

Treatment Band	PCI	Description
Do Nothing	66-100	Excellent condition - in need of no maintenance.
Preventive Maintenance	46-65	Fair condition – pavement surface may be in need of surface sealing.
Structural improvement	0-45	Deficient condition – pavement surface structure in need of added strength for existing traffic. Typical repair is a mill & overlay.

Do Nothing

The Do Nothing category includes streets which are in need of no immediate maintenance. These streets are in excellent condition and existing distresses generally do not need to be addressed.

Preventive Maintenance

Preventive maintenance activities are those which are performed at planned intervals to protect and seal the pavement. Seals are designed to provide one or more of the following benefits:

- ❖ Prevent the intrusion of air and moisture;
- ❖ Fill small cracks and voids;
- ❖ Rejuvenate an oxidized binder;
- ❖ Provide a new wearing surface.

For this treatment band, the City may use one or more of the following surface sealing treatments:

- ❖ Microsurface
- ❖ Thin Overlay



Structural Improvement

Structural Improvement includes the work necessary to restore a pavement to a condition that will allow it to perform satisfactorily for several years. Generally a structural improvement will consist of milling the existing pavement and placing a new warm-mix asphalt overlay, allowing existing grades to be maintained. In situations where there is no curbing and matching the new pavement to adjacent driveways is not a concern, a pavement may be overlaid without first milling the surface



Overlay Being Placed on Milled Surface

Budget Analysis and Project Selection

The following narrative describes the process followed to develop an estimate of the pavement rehabilitation and maintenance needs in the City of Casselberry, as a component of the Multimodal Transportation Master Plan.

- For the purpose of performing the analysis, road segments that are currently planned for construction were updated to a PCI of 100. In effect, the analysis assumes that these projects have been completed.
- A current PCI for each road segment was projected from 2009 to the current time using the rated PCI and the inspection date, and assuming a 2 PCI point drop per year. The calculated average overall (weighted by roadway area) PCI was found to be an 81.
- Based on the guidelines in the PASER rating manual, the “strategy” for assigning treatments to various road segments was to assign a mill and overlay at a cost of \$1.22 per sf to segments with a PCI between 0-45 and to assign a microsurface at a cost of \$0.53 per sf to segments with a PCI between 46-65. No work was recommended for segments with a PCI above 65.
- For each year of the desired 10 year plan, the following steps were performed:
 - An updated PCI was estimated using the 2 point per year deterioration rate
 - The appropriate treatment was assigned, and the associated cost was calculated
 - Projects were selected sufficient to maintain the average PCI
 - Projects were selected as follows:
 - Microsurface projects where the PCI would have deteriorated into the Mill/Overlay Band in the next year (PCI 46-48)
 - Secondary Roads with low PCI
 - Tertiary roads with VERY low PCI
 - Additional roads with low PCI or a PCI near a point that would require more expensive treatment if delayed.

Results

The results of allocating the funds in the manner described above are shown below in Table 2. In addition, funding for curb ramps/ADA accessibility improvements (a requirement whenever a road is resurfaced) and design inspection are also included in the table. Also, as noted in the table, multiple years of funding were grouped together in order to achieve greater economies of scale in repaving efforts (this is indicated by the shading in the table).

Perhaps most importantly, it is necessary to caveat that there are several limiting factors in the accuracy of the analysis including the use of pavement condition data collected in the late 2000's, the approximation of a PCI value based on the PASER data, and the use of a deterioration rate based on the regional average rather than local data. The accuracy of this analysis can be greatly improved with the completion of another citywide pavement evaluation.

Table 2: Recommended Funding Allocation by Year

	Micro (\$)	Micro (lf)	Mill and Overlay (\$)	Mill and Overlay (lf)	Subtotal (\$)	Subtotal (lf)	Subtotal (miles)	Curb Ramp/ADA Accessibility*	Design and Inspection**
2015									
2016	\$340,988	18,695	\$568,830	13,496	\$909,818	32,191	6.1	\$363,927	\$85,906
2017									
2018									
2019	\$323,749	16,482	\$309,108	6,810	\$632,856	23,292	4.4	\$253,142	\$66,939
2020									
2021	\$365,158	17,679	\$304,705	6,384	\$669,863	24,063	4.6	\$267,945	\$72,719
2022									
2023	\$372,808	17,094	\$378,180	7,504	\$750,988	24,598	4.7	\$300,395	\$78,491
2024									
2025	\$235,679	10,200	\$128,784	2,412	\$364,463	12,612	2.4	\$145,785	\$42,636
Total	\$1,638,381	80,150	\$1,689,607	36,606	\$3,327,988	116,756	22.1	\$1,331,195	\$346,692

Note: All dollars presented in this table correspond to the fiscal year in question.

Note: Shading is used to indicate when multiple years of funding was grouped to achieve greater economies of scale in repaving efforts.

*Note: This cost was computed to be 40% of the microsurfacing + mill and overlay cost.

**Note: This cost was computed to be \$9,800 per mile of microsurfacing + mill and overlay.

Appendix J:
Expected Contributions from
Various Funding Sources for
Funded Projects

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Connecting Casselberry
The Casselberry Multimodal Transportation Master Plan
Appendix J: Project Cost and Sources of Funding

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Project 1a: US 17-92 to Sunset Drive Pedestrian Connectivity Improvements (Design)											
Funding from Sales Tax			\$ 55,809								
Funding from Stormwater Fund			N/A								
Funding from Water and Sewer Fund			N/A								
Funding from Other Sources			N/A								
Total			\$ 55,809								
Project 1b: US 17-92 to Sunset Drive Pedestrian Connectivity Improvements (Construction)											
Funding from Sales Tax						\$ 310,716					
Funding from Stormwater Fund						N/A					
Funding from Water and Sewer Fund						N/A					
Funding from Other sources						N/A					
Total						\$ 310,716					
Project 3a: Southcot Drive Bicycle/Pedestrian Improvements (Design)											
Funding from Sales Tax			\$ 61,074								
Funding from Stormwater Fund			N/A								
Funding from Water and Sewer Fund			N/A								
Funding from Other Sources			N/A								
Total			\$ 61,074								
Project 3b: Southcot Drive Bicycle/Pedestrian Improvements (Construction)											
Funding from Sales Tax											
Funding from Stormwater Fund						\$ 276,696					
Funding from Water and Sewer Fund						\$ 56,700					
Funding from Other Sources						\$ 11,340					
Total						N/A					
						\$ 344,736					
Project 7: S Winter Park Drive Bicycle/Pedestrian Improvements											
Funding from Sales Tax											
Funding from Stormwater Fund						\$ 357,149					
Funding from Water and Sewer Fund						N/A					
Funding from Other Sources						N/A					
Total						\$ 357,149					
Project 8a: Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements (Design)											
Funding from Sales Tax			\$ 50,544								
Funding from Stormwater Fund			N/A								
Funding from Water and Sewer Fund			N/A								
Funding from Other Sources			N/A								
Total			\$ 50,544								

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Project 8b: Quail Pond Circle Complete Street/Pedestrian Connectivity Improvements (Construction)											
Funding from Sales Tax						\$ 282,366					
Funding from Stormwater Fund						N/A					
Funding from Water and Sewer Fund						N/A					
Funding from Other Sources						\$ 282,366					
Total											
Project 10: Lancelot Way On-Street Parking											
Funding from Sales Tax					\$ 40,922						
Funding from Stormwater Fund					N/A						
Funding from Water and Sewer Fund					N/A						
Funding from Other Sources					N/A						
Total					\$ 40,922						
Project 14: SR 436 @ Casselton Traffic Signal Improvements											
Funding from Sales Tax						\$ 114,534					
Funding from Stormwater Fund						N/A					
Funding from Water and Sewer Fund						N/A					
Funding from Other Sources						\$ 114,534					
Total						\$ 229,068					
Project 15: SR 436 @ Carmel Circle/Lake Howell Square (Walmart) Traffic Signal Improvements											
Funding from Sales Tax						\$ 114,534					
Funding from Stormwater Fund						N/A					
Funding from Water and Sewer Fund						N/A					
Funding from Other Sources						\$ 114,534					
Total						\$ 229,068					
Project 16: S Winter Park Drive @ Wilshire Drive Traffic Signal Improvements											
Funding from Sales Tax				\$ 194,220							
Funding from Stormwater Fund				N/A							
Funding from Water and Sewer Fund				N/A							
Funding from Other Sources				N/A							
Total				\$ 194,220							
Project 17: S Winter Park Dr @ Queens Mirror Circle Traffic Signal Improvements											
Funding from Sales Tax				\$ 194,220							
Funding from Stormwater Fund				N/A							
Funding from Water and Sewer Fund				N/A							
Funding from Other Sources				N/A							
Total				\$ 194,220							
Project 18: S Winter Park Dr @ Crystal Bowl Circle Traffic Signal Improvements											
Funding from Sales Tax				\$ 194,220							
Funding from Stormwater Fund				N/A							
Funding from Water and Sewer Fund				N/A							
Funding from Other sources				N/A							
Total				\$ 194,220							

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Project 37: Concord Drive Improvements											
Funding from Sales Tax			\$ 899,150								
Funding from Stormwater Fund			\$ 175,000								
Funding from Water and Sewer Fund			\$ 211,750								
Funding from Other Sources			N/A								
Total			\$ 1,285,900								
Project 39a: Casselton Drive and Greencastle Drive Improvements (Design)											
Funding from Sales Tax		\$ 34,327									
Funding from Stormwater Fund		N/A									
Funding from Water and Sewer Fund		N/A									
Funding from Other Sources		N/A									
Total		\$ 34,327									
Project 39b: Casselton Drive and Greencastle Drive Improvements (Construction)											
Funding from Sales Tax			\$ 2,077,515								
Funding from Stormwater Fund			\$ 375,000								
Funding from Water and Sewer Fund			\$ 363,000								
Funding from Other Sources			N/A								
Total			\$ 2,815,515								
Project 40a: Queens Mirror Circle Pedestrian Safety Improvements (Design)											
Funding from Sales Tax		\$ 9,243									
Funding from Stormwater Fund		N/A									
Funding from Water and Sewer Fund		N/A									
Funding from Other Sources		N/A									
Total		\$ 9,243									
Project 44: Lake Kathryn Circle Complete Street Improvements											
Funding from Sales Tax								\$ 632,294			
Funding from Stormwater Fund								N/A			
Funding from Water and Sewer Fund								N/A			
Funding from Other Sources								N/A			
Total								\$ 632,294			
Project 56: Carriage Hill to Casselberry Greenway Trail Connection											
Funding from Sales Tax		\$ 120,000									
Funding from Stormwater Fund		N/A									
Funding from Water and Sewer Fund		N/A									
Funding from Other Sources		N/A									
Total		\$ 120,000									
Project 80: Crystal Bowl Circle On-Street Parking											
Funding from Sales Tax					\$ 88,460						
Funding from Stormwater Fund					N/A						
Funding from Water and Sewer Fund					N/A						
Funding from Other sources					N/A						
Total					\$ 88,460						

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Project: North Oxford Road											
Funding from Sales Tax		\$ 1,972,740									
Funding from Stormwater Fund		\$ 33,970									
Funding from Water and Sewer Fund		\$ 196,718									
Funding from Other Sources		N/A									
Total		\$ 2,203,428									
Project: Triplet Lake Drive Improvements											
Funding from Sales Tax		\$ 2,190,910									
Funding from Stormwater Fund		N/A									
Funding from Water and Sewer Fund		N/A									
Funding from LOGT		\$ 509,090									
Funding from Neighborhood Improvement Program		\$ 1,500,000									
Total		\$ 4,200,000									

**Appendix K:
Copy of the City of Casselberry
Traffic Circulation Element**

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TRAFFIC CIRCULATION ELEMENT

GOAL, OBJECTIVES & POLICIES

GOAL, OBJECTIVES & POLICIES

GOAL TCE. TRANSPORTATION CIRCULATION SYSTEM.

It shall be the goal of the City of Casselberry to ensure the planning and provision of a safe, efficient, balanced and economically feasible transportation system which meets the needs of existing and future land use activity, while maintaining environmental, residential, and economic compatibility.

OBJECTIVE TCE 1. PROMOTE SAFE AND LIVABLE MULTI-MODAL TRANSPORTATION. The City, along with other area governmental entities as appropriate, shall implement a comprehensive transportation strategy to promote mass transit, pedestrian, and bicycle use within the City and metropolitan area. This shall include a pedestrian and bicycle circulation system that addresses access to commercial areas and a sidewalk program.

- Policy TCE 1.1** The City shall require transit vehicle operation or transit facility upgrades, where needed during site plan review and in developer's agreements.
- Policy TCE 1.2** The City shall participate in Federal and/or State programs, which encourage the use of mass transit in employment areas.
- Policy TCE 1.3** The City shall, on an ongoing basis, work with Seminole County and the MPO and assist in establishing policies and standards which promote housing in close proximity to employment opportunities and transit services.
- Policy TCE 1.4** The City will continue to require new development to plan and provide for pedestrian circulation systems linking major land uses in accordance with the City's Bicycle Plan.
- Policy TCE 1.5** The City shall coordinate with the School Board, on an ongoing basis, to ensure the provision of safe access to existing and future school facilities through effective design of roadway, bicycle facilities, access, and sidewalks.
- Policy TCE 1.6** The City shall require consideration of pedestrian safety in the planning, design, and construction of all transportation facilities.
- Policy TCE 1.7** The City will coordinate with state, local, and regional governmental entities to provide bikeway facilities for new and reconstructed roadway facilities, with determination of need and costs being of primary consideration.
- Policy TCE 1.8** The City shall require consideration of bicycle safety and adherence to State Standards in the planning, design, and construction of all transportation facilities.
- Policy TCE 1.9** The City shall implement its approved Bike Plan through the acquisition of any needed right-of-way, design, marking, and construction of trails.
- Policy TCE 1.10** Lynx bus stop and transit design shall be constructed with neighborhood character and CRA design standards.

- Policy TCE 1.11** The City shall request assistance from the County in identifying available funding for transit facilities in order to correct any existing problems and to provide for future commuter rail or light rail facilities.
- Policy TCE 1.12** The City shall study and develop incentives for commercial development to provide workplace housing.
- Policy TCE 1.13** The City will work with LYNX to incorporate Transit Emphasis Corridor passenger amenities within the City, The amenities shall include, but are not limited to:
- Sidewalks leading to/from bus stops;
 - Lighted passenger shelters at high volume stop locations;
 - Pull out lanes at selected stops;
 - Real time passenger information at selected stops and at transit centers (i.e. information about the next bus arrival is provided at the stop); and, signal prioritization and bus queue bypass lanes at selected intersections.

Furthermore, the City shall work with LYNX towards a long range vision of implementing higher capacity transit modes within the City, such as bus rapid transit or streetcar service.

Policy TCE 1.14 The City shall continue to establish and enforce policies, standards and regulations for the management of access points and connections to the City and County road system to include, but not be limited to, provisions for the location, design and frequency of access points and connections. Implementation of the State Access Management Program and the control of access connections to the State highway system consistent with Chapter 14-96 and 14-97, F.A.C. and the Florida Department of Transportation Access Management Rule will be coordinated with the Florida Department of Transportation through the City's permitting process.

OBJECTIVE TCE 2. SERVICE STANDARDS. The City shall establish service standards which utilize existing and planned infrastructure, while allowing the ability to implement a balanced transportation system.

Policy TCE 2.1 The City herein adopts the following system for levels of service as measured in the peak hour:

	State Facilities	County Facilities	City Facilities
Major Arterial	D	N/A	N/A
Minor Arterial	E	D	D
Collector	N/A	D	D
Local	N/A	N/A	C

Exceptions to the above standards are as follows; which will have the indicated designations.

State: US 17-92		
Within the Casselberry City Limits		LOS E
Orange County Line to Triplet Lake Drive		Constrained
SR 436		
West City Limits to Oxford Road		Constrained
County: Lake Howell Road		
South City Limits to SR 436		Constrained
Howell Branch Road		
SR 436 to East City Limits		Constrained ¹
Red Bug Lake Road		
SR 436 to Eagle Circle		Constrained ²
Eagle Circle to East City Limits		Constrained ³

¹ Constrained to Six Lanes

² Constrained to Four Lanes Until Remainder of Red Bug Lake Road is Widened to Four Lanes

³ Constrained to Four Lanes

The level of service standards provided for traffic circulation are provided for planning and evaluation purposes to determine whether the policies providing mobility and funding alternatives within the TCEA are achieving the objectives for mobility within the City.

Policy TCE 2.2 The City shall continue to monitor multi-modal LOS on all major corridors according to the City's adopted TCEA policies.

Policy TCE 2.3 As an established TCEA, development within the City shall be exempt from meeting concurrency requirements. Mobility shall be maintained by the implementation of the strategies and programs in this element and through complimentary policies in the comprehensive plan. TCEA mobility strategies for the City will include, but not be limited to:

- Transportation demand management (TDM) program
- Transportation system management (TSM) program
- Revised parking standards/regulations
- Parking facilities including pedestrian and bicycle facilities
- Pedestrian and bicycle facilities enhancements
- Transit facility enhancements
- Complete streets policy implementation
- Transit- and pedestrian-oriented site design standards/regulations

Policy TCE 2.4 The City shall monitor development activity and implementation of mobility strategies to ensure that the exception area is supporting new development and redevelopment. The baseline condition for the performance measures and respective targets will be identified/defined in 2009 and shall be the data available for comparison against the

data collected for the adoption year of the TCEA or the date of subsequent Evaluation and Appraisal Reports (EAR), and mid-EAR reporting timeframes as appropriate. The monitoring will include analysis and/or information for the following:

- a. The amount of development/redevelopment by land use in the City as a function of density, FAR, and percentage of mixed use. Other site planning performance criteria may be used as part of the evaluation such as building placement, parking location and number of spaces, connection to adjacent properties, proximity to transit stops/shelters, connection to adjacent sidewalk network, and provision of pedestrian, bicycle, and transit amenities to monitor the land use mix and the amount of development in the urban infill area instead of furthering urban sprawl.
- b. The implementation of mobility strategies, programs, and policies in support of the TCEA and the City's development and redevelopment objectives, by the following targets:

Mobility Strategy	Performance Measure*	Target*
Transportation Demand Management (TDM)	Performance in ridesharing or vanpooling programs	3% annual increase of participants
	Number of businesses/employers offering flexible work schedules	3% annual increase of participants
	Implementation of transit pass programs and number of participants (businesses and individual)	Implementation by 2015 with 5% annual increase after implementation
	Number of bus turn out facilities (at locations desired by LYNX)	1 per 3 years as coordinated with LYNX
	Number of improved and/or new bus shelters in LYNX routes within the TCEA	1 improved and/or new shelter each year
Transportation System Management (TSM)	Number of intersection and/or signal improvements	1 per project generating greater than 5,000 net new daily trips
	Reevaluate the signal synchronization to maintain optimized flow	By 2013

	Number of joint driveways and/or cross-accesses or combined driveways	1 per redevelopment/development project
Pedestrian (Sidewalk) Enhancements	Amount of sidewalks added and/or expanded to the network in the TCEA	500 linear feet of sidewalk per year
	Linear feet of streetscaping/landscaping which enhances the crosswalks in TCEA	500 feet per year
	Number of pedestrian enhanced crosswalks in TCEA	1 per project generating greater than 5,000 net new daily trips
Bicycle Facilities Enhancements	Number of bicycle stalls/lockers and related amenities for projects within the TCEA	1 bicycle stall/locker for every 50 vehicle parking spaces provided within the TCEA for redevelopment and new development
	Linear feet of bicycle lanes and related facilities in TCEA	Bicycle lanes and related facilities including bicycle provisions at intersections as part of programmed street resurfacing and/or rehabilitation (where feasible)

* Performance measures and targets may be subject to further consideration (i.e., if these performance measures and targets cannot be supported by reasonably available data or additional measures are identified that may also be appropriate).

The effects of the TCEA strategies, programs, and policies in accomplishing the objective of improved mobility for the multi-modal transportation system within the TCEA shall be monitored by the following performance measures strategies:

Performance Measure*	Target*
Change in ridership, including boardings/alightings for LYNX routes within the City	1% annual increase
Change in headways for LYNX routes	10-minute headway decrease every 5 years
Commuter Rail ridership (change in ridership will be reported in subsequent years after the implementation of the service)	3% annual increase each year after implementation
Proposed trip generation from redevelopment/new developments (based on CMS Applications and TIAs) versus actual traffic counts on adjacent roadways	Achieve 5% reduction in actual traffic counts versus trip generation projections
Change in daily and peak hour traffic volumes on US 17-92 and SR 436	Achieve less than 1% annual increase

* Performance measures and the associated targets will be coordinated with the respective agencies such as LYNX and FDOT. The facilities and infrastructure for several of the targets, such as bus shelters, are contingent upon development/redevelopment activity and associated developer contributions.

*Performance measures and targets may be subject to further consideration (i.e., if these performance measures and targets cannot be supported by reasonably available data or additional measures are identified that may also be appropriate).

The City will evaluate the strategies to determine whether modifications to the strategies are necessary. This evaluation will be conducted every seven years or at the next Evaluation and Appraisal Report (EAR). The results will be included in the Evaluation and Appraisal Report along with any recommendations to refine the TCEA policies and mobility strategies through EAR based amendments.

Policy TCE 2.5 **Implementation of TCEA Strategies.** The City's mobility strategies and performance measures in Policy TCE 2.4 will be supported by the development and redevelopment projects within the City. The expected contribution by a development or redevelopment project toward the implementation of the referenced TCEA strategies and performance measures will be based upon the implementation levels below. The number and type of strategies required by a development/redevelopment project is based on the referenced project's trip generation potential and its impact on the roadway network.

Implementation Level	Average Daily Trip Generation	Number of Required Strategies by Category
Level 1	Less than 50	Pedestrian Strategies: 1 Bicycle Strategies: 2
Level 2	50 to 400	Pedestrian Strategies: 3 Bicycle Strategies: 2 Transit Strategies: 1
Level 3	400 to 1,999	Pedestrian Strategies: 3 Bicycle Strategies: 2 Transit Strategies: 1 TDM Strategies: 2
Level 4	Greater than 2,000 but less than 5,000	Pedestrian Strategies: 3 Bicycle Strategies: 3 Transit Strategies: 2 TDM Strategies: 2
Level 5	Greater than 5,000 - but less than 9,999	Pedestrian Strategies: 3 Bicycle Strategies: 3 Transit Strategies: 2 TDM Strategies: 2 TSM Strategies: 1
Level 6	Greater than 10,000 or 50 or more Employees	Pedestrian Strategies: All applicable Bicycle Strategies: 3 Transit Strategies: All applicable TDM Strategies: All applicable TSM Strategies: 1

The developer may sign a development agreement or contract with the City of Casselberry for the provision of the required strategies. The choice of strategies shall be subject to final approval by the City during the site plan approval process. The strategies chosen shall relate to the particular site and transportation conditions where the development is located. The developer may choose to provide one or more strategies off-site with the City's approval. In recognition of the varying costs associated with the strategies, the City shall have the discretion to count the sufficiency of strategies, based on cost estimates provided by the developer and verified by the City.

The following strategies may be used to satisfy the required strategies above. The potential strategies for the five categories (1) pedestrian, (2) bicycle, (3) transit, (4) TDM, and (5) TSM, include but are not limited to:

Mobility Category	TCEA Strategy Options
(1) Pedestrian	<ul style="list-style-type: none"> ▪ New sidewalks ▪ Removal/relocation of sidewalk obstacles ▪ Repairs/replacement of existing sidewalks ▪ ADA improvements ▪ Pedestrian lighting

	<ul style="list-style-type: none"> ▪ Intersection upgrades (pedestrian crossings) ▪ Increased network access
(2) Bicycle	<ul style="list-style-type: none"> ▪ Addition of bike lanes ▪ Bicycle parking, lockers ▪ Bicycle showers in new development/redevelopment ▪ Intersection improvements (bicycles)
(3) Transit	<ul style="list-style-type: none"> ▪ Bus shelters ▪ Bus shelter upgrades ▪ Bus bay provisions ▪ Service enhancements/contributions ▪ Contribution to trolley system
(4) TDM	<ul style="list-style-type: none"> ▪ TDM program implementation ▪ Shared parking provision ▪ Driveway consolidation/cross access easements
(5) TSM	<ul style="list-style-type: none"> ▪ Intersection improvements ▪ Turn lane provision ▪ Access management ▪ Streetscaping

OBJECTIVE TCE 3. LAND DEVELOPMENT CODE/SITE STANDARDS. The City shall coordinate the transportation system with the future land use map and ensure that existing and proposed population densities, housing and employment patterns, and land uses are consistent with proposed transportation facilities, modes and services. This shall be accomplished by utilizing its site development plan review process and the Unified Land Development Regulations to assess potential transportation impacts of new development, to determine necessary transportation system improvements, and to implement effective and efficient site design measures.

Policy TCE 3.1 Although development within the City is exempt from traffic concurrency, new development and redevelopment shall submit a traffic impact analysis (TIA) study except when the Public Works Director and the Community Development Director find it is unnecessary due to sufficient roadway capacity. The TIA shall evaluate all roadways identified by the City to address traffic, transit, bicycle, and pedestrian impacts. The evaluation shall follow professional standards and requirements found in the City's Unified Land Development Regulations. The City may also require necessary operational improvements such as improved geometrics, curb cut reductions, adequate turn lanes, transit pullover bays, striping, and signage to maximize existing system capacity. The cost of preparation of the TIA will be borne by the developer.

Exemption from concurrency does not exempt any development from conducting a TIA necessary to evaluate traffic safety and operational standards or from installing road and access improvements necessary to promote public safety. However, mitigation may also be in the form of the transit mobility strategies.

Policy TCE 3.2 The City shall utilize the Unified Land Development Regulations to coordinate the location and design of new roadway network facilities, transit corridors, and pedestrian

facilities. Special attention will be given to protect the safety of pedestrians by site designs that reduce hazardous and/or conflicting site conditions.

- Policy TCE 3.3** The City shall continue to require land use density and site plan layout/phasing which supports reduced travel demand, shortened trip lengths, higher internal capture, and balanced trip demand.
- Policy TCE 3.4** The City shall utilize the latest versions of the Manual of Uniform Standards for Design Construction and Maintenance for Streets and Highways, the Manual of Uniform Traffic Control Devices, and FDOT's Standard Specifications for Road and Bridge Construction, latest edition, as its adopted standards for transportation facility planning.
- Policy TCE 3.5** The City shall evaluate the effectiveness of the TCEA strategies every seven years as part of the Evaluation and Appraisal Report and report the impacts of the following:
- Amount/type of development activity;
 - Amount/type of improvements to transit infrastructure;
 - Change in transit ridership as a function of the amount and type of development/redevelopment activity; and
 - Adoption and implementation of programs which promote pedestrian and non-automobile travel including improvements to pedestrian and bicycle facilities.
- Policy TCE 3.6** The City shall continue to utilize land use, zoning, subdivision regulations, and other applicable regulations to coordinate the location and design of new roadway network facilities and transit corridors, as well as bikeway and pedestrian facilities.
- Policy TCE 3.7** In order to more efficiently utilize existing transportation facilities and capacity, the City shall, along with other governmental agencies, implement appropriate Transportation System Management (TSM) activities which reduce travel time, and/or maximize capacity, through the Unified Land Development Regulations.
- Policy TCE 3.8** **Complete Streets.** Implement a "complete streets" policy, as established by the Federal Highway Administration, to accommodate all modes of transportation in plans for roadway modifications within the City. The intent of this policy is to develop a comprehensive, integrated, multimodal street network by coordinating transportation planning strategies and private development activities as follows:
- Provide safe and convenient on-site pedestrian circulation such as sidewalks and crosswalks connecting buildings, parking areas, and existing or planned public sidewalks.
 - Provide cross-access connections/easements or joint driveways where available and cost effective.
 - Deed land or convey required easements, as requested by the City, for the construction of public sidewalks, bus turn-out facilities, and/or bus shelters with appropriate credits toward developer contribution requirements.
 - Where appropriate, developers shall provide for the following improvements with credits toward contribution requirements:

- Project turn lanes
- Bus Shelters
- Adjacent sidewalks
- Streetscaping/landscaping within the public right-of-way
- Additional bicycle parking

OBJECTIVE TCE 4. NEIGHBORHOOD PROTECTION. The City shall preserve the residential character of neighborhoods by sensitive transportation planning and design, as well as prioritizing improvements in a manner which protects existing and future neighborhoods.

Policy TCE 4.1 During site plan review for either residential or non-residential development, the City shall require neighborhood traffic considerations to limit or prohibit cut-through traffic in neighborhoods. This will be primarily accomplished through site design that discourages non-residential traffic through neighborhoods including between adjacent neighborhoods. Developers shall be required to evaluate the traffic impacts of their development, including development within the TCEA, on adjacent neighborhoods. The City can mandate to developers conditions for approval that will mitigate potential transportation impacts from their development on adjacent neighborhoods.

Policy TCE 4.2 In order to divert non-residential traffic from local residential streets, it shall be the policy of the City to give priority to improvements which alleviate neighborhood traffic problems by increasing the flow on the major roadway network.

Policy TCE 4.3 The City will construct new roadways or road widenings as identified in the Traffic Circulation and Capital Improvement Elements as City facilities to augment the existing major roadway system and protect residential neighborhoods. Whenever possible, the City shall re-route construction related traffic away from residential areas.

Policy TCE 4.4 The City may implement neighborhood traffic control or traffic calming devices in selected areas of existing, through-traffic problems as deemed warranted by the City Commission following full public input. Techniques to be evaluated and implemented, where feasible, will include those enumerated within the Neighborhood Traffic Management section of the Traffic Circulation Element.

Policy TCE 4.5 The City will implement and encourage, on an ongoing basis, along with appropriate governmental entities, road buffer and design measures on road widening projects through residential areas.

OBJECTIVE TCE 5. TRANSPORTATION REVENUE. The City shall seek to obtain funds from available sources to finance needed improvements and will coordinate with private, local, regional, and state agencies to determine a proper funding mix for transportation improvements.

Policy TCE 5.1 The City will participate in and seek funds from the MPO or any similar agency in order to include City related improvements in the Metropolitan Orlando Urban Area

Transportation Plan and to finance improvements to enhance and improve mobility in the Orlando region and Casselberry, specifically.

- Policy TCE 5.2** The City will continue to jointly fund transportation projects, if appropriate, with appropriate governmental agencies.
- Policy TCE 5.3** The City shall support changes to state legislation which enable local and regional governments to increase the revenue base for transportation improvements.
- Policy TCE 5.4** The City shall oppose any transfer of transportation facilities to the City's jurisdiction from another governmental entity unless the facility is improved by the transferring governmental entity to the City's design and condition, as well as accompanied with a level of funding to maintain the facility.
- Policy TCE 5.5** The City shall continue to fund construction, operation, and maintenance costs through all available sources of transportation revenue.
- Policy TCE 5.6** The City shall support private initiatives for implementation of transportation improvements, which are consistent with the City's Comprehensive Plan.
- Policy TCE 5.7** The City shall place a high priority on user-based financing strategies.
- Policy TCE 5.8.** The City shall continue to apply traffic impact fees to new development and re-development, as determined by the most recent adopted study, to finance road improvements and to provide transit opportunities throughout the City.

OBJECTIVE TCE 6. INTERGOVERNMENTAL COORDINATION. The City will coordinate transportation planning, funding, design, and implementation efforts with all relevant levels and agencies of government as implemented by the following policies.

- Policy TCE 6.1** The City shall, on an ongoing basis, assist in the coordination, location, classification, planning and construction of needed roads with FDOT, MPO, ECFRPC, Seminole County, appropriate municipalities, and other relevant agencies, and implement recommendations contained in the respective traffic circulation elements and the Orlando Urban Area Transportation Study pursuant to Chapter 380, Florida Statutes.
- Policy TCE 6.2** The City shall continue to coordinate with the local mass transit provider to ensure that adequate regional transit service is provided to the citizens.
- Policy TCE 6.3** The City shall update annually, in cooperation with other local and state agencies, its information on traffic, socio-economic characteristics, accidents, road characteristics, and transit ridership.
- Policy TCE 6.4** The City shall coordinate, on an ongoing basis, with Seminole County, FDOT, and the ECFRPC on key transportation decisions affecting the roadways within the City's jurisdiction.
- Policy TCE 6.5** The City shall manage access to State Roads through close coordination with Florida Department of Transportation and shall require that all access to State Roads be consistent with F.A.C. Rules, Chapter 14.
- Policy TCE 6.6** The City will cooperate, on an ongoing basis, with other governmental agencies on

Transportation Systems Management (TSM) measures such as coordinated traffic signals and auxiliary turn lanes that optimize traffic flow and improve operational levels of service.

OBJECTIVE TCE 7. PUBLIC INVOLVEMENT. The City shall maintain a public involvement program in the City's transportation planning process.

Policy TCE 7.1 The City will seek business and citizen participation in the transportation planning process, neighborhood traffic management, facility widenings, and provision of mass transit service through the use of neighborhood meetings, flyers and other methods.

Policy TCE 7.2 Upon adoption of the public involvement plan, the City shall require public notice of public meetings on the planning and design of transportation improvements.

OBJECTIVE TCE 8. ENVIRONMENTAL PROTECTION. The City shall establish policies, standards, and regulations in order to coordinate future transportation systems with the desire to enhance natural resources, maintain the quality of the environment, and improve the quality of the urban area.

Policy TCE 8.1 The City shall maintain and enhance the quality of the natural environment by improving the quality of water by requiring site plan design measures in the Unified Land Development Regulations to decrease water pollution due to the transportation system.

Policy TCE 8.2 Upon adoption of the plan, the City shall prohibit the use of new or improved roadway facilities as the sole justification for amendments to the future land use element where such development will adversely impact neighborhoods or the environment.

Policy TCE 8.3 With regard to transportation facilities, the City shall continue to enforce policies, standards, and regulations which provide for the protection of wetland areas by requiring documented evidence of an overriding public need, and appropriate mitigation of unavoidable wetland disturbance.

OBJECTIVE TCE 9. RIGHT-OF-WAY PROTECTION. The City of Casselberry shall ensure and maintain the necessary rights-of-way on all public roads in order to provide cost-effective improvement options.

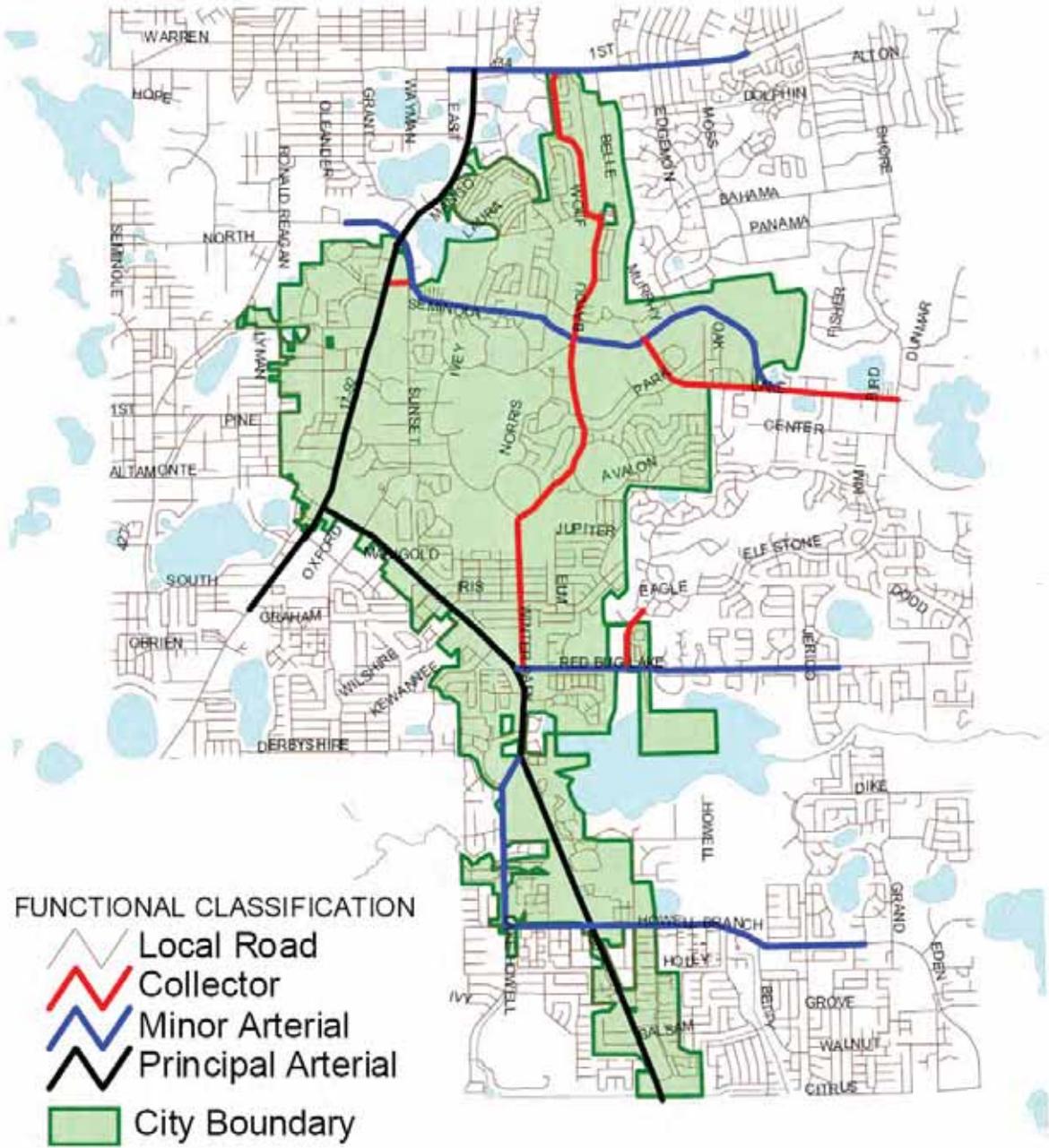
Policy TCE 9.1 The City shall establish conditions of development approval to protect the needed Right-of-Way for future road improvements as identified on the Future Traffic Circulation Map. Such conditions shall include building setbacks and donation/declaration of Right-of-Way by the developer.

Policy TCE 9.2 The City shall utilize the right-of-way widths as required by the ULDR's.

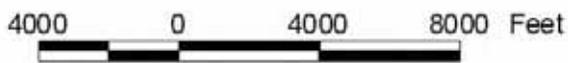
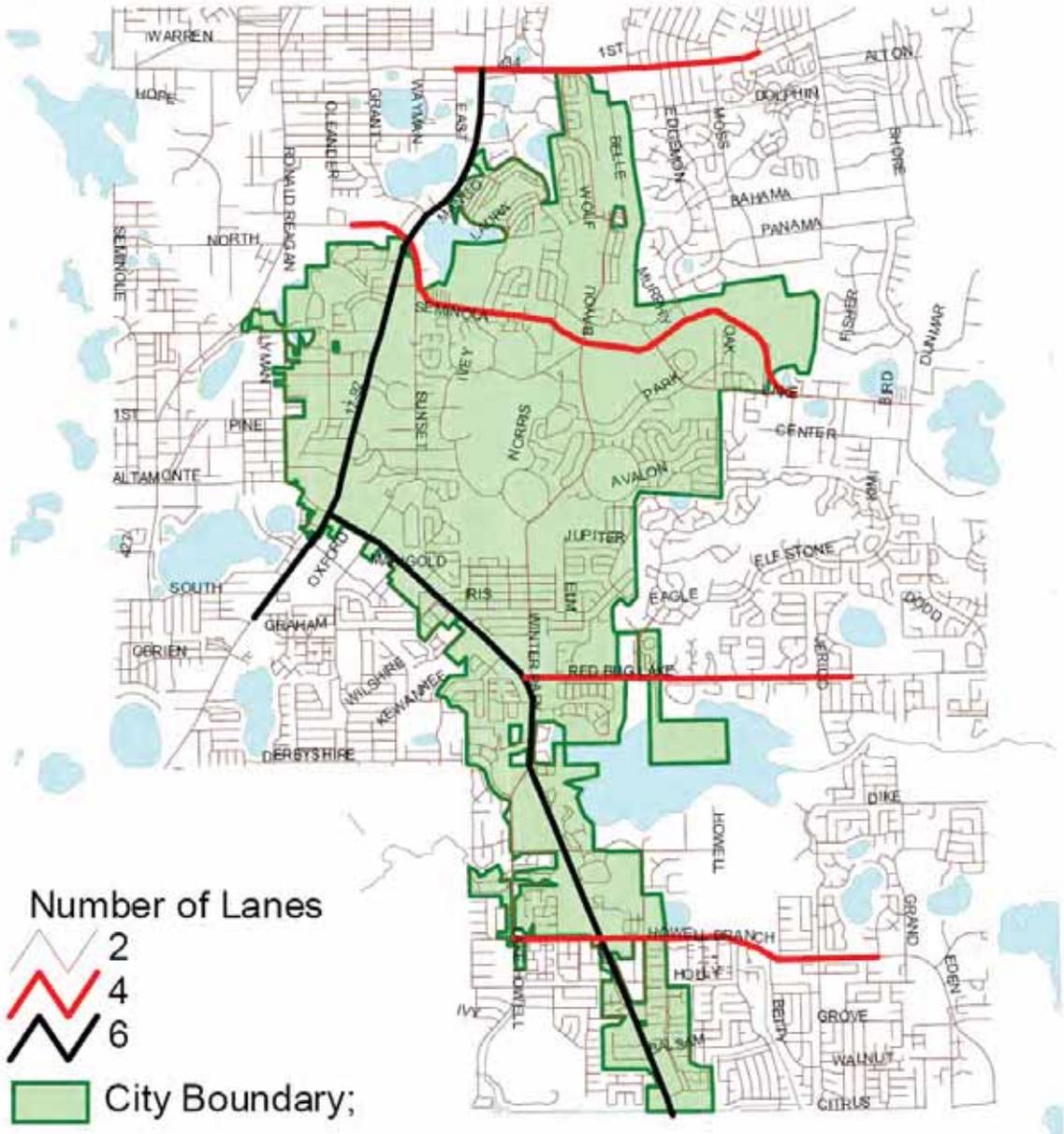
Policy TCE 9.3 The City shall explore programs and incentives which will encourage new developments to donate additional right-of-way to be used for mass transit services.

Transportation Map Series

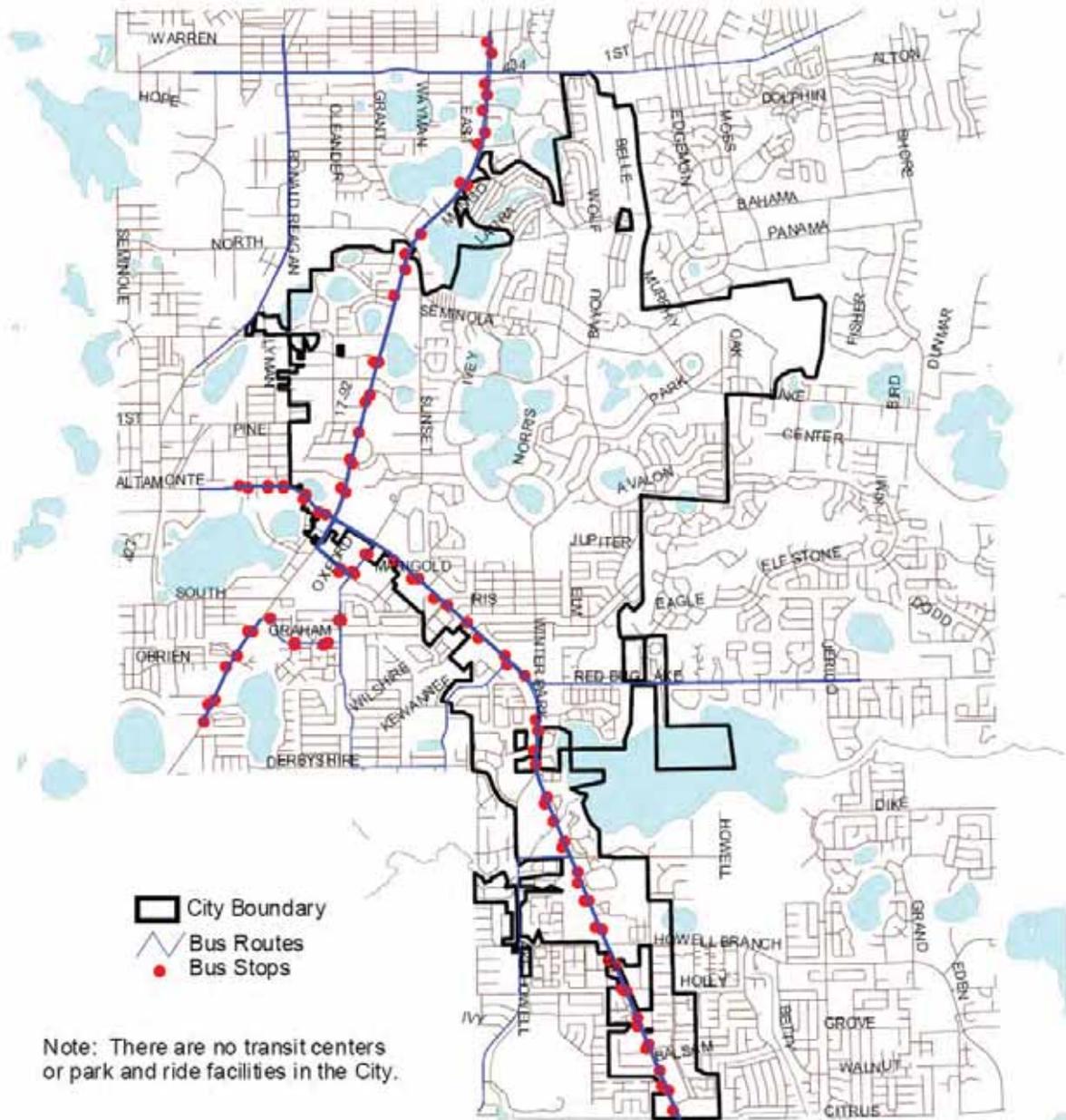
ROADWAY FUNCTIONAL CLASSIFICATION, 2019 CITY OF CASSELBERRY



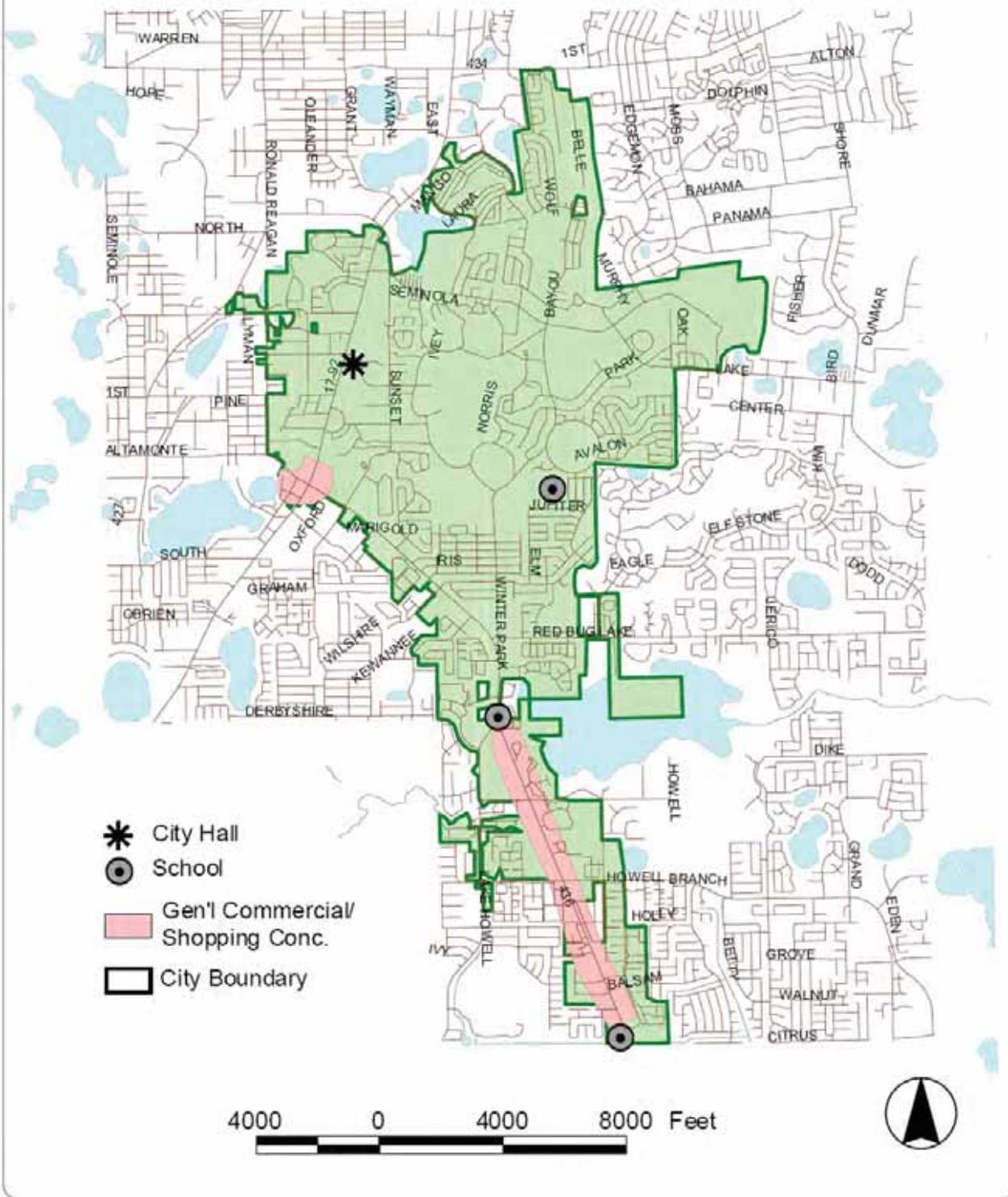
NUMBER OF LANES, 2019 CITY OF CASSELBERRY



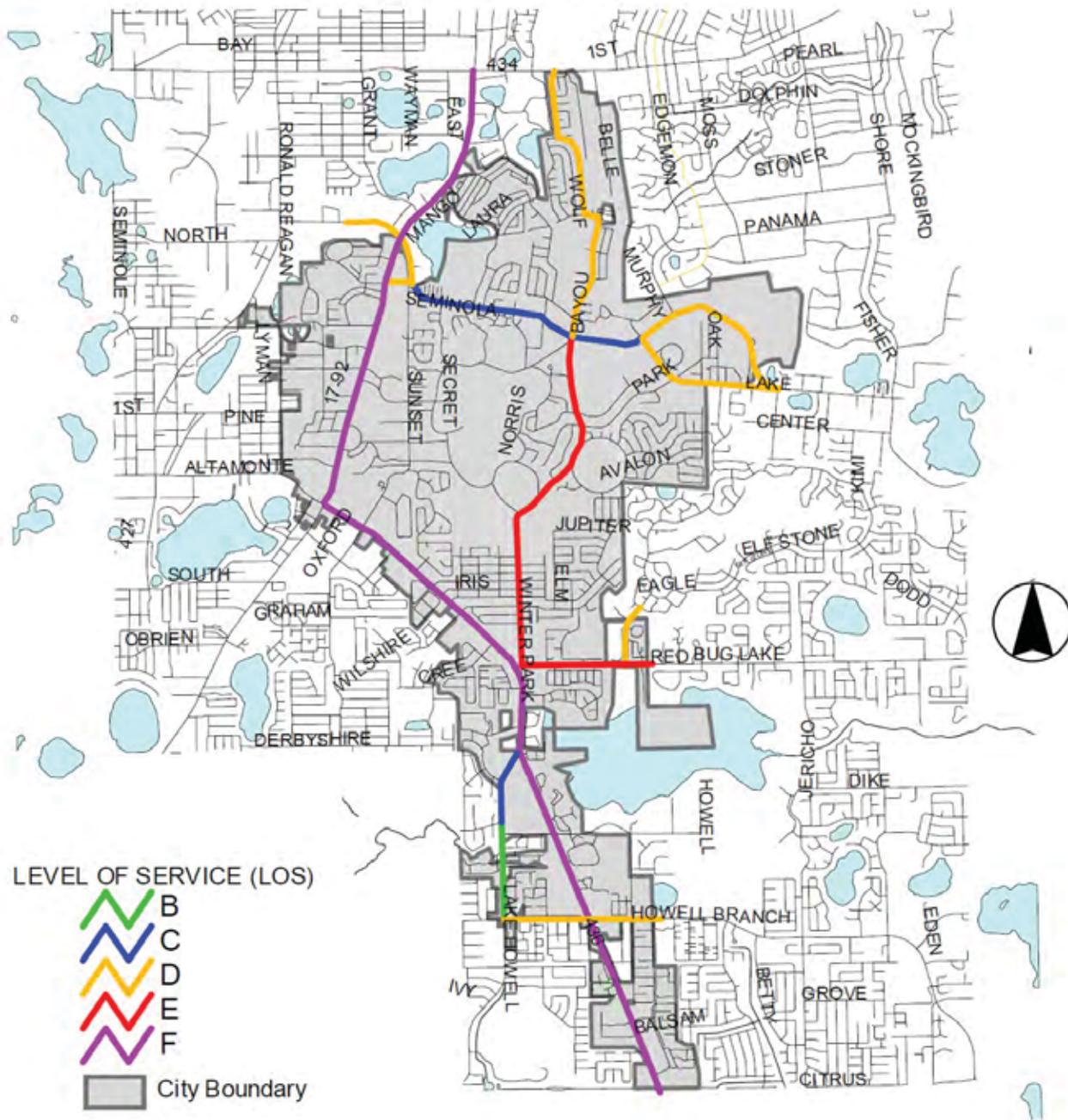
BUS ROUTES AND STOPS CASSELBERRY AREA



LOCATIONS OF TRANSIT GENERATORS AND ATTRACTORS, 2019 CITY OF CASSELBERRY



ROADWAY LOS, 2019 CITY OF CASSELBERRY

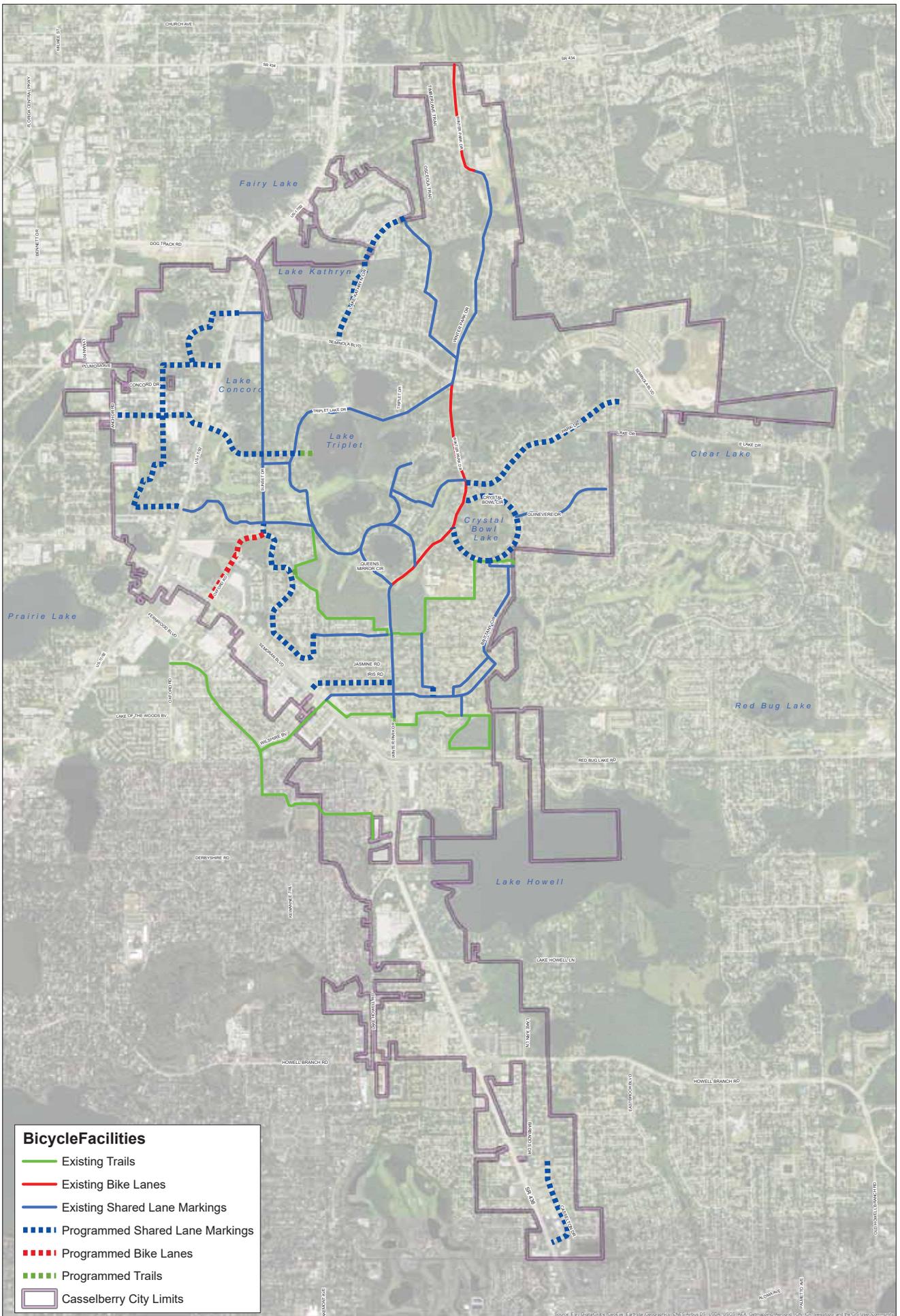


Source: LOS for US 17-92, SR 434, and SR 436 are from FDOT District 5 LOS Tables, 2008. (See LOS Table in the supporting Data and Analysis.)

LOS for Seminola, Red Bug Lake, Howell Branch, and Winter Park are from Seminole County's Vision 2020 Comprehensive Plan. LOS for all other roads are based on local assessment.

Appendix L:
**Map of Existing Bicycle Network
and Programmed Improvements**

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- Bicycle Facilities**
- Existing Trails
 - Existing Bike Lanes
 - Existing Shared Lane Markings
 - - - Programmed Shared Lane Markings
 - - - Programmed Bike Lanes
 - - - Programmed Trails
 - Casselberry City Limits



**Connecting Casselberry-The Casselberry Multimodal Transportation Master Plan
Existing Bicycle Network and Programmed Improvements**

