ORDINANCE 16, 2019

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF PALM BEACH GARDENS, FLORIDA, APPROVING AND ADOPTING THE CITY'S MOBILITY PLAN AND MOBILITY FEE TECHNICAL REPORT, CONSISTENT WITH THE PROVISIONS OF SECTION 163.3180 ET SEQ., FLORIDA STATUTES, SPECIFICALLY SUBSECTION (5) (i) WITH REGARD TO TRANSPORTATION CONCURRENCY; PROVIDING A CONFLICTS CLAUSE, A SEVERABILITY CLAUSE, AND AUTHORITY TO CODIFY; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, pursuant to Article VIII, Section (2)(b) of the Florida Constitution and Chapter 166, *Florida Statutes*, the City of Palm Beach Gardens has broad home rule powers to adopt ordinances to provide for multimodal transportation systems, including bicycle and pedestrian facilities, transit facilities, roadways, intersections, and new personal mobility technology within the City; and

WHEREAS, Palm Beach County currently has an established road impact fee system, which has been one part of an overall growth management program as set forth in the City of Palm Beach Garden's Comprehensive Plan; and

WHEREAS, the Palm Beach County road impact fee system and the City of Palm Beach Gardens road impact fee system is principally focused on vehicular travel miles, whereas a mobility fee system takes a comprehensive view of all modes of transportation that may function in a symbiotic manner, such as walking, biking, transit, motor vehicles, and new personal mobility technology; and

WHEREAS, Section 163.3180, *Florida Statutes*, encourages local governments to develop tools and techniques, including adoption of long-term strategies to facilitate development patterns that support multimodal solutions, adoption of area-wide service standards that are not dependent on any single road segment function, and establishing multimodal service standards that rely primarily on non-vehicular modes of transportation where existing or planned community design will provide an adequate level of personal mobility; and

WHEREAS, Chapter 163.3180, *Florida Statutes*, allows for local governments to repeal transportation concurrency and encourages the adoption of an alternative mobility funding system; and

WHEREAS, pursuant to Chapter 163.3180, *Florida Statutes*, the City has developed a Mobility Plan and Mobility Fee Technical Report; and

WHEREAS, the City of Palm Beach Gardens intends to replace collection of the current Palm Beach County road impact fee and the City of Palm Beach Gardens road impact fee with a mobility fee system administered and programmed by the City for new development and redevelopment in the Mobility Fee Assessment Area, comprised of all areas of the City east of the Bee Line Highway, consistent with the requirements for alternative mobility funding system pursuant with Section 163.3180, *Florida Statutes*; and

WHEREAS, the mobility fee system focuses on person travel demand, which includes walking, biking, transit, and motor vehicular trips, generated by new development and redevelopment and the resulting impact such travel demand has on multimodal capacity, and then requires the expenditure of funds generated by the mobility fee system to be used on multimodal projects identified in the adopted mobility plan that increase multimodal capacity; and

WHEREAS, the mobility fee system includes, but is not limited to, considerations of the impact of person travel demand generated by new development and redevelopment on multimodal capacity as well as considerations of the impact of new development on overall mobility within the community; and

WHEREAS, imposition of a mobility fee requiring future growth within the Mobility Fee Assessment Area to contribute its fair share of the cost of growth-necessitated multimodal facilities is necessary and reasonably related to the public health, safety, and welfare of the people of the City; provided that the mobility fee does not exceed the actual amount necessary to offset the demand on transportation facilities generated by new development and redevelopment; and

WHEREAS, the Mobility Plan and the conceptual mobility fee schedule adopted hereby, satisfy the "dual rational nexus test" established by Florida case law, satisfy the "essential nexus" and "rough proportionality" standards established by *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987) and *Dolan v. City of Tigard*, 512 U.S. 374 (1994), are consistent with the requirements set forth at Section 163.3180, *Florida Statutes*, and are consistent with and imposed in accordance with Section 163.3180, *Florida Statutes*; and

WHEREAS, the Mobility Plan dated April 2019 and the Mobility Fee Technical Report dated May 2019, prepared by NUE Urban Concepts, LLC, provides the technical analysis to determine the mobility fee and constitutes a proper factual predicate for imposition and expenditure of the mobility fees; and

WHEREAS, the establishment of a Mobility Fee Assessment Area defines the area within which mobility fees will be assessed, and the Mobility Fee Benefit District defines the area within which mobility fees will be collected and expended; ensuring that a rational nexus is established and maintained between the mobility impacts created by the developments within the benefit district the mobility fees collected, and the multimodal mobility projects funded by such fees; and

WHEREAS, mobility fees collected will be deposited in the mobility fee fund for the Mobility Fee Benefit District and expended for the purposes set forth herein; and

WHEREAS, the Mobility Plan and the Mobility Fee structure imposed thereby achieve the goals, objectives, and policies of the Comprehensive Plan and utilize the tools and techniques encouraged by Section 163.3180, *Florida Statutes*; and

WHEREAS, the City Council has determined that this Ordinance adopting a mobility plan and conceptual mobility fee structure will help to preserve and enhance the rational nexus between the need for multimodal person travel demands generated by new development and redevelopment in the Mobility Fee Assessment Area, comprised of all areas of the City east of the Bee Line Highway and the Mobility Fees imposed on that development; and

WHEREAS, on March 2, 2017, the City Council of the City of Palm Beach Gardens adopted revisions to the City of Palm Beach Gardens Comprehensive Plan that provided various Policies that established the process and framework for the development of a Mobility Plan and Mobility Fee pursuant to Chapter 163.3180, *Florida Statutes*; and

WHEREAS, the proposed Mobility Plan and Mobility Fee structure are consistent with the Goals, Objectives, and Policies of the City's Comprehensive Plan; and

WHEREAS, the City of Palm Beach Gardens has hosted several public workshops on the proposed Mobility Plan and Mobility Fee, including the publicly noticed public workshops on June 4, 2019; and

WHEREAS, the Planning, Zoning, and Appeals Board recommended approval of the Mobility Plan and Mobility Fee Technical Report at its June 11, 2019, regular meeting with a vote of 7 to 0; and

WHEREAS, pursuant to Section 18-1(3)(a) of the City's Charter, notice of this Ordinance was published in the Palm Beach Post at least fourteen (14) days prior to adoption; and

WHEREAS, the City Council, having considered the proposal and all information presented at the public hearing, and being fully advised and informed of the premise, has determined that it is in the best interests of the citizens of the City to approve this Ordinance.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PALM BEACH GARDENS, FLORIDA, that:

SECTION 1. Intent and purpose.

1. Mobility fees will be assessed upon the submission of an application for a building permit or a change of use and become due and payable prior to the issuance of a building permit or approval of a change of use. The fees are based upon the amount of new person travel demand attributable to new development and the cost of providing the additional person miles capacity to meet the new person travel demand. This section shall not be construed to authorize the imposition of Mobility Fees related to multimodal project needs attributable to existing development.

2. This section is intended to allow new development and redevelopment in compliance with the City's Comprehensive Plan to share in the burdens of growth. New development and redevelopment shares in this burden by paying a pro rata share of the reasonably anticipated costs of multimodal projects needed to accommodate the person travel demands created by new development and redevelopment, as well as by complying with other appropriate development approval conditions. This section is intended to provide flexibility to address the needs of individual developments that, because of location, timing, or other characteristics, require different treatment in the form of reduced fees or supplemental requirements.

3. Towards this end, the conceptual mobility fees will be replacing, within the Mobility Fee Assessment Area, Palm Beach County road impact fees, and the City of Palm Beach Gardens road impact fees and are based upon the calculation methodology incorporated in the "City of Palm Beach Gardens Mobility Fee Technical Report" dated May 2019, prepared by NUE Urban Concepts, LLC.

4. The conceptual mobility fees imposed shall apply to new applications for building permits within the Mobility Fee Assessment Area in accordance with the implementation period of the Ordinance to be approved by the City Council by separate action. The City Council shall be required to adopt a revised schedule of fees via Ordinance to amend the existing schedule of impact fees with the fees consistent with the report dated May 2019, prepared by NUE Urban Concepts, LLC.

SECTION 2. Findings of Fact. The City Council hereby makes the following additional findings of fact:

1. Pursuant to Article VIII, Section 2(b), Florida Constitution, and Sections 166.021 and 166.041, *Florida Statutes*, the City Council has all powers of local self-government to perform municipal functions and to render municipal services in a manner not inconsistent with law, and such power may be exercised through the enactment of City ordinances.

2. The City Council may exercise any governmental, corporate, or proprietary power for a municipal purpose, except when expressly prohibited by law, and the City Council may legislate on any subject matter on which the Florida Legislature may act, except those subjects described in subsections 166.021(3)(a), (b), (c), and (d), *Florida Statutes*. The subject matter of subsections referenced in this paragraph are not relevant to and do not restrict or prevent the imposition of a mobility fee within the City.

3. Through Section 163.3180, *Florida Statutes*, the Legislature encouraged local governments to adopt mobility plans and mobility fees as an alternative to transportation concurrency, proportionate share, and road impact fees to equitably mitigate its travel demand impact.

4. The Mobility Plan, as set forth in Exhibit "A", attached hereto, and the proposed Mobility Fee schedule are consistent with the City's Comprehensive Plan.

5. The proposed Mobility Fee Schedule as set forth in Exhibit "B", attached hereto, is conceptual in nature and is included in this Ordinance solely to express legislative intent. No mobility fees of any type whatsoever are adopted or imposed by this Ordinance.

6. A mobility fee will help to preserve and enhance the rational nexus between the need for multimodal travel demands generated by new development and redevelopment and the mobility fees imposed on that development.

7. The establishment of a Mobility Fee Assessment Area defines the area within which mobility fees will be assessed. The establishment of a Mobility Fee Benefit District defines the area within which mobility fees will be expended; ensuring that a rational nexus is established and maintained between the mobility impacts created by the developments within the benefit district, the mobility fees collected, and the multimodal mobility projects funded by such fees.

8. The City Council hereby finds that within the Mobility Fee Assessment Area it is in the best interests of the City of Palm Beach Gardens to replace the Palm Beach County road impact fee system and the City of Palm Beach Gardens Road impact fee system with a single unified mobility fee system.

SECTION 3. Applicability. A fee will be imposed upon all new development, redevelopment, and change of use that results in additional person travel demand impact within the Mobility Fee Assessment Area, comprised of all areas of the City located east of the Bee Line Highway, at the time of building permit or change of use in accordance with the City's Land Development Regulations Section 78-91(d)(3). The subject fee shall be due and payable at the time of the building permit issuance or change of use approval. Mobility fees shall be assessed at the mobility fee rate in effect at the time of building permit issuance or change of use approval. If the building permit or change of use is for less than the entire contemplated development, the fee shall be computed only for

that portion of the development covered by the permit or change of use. The obligations for payment of mobility fees shall run with the land.

1. Additionally, the mobility fee will be imposed for any structure that is altered, expanded, or replaced that results in an increase in person travel demand over the existing land use.

2. The Mobility Fee will be imposed on all impact-generated land development activity that does not require a building permit, but does require a change of use or some form of governmental approval, that allows the activity to occur. The mobility fee shall be paid prior to the issuance of the government approval.

3. Fee schedule. The mobility fee shall be assessed in accordance with the conceptual mobility fee schedule that shall be adopted by the City Council by separate ordinance.

4. Exceptions. The requirements of this section shall not be imposed on building permits otherwise necessary for:

a. Remodeling, rehabilitation, or other improvements to an existing structure, provided there is no increase in person travel miles and no increase in square footage for non-residential uses and no increase in the number of dwelling units or bedrooms for residential uses;

b. Additional residential square footage that does not result in exceeding the square footage thresholds on the mobility fee schedule;

c. Rebuilding of a damaged or destroyed structure, whether voluntary or involuntary, provided there is no change in use, or no increase in square footage for non-residential uses and no increase in the number of dwelling units or bedrooms for residential uses; or

d. A change in use that does not generate additional person trips or person travel demand and does not increase square footage for non-residential uses or increase the square footage for a bedroom in residential uses.

e. Accessory buildings or structures that are not a principal use of the property and do not result in an increase in person trips or person travel demand.

The mobility fee shall be calculated based on the person travel demand generated from the land use. If the person travel demand increases due to a change in square footage, change of use, or the unit of measure used to determine mobility fees, the mobility fee due shall be the incremental difference resulting from the alteration,

expansion, or replacement as determined by the mobility fee schedule, less the mobility fee that would be imposed under the applicable rate prior to the alteration, expansion, or replacement. In the event there is a change in use that results in a decrease in person travel demand generated by the previously allowed use, the applicant shall not be entitled to a refund or credit.

SECTION 4. The Mobility Plan is attached hereto as "Exhibit "A", and the Mobility Fee Technical Report, which includes the conceptual Mobility Fee Schedule, is attached hereto as "Exhibit "B".

SECTION 5. Mobility Fee Benefit District.

The establishments of a Mobility Fee Benefit District to regulate mobility fee expenditures is the best method of ensuring that the mobility fees paid by a development provide a mobility benefit to the development that paid the mobility fees. The limits for the Mobility Fee Benefit District are the boundaries as depicted in "Exhibit C", attached hereto.

The Mobility Fee Benefit District provides a clearly defined boundary for the expenditure of mobility fee revenue and ensures that funds paid by development are spent on multimodal projects to accommodate person travel demand from the development, providing a rational nexus between the expenditure of mobility fee revenue and the development for which the mobility fees are paid.

SECTION 6. Nothing contained herein shall be construed as affecting validly existing and previously approved development entitlements. Nothing contained herein shall limit or modify the rights of any person to complete any development that has been approved as a development of regional impact pursuant to Chapter 380, *Florida Statutes*, or who has obtained a fully executed final local development order prior to the effective date of this section, and development has commenced and is continuing in good faith, as provided by Section 163.3167(8), *Florida Statutes*, Furthermore, nothing set forth herein shall serve to alter or abrogate any currently existing proportionate share agreement, road impact fee agreement, or the status of any road impact fee credits that have been pre-paid or credited.

SECTION 7. The provisions of this section shall hereby supersede all prior regulations of the City of Palm Beach Gardens related to the implementation of traffic performance standards and/or traffic concurrency within the Mobility Fee Assessment Area upon the Ordinance adopting and implementing the Mobility Fee Schedule becoming effective. Where this section conflicts with another City Ordinance, the provisions set forth herein shall prevail to the extent of such conflict except as otherwise provided herein.

SECTION 8. All Ordinances or parts of Ordinances in conflict be and the same are hereby repealed.

SECTION 9. In the event a court of competent jurisdiction shall hold or determine that any part of this Ordinance is invalid or unconstitutional, the remainder of the Ordinance shall not be affected thereby, and it will be presumed that the City Council for the City of Palm Beach Gardens did not intend to enact such invalid or unconstitutional provision. It shall further be assumed that the City Council would have adopted the remainder of this Ordinance without said invalid and unconstitutional provision, thereby causing said remainder to remain in full force and effect.

SECTION 10. Specific authority is hereby given to codify this Ordinance.

SECTION 11. This Ordinance shall become effective immediately upon adoption.

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PASSED this 11th day of July, 2019, upon first reading.

PASSED AND ADOPTED this 5th day of September, 2019, upon second and final reading.

CITY OF PALM BEACH GARDENS	**FOR**	**AGAINST**	**ABSENT**
BY: _____ Mark T. Marciano, Mayor	✓		
_____ Rachelle A. Litt, Vice Mayor	✓		
_____ Maria G. Marino, Councilmember	✓		
_____ Carl W. Woods, Councilmember	✓		
_____ Matthew Jay Lane, Councilmember	✓		

ATTEST:

BY: _____
Patricia Snider, CMC, City Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
R. Max Lohman, City Attorney

EXHIBIT "A"

PALM BEACH Gardens

Mobility Plan

April 2019

NUE URBAN CONCEPTS
Land Use - Transportation - Parking - Impact & Mobility Fees - Traffic - Funding

THE REPUBLIC of DESIGN

PTC
Transportation Consultants

Prepared by:

NUE URBAN CONCEPTS

Land Use - Transportation - Parking - Impact & Mobility Fees - Traffic - Funding

THE REPUBLIC OF DESIGN

PTC

Transportation Consultants

Table of Contents

Introduction

What is a Mobility Plan?

A Mobility Plan is a forward-looking and progressive approach to integrate land use and transportation improvements that provides people with the opportunity to safely, comfortably, and conveniently walk, bicycle, ride transit, drive, or use new technology to move to and from homes, shops, schools, and businesses. An effective Mobility Plan identifies multimodal transportation improvements, such as sidewalks, trails, bike lanes, and trolley circulators that connect neighborhoods with stores, schools, parks and offices. Mobility Plans may also be used to reduce congestion through adding turn lanes at busy intersection, improving traffic signals, and identifying strategic road and transit improvements.

Why is it needed?

As Palm Beach County and the City of Palm Beach Gardens continue to grow, it is becoming increasingly difficult and expensive to strike a balance between reducing congestion and accommodating new development by adding road capacity while also preserving the quality of life in the community and protecting existing residential neighborhoods. Many communities have found that any new road capacity is quickly consumed through what is known as induced demand (build it and they will come). Realizing that it's increasingly difficult to "build their way out of congestion", many communities are looking at developing Mobility Plans to address congestion, give people choices, and accommodate future travel demand.

In addition to addressing congestion and demand from new growth, a Mobility Plan is a means to make streets safer. Florida consistently ranks as the most dangerous State in the U.S. for people to walk and bicycle and annually tops the list of cities and metropolitan areas with the highest per capita rate of fatalities from people walking and bicycling[1]. Even with the efforts of the State, County, and City to implement Complete Streets, it's not enough as the rate of both crashes and fatalities involving people walking and bicycling continues to increase. A Mobility Plan that emphasizes the safe, comfortable,

1 Source: https://smartgrowthamerica.org/dangerous-by-design/

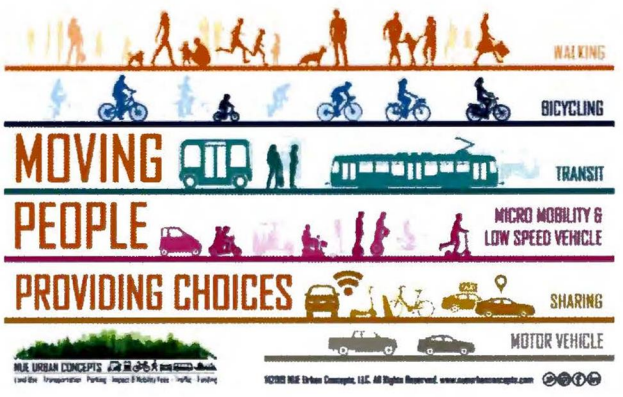
and convenient movement of all people using the transportation system is an opportunity to reverse this deadly trend and move towards Vision Zero[2].

What is different about a Mobility Plan?

The Florida Legislature, in recognition that new and wider roads are not the only means in which to provide mobility, has provided local governments with the flexibility to develop a Mobility Plan. A Mobility Plan is intended to serve as a blueprint for how a community intends to transition from the movement of cars to the movement of people in a manner that best reflects the needs and desires of the community. The current transportation system is focused on moving cars and adding road capacity, not providing people with real mobility choices, and making streets safer for everyone (Figure 1). Further, transportation planning, along with the development regulations that support it, such as transportation concurrency and road impact fees, emphasize widening existing roads and building new roads as the only means to address travel demand from new growth. The Palm Beach Gardens Mobility Plan is focused on: (1) building walkable trails that connect neighborhoods with stores and businesses, (2) providing more visible and safer bicycle infrastructure and crosswalks, and (3) planning for enhanced access to future rail transit service.

The Palm Beach Gardens Mobility Plan also serves as the basis for the development of a Mobility Fee, which is intended to replace transportation concurrency, proportionate share and road impact fees paid by new development. Mobility Fees are intended to be used to fund the multimodal transportation improvements identified in the Mobility Plan. A Mobility Fee provides Palm Beach Gardens with a funding source that it controls, to enable the City to repurpose revenue away from primarily funding road capacity towards funding a wider range of multimodal improvements that encourage walking, jogging, bicycling, riding transit, and using new mobility technologies. Mobility Fees can also be used to add turn lanes at intersections and improve traffic signals.

Figure 1



2 The Vision Zero is the Swedish approach to road safety thinking where no loss of life is acceptable. Source: http://www.visionzeroinitiative.com/


ATLANTIC AV

Existing Travel & Growth

Population & Jobs

Palm Beach County has the 3rd largest population in the State of Florida. The City of Palm Beach Gardens is the 7th largest incorporated jurisdiction within the County in terms of population and the 4th largest in total number of jobs (Table 1). The City has the third highest jobs-to-households ratio in the County and functions as an employment center in northern Palm Beach County.

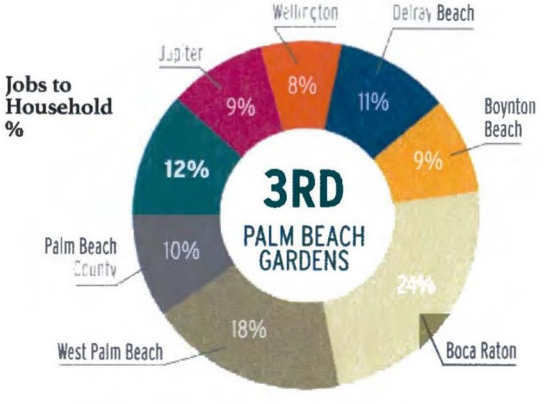


Table 1	Population	Jobs	Households	Jobs to Households
Palm Beach Gardens	51,865	29,864	23,168	1.29
Jupiter	60,597	25,210	24,915	1.01
Wellington	61,371	16,959	20,301	0.84
Delray Beach	65,044	31,853	27,041	1.18
Boynton Beach	72,748	29,141	29,311	0.99
Boca Raton	91,702	102,296	38,041	2.69
West Palm Beach	104,978	86,028	41,795	2.05
Palm Beach County	1,398,757	576,637	538,549	1.07

Source: Population data and total number of household obtained from Census Bureau American Community Survey (ACS) for 2016. Employment data based on the total number of jobs reported based on information from US Census Bureau, Center for Economic Studies for 2015. Jobs to housing ratio calculated by dividing total number of jobs by total number of households.

Work Commute Flows

The majority of people who work in Palm Beach Gardens live outside of the City. Of the 29,864 jobs within the City, 3,361 are filled by people that live within Palm Beach Gardens (Table 2). Of the 21,631 residents who are employed and live in the City, 18,270 work in jobs outside of the City. There are on average 26,503 workers that commute into the City for work and 18,270 workers that commute out of the City for work (Figure 2).

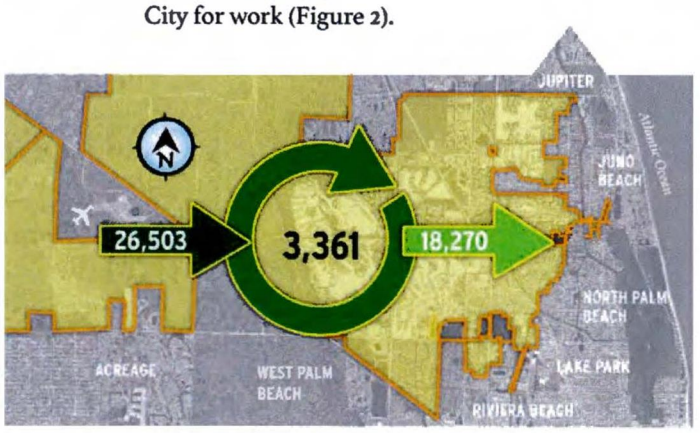


Figure 2

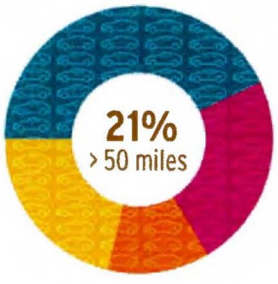
Table 2	Total	% Share
Employed in Palm Beach Gardens	29,864	100%
Employed in Palm Beach Gardens but Living Outside	26,503	88.7%
Employed and Living in Palm Beach Gardens	3,361	11.3%
Living in Palm Beach Gardens	21,631	100%
Living in Palm Beach Gardens but Employed Outside	18,270	84.5%
Living and Employed in Palm Beach Gardens	3,361	15.5%

Source: Commute flow data obtained from the US Census Bureau, Center for Economic Studies for 2015.

Commute Distance

The majority of people who work in Palm Beach Gardens drive on average 10 or more miles from their home to their work, with 21% traveling more than 50 miles (Table 3). Of the 21,631 residents who are employed and live in the City, 11,927, or 55%, drive less than 10 miles to work, with 16.8% commuting greater than 50 miles.

Employed in Palm Beach Gardens Commute in Miles



Live in Palm Beach Gardens Commute in Miles

Table 3	Total	% Share
Distance from Home to Work, Employed in Palm Beach Gardens	29,864	100%
Less than 10 miles	12,818	42.9%
10 - 24 miles	7,000	23.4%
25 - 50 miles	3,680	12.3%
Greater than 50 miles	6,366	21.3%
Distance from Home to Work, Live in Palm Beach Gardens	21,631	100%
Less than 10 miles	11,927	55.1%
10 - 24 miles	3,979	18.4%
25 - 50 miles	2,084	9.6%
Greater than 50 miles	3,641	16.8%

Source: Commute flow data obtained from the US Census Bureau, Center for Economic Studies for 2015.

Mode of Travel

Of the majority of workers 16 and over, about 81% drove alone to and from work. A total of 8% worked at home and 7% carpooled (Table 4). Only 1.5% of workers walked and 1.1% used public transit.

Table 4

	Number	% Share
Drive alone	19,864	80.8%
Carpool	1,733	7.0%
Transit	272	1.11%
Bicycle	86	0.35%
Walking	366	1.49%
Other	299	1.22%
Worked at home	1,964	8.0%
Total	24,584	100%

Source: Mode of Travel to Work data from Census Bureau American Community Survey (ACS) for 2016. The total number of other trips comprised of 10 using a taxi, 64 riding a motorcycle and 225 other.

Vehicle Availability

There is a total of 1,038 households (4.5%) in the City who do not have access to a motor vehicle, with a significant difference between those who live in owner-occupied housing and those households that rent (Table 5).

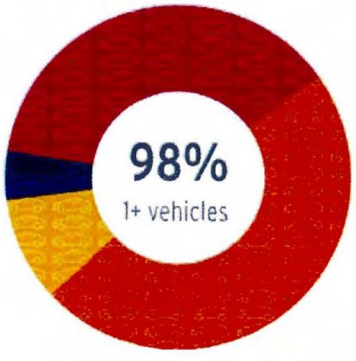
A total of 40% of all households have access to one motor vehicle and 44% of households have access to two motor vehicles.

Table 5

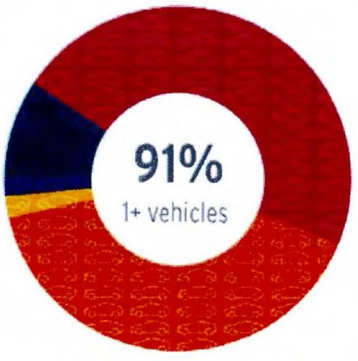
	Owner		Renter	
No vehicle available	396	2.4%	638	9.3%
1 vehicle available	6,124	37.6%	3,216	46.8%
2 vehicles available	7,827	48.0%	2,780	40.4%
3 vehicles available	1,600	9.8%	137	2.0%
4 + vehicles available	343	2.2%	107	1.5%
Total	16,290	100%	6,878	100%

Source: Travel Time to Work data from Census Bureau American Community Survey (ACS) for 2016.

Owner Household



Renter Household



Travel Time

The majority of workers (52%) who live in Palm Beach Gardens travel less than 20 minutes to work (Table 6). Travel times of less than 20 minutes make other modes of travel to work viable.

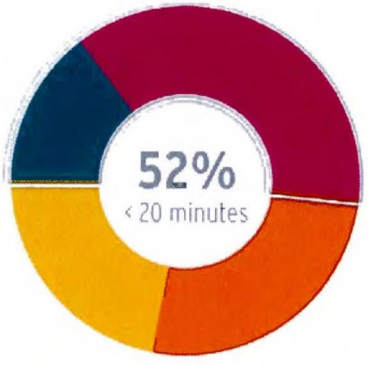


Table 6	Number	% Share
Less than 10 minute	3,314	15%
10 - 19 minutes	8,366	37%
20 - 29 minutes	5,970	26%
30 minutes or more	4,970	22%
Total	22,620	100%

Source: Travel Time to Work data from Census Bureau American Community Survey (ACS) for 2016.

Households

The majority of owner-occupied households (83%) live in single family detached or attached units, while only 17% of owner-occupied units are in multifamily buildings (Table 7).

The majority of renter-occupied households live in multi-family housing, with 31% living in typically garden-style apartments that are between 5 and 19 units per building. There are a fairly significant number (about 12%) of households that rent in buildings of 50 or more units.

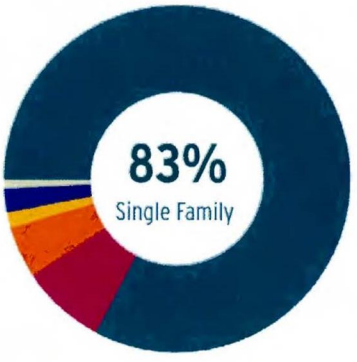
According to the American Community Survey (ACS 2016), of the 807 households that rent in buildings of 50 or more units, 519 (64%) are single-person households and 255 (31.6%) are two-person households.

The ACS survey data indicated that overall household size is almost the same with the average household size of owner-occupied units at 2.2 persons and renter-occupied units at 2.26 persons.

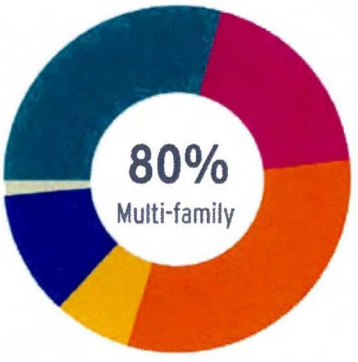
Table 7	Owner		Renter	
Single Family Detached or Attached	13,838	82.6%	1,997	29.0%
2 -4 units per building	1,323	7.9%	1,316	19.1%
5 - 19 units per building	819	4.9%	2,160	31.4%
20 - 49 units per building	244	1.5%	497	7.2%
50 or more units per building	380	2.3%	807	11.7%
Mobile Home, Boat, RV, van, etc.	141	0.8%	101	1.5%
Total	16,290	100%	6,878	100%

Source: Travel Time to Work data from Census Bureau American Community Survey (ACS) for 2016.

Owner Household



Renter Household



Growth in Palm Beach Gardens

The growth in population and employment is one of the factors evaluated to demonstrate that there will be a need for future multimodal improvements to meet travel demand needs. The projected population and employment growth within the City of Palm Beach Gardens is based upon data obtained from the Southeast Regional Planning Model (SERPM) version 7.0 developed as part of the 2040 Long Range Transportation Plans (LRTPs) for Palm Beach, Broward and Miami Dade Counties.

The population in Palm Beach Gardens is projected to increase by a total of 20,999 residents between 2016 and 2040 (Table 8). The employment in Palm Beach Gardens is projected to grow from 29,864 in 2015 to 68,903 in 2040, an increase of 39,239 employees. The number of hotel rooms is projected to increase by 1,302 between 2015 and 2040.

Table 8

	Hotels	Employment	Population
2015/16	1,647	29,864	51,865
2040	2,949	68,903	72,864
Increase	**1,302**	**39,239**	**20,999**

Source: The existing number of hotel rooms is based on Southeast Regional Planning Model (SERPM) 7 data, extrapolated to the year 2015. The 2015 employment data is from the US Census Bureau, Center for Economic Studies. The 2016 population data is from the American Community Survey. The 2040 data was obtained from the SERPM.

Growth in Vehicle Miles of Travel (VMT)

The growth in vehicle miles of travel (VMT) is one of the factors evaluated to determine the need for future multimodal improvements to the transportation system. The Southeast Regional Planning Model (SERPM) version 7.0 was used to determine a VMT growth rate of 1.49% within the City of Palm Beach Gardens between 2010 (base year) and 2040 (horizon year). The Palm Beach Gardens transportation network includes roads that are not in the regional travel demand model. The model derived growth rate was used to project the VMT in 2018 and 2040 on major roads within the City, based on the latest (2016) traffic count data available.

The total VMT in Palm Beach Gardens is projected to increase by 1,091,710 between 2018 and 2040 (Table 9). The VMT along Interstate 95 and the Florida Turnpike are projected to grow from 1,310,136 in 2018 to 1,727,168 in 2040, an increase of 417,032. The total VMT on arterial and collector roads is projected to increase by 674,677 between 2018 and 2040.

Table 9

	Arterial & Collector Roads	Interstate 95 & Florida Turnpike	Total
2010	2,058,198	1,272,224	3,330,422
2018	2,119,532	1,310,136	3,429,668
2040	2,794,210	1,727,168	4,521,378
Increase (2016-2040)	**674,678**	**417,032**	**1,091,710**

Source: Existing (2016) VMT data was obtained from the Palm Beach Gardens Road LOS Report. The 2018 and 2040 projections are based upon the annual growth rate of 1.49% in VMT for roads within Palm Beach Gardens based on SERPM 7.0

Existing Planned Improvements

One of the primary components of the Mobility Plan is the identification of future multimodal improvements within the City of Palm Beach Gardens. The City's Comprehensive Plan and Capital improvements Program were evaluated to identify programmed and planned improvements. The 2040 Palm Beach County Long Range Transportation Plan, the current FDOT Transportation Improvement Program (TIP), the County's Capital Improvement Program (CIP), the Palm Beach County Bicycle Master Plan and the Florida Greenways and Trails System Map were also evaluated (Table 10).

Table 10 lists the roadway improvements identified in the various plans evaluated that are located within or are adjacent to Palm Beach Gardens. The widening of Hood Road from West of Central Boulevard to east of the Florida Turnpike and the extension of Congress Avenue from Northlake Boulevard to Alternate A1A are scheduled for construction over the next three years. A portion of the widening of Northlake Boulevard is proposed to be constructed by the Avenir Development. The majority of planned roadway widening are projected for the western extents of the City. New roads are planned to be constructed by private developments.

Most arterials within Palm Beach Gardens are already six lanes. The portions of Military Trail, Northlake Boulevard, PGA Boulevard, Donald Ross Road and Alternate A1A (north of PGA Boulevard) located east of the Florida Turnpike are predominately six lane facilities today with no plans to add additional lanes by 2040. In addition, Burns Road, Central Boulevard, Alternate A1A (south of PGA Boulevard), Kyoto Gardens Drive, and the roads surrounding the Gardens Mall are four lane roads with no plans to add additional lanes by 2040.

Table 10	From	To	Existing Lanes	Future Lanes	Source
PGA Blvd	Beeline Hwy (SR 710)	Ryder Cup Blvd	2	4	LRTP
Northlake Blvd	Seminole Pratt Whitney Rd	Coconut Blvd	2	4	LRTP
Northlake Blvd	Grapeview	SR 7 Extension	4	6	Avenir
Northlake Blvd	SR 7 Extension	Beeline Hwy	4	6	Count
Hood Road	West of Central Blvd	East of Turnpike	2	4	LRTP
Beeline Hwy (SR 710)	Seminole Pratt Whitney Rd	PGA Blvd	4	6	LRTP
Beeline Hwy (SR 710)	PGA Blvd	Northlake Blvd	4	6	LRTP
Beeline Hwy (SR 710)	Northlake Blvd	Blue Heron Blvd	4	6	LRTP
SR 7 Extension	60th St	Northlake Blvd	0	4	LRTP
Congress Ave Extension	Northlake Blvd	Alt A1A	0	2	LRTP
Old Dixie Hwy	Park Ave	Northlake Blvd	2	3	LRTP
Park Ave Extension	Old Dixie Hwy	Congress Blvd	0	2	LRTP
Grandiflora Rd	Buccaneer Way	Central Blvd	2	4	Alton
Parkside Dr	Grandiflora Rd	Hood Rd	0	4	Alton
Avenir Connector	Northlake Blvd	Beeline Hwy	0	2	Avenir
Turnpike	Okeechobee Blvd	PGA Blvd	4	6	LRTP

Planned Improvements

There are also additional intersection and interchange improvements that have been identified in the various evaluated plans, as well as a bicycle and pedestrian improvement along Propensity Farms Road. The current plan documents do not include additional bicycle facility improvements, sidewalk, parkway system, or trail improvements beyond Prosperity Farms Road. The bicycle and pedestrian circulation plan adopted in the Palm Beach Gardens Comprehensive Plan included several multimodal facilities that will be incorporated into the Mobility Plan. Table II list improvements that have been identified in existing Plans.

Table II	Location	Improvement	Source
I-95	at Donald Ross Rd	Interchange	LRTP
I-95	at Central Blvd	Interchange	LRTP
I-95	at PGA Blvd	Interchange	FDOT
I-95	at Northlake Blvd	Interchange	FDOT
Alt A1A	at PGA Blvd	Transit Station	Tri-Rail
Military Trail	at PGA Blvd	Intersection	County
Northlake Blvd	at Military Trail	Intersection	County
Northlake Blvd	at Beeline Hwy	Intersection	County
PGA Blvd	at Beeline Hwy	Intersection	County
Prosperity Farms Rd	Northlake Blvd to Donald Ross Rd	Bike/Pedestrian	County

Land Use & Standards

Mobility Plan

The Palm Beach Gardens Mobility Plan is a foundation to transition from a transportation planning and funding process primarily focused on moving cars to a multimodal system that emphasizes personal mobility and providing people the choice to walk, bike, ride transit, drive a car or make use of new mobility technology.

The Mobility Plan includes an identification of multimodal mobility districts, opportunities for multimodal oriented developments, and the creation mobility hubs throughout the City. It also includes recommendations for establishing an Areawide Road Level of Service (LOS) standard, Areawide Quality of Service (QOS) standards for people walking, bicycling, and riding transit, and Complete Street design guidance. The Plan also features a detailed description of future multimodal improvements.

Transportation Element (TE) Policy 2.1.1.19.: The Mobility Plan shall include provisions that address mobility between destinations and should address accessibility to and from destinations and between modes of travel.

The Mobility Plan shall include a horizon year. The improvements in the Mobility Plan shall be based upon the expected, anticipated or desired increase in new development, infill development and redevelopment by the established horizon year and the associated increase in vehicular and person travel demand. The Mobility Plan shall include quality and level of service standards for all modes of travel included in the Mobility Plan.

The Horizon Year for the **Mobility Plan** is 2040, consistent with the time frame for the 2040 Long Range Transportation Plan. The multimodal improvements included in the Plan are intended to serve people walking, bicycling, and riding a trolley system, along with intersection and road improvements. The intersection improvements are a mixture of turn lanes and safety upgrades for people walking and bicycling. **Mobility Plan** Improvements also include a future Tri-Rail Coastal Transit Station with a multilevel parking facility, mobility hubs that accommodate new mobility technology services, trolleys and autonomous transit vehicles, and a wayfinding program for the multimodal transportation system.

Multimodal Oriented Land Use

A primary tenant of an effective Mobility Plan is the integration of multimodal oriented land uses with people focused mobility and accessibility improvements that create interconnected, vibrant, mixed-use destinations that encourage people to walk and bike, ride a trolley circulator and create park once environments for those people who drive to the destinations.

The Palm Beach Garden Mobility Plan has been developed around the proposed Multimodal Mobility District which includes major destinations along the PGA Boulevard Corridor and the future Tri-Rail Coastal Transit Station near PGA Boulevard and Alternate A1A along the Florida East Coast Railroad (Figure 3). With its central location, current mixture of land uses, an interconnected road system and the future Tri-Rail Coastal Transit Station, the Multimodal Mobility District (MMD) includes the features necessary to serve as a focal point for development of a multimodal supportive transportation system. The Treasure Coast Regional Planning Council is addressing the establishment of Transit Oriented Development (TOD) standards for the Tri-Rail Coastal Transit Station.

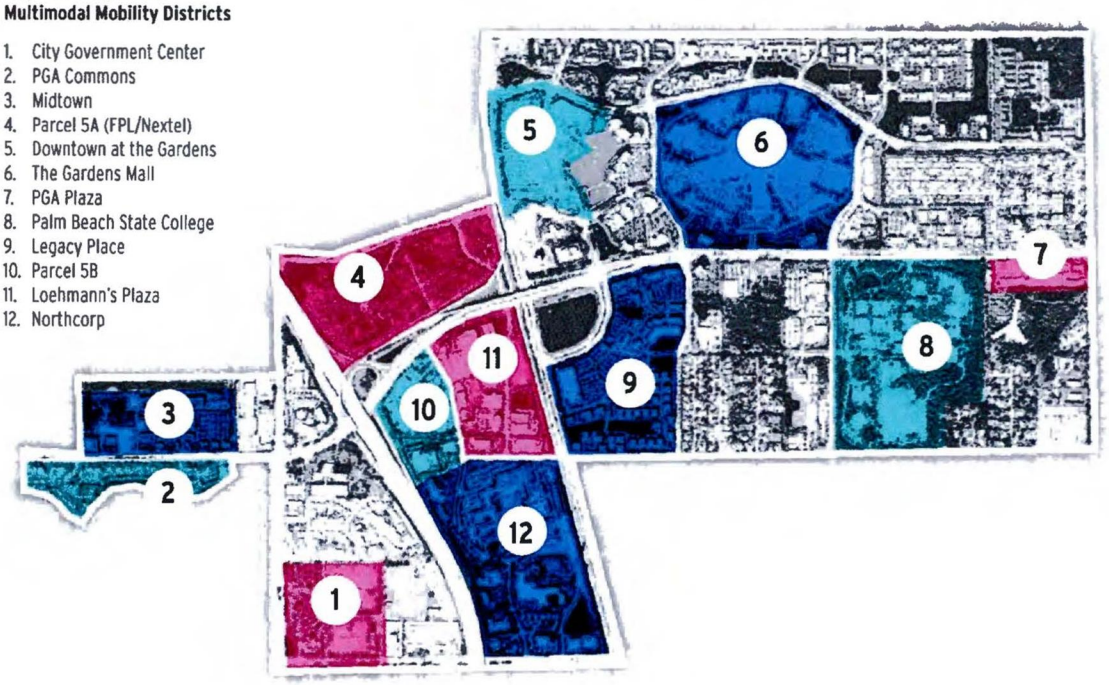
The Multimodal Mobility District City is currently comprised of several major retail, employment and educational destinations largely located along the PGA Boulevard Corridor and are within a one mile radius of the future Tri-Rail Coast Station. The PGA Boulevard Corridor, per Future Land Use Element Policy 1.1.2.5, is envisioned as the City of Palm Beach Gardens "Main Street".

The Palm Beach Gardens Comprehensive Plan and Land Development Regulations emphasize the development of retail land uses as nodes located around intersections, as opposed to the more common practice of many communities in Florida that allow for strip retail and commercial development along arterials and major collector roads. While many local governments in Florida promote retail development at nodes, Palm Beach Gardens is one of the few communities to have achieved doing so, in part due to Future Land Use Element policies.

Figure 3

Major Developments
Multimodal Mobility Districts

1. City Government Center
2. PGA Commons
3. Midtown
4. Parcel 5A (FPL/Nextel)
5. Downtown at the Gardens
6. The Gardens Mall
7. PGA Plaza
8. Palm Beach State College
9. Legacy Place
10. Parcel 5B
11. Loehmann's Plaza
12. Northcorp



Future Land Use Element (FLUE) Policy 1.1.2.9.: Parkway System (1st part of this policy discussed in later sections):... One major objective of the Parkway System is to eliminate the perceived need of using strip commercial as a buffer between arterials and residential areas. Therefore, the Parkway System concept is integrated into the philosophy of designating commercial and employment areas at intersections or "nodes", eliminating the need for strip commercial use.

FLUE Policy 1.3.1.3.: New commercial properties shall be developed in nodes, at intersections rather than strips. A mix of uses within commercial developments shall be encouraged, including residential, as well as parks and open spaces.

The emphasis and success of locating retail and mixed-use developments at nodes allows for these areas, along with other strategic employment and recreation destinations, to be transformed into Multimodal Oriented Developments (MODs), and serve as mobility focal points for the neighborhoods that surround them (Figure 4). These Multimodal Oriented Developments serve as organizing elements for the planning of multimodal improvements and that connect these MODs with the Alton Mobility District and the Multimodal Mobility District. The Alton Mobility District features a large scale mixture of land uses and an interconnected, multimodal transportation system, and is located in close proximity to major employment and educational destinations in the City of Jupiter.

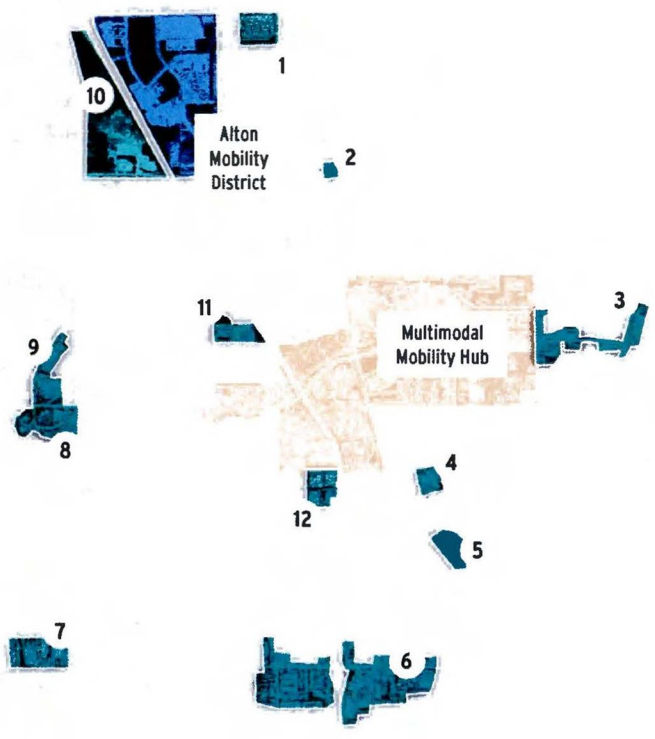


Figure 4

Mobility Hubs
Multimodal Oriented Developments

1. Donald Ross Village
2. Frenchman's Crossing
3. PGA Blvd East/US 1 - Retail/Office
4. Palm Beach Gardens Medical Center
5. Promenade Shopping Plaza
6. Northlake
7. PGA National Park
8. PGA National
9. Marisol Walk
10. Alton West
11. Joseph R. Russo Athletic Complex
12. Lilac Park

To promote multimodal oriented land uses, there is a need to require multimodal supportive densities and intensities, reasonable height allowances, reduced parking requirements and a mixture of land uses. The potential establishment of multimodal supportive land use overlays in the Land Development Regulations would allow for the integration of land uses and a multimodal transportation system. The Multimodal Mobility District and the surrounding Multimodal Oriented Developments provide the City with the greatest potential for redevelopment and infill on underdeveloped areas and areas currently set aside for surface parking.

The allowance for greater residential uses in the Multimodal Mobility District and within Multimodal Oriented Developments through bonuses to allow for increasing heights and density, is one way to provide additional housing and promote greater utilization of the planned multimodal improvements. Allowing a mixture of commercial and office uses, with bonuses to allow for an increase in intensities and heights, coupled with increased residential densities, reduces the distance between land uses and makes transit, walking and bicycling more viable modes of travel and provides options other than driving a personal car. The Future Land Use Element and Transportation Element of the Comprehensive Plan encourages the establishment of Land Development Regulations for multimodal oriented land uses and reductions in overall parking requirements.

FLUE Policy 1.1.2.10.: The City shall continue to review and adopt Land Development Regulations to create multimodal oriented development. The City shall consider major corridors which interconnect prominent north-south and east-west traffic patterns within the City, as well as connections with regional corridors from adjacent municipalities and shall create and maintain Land Development Regulations to encourage multimodal mobility.

TE Policy 2.1.1.24.: The Mobility Plan may include policies related to land use overlays to encourage multimodal supportive development. The Mobility Plan may also include provision that allow for reduction in development parking requirements in recognition of car and bicycle sharing provisions adopted into the Mobility Plan. The Mobility Plan may also include parking strategies that reduce parking requirements for mixed-use, multimodal development and affordable housing.

Mobility Hub Elements

Technology innovations in mobility provide an opportunity for Palm Beach Gardens to revisit parking requirements within Mobility Districts and Multimodal Oriented Development. Anywhere from 30% to 50% of the land area within Mobility Districts and MODs is devoted to surface parking lots for cars. This area provides an opportunity for infill and redevelopment. Reducing minimum parking requirements or eliminating parking requirements altogether have the potential to remove parking as a barrier. New technologies such as bicycle and car share programs, and ride hailing services such as Uber and Lyft, potentially reduce the need for driving cars and associated parking. Trolley services, and eventually autonomous transit vehicles will also further reduce the need for parking.

Mobility Hubs are proposed multimodal centers located within Mobility Districts and Multimodal Oriented Developments. These Mobility Hubs will integrate spaces for bicycle, scooter, car share and car rental programs, along with attractive, covered drop-off and pick-up areas for ride-hailing services, trolleys and transit (Figure 5). Mobility Hubs can also be designed to provide locations for charging electric vehicles and lockers for deliveries from the Post Office, UPS, Fed Ex, and e-commerce retailers, all while providing safe, convenient, and comfortable multimodal access connections to land uses within Mobility Districts and MODs.

The adoption of a Mobility Plan and the replacement of transportation concurrency allows the City to develop Mobility Strategies through Land Development

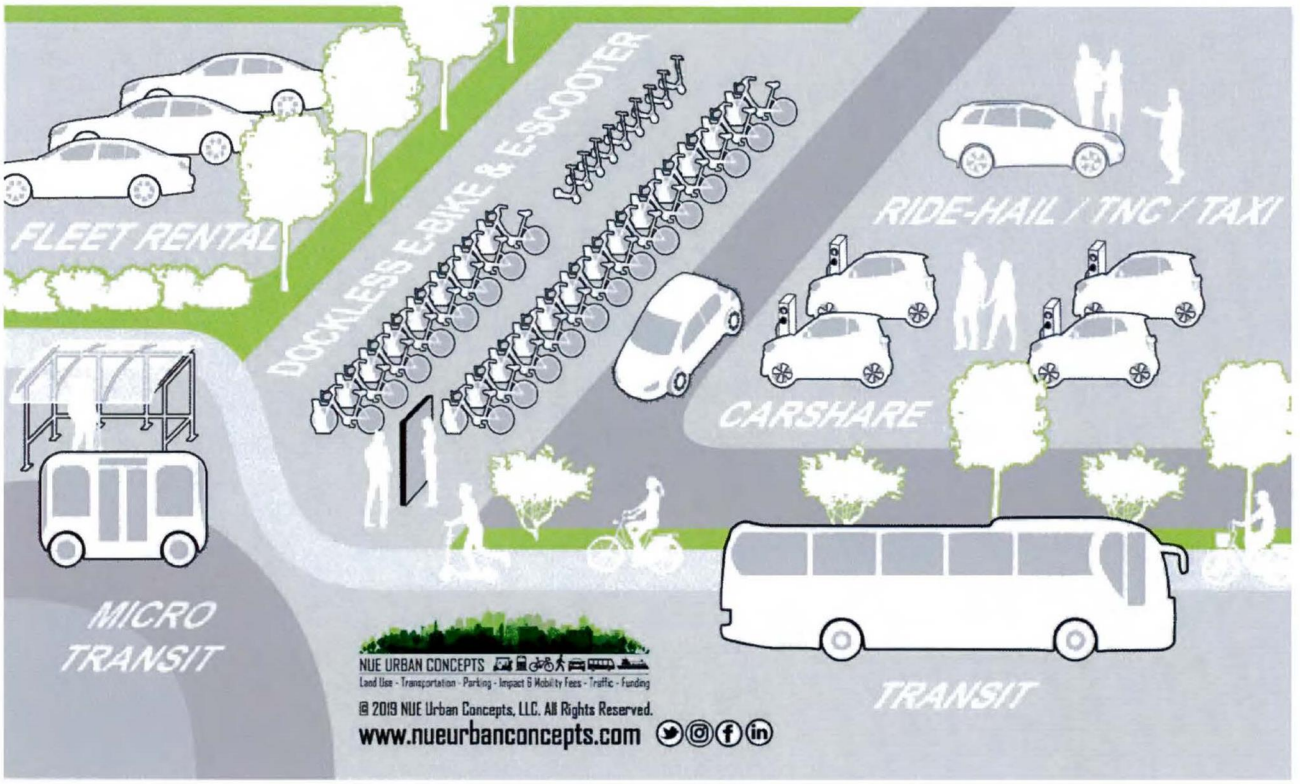
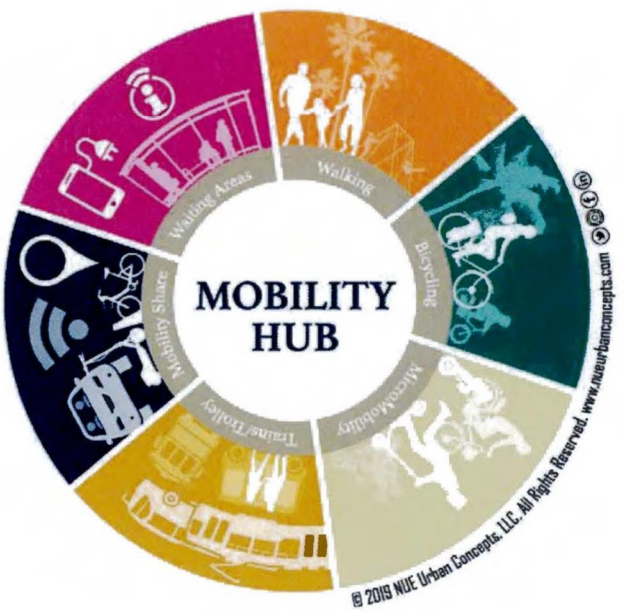


Figure 5

Regulations to require new development, infill and redevelopment to provide Mobility Hubs in exchange for potentially easing or removal of trip generation caps on development and/ or reducing or eliminating parking requirements. In addition, providing density, intensity and height bonuses, allowing for reduced parking, and removing trip generation caps can all be trade-offs for the funding of bike and car share programs, providing vouchers for ride-hailing services, purchasing autonomous transit vehicles, and the construction of safe, clean, attractive and interconnected Mobility Hubs (Figure 6).

Mobility Hubs would ideally be located near restaurants, grocery stores, residential and office uses to reduce the land area needed for vehicular circulation, deliveries and parking. These areas could also serve as locations for valet services as well. Mobility Hubs can also be integrated into other developments outside of Mobility Districts and MODs. Depending on the size of developments, there are likely to be multiple Mobility Hubs with ideal spacing of between 1/8 to 1/4 of a mile.

Figure 6



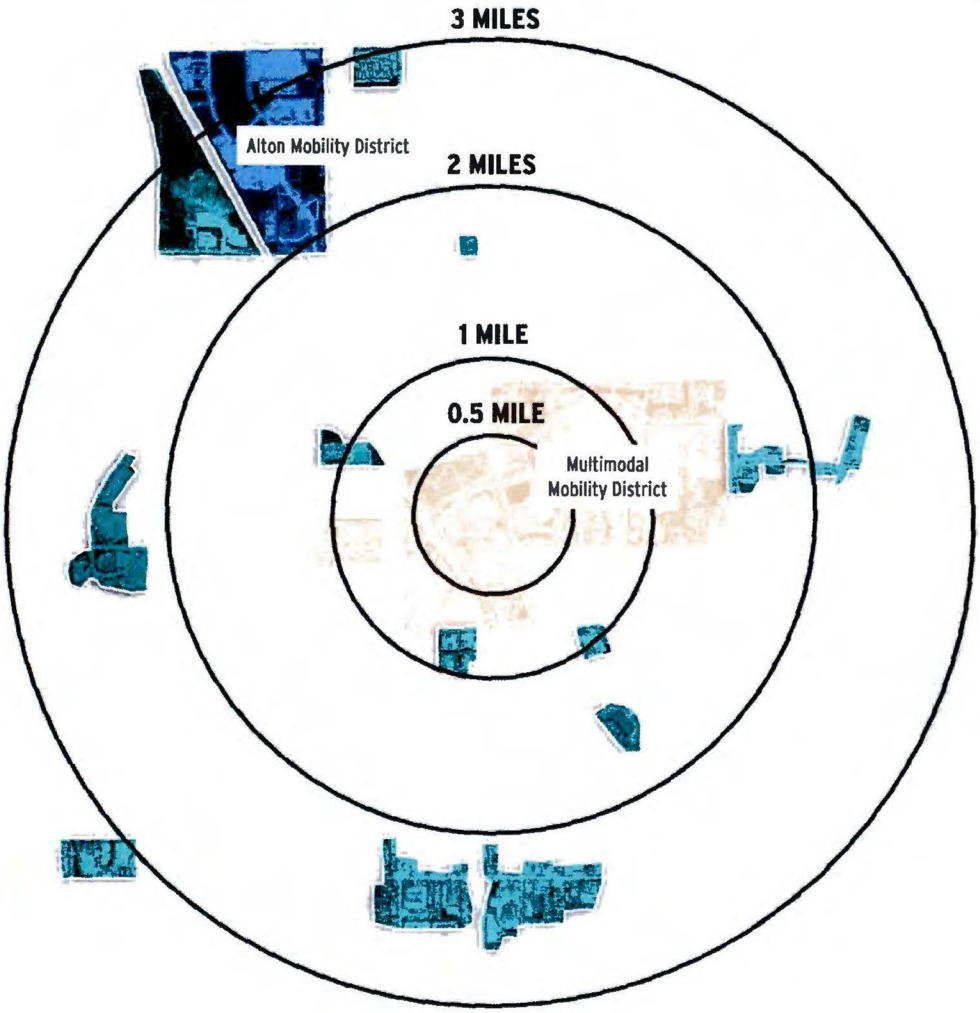
20-Minute City

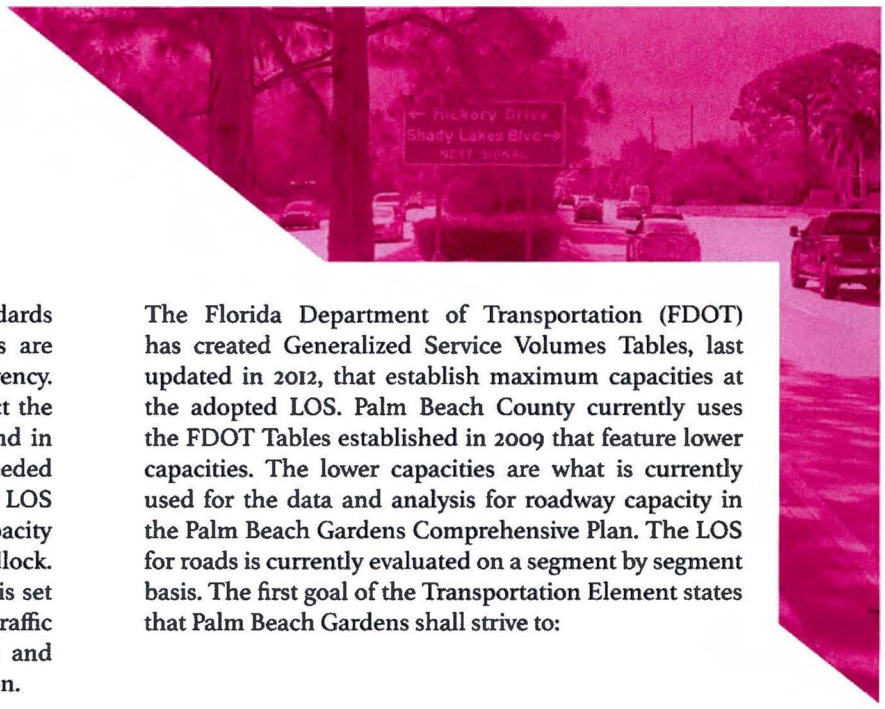
The identification of Multimodal Oriented Developments in the Mobility Plan, oriented around the Multimodal Mobility District and the future Tri-Rail Coastal Station, allows Palm Beach Gardens to pursue a goal that is generally consistent with the Comprehensive Plan and one that many communities aspire too, but few can achieve, and that is becoming what is known as a "20-minute city" generally defined as:

A City with a vibrant mix of commercial, recreational, civic and residential establishments that are easy, safe and convenient for most residents and are within a one-mile walking distance (20-minutes), a three to four-mile bicycle ride (20-minutes) or a three to five-mile transit trip (20-minutes). These Cities have a robust multimodal transportation system that includes sidewalks, paths, trails, bike lanes, and transit (trolley) service.

The majority of Downtown Palm Beach Gardens is within one mile of the future Tri-Rail Coastal Station. A substantial portion of the City of Palm Beach Gardens is within three miles of the Multimodal Mobility District and the future Tri-Rail Coastal Station (Figure 7).

Figure 7





Areawide Service Standards

The establishment of Level of Service (LOS) standards is the principal means through which capacities are established for regulating transportation concurrency. LOS standards are also used in planning to project the need for new roads and the widening of roads and in engineering for determining the number of lanes needed for new and widened roads. There are six roadway LOS grades ranging from "A" which means ample capacity and the free flow of traffic to "F" which means gridlock. The LOS standard in Palm Beach Gardens, which is set by Palm Beach County, is LOS "D" which means traffic flows uniform, with less ability to change lanes and occasionally there are delays or periods of congestion.

The Florida Department of Transportation (FDOT) has created Generalized Service Volumes Tables, last updated in 2012, that establish maximum capacities at the adopted LOS. Palm Beach County currently uses the FDOT Tables established in 2009 that feature lower capacities. The lower capacities are what is currently used for the data and analysis for roadway capacity in the Palm Beach Gardens Comprehensive Plan. The LOS for roads is currently evaluated on a segment by segment basis. The first goal of the Transportation Element states that Palm Beach Gardens shall strive to:

GOAL 2.1: MAINTAIN LEVEL OF SERVICE STANDARDS WHICH SHALL ACCOMMODATE SUSTAINABLE GROWTH THROUGH FINANCIALLY FEASIBLE IMPROVEMENTS AND EVALUATE THE ADOPTION OF MULTIMODAL QUALITY AND LEVEL-OF-SERVICE STANDARDS TO DEVELOP A CONVENIENT, SAFE, AND ENERGY EFFICIENT MULTIMODAL TRANSPORTATION SYSTEM FOR ALL PERSONS LIVING IN AND TRAVELING WITHIN THE CITY.

Florida Statute 163.3180 (5) (f) 2. & 5. allows the local governments enacting an alternative to transportation concurrency to establish areawide level-of-service standards as opposed to segment-by-segment standards and to establish multimodal level-of-service standards for non-vehicular modes of travel. FDOT has provided guidance for establishing multimodal quality-of-service standards (QOS) based on user experience, versus LOS standards that focuses on capacity.

The Palm Beach Gardens Comprehensive Plan Transportation Element allows for the establishment of areawide level-of-service (LOS) standards for roads and multimodal quality-of-service standards (QOS) for people walking, bicycling and riding transit (trolley). The following are the applicable policies:

TE Policy 2.1.1.20.: The City, as part of a Mobility Plan, may adopt areawide or district level of service standards for roads that cumulatively evaluates capacities and traffic volumes for multiple roads within an areawide or district as opposed to a segment by segment evaluation to maintain adopted level of service standards and identify future capacity needs. Areawide or district level-of-service standards recognize the benefit of a gridded transportation network to provide mobility and accessibility. Roadway capacities shall be based upon professionally accepted methodologies.

TE Policy 2.1.1.21.: The City, as part of a Mobility Plan, may adopt quality and/or level of service standards for pedestrians, bicycle, transit and other multimodal facilities included in the Mobility Plan. Quality-of-Service standards shall be related to the overall travel experience of the user with higher standards established in areas where walking, bicycling, transit, and other non-vehicular modes of travel are encouraged. Level-of-Service standards shall be related to the width or size of pedestrian, bicycle and non-vehicular facilities with wider and larger facilities in areas where non-vehicular modes of travel are encouraged and frequency of transit service with greater frequencies and spans of service in areas where transit is encouraged.

LOS & QOS Standards

Under a Mobility Fee system, Areawide LOS and QOS standards are used to develop and update the Mobility Plan and for Capital Improvements Programing. They are not used to time or regulate development, which is what is currently done under the transportation concurrency system.

Consistent with the Transportation Element, Table 12 includes the recommended areawide LOS standard for roads and the recommend areawide QOS for people walking and biking, people biking and people riding trolley transit. The areawide multimodal QOS standards are set lower initially for the period between 2020 and 2030 and are proposed to increase to a higher standard from 2031 to 2040. The areawide QOS standard for people riding a trolley transit service shall initially be based on headways of 20 minutes during AM and PM peak hours and 30 minute headways during off-peak hours between 2020 and 2030. The areawide QOS standard will increase in 2031 from "D" to "C" based on peak hour headways of 15 minutes during peak hours and 20 minute headways during off-peak hours. The initial span of service would be for a twelve-hour period, to be re-evaluated when Tri-Rail Coastal Transit Service is provided.

Table 12

	Design Standard	Current Conditions	2020-2030 Standard	2031-2040 Standard
People Walking & Biking (QOS)	B	D	C	B
People Biking (QOS)	C	E	D	C
People Riding Trolley Transit (QOS)	N/A	N/A	D	C
Roadway (LOS)	D	C	D	D

Source: Palm Beach Gardens Traffic Data Report

For people walking and biking, the presence of a facility to walk or bike on, the lateral separation from traffic and the presence of a physical barrier between traffic and the facility are the primary factors that determine the QOS (Table 13). The provision of multimodal trails is one of the primary multimodal improvements included in the Mobility Plan to encourage people to walk and bicycle. This QOS standard includes people bicycling in recognition that given current posted speed limits on State and County roads, most people do not feel comfortable riding on-street unless there is a physical barrier separating them from cars or speed limits are 25 MPH or less.

The ideal design for people walking and bicycling is a 12' wide trail separated from traffic with either a landscape buffer and canopy trees such as Live Oaks, or the provision of on-street parking with canopy trees placed in islands, curb bulb-outs and curb extensions (Figure 8).

For people bicycling, the QOS is based upon the type of on-street bicycle facility, physical separation, lateral separation and the posted speed limit (Table 14). The Mobility Plan recognizes that

People Walking & Biking Quality of Service (QOS)

Table 13

	Level of Physical Separation			
	Limited	Street Trees	On-Street Parking	Landscape Buffer
12' Trail	B	A	A	A
10' Path	C	B	B	B
8' Path	D	C	C	C
5'-7' Sidewalk	E	D	D	D

Note: "Limited" includes: facilities on the back of roadway curb or with no street trees, no on-street parking, a buffer less than 12' in width or a buffer a minimum of 12' in width with no landscape; "Street Trees" means Canopy Trees located between the motor vehicle travel lane and the people walking and biking facility; "On-Street Parking" means designated space for the parking of motor vehicles or golf carts between motor vehicle travel lanes and the people walking and biking facility (a protected bike lane can be substituted for on-street parking); "Landscape Buffer" means a physical buffer at least 12' in width located between motor vehicle travel lanes and the people walking and biking facility that includes both understory trees and vegetative landscape other than ground covers. People walking and biking facilities also include people jogging, running, rollerblading, skating, skateboarding, individuals with a mobility assisted device, non-motorized scooters. The use of e-mobility devices traveling 15 mph or less is subject to Land Development Regulations and Standards. The standards are for a walking and bicycling facility located on one side of a road. The Land Development Regulations may include additional options to achieve higher QOS standards and additional streetscape and hardscape requirements.

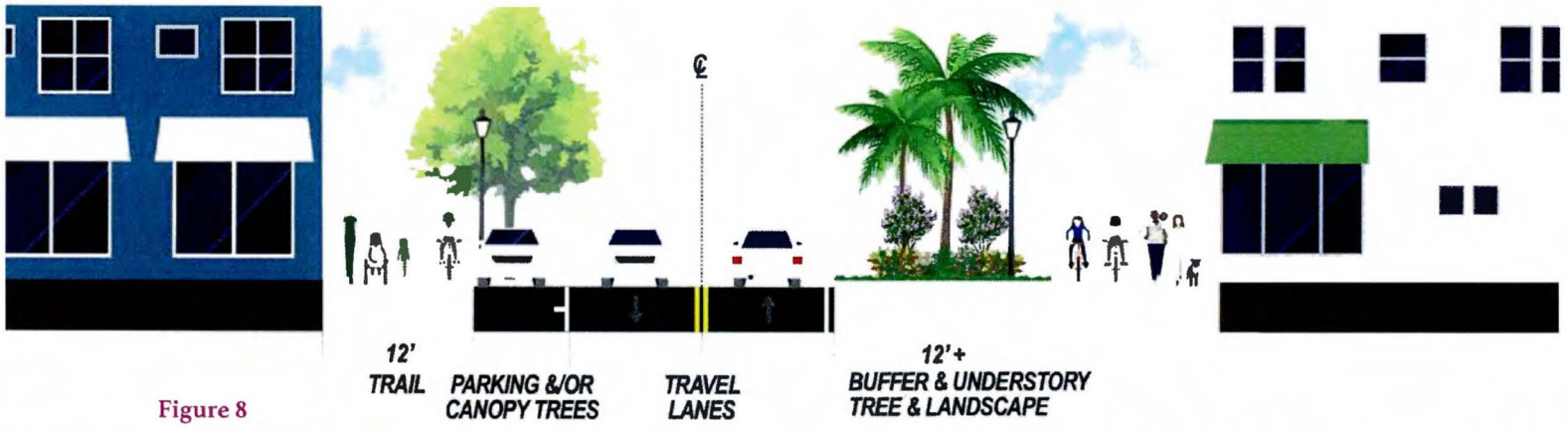


Figure 8

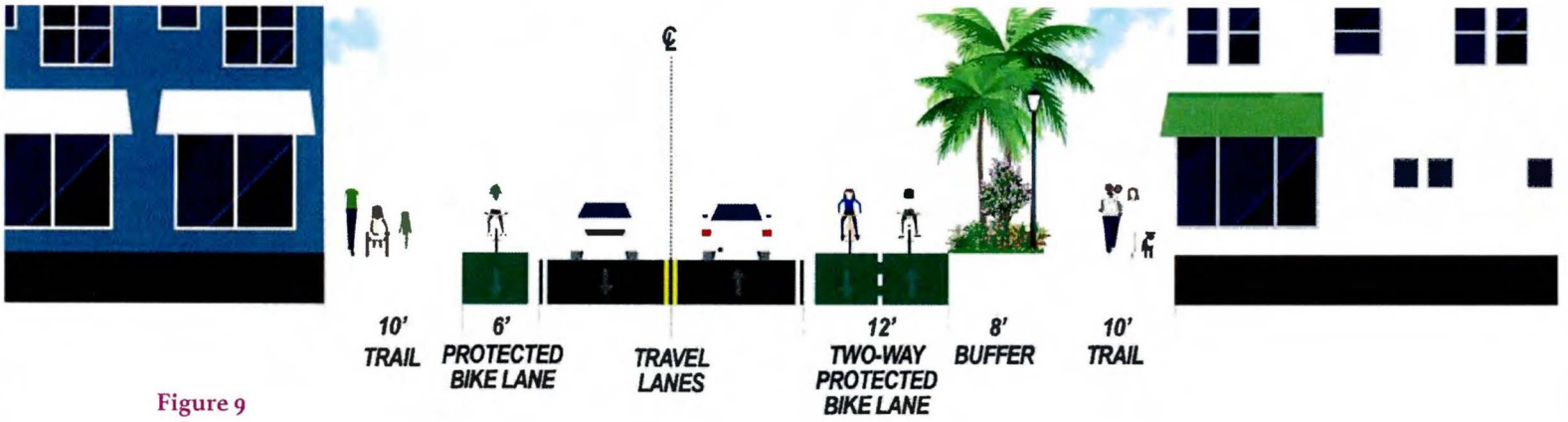


Figure 9

the City of Palm Beach Gardens has limited means to compel either the State or County to adopt and construct the types of on-street facilities needed to encourage more people to bicycle on roadways. The safest type of on-street bicycle facility, and the one most likely to encourage people to bicycle, are protected bike lanes that provide some physical barrier, such as a raised median or on-street parking between the bicycle lane and traffic (Figure 9). Due to the higher posted speed limits on State and County roads, buffered bike lanes would likely be the most likely type of facility provided, with the State moving towards a 4' bike lane with a 3' buffer as a preferred design. On City Streets, 4' green bike lanes or 4' bike lanes on roads with posted speed limits of 25 MPH or less would be the realistic design standard. Bicycle Boulevards with green sharrow bike markings should only be used on roads with posted speed limits of 20 MPH or less.

Land Development Regulations will be developed to further define the calculation of areawide LOS and QOS. The Regulations will also include additional provisions and recognition for streetscape, hardscape, and landscape improvements. Multimodal capacities will be established through Mobility Fee calculations.

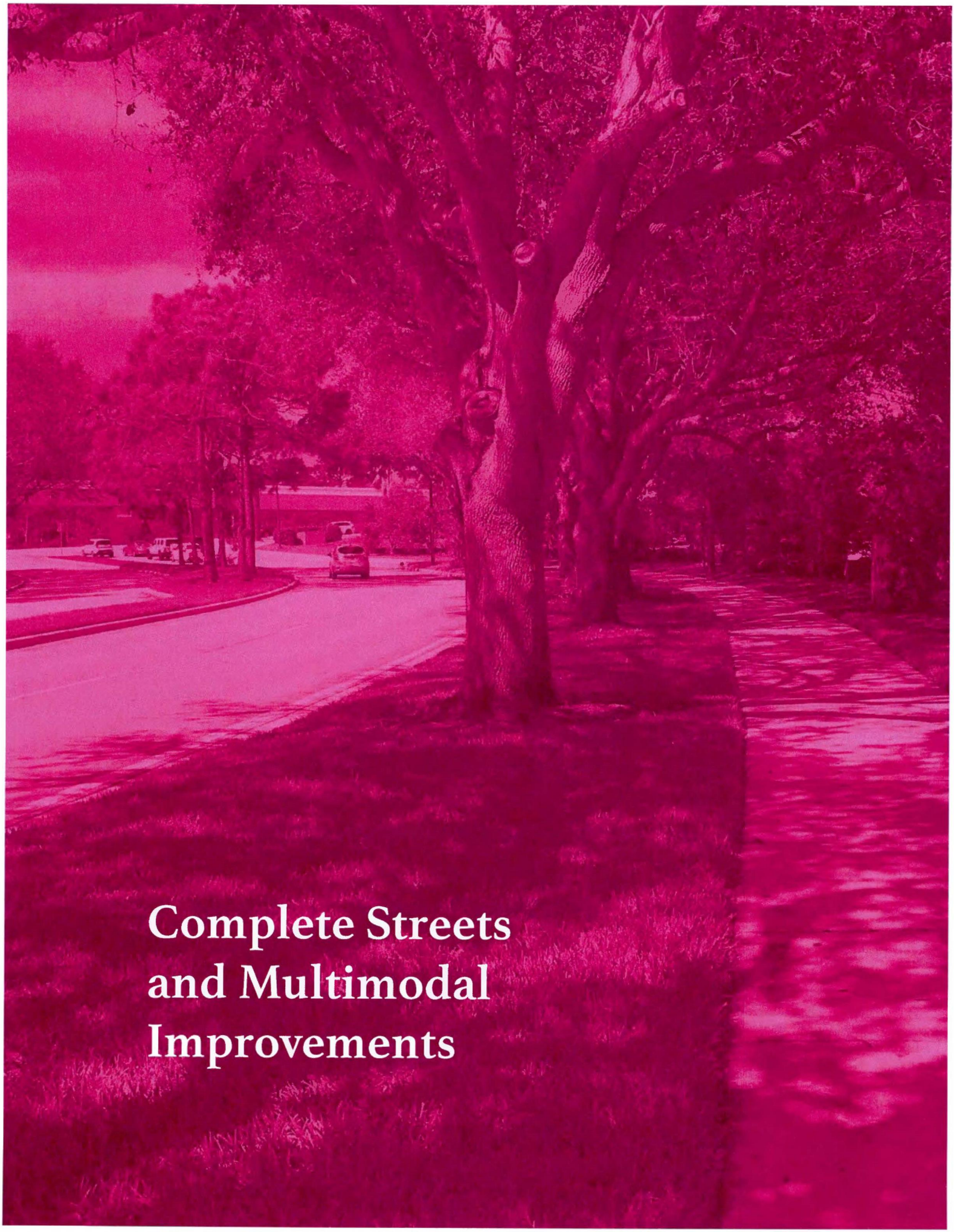
People Biking Quality of Service (QOS)

Level of Physical Separation

Table 14

	Limited	Protected	Buffered	Green Lane	Speed Limit
6' Bike Lane	B	A	A	A	35 mph - A
5' Bike Lane	C	A	B	B	30 mph - B
4' Bike Lane	D	A	B	C	25 mph - C
Paved Shoulder	E	A	C	D	20 mph - D

Note: "Limited" includes: facilities with no physical protection, buffer or higher than the threshold speed limit; "Protected" means a physical barrier or on-street parking located between the motor vehicle travel lane and the people biking facility; "Buffered" means a physical separation of at least 3', with chevron pavement marking, between motor vehicle travel lanes and the people biking facility; "Speed Limit" means a posted speed limit at the identified speed or lower. For two-way facilities, the widths are two be multiplied by two. With the exception of two-way facilities, people biking facilities shall be located on both sides of a road. People biking facilities also include people used non-motorized wheeled mobility devices and e-mobility devices operating at less than 15 mph. Seated electric or motorized scooters are prohibited. The use of golf carts and autonomous transit vehicles is subject to Land Development Regulations and Standards.



Complete Streets and Multimodal Improvements

Complete Streets

To ensure all modes of transportation are equitably and safely accommodated within a transportation corridor, there is a need to adopt Complete Streets criteria consistent with the Mobility Plan. Complete Streets policies require that pedestrian, bicycle, transit and motor vehicle travel are all evaluated in the design of transportation corridor cross-sections and that all modes of travel and all the ability of all users are accommodated to the maximum extent feasible. The Transportation Element includes the following two policies to evaluate the establishment of Complete Streets design standards:

TE Policy 2.1.1.22.: The Mobility Plan may include Complete Streets policies and/or design standards for the improvements identified in the Mobility Plan. The Mobility Plan may serve as a Master Plan for roads and transit within the City. The Mobility Plan may also function as a Bicycle, Pedestrian, Trails, Blueways, Greenways and other non-vehicular modes or travel Master Plan.

TE Policy 2.2.1.4.: The City shall evaluate developing Complete Streets policies within its Land Development Regulations and/or Mobility Plan. Complete Streets are roadways designed to accommodate all users, including, but not limited to motorists, cyclists, pedestrians and transit riders. Complete Streets policies shall require that pedestrian, bicycle, transit, motorist and other anticipated users of a roadway are included in evaluation and design of roadway cross-section based upon anticipated mobility and accessibility needs compatible within the surrounding environment. Complete Streets policies should address travel along the street as well as crossing the street. Complete Streets policies are context sensitive and should approach each street as unique and avoid standard one-size fits all design.

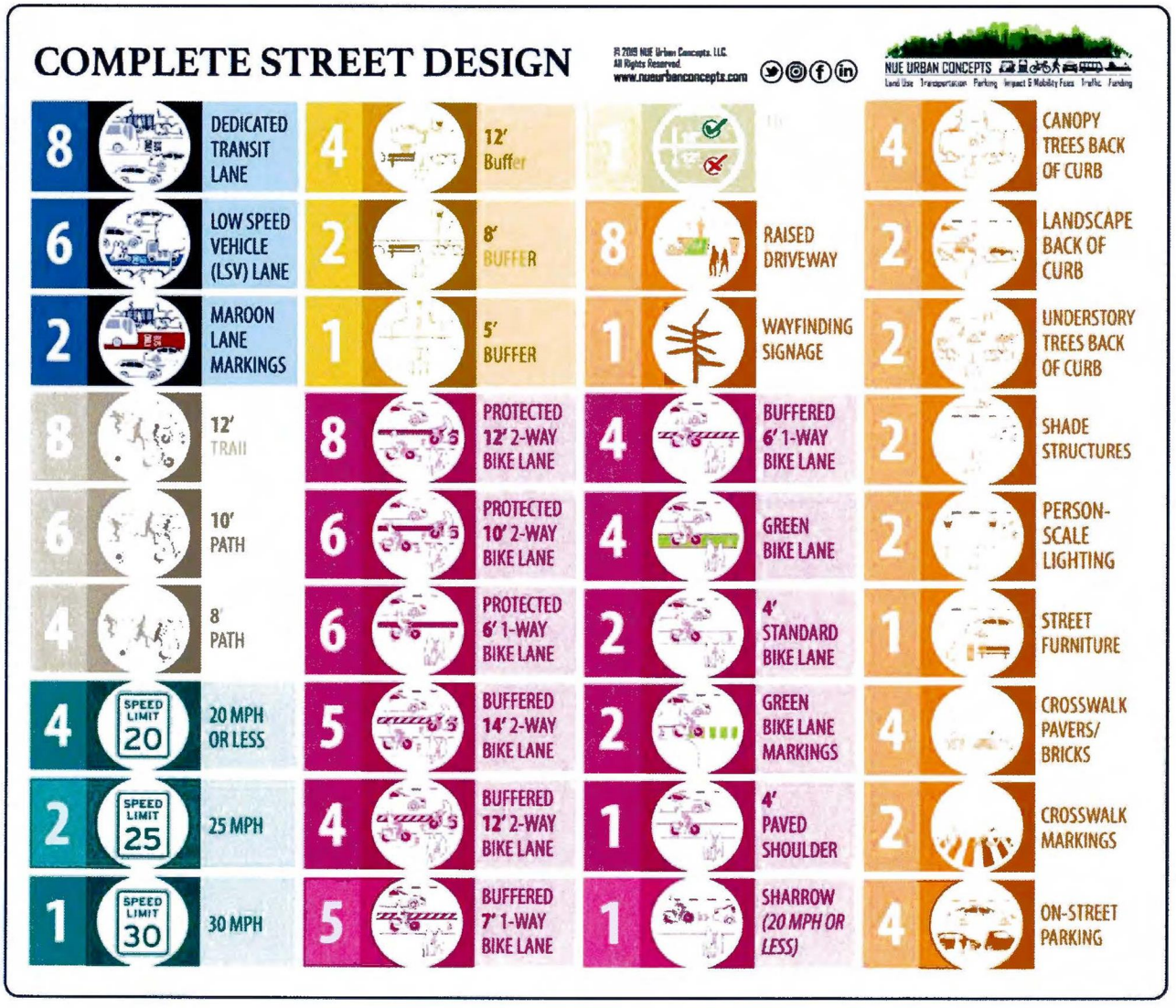
The Mobility Plan builds on the existing Parkways Overlay within the City and emphasizes providing 12' wide trails, with wide buffers that include landscape and streetscape between the back of curb and the front of the trail as the preferred approach to provide mobility for people walking, bicycling, jogging, running, skateboarding, rollerblading or using a mobility assisted device for those

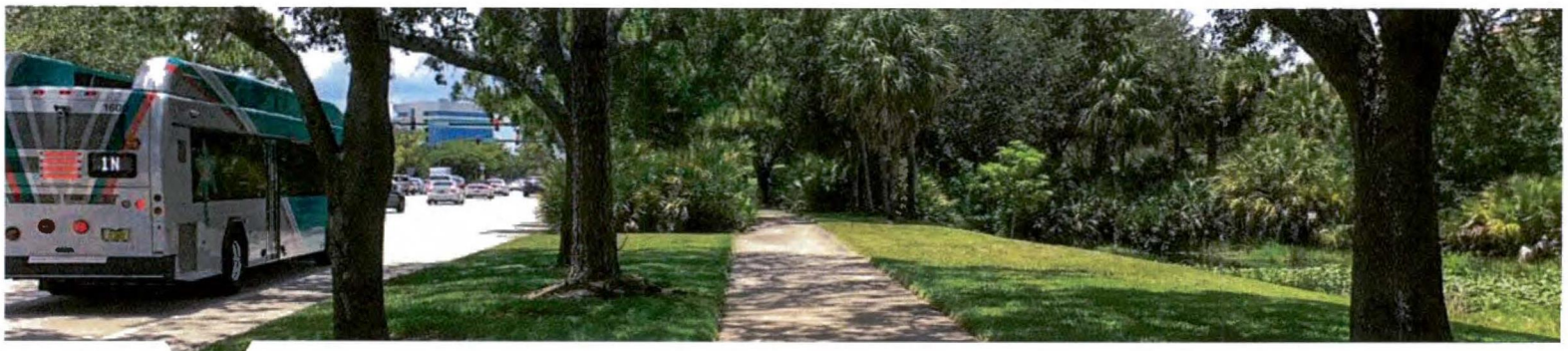
that are physically impaired. Both FDOT and the County were approached about reducing travel lane widths on State and County Roads to add buffered or protected bike lanes, both initially refused. The Mobility Plan recommendations on these roads is limited to asking the State and County to consider at least adding green bike lane markings to increase visibility for people on bikes.

On roadways with posted speed limits of 35 MPH or less, opportunities will be looked at to narrow travel lane widths to 10' and provide on-street four-foot (4') green bike lanes, in addition to providing a 12' wide trail, where right-of- way permits. It is also recommended that Land Development Regulations be developed regarding the use of micromobility devices such as e-bikes, e-scooters, and Segways.

The Mobility Plan takes a different approach to designing Complete Streets. FDOT and many local governments like to employ a one size fits all approach to road design where the bare minimum accommodations for multimodal travel are the standard and Complete Streets designs are largely a checkbox process. It is recommended that Land Development Regulations be created based on a points system that allows for flexibility and context sensitive design of streets, intersections, and multimodal improvements by both governmental entities and new developments. The Complete Streets point system gives the highest points for elements that are most likely to encourage people to walk and bike, such as trails, protected bike lanes, dedicated transit lanes, canopy trees, on-street parking, wide buffers, 20 MPH speed limits, and bricks/paver crosswalks (Figure 10).

Figure 10





Multimodal Improvements

The City, through its Parkway System, City Center area, and nodal development pattern, has established a multimodal supportive land use pattern. The network of roads and the existing levels of service provided on those roads are indicative of the emphasis placed on funding and moving cars by FDOT, Palm Beach County and the City of Palm Beach Gardens. The 2040 LRTP indicates that the era of widening road, except on Interstate 95, the Florida Turnpike, Beeline Hwy and the existing two lane portions of North Lake Boulevard, has largely come to a conclusion.

The only new roads and widening of roads east of the Florida Turnpike proposed between 2018 and 2040 are Congress Avenue, Hood Road, Grandiflora, and roads internal to the Alton DRI, with all of those being currently committed and funded with construction complete by 2020. Thus, for a 20-year period between 2020 and 2040, there are no new or widened roads proposed in Palm Beach Gardens east of the Florida Turnpike. While the need for new road capacity within the City is limited, there is an extensive need to improve conditions for people walking and bicycling and a need to begin trolley transit service within Downtown that will eventually provide access to the future Tri-Rail Coastal Station.

The proposed Mobility Plan multimodal improvements, along with the phasing of those improvements, has been developed to improve conditions for people walking, biking, and riding transit trolley, and has also identified several road and intersection improvements (Appendix A). The proposed Mobility Plan multimodal improvements were done in furtherance of the following goals, objectives and policies adopted in the Transportation and Future Land Use Elements:

GOAL 2.2.: CONTINUE TO DEVELOP AND MAINTAIN SUSTAINABLE, SAFE AND EFFICIENT INTERMODAL TRANSPORTATION LINKAGES THROUGH A BALANCE OF TRAFFIC CIRCULATION SYSTEMS, PUBLIC TRANSPORTATION, AND PEDESTRIAN AND BICYCLE NETWORKS

Objective 2.2.8.: To encourage the use of public transit, bicycle, and pedestrian paths within City boundaries and in conjunction with surrounding municipalities through use of the Parkway System and support the proposed multimodal program, more specifically explained in Policy 1.1.2.10.

FLUE Policy 1.3.5.3.: The City shall encourage linkages which connect or gather residents and business owners of different neighborhoods and promote a sense of community. This shall be accomplished through 1) implementation of the Conceptual Linkage Plan (Map Series B) and Parkway System, as described further in the Conservation and Transportation Elements; 2) connection of neighborhoods, shopping, schools and parks through an expanded sidewalk/pathway system, discussed further in the Transportation Element; 3) promotion of gathering (people) places in new development projects; and 4) installation of entry features along major arterials, including signage, art and landscaping which identify Palm Beach Gardens as a city and community.

Multimodal Elements

The multimodal improvements identified in the Mobility Plan were established based on the following fundamental elements necessary to transition from a transportation system focused on moving cars to a safe, comfortable, and convenient multimodal transportation system focused on personal mobility and mobility choice:

Mobility: The ability to move people from place (origin) to place (destination) by multiple modes (walk, bike, transit, vehicle) of travel in a timely (speed) and efficient manner. The lack of sidewalks, paths, trails and bike lanes are often impediments to people choosing to walk or bike from home to work and other daily activities

Accessibility: The ease at which people reach, enter and use modes (walk, bike, transit, vehicle) of travel at the origin of their trip and the ease at which those people reach and enter their destination. Transit systems are frequently burdened with addressing first and last mile access.

Connectivity: The number of route options people have available to them to move from place to place and the directness (distance) of those route options to reach their destination. Gridded network of streets provides a high level of connectivity, whereas cul-de-sacs do not.

Visibility: The frequency at which those driving a car see people walking, bicycling and using a mode of travel other than driving a car. More people walking and biking means more awareness that people walk and bike equals safer conditions (i.e. safety in numbers). Green bike lanes, pavers at crosswalks, and flashing signals are all design elements used to increase visibility of people walking and bicycling.

Continuity: The uninterrupted consistency of multimodal facilities in width and condition with logical beginning and endpoints that are without gaps or sudden and abrupt termination. Roads do not suddenly terminate without warning or change number of lanes or width without proper transitions, so neither should sidewalks, paths, trails, or bike lanes.

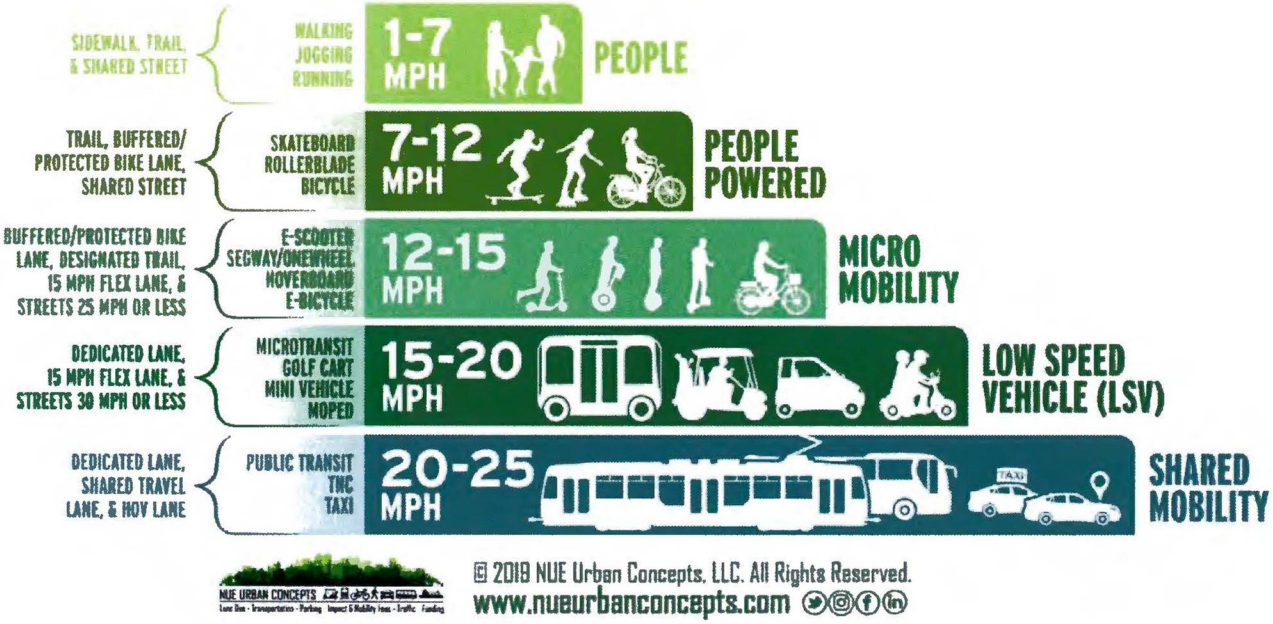
Safety: The combination of behavioral and physical design elements of the built environment make mobility comfortable and pleasant for all ages and abilities. The elements that provide safety include physical separation and/or designation for different mobility modes that also encourage behavioral change that makes safety everyone's responsibility.

Social Value: The people-to-people connections one experiences in a shared space environment, whether biking, walking, or taking transit. The social value of these interactions increases both individual happiness and societal happiness through active engagement with the city that overall increases the quality of life and fosters independence, especially for children and the elderly.

5-Step Speed Tiers

In order to help facilitate the transition to a focus on multimodal transportation, these aforementioned elements also help group mobility modes into five (5) proposed and distinct speed tiers. Each speed tier is linked to appropriate infrastructure improvements for that speed range that makes those mobility choices effortless (Figure 11).

Figure 11



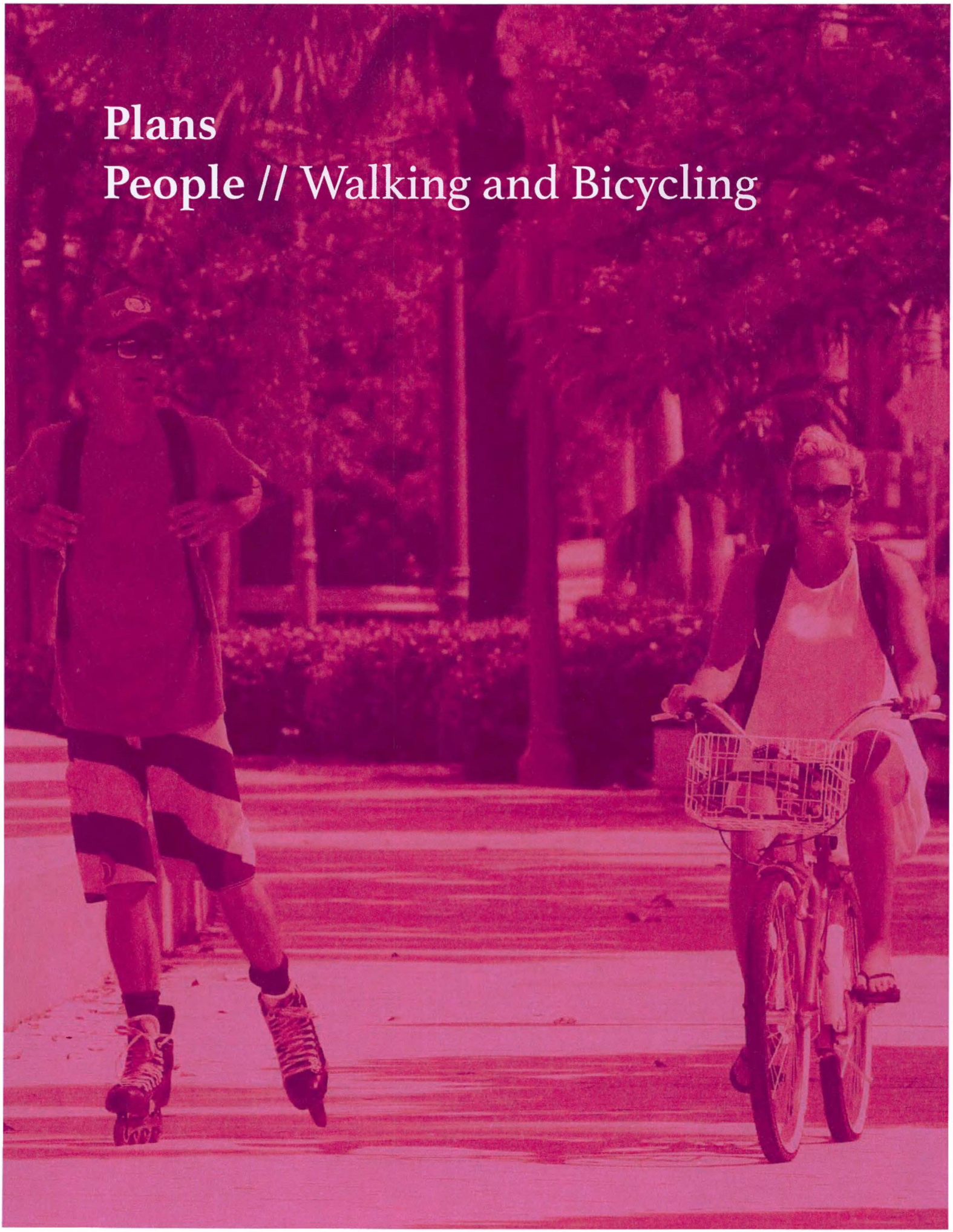
Wayfinding Signage

Beyond construction of a continuous, interconnected network of multimodal improvements, a wayfinding and route signage is an essential component of the multimodal element used to develop the Mobility Plan.

The City has already undertaking development of a wayfinding program around City Hall and the Government Center. The wayfinding and route signage program would be an extension of that effort. The City has the in-house capacity to produce the signs, which will cut down significantly on cost. Figure 12 shows two proposed wayfinding and route signs.

Figure 12

Plans
People // Walking and Bicycling



Trails & Pathways Plan

The City of Palm Beach Gardens has adopted an innovative Parkway System that function as linear parks and provide adequate space to accommodate paths and trails, along with street trees, landscape and streetscape (Figure 13). The Future Land Use Element establishes a special overlay for the Parkway System based on the following:

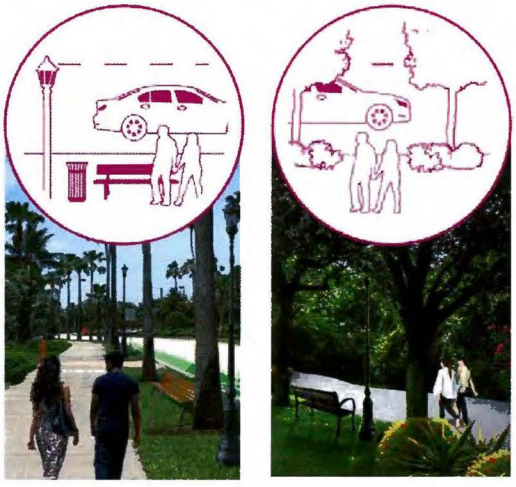
Policy 1.1.2.9.: The intent of Parkway System is to identify and preserve a corridor of between 300 and 400 feet within which the arterial roadway can occur along with bikeways, pedestrian paths, native vegetative greenways, linear parks, and landscaping. The Parkway System cross-section will provide an aesthetically pleasing buffer between highly traveled arterials and surrounding residential areas, as well as a safe byway for alternative modes of transportation. The Parkway System has been designated as an urban component of the Florida Greenway System. It is described in more detail in the Conservation and Transportation Elements.

Figure 13 illustrates the ideal standard for further expansion of the Parkway System and Trail network. Both pictures show twelve-foot (12') trails with canopy trees and landscape. Both Central Boulevard and Donald Ross represent the need for connectivity and continuity as both roads transition between 12' trail and five-foot (5') sidewalks.

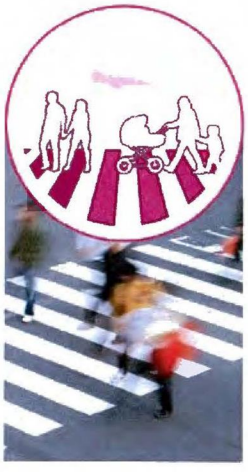
Facility Typology

Expansion of the Parkway System was one of the primary drivers of developing an interconnected and continuous network of eight-foot (8') and ten-foot (10') pathways and twelve-foot (12') trails that provide mobility between Mobility Districts and Multimodal Oriented Developments (MODs) and connectivity to adjacent residential uses (Figure 14). Under the Mobility Plan, sidewalks function like local streets that provide access to and from land uses, pathways function like collector roads that link sidewalks to trails, with trails functioning like arterial roads that provide mobility between Mobility Districts and MODs. By implementing these proposed improvements, more people will be encourage to engage and connect with their City.

MULTIMODAL TRAILS
Wide paved trails create comfortable and safe places for people to walk, bicycle, or use other personal mobility devices to connect with the city.



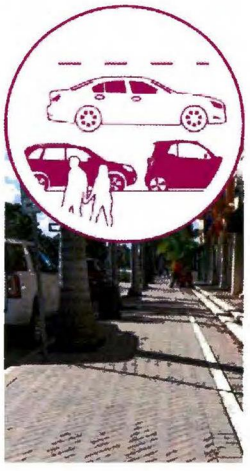
LANDSCAPING AND STREET FURNITURE
Improving the quality of life starts with creating a sense of place where people want to be through providing an inviting and safe experience.



ZEBRA CROSSWALKS
Zebra crosswalks offer greater visibility for pedestrians.

PAVER CROSSWALKS
Pavers are more visually appealing and extend the pedestrian realm.

WAYFINDING SIGNS
Navigation and self-orientation is an integral part of city life for all modes.



ON-STREET PARKING
Parking provides a natural barrier to street traffic and noise.

PGA Blvd Pathway

Shady Lakes Drive Pathway

Figure 14 provides examples of eight-foot (8') pathways. The ideal width for a pathway is ten feet (10') to safely accommodate multiple users of the system such as people walking, bicycling, jogging, rollerblading, or using a Mobility assist device such as a Segway. The eight-foot (8') path represents the minimum size facility for collectors and arterials and is an option where there are right-of-way, utility, or environmental constraints.

The development of trails is an effort being undertaken by communities across Florida to enhance the quality of life in their communities and to promote economic development and eco-tourism. The Florida Legislature has recently made a significant investment in the amount of $25 million dollars a year to fund the development of a statewide system of paved trails, known as the Shared-Use Non-motorized (SUN) Trail Network, as a component of the Florida Greenways and Trails System.

The Mobility Plan would enable the City to pursue matching State Grants to help in development of its trail system. Palm Beach Gardens will also be the first City within Palm Beach County to have an adopted Plan with an extensive network of trails and pathways. To maximize the visibility, safety, and comfort of people walking and biking and to make the most efficient use of scare resources to provide for a continuous and connected network of pathway and trails, improvements were planned primarily on only one side of a road. Focusing on one side of a road also allows for the opportunity to maximize comfort and visual interest by incorporating landscape and streetscape elements such as pavers, benches, trash receptacles, person scale lighting and public art along pathways and trails (Figure 15).

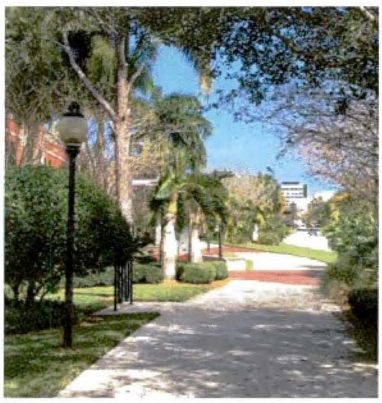
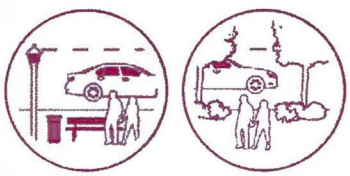


Figure 15 provides examples of the incorporation of streetscape elements such as pavers, benches, bike racks and person scale lighting, along with landscape, understory and canopy trees. The photos are from various locations within Palm Beach Gardens.



One of the major pitfalls faced by communities is trying to ensure symmetry of Complete Streets. The reality is, there are finite resources available and by focusing on both sides of a roadway before developing a complete system, there will be gaps in the network and roads with unsafe conditions. People walking and biking remember the unsafe and uncomfortable gaps in a multimodal network far more than the ideal conditions. Figure 16 illustrates the Walking and Bicycling Plan.

Figure 16

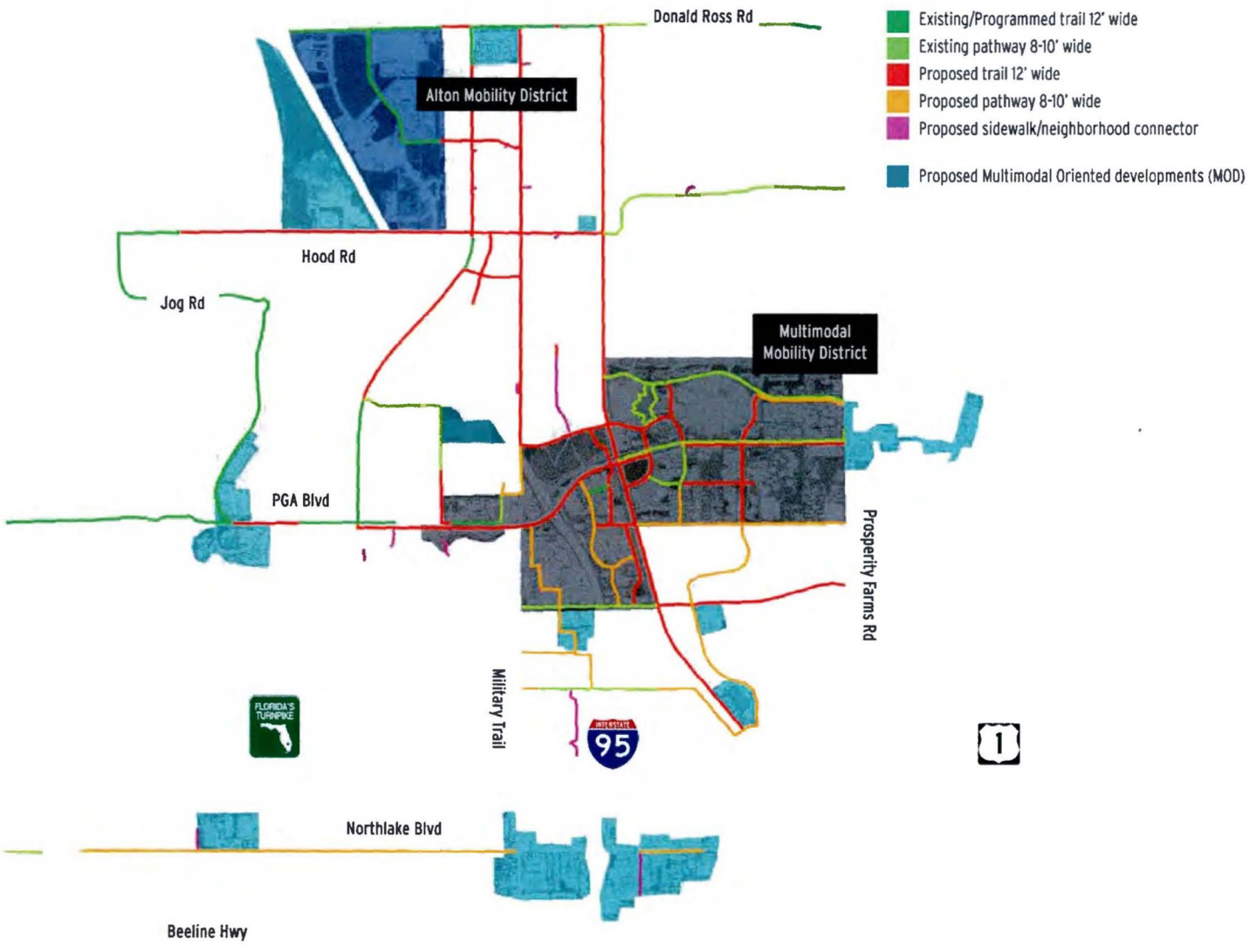
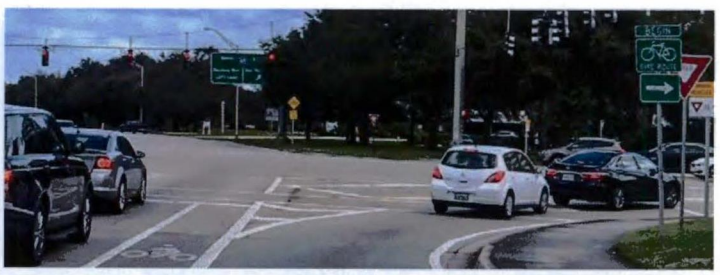


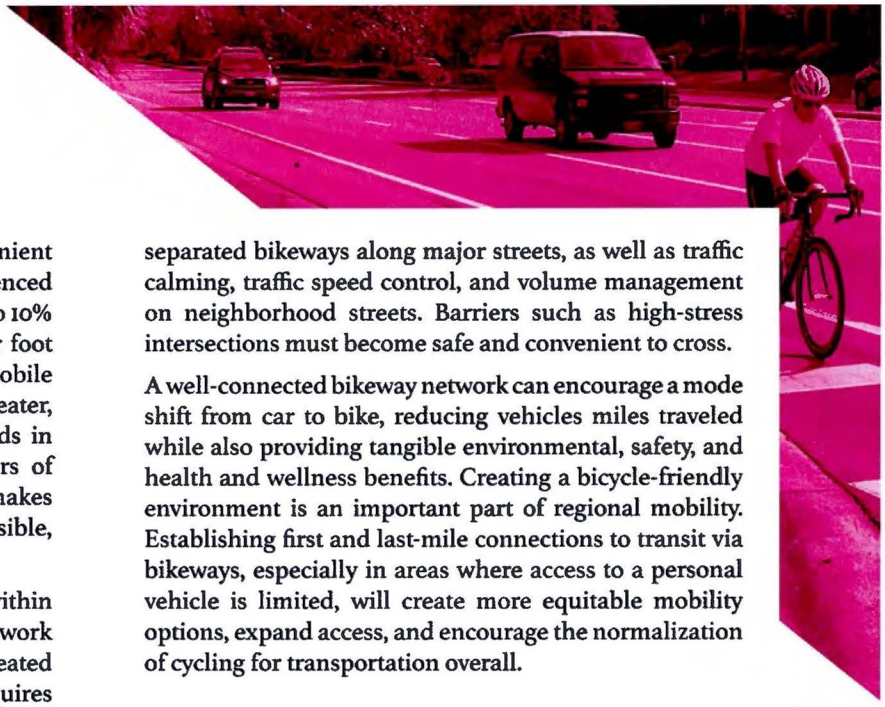
Figure 16 illustrates the proposed multimodal improvements for trails, pathways and sidewalks in the Mobility Plan to encourage and support people walking and bicycling. The detail for each improvement, along with the phasing of the improvement, are provided in Appendix A. A larger version of Figure 16 is provided in Appendix B.


Miami Beach Multimodal Trail
citi bike
citi bike



The major road system in the City of Palm Beach Gardens has an extensive network of on-street paved shoulders, some of which are marked, signed and designated as bicycle lanes. The majority of on-street paved shoulders and bike lanes are located on State and County roads. The City could have one of the best networks of on-street bicycle lanes with some targeted continuity improvements and the incorporation of green bike lane markings. The lack of continuity, otherwise known as an abrupt end of a bike lane, is one of the factors people cite as to why they do not feel safe bicycling on-street (Figure 17).

Figure 17 illustrates what a lack of continuity means in real life with the top photo showing the on-street bike lane markings and signage on eastbound PGA Boulevard just west of Military Trail. The bottom photo shows the disappearance of the on-street bike lane and a share the road sign on a 45MPH road as cars and trucks speed up on PGA Boulevard to merge onto the southbound Interstate 95 ramps to West Palm Beach.



Bicycle Facilities

Bicycling can be a safe, comfortable, and convenient mode of travel. However, all but the most experienced and able-bodied cyclists, who represent maybe 5% to 10% of people on bikes, are comfortable riding on four foot (4') paved shoulders or bike lanes alongside automobile traffic with posted speed limits of 45 MPH or greater, which happens to be most State and County roads in Palm Beach Gardens[1]. Cities with higher numbers of people bicycling have infrastructure in place that makes the experience low-stress, safe, attractive, accessible, convenient, and comfortable.

In order to encourage more bicycling trips within Palm Beach Gardens, gaps in the bikeway network need to be closed and a network needs to be created that is inclusive of all ages and abilities. This requires significant investment that includes the construction of separated bikeways along major streets, as well as traffic calming, traffic speed control, and volume management on neighborhood streets. Barriers such as high-stress intersections must become safe and convenient to cross.

A well-connected bikeway network can encourage a mode shift from car to bike, reducing vehicles miles traveled while also providing tangible environmental, safety, and health and wellness benefits. Creating a bicycle-friendly environment is an important part of regional mobility. Establishing first and last-mile connections to transit via bikeways, especially in areas where access to a personal vehicle is limited, will create more equitable mobility options, expand access, and encourage the normalization of cycling for transportation overall.

1 Roger Geller, Bicycle Coordinator for the City of Portland, Oregon, proposed a typology (2006) that characterized people as one of four types—strong and fearless, enthused and confident, interested but concerned, and no way, no how—with respect to their attitudes toward bicycling. An updated report (2016) supports the study and adds that women were "less likely to be enthusiastic and confident or to be interested but concerned". The study can be found online at https://trrjournalonline.trb.org/doi/pdf/10.3141/2587-11

In order to build a bikeway network that is comfortable, safe, and low-stress, the Mobility Plan **does not include any recommendation to add on-street bike lanes on roads with posted speed limits of 45 MPH or greater**, except on Alternate A1A between Kyoto Gardens Drive and RCA Boulevard adjacent to the future Tri-Rail Coastal Station; this section currently features paved shoulders of varying widths. The Mobility Plan includes a separated, protected bike lane on PGA between Military Trail and I-95 southbound (Figure 18).

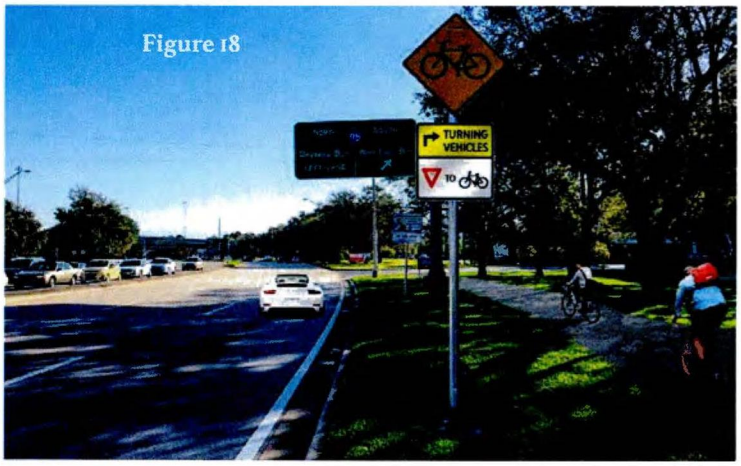


Figure 18

The Mobility Plan does include the addition of four-foot (4') bike lanes on several City collector roads within Downtown (City Center Area) with posted speed limits of 35 MPH or less (Figure 19). The travel lane widths on these City collector roads will be reduced from twelve feet (12') to ten feet (10') to allow for the addition of the four-foot (4') on-street bike lanes with green markings where appropriate.

A detailed description of projects is provided in Appendix A. A larger version of Figure 19 is provided in Appendix B. The Plan is consistent with the Transportation Element that states:

Policy 2.2.1.2.: The City shall continue its efforts to establish city-wide continuity of bikeways, particularly between major sources of and destinations for vehicle trips in the City.

Lessons from the Dutch

The Dutch approach to cycling is more than just technical infrastructure. It is much more pragmatic– it's an organic result of efforts undertaken to traffic-calm streets and create livable neighborhoods. Dutch design accommodates and reflects the broader set of rational (travel time, cost, etc.) and emotional needs (safety, comfort, etc.) while accounting for the unpredictability of human behavior. By incorporating this principle along with infrastructure design, this "systemic" approach, rather than the typical "reactive" approach, has increased safety by innovating for vulnerable road users, such as children and the elderly. It also has made the Dutch approach to infrastructure not as an "end-all" solution, but as a work-in-progress that constantly is being retrofitted, revised, and adapted. That being said, this Mobility Plan takes cues from some of these innovative Dutch lessons.

... a Dutch traffic jam

"A city built for children is a city built for everyone."

Above all else, the Dutch approach to their mobility network design facilitates and increases the values of social interaction – the subtle gestures and eye contact that you just don't experience in a car but you space environment, whether through biking, walking, or taking transit. The social value of these interactions increases both individual happiness and societal happiness through active engagement with the city, creating the "happy city". Social value, together with safer infrastructure and livable streets, creates everyday freedoms for children so they can have opportunities to thrive and develop their independence. Therefore, cities that are successfully built to improve the quality of life for children benefit not just the young, but all ages and abilities.

Putting People First

Just as for children, the accessibility to safe and convenient mobility for the elderly becomes especially increasingly important for their quality of life, independence, and participation in their community as they age. The flexibility for experimentation and adaptation allows for the redesign necessary to meet the needs of people of all ages and abilities and connect them to their destinations.

This emphasis on social capital and cohesion means that Dutch designs put people first. Some pilot projects, like on the Alexanderplein intersection in Amsterdam (left photo), have even done away with traffic signals altogether in order to reduce travel delay without affecting safety. This is because the interaction increased alertness and awareness and worked to self-regulate as people's behavior adapted to negotiate the intersection. This "negotiation in motion" makes journeys faster and interactions more pleasant.

Livable Streets

Creating walkable, bikeable, and livable cities begins with designing the streets to work for people. Streets are more than just transportation arteries – they are places of commerce and activity and they are extensions of our homes in the public space where people can engage with their neighborhood. Throughout the Netherlands there has been a focus on traffic-calming and unchoking streets from cars to increase the quality of life, which had the added benefit of organically developing and encouraging the bicycle as the most convenient way to get around. The rise in the number of bicycles has led to further shared space solutions on low-speed streets.

The *fietsstraat,* or "bicycle street", is a traffic-calmed street, 30km or slower, where the "car is the guest", or *auto te gast*. Bicycles have the prioritized right-of-way and all other traffic must move to their pace. Defined by the red asphalt/paver color of Dutch bike lanes, the travel lanes are constricted with a mountable median that slows the traffic wishing to pass. Variants can have on-street parking and accommodate other modes. Overall, they're intended to give bicycles more room while still providing vehicles slower access.

Another innovation is the living street, known by the Dutch name as a "*woonerf*". A woonerf is an urban planning strategy that transforms a residential street into a shared space without traditional division that prioritizes people walking and biking. The constrained style, with winding curves and obstacles, is meant to make a driver feel uncomfortable and therefore drive at a walking pace, which reduces the traffic volume on the street.

This intersection illustrates a redesign with a new right turn lane for bicycle traffic.

A car cleared the cycletrack and waits patiently to merge into the roundabout.

Bicycle traffic negotiates the large intersection with minimal conflict between users.

Intersections

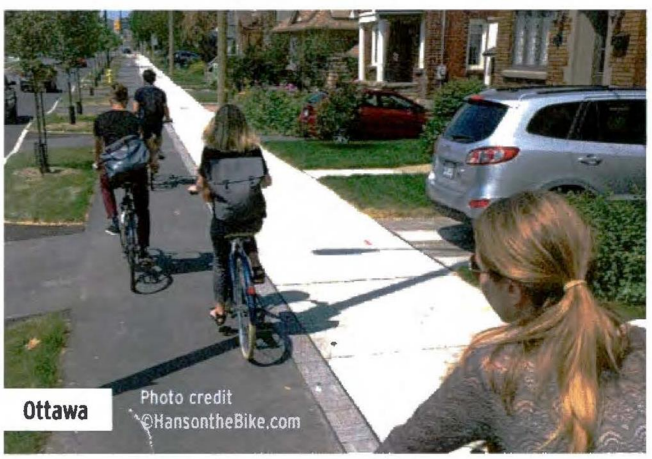
Intersections are an absolutely critical component of network connectivity. Designing intersections that are inclusive of all modes makes them comfortable, safe, and intuitive to navigate and negotiate. The "protected" intersection organically developed from connecting the separated bikeway network. Bicycle traffic signals control movements at larger intersections, while smaller ones may be left unsignalized. The most common feature is the small, rounded corner island that provides queuing room for both bicycles waiting to cross and vehicles waiting to turn, allowing them to both clear their travel lanes. These queuing areas also work to increase visibility and interaction between road users, thus increasing safety and comfort for all. The same principles apply to intersections joining both one-way and two-way cycletracks, as well as protected roundabouts where the modes are not mixed.

Driveways

Just like intersection connections, driveways are a concerning conflict area that may hinder safe accessibility. A feature of Dutch cycletracks is the raised driveway. When the cycletrack is elevated at sidewalk level, turning vehicles must slow for the driveway which increases the visibility of both bicycles and pedestrians. The configuration of the driveway in this manner has been successful not just in the Netherlands, but also in North American cities where it has been implemented, such as shown below by the Seattle and Ottawa photos. Just as with the protected intersection, the driveway also gives the car driver room to wait clear of the cycletrack. The Ottawa photo additionally shows that residential driveways on busy streets need not be a barrier to bicycle facilities.

Amsterdam

Seattle



Ottawa

Photo credit
©HansontheBike.com

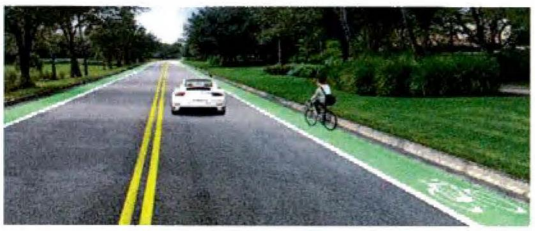
Construction Zones

Providing safe network connectivity in construction zones as part of the Maintenance of Traffic (MOT) plan is critical as well to accessibility.

Bicycling Plan

The **Bicycling Plan** provides the necessary connectivity between Palm Beach State College (PBSC), and surrounding Mobility Districts and MODs. The Plan also provides for bicycle connectivity between PBSC and Florida Atlantic University and the Scripps Research Institute in Abacoa consistent with the Transportation Element (Figure 19) that states:

Policy 2.2.8.4.: The City shall coordinate with the Town of Jupiter in an effort to identify appropriate bike trail linkages between the PBSC campus in Palm Beach Gardens and the Florida Atlantic University campus and The Scripps Research Institute in the Abacoa development in the Town of Jupiter. The bike trail linkages shall be assessed during development of a Mobility Plan or through the development of Complete Streets policies to be developed in accordance with Policy 2.2.1.4.



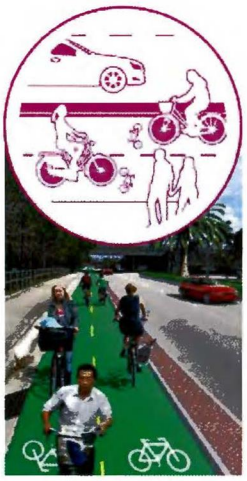
The **Bicycling Plan** does include the addition of green bike lane pavement markings and on-street bicycle lane markings and signage for Jog Road between PGA Boulevard and Hood Road. There are paved shoulders on Jog Road, except that the markings are no longer visible on large portions of the road. This road is critical for people on bikes as it represents the only continuous road west of the Turnpike that provides access to Mobility Hubs east of I-95.

Figure 19

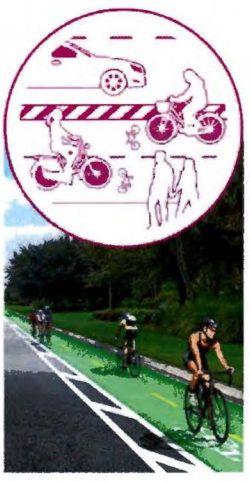
- Existing/Programmed on-street bike lanes min. 4' wide
- Existing paved shoulder min. 4' wide
- Proposed on-street bike lane min. 4' wide
- Proposed 10' two-way cycletrack
- Proposed bike boulevard (signing & markings)
- Critical gap - needs FDOT/County Funding
- Proposed Multimodal Oriented Development (MOD)

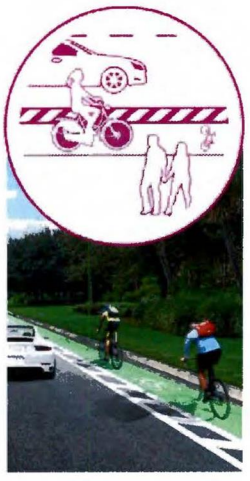
Facility Typology

A range of bikeway types exist that provide dedicated space for bicyclists to travel. Providing more separation between bicyclists and motor vehicles is necessary to maintain comfort levels, especially as speeds and volumes increase.

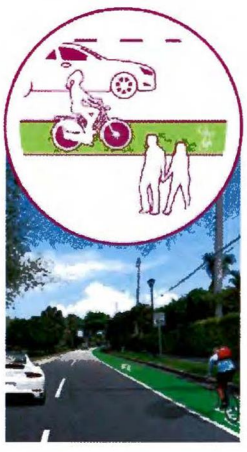


PROTECTED BIKE LANES (CYCLETRACKS)
Also known as 'cycle tracks', these two-way or one-way facilities provide the greatest safety and comfort for all ages and abilities with physical separation.





BUFFERED BIKE LANES
Both two-way and one-way bike lanes are visually separated from traffic with extra roadway delineation called a 'buffer'.



GREEN BIKE LANES
Green paint increases the visibility of bike lanes on the roadway.

STANDARD BIKE LANES
Bike lanes provide marked space on the roadway for cycling.

CONFLICT ZONES
Green paint across turn lanes, merge zones, and intersections highlight potential conflict areas to increase cyclist visibility.

SHARROWS
Sharrows on very low-speed roads indicate a shared-space for both drivers and bicycles.

Green Bike Lane Markings

Green bike lanes are a treatment local governments are starting to utilize to increase the visibility of people on bikes. Green bike lanes help to provide continuity of bike lanes, especially when provided through intersections, and enhance visibility of both people on bikes and the bike lanes themselves at driveways, where vehicles cross over bike lanes such as when moving from a through lane to a right turn lane, and at the approach to intersections (Figure 20).

Figure 20 illustrates green bike lane markings in the left photo from Delray Beach that indicate to people driving that people are bicycling. The right photo from West Palm Beach illustrates green bike lane markings across intersections that delineate conflict zones and make bicycles crossing the street more visible to cars.

Buffered Bike Lanes

The Florida Department of Transportation (FDOT) is beginning to migrate towards providing seven foot (7') buffered bike lanes on State Roads where right-of-way permits (Figure 21). Palm Beach County has not yet stated whether they would follow FDOT's lead on providing buffered bike lanes versus regular four-foot (4') bike lanes. Both Palm Beach County and FDOT were approached regarding narrowing the travel lane widths on Military Trail (County Road) and PGA Boulevard (State Road) to provide buffered bike lanes and add green bike lanes markings at appropriate locations and to include both projects in the Mobility Plan – both declined to support reducing travel lane width to add them. The Mobility Plan does recommend that the County and FDOT consider adding green bike lane markings to both roads concurrent with resurfacing the roads (Appendix A).

Figure 21 illustrates a ten-foot (10') wide buffered bike lane with green bike lane markings on Platt Street (left photo) and a seven-foot (7') wide buffered bike lane on Cleveland Street. The typical design for a standard buffered bike lane is a three-foot (3') buffer with chevron markings and a four-foot (4') marked bike lane.

Protected Bike Lanes

The Mobility Plan also includes the first protected bicycle lanes in Palm Beach Gardens. Protected bicycle lanes, also known as "*cycletracks*", are the ideal on-street bicycle facility because they provide the highest level of safety for people on bikes (Figure 22). The Burns Road facility provides connectivity between the bicycle and pedestrian facilitates around the future Tri-Rail Coastal Station to the City Government Center. The protected bike lanes on Campus Drive will connect to future protected bike lanes planned around the Gardens Mall concurrent with Tri-Rail Coastal service (Appendix A).

Figure 22 illustrates a ten-foot (10') wide two-way protected bike lane on Cass Street in Downtown Tampa (left photo). The bicycle lanes are each four feet (4') in width and the raised median is two feet (2') in width. The protected bike lane in Downtown St. Petersburg on 1st Avenue South was the first such facility constructed in Florida and is part of the Pinellas Trail. The two-way protected bike lane is fourteen feet (14') in width with five-foot (5') bike lanes in each direction, a raised four-foot (4') median and then an additional ten feet (10') for on-street parking that serves as a buffer between traffic and people biking and walking. Additional North American examples are shown below:

From left to right: Washington DC, Montreal, New York City, & Seattle

Bicycle Boulevards

There are several roads in Palm Beach Gardens that are proposed to be designated as Bicycle Boulevards due to the limited right-of-way width. Bicycle Boulevards play an important role is providing connectivity and continuity between bike lanes and Mobility Hubs. They are marked with sharrows, ideally ones in a visible green box, and include signage and are located on roads with posted speed limits of 25 MPH or slower (Figure 23). There are several Bicycle Boulevards proposed near the Tri-Rail Coastal Station within Downtown and another that connects the Alton Mobility District with the on-street bike lanes on Military Trail and the trails on Central Boulevard and Military Trail. A continuous network Mobility Plan also includes the first protected bicycle lanes in Palm Beach Gardens.

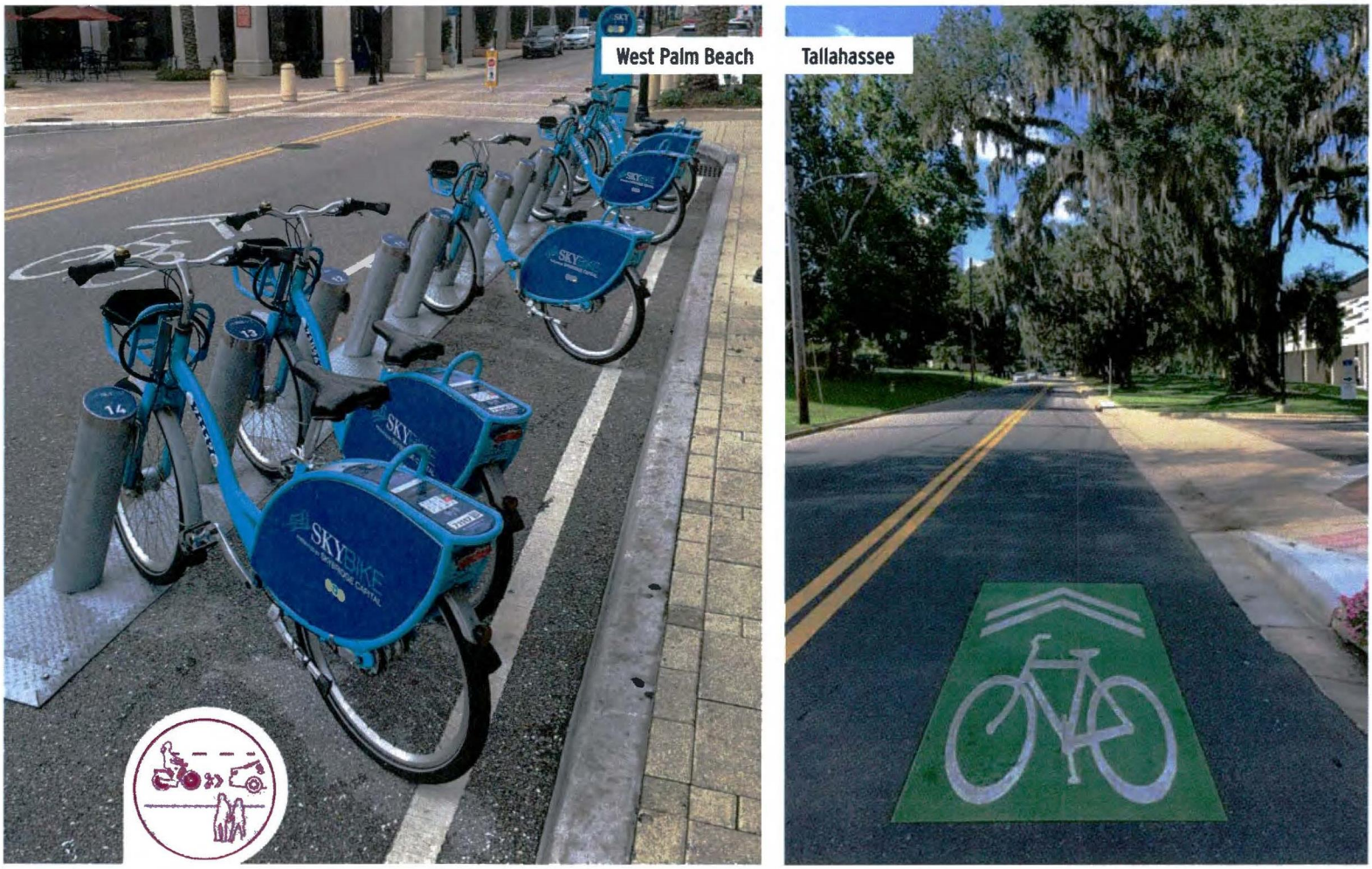
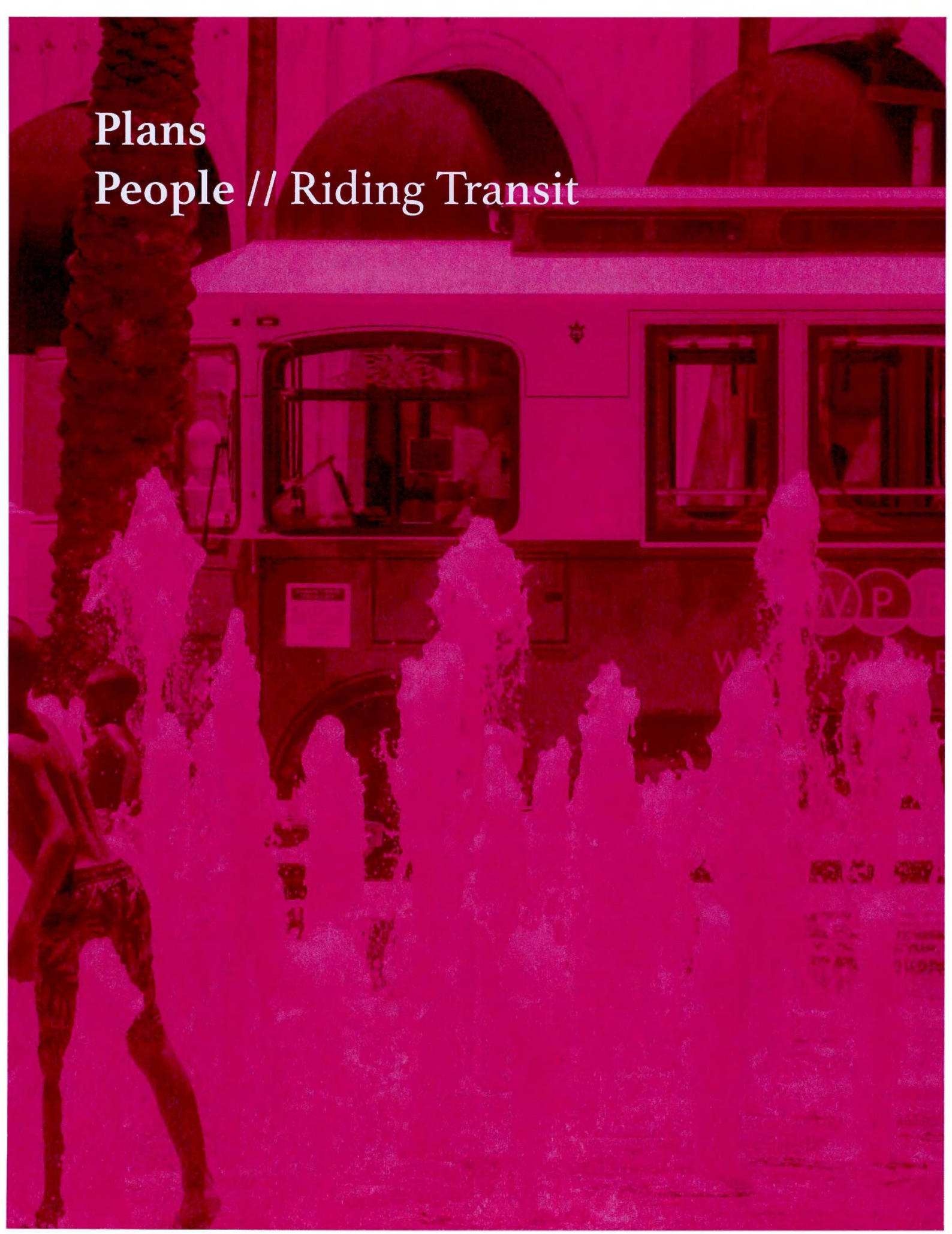


Figure 23 illustrates examples of Bicycle Boulevards. The sharrow within a green box on MLK Drive in Downtown Tallahassee is accompanied with signage and a 25 MPH Speed Limit (right photo). The photo on the left illustrates a sharrow on Rosemary Drive in Downtown West Palm Beach, which features signage that indicates bicycles may use the full lane and features 20 MPH speed limits along with several bicycle share stations.



Plans
People // Riding Transit

Transit Circulator Plan

The future Tri-Rail Coastal service will connect Palm Beach Gardens with cities through-out Palm Beach, Broward, and Miami-Dade Counties and will provide a viable alternative to driving on Interstate 95 and Florida's Turnpike. The People Walking and Bicycling Plans provide connectivity and accessibility between Tri-Rail Coastal, Mobility Districts, and future MODs. The Transit Circulator Plan will initially connect destinations within the Multimodal Mobility District (MMD) to the Tri-Rail Coastal Station to help address last mile accessibility to the future train service. In the future, there maybe options to provide additional circulators to the Alton Mobility District, MODs, and neighborhoods outside of MMDs consistent with the Transportation Element that states:

Policy 2.2.7.5.: The City shall encourage the development of a people moving system (such as a trolley or any combination of similar systems) to provide connections within the City Center area and connection to the surrounding residential community.

There are two proposed transit circulators that would start concurrent with Tri-Rail Coastal Service (Figure 24). The first transit circulator, referred to as Transit Circulator East, would leave the Tri-Rail Station and head north on RCA Center Drive and circulate around the Gardens Mall headed towards Palm Beach State College (PBSC). From PBSC, the circulator would head west on Fairchild Avenue where it would go through Legacy Place towards Alternate A1A and back to the Tri-Rail Coastal Station.

The second transit circulator, referred to as Transit Circulator West would leave the Tri-Rail Station and head north on RCA Center Drive and head west on Kyoto Gardens Drive towards Military Trail where it would head south to Garden Lakes Drive towards Midtown. The transit circulator would head through Midtown towards Shady Lakes Drive where it turns south towards PGA Boulevard and heads back east stopping at PGA Commons. From PGA Commons, the circulator would head east turning at the Embassy Suites where it would head south past City Hall and the Government Center to Burns Road. The circulator would pass Weiss School heading east on Burns and turn north on Riverside Drive and proceed to take Northcorp Parkway and RCA

Boulevard back to the Tri-Rail Coastal Station. A detailed description of projects is provided in Appendix A. A larger version of Figure 24 is provided in Appendix B.

Depending upon the timing of Tri-Rail Coastal service and the success of the initial transit circulators, there are opportunities to provide additional transit circulator routes. The Transit Circulator North route would connect Tri-Rail Coastal with the Alton Mobility District and Donald Ross Village MOD and a number of residential neighborhoods along Military Trail, Central Boulevard, Hood Road and Alternate A1A. The Transit Circulator South route would connect Tri-Rail Coastal with businesses and neighborhoods along Riverside Drive and then cross Alternate A1A at Lighthouse Drive where it would connect to the Promenade Shopping Plaza and then head north towards Palm Beach Gardens Medical Center and then onto Palm Beach State College where it would meet with Transit Circulator East. Unlike the other routes, the Transit Circulator South would then run back along the same route towards the Tri-Rail Coastal Station. The transit circulators would initially be rubber tire trolleys similar to the examples shown in Figure 25.

Rubber tire trolleys are an affordable option at roughly $150,000 each, versus $350,000 to $500,000 for a 40 to 60-passenger bus. There are companies that will make vintage-looking rubber tire trolleys and or ones that are designed with a specialized look unique to the community they serve. Like traditional buses, the ongoing operations, maintenance, insurance, and fueling cost are the expensive components of operating a circulator system. Most local governments will bid the operations and maintenance of a transit circulator system to a third-party operator.

Autonomous transit vehicles are a rapidly emerging technology that addresses the biggest cost of a transit circulation system, the operations and maintenance (Figure 26). The autonomous transit vehicles (ATV) are electric and run without a driver. Most ATV systems are required to run on fixed, dedicated routes and not in mixed traffic. However, several pilot projects are underway in Las Vegas and Gainesville, FL to run ATVs in mixed traffic.

With Tri-Rail Coastal still several years away from becoming a reality, the City has the luxury to wait for other local governments to test out the new technologies.

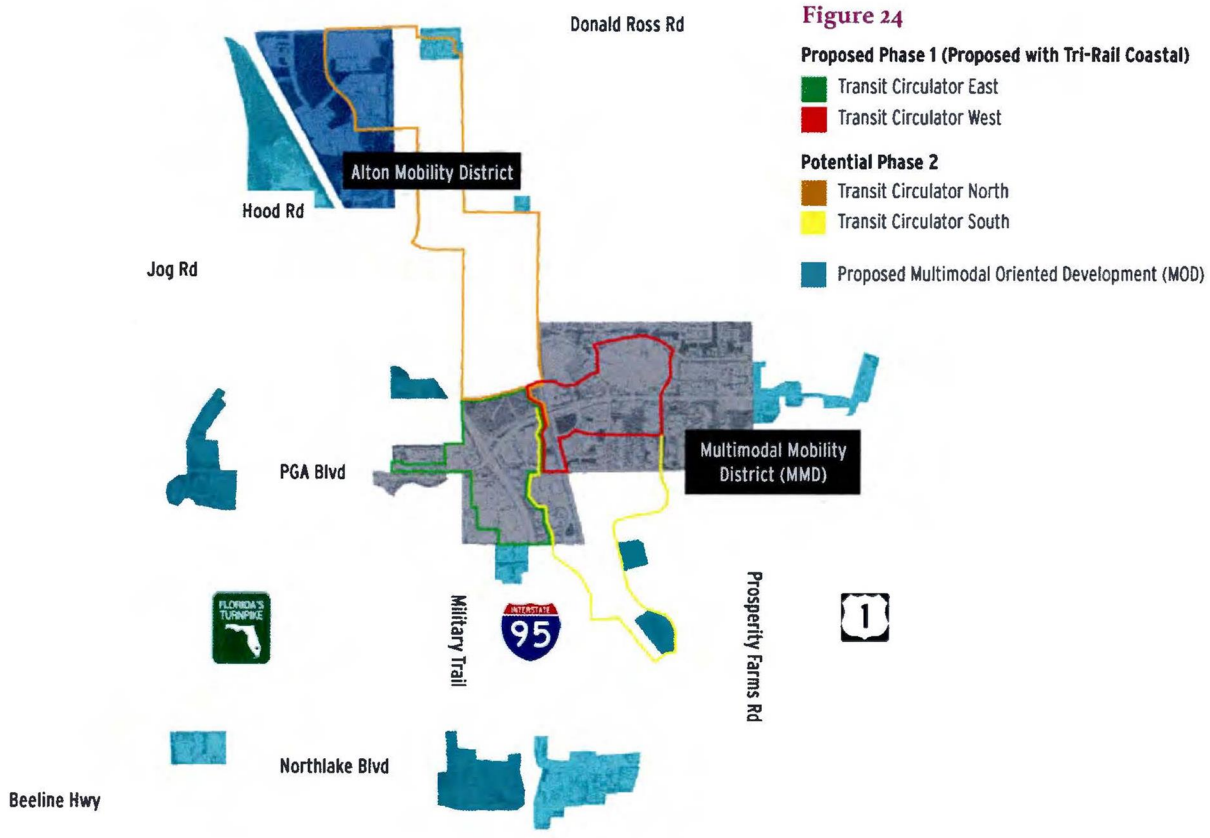


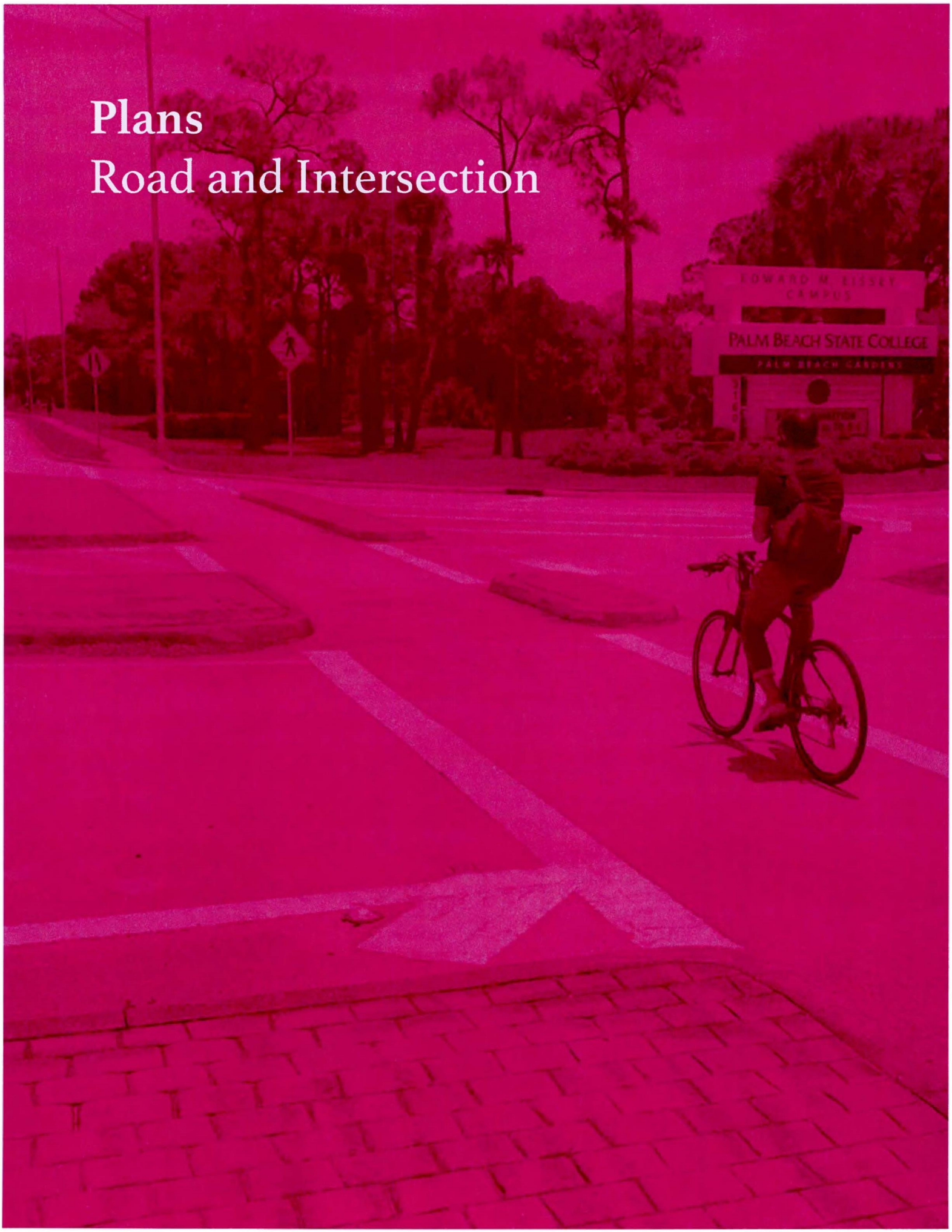
Figure 24

Figure 25 Transit (Trolley) Circulators

The ATVs are more expensive than rubber tire trolley vehicles at a cost of $150,000 to $200,000 per vehicle. They are also available to lease at roughly $12,500 per month. The real savings with ATVs is in operations and maintenance. The City could elect to move forward with a rubber trolley transit circulator system if it elected to do so. The recommendation included in the Mobility Plan is to wait on a transit circulator until a more definitive time frame for Tri-Rail Coastal is established. In the interim, developing Mobility Districts and MODs and building a multimodal network of trails, pathways and bicycle lanes will establish a solid multimodal and transportation supportive land use and transportation system to successful integrate a transit circulator system into the overall multimodal transportation network.

Figure 26 Transit (Trolley) Circulators

Plans
Road and Intersection



The 2040 Long Range Transportation Plan does not identify any new roads or the widening of existing arterial and collector roads east of the Florida Turnpike between 2020 and 2040 east. In large part, this is due to the fact that all roadways that could reasonably be widened already have been. The extension of Congress Avenue from Northlake Boulevard to Alternate A1A is funded and under design. The widening of Hood Road from just west of Central Boulevard to the Florida Turnpike is fully funded.

The Road and Intersection Plan does include the North County Government Center Road (Figure 27). East of the Florida Turnpike, there are two proposed road projects including the widening of Hood Road from the Turnpike to Jog Road and PGA Boulevard from Ryder Cup to the BeeLine Highway that maybe needed at a future date. There is limited development potential on Hood Road west of the Florida Turnpike that would necessitate the need to widen the road. PGA Boulevard has environmental constraints that would make widening difficult. West of the C-18 canal, there are plans to widen Northlake Boulevard from the Beeline Highway to east of Seminole Pratt Whitney Road and the Beeline Highway. The widening of Beeline Highway would be a State project intended to serve regional travel. Northlake Boulevard is being widened by the County and the Avenir Development.

The improvements to Interstate 95 and the Florida Turnpike are not referenced in the Mobility Plan, except for recognizing the proposed I-95 Interchange Improvements in the LRTP. Travel and improvements on Interstate 95 and the Florida Turnpike, both of which are limited access facilities, are excluded from Mobility Fee calculations as the facilities are largely funded through the Federal Transportation Trust Fund or financed with toll revenues.

The Road and Intersection Plan also includes a number of intersections that have been identified as needing safety and operational improvements, signal upgrades, and will need enhanced crosswalks and traffic control devices as

Figure 27

- Programmed Road Improvements
- Proposed Road Improvements
- Proposed Speed Limit Study
- Proposed "living street" after multimodal improvement
- Proposed Multimodal Oriented Development (MOD)
- Proposed Intersection Improvements
- Proposed Crosswalk Improvements

part of multimodal improvements. Raised refuge islands to enhance visibility and reduced crossing distances will also be evaluated as part of multimodal improvements. The following is an example of the types of multimodal safety improvements that can be incorporated in Palm Beach Gardens at intersections such as PGA Boulevard and Military Trail (Figure 28).

The Plan also identifies intersections that will need safety and operational improvements, enhanced crosswalks, and the addition of capacity through additional turn lanes. The final improvements needed at each intersection will be determined through annual Capital Improvement Programming of both intersections and multimodal improvements. A detailed description of projects is provided in Appendix A. A larger version is provided in Appendix B.

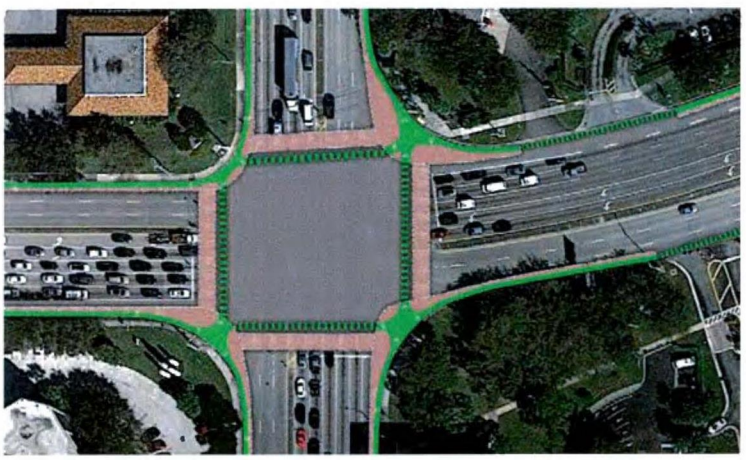


Figure 28 is an example of a proposed protected intersection treatment to improve PGA Boulevard and Military Trail.

Figure 29 illustrates Rosemary Avenue in Downtown West Palm Beach, which is another example of a street with flush sidewalks, parking and travel lanes. These types of streets are a creative way to accommodate multiple users of the transportation system.

Woonerf / Living Street

The Road and Intersection Plan includes designs *based on* the Dutch *woonerf*, or "living street", which gives priority to people walking and bicycling while still allowing slowed vehicular access. Unlike Complete Streets, which accommodate multiple modes of travel in separate defined spaces such as sidewalks or bike lanes, this design provides a uniform surface that allows people to walk and bike wherever they so choose. The traffic-calming effect forces cars to go no faster than 5-15 MPH. This design is proposed as an alternative multimodal route to Military Trail between PGA Boulevard and Burns Road. It also accommodates a portion of the Transit Circulator West route, a pathway for walking and bicycling, and a bicycle boulevard. These types of designs, based on the "living streets" concept, are common in Europe and are slowly starting to make there way into the U.S. (Figure 29 & 30).

Figure 30 The above photo is in St. Augustine, where the living streets design was used to help address flooding issues and also to provide adequate space for people to walk and bike without having to step off narrow sidewalks and high granite curbs. The travel lane and sidewalks are flush, allowing for ease of movement.

Vision Zero

Vision Zero is a multi-part strategy to eliminate multimodal fatalities and severe injuries through redesign of roads, intersections and multimodal facilities, increased safety measures such as lighting, raised median islands, flashing beacons, high visibility midblock crossings, reducing crossing distances, and traffic control devices, lowering of posted speed limits and enforcement of traffic laws and speed limits. The number one most effective Vision Zero measure is to reduce the width of vehicle travel lanes per the following standards:

Arterial and Collector Roads:

- *Current standard is 12'*
- *Vision Zero standard is 10'*

Local Roads & Residential Streets:

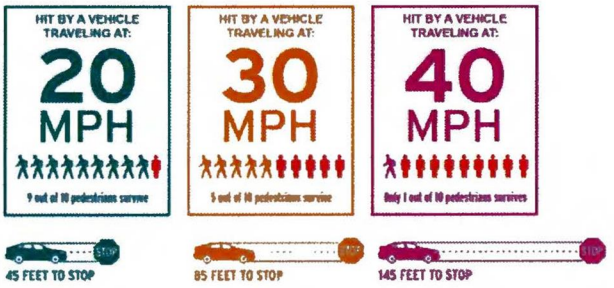
- *Current standard is 24' roads (12' travel lanes)*
- *Vision Zero standard is 16' (8' travel lanes) to 18' (9' travel lanes)*

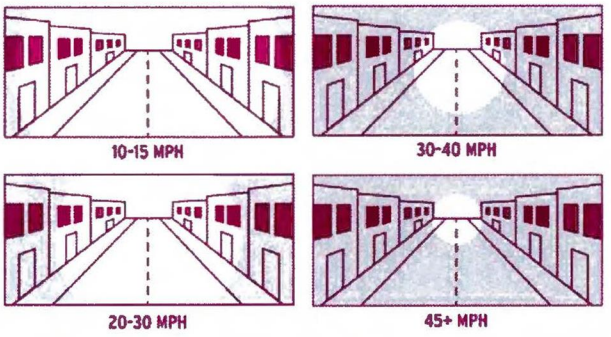
The second most effective Vision Zero measure is to add physical vertical deflection measures such as: raised intersections, roundabouts, chicanes, raised medians, curb bulb-outs and extensions, traffic circles, protected bike lanes and on-street parking. The addition of street trees in close proximity to travel lanes, ideally within raised medians and curb bulb-outs and extensions, has also been shown to have a significant traffic calming effect.

The third most effective measure, which only really works if one of the first two Vision Zero measures has been implemented (ideally both narrow lanes and vertical deflection measures are used), is to reduce posted speed limits. Studies have shown that as the speed of cars

Figure 32

Figure 31

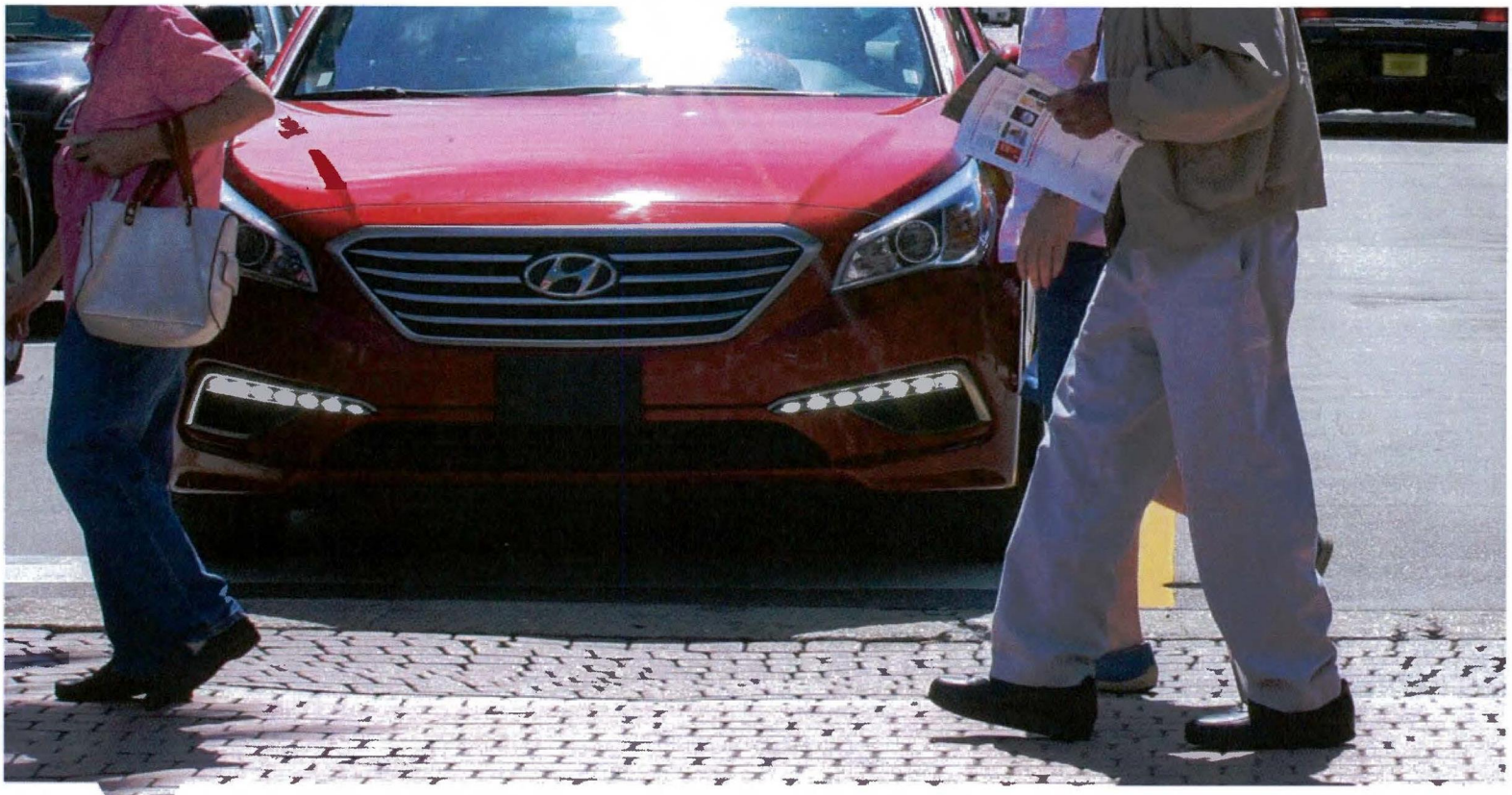




increases, the chances of a person surviving a crash greatly decrease. Further, the brake-to-stop distances greatly increases and the field of vision decreases as the speed of cars increases (Figure 31). Reducing speed limits, to those shown in Figure 32, is one of the most cost effective ways for the City to increase safety and visibility for people walking and bicycling and to implement Vision Zero.

The Road and Intersection Plan includes several roadways (Figure 27) where the posted speed limits are proposed to be re-evaluated following the reduction in travel lane widths on the roads from 12' to 10' and the addition of either protected bicycle lanes or green bicycle lanes. There are several corridors that are also proposed to be designated as Bicycle Boulevards. Bicycle Boulevards generally have posted speed limits of 15 MPH or 20 MPH and include bicycle may use full lane signs and sharrows within green boxes. It is recommended that the City add Land Development Regulations implementing Vision Zero features and that the City consider adoption of a Vision Zero Action Plan.

Proposed Improvements



People Walking & Bicycling Improvements

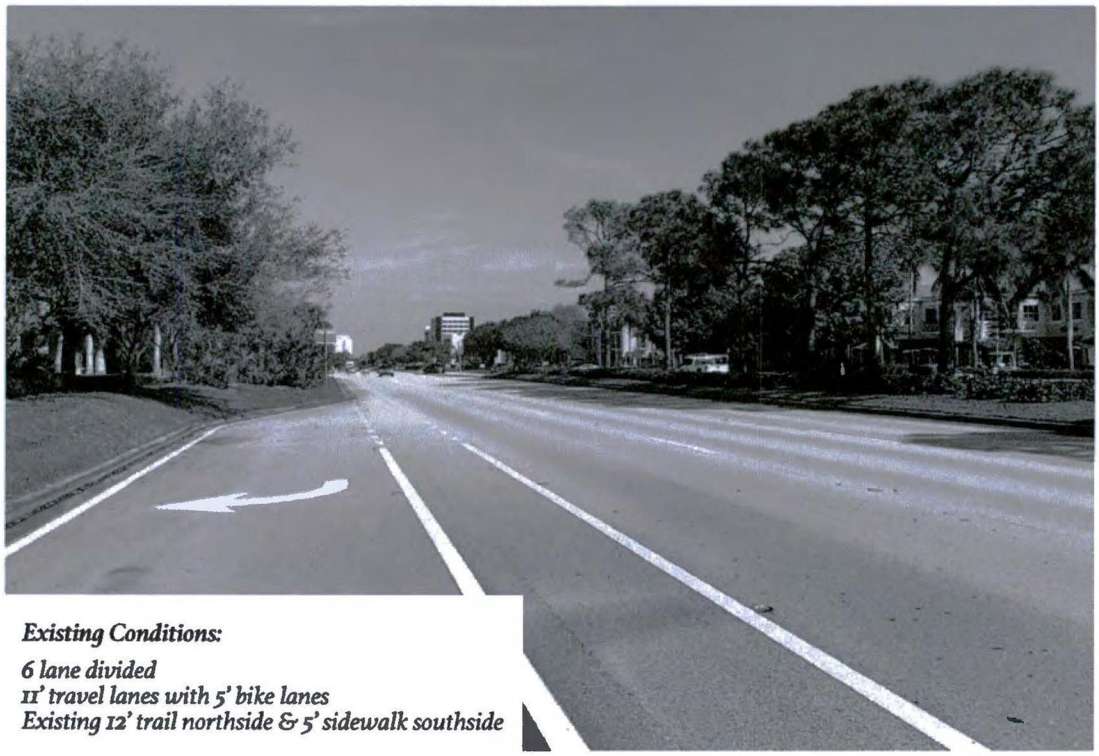
The re-imagining of existing road rights-of-way from corridors principally focused on moving cars to multimodal corridors designed to provide people with safe, convenient, and enjoyable options to walk, bike, ride transit, or drive furthers the Vision of Palm Beach Gardens Parkways System. The re-purposing of existing travel lanes and right-of-way for multimodal improvements is a cost-effective way to create a friendlier and safer environment for people walking and biking and further enhance the quality of life and the community aesthetic for Palm Beach Gardens residents, businesses, and visitors.

The Mobility Plan's list of improvements provides details regarding the types of multimodal improvements proposed and the phasing of those improvements (Appendix A). In addition to the list of improvements and the Plan maps developed, representative graphic examples have been prepared to illustrate the types of proposed multimodal improvements on corridors throughout the City. On the first page of the representative graphics, there is a photo and an aerial view of the existing road sections, along with a rendered photo and proposed condition aerial for the road. On the second page of the representative graphics, an illustration of the existing road cross-sections is provided on the top and the proposed road cross-section is provided on the bottom. For several corridors, both on-street bicycle improvements, as well as pathways or trails, along with streetscape and landscape, are proposed.

All photos and illustrations are representative of the right-of-way for each corridor. Land use patterns, property ownership, utilities, and buildings will vary along each corridor and the final design of any multimodal improvement will be required to consider existing conditions along each road. The illustrations represent proposed recommendations, not final design, and are subject to change. The recommended improvements are also subject to available financial resources and for roads that are not maintained by the City, subject to approval by the entity, such as FDOT or Palm Beach County, that maintains the roads. The following are representative graphics and illustrations for sixteen (16) of the proposed multimodal improvements.

PGA Boulevard *West of Military Trail*

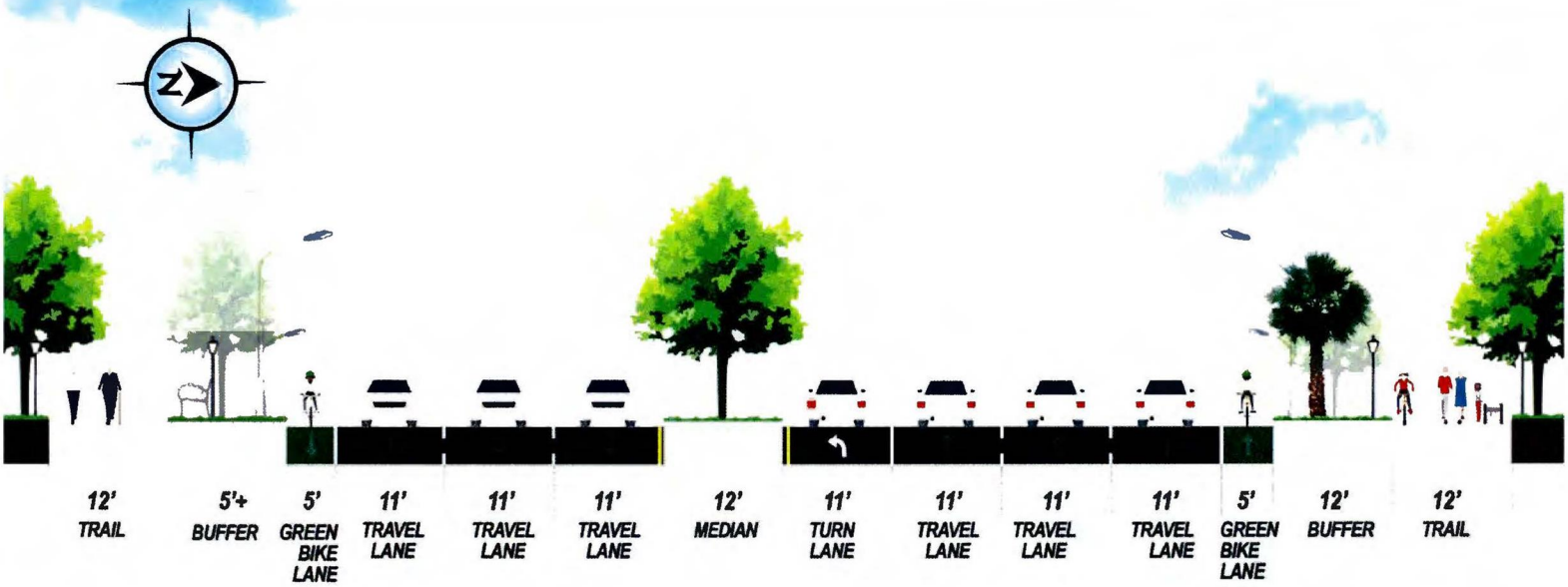
6 lane divided
11' travel lanes with 5' green bike lanes
12' trail northside and southside



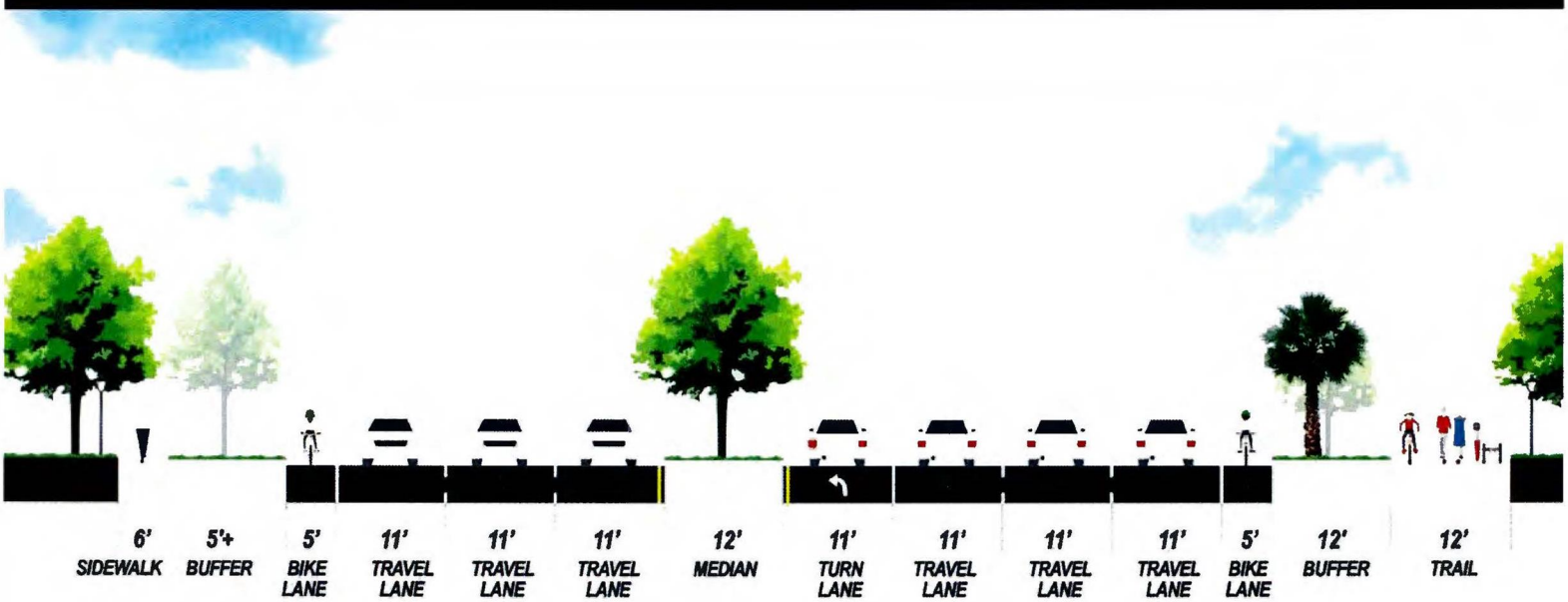
Existing Conditions:

6 lane divided
11' travel lanes with 5' bike lanes
Existing 12' trail northside & 5' sidewalk southside

Proposed

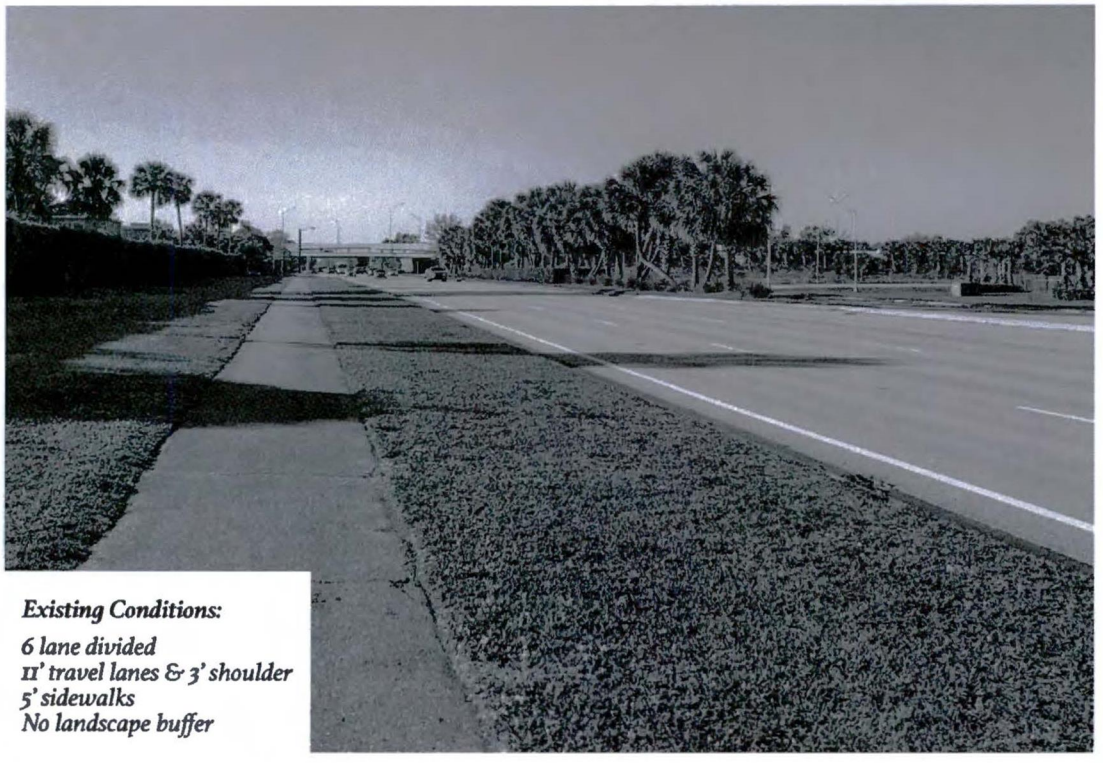


Existing



Military Trail *North of Kyoto Gardens*

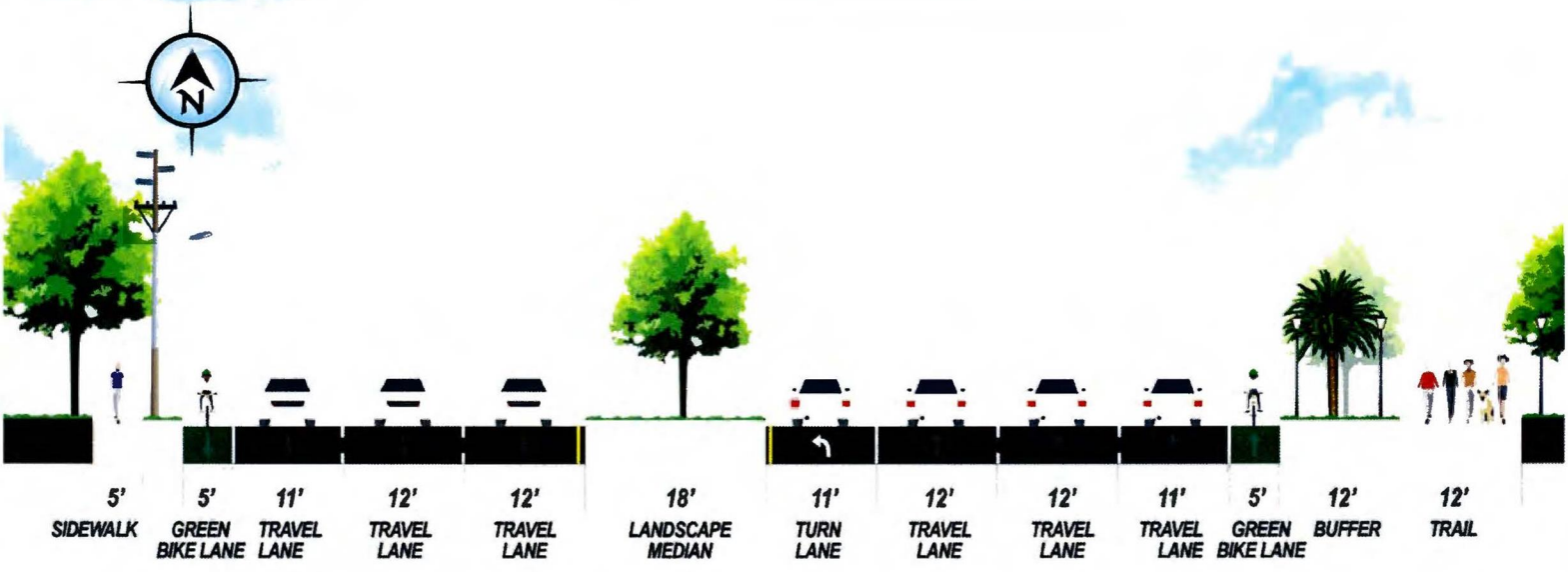
6 lane divided
11-12' travel lanes with 5' green bike lanes
12' wide trail eastside (5' sidewalk westside)
Landscape buffer



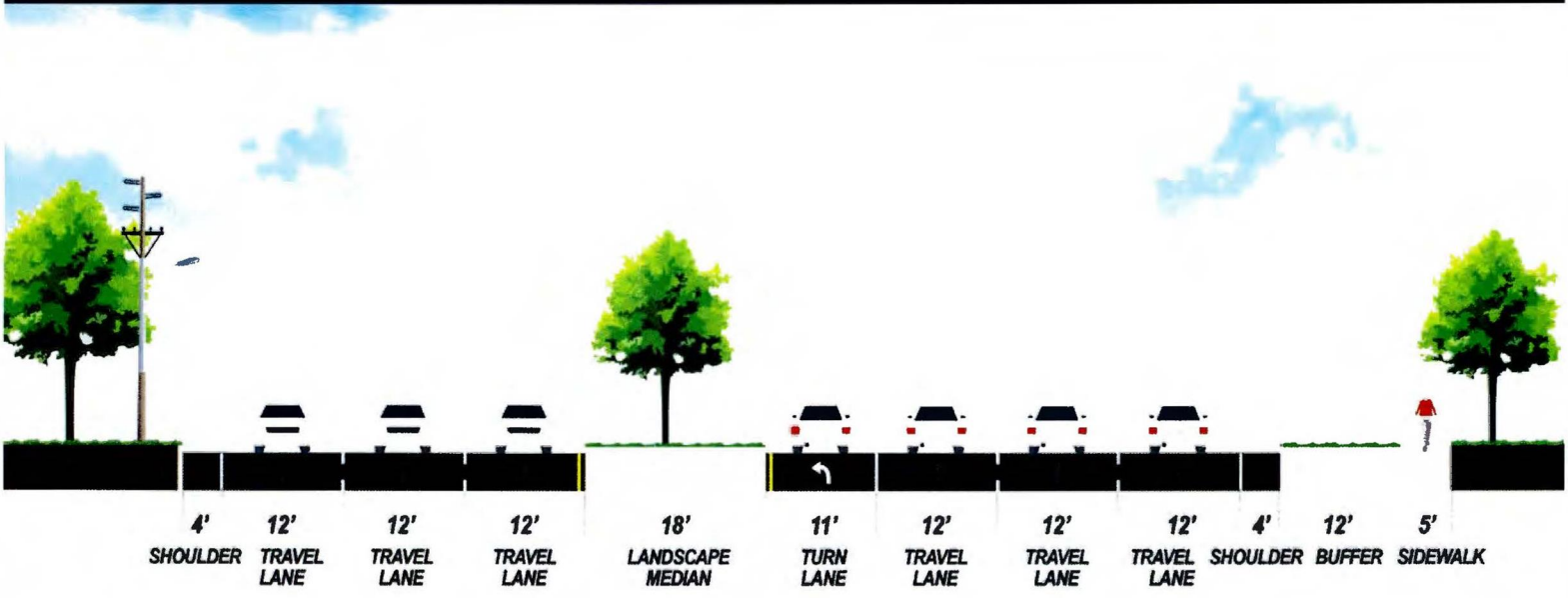
Existing Conditions:

6 lane divided
11' travel lanes & 3' shoulder
5' sidewalks
No landscape buffer

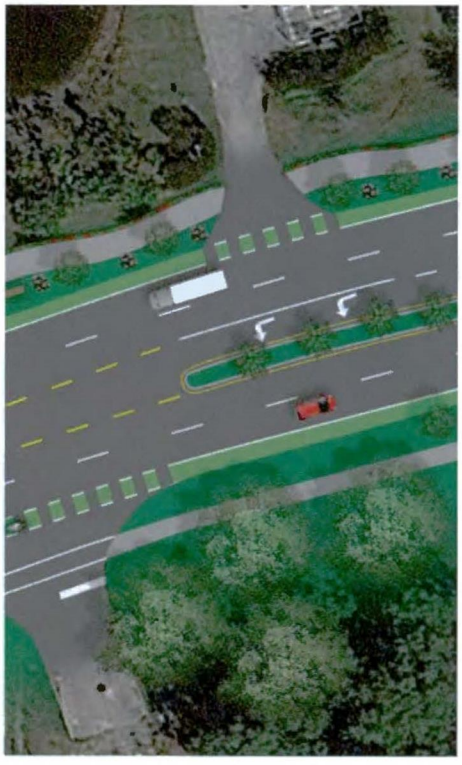
Proposed



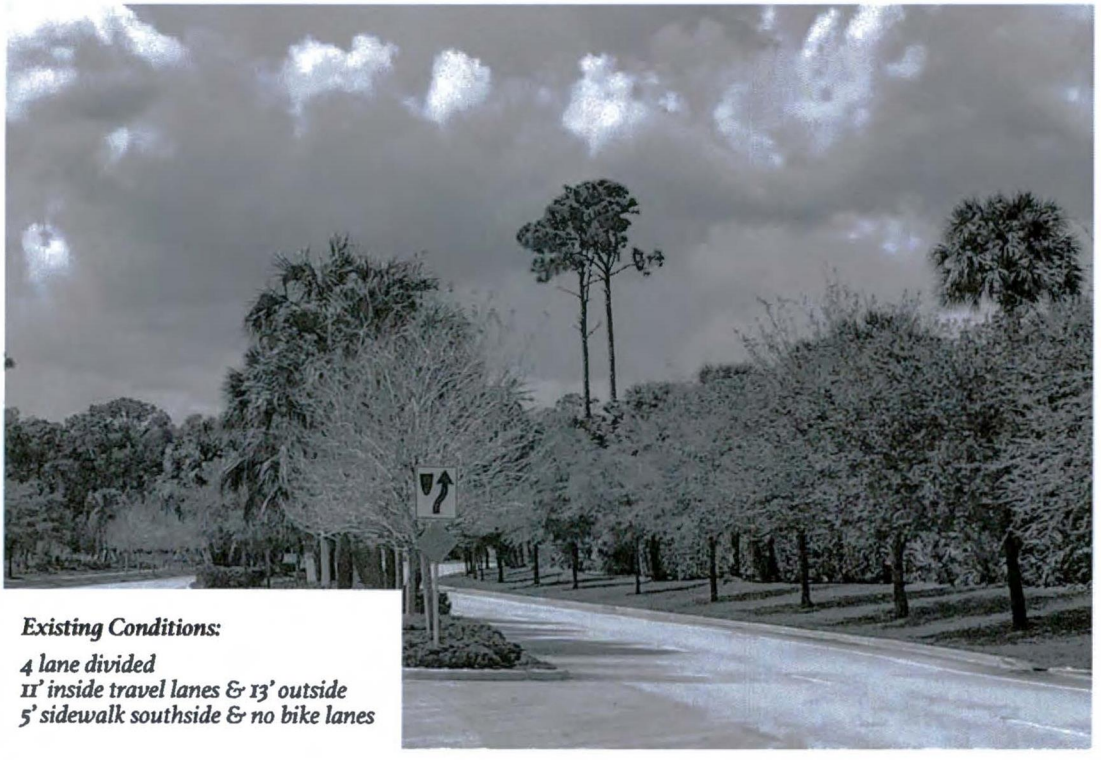
Existing



Kyoto Gardens Drive *Military Trail to Alternate A1A*



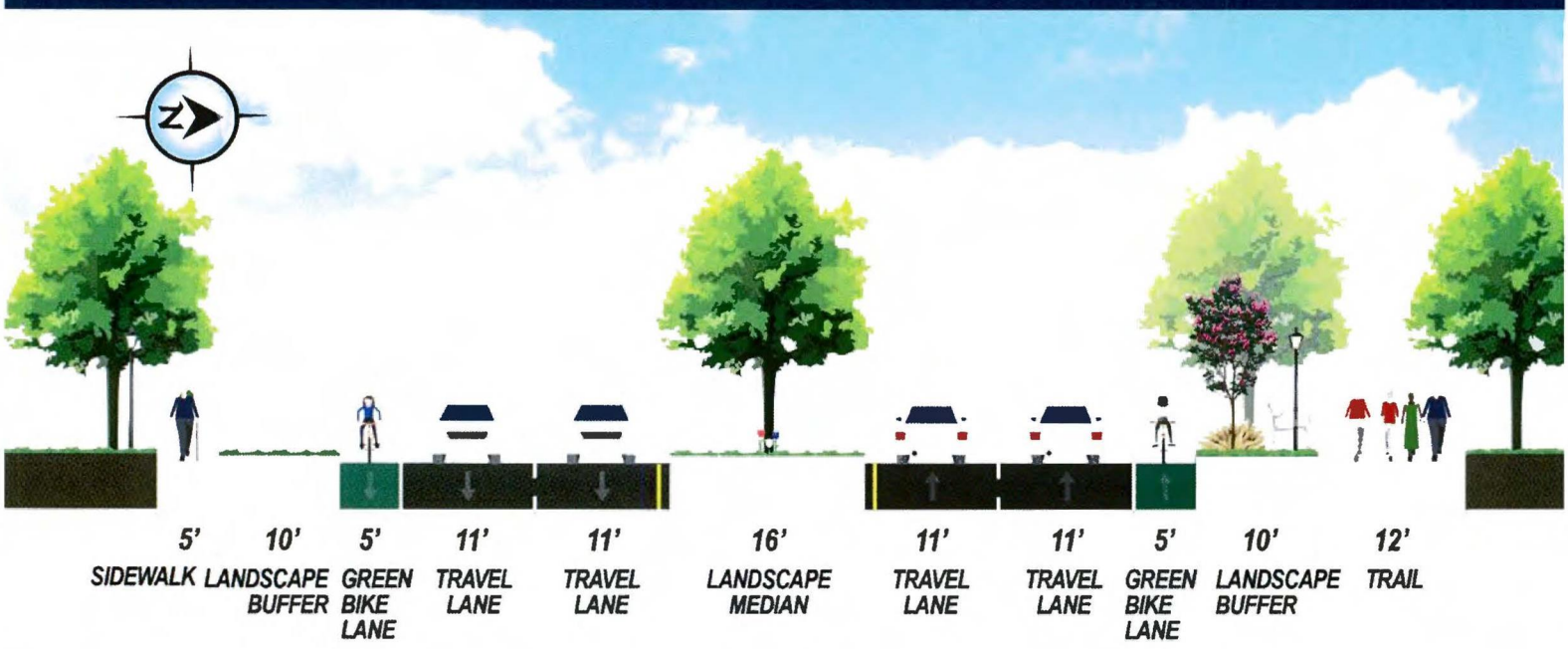
4 lane divided
11' travel lanes with 5' green bike lanes
12' wide trail northside (5' sidewalk southside)
12' trail northside landscape buffer



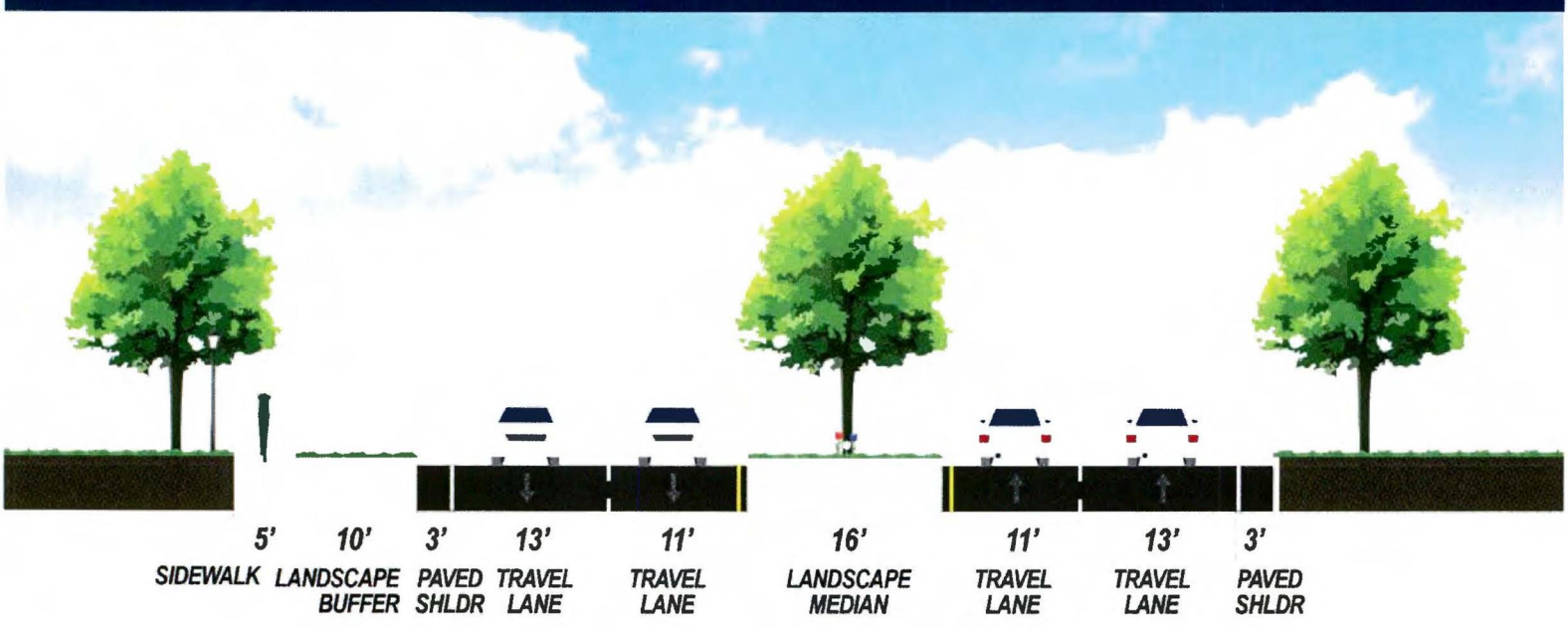
Existing Conditions:

4 lane divided
11' inside travel lanes & 13' outside
5' sidewalk southside & no bike lanes

Proposed



Existing



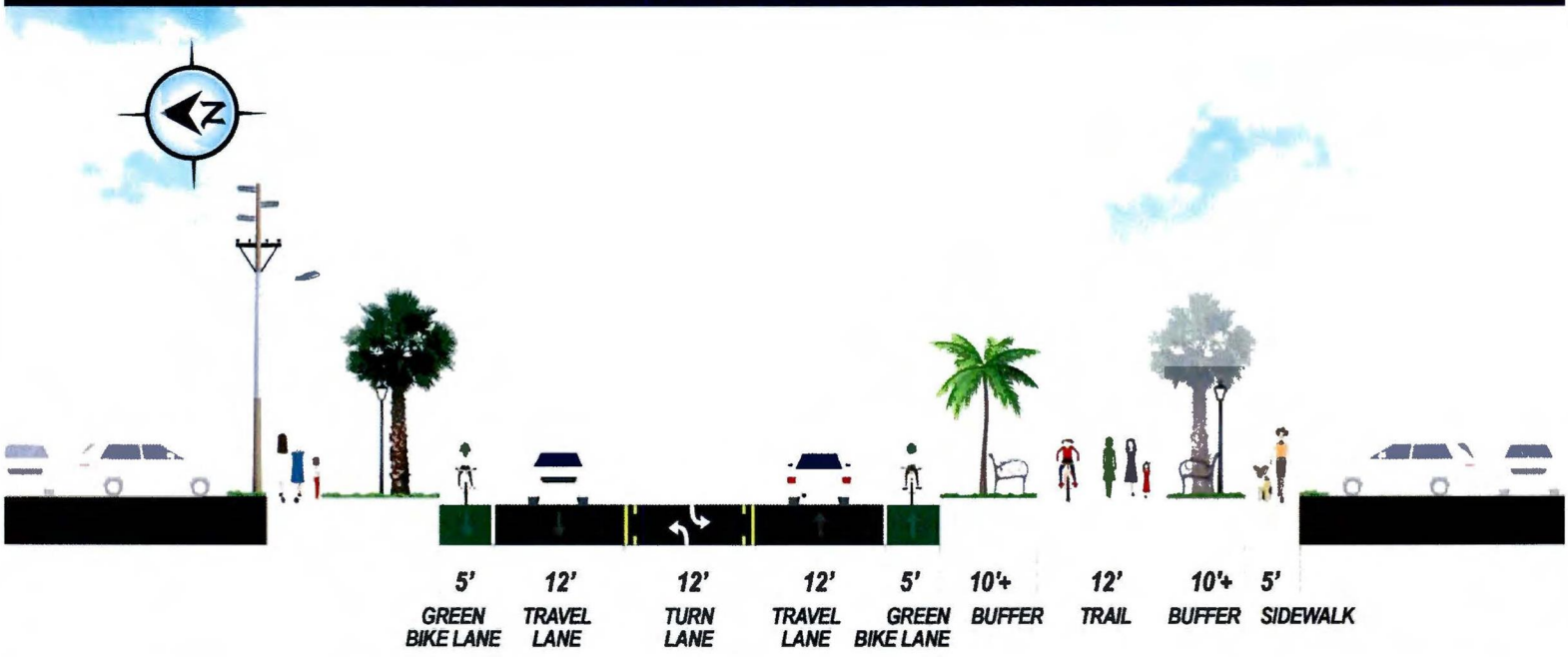
RCA Boulevard *West of Alternate A1A*

2 lane undivided with turn lane
12' travel lanes
12' trail and 5' green bike lanes
10'+ landscape buffer

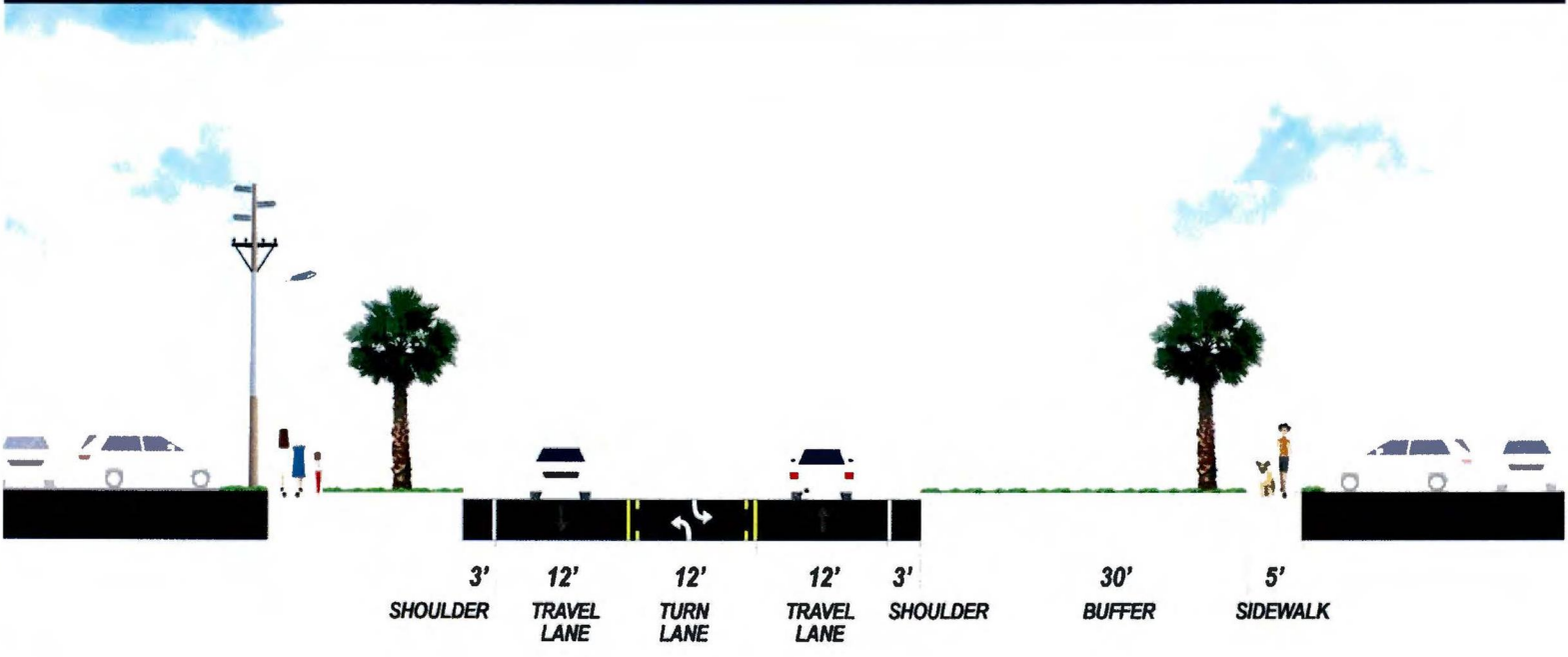
Existing Conditions:

2 lane undivided with turn lane
12' travel lanes with 3' shoulder
5' sidewalk and no bike lanes
30' buffer

Proposed



Existing



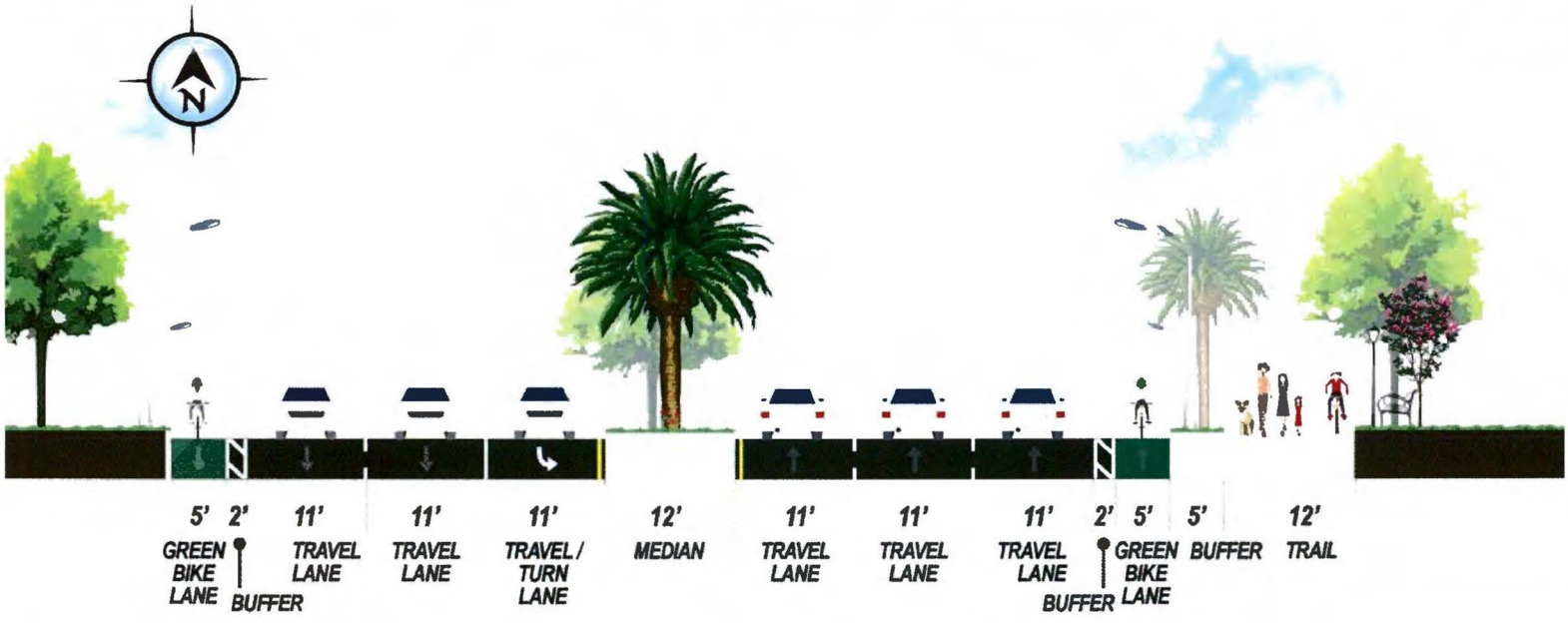
Alternate AIA *North of Burns Road*

6 lane divided
11' travel lanes with 2' buffer & 5' green bike lanes
12' trail eastside with landscape buffer

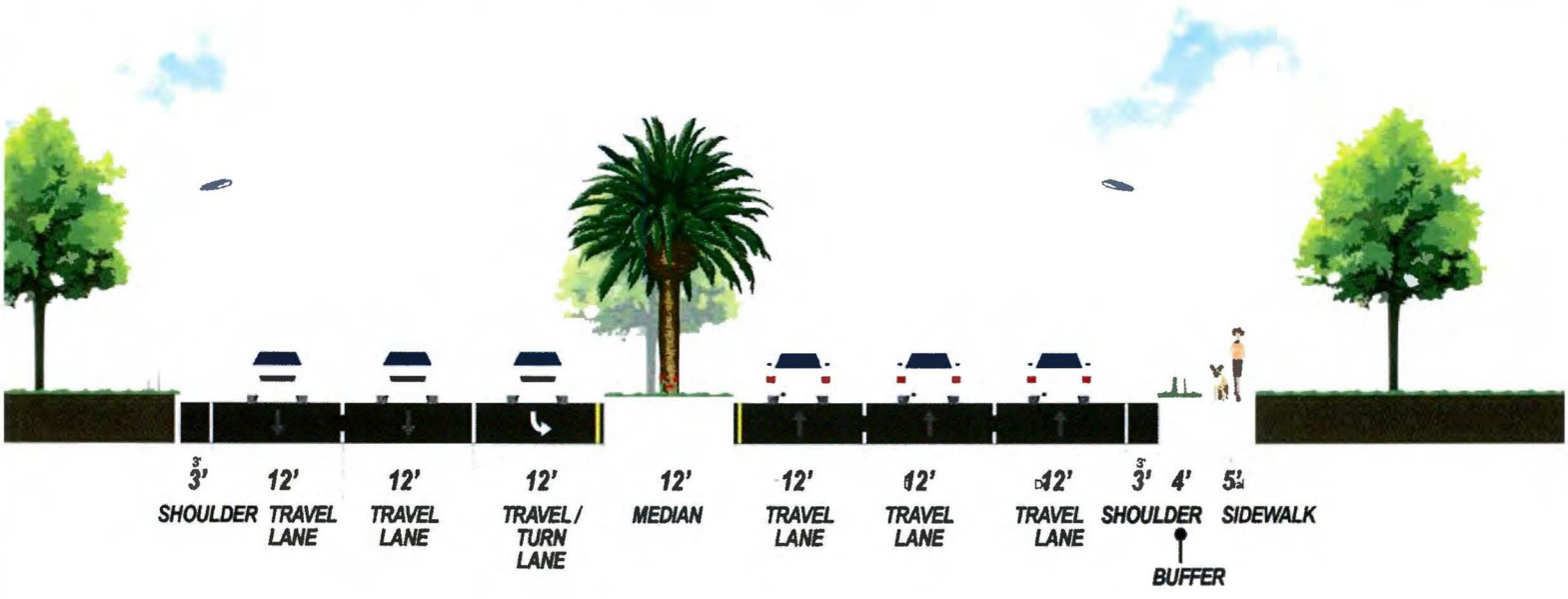
Existing Conditions:

6 lane divided
12' travel lanes with 4' shoulders
Existing 8' sidewalk eastside with landscape buffer

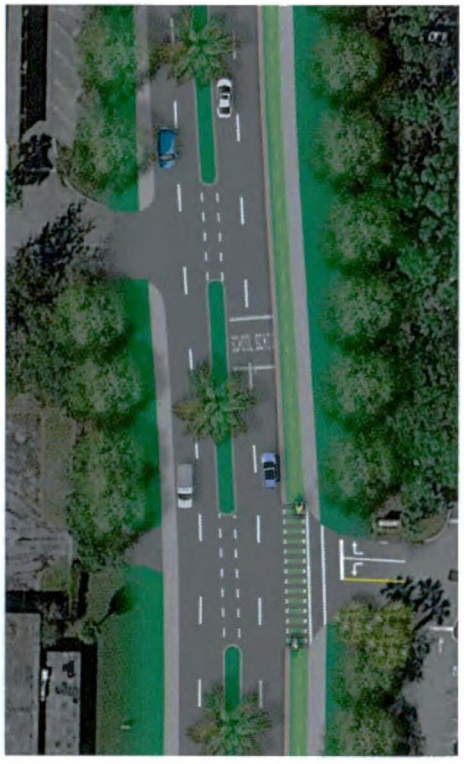
Proposed



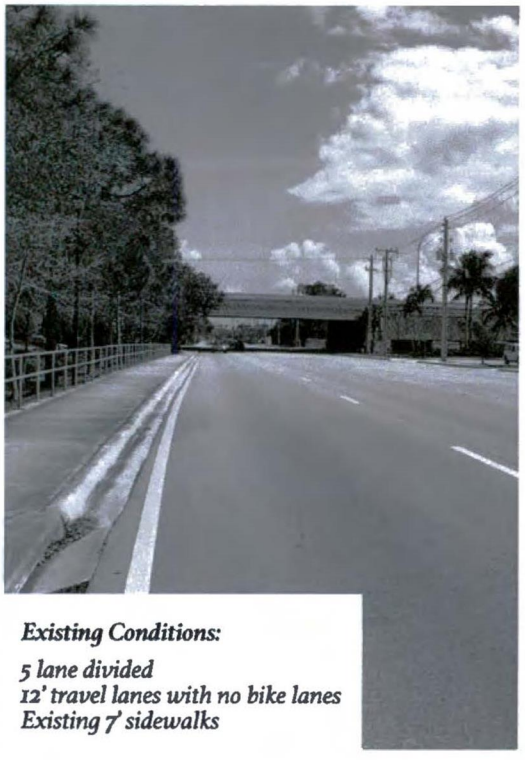
Existing



Burns Road *Weiss School to Riverside Drive*



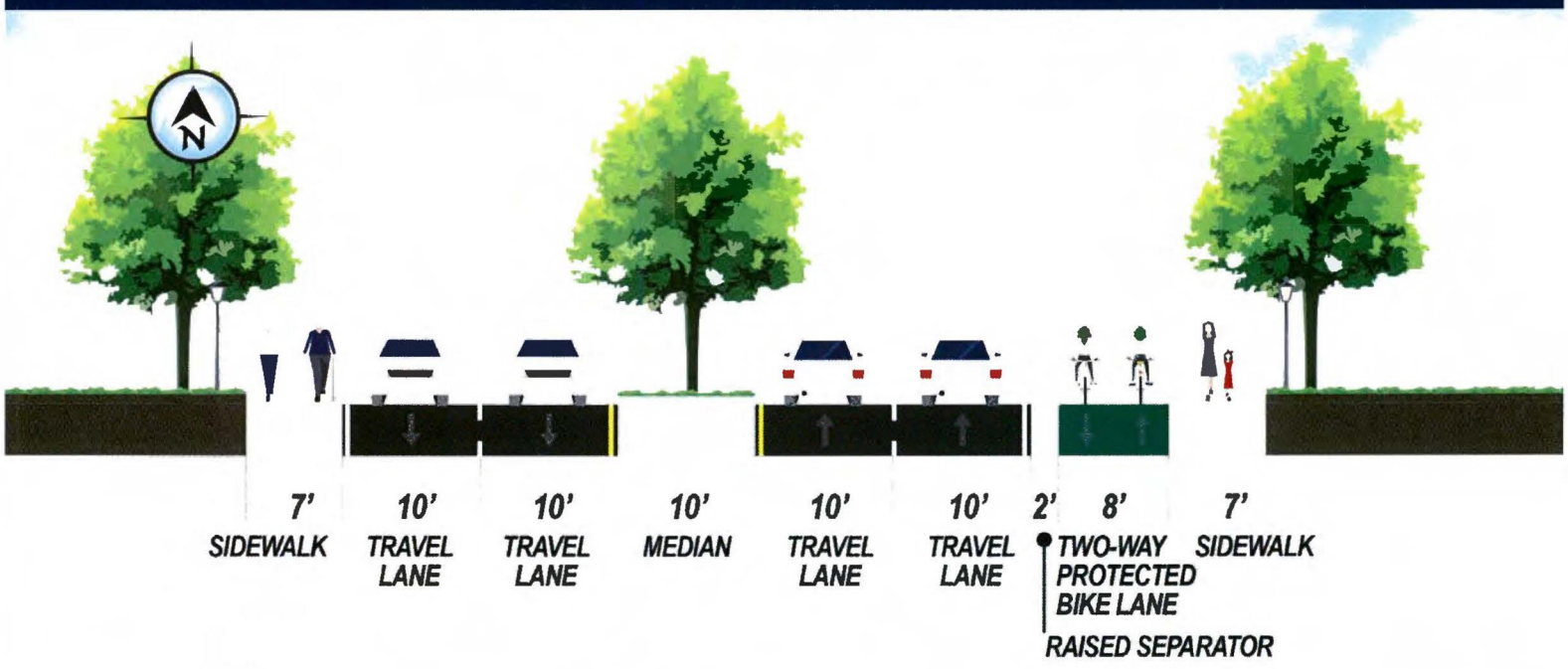
4 lane divided with landscaped median
10' travel lanes with existing 7' sidewalks
8' two-way protected bike lane with 2' raised separator



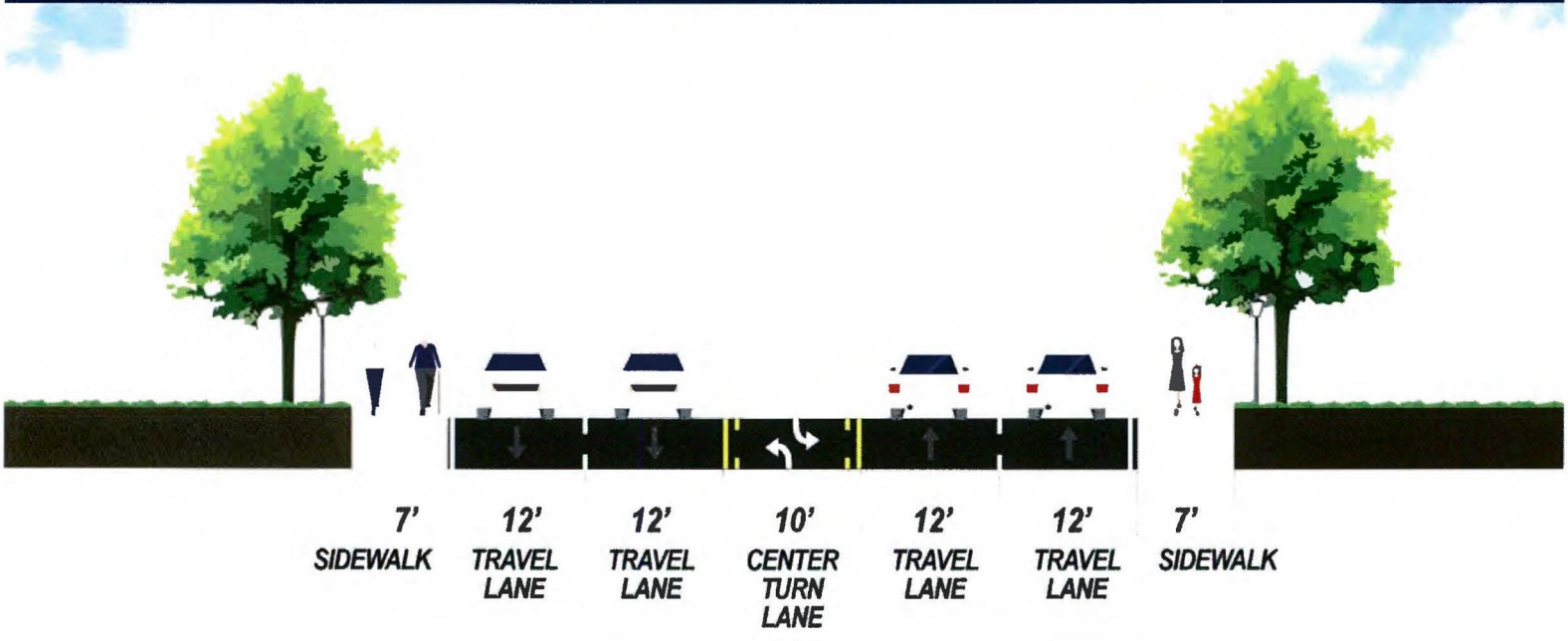
Existing Conditions:

5 lane divided
12' travel lanes with no bike lanes
Existing 7' sidewalks

Proposed

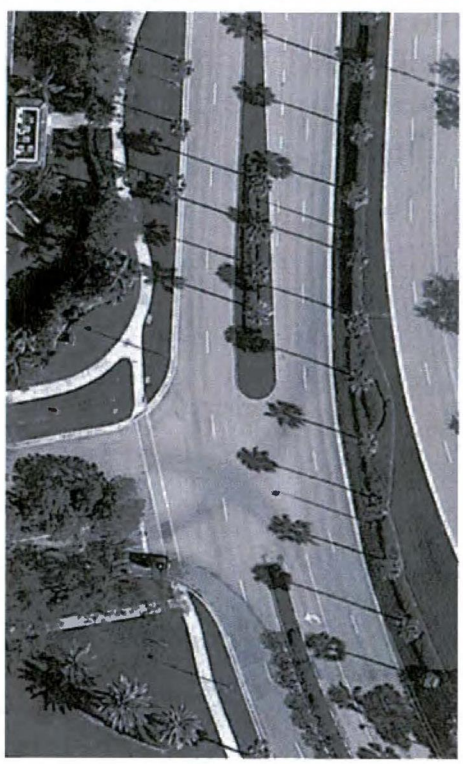


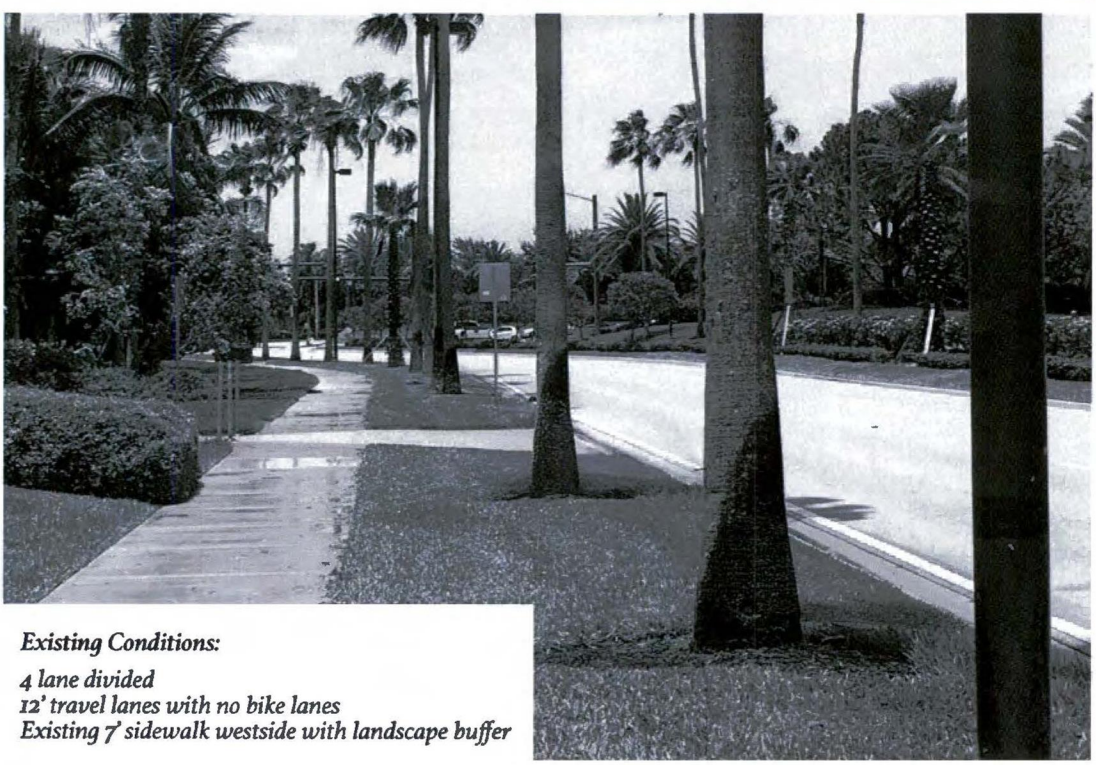
Existing



Fairchild Gardens Avenue *Gardens Parkway to PGA Boulevard*

4 lane divided
10' travel lanes with 4' green bike lanes
12' trail westside with landscape buffer

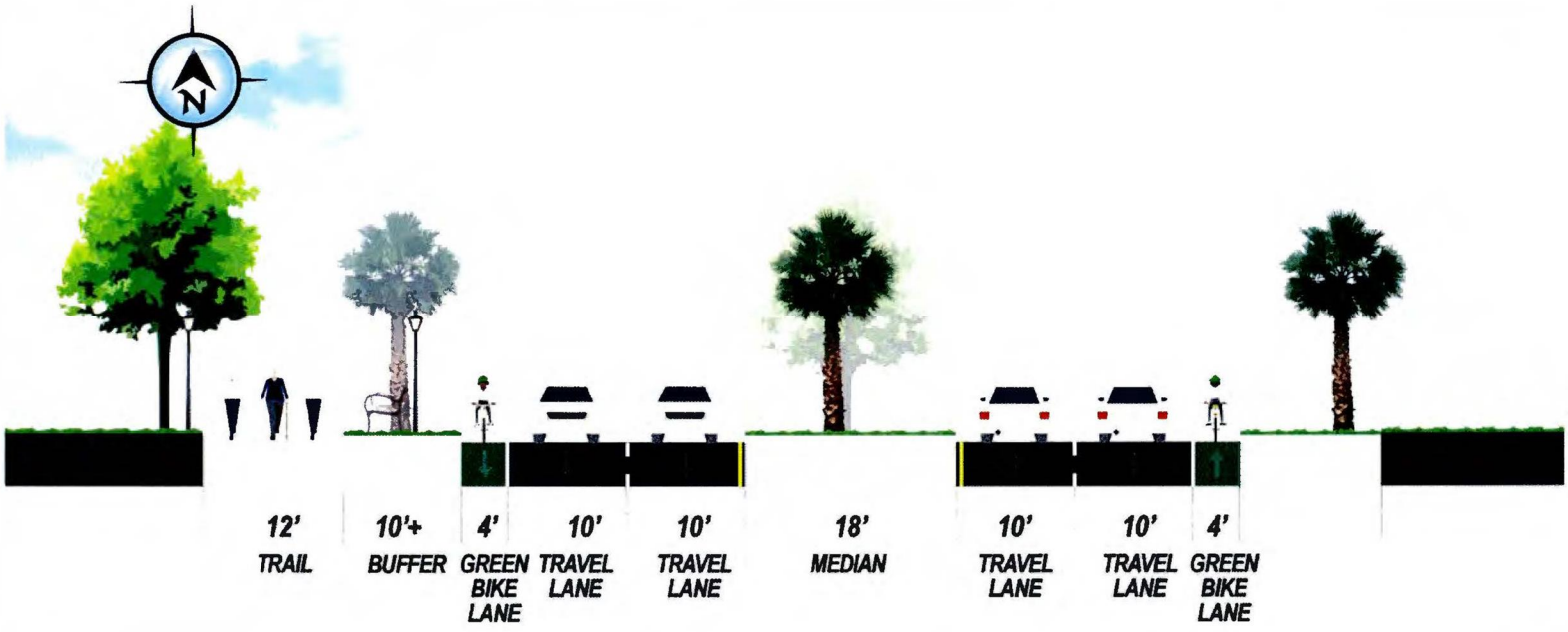




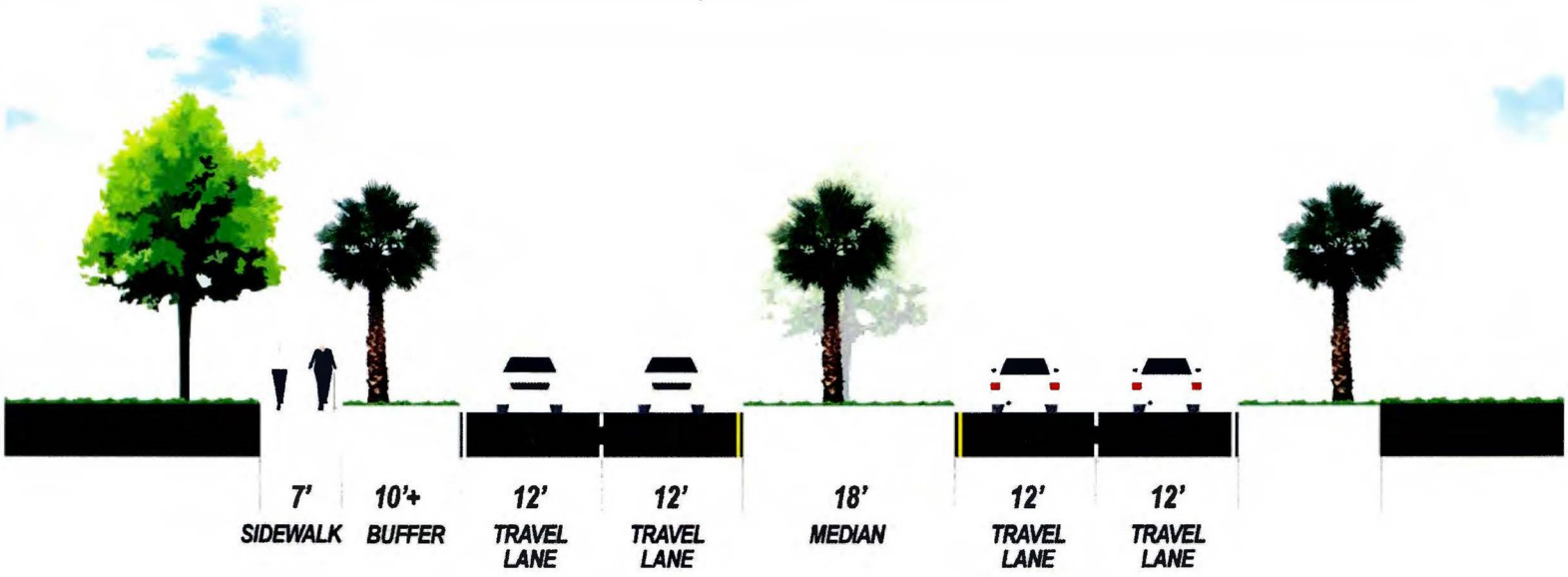
Existing Conditions:

4 lane divided
12' travel lanes with no bike lanes
Existing 7' sidewalk westside with landscape buffer

Proposed

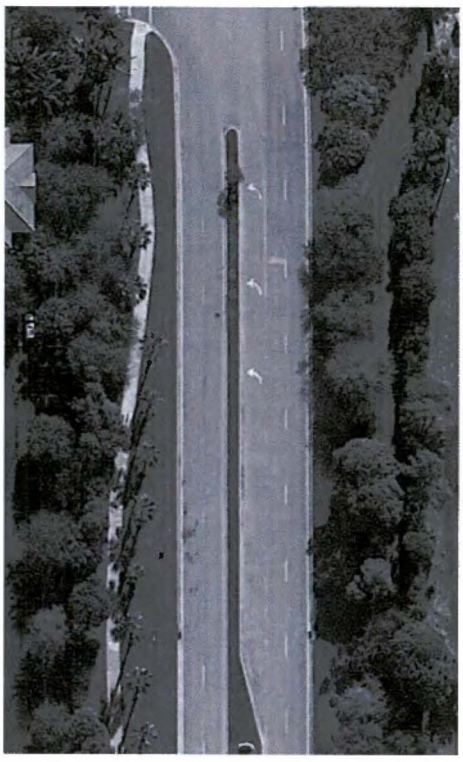


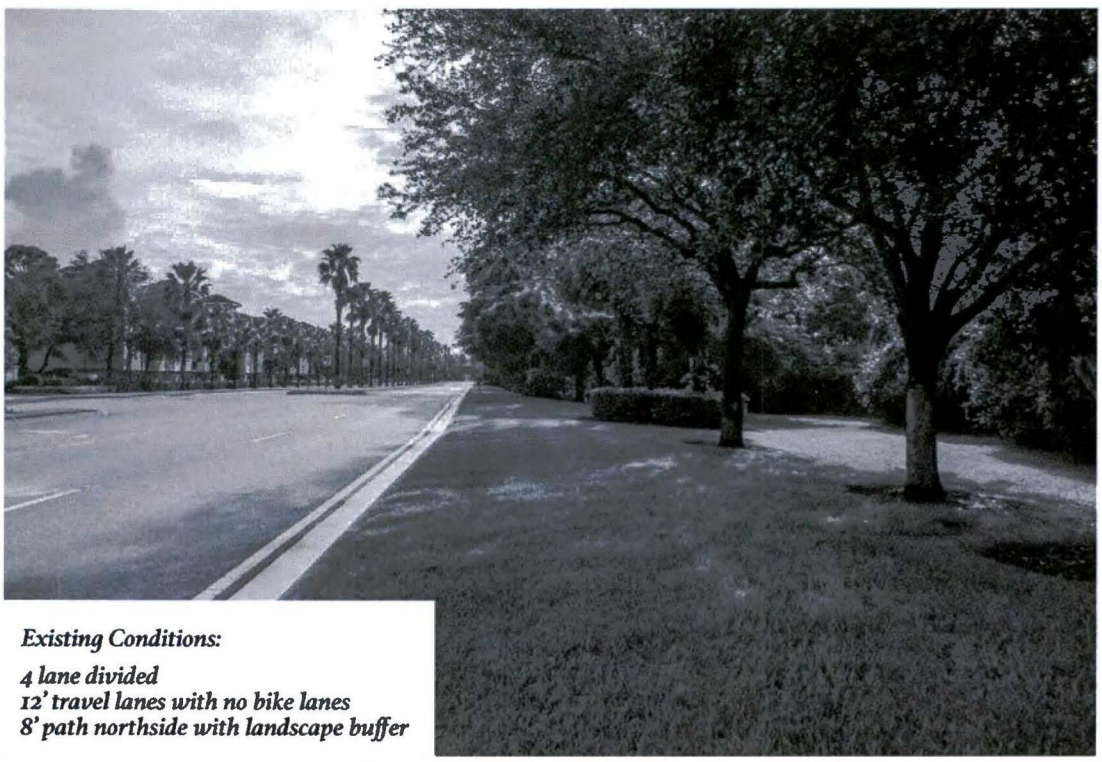
Existing



Gardens Parkway *Prosperity Farms Road to Kew Gardens Avenue*

4 lane divided
10' travel lanes with 4' green bike lanes
8' path northside & 10' path southside with landscape buffers

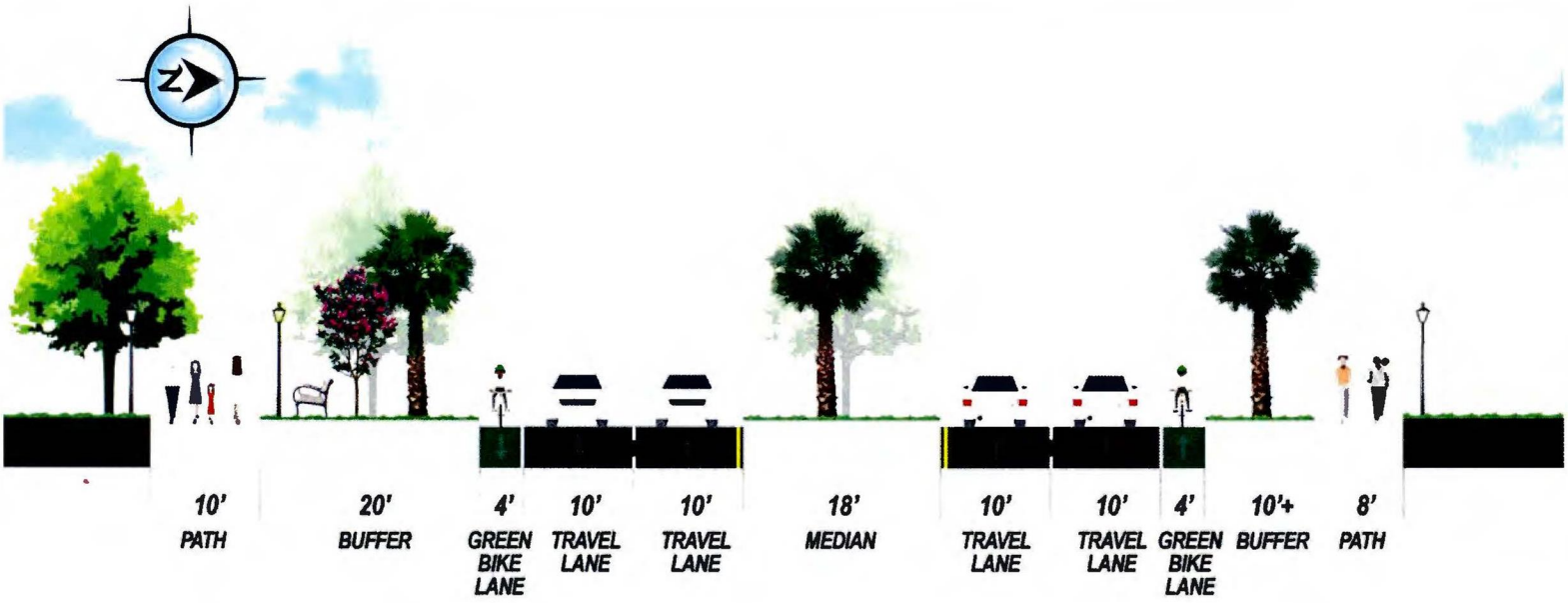




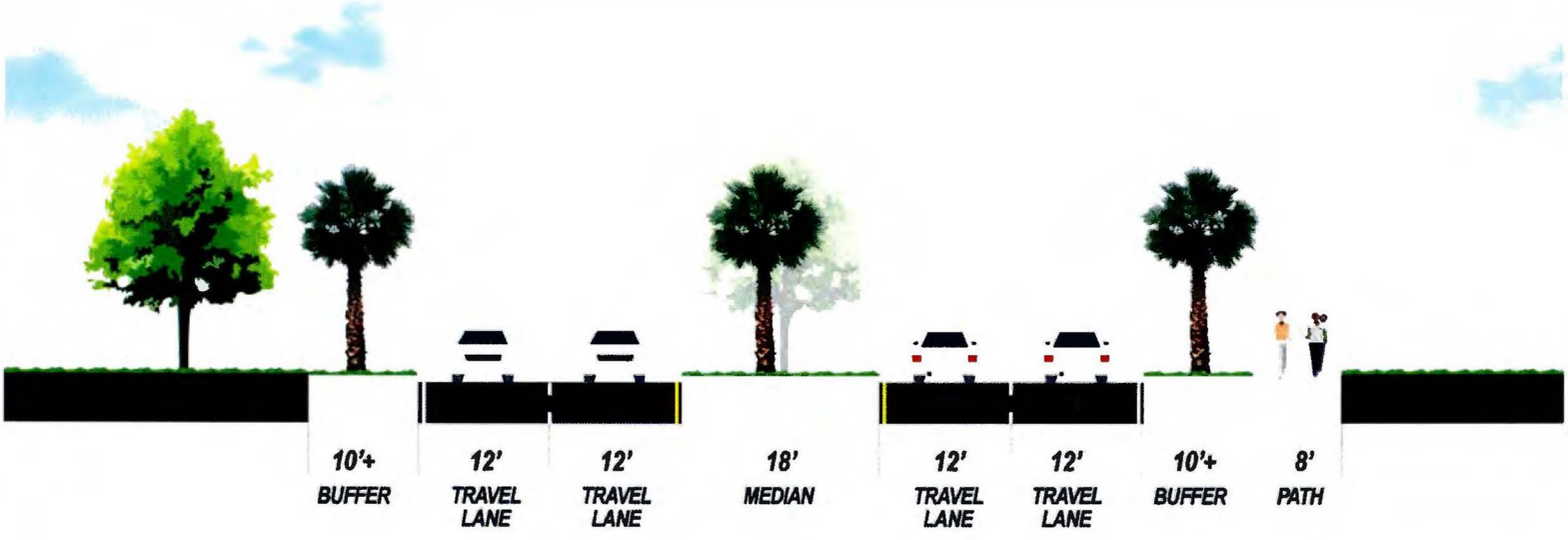
Existing Conditions:

4 lane divided
12' travel lanes with no bike lanes
8' path northside with landscape buffer

Proposed



Existing



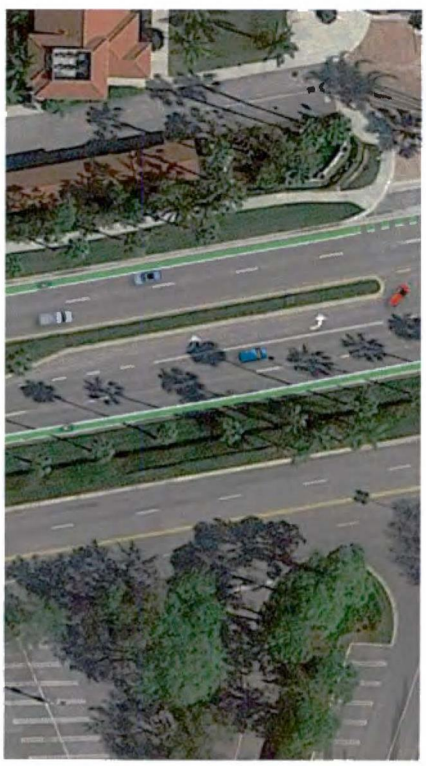
Gardens Parkway - *Alternate A1A to Prosperity Farms Road*

Future Phase II:

2 lane divided with 10' travel lanes
7' raised bike/scooter lane
7' 15 mph FLEX Only lane
8' path northside with landscape buffer

Existing Conditions:

4 lane divided
12' travel lanes with no bike lanes
8' path northside with landscape buffer

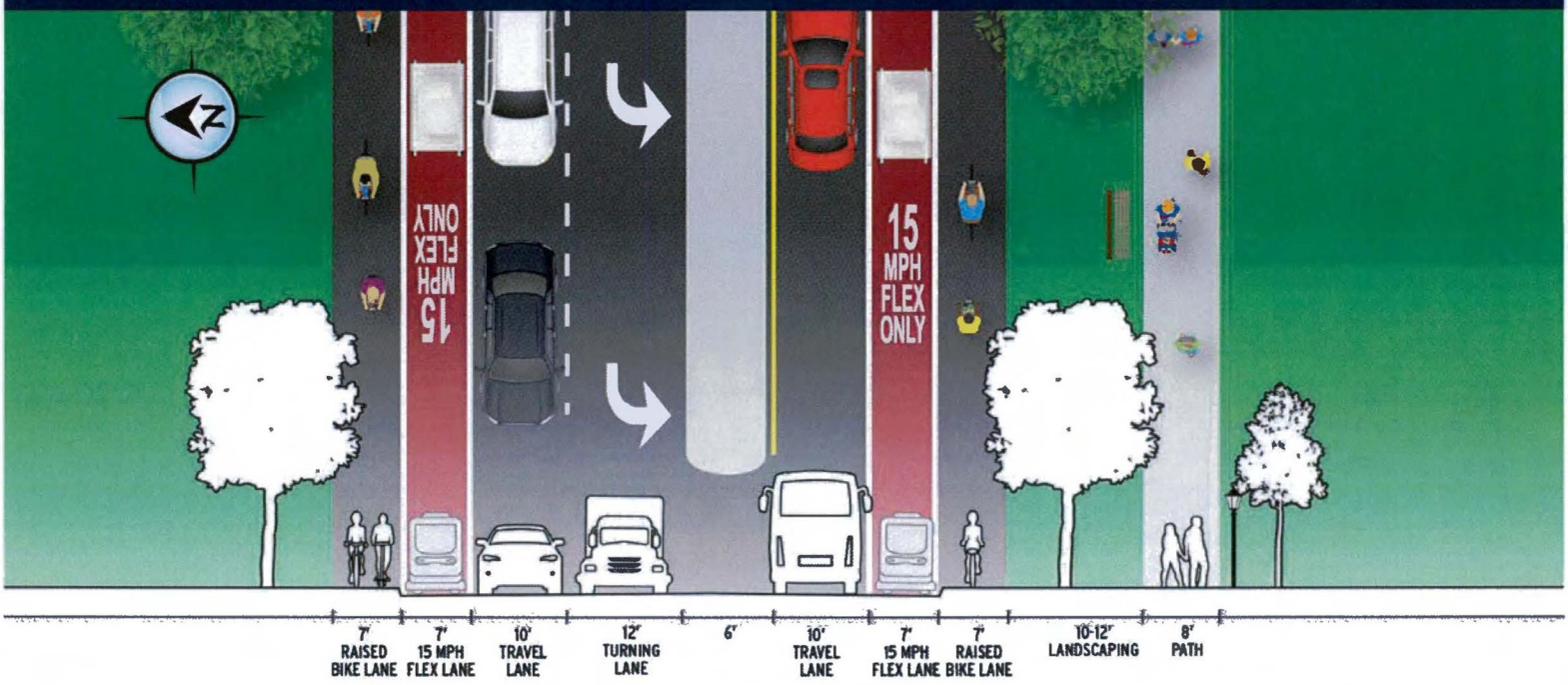


Existing

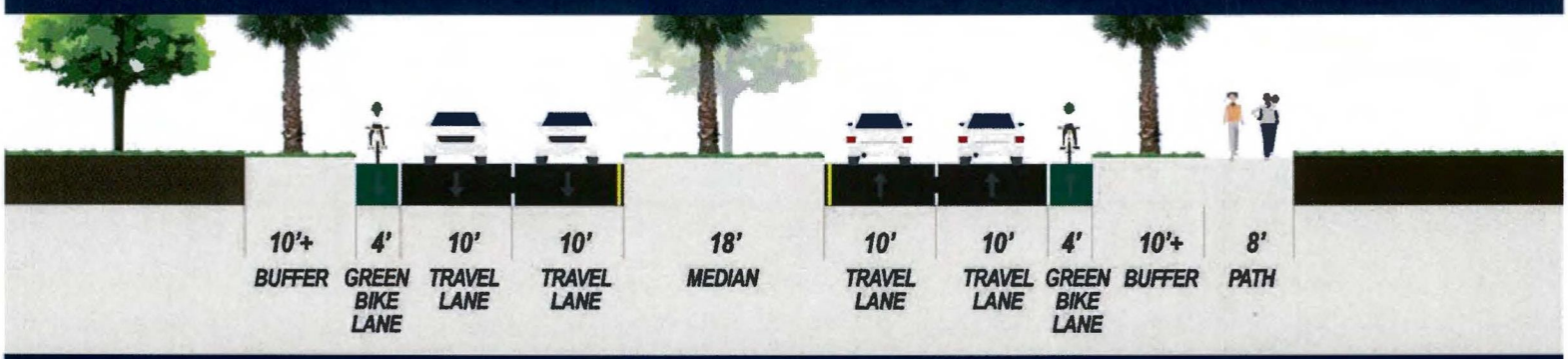
Phase 1 Conditions:

10' travel lanes with 4' green bike lanes
8' path northside with landscape buffer

Future Phase II



Phase I

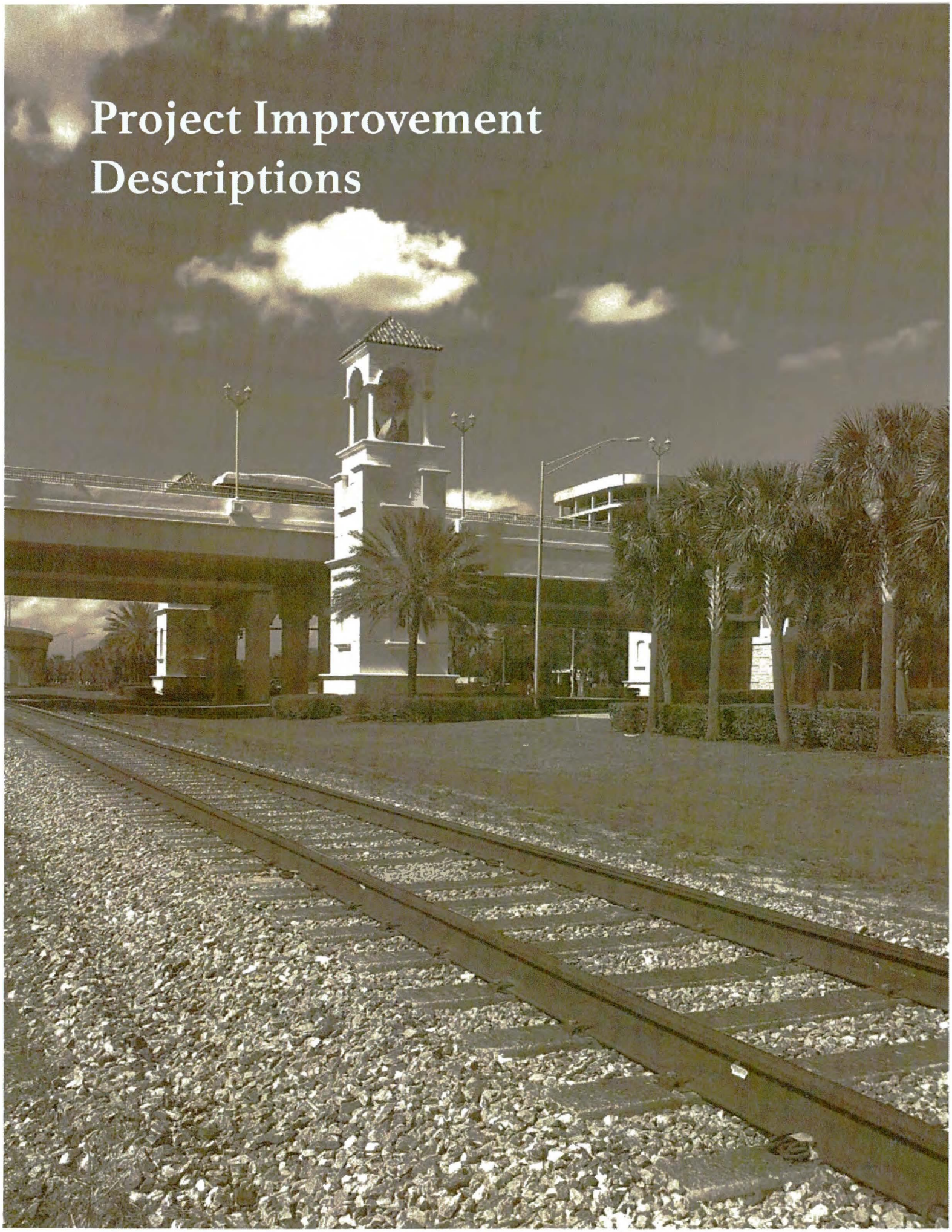


Existing


NORTH
95
SOUTH
Daytona Bch
West Palm Bch
LEFT LANE
SHARE
THE
ROAD

Appendix A

Project Improvement Descriptions



Projects // *Walking & Bicycling Mobility Improvements*

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
1	Donald Ross Rd	I-95	Prosperity Farms Rd	0.25	Widen existing 5' sidewalk sections to 12' trails on south side at Central Blvd, Alternate A1A and Evergreen Dr.	2020-2030
2	Grandiflora Rd	Buccaneer Way	Military Trail	0.51	Widen existing sidewalk to 12' trail on north side of road.	2020-2030
3	Hood Rd	Jog Rd	Turnpike	0.60	Add 12' trail on south side of road starting at terminus of existing 12' trail east of Jog Road. Programmed sidewalk on north side between Briar Lake and Turnpike.	2020-2030
4	Hood Rd	Turnpike	Central Blvd	1.22	Add 12' trail on south side of road.	2020-2030
5	Hood Rd	Central Blvd	Alternate A1A	0.83	Replace existing sidewalk and add 12' trail on south side.	2031-2040
6	Victoria Falls Blvd	Central Blvd	Military Trail	0.34	Widen existing sidewalk to 12' trail on south side of road.	2020-2030
7	Elm Ave	Hood Rd	Pacifico Ct	0.45	Widen existing sidewalk to 12' trail on west side of road.	2020-2030
8	Gardens Pkwy (Phase 1)	Alternate A1A	Prosperity Farms Rd	0.57	Add 8' path between Kew Gardens and Prosperity Farms Rd on the south side.	2020-2030
9	Gardens Pkwy (Phase 2)	Alternate A1A	Prosperity Farms Rd	--	Add three flashing pedestrian activated crossing beacons and enhanced crosswalks at connecting residential development points to the Mall.	2020-2030
11	Kyoto Gardens Dr	Military Trail	Alternate A1A	0.60	Add 12' trail on north side where feasible.	2020-2030
12	Kyoto Gardens Dr	Alternate A1A	Fairchild Gardens Ave	0.84	Add 12' trail on both sides where feasible.	2020-2030
13	Garden Lakes Dr	Garden Square Blvd	Military Trail	0.10	Add 10' path to south side.	2020-2030
14	PGA Blvd	Beeline Hwy	C-18 Canal	--	Add 12' trail on north side in conjunction with road widening.	2031-2040
15	PGA Blvd	C-18 Canal	Turnpike	0.42	Add missing 12' trail on north side between Turnpike and Mirasol.	2020-2030
17	PGA Blvd	Shady Lakes Dr	Military Trail	0.50	On south side, widen existing 5' sidewalk to a 12' trail. Add enhanced pedestrian crosswalks at Shady Lakes Road Intersection ($50,000).	2020-2030
18	PGA Blvd	Military Trail	Alternate A1A	0.76	On south side, widen existing 5' sidewalk to a 12' trail. Add flashing pedestrian activated crossing beacons and enhanced crosswalk. Add approach warnings ($100,000).	2020-2030
19	PGA Blvd	Alternate A1A	Prosperity Farms Rd	1.41	Widen existing 5' sidewalk to a 12' trail on south side. Add flashing pedestrian activated crossing beacons and enhanced crosswalk at PBSC.	2020-2030
20	Fairchild Ave	Lake Victoria Blvd	Fairchild Gardens Ave	--	Add mid-block crossing.	2020-2030
21	Fairchild Ave	Fairchild Gardens Ave	Campus Dr	0.38	Widen existing sidewalk to 12' trail on north side of road.	2020-2030
22	RCA Blvd	Design Center Dr	Northcorp Pkwy	0.19	Add 8' path on west side.	2020-2030
23	RCA Blvd	Northcorp Pkwy	Alternate A1A	0.25	Add a 12' trail to south side of road. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks at RCA Blvd and RCA Center Drive and Fairchild Gardens Avenue. Add enhanced crosswalks at Alternate A1A ($150,000).	2031-2040

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
24	RCA Blvd	Alternate A1A	Prosperity Farms Rd	1.32	Widen existing sidewalk to 10' path on north side. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks	2020-2030
25	Burns Rd	Military Trail	Alternate A1A	--	Enhance existing and add 4 mid-block crossings with overhead flashing beacon where more than a 1/2 mile exist between signalized intersections and a major transit stop or generator is present. Add streetscape under I-95 overpass ($150,000).	2020-2030
26	Burns Rd	Alternate A1A	Prosperity Farms Rd	1.19	Widen existing sidewalk to 12' trail on north side of road.	2031-2040
27	Lilac St	Military Trail	Plant Dr	0.43	Widen existing 5' sidewalk to a 10' path on south side. Add flashing pedestrian activated crossing beacons and enhanced crosswalks at park.	2020-2030
28	Holly Dr	Military Trail	Lighthouse Dr	0.71	Widen existing 5' sidewalk to a 10' path on north side for missing links. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks. Add streetscape under I-95 overpass ($100,000).	2020-2030
29	Northlake Blvd	City's boundary east of Beeline Hwy	Military Trail	2.50	Widen 5' sidewalk to 10' path on south side. Add colored marking when crossing driveways and minor intersections and add ladder crosswalks when crossing major intersection.	2031-2040
30	Northlake Blvd	Sandtree Dr	Congress Ave Extension	0.65	Widen 5' sidewalk to 10' path on south side. Add colored marking when crossing driveways and minor intersections and add ladder crosswalks when crossing major intersection. Add bike lanes.	2031-2040
31	Jog Rd	PGA Blvd	Hood Rd	3.67	Add streetscape and hardscape elements where needed to enhance existing 12' trail. Add crosswalks from neighborhoods to path ($200,000 / mi).	2031-2040
32	Central Blvd	117th Ct North	Donald Ross Rd	2.51	Replace 5' to 8' sidewalks with 12' trail on east side of road.	2020-2030
33	Garden Square Blvd	North of Midtown	Garden Lakes Cir	0.10	Add 10' path on west side for missing link. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks at Garden Square Blvd and Garden Lakes Drive.	2020-2030
34	Military Trail	Kyoto Gardens Dr	Donald Ross Rd	2.58	Replace 5' to 8' sidewalks with 12' trail on east side of road.	2020-2030
35	Military Trail	Nova University	Elm Ave	0.07	Provide missing sidewalk connection on west side.	2020-2030
36	Military Trail	Garden Lakes Dr	Kyoto Gardens Dr	0.28	Replace 5' to 8' sidewalks with 10' path on east side of road. Add flashing pedestrian activated crossing beacons and enhanced crosswalks at Military & Garden Lakes. Add 0.2 mile missing sidewalk link on west side.	2020-2030
37	Military Trail Multimodal Bypass	Burns Rd	PGA Blvd	0.50	Construct an 8' wide path, creating a parallel multimodal improvement to Military Trail.	2020-2030
38	Military Trail Multimodal Bypass	Holly Dr	Burns Rd	0.50	Construct an 8' wide path, creating a parallel multimodal improvement to Military Trail.	2020-2030
39	Military Trail Multimodal Bypass	C-17 Canal	Holly Dr	0.30	Construct a 5' sidewalk along Gardenia Drive, connect with current bridge over canal. Add hardscape and beautification of bridge with Crime Prevention Through Environmental Design ($200,000).	2020-2030
40	Banyan St	Linden Ave	Kyoto Gardens Dr	0.48	Add 5' sidewalk on west side and construct bridge. Add Crime Prevention Through Environmental Design ($100,000).	2020-2030

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
41	RCA Center Dr	Kyoto Gardens Dr	RCA Blvd	0.65	Replace 5' sidewalk with 12' trail on east side of road.	In conjunction with Tri-Rail Coastal Station
42	Northcorp Pkwy	RCA Blvd	Riverside Dr	0.34	Widen sidewalk to 8' path on west side from RCA Blvd to E. Park drive	2031-2040
43	Riverside Dr	Northcorp Pkwy	Burns Rd	0.50	Widen sidewalks to 8 ' path on both sides.	2020-2030
44	East Park Dr	RCA Blvd	Burns Rd	0.53	Widen existing 5' sidewalk to a 12' trail on east side.	2031-2040
45	Sandtree Dr	Gander Way	Northlake Blvd	0.32	Widen existing 5' sidewalk to a 10' path on west side and improve connections to commercial.	2020-2030
46	Alternate A1A	Lighthouse Dr	Donald Ross Rd	4.58	Replace 5' sidewalk with 12' trail on east side of road.	2031-2040
47	Lake Victoria Gardens Dr	Alternate A1A	Kyoto Gardens Dr	0.50	Widen existing 8' sidewalk to a 12' trail on east side.	2020-2030
48	Fairchild Gardens Ave	RCA Blvd	Fairchild Ave	0.25	Widen existing sidewalk to a 10' path on west side.	2020-2030
50	Fairchild Gardens Ave	PGA Blvd	Gardens Pkwy	0.38	Widen existing sidewalk to a 12' trail on west side.	2020-2030
51	Gardens East Dr	Lighthouse Dr	RCA Blvd	1.72	Widen existing sidewalk to a 10' path on west side .	2020-2030
52	Campus Dr	RCA Blvd	PGA Blvd	0.50	Widen existing 5' sidewalk to a 12' trail on west side and add sidewalk on east side. Provide ladder crosswalks at RCA Blvd.	2020-2030
53	Kew Gardens Dr	PGA Blvd	Gardens Pkwy	0.34	Widen existing sidewalk to a 12' trail on east side.	2020-2030
54	Prosperity Farms Rd	RCA Blvd	PGA Blvd	--	Add mid-block pedestrian crossing with further study and discussions with PalmTran.	2031-2040
54	Prosperity Farms Rd	PGA Blvd	Gardens Pkwy	0.25	Widen existing sidewalk to a 10' path on west side .	2020-2030
58	Citywide Neighborhood Sidewalk Connections			4.00	Add 5' neighborhood sidewalk connections from neighborhoods to mobility hubs, adjacent non-residential development and the citywide path and trail network	2020-2040
59	Mobility Hubs			--	Provide 12 mobility hubs within multimodal oriented districts and 12 within multimodal districts	2020-2040
60	Shared Mobility Program			--	Provide funds to start or incentivize micromobility (bike, e-bike, e-scooter) microtransit, car share and ride hailing programs	2020-2040
61	Citywide wayfinding and signage plan			--	Plan, design and install a citywide wayfinding sign system directing users to multimodal facilities, mobility hubs and Tri-Rail Coastal Station	2020-2040
62	Citywide High Visibility Multimodal Crossings			--	Install 20 high visibility midblock crossings and crosswalks through-out the City	2020-2040
			TOTAL	**42.87**		

Projects // *Bicycling Mobility Improvements*

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
2	Grandiflora Rd	Buccaneer Way	Military Trail	0.51	Create Bicycle Boulevard.	2031-2040
3	Hood Rd	Jog Rd	Turnpike	1.96	Add 5' bike lanes with green pavement markings.	2020-2030
4	Hood Rd	Turnpike	Central Blvd	2.44	Programmed 4' bike lanes.	2019-2020
8	Gardens Pkwy (Phase 1)	Alternate A1A	Prosperity Farms Rd	2.46	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030
10	Gardens Pkwy (Phase 2)	Alternate A1A	Kew Gardens Ave	1.00	Convert westbound outside lane to a 10' two-way protected bike lane with a 4' wide raised separator, or convert outside lanes to one-way 7' autonomous vehicle lane and 7' raised bike / scooter lane.	2031-2040
11	Kyoto Gardens Dr	Military Trail	Alternate A1A	1.20	Reduce travel lanes to 11' wide through pavement marking removal and restripe. Widen existing 3' paved shoulder to 5' bike lanes, add green pavement markings.	2020-2030
12	Kyoto Gardens Dr	Alternate A1A	Fairchild Gardens Ave	0.84	Reduce travel lanes to 11' wide through pavement marking removal and restripe. Widen existing 3' paved shoulder to 5' bike lanes, add green pavement markings.	2020-2030
14	PGA Blvd	Beeline Hwy	C-18 Canal	3.96	Add 7' buffered bike lanes in conjunction with road widening.	2031-2040
15	PGA Blvd	C-18 Canal	Turnpike	4.54	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT resurfacing
16	PGA Blvd	Turnpike	Shady Lakes Dr	2.30	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT resurfacing
17	PGA Blvd	Shady Lakes Dr	Military Trail	1.00	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT resurfacing
18	PGA Blvd	Military Trail	Alternate A1A	1.52	Add bike lanes from Military Trail to I-95. Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT resurfacing
19	PGA Blvd	Alternate A1A	Prosperity Farms Rd	2.82	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT resurfacing
20	Fairchild Ave	Lake Victoria Blvd	Fairchild Gardens Ave	0.22	Create Bicycle Boulevard.	2031-2040
22	RCA Blvd	Design Center Dr	Northcorp Pkwy	0.38	Add 5' bike lanes with green pavement markings.	2020-2030
23	RCA Blvd	Northcorp Pkwy	Alternate A1A	0.50	Add 5' bike lanes in conjunction with roadway widening.	2020-2030
25	Burns Rd	Military Trail	Alternate A1A	0.90	Reduce travel lanes to 10' in width through pavement marking removal and restripe. Add 4' bike lanes from Military Trail to Weiss School, provide a 10' two-way protected bike lane with 8' for bikes and a raised 2' wide concrete barrier on north side of road between Weiss School and Riverside Drive. Includes green pavement markings	2020-2030

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
26	Burns Rd	Alternate A1A	Prosperity Farms Rd	2.38	Reduce travel lanes to 10' wide through pavement marking removal and restripe. Add 4' wide bike lanes with green pavement markings from Riverside Drive to Prosperity Farms Road.	2020-2030
31	Jog Rd	PGA Blvd	Hood Rd	7.34	Reduce travel lane widths to 11'. Widen 4' paved shoulder to 5' bike lanes with green pavement markers.	In conjunction with next County resurfacing
32	Central Blvd	117th Ct North	Donald Ross Rd	--	Add 5' paved shoulder between new turn lanes and thru lanes.	In conjunction with new turn lanes
34	Military Trail	Kyoto Gardens Dr	Donald Ross Rd	5.16	Reduce travel lanes to 11' through pavement marking removal and restripe. Widen 4' paved shoulder to 7' wide 15 MPH Flex Lane with pavement markings.	2031-2040
35	Military Trail	PGA Blvd	Elm Ave	1.68	Add bike lanes from PGA Blvd to Elm Ave.	In conjunction with next County resurfacing
37	Military Trail Multimodal Bypass	Burns Rd	PGA Blvd	0.50	Create Bicycle Boulevard.	2031-2040
42	Northcorp Pkwy	RCA Blvd	Riverside Dr	0.68	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030
43	Riverside Dr	Northcorp Pkwy	Burns Rd	0.25	Create Bicycle Boulevard.	2031-2040
46	Alternate A1A	Lighthouse Dr	Donald Ross Rd	1.28	Add .64 miles of 5' green bike lanes from Kyoto Gardens Drive to RCA Boulevard.	In conjunction with next FDOT resurfacing
49	Fairchild Gardens Ave	Fairchild Ave	PGA Blvd	0.50	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030
50	Fairchild Gardens Ave	PGA Blvd	Gardens Pkwy	0.76	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030
52	Campus Dr	RCA Blvd	PGA Blvd	0.50	Add a two-way 10' protected bicycle lane with a 2' raised separator on east side of road.	2031-2040
53	Kew Gardens Dr	PGA Blvd	Gardens Pkwy	0.68	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030
			TOTAL	**50.26**		

Projects // *Transit Mobility Improvements*

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
10	Gardens Pkwy (Phase 2)	Alternate A1A	Kew Gardens Ave	1.00	Convert eastbound outside lane to a dedicated lane for transit vehicles to operate directionally during AM/PM/Mid-day peaks or use outside lanes for one-way 7' autonomous transit vehicles lane and 7' protected bike lane.	In conjunction with Tri-Rail Coastal Station
11	Kyoto Gardens Dr	Military Trail	Alternate A1A	0.60	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
12	Kyoto Gardens Dr	Alternate A1A	Fairchild Gardens Ave	0.42	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
13	Garden Lakes Dr	Garden Square Blvd	Military Trail	0.10	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
17	PGA Blvd	Shady Lakes Dr	Military Trail	0.50	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
20	Fairchild Ave	Lake Victoria Blvd	Fairchild Gardens Ave	1.41	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
21	Fairchild Ave	Fairchild Gardens Ave	Campus Dr	1.41	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
25	Burns Rd	Military Trail	Alternate A1A	0.86	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
33	Garden Square Blvd	North of Midtown	Garden Lakes Cir	0.20	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
34	Military Trail (Phase 2)	Kyoto Gardens Dr	Donald Ross Rd	2.58	Convert southbound outside lane to a dedicated lane for transit vehicles to operate directionally during AM/PM/Mid-day peaks or use outside lanes for one-way 7' autonomous transit vehicles lane and 7' protected bike lane.	In conjunction with Tri-Rail Coastal Station
37	Military Trail Multimodal Bypass	Burns Rd	PGA Blvd	0.60	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
41	RCA Center Dr	Kyoto Gardens Dr	RCA Blvd	0.65	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
42	Northcorp Pkwy	RCA Blvd	Riverside Dr	0.33	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
43	Riverside Dr	Northcorp Pkwy	Burns Rd	0.25	Add transit circulator.	In conjunction with Tri-Rail Coastal Station
46	Alternate A1A	Lighthouse Dr	Donald Ross Rd	2.18	Add transit circulator from RCA Blvd to Lake Victoria Gardens Dr.	In conjunction with Tri-Rail Coastal Station
47	Lake Victoria Gardens Dr	Alternate A1A	Kyoto Gardens Dr	0.50	Add transit circulator from Alternate A1A to Fairchild Ave.	In conjunction with Tri-Rail Coastal Station
50	Fairchild Gardens Ave	PGA Blvd	Gardens Pkwy	0.50	Add transit circulator from Kyoto Gardens Dr to Gardens Pkwy.	In conjunction with Tri-Rail Coastal Station
50	Campus Dr	RCA Blvd	PGA Blvd	0.50	Add transit circulator from Fairchild Ave to PGA Blvd.	In conjunction with Tri-Rail Coastal Station

ID	Roadway	From	To	Length (miles)	Improvements	Time Period
63	Transit Circulator Vehicles		PMC Added = 22,176	11.00	Provide a total of 24 transit circulators running along the transit circulator east/west routes per the Mobility Plan	In conjunction with Tri-Rail Coastal Station
64	Tri-Rail Coastal Station		PMC Added = 24,000	--	Add a multimodal transit center with 1,000 parking spaces, a Kiss & Ride and ride-hailing drop-off/pick-up location, and spaces for car/bike/scooter sharing, car rental, a transit and microtransit transfer point, and a pedestrian crossing at Alternate A1A.	In conjunction with Tri-Rail Coastal Station

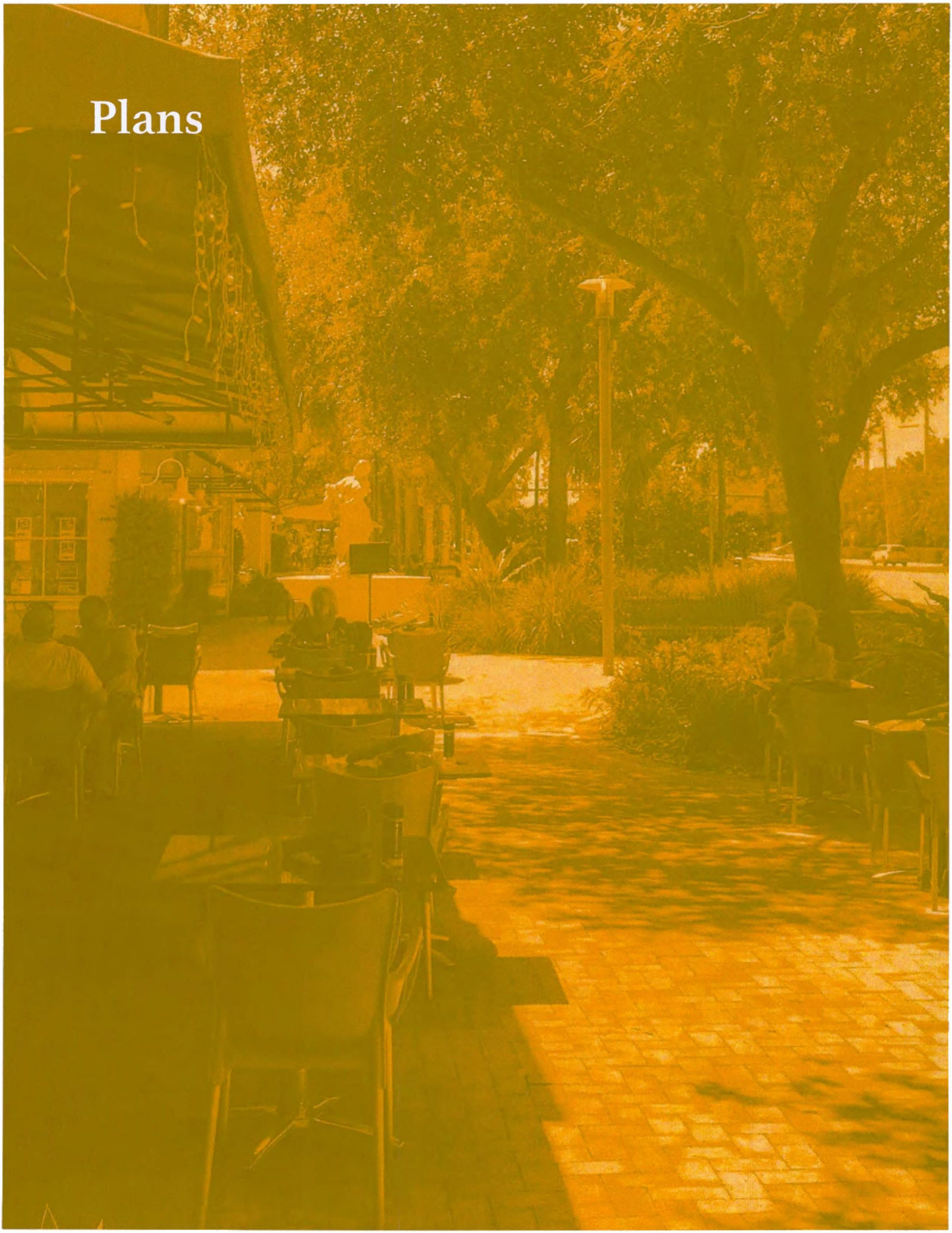
Projects // *Road & Intersection Improvements*

ID	Roadway	From	To	Length (miles)	Existing Lanes	Future Lanes	Improvements	Time Period
4	Hood Rd	Turnpike	Central Blvd	1.22	2	4	Programmed to be widened to 4 lanes by the County.	2019-2020
18	PGA Blvd	Military Trail	Alternate A1A	0.76	--	--	Interchange Improvements at Interstate 95 to be funded by FDOT.	2020-2030
23	RCA Blvd	Northcorp Pkwy	Alternate A1A	0.25	2	4	Widen road to 4 lanes with a landscape median and left turn lanes.	2020-2030
30	Northlake Blvd	Sandtree Dr	Congress Ave Extension	0.65	--	--	Interchange Improvements at Interstate 95 to be funded by FDOT.	2020-2030
32	Central Blvd	117th Ct North	Donald Ross Rd	2.51	--	--	New Interchange with I-95 to be funded by FDOT.	2020-2030
43	Riverside Dr	Northcorp Pkwy	Burns Rd	0.25	0	1	Add southbound right turn lane at intersection with Burns Rd.	2020-2030
56	Government Center Roads	PGA Blvd	Fairchild Ave	0.30	0	2	New two lane divided road plus turn lanes at Fairchild Ave.	2020-2030
57	Military Trail Multimodal Shared Street	Burns Rd	PGA Blvd	0.50	0	2	Convert existing drive-aisles and parking spaces into a shared street with parallel parking permitted to provide a multimodal alternative to Military Trail for transit circulation, micromobility devices and people bicycling and driving.	2020-2030
65	Citywide Minor Intersection Improvements			--	--	--	Add 20 turn lanes at intersections of two and four lane roads to add capacity and address safety, multimodal, and operational issues	2020-2040
66	Citywide Major Intersection Improvements			--	--	--	Add 20 turn lanes at intersections of four and six lane roads to add capacity, address safety, multimodal, and operational issues and upgrade traffic signals	2020-2040

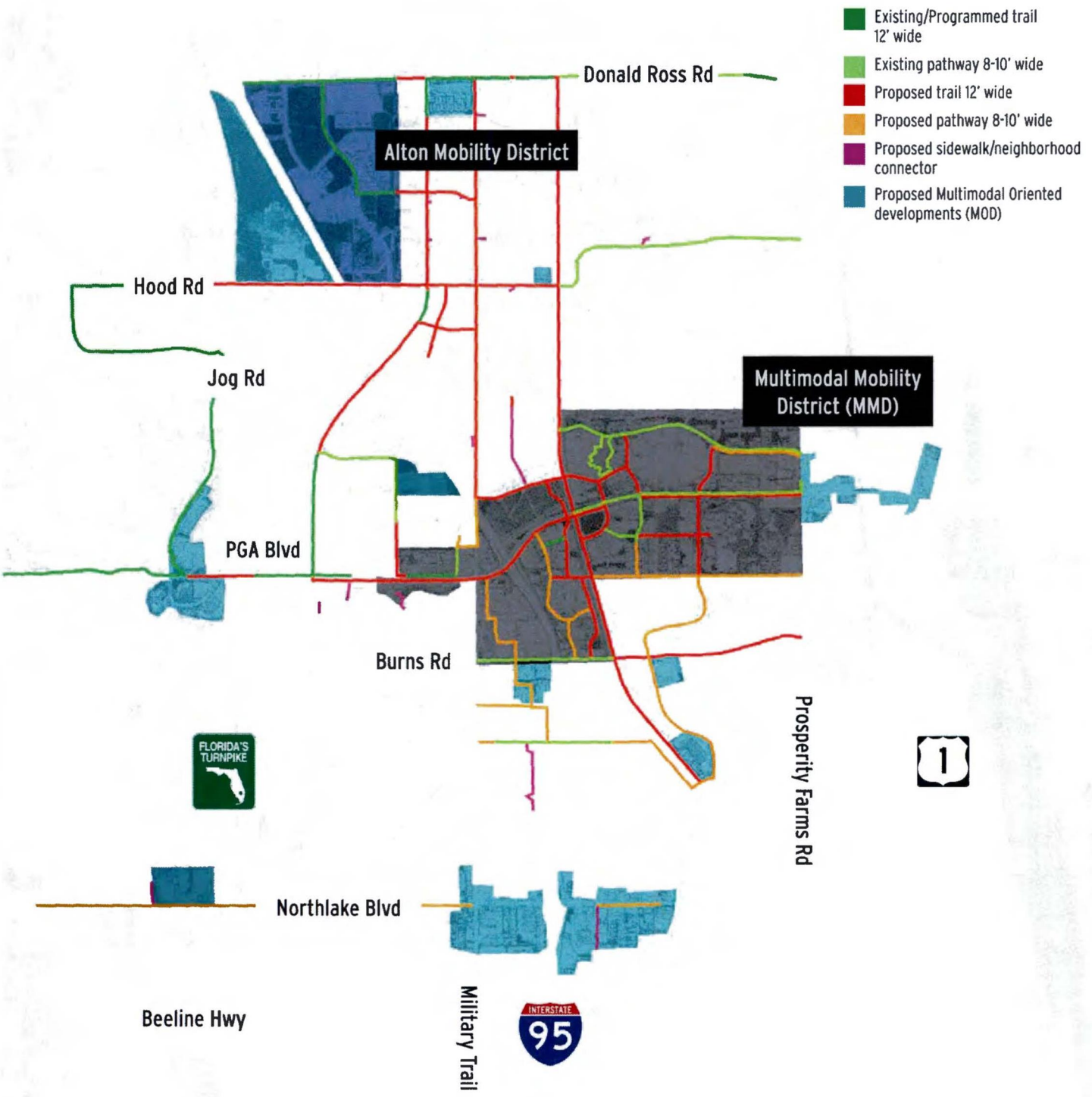

NORTH
95
SOUTH
Daytona Bch
West Palm Bch
LEFT LANE
SHARE
THE
ROAD

Appendix B

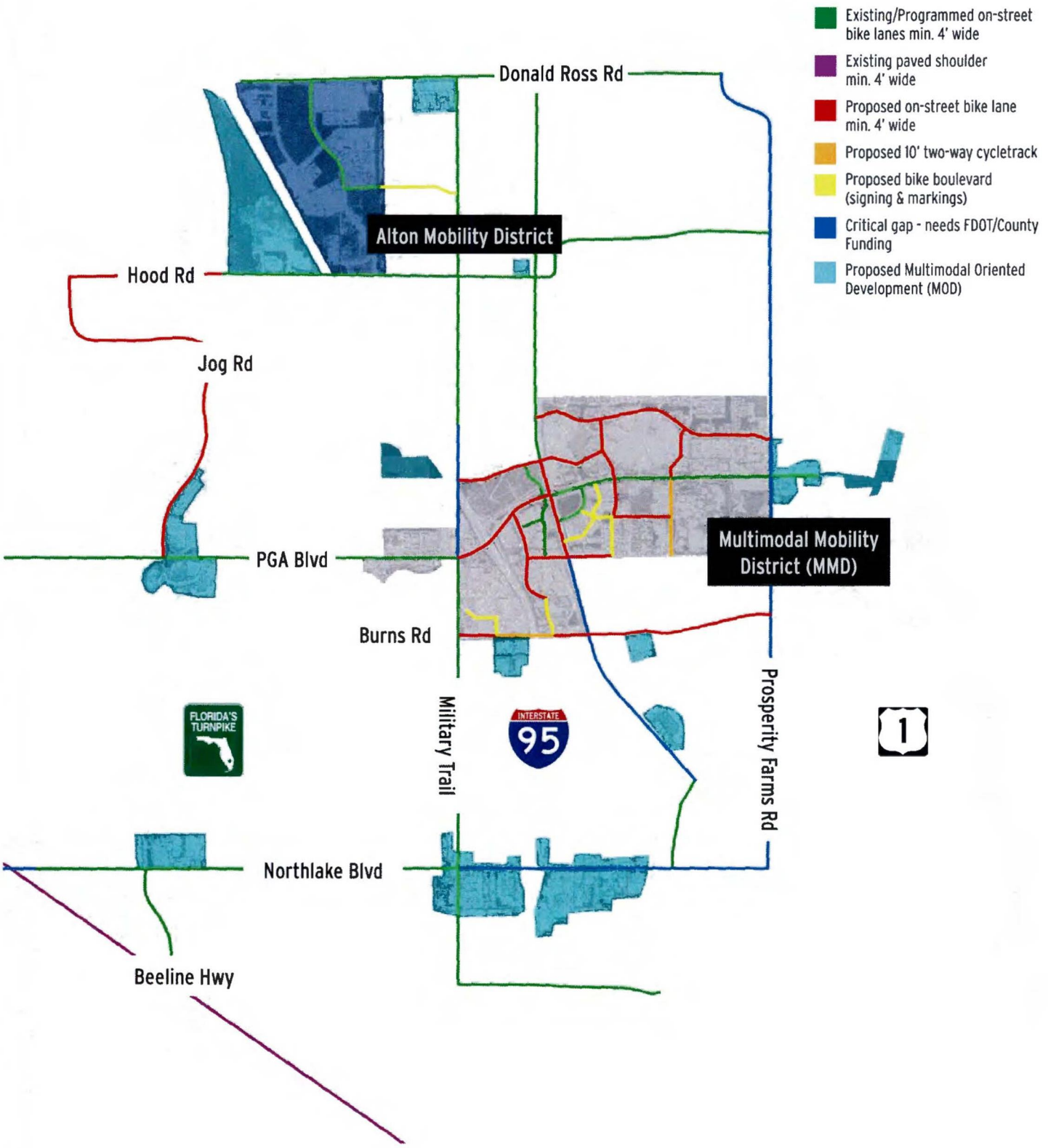
Plans



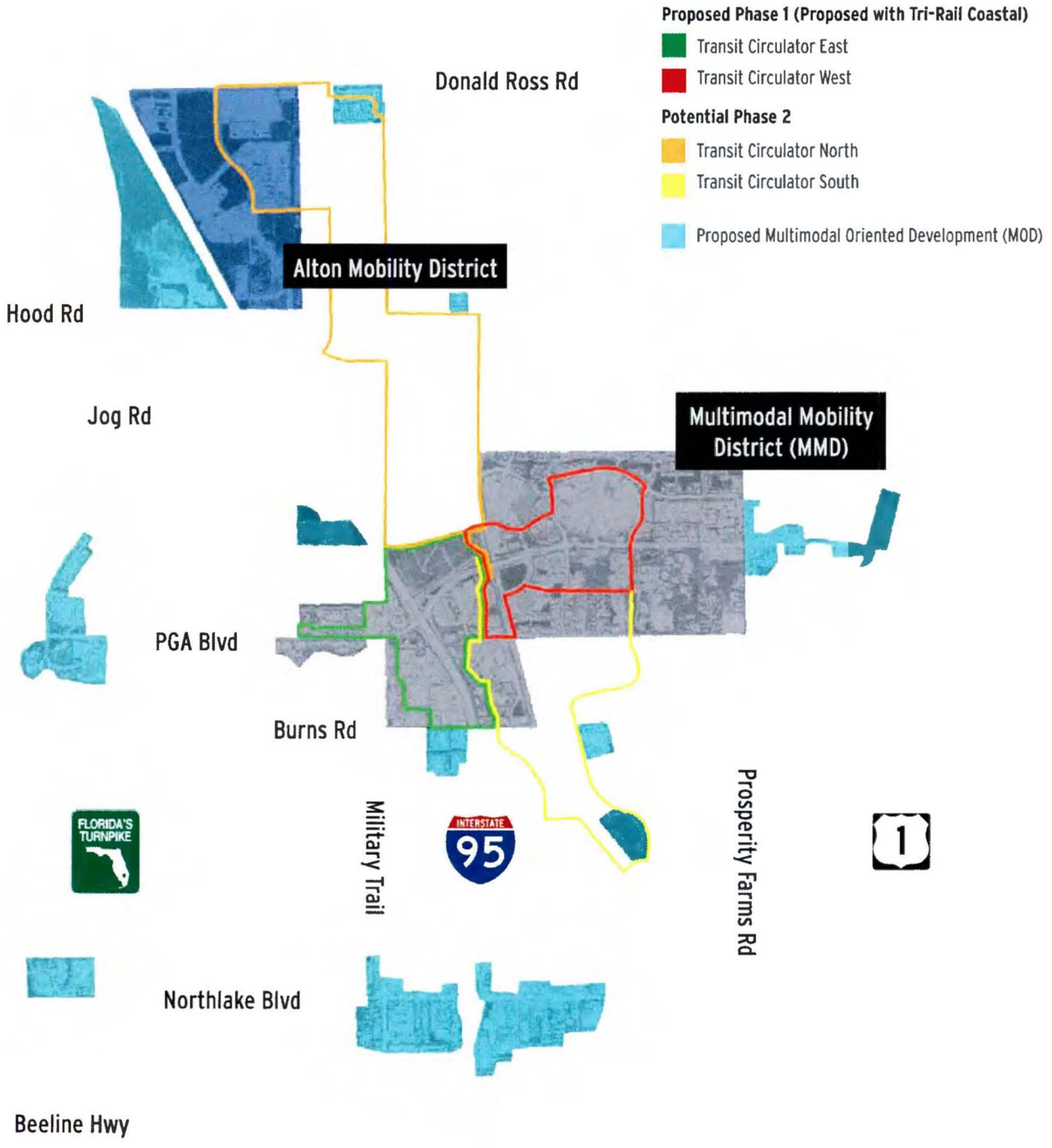
Plan // *Walking and Bicycling*



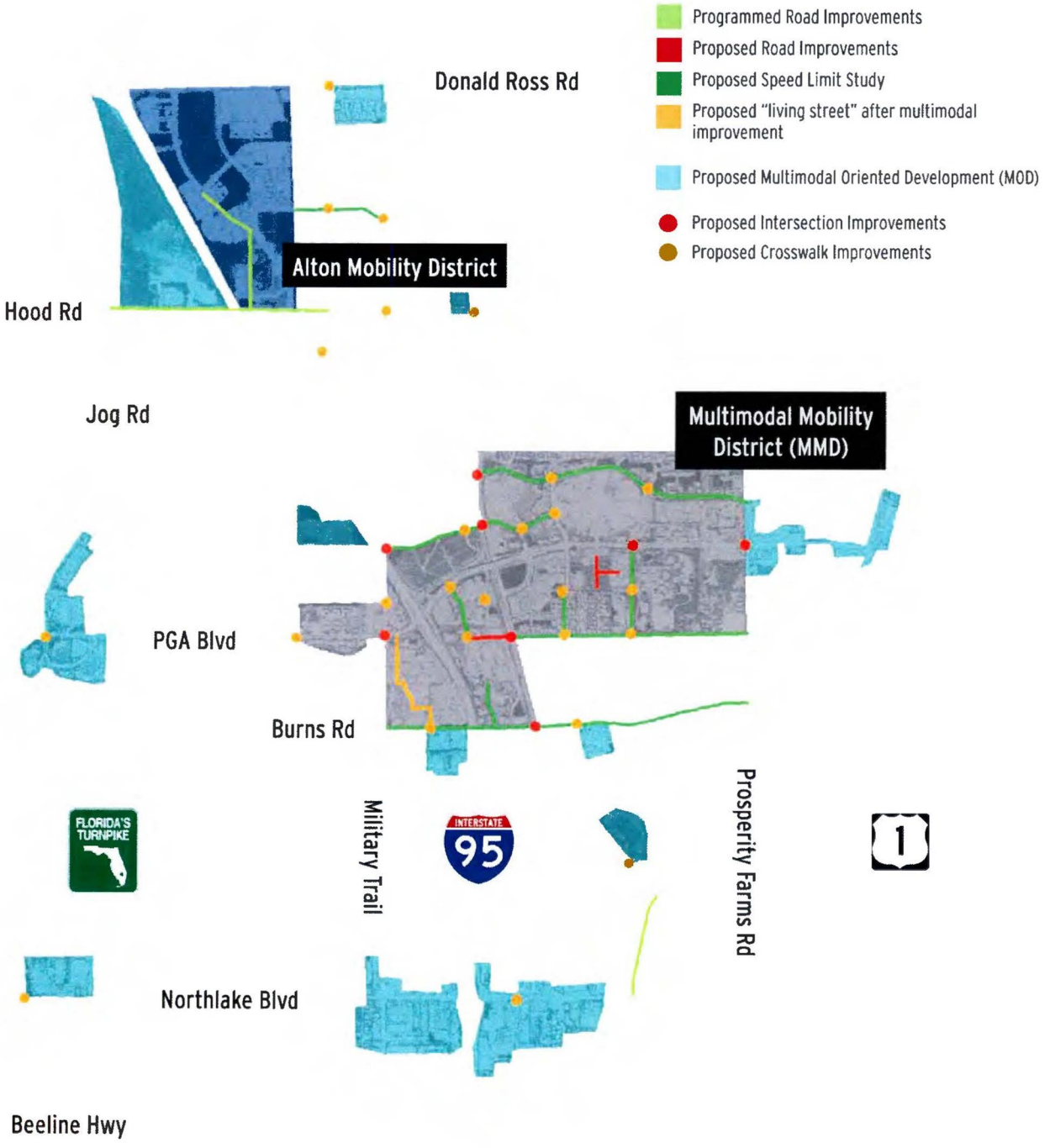
Plan // *Bicycling*



Plan // *Transit Circulator*



Plan // *Road and Intersection*



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THE REPUBLIC of DESIGN

PTC
Transportation Consultants

EXHIBIT "B"

PALM BEACH Gardens

May 2019

Mobility Fee Technical Report

PTC

NUE URBAN CONCEPTS
Land Use - Transportation - Parking - Impact & Mobility Fees - Traffic - Funding

THE REPUBLIC of DESIGN

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May 17th, 2019

Mrs. Natalie Crowley, AICP
Director of Planning & Zoning
City of Palm Beach Gardens
10500 North Military Trail
Palm Beach Gardens, FL 33410

Re: City of Palm Beach Gardens Mobility Fee

Dear Natalie:

Enclosed is the technical analysis used to develop the City of Palm Beach Gardens Mobility Fee. The Mobility Fee is based upon the Palm Beach Gardens Mobility Plan. The Mobility Fee is consistent with all legal and statutory requirements and meets the dual rational nexus test and the rough proportionality test. If you have any question, please do not hesitate to contact me.

It has been a pleasure working with City Staff on the development of this Mobility Fee.

Sincerely,

Jonathan B. Paul

Jonathan B. Paul, AICP
Principal

CITY OF PALM BEACH GARDENS MOBILITY FEE

TECHNICAL REPORT

MAY 2019

Produced for: City of Palm Beach Gardens

Produced by: Jonathan B. Paul, AICP
Principal, NUE Urban Concepts, LLC
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TABLE OF CONTENTS

Figures

Tables

Appendices

Maps

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EXECUTIVE SUMMARY

In 1985, the Florida Legislature passed the Growth Management Act that required all local governments in Florida adopt Comprehensive Plans to guide future development and mandated that adequate public facilities be provided "concurrent" with the impacts of new development. By 1993, the Florida Legislature recognized an unintended consequence of transportation concurrency is that it stopped development in urban areas where road capacity was constrained and pushed development to suburban areas where transportation capacity was either available or cost effective to provide. In 2009, the Legislature introduced mobility plans and mobility fees as a replacement of transportation concurrency, proportionate share and impact fees. In 2010, Palm Beach County updated the County Charter, reauthorizing its power, established in 1990, to enforce transportation concurrency and collect road impact fees. In 2011, the Legislature eliminated state mandated transportation concurrency and made it optional for local governments, with no exemption included in Statutes for Palm Beach County. In 2013, the Legislature encouraged local governments to adopt mobility plans and fees as an alternative to transportation concurrency, proportionate share and road impact fees.

In 2017, the City of Palm Beach Gardens began the process of developing a mobility plan, consistent with Florida Statute 163.3180 (5)(f), for the adoption of a mobility fee within all areas of the City of Palm Beach Gardens east of the Beeline Highway. All areas west of the Beeline Highway will continue to be regulated by transportation concurrency policies and pay road impact fees to both Palm Beach County and the City of Palm Beach Gardens. The mobility plan identifies multimodal transportation improvements necessary to meet future person travel demand and to safely and efficiently move people through multiple modes of travel such as walking, bicycling, riding transit, driving, and utilizing new mobility technologies.

The mobility fee, to be administered by the City, will allow the City to repurpose revenues away from funding road capacity towards funding the multimodal improvements established in the mobility plan. The intent of the mobility fee, consistent with Florida Statute 163.3180 (5)(i), is to replace current transportation concurrency policies, proportionate share, Palm Beach County and Palm Beach Gardens road impact fees within all areas of the City east of the Beeline Highway. The adoption of a mobility fee will provide development a simplified and streamlined process to mitigate its transportation impact through a one-time payment to the City to fund the multimodal transportation improvements established in the mobility plan. The mobility fee is only assessed on new development and redevelopment that results in an increase in travel demand over and above the existing use of a parcel of land. The City may still require new development and redevelopment to conduct a traffic impact analysis to address site access, traffic control, multimodal connectivity and impacts to adjacent intersections.

INTRODUCTION

The Florida Constitution grants local governments broad home rule authority to establish assessments and fees. Special assessments, impact fees, mobility fees, franchise fees, and user fees or service charges are examples of these home rule revenue sources. All mobility fees require the adoption of a local implementing ordinance. Payment of mobility fees are one of the primary means through which local governments can require new development, along with redevelopment or expansion of existing land uses which generates additional person travel demand impact, to fund a share of the cost of multimodal infrastructure needed to accommodate the increase in person travel demand from the development.

The primary difference between traditional road impact fees, such as those charged by Palm Beach County, and mobility fees are that road impact fees principally pay for the cost associated with adding new road capacity while mobility fees pay for the cost associated with adding new multimodal person capacity based on an adopted mobility plan. Road capacity projects are the construction of new roads, the widening of existing roads and the addition or extension of turn lanes at intersections. Mobility fee can be used for road and intersection improvements. However, mobility fees can also be used to fund sidewalks, trails, bike lanes, protected bike lanes, streetscape and landscape, dedicated transit lanes and transit stops, transit circulators, mobility hubs, share use mobility programs and multimodal transportation centers adjacent to the future TRI-Rail coastal station. Mobility fees can also be used to fund new mobility technology that provides alternatives to use of motor vehicles for travel.

LEGISLATIVE BACKGROUND

The State of Florida passed the Growth Management Act of 1985 that required all local governments in Florida to adopt Comprehensive Plans to guide future development. The Act mandated that adequate public facilities must be provided "concurrent" with the impacts of new development. State mandated transportation "concurrency" was adopted to ensure the health, safety and general welfare of the public by ensuring that adequate roadway capacity would be in place to accommodate the travel demand created by new development.

Traditional transportation concurrency allowed governmental entities to deny development where road capacity was not available to meet the travel demands from the new development. Transportation concurrency also allowed governmental entities to require that developments be timed or phased concurrent with the addition of new road capacity. In addition, transportation concurrency also allowed governmental entities to require new development to improve (widen) roads that were already overcapacity, deficient or "backlogged" and to add new capacity through

new roads and widening roads to meet the travel demand impacts of the new development and be deemed to be "concurrent". In urban areas throughout Florida, traditional transportation concurrency had the unintended consequence of limiting and stopping growth in urban areas, where road capacity was unavailable or cost prohibitive to build, and encouraged sprawl by forcing new development to suburban and rural areas where road capacity was either readily available or cheaper to construct.

In the late 90's, as the unintended impact of transportation concurrency became more apparent, the Legislature adopted Statutes to provide urban areas with alternative means to address the impact of new development through Transportation Concurrency Exception Areas (TCEA) and Transportation Concurrency Management Areas (TCMA). The intent of TCEAs and TCMAs was to allow local governments alternative solutions to provide Mobility within urban areas by means other than providing road capacity and to allow infill and redevelopment in urban areas. In the mid 2000's, Florida experienced phenomenal growth that strained the ability of local governments to provide the necessary infrastructure to accommodate that growth. Many communities across the State started to deny new developments, substantially raise impact fees and require significant transportation capacity improvements. In 2005, the Legislature enacted several laws that weakened the ability of local governments to implement transportation concurrency by allowing new development to make proportionate share payments to mitigate its travel demand. The Legislature also introduced Multi-Modal Transportation Districts (MMTD) for areas that did not meet requirements to qualify for TCEAs or TCMAs.

In 2007, the Florida Legislature introduced the concept Mobility Plans and Mobility Fees to allow development to equitably mitigate its impact and placed additional restrictions on the ability of local governments to charge new development for over capacity "backlogged" or "deficient" roadways. The Legislature directed the Florida Department of Community Affairs (DCA) and the Florida Department of Transportation (FDOT) to evaluate Mobility Plans and Mobility Fees and report the finding to the Legislature in 2009.

In 2009, the Legislature designated Dense Urban Land Areas (DULA), communities with a population greater than 1,000 persons per square mile, as TCEA's. Palm Beach County, and its Cities, was designated as a DULA as part of the 2009 legislation. The Legislature accepted the findings of the DCA and FDOT analysis for Mobility Plans and Mobility Fees. However, the Legislature did not take any formal action on Mobility Plans and Mobility Fees as the State was during the great recession. The Legislature did place further restrictions on local government's ability to implement transportation concurrency by adding further direction on how to calculate proportionate share and how backlogged roadways were to be addressed in concurrency analyses.

In 2011, the Florida Legislature through House Bill (HB) 7207 adopted the "Community Planning Act" which implemented the most substantial changes to Florida's growth management laws since the 1985 "Local Government Comprehensive Planning and Land Development Regulation Act," which had guided comprehensive planning in Florida for decades. The 2011 legislative session eliminated State mandated concurrency, made concurrency optional for local governments, and eliminated the Florida Department of Community Affairs (DCA) and replaced it with the Florida Department of Economic Opportunity (DEO).

The Act essentially removed the DEO, Florida Department of Transportation (FDOT), and Regional Planning Councils (RPC) from the transportation concurrency review process. Although local governments are still required to adopt and implement a comprehensive plan, the requirements changed significantly and shifted more discretion to local governments to plan for mobility within their community and enacted further restrictions on the implementation of transportation concurrency, the calculation of proportionate share and how local governments address backlogged roads.

The Florida Legislature did not include any provisions in HB 7207 exempting Palm Beach County's, or any local government throughout Florida, transportation concurrency system when it elected to abolish statewide transportation concurrency and make transportation concurrency optional for local governments. Florida Statute 163.3180 (1) provides local governments with the flexibility to establish concurrency requirements and states:

"Sanitary sewer, solid waste, drainage, and potable water are the only public facilities and services subject to the concurrency requirement on a statewide basis. Additional public facilities and services may not be made subject to concurrency on a statewide basis without approval by the Legislature; however, any local government may extend the concurrency requirement so that it applies to additional public facilities within its jurisdiction".

The 2013 Legislative Session brought about more changes in how local governments could implement transportation concurrency and further recognized the ability of local governments to adopt alternative concurrency systems. House Bill 319, passed by the Florida Legislature in 2013, amended the Community Planning Act and established Mobility Plans and associated Mobility Fees as an alternative to transportation concurrency by which local governments can allow development, consistent with an adopted Comprehensive Plan, to equitably mitigate its travel demand impact. The Legislature also clarified in the Community Planning Act that any backlogged facility is the responsibility of local governments; new development shall not be charged for backlog and that new developments can assume any backlogged facility will be addressed by local government when calculating its proportionate share mitigation.

The Community Planning Act did not elect to grandfather in Palm Beach County's existing transportation concurrency system and did not restrict any local government within Palm Beach County from adopting an alternative to transportation concurrency. The Community Planning Act provides the following guidance for local governments, including those within Palm Beach County, from adopting an alternative to transportation concurrency through Florida Statute 163.3180 (5) (i), which states:

"If a local government elects to repeal transportation concurrency, it is encouraged to adopt an alternative mobility funding system that uses one or more of the tools and techniques identified in paragraph (f). Any alternative mobility funding system adopted may not be used to deny, time, or phase an application for site plan approval, plat approval, final subdivision approval, building permits, or the functional equivalent of such approvals provided that the developer agrees to pay for the development's identified transportation impacts via the funding mechanism implemented by the local government. The revenue from the funding mechanism used in the alternative system must be used to implement the needs of the local government's plan which serves as the basis for the fee imposed. A mobility fee-based funding system must comply with the dual rational nexus test applicable to impact fees. An alternative system that is not mobility fee-based shall not be applied in a manner that imposes upon new development any responsibility for funding an existing transportation deficiency as defined in paragraph (h)."

The Community Planning Act provides the following guidance for local governments, including those in Pam Beach County, that elect to repeal transportation concurrency and adopt an alternative mobility funding system using one or more of the tools and techniques identified in Florida Statutes 163.3180(5)(f) such as:

"1. Adoption of long-term strategies to facilitate development patterns that support multimodal solutions, including urban design, appropriate land use mixes, intensity and density.

2. Adoption of an area wide level of service not dependent on any single road segment function.

3. Exempting or discounting impacts of locally desired development.

4. Assigning secondary priority to vehicle mobility and primary priority to ensuring a safe, comfortable, and attractive pedestrian environment with convenient interconnection to transit.

5. Establishing multimodal level of service standards that rely primarily on non-vehicular modes of transportation where existing or planned community design will provide adequate a level of mobility.

6. Reducing impact fees or local access fees to promote development within urban areas, multimodal transportation districts, and a balance of mixed-use development in certain areas or districts, or for affordable or workforce housing."

LEGAL

In 2006, the Legislature adopted the "Impact Fee Act" to provide general criteria that local governments who adopted an impact fee are required to meet. Unlike many States throughout the U.S. that have adopted enabling legislation, the Florida Legislature deferred largely to the significant case law that has been developed in both Florida and throughout the U.S. to provide guidance to local governments. By the time the "Impact Fee Act" was adopted, many local governments had already developed impact fees through their broad home rule powers.

In 2009, the Legislature made several changes to the "Impact Fee Act", the most significant of which was placing the burden of proof on local governments, through a preponderance of the evidence, that the imposition of the Fee meets legal precedent and the requirements of Florida Statute 163.31801. The "Impact Fee Act" in Florida Statute 163.31801 reads:

"(1) This section may be cited as the "Florida Impact Fee Act."

(2) The Legislature finds that impact fees are an important source of revenue for a local government to use in funding the infrastructure necessitated by new growth. The Legislature further finds that impact fees are an outgrowth of the home rule power of a local government to provide certain services within its jurisdiction. Due to the growth of impact fee collections and local governments' reliance on impact fees, it is the intent of the Legislature to ensure that, when a county or municipality adopts an impact fee by ordinance or a special district adopts an impact fee by resolution, the governing authority complies with this section.

(3) An impact fee adopted by ordinance of a county or municipality or by resolution of a special district must, at minimum:

(a) Require that the calculation of the impact fee be based on the most recent and localized data.

(b) Provide for accounting and reporting of impact fee collections and expenditures. If a local governmental entity imposes an impact fee to address its infrastructure needs, the entity shall account for the revenues and expenditures of such impact fee in a separate accounting fund.

(c) Limit administrative charges for the collection of impact fees to actual costs.

(d) Require that notice be provided no less than 90 days before the effective date of an ordinance or resolution imposing a new or increased impact fee. A county or municipality is not required to wait 90 days to decrease, suspend, or eliminate an impact fee.

(4) *Audits of financial statements of local governmental entities and district school boards which are performed by a certified public accountant pursuant to s. 218.39 and submitted to the Auditor General must include an affidavit signed by the chief financial officer of the local governmental entity or district school board stating that the local governmental entity or district school board has complied with this section.*

(5) *In any action challenging an impact fee, the government has the burden of proving by a preponderance of the evidence that the imposition or amount of the fee meets the requirements of state legal precedent or this section. The court may not use a deferential standard."*

Prior to the 2009 amendment, Courts generally deferred to local governments as to the validity of an imposed impact fee and placed the burden of proof, that an imposed impact fee was invalid or unconstitutional, on the plaintiff. There has yet to be a legal challenge to impact fees in Florida since the 2009 legislation, due in large part to the great recession and the fact that many local governments either reduced impact fees or placed a moratorium on impact fees between 2009 and 2015.

The purpose of preparing a technical report is to demonstrate that the mobility fee meets the "dual rational test" as required by Florida Statute 163.3180 (5) (i). The "dual rational nexus test" requires a local government demonstrate that there is a reasonable connection, or rational nexus, between:

The **"Need"** for additional (new) capital facilities (improvements) to accommodate the increase in demand from new development (growth), and

The **"Benefit"** that the new development receives from the payment and expenditure of fees to construct the new capital improvements.

In addition to the "dual rational nexus test", the U.S. Supreme Court in Dolan v. Tigard also established a "rough proportionality" test to address the relationship between the amount of a fee imposed on a new development and the impact of the new development. The "rough proportionality" test requires that there be a reasonable relationship between the impact fee and the impact of new development based upon the applicable unit of measure for residential and non-residential uses and that the variables used to calculate a fee are reasonably assignable and attributable to the impact of each new development.

The first time the Courts recognized the authority of a municipality to impose "impact fees" in Florida occurred in 1975 In the case of City of Dunedin v. Contractors and Builders Association of Pinellas County, 312 So.2d 763 (2 D.C.A. Fla., 1975), where the court held: "that the so-called "impact fee" did not constitute "taxes" but was a charge for using the utility services under Ch. 180, F. S."

The Court set forth the following criteria to validate the establishment of an impact fee:

"...where the growth patterns are such that an existing water or sewer system will have to be expanded in the near future, a municipality may properly charge for the privilege of connecting to the system a fee which is in excess of the physical cost of connection, if this fee does not exceed a proportionate part of the amount reasonably necessary to finance the expansion and is earmarked for that purpose." 312 So.2d 763, 766, (1975).

The case was appealed to the Florida Supreme Court and a decision rendered in the case of Contractors and Builders Association of Pinellas County v. City of Dunedin 329 So.2d 314 (Fla. 1976), in which the Second District Court's decision was reversed. The Court held that "impact fees" did not constitute a tax; that they were user charges analogous to fees collected by privately owned utilities for services rendered. However, the Court reversed the decision, based on the finding that the City did not create a separate fund where impact fees collected would be deposited and earmarked for the specific purpose for which they were collected, finding:

"The failure to include necessary restrictions on the use of the fund is bound to result in confusion, at best. City personnel may come and go before the fund is exhausted, yet there is nothing in writing to guide their use of these moneys, although certain uses, even within the water and sewer systems, would undercut the legal basis for the fund's existence. There is no justification for such casual handling of public moneys, and we therefore hold that the ordinance is defective for failure to spell out necessary restrictions on the use of fees it authorizes to be collected. Nothing we decide, however prevents Dunedin from adopting another sewer connection charge ordinance, incorporating appropriate restrictions on use of the revenues it produces. Dunedin is at liberty, moreover, to adopt an ordinance restricting the use of moneys already collected. We pretermit any discussion of refunds for that reason." 329 So.2d 314 321, 322 (Fla. 1976)

The case tied impact fees directly to growth and recognized the authority of a local government to impose fees to provide capacity to accommodate new growth and basing the fee on a proportionate share of the cost of the needed capacity. The ruling also established the need for local government to create a separate account to deposit impact fee collections to help ensure those funds are expended on infrastructure capacity.

The Utah Supreme Court had ruled on several cases related to the imposition of impact fees by local governments before hearing Banberry v. South Jordan. In the case, the Court held that: "the fair contribution of the fee-paying party should not exceed the expense thereof met by others. To comply with this standard a municipal fee related to service like water and sewer must not require newly developed properties to bear more than their equitable share of the capital costs in relation to the benefits conferred". (Banberry Development Corporation v. South Jordan City, 631 P. 2d 899 (Utah 1981). To provide further guidance for the imposition of impact fees, the court articulated seven factors which must be considered (Banberry Development Corporation v. South Jordan City, 631 P. 2d 904 (Utah 1981):

"(1) the cost of existing capital facilities;

(2) the manner of financing existing capital facilities (such as user charges, special assessments, bonded indebtedness, general taxes or federal grants);

(3) the relative extent to which the newly developed properties and the other properties in the municipality have already contributed to the cost of existing capital facilities (by such means as user charges, special assessments, or payment from the proceeds of general taxes);

(4) the relative extent to which the newly developed properties in the municipality will contribute to the cost of existing capital facilities in the future;

(5) the extent to which the newly developed properties are entitled to a credit because the municipality is requiring their developers or owners (by contractual arrangement or otherwise) to provide common facilities (inside or outside the proposed development) that have been provided by the municipality and financed through general taxation or other means (apart from user fees) in other parts of the municipality;

(6) extraordinary costs, if any, in servicing the newly developed properties; and

(7) the time-price differential inherent in fair comparisons of amounts paid at different times."

The Court rulings in Florida, Utah and elsewhere is the U.S. during the 1970's and early 1980's led to the first use of what ultimately become known as the "dual rational nexus test" in Hollywood, Inc. v. Broward County; which involved a Broward County ordinance that required a developer to dedicated land or pay a fee for the County park system. The Fourth District Court of Appeal found to establish a reasonable requirement for dedication of land or payment of an impact fee that:

"... the local government must demonstrate a reasonable connection, or rational nexus between the need for additional capital facilities and the growth of the population generated by the subdivision. In addition, the government must show a reasonable connection, or rational nexus, between the expenditures of the funds collected and the benefits accruing to the subdivision. In order to satisfy this latter requirement, the ordinance must specifically earmark the funds collected for the use in acquiring capital facilities to benefit new residents." (Hollywood, Inc. v. Broward County, 431 So. 2d 606 (Fla. 4th DCA), rev. denied, 440 So. 2d 352 (Fla. 1983).

In 1987, the 1st of two major cases were heard before the Supreme Court that have come to define what is now commonly referred to as the "dual rational nexus test". The 1st case was Nollan v. California Coastal Commission which involved the Commission requiring the Nollan family to dedicated a public access easement to the beach in exchange for permitting the replacement of a bungalow with a larger home which the Commission held would block the public's view of the beach. Justice Scalia delivered the decision of the Court: "The lack of nexus between the condition and the original purpose of the building restriction converts that purpose to something other than what it was...Unless the permit condition serves the same governmental purpose as the development ban, the building restriction is not a valid regulation of land use but an out-and-out plan of extortion (Nollan v. California Coastal Commission, 483 U. S. 825 (1987)". The Court found that there must be an essential nexus between an exaction and the government's legitimate interest being advanced by that exaction (Nollan v. California Coastal Commission, 483 U. S. 836, 837 (1987).

The 2nd case, Dolan v. Tigard, heard by the Supreme Court in 1994 solidified the elements of the "dual rational nexus test". The Petitioner Dolan, owner and operator of a Plumbing & Electrical Supply store in the City of Tigard, Oregon, applied for a permit to expand the store and pave the parking lot of her store. The City Planning Commission granted conditional approval, dependent on the property owner dedicating land to a public greenway along an adjacent creek, and developing a pedestrian and bicycle pathway to relieve traffic congestion. The decision was affirmed by the Oregon State Land Use Board of Appeal and the Oregon Supreme Court. The U.S. Supreme Court over turned the ruling of the Oregon Supreme Court and held:

"Under the well-settled doctrine of "unconstitutional conditions," the government may not require a person to give up a constitutional right in exchange for a discretionary benefit conferred by the government where the property sought has little or no relationship to the benefit. In evaluating Dolan's claim, it must be determined whether an "essential nexus" exists between a legitimate state interest and the permit condition. Nollan v. California Coastal Commission, 483 U. S. 825, 837. If one does, then it must be decided whether the degree of the exactions demanded by the permit conditions bears the required relationship to the projected impact of the proposed development." Dolan v. City of Tigard, 512 U.S. 383, 386 (1994)

The U.S. Supreme Court in addition to upholding the "essential nexus" requirement from Nollan also introduced the "rough proportionality" test and held that:

"In deciding the second question-whether the city's findings are constitutionally sufficient to justify the conditions imposed on Dolan's permit-the necessary connection required by the Fifth Amendment is "rough proportionality." No precise mathematical calculation is required, but the city must make some sort of individualized determination that the required dedication is related both in nature and extent to the proposed development's impact. This is essentially the "reasonable relationship" test adopted by the majority of the state courts. Dolan v. City of Tigard, 512 U.S. 388, 391 (1994)"

The U.S. Supreme Court recently affirmed, through Koontz vs. St. Johns Water Management District, that the "dual rational nexus" test equally applies to monetary exactions in the same manner as a governmental regulation requiring the dedication of land. Justice Alito described:

"Our decisions in Nollan v. California Coastal Commission, 483 U. S. 825 (1987), and Dolan v. City of Tigard, 512 U. S. 374 (1994), provide important protection against the misuse of the power of land-use regulation. In those cases, we held that a unit of government may not condition the approval of a land-use permit on the owner's relinquishment of a portion of his property unless there is a "nexus" and "rough proportionality" between the government's demand and the effects of the proposed land use. In this case, the St. Johns River Water Management District (District) believes that it circumvented Nollan and Dolan because of the way in which it structured its handling of a permit application submitted by Coy Koontz, Sr., whose estate is represented in this Court by Coy Koontz, Jr. The District did not approve his application on the condition that he surrender an interest in his land. Instead, the District, after suggesting that he could obtain approval by signing over such an interest, denied his application because he refused to yield." Koontz v. St. Johns River Water Management District 1333 S. Ct. 2586 (2013).

Justice Alito responded to the Districts and Florida Supreme Court findings that monetary exactions are not the same as a property dedications:

"That carving out a different rule for monetary exactions would make no sense. Monetary exactions—particularly, fees imposed "in lieu" of real property dedications—are "commonplace" and are "functionally equivalent to other types of land use exactions." To subject monetary exactions to lesser, or no, protection would make it "very easy for land-use permitting officials to evade the limitations of Nollan and Dolan." Furthermore, such a rule would effectively render Nollan and Dolan dead letters "because the government need only provide a permit applicant with one alternative that satisfies the nexus and rough proportionality standard, a permitting authority wishing to exact an easement could simply give the owner a choice of either surrendering an easement or making a payment equal to the easement's value." Koontz v. St. Johns River Water Management District 1333 S. Ct. 2599 (2013).

COUNTY CHARTER

Florida Statute has changed dramatically between 2005 and 2013 related to eliminating statewide transportation concurrency, promoting development within urban areas, and encouraging multimodal mobility. Palm Beach County policies have largely remained unchanged during that same time. The County continues to implement transportation concurrency, focuses primarily on moving motor vehicles and providing roadway capacity and collects road impact fees to fund additional roadway capacity improvements based on the County Charter. The Palm Beach County Charter was last amended on July 20th, 2010 and was approved by Palm Beach County voters on November 2nd, 2010, with an effective date of January 1st, 2011.

Volume 1 of the County Charter of Palm Beach County, Florida, states in Article I: Creation, Powers and Ordinances of Home Rule Charter Government, Section 1.2 that: *"Nothing in this Home Rule Charter shall override or conflict with state law or the state constitution."* Further, the County Charter Section 1.3 states the following:

"Municipal ordinances shall prevail over county ordinances to the extent of any conflict regardless of the time of passage of the municipal ordinance, except that county ordinances shall prevail over conflicting municipal ordinances:"

"(2) In matters related to school, county-owned beaches, county district parks, and county regional parks, solid waste disposal, county law enforcement, county road programs, and county public buildings impact fees; and in matters related to county fire-rescue and county library impact fees in those municipalities whose properties are taxed by the county for library or fire-rescue purposes, respectively. This subsection shall not be construed as preempting or limiting in any way the enactment of municipal impact fee ordinances for those capital facilities provided exclusively by municipalities. The county shall provide a credit toward the payment of county impact fees for properties within those municipalities which provide like capital facilities. This section shall not be construed as a transfer of functions or powers related to municipal services."

County Charter Section 1.3 (4) includes provisions related to establishment of level of service (LOS) standards for collector and arterial roads which are not the responsibility of a municipality and states the following:

"In matters relating to the establishment of levels of service for collector and arterial roads which are not the responsibility of any municipality and the restriction of the issuance of development orders which would add traffic to such roads which have traffic exceeding the adopted level of service provided that such ordinance is adopted and amended by a majority of the board of county commissioners."

The Florida Legislature adopted HB 7202, which became effective in July of 2011, that abolished state mandated transportation concurrency and made transportation concurrency optional for any local government within the State of Florida, including those in Palm Beach County. The Palm Beach County Charter was adopted prior to the effective date of HB 7207. The Florida Legislature did not provide any exemptions for Palm Beach County with regards to transportation concurrency or impact fees.

The Florida Legislature adopted HB 7207 during the 2011 Legislative Session, which occurred after the Palm Beach County Charter was amended effective January 1st, 2011, that led to abolishing statewide transportation concurrency, eliminating the Department of Community Affairs, and placed restrictions on local governments ability to implement transportation concurrency; all effective June 2nd, 2011 with no exceptions in Statute for Palm Beach County or any local government therein. The Florida Legislature has clearly provided "any" local government in Florida with the option to adopt alternative mobility funding system per Florida Statute 163.3180. The Legislature has not exempted Palm Beach County or any local government within the County, from repealing transportation concurrency and adopting an alternative mobility funding system.

The County road impact fee program, like any local government imposing an impact fee, is required to meet the two prongs of the "dual rational test", which impact fee and mobility fees are required to meet per Florida Statute 163.3180 (5)(i). An expanded take on the two prongs of the dual rational nexus test based on case law as it relates to impact and mobility fees is as follows:

"Needs Prong:" That a rational nexus exists between an increase in demand from new development and the need for improvements, which serves as the basis for the fee, to accommodate that demand, and

"Benefits Prong:" That a rational nexus exists between the payment of fees by new development and the benefit that new development receives from the expenditure of those fees by the local government imposing the fee to fund the needed improvements.

In 1983, the Home Builders and Contractors Association of Palm Beach County sued Palm Beach County for imposing road impact fees on new development to construct road improvements made necessary by increased traffic generated by new development. The Palm Beach 1980 County Comprehensive Plan recognized that in view of the unusual growth rate being experienced in the county and to maintain a consistent level of road service and quality of life, ***extensive road improvements would be necessary, requiring regulation of new development activity which generates additional automobile traffic.***

The County Commission therefore enacted Ordinance 79-7 to finance the necessary road capital improvements and to regulate increases in traffic levels. The ordinance would require any new land development activity generating road traffic to pay its "fair share" of the reasonably anticipated cost of expansion of new roads attributable to the new development. Home Builders and Contractors Association of Palm Beach County, Inc. v. The Board of County Commissioners 446 So.2d 140 (Fla. Dist. Ct. App. 1984). The 4th District Court of Appeal found in favor of the County.

The fundamental question facing Palm Beach County after 34 years of having a road impact fee based on the need for **"extensive road improvements"**: does the rational nexus still exist? Based upon the latest 2040 Palm Beach MPO Long Range Transportation Plan (LRTP), there are no longer **"extensive road improvement"** needs within the City of Palm Beach Gardens east of the Beeline Highway that served as the basis for the road impact fee. The following are some of the issues that need to be addressed that get to the fundamental issue at hand, does the Palm Beach County Road Impact Fee still meet the "dual rational nexus" test in Palm Beach Gardens east of the Beeline Highway:

1. Does the Palm Beach County Charter supersede the Legislative allowance for a local government to adopt alternative mobility funding system systems such as a mobility plan and a mobility fee to replace transportation concurrency and road impact fees?

2. The 2040 Palm Beach MPO Long Range Transportation Plan (LRTP) identifies relatively few County roads that are proposed to be widen by 2040. Most road widening projects are limited to Interstate 95, the Florida Turnpike and a few State Arterials. Of the County projects proposed in the LRTP, an overwhelming majority are in the western portions of unincorporated Palm Beach County. If there are "no" or "limited" road improvements in the clear majority of Palm Beach Gardens, how is the 1st prong of the dual rational nexus test being met?

3. There are few, if any County road widening projects or new roads proposed east of the Beeline Highway or within City limits. Should new development east of the Beeline Highway pay a road impact fee to subsidize road building serving western Palm Beach County? How does this meet the 2nd prong of the dual rational nexus test?

4. The current Palm Beach County road impact fees are a consumption based model and evaluate vehicle trips only. A consumption based model "assumes" that there is a need for new road capacity to accommodate new vehicle trips, even without identifying specific road improvements. Consumption based models work fine when it is assumed

there are ample roadway capacity improvements that are being made. However, that assumption is no longer valid as evident by the adopted 2040 LRTP and the lack of road capacity improvements east of the Beeline Highway.

5. New development, infill development, and redevelopment within Palm Beach Gardens are paying road impact fees based on countywide trip data and trip lengths, even though they are making fewer vehicular trips and when they do make those trips, they are shorter in length. Not only are they paying more than they should, they are also not receiving any benefit from the fees being paid. It is reasonably debatable that the road impact fee that these developments are paying no longer meet either prong of the dual rational nexus test or the rough proportionality test.

6. There is no one size fits all approach in a County as diverse as Palm Beach. The benefit of mobility plans and mobility fees is they allow each City to identify the specific needs and improvements appropriate for their City and address the modes of travel desired within the City. Improving walking and biking conditions, with trips lengths that are less than one (1) mile and three (3) miles respectively, to truly effectuate a shift in mode share requires a level of detail, focus and planning that is most appropriate at a City level, not Countywide.

COMPREHENSIVE PLAN

The City of Palm Beach Gardens has recently amended its Comprehensive Plan, as part of the Evaluation and Appraisal Report, to establish the legislative intent to evaluate the development of a mobility plan and mobility fee as an alternative to transportation concurrency and further development of a multimodal transportation system. The following are some of the adopted policies in the Comprehensive Plan that lay the foundation for the City of Palm Beach Gardens to adopt a mobility plan and mobility fee:

TRANSPORTATION ELEMENT

Policy 2.1.1.14: *The City may elect to repeal and replace City transportation concurrency proportionate fair-share and road impact fees with a Mobility Fee based upon an adopted Mobility Plan. The City may seek to repeal and replace Palm Beach County transportation concurrency, proportionate fair-share and road impact fees with a Mobility Fee based upon an adopted Mobility Plan. Repeal of Palm Beach County transportation concurrency, proportionate fair-share and road impact fees will require consultation with Palm Beach County.*

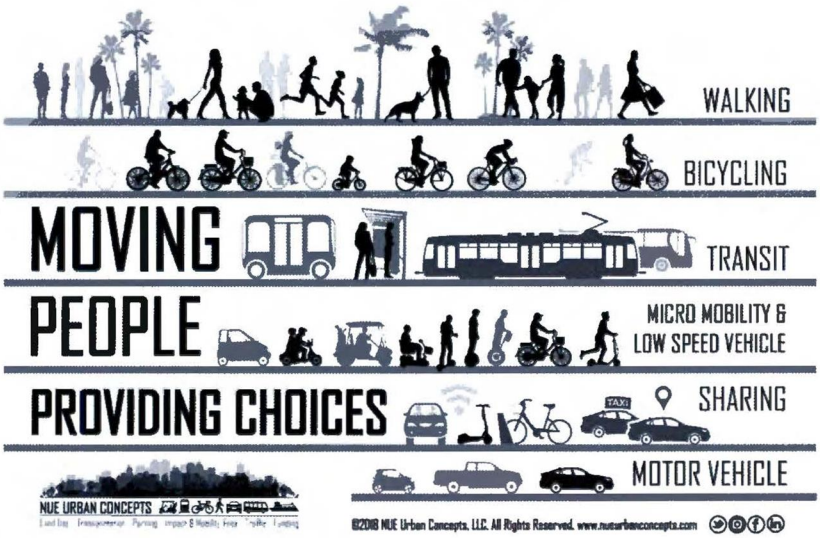
Policy 2.1.1.15.: *The Mobility Plan and Mobility Fee may be implemented and adopted city-wide or may be adopted only for specific areas or districts within the City. The repeal and replacement of City and Palm Beach County transportation concurrency, proportionate fair-share and road impact fees shall only occur in areas of the City where Mobility Fee and Mobility Plan have been adopted.*

Policy 2.1.1.19.: *The Mobility Plan shall include provisions that address mobility between destinations and should address accessibility to and from destinations and between modes of travel. The Mobility Plan shall include a horizon year. The improvements in the Mobility Plan shall be based upon the expected, anticipated or desired increase in new development, infill development and redevelopment by the established horizon year and the associated increase in vehicular and person travel demand. The Mobility Plan shall include quality and level of service standards for all modes of travel included in the Mobility Plan.*

Policy 2.2.2.3.: *The City shall utilize an impact fee program as one of the methods to fund local (city) roadway capital improvements and may consider adopting a mobility fee to fund multi-modal improvements consistent with an adopted mobility plan. The City shall continue to assess and improve the performance of the impact fee program and if adopted, the mobility fee program.*

MOBILITY PLAN

The basis for the City of Palm Beach Gardens mobility fee are the multimodal transportation improvements and programs identified in the mobility plan. The mobility plan consists of the following four plans: (1) people walking and bicycling on an interconnected network of trails and paths (**Map A**); (2) people bicycling on a network of bicycle lanes and bicycle boulevards (**Map B**); people riding transit (**Map C**); and a roadway and intersection plan (**Map D**). The horizon year for the Mobility Plan is 2040. The mobility plan also identifies locations for future mobility hubs and includes projects for multimodal way finding signs, shared mobility programs and a multimodal transportation center at the future TRI-Rail Coastal Station. The Vision of the Mobility Plan is to provide personal mobility through expanded travel choices and connecting neighborhoods with stores, schools, parks, offices, restaurants, and the future TRI-Rail Coastal Station. The Mobility Plan recognizes that there are multiple ways to move people around the City, whether it is walking, riding a bike, or making use of new technology; while there is really only one way to move motor vehicles, and that is to drive them.



EXISTING CONDITIONS EVALUATION

Case law and State Statute prohibit local governments from charging new development for over capacity or "backlogged" roadways. To evaluate the capacity of the major road system to ensure that new development is not being charged for existing deficiencies, a system-wide capacity analysis has been conducted. The analysis is achieved by dividing the system-wide vehicle miles of travel (VMT) demand by the system-wide vehicle miles of capacity (VMC). The major road system currently provides adequate units of capacity for every unit of travel demand (**Table 1**). This represents the current system-wide capacity. A VMT/VMC ratio greater than 1.00 indicates that there are system deficiencies. Based on the evaluation of existing conditions, the system wide VMT/VMC ratio is .60. Thus, there are no backlogged facilities on a system-wide basis for which new development would be assessed. New development will only be assessed its share of the cost to provide new capacity.

TABLE 1. EXISTING CONDITIONS EVALUATION

Year	Vehicle Miles of Travel (VMT)	Vehicle Miles of Capacity (VMC)	VMT / VMC Ratio
Collector Roads	189,686	486,940	.39
Arterial Roads	1,868,330	3,348,935	.56
Interstate 95 & Florida Turnpike	1,272,224	1,670,134	.76
Total	3,330,422	5,506,009	.60

Source: Existing (2016) VMT data was obtained from the Palm Beach Gardens Road Existing Traffic Conditions provided in **Appendix A**. Existing conditions evaluation formula: SUM (VMT) / SUM (VMC) = VMT/VMC Ratio

GROWTH

The first prong of the dual rational nexus for a Mobility Fee is to demonstrate that there is a need for future multimodal improvements to accommodate the person travel demand from future growth. An evaluation of the projected population and employment for the City of Palm Beach Gardens, based upon data from the Southeast Regional Planning Model (SERPM) 7, demonstrates that there is projected to be an increase in both population and employment (**Table 2**). This increase in population and employment will result in an increase in person travel demand and will necessitate new multimodal improvements to meet that demand. The population in Palm Beach Gardens is projected to increase by a total of 20,999 residents between 2016 and 2040 (**Table 2**). The employment in Palm Beach Gardens is projected to grow from 29,864 in 2015 to 68,903 in 2040, an increase of 39,239 employees. The number of hotel rooms is projected to increase by 1,302 between 2015 and 2040.

TABLE 2. PROJECTED GROWTH IN CITY

Year	Hotel Rooms	Population	Employment
2015 / 2016	1,647	51,865	29,864
2040	2,949	72,864	68,903
Increase	1,302	20,999	39,239

Source: The existing number of hotel rooms is based on Southeast Regional Planning Model (SERPM) 7 data, extrapolated to the year 2015. The 2015 employment data is from the US Census Bureau, Center for Economic Studies. The 2016 population data is from the American Community Survey. The 2040 data was obtained from the SERPM 7 data.

VEHICLE MILES OF TRAVEL (VMT)

The growth in vehicle miles of travel (VMT) is one of the factors evaluated to determine the need for future multimodal improvements to the transportation system. The Southeast Regional Planning Model (SERPM) version 7.0 was used to determine the VMT growth within the City of Palm Beach Gardens between 2010 (base year) and 2040 (horizon year). The Palm Beach Gardens transportation network data from **Table 1** utilized in the existing conditions evaluation includes roads that are not in the regional travel demand model. The total VMT in Palm Beach Gardens is projected to increase by 710,692 between 2018 and 2040 (**Table 3**). The VMT along Interstate 95 and the Florida Turnpike are projected to grow from 1,187,812 in 2018 to 1,618,275 in 2040, an increase of 430,463. The total VMT on arterial and collector roads is projected to increase by 280,229 between 2018 and 2040. The growth in travel on Interstate 95 and the Florida Turnpike will be excluded in mobility fee calculations. Travel on the Interstate and Turnpike are excluded due to fact that the Interstate system is largely funded through federal fuel tax revenues and the Turnpike is funded by toll revenue. Future managed lanes along Interstate 95 are intended to be funded by toll revenue.

TABLE 3. GROWTH IN VEHICLE MILES OF TRAVEL (VMT)

Year	Arterial & Collector Roads	Interstate 95 & Florida Turnpike	Total
2010	1,020,553	1,031,280	2,051,832
2018	1,122,454	1,187,812	3,020,958
2040	1,402,682	1,618,275	2,310,265
Increase	280,229	430,463	710,692

Source: The 2010 base year data and 2040 projections are based upon SERPM 7.0. The 2018 mobility plan base year VMT was interpolated based on the growth in VMT between the 2010 base year model data and the 2040 horizon year model data.

PERSON TRAVEL DEMAND (PTD)

The evaluation of future person travel demand is the initial component in the development of a mobility fee. To account for person trips made by walking, biking, riding transit, and vehicle occupancy in a multimodal travel environment, vehicle travel demand is converted into person travel demand based on data from the 2017 National Household Travel Survey (NHTS). Person travel demand, also referred to as person miles of travel, is calculated based on person trips and the length of person trips from the NHTS data. An evaluation of the personal travel data from the NHTS resulted in a PTD factor of 1.82 (**Appendix B**). The analysis resulted in a calculated PTD of 2,042,866 for existing (2018) conditions. The projected increase in PTD within Palm Beach Gardens between the base year of 2018 and the future year of 2040 is 510,015 (**Table 4**).

TABLE 4. INCREASE IN PERSON TRAVEL DEMAND

2018 Base Year Vehicle Travel Demand (VTD)	1,122,454
2018 Base Year Person Travel Demand (PTD)	**2,042,866**
2040 Future Year Vehicle Travel Demand (PTD)	1,402,682
2040 Future Year Person Travel Demand (PTD)	**2,552,881**
Increase in Person Travel Demand (PTD)	510,015

Source: Base and future year vehicle travel data from **Table 3**. Person travel data obtained by multiplying VTD by 1.82. The increase in person travel demand is obtained by subtracting 2040 PTD from 2018 PTD (2,552,881 - 2,042,866 = 510,015).

MULTIMODAL CAPACITY

The multimodal improvements identified in the mobility plan form the basis from of the mobility fee. The multimodal capital improvements necessary to serve person travel demand include sidewalks, bike lanes, trails, streetscape and hardscape, mobility hubs, shared mobility programs, 15 MPH flex lanes, microtransit vehicles, intersections, and roadways. These improvements are necessary to meet future person travel demand and lay the foundation for use of new micromobility devices that include electric pedal assist bicycle (e-bike) and electric scooter (e-scooter) sharing programs and microtransit vehicles, which could include autonomous transit vehicles or small scale electric vehicles. To account for the capacity benefit of multimodal improvements requires the establishment of base capacity rates for the multimodal transportation projects included in the Mobility Plan. The 2013 Florida Department of Transportation's (FDOT) Generalized Service Volume Tables were used to establish daily capacities for roadways and intersections. (**Table 5**). The Palm Beach Gardens Comprehensive Plan establishes a level of service (LOS) standard of "D" for collector and arterial roads in the City.

A principal difference between a road impact fee based on vehicle miles of travel and a mobility fee based on person travel demand is accounting for vehicle occupancy. To account for vehicle occupancy, the road capacities in **Table 5** are multiplied by a Vehicle Occupancy factor of 1.84, based upon data from the 2017 NTHS (**Appendix B**). The Vehicle Occupancy factor will be used in the multimodal capacity analysis for road and intersection projects identified in the Mobility Plan.

TABLE 5. DAILY ROAD CAPACITIES

Lane Type & Number	Total Capacity	Per Lane Capacity	Turn Lane Capacity
2-Lane Undivided (Class I)	17,700	8,850	885
2-Lane Undivided (Class II)	14,800	7,400	740
4-Lane Divided (Class I)	39,800	9,950	1,990
4-Lane Divided (Class II)	32,400	8,100	1,620
6-Lane Divided (Class I)	59,900	9,983	2,995
6-Lane Divided (Class II)	50,000	8,333	2,500

Source: Florida Department of Transportation, 2013 Quality/Level of Service (LOS) Handbook, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas, **Appendix C.** Capacities are based on a LOS D standard. Turn lane capacities are derived by multiplying the total capacity by .5% per the FDOT Generalized Service Volume Tables.

The establishment of multimodal capacities for people walking and bicycling are based on methodologies from multiple technical reports and manuals. The capacities for people walking and bicycling improvements are based on both a level of service (LOS) and a quality of service (QOS). There is an inverse relationship between the LOS and QOS for people walking and bicycling. The LOS capacities for people walking and bicycling are based upon the number of people that can be accommodated on a facility over a one hour period. A LOS of "A" typically denotes few people are using a sidewalk or bike lane and there is ample room for people to freely walk or bicycle. A LOS "D" typically denotes more people are using a sidewalk or bike lane and movements are restricted. A QOS "D" typically denotes an environment where there is minimal separation between people walking and bicycling and vehicles and there is often a lack of landscape, shade, streetscape or protections from motor vehicles. In environments that feature a QOS "A", there are often wider sidewalks or trails, with street trees and/or on-street parking and a landscape buffer, separating people walking and bicycling from motor vehicles. For people bicycling on-street, the presence of a protected barrier, a painted buffer or higher visibility green lane makes for a higher QOS. In Florida, most facilities for people walking and bicycling feature a LOS "A" and a QOS "D" or "E": meaning few, if any, people use the facilities to walk or bicycle. The mobility plan established high areawide QOS standards for people walking and bicycling; which results is a lower LOS and higher capacities, or utilization of the facilities (**Table 6**).

The establishment of capacities for transit circulators is based on methodologies from the Transit Capacity and Quality of Service Manual. The proposed circulators are microtransit autonomous vehicles with a maximum capacity of 12 people per vehicle. The capacities assume full capacity of each vehicle operating over a fourteen-hour span of service at 10 minute headways (**Table 6**). With a maximum speed of 15 MPH and a functional operating speed of 5 MPH to account for boarding and alighting and traffic control devices, a total of six vehicles would be needed to provide 10 minute headways, in one direction, over a five-mile transit circulator route.

An emerging concept that is still being developed and is currently only proposed for a portion of Military Trail between Kyoto Gardens and Donald Ross is the 15 MPH Flex Lane. The 15 MPH Flex Lane is envisioned to serve micromobility devices, such as e-bikes and e-scooters, and microtransit vehicles, such as autonomous shuttles, traveling at maximum speeds of 15 MPH. These facilities are intended to be one-direction and between 7' and 8' in width, with maroon pavement markings. The 15 MPH Flex Lanes are proposed to address new electric mobility technology.

TABLE 6. MULTIMODAL CAPACITIES

Facility Type	Unit of Measure	Daily Capacity
Sidewalk (QOS D)	5' to 7' wide	1,200
Sidewalk (QOS B)	**5' to 7' wide**	**2,400**
Multimodal Path (QOS D)	8' wide	1,800
Multimodal Path (QOS B)	**8' wide**	**3,600**
Multimodal Path (QOS C)	10' wide	2,400
Multimodal Path (QOS A)	**10' wide**	**4,800**
Multimodal Trail (QOS C)	12' wide	3,000
Multimodal Trail (QOS A)	**12' wide**	**6,000**
Bicycle Lane / Bicycle Boulevard	4' to 5' wide	1,200
Green Bicycle Lane	**4' to 5' wide**	**3,600**
Buffered Bicycle Lane	6' to 7' wide	4,800
One-Way Protected Bike Lane	**6' to 8' wide**	**7,200**
Two-Way Protected Bike Lane	10' to 12' wide	14,400
15 MPH Flex Lane	**7' to 8' wide**	**8,400**
Transit Circulator	Per vehicle	924

Source: The capacity for sidewalks and paths with a QOS of "D" is based on a LOS "A" capacity. The capacity for sidewalks and paths with a QOS of "B" is based on a LOS "B" capacity. The capacity for paths and trails with a QOS of "C" is based on a LOS "A" capacity. The capacity for paths and trails with a QOS of "A" is based on a LOS "B" capacity. Capacity methodologies for sidewalks, paths, trails and bicycle based on methodologies established in Transportation Research Record 1636 Paper No. 98-0066, the 2006 Shared-Use Path Level of Service Calculator-A User's Guide developed for the Federal Highway Administration, and the 2010 Highway Capacity Manual. The 15 MPH Flex Lane is based on the potential use of micromobility devices and microtransit vehicles using the facility. The transit circulator capacity is based on a capacity of 12 persons per vehicle, operating at a span of service of 14 hours over a 5.5-mile route (12 x 14 = 168 x 5.5 = 924).

MOBILITY PLAN IMPROVEMENTS

The mobility plan emphasizes a network of sidewalks, paths and trails, with streetscape, landscape, street trees, lighting, high visibility crosswalks, mid-block crossings and lateral separation from vehicles. The higher level of amenities result in a higher QOS for multimodal improvements identified on the people walking and bicycling plan (**Appendix D**). To move towards achieving the multimodal capacities for people walking and bicycling based upon the QOS standards established in the mobility plan, two mobility districts and twelve multimodal oriented developments have been identified in the mobility plan to support multimodal travel. These districts and developments are planned to be interconnected by sidewalks, paths, trails, and bicycle lanes and to provide mobility hubs which are unified locations for shared mobility programs, along with pick-up and drop-off areas for transit riders and people using ride hailing services. The mobility plan also includes projects to partially fund shared mobility programs (bicycle, car and scooter), a wayfinding signage plan to facilitate multimodal travel and access to the future TRI-Rail Coastal Station.

The mobility plan also emphasizes the provision of green bike lanes to increase the visibility of people bicycling, riding e-scooters and using other micromobility devices. In addition to the green bicycle lanes, the people bicycling plan also identifies several corridors with two-way protected bike lanes, bicycle boulevards and a 15 MPH Flex Lane on a portion of Military Blvd (**Appendix E**). The on-street bicycle facilities are intended to accommodate those people who feel comfortable riding in on-street facilities and bicycling at a faster speed than those people who elect to ride bicycles on sidewalks, paths and trails. In addition, on-street bicycle facilities are better able to accommodate the higher speeds of travel for people using e-bikes, e-scooters and other micromobility devices. The mobility plan does recognize future one-way protected bike lanes on certain roadways within the multimodal mobility district as part of future phases beyond 2040. However, the cost and capacities associated with those improvements are not included in the mobility fee as they are beyond the 2040 horizon year for the mobility fee.

The mobility plan includes two planned transit circulator routes as part of the people riding transit plan within the multimodal mobility district that will connect multiple mixed-use, educational, medical, employment and governmental centers with the future TRI-Rail Coastal Station (**Appendix F**). These transit circulators are envisioned to be microtransit vehicles with a capacity of twelve passengers per vehicle. It is anticipated that these microtransit vehicles would be autonomous driven vehicles by the time the future TRI-Rail Coastal Station would be open. The TRI-Rail Coastal Station is envisioned to be a multimodal hub with a 1,000-space park and ride, with accommodations for Kiss & Ride and ride-hailing drop-off and pick-up locations, car rentals, along with car, bicycle and e-scooter share programs and an Alternate A1A crossing.

A roadway and intersection plan is also included in the mobility plan. The mobility plan includes roads that are already programmed and either under construction or projected to be under construction by 2020. These projects are considered funded and are not included in the mobility fee calculations. There are several road projects identified for construction between 2020 and 2040, along with a specific intersection project on Riverside Drive. The shared street between Burns Road and PGA Blvd is proposed as a multimodal alternative to Military Trail to accommodate people waking, bicycling, riding transit and micromobility devices and for people driving and parking (**Appendix G**).

The mobility plan also includes two projects for minor and major intersection improvements. While there are few new or wider roads included in the mobility plan or the currently adopted Long Range Transportation Plan, there will be a need for the addition of turn lanes or additional turn lane storage on multiple roads as growth continues throughout Palm Beach Gardens. The mobility plan identifies several locations where intersection improvements will be needed in the future. There will be additional intersection improvements that will be added to the capital improvements program over the 20-year horizon of the mobility plan.

The mobility plan capacity is determined based upon the increase in capacity of the multimodal improvements contained in the people walking and bicycling plan, the people bicycling plan, the people riding transit plan and the road and intersection plan. The capacity for each plan is based upon the sum of the capacity for existing conditions and for future improvements. The calculation for determining the mobility plan capacity is based upon the formula illustrated in **Figure 1**. The total increase in PMC from all the unfunded mobility plan improvements is 454,348 (**Table 7**).

TABLE 7. MOBILITY PLAN CAPACITY

Mobility Plan	Existing Person Miles of Capacity	Proposed Person Miles of Capacity	Increase in Person Miles of Capacity
People Walking & Bicycling Plan	45,162	225,684	180,522
People Bicycling Plan	29,616	162,642	133,026
People Riding Transit Plan	0	46,176	46,176
Road & Intersection Plan	8,174	102,799	94,625
Totals	82,952	537,301	454,348

Source: The capacities for the people walking and bicycling plan were obtained from **Appendix D**. The capacities for the people bicycling plan were obtained from **Appendix E**. The capacities for the people riding transit plan were obtained from **Appendix F**. The capacities for the road and intersection plan were obtained from **Appendix G**. The total increase in Mobility Plan Capacity is determined by subtracting the existing PMC by the proposed PMC: (537,301 – 82,952) = 454,348. A visualization example of the increase in person capacity is provided in **Appendix H**.

FIGURE 1. MOBILITY PLAN CAPACITY

Mobility Plan Capacity (MPcap)

MPcap Calculation = SUM (WBPf - WBPe) + (BPf - Bpe) + (TPf - TPe) + (RIPf - RIPe)

Step 1	WBPe	=	SUM (LEN x WBCAPe)
Step 2	WBPf	=	SUM (LEN x WBCAPf) + SUM (WBCAPimpf)
Step 3	BPe	=	SUM (LEN x BPCAPe)
Step 4	BPf	=	SUM (LEN x PBCAPf)
Step 5	TPe	=	SUM (LEN x TPCAPe)
Step 6	TPf	=	SUM (LEN x TPCAPf) + SUM (TPCAPimpf)
Step 7	RIPe	=	SUM (LEN x RIPCAPe)
Step 8	RIPf	=	SUM (LEN x RIPCAPf)

Where:

MPc	=	Mobility Plan Capacity
SUM	=	The sum of the person miles of capacity for each improvement
LEN	=	Length of each improvement
CAPe	=	Capacity of Existing Improvement
CAPf	=	Capacity of Future Improvement
CAPimpf	=	Capacity of Future Improvement determined by factors other than length
WBPe	=	Walking and Bicycling Plan existing
WBPf	=	Walking and Bicycling Plan future
BPe	=	Bicycling Plan existing
BPf	=	Bicycling Plan future
TPe	=	Transit Plan existing
TPf	=	Transit Plan future
RIPe	=	Road and Intersection Plan existing
RIPf	=	Road and Intersection Plan future

NEW GROWTH EVALUATION

Currently funded projects are needed to accommodate existing person travel demand. To ensure that new growth is not paying for more than their fair share of the cost of the multimodal improvements identified in the mobility plan as required by case law and Florida Statute, it is necessary to evaluate the projected increase in person travel demand (PTD) versus the projected increase in person miles of capacity (PMC). A ratio less than 1.0 means that more capacity is being provided than is needed to accommodate future travel demand and would require a reduction in capacity improvements attributable to new growth. A ratio greater than 1.0 means that development is not being charged more than their fair share and that no adjustments are needed.

The total projected person travel demand from new development is 510,015. The total projected person miles of capacity being provided by the mobility plan improvements is 463,732. The demand to capacity ratio is greater than 1.0 (**Table 8**). Thus, new growth is not being charged more than its fair share of the cost of multimodal mobility improvements.

TABLE 8. NEW GROWTH EVALUATION

Increase in Person Travel Demand (PTD)	510,015
Increase in Mobility Plan Capacity (MPC)	**463,732**
Demand to Capacity Ratio	1.10

Source: The increase in person travel demand is based on **Table 4.** The increase in person miles of capacity is based on **Table 7.** The new growth evaluation calculation is based on dividing the increase in PTD by the increase in MPC: (510,015 / 463,732) = 1.10%.

MOBILITY PLAN COST

The multimodal cost for improvements identified in the adopted mobility plan are based on the latest cost from FDOT, Palm Beach Gardens and similar projects completed within Florida. The cost for proposed multimodal improvements include design, acquisition of right-of-way and easements, inspection, utility relocation, stormwater management facilities and construction. In addition, the cost of multimodal improvements for people walking and bicycling include landscape, streetscape, street trees, lighting, high visibility crosswalks and midblock crossing to achieve the quality of service (QOS) standards established in the mobility plan (**Appendix D**).

To increase the visibility of people riding bikes and to achieve the QOS standards in the mobility plan, green bikes lane markings are proposed for many of the bicycle facilities identified in the people bicycling plan. To cost effectively provide bicycle lanes, the travel lane width on City owned streets were reduced from 12' to 10' and on County and State roads from 12' to 11' (**Appendix E**). Ultimately, the County and State would have to provide permission to reduce travel lane width. For State and County roads, the timing of adding bike lanes or widening paved shoulders to bike lanes and adding green bike lane markings would occur during the resurfacing of the road. For City owned streets, cost estimates include the cost to remove existing pavement markings for the roadway and to add back the pavement markings, along with adding green bike lane markings.

None of the cost estimates for adding bicycle facilities includes the resurfacing of roads. This would have added $500,000 to $1.5 million per mile to the cost of bicycle facilities. The creation of bicycle boulevards involves the addition of green bike pavement markings, signage and may also include reductions in speed limits and some narrowing for travel lanes through removing and adding back pavement markings to provide for smaller travel lane widths which has been shown to slow down travel speeds. The only road segment where bike lanes are physically added to the existing road and not through reducing travel lane widths is Hood Road from Jog Road to the Florida Turnpike.

The cost for the people riding transit plan is comprised of the proposed east and west transit circulator routes and the future TRI-Rail Coastal Station (**Appendix F**). The two planned transit circulator routes are intended to connect major destinations within the Multimodal Mobility

District and the future TRI-Rail Coastal Station. The people moving transit plan also includes the identification of the north and south future transit circulator routes that would connect Multimodal Oriented Developments and the Alton Mobility District to the Multimodal Mobility District and the future TRI-Rail Coastal Station. The cost of the north and south transit circulator routes is not included in the mobility fee as the routes are conceptual in nature and would require further evaluation upon the arrival of TRI-Rail Coastal service.

The cost for the road and intersection plan include the constructions of a new roads south of PGA Blvd, the widening of a portion of RCA Blvd and the construction of multiple intersection improvements are various locations within the City (**Appendix G**). The road and intersection plan identifies several intersections where improvements will likely be needed as growth continues in the future. The remaining intersection projects would be identified during development of the annual Capital Improvement Program.

The total cost of unfunded multimodal improvements is $117,244,606 (**Table 9**). The detailed breakdown of construction cost and associated cost such as design, right-of-way, inspection, utility relocation, landscape and crosswalks for the various mobility plan improvements are provided in **Table 10.** These detailed cost estimates were the basis for determining the cost of all multimodal improvements in the mobility plan illustrated in **Table 9**.

TABLE 9. MOBILITY PLAN COST

Mobility Plan	Cost
People Walking & Bicycling Plan	$50,517,926
People Bicycling Plan	**$18,287,737**
People Riding Transit Plan	$14,000,000
Road & Intersection Plan	**$34,438,943**
Totals	$117,244,606

Source: The cost for each mobility improvement for the people walking and bicycling plan is provided in **Appendix D.** The cost for each mobility improvement for the people bicycling plan is provided in **Appendix E.** The cost for each mobility improvement for the people riding transit plan is provided in **Appendix F.** The cost for each mobility improvement for the road and intersection plan is provided in **Appendix G.** The cost basis for each mobility improvement in the mobility plan is provided in **Table 10.**

PERSON MILES OF CAPACITY RATE

The rate per person miles of capacity (PMC) is used as the baseline assessment for person travel demand per land use in the mobility fee calculation. The formula calculation for determining the PMC rate is determined by dividing the cost of mobility plan improvements by the capacity of the mobility plan improvements **Figure 2.**

FIGURE 2. PERSON MILES OF CAPACITY RATE

Person Miles of Capacity (PMC) Rate

PMC Rate Formula = PMCr = MPc / MPcap

Where:

PMCr = Person Miles of Capacity Rate
MPc = Mobility Plan Cost
MPcap = Mobility Plan Capacity

TABLE 10. DETAILED IMPROVEMENT COST

Facility Type	Construction Cost	Additional Cost	Total Cost
Sidewalk (5')	$153,869	$200,029	$353,898
Multimodal Path (8')	$190,351	$247,457	$437,808
Multimodal Path (10')	$237,938	$309,320	$547,258
Multimodal Trail (12')	$285,526	$371,184	$656,710
High Visibility Midblock Crossing	$158,271	$66,636	$224,907
Mobility Hub	$225,000	$292,500	$517,500
New Green Bicycle Lane (5')	$591,152	$118,230	$709,382
Green Bicycle Lane (4')	$313,680	$62,736	$376,416
Green Bicycle Lane (5')	$391,600	$78,320	$469,920
15 MPH Flex Lane (7')	$539,440	$107,888	$647,328
Protected Bicycle Lane (10')	$1,000,000	$200,000	$1,200,000
Bicycle Boulevard	$75,000	$15,000	$90,000
Two Lane Road	$4,981,800	$5,479,980	$10,461,780
Widen Two Lane to Four Lane Road	$5,456,415	$6,002,057	$11,458,472
Minor Intersection Improvement	$141,528	$226,445	$367,973
Major Intersection Improvement	$391,528	$363,945	$755,473

Source: All cost for facilities, except midblock crossings are on a per mile basis. Construction cost based on FDOT statewide cost estimates and verified with local cost. Sidewalks, paths, trails and mobility hubs include the cost for design and engineering (PE), construction, engineering and inspection (CEI), utility relocation (UTL), stormwater management facilities (STW), and high visibility driveway and intersection crosswalk markings (CW) were each estimated at 10% of construction cost; combined these cost factors were equivalent to 60% of construction cost. Due to the higher land values in Palm Beach Gardens, right-of-way and easement acquisition was estimated at 40% of construction cost for sidewalks, paths, trails and mobility hubs. To achieve the quality of service standards in the mobility plan for sidewalks, paths, trails and mobility hubs require the installation of street trees and landscape (LS) to provide shade and buffers from motor vehicles and were estimated at 20% of construction cost based upon the cost of street trees, landscape and installation. To achieve the quality of service standards in the mobility plan for sidewalks, paths, trails and mobility hubs requires the installation of streetscape (SS) which includes person scale lighting, benches, waste receptacles, hardscape and architectural features to create a comfortable experience and were estimated at 20% of construction cost based upon the cost of these items from local suppliers. The construction cost for high visibility midblock crossings includes rectangular rapid flashing beacons (RRFB). Additional cost for high visibility midblock crossings includes PE, CEI, UTL, STW and CW and were each estimated at 10% of construction cost; combined these cost factors were equivalent to 60% of construction cost. The new green bike lane includes the cost of adding 5' of asphalt for a bicycle lane ($221,551.84) plus the cost of 5' green bike lane markings ($369,600). The green bike lanes of 4' and 5' and the 15 MPH Flex Lane of 7' cost based on $14 a square foot for pavement markings plus the cost of removing pavement markings and adding new pavement markings for travel lanes. Additional cost for bicycle facilities equals PE and CEI, each at 10% of construction cost. Roads include the cost of PE, CEI, UTL, STW, and CW at 10% each; combined these cost factors were equivalent to 50% of construction cost. The cost of roads includes ROW at 40% and LS at 20%; combined these cost factors were equivalent to 60% of construction cost. Intersections include the cost of PE and CEI at 20% each, ROW at 50%, UTL and STW at 15% each, LS at 10% and safety and operations upgrades (SO) at 30%; combined these cost factors were equivalent to 160% of construction cost. The cost for major intersections includes an additional $250,00 for traffic signal upgrades.

To derive a PMC Rate for the mobility fee, the mobility plan improvement cost identified in **Table 9** was divided by the mobility plan capacity from **Table 7**. With cost of $117,244,606 and capacity of 463,732, the calculated rate per person mile of capacity is $252.83 as shown in **Table 11** below.

TABLE 11. PERSON MILES OF CAPACITY RATE

Mobility Plan Cost	$117,244,606
Mobility Plan Capacity	463,732
Person Miles of Capacity Rate	$252.83

Source: The cost of mobility plan improvements is obtained from **Table 9.** The capacity of mobility plan improvements is obtained from **Table 7.** The person miles of capacity rate are determined by dividing mobility plan cost by mobility plan capacity.

PERSON TRAVEL DEMAND PER LAND USE

The second component in the calculation of a mobility fee is the calculation of a person travel demand for each land use included on the mobility fee schedule. The factors utilized in the calculation of person travel demand for each land use are the principal means to achieve the "rough proportionately" test established by the courts. **Figure 3** illustrates the formula used to calculate the person travel demand for each land use.

FIGURE 3. PERSON TRAVEL DEMAND PER LAND USE

Person Travel Demand (PTD) per Land Use

PTDlu	=	((((TG x % NEW) x (PTL x LAf)) x PMTf) x ODAf)
PTDlu	=	Person Travel Demand per Land Use
TG	=	Trip Generation
% NEW	=	Percent of Trips that are Primary Trips
PTL	=	Person Trip Length by Trip Purpose
LAf	=	Limited Access Adjustment factor
PMTf	=	Person Miles of Travel factor by Trip Purpose
ODAf	=	Origin & Destination Adjustment factor which multiplies net person trips by 50% to avoid the double-counting of trips

Daily Trip Generation

Trip generation rates are based on information published in the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th edition.* The detail for the trip generation rates for each land use are included in **Appendix I.**

% New Trips

The *percentage of* ***new trips*** is based on a combination of local travel factors, pass-by analyses and traffic studies conducted throughout Florida. The percentage address convenience land uses and reflects the built up urban environment and high level of existing community traffic and pass-by traffic. The greater the mixture of land uses and the density and intensity of a City, the more interaction there is between land uses and a higher level of trip chaining and combining multiple trip purposes into one trip. The ITE *Trip Generation Handbook 3rd,* edition only recognizes trip interactions for retail land uses. In reality, land uses such as offices, day care, places of worship, entertainment and recreation also reflect high levels of trip interactions and the percentages used in the analysis more accurately reflect how people move actually about the community on a daily basis.

Person Trip Length

The person trip length is based on the recently released 2017 National Household Travel Survey (NHTS). To obtain the most recent and localized data, the travel surveys from the Core Based Statistical Area (CBSA) that consist of Miami, Ft. Lauderdale and West Palm Beach was used in the analysis. The person trip lengths vary by trip purpose (**Appendix B**). The travel survey data points represent over 6,200 surveys data points.

Limited Access Factor

Travel on limited access facilities, which include Interstate 95 and the Florida Turnpike, is excluded from mobility fee calculations as the Interstate System is principally funded and maintained by the Federal Government in coordination with FDOT and the Turnpike is funded by toll revenue paid by users. Thus, to ensure development that generates new travel demand is not charged for travel on limited access facilities, a limited access factor has been developed. The factor is developed based on exiting travel demand within the City on limited access facilities. The limited access adjustment factor of 59% is applied to trip lengths to reduce them accordingly to ensure that new development is not charged for travel on limited access facilities (**Table 12**).

TABLE 12. LIMITED ACCESS FACTOR

Collector & Arterial Roads VMT	**2,053,016**
Interstate 95 & Florida Turnpike VMT	**1,445439**
Total VMT	**3,503,637**
Limited Access Factor	**.59**

Source: Existing VMT data was obtained from the Palm Beach Gardens Road Existing Conditions Report provided in **Appendix A.** Limited access factor is calculated by dividing non-limited access VMT by total VMT (2,053,016 / 3,503,637) = .59%

Person Miles of Travel Factor

The person miles of travel factor is used to convert vehicle travel to person travel based on the recently released 2017 National Household Travel Survey (NHTS). To obtain the most recent and localized data, the travel surveys from the Core Based Statistical Area (CBSA) that consist of Miami, Ft. Lauderdale and West Palm Beach was used in the analysis. The person miles of travel factors vary by trip purpose (**Appendix B**).

Origin and Destination Adjustment Factor

Trip generation rates represent trip-ends at the site of a land use. Thus, a single origin trip from home to work counts as one trip-end for the residence and from work to the residence as one trip-end, for a total of two trip ends. To avoid double counting of trips, the net person trips are multiplied by 50%. This distributed the impact of travel equally between the origin and destination of the trip and eliminates double charging for trips.

Person Travel Demand (PTD) per Land Use

The result of multiplying trip generation rates, percent of new trips, person trip length, the limited access factor, the person miles of travel factor and the origin and destination factor is the establishment of a per unit PTD per land use (**Appendix J**). The PTD reflects the average daily weekday travel generated by the various land uses in the mobility fee schedule. The mobility fee schedule includes the unit of measure that will be used to calculate the mobility fee for a given land use. The schedule of land uses is consistent with the current Palm Beach Gardens road impact fee schedule of land uses.

MOBILITY FEE SCHEDULE

The Mobility Fee is based on person travel demand for each land use (PTDlu) and the person miles of capacity rate (PMCr) established in **Table 11**. The calculated person travel demand for each land use represents the full impact of that land use within the City. Payment of the mobility fee addresses full mitigation of the person travel demand generated by new development and redevelopment. The formula in **Figure 4** below is utilized to determine the mobility fee per land use:

FIGURE 4. MOBILITY FEE CALCULATION

Mobility Fee

Mobility Fee Calculation = PTDlu x PMCr

Where:

PTDlu = Person Travel Demand per Land Use

PMCr = Person Miles of Capacity Rate

Using the mobility fee calculation and the factors in this report result in the maximum potential mobility fees per unit of development as illustrated in **Table 13.** The mobility schedule of land uses is generally consistent with the Palm Beach Gardens road impact fee schedule of land uses.

TABLE 13. MOBILITY FEE SCHEDULE

Land Use	Unit of Measure	Mobility Fee
Residential		
Single Family Detached less than 1,500 sf	per dwelling unit	$4,991
Single Family Detached 1,500 to 2,499 sf	per dwelling unit	$5,823
Single Family Detached 2,500 sf or more	per dwelling unit	$6,655
Single Family Attached / Multi-Family less than 1,000 sf	per dwelling unit	$3,137
Single Family Attached / Multi-Family 1,000 sf or more	per dwelling unit	$3,835
Mobile Home	per dwelling unit	$3,525
Congregate Care Facility	per dwelling unit	$573
Assisted Living Facility	per bed	$720
Nursing Home	per 1,000 sf	$1,882
Lodging		
Hotel	per room	$3,164
Recreation & Social Use		
General Recreation	per acre	$285
Movie Theater	per seat	$643
Racquet Tennis Club	per court	$10,124
Recreation Community Center	per square foot	$6,536
Institutions		
Private School (Pre-K – 12)	per student	$1,161
College or University	per student	$478
Places of Assembly	per 1,000 sf	$2,832
Day Care	per 1,000 sf	$6,105
Cemetery	per acre	$2,334
Hospital	per 1,000 sf	$4,136
Animal Hospital / Veterinary Clinic	per 1,000 sf	$8,295
Funeral Home	per 1,000 sf	$2,334
Office		
Office	per 1,000 sf	$3,978
Medical Office	per 1,000 sf	$9,250

TABLE 13. MOBILITY FEE SCHEDULE

Land Use	Unit of Measure	Mobility Fee
Retail		
Retail	per 1,000 sf	$8,931
New/Used Car Sales	per 1,000 sf	$9,741
Convenience Store w/ Gas Pumps	per 1,000 sf	$59,651
Pharmacy with or with-out Drive-Thru	per 1,000 sf	$9,520
Furniture Store	per 1,000 sf	$2,981
Bank with or with-out Drive-In	per 1,000 sf	$19,119
Quality Restaurant	per 1,000 sf	$19,521
High-Turnover Restaurant	per 1,000 sf	$26,119
Fast Food Restaurant w/Drive-Thru	per 1,000 sf	$58,589
Quick Lube	per bay	$3,823
Automobile Care Center	per 1,000 sf	$5,255
Gas Service Station with or without Convenience Market	per fuel position	$18,032
Car Wash	per stall	$10,321
Industrial		
General Light Industrial	per 1,000 sf	$3,213
Warehousing	per 1,000 sf	$1,199
Mini-Warehouse	per 1,000 sf	$649

NUE Urban Concepts had recommended a far more streamlined mobility fee schedule to the City, including land uses that more accurately reflect current development trends with regards to restaurants and land uses with drive-thru's, ATM's and vehicle fueling positions. However, the City stipulated that the mobility fee schedule should be generally consistent with the schedule of land uses included in the current City of Palm Beach Gardens road impact fee. There are some differences between the mobility fee and road impact fee schedule. The current road impact fee schedule contains five (5) general office, two (2) medical and six general (6) retail land uses based on square footage thresholds. The current road impact fee rates decrease as the square footage of these land uses increase. While there is some reduction in trips as the square footage of these land uses increase, there have also been studies that indicate trip lengths increase the larger these land uses become, as they draw from a larger area and have been found to result in either the same or greater overall impact. To streamline the process, the mobility fee schedule consolidates the five (5) office land uses, the two (2) medical land uses, and the six (6) retail land uses into one office, one medical and one retail land use.

The current road impact fee provides separate rates for private elementary, middle and high schools based on the trip generation rates for public schools. The latest ITE Trip Generation Manual only provides trip generation rates for private schools based on K-8 and K-12. The mobility fee consolidates the three (3) educational land uses into a single private K-12 land use. The current road impact fee provides two land uses for universities based on the number of students. The latest ITE Trip Generation Manual provide similar trip generation rates for colleges and universities, but not two separate university categories. The mobility fee schedule reflects a single college or university land use. The current road impact fee has two categories for banks with or without a drive-thru, pharmacies with or without a drive-thru and gas stations with or without a convenience store. The difference in trip generation between these uses is minimal and in the instance of gas stations with or without a convenience store, the road impact fee is higher for gas stations without a convenience store than one with a store. These six different land uses have been consolidated in the mobility fee schedule into one (1) bank land use, one (1) pharmacy land use, and one (1) gas station use.

The mobility fee schedule also renames the church/synagogue land use to places of assembly. Under the Religious Land Use and Institutionalized Persons Act (RLUIPA) it is recommended that the City of Palm Beach Gardens change its current designation. It is also recommended that City consider further consolidation of its impact fee land uses. The City may also wish to consider combining quality and high-turnover restaurants into a single category and add a new land use for fast casual / fast food without drive-thru and add fast casual to its current fast food land use. Some local governments are also starting to combine banks, hospitals, veterinary and medical land uses into a single office land use to encourage high job generating land uses or combine medical, hospital and veterinary into a single land use. Some local governments are also electing to add a land use category for free standing ATMs and bank ATM drive-thru lanes as banks are beginning to merge some branches into office buildings and close branches and replace them with free standing ATMs and automated bank ATM drive-thru lanes. The City should consider streaming the land uses in its impact fee schedules, and adjust the mobility schedule of land uses as needed.

Mobility Fee Assessment Areas

There are two kinds of geographic areas in mobility fee systems: assessment areas and benefit districts. Assessment areas are designated areas served by a defined group of improvements and subject to a uniform mobility fee schedule. A benefit district is an area within which mobility fees collected are earmarked for expenditure as required by the second prong of the dual rational nexus test. The mobility fee assessment area is proposed to include all areas within the City of Palm Beach Gardens east of the Beeline Highway (**Map E**). All areas of the City west of the Beeline Highway would be excluded from mobility fee assessments.

Development in areas of the City east of the Beeline Highway and within the mobility fee assessment area would only pay a mobility fee to the City of Palm Beach Gardens. New development and redevelopment in the mobility fee assessment area would no longer pay the City's current road impact fee and would no longer pay Palm Beach County's road impact fee. New development and redevelopment within these areas would also no longer to be subject to City and County transportation concurrency policies or proportionate fair-share requirements. The areas of the City west of the Beeline Highway would continue to pay the City's current road impact fee and pay Palm Beach County's road impact fee. These areas would also continue to be subject to City and County transportation concurrency policies and proportionate fair-share requirements.

The City may still require that new development and redevelopment within the mobility fee assessment area conduct a traffic / mobility impact analysis to evaluate site access connections, traffic control devices, the need for turn lanes and intersection improvements and to plan for and make connections to adjacent existing and future multimodal facilities such as sidewalks, trails and bike lanes. The City may also require that new development and redevelopment within the mobility fee assessment area evaluate and address operational and safety issues at intersections impacted by the development. Any changes to traffic impact analysis requirements would be addressed either in the land development regulations or other technical manuals prepared by the City separate from this technical report.

In the future, the City may wish to consider additional assessment areas either around the future TRI-Rail Coastal Station or within the Multimodal Mobility District that would potentially result in a lower overall mobility fee due to proximity to frequent transit service. The City could also elect to establish additional assessment areas to encourage vertical mixed-use development, redevelopment and infill development.

Mobility Fee Benefit District

The benefit test of the dual rational nexus test requires that local governments establish a separate area within which mobility fees collected are earmarked for expenditure. It is recommended that the mobility fee benefit district include all areas within the City east of the Beeline Highway. This would result in the mobility fee assessment area and benefit district having the same geographic boundaries. The establishment of a mobility fee benefit district ensures that mobility fees collected within the City east of the Beeline Highway are expended on mobility plan improvements within the City east of the Beeline Highway, to the benefit of development which pays the fee.

Many Cities within Florida are establishing a Citywide benefit districts for all areas in which a mobility plan and mobility fee are developed to collect sufficient revenues to construct multimodal improvements. Establishing mobility fee benefit district ensures the second prong of the dual rational nexus test is met by clearly defining where funds are collected and where they are expended and that the land uses within the City that pay the fee are provided the benefit of mobility from the multimodal improvements to be funded within the District.

DEFINITIONS

The following are definitions of unique terms referenced in the Mobility Fee Technical Report. These definitions will be incorporated into the definitions section of the implementing Mobility Fee Ordinance:

Assessment area shall mean a geographic area of the City where mobility fees are assessed on new development and redevelopment that generate an increase in person travel demand above the current use of land.

Benefit District shall mean an area designated in the applicable mobility fee ordinance where fees that are paid by development are expended.

Bicycle sharing shall mean the short-term bicycle rental available at either unattended stations or through a dockless system. The bicycles maybe people powered or electric. A bicycle-sharing system, public bicycle system, or bike-share scheme, is a short-term bicycle rental service in which bicycles are made available for shared use to individuals on a very short term basis. Bike share systems allow people to rent a bicycle at any self-serve bike-station and return it to any other bike station located within the system's service area.

Car sharing shall mean the organized collective use of a dispersed network of shared vehicles available 24-hours, 7 days a week at unattended self-service locations through a membership based service and is available to all qualified drivers in a community with no separate written agreement required each time a member reserves and uses a vehicle.

Complete Streets shall mean a transportation policy and design approach that requires multimodal transportation improvements to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation and to allow for safe travel by those walking, bicycling or using other forms of non-motorized travel, riding public transportation or driving motor vehicles or low speed electric vehicles. Separate and defined spaces are provided for the various modes of travel planned within the cross-section.

Dedicated Transit Lane shall mean a travel lane designated for exclusive use by buses, transit vehicles, micro transit vehicles, trolleys and autonomous transit vehicles subject to approval by a governmental entity responsible for the travel lane. The dedicated transit lanes may be crossed to accommodate right turning movements and local governments may permit use by micro modes of travel such as bicycles or scooters.

Dwelling Unit shall mean a room or connected rooms, constituting a separate, independent housekeeping entity, for owner occupancy or rental or lease on a daily, weekly, monthly, or longer basis, and physically separated from any other rooms or dwelling units which may be in the same structure and containing sleeping and sanitary facilities and one kitchen.

ITE Trip Generation Manual shall mean and refer to the latest edition of the report entitled "Trip Generation" produced by the Institute of Transportation Engineers, and any official updates hereto, as approved by Public Works.

Micromobility shall mean electric powered personal mobility devices such as electric bicycles, electric scooters, Segways, One-Wheel, Uni-Cycles, electric skateboards and other electric assisted personal mobility devices. Low speed vehicles such as golf carts or mopeds are not considered personal micromobility devices.

Microtransit autonomous vehicle shall mean a vehicle that uses artificial intelligence, sensors and global positioning system coordinates to drive itself with or without the active intervention of a human operator.

Mobility Hub shall mean a centralized location with a covered shelter designed to accommodate micromobility devices, bicycle sharing, car-sharing, and provide a safe and convenient location for drop-off and pick-up of people riding transit, microtransit and ride-hailing services.

Mobility Fee shall mean a monetary exaction imposed on new development or redevelopment that generates personal travel demand above the current use of land to fund improvements identified in a mobility plan.

Mobility Plan shall mean the plan adopted by the City of Palm Beach Gardens that identifies multimodal improvements to meet the person travel demands of new development and redevelopment.

Multimodal shall means multiple modes of travel including, but not limited to, walking, bicycling, jogging, rollerblading, skating, scootering, riding transit, driving a golf cart, low speed electric vehicle or motor vehicle.

Multimodal improvements shall mean sidewalks, bike lanes, trails, paths, protected bike lanes, transit stops, transit pull-outs, transit stations, shared streets, dedicated transit lanes, streetscape, landscape, high occupancy vehicle lanes, roundabouts, raised medians, crosswalks, and high visibility crosswalks. Improvements can include new or additional travel lanes and turn lanes, new

or upgraded traffic signals, traffic synchronization, mobilization, maintenance of traffic, planning, survey, geotechnical and engineering, utilities, construction, engineering and inspection, utility relocation, right-of-way, easements, stormwater facilities. Improvements may also include the repayment of bonds, local match for federal, state and county funded projects, repayment of loans from the State of Florida Infrastructure Bank used to front-end the design and/or construction of multimodal improvements.

Multimodal project shall mean a mobility project that is comprised of one or more multimodal improvements and/or mobility oriented services and/or programs.

Off-site improvement shall mean improvements located outside of the boundaries of the parcel proposed for development. Access improvements required to provide ingress and egress to the development parcel, which may include rights-of-way, easements, paving of adjacent or connecting roadways, turn lanes and deceleration/acceleration lanes, sidewalks, bike lanes, trails, paths, transit stops along with required traffic control devices, signage, and markings, and drainage and utilities, shall be considered on-site improvements.

Person Miles of Capacity (PMC) shall mean the number of persons "capacity" that can be accommodated, at a determined standard, on a facility while walking, bicycling, riding transit, driving or using a mobility assisted device over a defined distance.

Person Travel Demand (PTD) shall mean the number of miles traveled by each person on a trip to account for all miles traveled by, but not limited to, motor vehicle, transit, walking, bicycling or some other form of person powered, electric powered or gasoline powered device.

Person Trip shall mean a trip by one person by one or more modes of travel including, but not limited to, driving a motor vehicle or low speed electric vehicle, riding transit, walking, bicycling or form of person powered, electric powered or gasoline powered device.

Place of Assembly shall mean a building in which worship services are held, including all ancillary buildings.

Principal Use shall mean the carrying out of any building activity or the making of any material change in the use of a structure or land that requires the issuance of a Certificate of Occupancy, Certificate of Completion, Change of Use Permit, Construction Permit or Special Use Permit and which generates a demand or increase in vehicle trips over and above the existing use of the structure or land, excluding governmental uses.

Private School (Pre K-12) shall mean a building or buildings in which students are educated by a non-governmental entity with grades ranging from pre-kindergarten to 12th grade. Private schools do not include Charter Schools, which are exempt from local government fees per Florida Statute.

Ride-hailing shall mean more than one person rides primarily with unrelated persons using carpools, vanpools or a real-time, on-demand ride hailing service, accessed through a smartphone application or through an online portal where one-time shared rides are provided on short notice by private motor vehicles.

Shared streets shall mean a multimodal transportation facility based on the Dutch Woonerf concept that treats all modes equally with no defined spaces for any mode. Shared Streets typically do not have raised curbs, distinct pavement markings, traffic control devices, defined parking spaces, or vehicular speed limit signs or have posted speed limits 15 MPH or less. Shared streets often feature signage and sometimes a speed limit that indicates the multiple users of the shared street.

Square feet shall mean the sum of the gross floor area (in square feet) of the area of each floor level, including cellars, basements, mezzanines, penthouses, corridors, lobbies, stores, and offices, that are within the principal outside faces of exterior walls, not including architectural setbacks or projections. Included are all areas that have floor surfaces with clear standing head room (six feet six inches, minimum) regardless of their use. If a ground level area, or part thereof, within or adjacent to the principal outside faces of the exterior walls is not enclosed and is determined to be a part of the principal use, this gross floor area is considered part of the overall square footage of the building.

Scooter sharing shall mean short term scooter rental available at unattended stations or dockless systems. The scooters maybe people powered or electric. A scooter-sharing system, public scooter system, or scooter-share scheme, is a short-term scooter rental service in which scooters are made available for shared use to individuals on a very short term basis. Scooter share systems allow people to rent a scooter at either a self-serve station or use of a dockless system.

Streetscape shall mean hardscape elements such as pavers, benches, lighting, trash and recycling receptacles, fountains, seating, shade structure, crosswalks, landscape elements such as canopy and understory trees, shrubs, bushes, grasses and flowers, green infrastructure and architectural structures and projections that provide shade and protection from various weather conditions.

Vehicle Miles of Travel (VMT) shall mean a unit to measure vehicle travel made by a private motor vehicle, such as an automobile, van, pickup truck, or motorcycle where each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle. VMT is calculated by multiplying the length of a road segment by the total number of vehicles on that road segment.

Vehicle Trip shall mean a trip by one person driving a motor vehicle or a motorcycle.

15 MPH Flex Lane shall mean a lane designated for exclusive use by micromobility devices, microtransit vehicles, bicycles and other forms of non-motor vehicle travel authorized by the City to travel no faster than 15 MPH.

CONCLUSION

The Mobility Fee is based upon the City of Palm Beach Gardens Mobility Plan. Mobility Fees are intended to be a streamlined, equitable replacement of transportation concurrency and road impact fees. The Mobility Fee is based on the projected person travel demand (PTD) for new development and redevelopment within the City and the person miles of capacity (PMC) provided by the multimodal capital improvements identified in the adopted Mobility Plan, consistent with the "needs" requirement of the dual rational nexus test.

The areas of the City east of the Beeline Highway will serve as the mobility fee assessment area and the benefit district where mobility fees paid by new development and redevelopment will be expended to fund the multimodal improvements identified in the mobility plan, consistent with the "benefits" requirement of the dual rational nexus test.

The City of Palm Beach Gardens will administer its own mobility fee program and will determine how mobility fee revenue is allocated through its annual Capital Improvements Program. The multimodal improvements identified in the mobility plan may include multimodal improvements on State and County Roads, if the City elects to expend mobility fee funds for those improvements. Mobility fee revenues maybe expended on improvements identified in the mobility plan through its Capital Improvements Program.

The person travel demand for each land use included in the mobility fee schedule meets the "rough proportionality test" established through case law. The new growth evaluation demonstrates that new development is not being assessed more than its fair share of the cost of the multimodal improvements. The calculated person travel demand represents the full impact of development within the City. Payment of the Mobility Fee addresses full mitigation of the impact from the person travel demand generated by new development and redevelopment. The adopted Mobility Plan and the calculated Mobility Fee are consistent with the requirements of Florida Statute 163.3180 and meet all statutory and legal requirements.

Appendix A

Existing Traffic Conditions

Roadway	Link	Lanes	Class	Juris.	Functional Class	Median	Speed Limit (MPH)	Length (Miles)	AADT	LOS D Capacity	Vehicle Miles of Travel	Vehicle Miles of Capacity
Donald Ross Road	Jog Rd to I-95	4LD	I	County	Arterial	Yes	45	1	15,547	36,700	15,547	36,700
	I-95 to Heights Blvd (3)	6LD	II	County	Arterial	Yes	45	0.35	39,132	50,300	13,696	17,605
	Heights Blvd to Central Blvd	6LD	II	County	Arterial	Yes	45	0.86	32,582	50,300	28,021	43,258
	Central Blvd to Military Trail	6LD	I	County	Arterial	Yes	45	0.32	31,295	55,300	10,014	17,696
	Military Trail to Alternate A1A	6LD	I	County	Arterial	Yes	45	0.5	31,295	55,300	15,648	27,650
	Alternate A1A to Prosperity Farms Rd	6LD	I	County	Arterial	Yes	45	1.2	30,325	55,300	36,390	66,360
	Prosperity Farms Rd to Ellison Wilson Rd	4LD	I	County	Arterial	Yes	45	1.2	28,009	36,700	33,611	44,040
Grandiflora Road	Alton Rd to Buccaneer Way	4LD	II	City	Collector	Yes	25	0.24	12,500	32,400	3,000	7,776
	Buccaneer Way to Central Blvd	2L	II	City	Collector	No	25	0.18	12,500	14,800	2,250	2,664
	Central Blvd to Military Trail	2L	II	City	Collector	No	25	0.33	12,500	14,800	4,125	4,884
Hood Road	Jog Rd to Florida Turnpike	2L	I	County	Arterial	No	40	1	10,388	16,500	10,388	16,500
	Florida Turnpike to I-95	2L	I	County	Arterial	No	40	0.69	10,388	16,500	7,168	11,385
	I-95 to Central Blvd	2L	I	County	Arterial	No	45	0.53	10,388	16,500	5,506	8,745
	Central Blvd to Military Trail	4LD	II	County	Arterial	Yes	45	0.31	15,598	33,200	4,835	10,292
	Military Trail to Alternate A1A	4LD	II	County	Arterial	Yes	45	0.52	17,622	33,200	9,163	17,264
	Alternate A1A to Prosperity Farms Rd	2L	I	County	Arterial	No	40	1.7	6,598	16,500	11,217	28,050
Victoria Falls Boulevard	Central Blvd to Military Trail	2L	II	City	Collector	Yes	25	0.36	5,000	14,800	1,800	5,328
Gardens Parkway	Alternate A1A to Prosperity Farms Rd	4LD	II	City	Collector	Yes	25	1.57	5,700	14,800	8,949	23,236
117th Court North	Central Blvd to Shady Lakes Dr	2L	II	City	Collector	No	25	0.48	5,000	14,800	2,400	7,104
Kyoto Gardens Drive	Military Trail to Alternate A1A	4LD	II	City	Collector	Yes	35	0.6	9,158	32,400	5,495	19,440
	Alternate A1A to Fairchild Gardens	4LD	II	City	Collector	Yes	35	0.42	6,397	32,400	2,687	13,608
PGA Boulevard	Beeline Hwy to Ryder Cup Blvd	2L	Unint.	FDOT	Arterial	No	55	2.93	3,893	22,200	11,406	65,046
	Ryder Cup Blvd to Florida Turnpike	4LD	I	FDOT	Arterial	Yes	45	1.3	26,718	36,700	34,733	47,710
	Florida Turnpike to Central Blvd (4)	6LD	II	FDOT	Arterial	Yes	45	0.52	48,032	50,300	24,977	26,156
	Central Blvd to Military Trail (4)	6LD	I	FDOT	Arterial	Yes	45	1	50,202	55,300	50,202	55,300
	Military Trail to I-95 (4)	6LD	II	FDOT	Arterial	Yes	45	0.23	53,179	50,300	12,231	11,569
	I-95 to RCA Blvd (4)	4L EB / 3L WB	II	FDOT	Arterial	Yes	45	0.24	71,884	67,300	17,252	16,152
	RCA Blvd to Lake Victoria Gardens Dr (4)	4L EB / 3L WB	II	FDOT	Arterial	Yes	45	0.48	71,884	67,300	34,504	32,304
	Lake Victoria Gardens Dr to Campus Dr (4)	6LD	II	FDOT	Arterial	Yes	45	0.58	57,732	50,300	33,485	29,174
	Campus Dr to Prosperity Farms Rd (4)	6LD	II	FDOT	Arterial	Yes	45	0.65	44,377	50,300	28,845	32,695
	Prosperity Farms Rd to Ellison Wilson Rd (4)	6LD	II	FDOT	Arterial	Yes	40	0.48	42,526	50,300	20,412	24,144
	Eltison Wilson Rd to US 1 (4)	6LD	II	FDOT	Arterial	Yes	40	0.2	29,161	50,300	5,832	10,060
Fairchild Avenue	Fairchild Gardens Ave to Campus Dr	2L	II	City	Collector	Yes	35	0.38	5,000	14,800	1,900	5,624
RCA Blvd	PGA Blvd to Alternate A1A	2L	I	County	Arterial	No	30	0.55	7,670	16,500	4,219	9,075
	Alternate A1A to Campus Dr	2L	I	County	Arterial	No	45	0.66	10,225	16,500	6,749	10,890
	Campus Dr to Prosperity Farms Rd	2L	I	County	Arterial	No	45	0.65	10,225	16,500	6,646	10,725
Burns Rd	Military Trail to I-95	4LD	II	City	Arterial	Yes	35	0.5	17,194	32,400	8,597	16,200
	I-95 to Alternate A1A	4LD	II	City	Arterial	Yes	35	0.36	17,194	32,400	6,190	11,664
	Alternate A1A to Gardens East Dr	4LD	II	City	Arterial	Yes	35	0.22	18,161	32,400	3,995	7,128
	Gardens East Dr to Prosperity Farms Rd	4LD	II	City	Arterial	Yes	35	0.97	9,331	32,400	9,051	31,428
Holly Dr	Military Trail to Lighthouse Dr	2L	II	City	Collector	Yes	25	1.5	7,205	14,800	10,808	22,200
Northlake Blvd	Seminole Pratt-Whitney Rd to 140th Ave	2L	I	County	Arterial	No	55	2	10,876	16,500	21,752	33,000
	140th Ave to Coconut Blvd	2L	I	County	Arterial	No	55	1.45	18,001	16,500	26,101	23,925
	Coconut Blvd to Ibis Blvd	4LD	I	County	Arterial	Yes	55	2	28,544	36,700	57,088	73,400
	Ibis Blvd to SR 7	4LD	Unint.	County	Arterial	Yes	55	0.5	36,199	64,300	18,100	32,150
	SR 7 to Beeline Hwy	4LD	Unint.	County	Arterial	Yes	55	2.75	36,199	64,300	99,547	176,825
	Beeline Hwy to Jog Rd	6LD	I	County	Arterial	Yes	55	0.85	21,334	55,300	18,134	47,005
	Jog Rd to Steeplechase Dr	6LD	II	County	Arterial	Yes	55	0.77	33,031	50,300	25,434	38,731
	Steeplechase Dr to Military Trail	6LD	I	County	Arterial	Yes	50	1.25	46,442	55,300	58,053	69,125
	Military Trail to I-95 (5)	6LD	II	County	Arterial	Yes	45	0.5	52,826	60,000	26,413	30,000

Roadway	Link	Lanes	Class	Juris.	Functional Class	Median	Speed Limit (MPH)	Length (Miles)	AADT	LOS D Capacity	Vehicle Miles of Travel	Vehicle Miles of Capacity
	Military Trail to I-95 (5)	6LD	II	County	Arterial	Yes	45	0.5	52,820	60,000	26,410	30,000
	I-95 to MacArthur Blvd (5)	6LD	II	County	Arterial	Yes	45	0.64	58,237	60,000	37,272	38,400
	MacArthur Blvd to Congress Ave (5)	6LD	II	County	Arterial	Yes	45	0.25	58,237	60,000	14,559	15,000
	Congress Ave to Old Dixie Hwy (5)	6LD	II	County	Arterial	Yes	40	0.32	45,560	60,000	14,579	19,200
	Old Dixie Hwy to Alternate A1A (5)	6LD	II	County	Arterial	Yes	40	0.16	45,560	60,000	7,290	9,600
	Alternate A1A to Prosperity Farms Rd (5)	6LD	II	FDOT	Arterial	Yes	40	0.14	41,804	60,000	5,853	8,400
	Prosperity Farms Rd to Southwind Dr	6LD	I	FDOT	Arterial	Yes	40	0.54	38,047	55,300	20,545	29,862
	Southwind Dr to US 1	6LD	I	FDOT	Arterial	Yes	40	0.57	27,772	55,300	15,830	31,521
Beeline Highway	Pratt-Whitney Rd to Caloosa	4LD	Unint.	FDOT-SIS	Arterial	Yes	60	1.8	17,076	74,400	30,737	133,920
	Caloosa to N County Airport	4LD	Unint.	FDOT-SIS	Arterial	Yes	60	2.7	17,216	74,400	46,483	200,880
	N County Airport to PGA Blvd	4LD	Unint.	FDOT-SIS	Arterial	Yes	60	2.64	14,393	74,400	37,998	196,416
	PGA Blvd to Northlake Blvd	4LD	Unint.	FDOT-SIS	Arterial	Yes	55	3.53	13,737	74,400	48,492	262,632
	Northlake Blvd to Jog Rd	4LD	I	FDOT-SIS	Arterial	Yes	55	1.21	22,626	39,800	27,377	48,158
	Jog Rd to Haverhill Rd	4LD	I	FDOT-SIS	Arterial	Yes	55	1.37	25,756	39,800	35,286	54,526
Jog Road	Beeline Hwy to Florida Turnpike	4LD	II	County	Collector	Yes	35	0.21	16,005	33,200	3,361	6,972
	Florida Turnpike to Northlake Blvd	4LD	II	County	Collector	Yes	35	0.53	6,200	33,200	3,286	17,596
	Northlake Blvd to PGA Blvd	2L	I	Private	Collector	No	25	2.66	6,200	16,500	16,492	43,890
	PGA Blvd to Hood Rd	2L	Unint.	County	Collector	No	35	3.67	10,353	22,200	37,996	81,474
	Hood Rd to Donald Ross Rd	2L	Unint.	County	Collector	No	40	1.12	4,573	22,200	5,122	24,864
Florida Turnpike	Jog Rd to PGA Blvd (3)	4LX	Freeway	FDOT-SIS	Expressway	Yes	70	2.46	56,900	77,900	139,974	191,634
	PGA Blvd to Donald Ross	4LX	Freeway	FDOT-SIS	Expressway	Yes	70	3	44,900	77,900	134,700	233,700
Pasteur Boulevard	Donald Ross Rd to Alton Rd	4LD	-	City	Collector	Yes	-	0.95	5,000	32,400	4,750	30,780
Alton Road	Donald Ross Rd to Grandiflora Rd	4LD	II	City	Collector	Yes	25	0.76	5,000	32,400	3,800	24,624
	Grandiflora Rd Rd to Hood Rd	4LD	-	City	Collector	Yes	-	0.6	5,000	39,800	3,000	23,880
Central Blvd	PGA Blvd to I-95	4LD	I	County	Arterial	Yes	45	1.47	17,409	36,700	25,591	53,949
	I-95 to Hood Rd	4LD	I	County	Arterial	Yes	45	0.56	17,409	36,700	9,749	20,552
	Hood Rd to Donald Ross Rd	4LD	I	County	Arterial	Yes	45	1.27	16,406	36,700	20,836	46,609
Shady Lakes Drive	PGA Blvd to 117th Court N	2L	II	City	Collector	No	35	0.74	5,000	14,800	3,700	10,952
Military Trail	Investment Ln to Northlake Blvd	6LD	I	FDOT	Arterial	Yes	45	0.75	32,946	55,300	24,710	41,475
	Northlake Blvd to Holly Dr	6LD	II	FDOT	Arterial	Yes	45	1	42,412	50,300	42,412	50,300
	Holly Dr to Burns Rd	6LD	II	FDOT	Arterial	Yes	45	0.5	41,589	50,300	20,795	25,150
	Burns Rd to PGA Blvd	6LD	II	FDOT	Arterial	Yes	45	0.51	41,589	50,300	21,210	25,653
	PGA Blvd to I-95	6LD	II	County	Arterial	Yes	45	0.5	36,594	50,300	18,297	25,150
	I-95 to Hood Rd	6LD	I	County	Arterial	Yes	45	1.31	26,235	55,300	34,368	72,443
	Hood Rd to Donald Ross Rd	6LD	I	County	Arterial	Yes	45	1.27	23,520	55,300	29,870	70,231
I-95	Blue Heron Blvd to Northlake Blvd	10LX	Freeway	FDOT-SIS	Expressway	Yes	65	1.76	171,500	194,500	301,840	342,320
	Northlake Blvd to PGA Blvd (3)	10LX	Freeway	FDOT-SIS	Expressway	Yes	65	2.2	171,500	194,500	377,300	427,900
	PGA Blvd to Military Trail	10LX	Freeway	FDOT-SIS	Expressway	Yes	65	0.38	142,500	194,500	54,150	73,910
	Military Trail to Central Blvd (3)	10LX	Freeway	FDOT-SIS	Expressway	Yes	65	1.07	142,500	194,500	152,475	208,115
	Central Blvd to Donald Ross Rd (3)	10LX	Freeway	FDOT-SIS	Expressway	Yes	65	2	142,500	194,500	285,000	389,000
MacArthur Blvd	Northlake Blvd to Lighthouse Dr	2L	II	City	Collector	Yes	25	0.66	7,944	14,800	5,243	9,768
Congress Ave	Silver Beach Rd to Northlake Blvd	4LD	II	County	Collector	Yes	35	1	24,489	33,200	24,489	33,200
	Northlake Blvd to Alternate A1A (future 2019)	2L	II	County	Collector	Yes	25	--	--	-	-	-
RCA Center Dr	RCA Blvd to Kyoto Gardens Dr	2L	II	City	Collector	Yes	25	0.65	9,700	14,800	6,305	9,620
	Northlake Blvd to Lighthouse Dr	4LD	II	FDOT	Arterial	Yes	45	0.9	23,093	33,200	20,784	29,880
	Lighthouse Dr to Burns Rd	4LD	II	FDOT	Arterial	Yes	45	0.95	23,842	33,200	22,650	31,540

Roadway	Link	Lanes	Class	Juris.	Functional Class	Median	Speed Limit (MPH)	Length (Miles)	AADT	LOS D Capacity	Vehicle Miles of Travel	Vehicle Miles of Capacity
Alternate A1A	Lighthouse Dr to Burns Rd	4LD	II	FDOT	Arterial	Yes	45	0.53	25,842	33,200	22,036	31,946
	Burns Rd to RCA Blvd	4LD	II	FDOT	Arterial	Yes	45	0.52	30,356	33,200	15,785	17,264
	RCA Blvd to PGA Blvd	4LD	II	FDOT	Arterial	Yes	45	0.4	27,592	33,200	11,037	13,280
	PGA Blvd to Hood Rd	6LD	II	FDOT	Arterial	Yes	45	1.41	45,173	50,300	63,694	70,923
	Hood Rd to Donald Ross Rd	6LD	I	FDOT	Arterial	Yes	50	1.3	33,548	55,300	43,612	71,890
Fairchild Gardens Ave	PGA Blvd to Gardens Parkway	4LD	II	City	Collector	Yes	25	0.4	9,000	32,400	3,600	12,960
	Fairchild Ave to PGA Blvd	4LD	II	City	Collector	Yes	25	0.25	9,000	32,400	2,250	8,100
	RCA Blvd to Fairchild Ave	2L	II	City	Collector	Yes	25	0.25	9,000	14,800	2,250	3,700
Kew Gardens Ave	Gardens Parkway to Valencia Gardens Ave	2L	II	City	Collector	No	25	0.23	9,000	14,800	2,070	3,404
	PGA Blvd to Gardens Parkway	4LD	II	City	Collector	Yes	25	0.34	9,000	32,400	3,060	11,016
Campus Drive	RCA Blvd to PGA Blvd	2L	II	City	Collector	No	35	0.5	9,000	14,800	4,500	7,400
Gardens East Dr	Burns Rd to RCA Blvd	2L	II	City	Collector	Yes	25	0.77	5,000	14,800	3,850	11,396
	Lighthouse Dr to Burns Rd	2L	II	City	Collector	No	25	0.95	5,000	14,800	4,750	14,060
Prosperity Farms Rd	Northlake Blvd to Lighthouse Dr (5)	3L	I	County	Arterial	No	35	0.66	17,653	20,950	11,651	13,827
	Lighthouse Dr to Burns Rd (5)	3L	I	County	Arterial	No	35	1	17,440	20,950	17,440	20,950
	Burns Rd to RCA Blvd	5L	II	County	Arterial	No	45	0.38	27,932	33,200	10,614	12,616
	RCA Blvd to PGA Blvd	5L	II	County	Arterial	No	45	0.5	27,932	33,200	13,966	16,600
	PGA Blvd to Gardens Pkwy	4LD	II	County	Arterial	No	40	0.25	20,493	33,200	5,123	8,300
	Gardens Pkwy to Donald Ross Rd (5)	2L	I	County	Arterial	No	40	2.51	9,318	19,460	23,388	48,845
Ellison Wilson Road	PGA Blvd to Universe Blvd	2L	I	County	Collector	No	35	1	11,076	16,500	11,076	16,500
	Universe Blvd to Donald Ross Rd	2L	I	County	Collector	No	35	1.6	6,600	16,500	10,560	26,400
US 1	Northlake Blvd to Lighthouse Dr	6LD	II	FDOT	Arterial	Yes	35	0.68	25,658	50,300	17,447	34,204
	Lighthouse Dr to PGA Blvd	4LD	II	FDOT	Arterial	Yes	35/45	1.94	28,206	33,200	54,720	64,408
	PGA Blvd to Universe Blvd	4LD	I	FDOT	Arterial	Yes	45	1	31,886	36,700	31,886	36,700
	Universe Blvd to Donald Ross Rd	4LD	I	FDOT	Arterial	Yes	35/45	1.65	26,208	36,700	43,243	60,555

Appendix B

2017 National Household Travel Survey Data

Appendix B: National Household Travel Survey Data											
Trip Purpose	Trip Length	# of Trips	Person Trip Length	Number of Persons	Person Miles of Travel	Person Miles of Travel Rate	Vehicle Miles of Travel	Vehicle Trip Length	Number of Vehicles	Persons per Vehcile	Vehicle Occupany
Buy Goods / Services	1,187.01	268	4.43	465	2,059.55	1.79	1151.36	4.62	249	446	1.79
Buy Meals	554.54	131	4.23	318	1,346.09	2.46	548.18	4.73	116	281	2.42
Child Care	3.82	2	1.91	6	11.45	3.00	3.82	1.91	2	6	3.00
Entertainment /Exercise	631.54	125	5.05	234	1,182.24	1.94	610.93	6.57	93	177	1.90
Errand / Library / PO	73.90	34	3.08	50	154.00	2.08	73.91	3.08	24	38	1.58
Home	2,393.84	504	4.75	961	4,564.75	1.99	2297.74	5.50	418	830	1.99
Medical	174.68	25	6.99	37	258.52	1.48	174.68	6.99	25	37	1.48
Religious	107.32	23	4.67	53	247.51	2.34	105.97	5.89	18	45	2.50
School	147.05	29	5.07	47	238.29	1.86	128.42	5.84	22	39	1.77
Work	1,766.66	225	7.85	281	2,205.85	1.30	1693.45	8.26	205	254	1.24

Appendix C

Florida Department of Transportation (FDOT) Generalized Service Volumes

TABLE 1

Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	16,800	17,700	**
4	Divided	*	37,900	39,800	**
6	Divided	*	58,400	59,900	**
8	Divided	*	78,800	80,100	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	7,300	14,800	15,600
4	Divided	*	14,500	32,400	33,800
6	Divided	*	23,300	50,000	50,900
8	Divided	*	32,000	67,300	68,100

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
85-100%	9,300	19,700	>19,700	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,500
50-84%	*	1,600	8,700	15,800
85-100%	3,800	10,700	17,400	>19,700

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
4	47,400	64,000	77,900	84,600
6	69,900	95,200	116,600	130,600
8	92,500	126,400	154,300	176,600
10	115,100	159,700	194,500	222,700
12	162,400	216,700	256,600	268,900

Urbanized

Lanes	B	C	D	E
4	45,800	61,500	74,400	79,900
6	68,100	93,000	111,800	123,300
8	91,500	123,500	148,700	166,800
10	114,800	156,000	187,100	210,300

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	8,600	17,000	24,200	33,300
4	Divided	36,700	51,800	65,600	72,600
6	Divided	55,000	77,700	98,300	108,800

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 1
(continued)

Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials				Class I	
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (u,lu)	lu	lu	u	u	u	u	u	u	u	u
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (n, nr, r)			n	r	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	4	4	5	5	2	2	1.9	1.8	2	2
Number of basic segments	4	4								
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.547	0.547	0.550	0.550	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)			1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Local adjustment factor	0.91	0.91	0.97	0.98						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

Appendix D

People Walking & Bicycling Plan Mobility Improvements

Appendix D: Walking & Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Project Length (miles)	Existing PMC	Future PMC	PMC Added	Improvements	Time Period	Estimated Const. Costs
1	Donald Ross Road	I-95	Prosperity Farms Road	0.25	300	1,500	1,200	Widen existing 5' sidewalk sections to 12' trails on south side at Central Blvd, Alternate A1A and Evergreen Drive.	2020-2030	$ 164,177
2	Grandiflora Rd	Buccaneer Way	Military Trail	0.51	612	3,060	2,448	Widen existing sidewalk to 12' trail on north side of road.	2020-2030	$ 334,922
3	Hood Road	Jog Road	Turnpike	0.6	–	3,600	3,600	Add 12' trail on south side of road starting at terminus of existing 12' trail east of Jog Road. Programmed sidewalk on north side between Briar Lake and Turnpike.	2020-2030	$ 394,026
4	Hood Road	Turnpike	Central Blvd	1.22	–	7,320	7,320	Add 12' trail on south side of road.	2020-2030	$ 801,185
5	Hood Road	Central Blvd	Alternate A1A	0.83	996	4,980	3,984	Replace existing sidewalk and add 12' trail on south side.	2031-2040	$ 545,069
6	Victoria Falls Blvd	Central Blvd	Military Trail	0.34	408	2,040	1,632	Widen existing sidewalk to 12' trail on south side of road.	2020-2030	$ 223,281
7	Elm Ave	Hood Road	Pacifico Court	0.45	540	2,700	2,160	Widen existing sidewalk to 12' trail on west side of road.	2020-2030	$ 295,519
8	Gardens Parkway (Phase 1)	Alternate A1A	Prosperity Farms Road	0.57	–	2,052	2,052	Add 8' path between Kew Gardens and Prosperity Farms Rd on the south side.	2020-2030	$ 249,550
9	Gardens Parkway (Phase 2)	Alternate A1A	Prosperity Farms Road	–	–	–	–	Add three flashing pedestrian activated crossing beacons and enhanced crosswalks at connecting residential development points to the Mall.	2020-2030	$ 674,721
11	Kyoto Gardens Drive	Military Trail	Alternate A1A	0.60	–	3,600	3,600	Add 12' trail on north side where feasible.	2020-2030	$ 394,026
12	Kyoto Gardens Drive	Alternate A1A	Fairchild Gardens Avenue	0.84	–	5,040	5,040	Add 12' trail on both sides where feasible.	2020-2030	$ 551,636
13	Garden Lakes Drive	Garden Square Blvd	Military Trail	0.1	–	480	480	Add 10' path to south side.	2020-2030	$ 54,726
14	PGA Blvd	Beeline Hwy	C-18 Canal	–	–	–	–	Add 12' trail on north side in conjunction with road widening.	2031-2040	$ -
15	PGA Blvd	C-18 Canal	Turnpike	0.42	–	3,600	3,600	Add missing 12' trail on north side between Turnpike and Mirasol.	2020-2030	$ 275,818
17	PGA Blvd	Shady Lakes Drive	Military Trail	0.5	600	3,000	2,400	On south side, widen existing 5' sidewalk to a 12' trail. Add enhanced pedestrian crosswalks at Shady Lakes Road Intersection ($50,000).	2020-2030	$ 378,355
18	PGA Blvd	Military Trail	Alternate A1A	0.76	912	4,560	3,648	On south side, widen existing 5' sidewalk to a 12' trail. Add flashing pedestrian activated crossing beacons and enhanced crosswalk. Add approach warnings ($100,000).	2020-2030	$ 824,006
19	PGA Blvd	Alternate A1A	Prosperity Farms Road	1.41	1,692	8,460	6,768	Widen existing 5' sidewalk to a 12' trail on south side. Add flashing pedestrian activated crossing beacons and enhanced crosswalk at PBSC.	2020-2030	$ 627,498
20	Fairchild Avenue	Lake Victoria Blvd	Fairchild Gardens Avenue	–	–	–	–	Add mid-block crossing.	2020-2030	$ 224,907
21	Fairchild Avenue	Fairchild Gardens Avenue	Campus Drive	0.38	456	2,280	1,824	Widen existing sidewalk to 12' trail on north side of road.	2020-2030	$ 249,550
22	RCA Blvd	Design Center Drive	Northcorp Parkway	0.19	–	684	684	Add 8' path on west side.	2020-2030	$ 83,183

Appendix D: Walking & Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Project Length (miles)	Existing PMC	Future PMC	PMC Added	Improvements	Time Period	Estimated Const. Costs
23	RCA Blvd	Northcorp Parkway	Alternate A1A	0.25	–	3,600	3,600	Add a 12' trail to south side of road. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks at RCA Blvd and RCA Center Drive and Fairchild Gardens Avenue. Add enhanced crosswalks at Alternate A1A ($150,000).	2031-2040	$ 763,992
24	RCA Blvd	Alternate A1A	Prosperity Farms Road	1.32	1,584	6,336	4,752	Widen existing sidewalk to 10' path on north side. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks	2020-2030	$ 1,316,670
25	Burns Road	Military Trail	Alternate A1A	–	–	–	–	Enhance existing and add 4 mid-block crossings with overhead flashing beacon where more than a 1/2 mile exist between signalized intersections and a major transit stop or generator is present. Add streetscape under I-95 overpass ($150,000).	2020-2030	$ 1,049,628
26	Burns Road	Alternate A1A	Prosperity Farms Road	1.19	1,428	7,140	5,712	Widen existing sidewalk to 12' trail on north side of road.	2031-2040	$ 781,484
27	Lilac Street	Military Trail	Plant Drive	0.43	516	2,064	1,548	Widen existing 5' sidewalk to a 10' path on south side. Add flashing pedestrian activated crossing beacons and enhanced crosswalks at park.	2020-2030	$ 460,228
28	Holly Drive	Military Trail	Lighthouse Drive	0.71	852	3,408	2,556	Widen existing 5' sidewalk to a 10' path on north side for missing links. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks. Add streetscape under I-95 overpass ($100,000).	2020-2030	$ 504,540
29	Northlake Blvd	City's boundary east of Beeline Hwy	Military Trail	2.5	3,000	12,000	9,000	Widen 5' sidewalk to 10' path on south side. Add colored marking when crossing driveways and minor intersections and add ladder crosswalks when crossing major intersection.	2031-2040	$ 1,368,144
30	Northlake Blvd	Sandtree Drive	Congress Ave Extension	0.65	780	3,120	2,340	Widen 5' sidewalk to 10' path on south side. Add colored marking when crossing driveways and minor intersections and add ladder crosswalks when crossing major intersection. Add bike lanes.	2031-2040	$ 355,718
31	Jog Road	PGA Blvd	Hood Road	3.67	11,010	22,020	11,010	Add streetscape and hardscape elements where needed to enhance existing 12' trail. Add crosswalks from neighborhoods to path ($200,000 / mi).	2031-2040	$ 734,000
32	Central Blvd	117th Court North	Donald Ross Road	2.51	3,012	15,060	12,048	Replace 5' to 8' sidewalks with 12' trail on east side of road.	2020-2030	$ 1,648,340
33	Garden Square Blvd	North of Midtown	Garden Lakes Circle	0.1	–	480	480	Add 10' path on west side for missing link. Add two flashing pedestrian activated crossing beacons and enhanced crosswalks at Garden Square Blvd and Garden Lakes Drive.	2020-2030	$ 504,540
34	Military Trail	Kyoto Gardens Drive	Donald Ross Road	2.58	3,096	15,480	12,384	Replace 5' to 8' sidewalks with 12' trail on east side of road.	2020-2030	$ 736,657
35	Military Trail	Nova University	Elm Avenue	0.07	–	84	84	Provide missing sidewalk connection on west side.	2020-2030	$ 24,773
36	Military Trail	Garden Lakes Drive	Kyoto Gardens Drive	0.28	336	1,344	1,008	Replace 5' to 8' sidewalks with 10' path on east side of road. Add flashing pedestrian activated crossing beacons and enhanced crosswalks at Military & Garden Lakes. Add .2 mile missing sidewalk link on west side.	2020-2030	$ 448,919
37	Military Trail Multimodal Bypass	Burns Road	PGA Blvd	0.50	–	1,800	1,800	Construct an 8' wide path, creating a parallel multimodal improvement to Military Trail.	2020-2030	$ 273,629

Appendix D: Walking & Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Project Length (miles)	Existing PMC	Future PMC	PMC Added	Improvements	Time Period	Estimated Const. Costs
38	Military Trail Multimodal Bypass	Holly Drive	Burns Road	0.50	--	1,800	1,800	Construct an 8' wide path, creating a parallel multimodal improvement to Military Trail.	2020-2030	$ 218,903
39	Military Trail Multimodal Bypass	C-17 Canal	Holly Drive	0.3	--	720	720	Construct a 5' sidewalk along Gardenia Drive, connect with current bridge over canal. Add hardscape and beautification of bridge with Crime Prevention Through Environmental Design ($200,000).	2020-2030	$ 306,169
40	Banyan Street	Linden Ave	Kyoto Gardens Drive	0.48	--	576	576	Add 5' sidewalk on west side and construct bridge. Add Crime Prevention Through Environmental Design ($100,000).	2020-2030	$ 269,871
41	RCA Center Drive	Kyoto Gardens Drive	RCA Blvd	0.65	780	3,900	3,120	Replace 5' sidewalk with 12' trail on east side of road.	With Tri-Rail Coastal Station	$ 426,861
42	Northcorp Parkway	RCA Blvd	Riverside Drive	0.34	408	1,224	816	Widen sidewalk to 8' path on west side from RCA Blvd to E. Park drive	2031-2040	$ 148,854
43	Riverside Drive	Northcorp Parkway	Burns Road	0.50	600	1,800	1,200	Widen sidewalks to 8 ' path on both sides.	2020-2030	$ 218,903
44	E Park Drive	RCA Blvd	Burns Road	0.53	636	3,180	2,544	Widen existing 5' sidewalk to a 12' trail on east side.	2031-2040	$ 348,056
45	Sandtree Drive	Gander Way	Northlake Blvd	0.32	384	1,536	1,152	Widen existing 5' sidewalk to a 10' path on west side and improve connections to commercial.	2020-2030	$ 175,122
46	Alternate A1A	Lighthouse Drive	Donald Ross Road	4.58	5,496	27,480	21,984	Replace 5' sidewalk with 12' trail on east side of road.	2031-2040	$ 3,007,729
47	Lake Victoria Gardens Drive	Alternate A1A	Kyoto Gardens Drive	0.5	600	3,000	2,400	Widen existing 8' sidewalk to a 12' trail on east side.	2020-2030	$ 328,355
48	Fairchild Gardens Avenue	RCA Blvd	Fairchild Avenue	0.25	300	1,200	900	Widen existing sidewalk to a 10' path on west side.	2020-2030	$ 136,814
50	Fairchild Gardens Avenue	PGA Blvd	Gardens Parkway	0.38	456	2,280	1,824	Widen existing sidewalk to a 12' trail on west side.	2020-2030	$ 249,550
51	Gardens East Drive	Lighthouse Drive	RCA Blvd	1.72	2,064	8,256	6,192	Widen existing sidewalk to a 10' path on west side .	2020-2030	$ 941,283
52	Campus Drive	RCA Blvd	PGA Blvd	0.5	600	3,000	2,400	Widen existing 5' sidewalk to a 12' trail on west side and add sidewalk on east side. Provide ladder crosswalks at RCA Blvd.	2020-2030	$ 505,304
53	Kew Gardens Drive	PGA Blvd	Gardens Parkway	0.34	408	2,040	1,632	Widen existing sidewalk to a 12' trail on east side.	2020-2030	$ 223,281
54	Prosperity Farms Road	RCA Blvd	PGA Blvd	--	--	--	--	Add mid-block pedestrian crossing with further study and discussions with PalmTran.	2031-2040	$ 224,907
54	Prosperity Farms Road	PGA Blvd	Gardens Parkway	0.25	300	1,200	900	Widen existing sidewalk to a 10' path on west side .	2020-2030	$ 136,814
58	Citywide Neighborhood Sidewalk Connections			4	--	9,600	9,600	Add 5' neighborhood sidewalk connections from neighborhoods to mobility hubs, adjacent non-residential development and the citywide path and trail network	2020-2040	$ 1,415,591
59	Mobility Hubs			--	--	--	--	Provide 12 mobility hubs within multimodal oriented districts and 12 within multimodal districts	2020-2040	$ 12,420,000
60	Shared Mobility Program			--	--	--	--	Provide funds to start or incentivize micromobility (bike, e-bike, e-scooter) microtransit, car share and ride hailing programs	2020-2040	$ 5,000,000
61	Citywide wayfinding and signage plan			--	--	--	--	Plan, design and install a citywide wayfining sign system directing users to multimodal facilities, mobility hubs and TRI-Rail Coastal Station	2020-2040	$ 500,000

Appendix D: Walking & Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Project Length (miles)	Existing PMC	Future PMC	PMC Added	Improvements	Time Period	Estimated Const. Costs
62	Citywide High Visability Multimodal Crossings			--	--	--	--	Install 20 high visability midblock crossings and crosswalks through-out the City	2020-2040	$ 4,998,142
Total				**42.87**	**45,162**	**225,684**	**180,522**			**$50,517,926**

PMC = Person Miles of Capacity. All capacities are based on Table 5, multiplied by the length of the facility. Some projects have unique features that result in additional cost. Addittional cost, other than those in **Table 10** are noted under improvements. The cost for shared mobility programs are $250,000 per year. These addittional cost and the cost for mobility hubs and shared mobility programs are based upon similar projects elsewhere in Florida. The cost for multimodal crossings are based on the cost for midblock crossings in **Table 10.**

Appendix E

People Bicycling Plan Mobility Improvements

Appendix E: Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Length (miles)	Existing PMC	Future PMC	PMC Added	Improvement	Time Period	Estimated Const. Costs
2	Grandiflora Rd	Buccaneer Way	Military Trail	0.51	–	612	612	Create Bicycle Boulevard	2031-2040	$ 45,900
3	Hood Road	Jog Road	Turnpike	1.96	–	7,056	7,056	Add 5' bike lanes with green pavement markings.	2020-2030	$ 1,390,389
4	Hood Road	Turnpike	Central Blvd	2.44	–	–	–	Programmed 4' bike lanes.	2019 - 2020	Funded
8	Gardens Parkway (Phase 1)	Alternate A1A	Prosperity Farms Road	2.46	–	8,874	8,874	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030	$ 927,828
10	Gardens Parkway (Phase 2)	Alternate A1A	Kew Gardens Avenue	1.00	–	–	–	Convert westbound outside lane to a 10' two-way protected bike lane with a 4' wide raised separator, or convert outside lanes to one-way 7' autonomous vehicle lane and 7' raised bike / scooter lane	2031-2040	Evaluate with Tri-Rail Coastal Station
11	Kyoto Gardens Drive	Military Trail	Alternate A1A	1.20	–	4,320	4,320	Reduce travel lanes to 11' wide through pavement marking removal and restripe. Widen existing 3' paved shoulder to 5' bike lanes, add green pavement markings.	2020-2030	$ 558,144
12	Kyoto Gardens Drive	Alternate A1A	Fairchild Gardens Avenue	0.84	–	3,024	3,024	Reduce travel lanes to 11' wide through pavement marking removal and restripe. Widen existing 3' paved shoulder to 5' bike lanes, add green pavement markings.	2020-2030	$ 390,701
14	PGA Blvd	Beeline Hwy	C-18 Canal	3.96	–	–	–	Add 7' buffered bike lanes in conjunction with road widening.	2031-2040	Evaluate with future widening
15	PGA Blvd	C-18 Canal	Turnpike	4.54	5,448	16,344	10,896	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT Resurfacing	$ 1,610,865
16	PGA Blvd	Turnpike	Shady Lakes Drive	2.3	2,760	8,280	5,520	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT Resurfacing	$ 816,077
17	PGA Blvd	Shady Lakes Drive	Military Trail	1	1,200	3,600	2,400	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT Resurfacing	$ 354,816
18	PGA Blvd	Military Trail	Alternate A1A	1.52	1,824	5,472	3,648	Add bike lanes from Military Trail to I-95. Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT Resurfacing	$ 539,320
19	PGA Blvd	Alternate A1A	Prosperity Farms Road	2.82	3,384	10,152	6,768	Reduce travel lanes to 11' wide where practical and add extra pavement width to bike lane, provide green bike lane markings at intersections.	In conjunction with next FDOT Resurfacing	$ 1,000,581
20	Fairchild Avenue	Lake Victoria Blvd	Fairchild Gardens Avenue	0.22	–	264	264	Create Bicycle Boulevard.	2031-2040	$ 19,800
22	RCA Blvd	Design Center Drive	Northcorp Parkway	0.38	–	1,368	1,368	Add 5' bike lanes with green pavement markings.	2020-2030	$ 269,565
23	RCA Blvd	Northcorp Parkway	Alternate A1A	0.5	–	–	–	Add 5' bike lanes in conjunction with roadway widening.	2020-2030	Included in road widening cost

Appendix E: Bicycling Plan Mobility Improvements

ID	Roadway	From	To	Length (miles)	Existing PMC	Future PMC	PMC Added	Improvement	Time Period	Estimated Const. Costs
25	Burns Road	Military Trail	Alternate A1A	0.9	–	5,184	5,184	Reduce travel lanes to 10' in width through pavement marking removal and restripe. Add 4' bike lanes from Military Trail to Weiss School, provide a 10' two-way protected bike lane with 8' for bikes and a raised 2' wide concrete barrier on north side of road between Weiss School and Riverside Drive. Includes green pavement markings	2020-2030	$ 650,817
26	Burns Road	Alternate A1A	Prosperity Farms Road	2.38	–	8,568	8,568	Reduce travel lanes to 10' wide through pavement marking removal and restripe. Add 4' wide bike lanes with green pavement markings from Riverside Drive to Prosperity Farms Road.	2020-2030	$ 895,870
31	Jog Road	PGA Blvd	Hood Road	7.34	8,808	26,424	17,616	Reduce travel lane widths to 11'. Widen 4' paved shoulder to 5' bike lanes with green pavement markers.	In conjunction with next County Resurfacing	$ 3,255,437
32	Central Blvd	117th Court North	Donald Ross Road		–	–	–	Add 5' paved shoulder between new turn lanes and thru lanes.	In conjunction with new turn lanes	Evaluate with future turn lanes
34	Military Trail	Kyoto Gardens Drive	Donald Ross Road	5.16	6,192	43,344	37,152	Reduce travel lanes to 11' through pavement marking removal and restripe. Widen 4' paved shoulder to 7' wide 15 MPH Flex Lane with pavement markings.	2031-2040	$ 3,340,212
35	Military Trail	PGA Blvd	Elm Avenue	1.68	–	–	–	Add bike lanes from PGA Blvd to Elm Ave.	In conjunction with next County Resurfacing	Critical need. Requires further analysis by County
37	Military Trail Multimodal Bypass	Burns Road	PGA Blvd	0.5	–	600	600	Create Bicycle Boulevard.	2031-2040	$ 45,000
42	Northcorp Parkway	RCA Blvd	Riverside Drive	0.68	–	2,448	2,448	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030	$ 255,963
43	Riverside Drive	Northcorp Parkway	Burns Road	0.25	–	300	300	Create Bicycle Boulevard.	2031-2040	$ 22,500
46	Alternate A1A	Lighthouse Drive	Donald Ross Road	1.28	–	4,608	4,608	Add .64 miles of 5' green bike lanes from Kyoto Gardens Drive to RCA Boulevard.	In conjunction with next FDOT Resurfacing	$ 567,706
49	Fairchild Gardens Avenue	Fairchild Avenue	PGA Blvd	0.5	–	1,800	1,800	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030	$ 188,208
50	Fairchild Gardens Avenue	PGA Blvd	Gardens Parkway	0.76	–	2,736	2,736	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030	$ 286,076
52	Campus Drive	RCA Blvd	PGA Blvd	0.50	–	4,200	4,200	Add a two-way 10' protected bicycle lane with a 2' raised separator on east side of road.	2031-2040	$ 600,000
53	Kew Gardens Drive	PGA Blvd	Gardens Parkway	0.68	–	2,448	2,448	Reduce travel lane width to 10' through pavement marking removal and restripe. Add 4' green bike lane pavement markings.	2020-2030	$ 255,963
Total				**50.26**	**29,616**	**172,026**	**142,410**			**$ 18,287,737**

PMC = Person Miles of Capacity. All capacities are based on Table 5, multiplied by the length of the bicycle facility.

Appendix F

People Riding Transit Mobility Improvements

Appendix F: Transit Plan Mobility Improvements

ID	Roadway	From	To	Length	Project	Time Period	Estimated Const. Costs
10	Gardens Parkway (Phase 2)	Alternate A1A	Kew Gardens Avenue	1.00	Convert eastbound outside lane to a dedicated lane for transit vehicles to operate directionally during AM, PM and Mid-day peaks or use outside lanes for one-way 7' autonomous transit vehicles lane and 7' protected bike lane.	In conjunction with Tri-Rail Coastal Station	Future Study with Tri-Rail Coastal
11	Kyoto Gardens Drive	Military Trail	Alternate A1A	0.60	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
12	Kyoto Gardens Drive	Alternate A1A	Fairchild Gardens Avenue	0.42	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
13	Garden Lakes Drive	Garden Square Blvd	Military Trail	0.1	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
17	PGA Blvd	Shady Lakes Drive	Military Trail	0.5	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
20	Fairchild Avenue	Lake Victoria Blvd	Fairchild Gardens Avenue	1.41	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
21	Fairchild Avenue	Fairchild Gardens Avenue	Campus Drive	1.41	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
25	Burns Road	Military Trail	Alternate A1A	0.86	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
33	Garden Square Blvd	North of Midtown	Garden Lakes Circle	0.2	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
34	Military Trail (Phase 2)	Kyoto Gardens Drive	Donald Ross Road	2.58	Convert southbound outside lane to a dedicated lane for transit vehicles to operate directionally during AM, PM and Mid-day peaks or use outside lanes for one-way 7' autonomous transit vehicles lane and 7' protected bike lane.	In conjunction with Tri-Rail Coastal Station	Future Study with Tri-Rail Coastal
36	Military Trail	Garden Lakes Drive	Kyoto Gardens Drive	0.28	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
37	Military Trail Multimodal Bypass	Burns Road	PGA Blvd	0.6	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
41	RCA Center Drive	Kyoto Gardens Drive	RCA Blvd	0.65	Add transit circulator.	In Conjunction with Tri-Rail Coastal	See Transit Circulator Cost
42	Northcorp Parkway	RCA Blvd	Riverside Drive	0.33	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
43	Riverside Drive	Northcorp Parkway	Burns Road	0.25	Add transit circulator.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
46	Alternate A1A	Lighthouse Drive	Donald Ross Road	2.18	Add transit circulator from RCA Blvd to Lake Victoria Gardens Dr.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost

Appendix F: Transit Plan Mobility Improvements

ID	Roadway	From	To	Length	Project	Time Period	Estimated Const. Costs
47	Lake Victoria Gardens Drive	Alternate A1A	Kyoto Gardens Drive	0.5	Add transit circulator from Alternate A1A to Fairchild Ave.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
50	Fairchild Gardens Avenue	PGA Blvd	Gardens Parkway	0.5	Add transit circulator from Kyoto Gardens Dr to Gardens Pkwy.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
50	Campus Drive	RCA Blvd	PGA Blvd	0.5	Add transit circulator from Fairchild Ave to PGA Blvd.	In conjunction with Tri-Rail Coastal Station	See Transit Circulator Cost
63	Transit Circulator Vehicles		PMC Added = 22,176	11	Provide a total of 24 transit circulators running along the transit circulator east and west routes per the mobility plan.	In conjunction with Tri-Rail Coastal Station	$ 4,000,000
64	TRI-Rail Coastal Station		PMC Added = 24,000	–	Add a multimodal transit center with 1,000 parking spaces, a Kiss & Ride and ride-hailing drop-off and pick-up location, along with spaces for car, bike and scooter sharing, car rental, a transit and microtransit transfer point and a pedestrian crossing at Alternate A1A	In conjunction with Tri-Rail Coastal Station	$ 10,000,000

The person miles of capacity (PMC) for transit circulator vehicles is based on the per vehicle capacity in **Table 6** multiplied by a total of 24 vehicles (924*24 = 22,176). The PMC for the TRI-Rail Coastal Station is based upon a total of 4,000 daily multimodal person times the length (6 miles) of future TRI-Rail Coastal Service through the City (4000*6 = 24,000). The 4,000 daily person trips account for trips made for the 1,000 space Park & Ride, Kiss & Ride and ride-hailing drop-off and pick-up and share multimodal mobility programs. The cost of each transit vehicle is $250,000 based on current industry standards for microtransit autonomous transit vehicles. It is assummed that addittional funding sources, up to $2 million, will be available to purschase some of the microtransit autonomous transit vehicles The cost of the TRI-Rail Coastal Station is based upon recent cost estimates for similar multimodal facilities in Florida within both Transit Oriented Developments and standalone facilities along rail transit.

Appendix G

Road & Intersection Plan Mobility Improvements

Appendix G: Palm Beach Gardens Road & Intersection Improvements

ID	Roadway	From	To	Length	Existing Lanes	Future Lanes	Existing PMC	Future PMC	PMC Added	Improvements	Time Period	Estimated Const. Costs
4	Hood Road	Turnpike	Central Blvd	1.22	2	4	--	--	--	Programmed to be widened to 4 lanes by the County.	2019-2020	Funded by County
18	PGA Blvd	Military Trail	Alternate A1A	0.76	--	--	--	--	--	Interchange Improvements at Interstate 95 to be funded by FDOT.	2020-2030	Funded by FDOT
23	RCA Blvd	Northcorp Parkway	Alternate A1A	0.25	2	4	8,174	18,308	10,134	Widen road to 4 lanes with a landscape median and left turn lanes	2020-2030	$ 2,864,618
30	Northlake Blvd	Sandtree Drive	Congress Ave Extension	0.65	--	--	--	--	--	Interchange Improvements at Interstate 95 to be funded by FDOT.	2020-2030	Funded by FDOT
32	Central Blvd	117th Court North	Donald Ross Road	2.51	--	--	--	--	--	New Interchange with I-95 to be funded by FDOT.	2020-2030	Funded by FDOT
43	Riverside Drive	Northcorp Parkway	Burns Road	0.25	0	1	--	1,203	1,203	Add southbound right turn lane at intersection with Burns Rod.	2020-2030	$ 367,974
56	Government Center Roads	PGA Blvd	Fairchild Avenue	0.3	0	2	--	8,578	8,578	New two lane divided road plus turn lanes at Fairchild Ave	2020-2030	$ 3,506,508
57	Military Trail Multimodal Shared Street	Burns Road	PGA Blvd	0.5	0	2	--	8,770	8,770	Convert existing drive-aisles and parking spaces into a shared street with parallel parking permitted to provide a multimodal alternative to Military Trail for transit circulation, micromobility devices and people bicycling and driving.	2020-2030	$ 5,230,890
65	Citywide Minor Intersection Improvements			--	--	--	--	24,060	24,060	Add 20 turn lanes at intersections of two and four lane roads to add capacity and address safety, multimodal, and operational issues	2020-2040	$ 7,359,477
66	Citywide Major Intersection Improvements			--	--	--	--	41,880	41,880	Add 20 turn lanes at intersections of four and six lane roads to add capacity, address safety, multimodal, and operational issues and upgrade traffic signals	2020-2040	$ 15,109,477
Total							8,174	102,799	94,625			$34,438,943.13

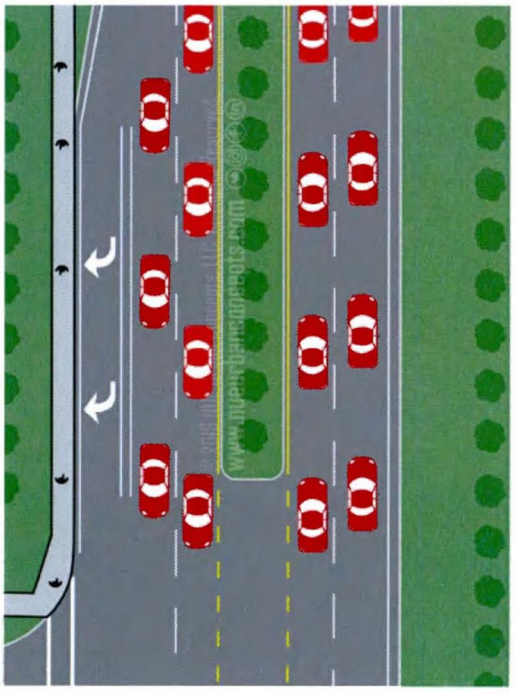
The capacity increase of RCA Blvd is based on difference in capacity between a 2 lane and 4 lane Class I facility per **Table 5**, multiplied by the Vehicle Occupancy Factor of 1.84, multiplied by the length of the road (((39900-17400)*1.84)*.25). The capacity of the government center roads is based upon a two lane Class II facility based on **Table 5**, with a 5% increase in capacity based on being a divided road per the FDOT Generalized Service Volume Tables in **Appendix C**, multiplied by a vehicle occupancy factor of 1.84, multiplied by the length of the road (((14800*1.05)*1.84)*.3). The capacity of the military trail multimodal shared street is based upon a two lane Class II facility based on **Table 5**, with a 40% reduction in capacity due to the facility being undivided and a City Street with a 15 to 20 MPH speed limit, multiplied by a vehicle occupancy factor of 1.84 and the addition of capacity for accommodating bicycle travel similar to a bicycle boulevard, multiplied by the length of the road ((((14800*.6)*1.84)+1200)*.5). The capacity of Riverside Drive and minor intersection improvements is based on the average turn lane capacity of two and four lane Class I & II roads per **Table 5**, divided by two to account for the presence of only one turn lane, and multiplied by 1.84 to account for vehicle occupancy (((740+885+1620+1990)/4)/2)*1.84) = 1203. The total capacity for minor intersection improvements is calculated based on intersection capacity times total number of improvements (1203*20 = 24,060). The capacity of major intersection improvements is based on the average turn lane capacity of four and six lane Class I & II roads per **Table 5**, divided by two to account for the presence of only one turn lane, and multiplied by 1.84 to account for vehicle occupancy (((1620+1990+2995+2500)/4)/2)*1.84) = 2094. The total capacity for minor intersection improvements is calculated based on intersection capacity times total number of improvements (2094*20 = 41880).

Appendix H

Increase In Person Capacity Illustration

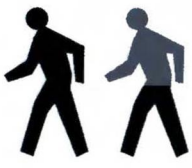
The following illustration provides an example of the existing person capacity on Kyoto Gardens Drive that features four (4) vehicle travel lanes, a three (3) foot paved shoulder and a five (5) foot sidewalk on the south side of the road. The Mobility Plan identifies the addition of five (5) foot wide green bike lanes and a twelve (12) foot trail on the north side of Kyoto Gardens Road. The number of travel lanes are not reduced, just the width of the travel lanes. The person capacity of the road increases by 13,200 persons a day with the addition of the trail and green bike lanes, with no reduction in capacity for motor vehicles based upon the current lane widths on Kyoto Gardens Drive.

Car-Oriented Street



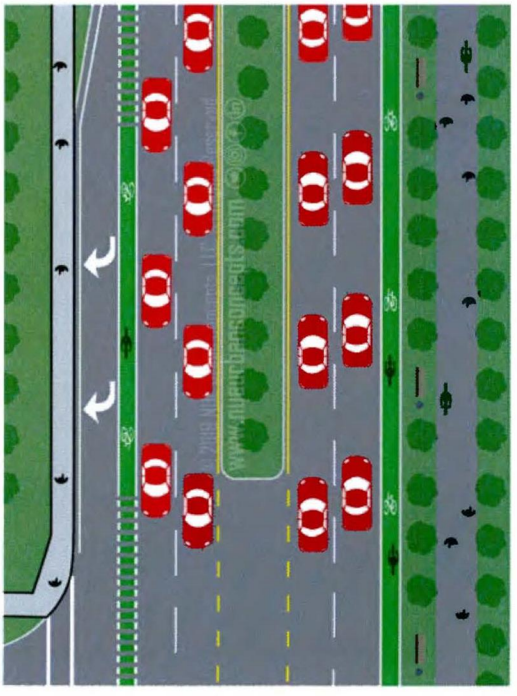
Daily Capacity of a Car-Oriented Street

	1,200	x1	1,200 people
	14,900	x4	59,600 people



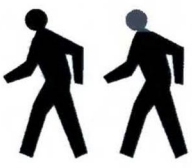
Total Capacity:
60,800 people

Multimodal Street



Daily Capacity of a Multimodal Street

	1,200	x1	1,200 people
	6,000	x1	6,000 people
	3,600	x2	7,200 people
	14,900	x4	59,600 people



Total Capacity:
74,000 people

Appendix I

Trip Generation Data

Appendix I: Trip Generation			
Land Uses	Unit of Measure	Trip Gen	ITE Land Use Code(s)
Residential			
Single Family Detached less than 1,500 sf	Dwelling Unit	7.08	210 [1]
Single Family Detached 1,500 to 2,499 sf	Dwelling Unit	8.26	210 [1]
Single Family Detached 2,500 sf or more	Dwelling Unit	9.44	210 [1]
Single Family Attached / Multi-Family less than 1,000 sf	Dwelling Unit	4.45	222
Single Family Attached / Multi-Family 1,000 sf or more	Dwelling Unit	5.44	221
Mobile Home	Dwelling Unit	5.00	240
Congregate Care Facility	Dwelling Unit	2.02	253
Assisted Living Facility	Bed	2.54	254
Nursing Home	1,000 sq. ft.	6.64	620
Lodging			
Hotel	Room	5.61	310, 311, 312 [2]
Recreational			
General Recreation	per Acre	0.78	411
Movie Theater	per Seat	1.76	444
Racquet Tennis Club	per Court	27.71	491
Recreational Community Center	1,000 sq. ft.	17.89	495, 560 [2]
Institutions			
Private School (Pre K-12)	student	3.30	534, 536 [2]
College or University	student	1.36	540, 550 [2]
Places of Assembly	1,000 sq. ft.	6.95	560
Day Care Center	1,000 sq. ft.	47.62	565
Cemetery	Acre	6.05	566
Hospital	1,000 sq. ft.	10.72	610
Animal Hospital / Veterinary Clinic	1,000 sq. ft.	21.5	640
Funeral Home	1,000 sq. ft.	6.05	566
Office			
Office	1,000 sq. ft.	8.71	710, 714 [2]
Medical Office	1,000 sq. ft.	19.98	610, 650, 710, 720 [2]
Retail			
Retail	1,000 sq. ft.	37.75	820
New/Used Car Sales	1,000 sq. ft.	27.45	840, 841 [2]
Convenience Store w/ Gas Pumps	1,000 sq. ft.	624.2	853
Pharmacy with or with drive-thru	1,000 sq. ft.	99.62	880, 881 [2]
Furniture Store	1,000 sq. ft.	6.3	890
Bank with or without drive-thru	1,000 sq. ft.	100.03	912
Quality Restaurant	1,000 sq. ft.	83.84	931
High-Turnover Restaurant	1,000 sq. ft.	112.18	932
Fast Food Restaurant w/Drive-Thru	1,000 sq. ft.	377.45	930, 933, 934 [2]
Quick Lube	per Bay	40	941
Automobile Care Center	1,000 sq. ft.	18.33	849, 943 [2]
Gas Service Station with or without Convenience Market	per Fuel Position	188.69	944, 945 [2]
Car Wash	per Bay	108	947
Industrial			
General Light Industrial	1,000 sq. ft.	4.69	110
Warehousing	1,000 sq. ft.	1.75	150, 154, 157 [2]
Mini-Warehouse	1,000 sq. ft.	1.51	151

[1] Trip generation based on 1.5 vehicles per dwellings less than 1,500 sf, 1.75 vehicles per dwelling between 1,500 and 2,499 sf, and 2 vehicles per dwelling 2,500 sf or greater in size.

[2] The Trip Generation Rates are based on average trip generation rates for all referenced land uses under the ITE Land Use Codes column.

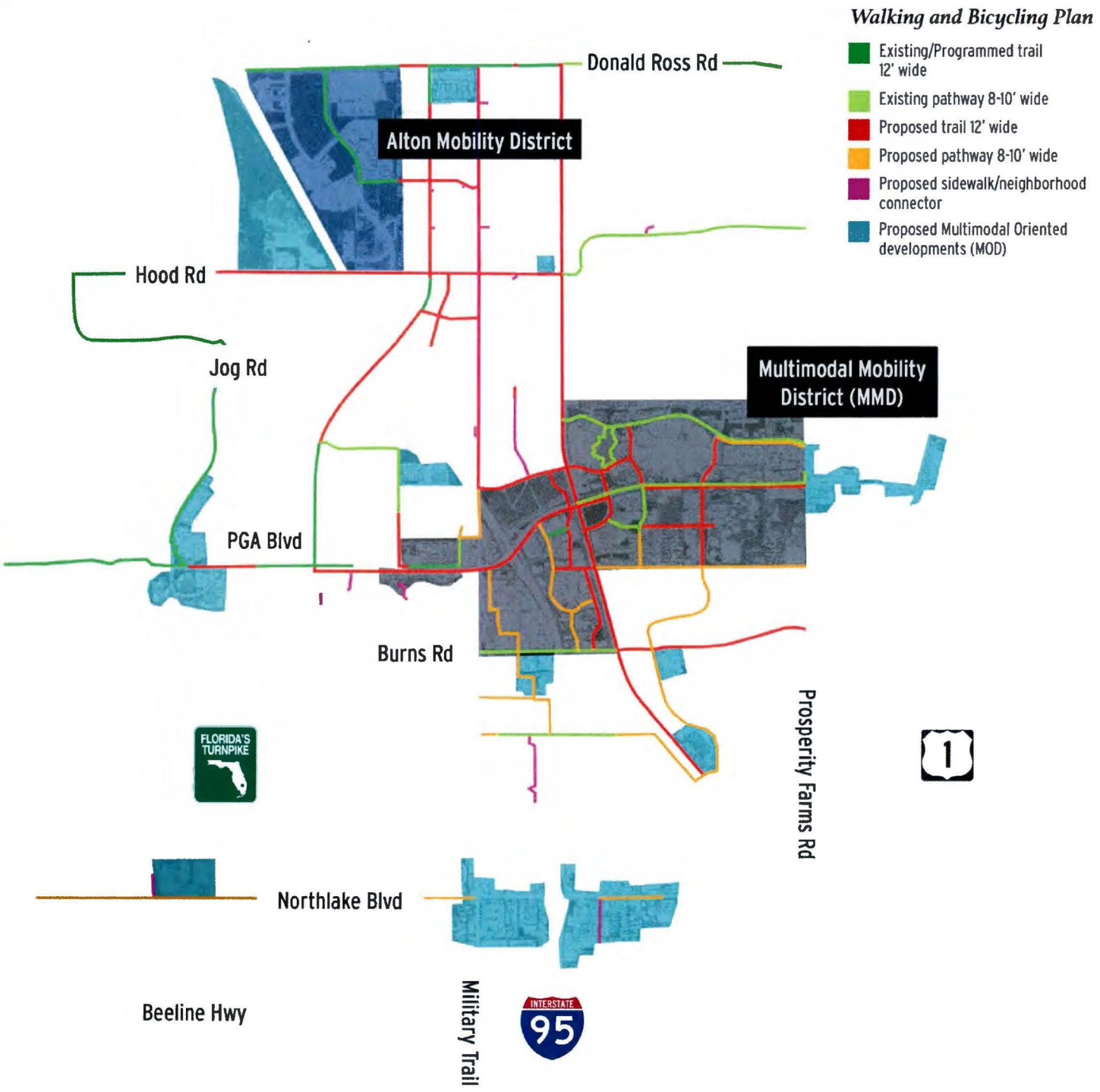
Appendix J

Person Travel Demand per Land Use Data

Appendix J: Person Travel Demand per Land Use							
Land Uses	Unit of Measure	Trip Gen	% New Trips	Person Trip Length	Limited Access Factor	PMT Factor	PTD
Residential							
Single Family Detached less than 1,500 sf	Dwelling Unit	7.08	1	4.75	0.59	1.99	19.74
Single Family Detached 1,500 to 2,499 sf	Dwelling Unit	8.26	1	4.75	0.59	1.99	23.03
Single Family Detached 2,500 sf or more	Dwelling Unit	9.44	1	4.75	0.59	1.99	26.32
Single Family Attached / Multi-Family less than 1,000 sf	Dwelling Unit	4.45	1	4.75	0.59	1.99	12.41
Single Family Attached / Multi-Family 1,000 sf or more	Dwelling Unit	5.44	1	4.75	0.59	1.99	15.17
Mobile Home	Dwelling Unit	5.00	1	4.75	0.59	1.99	13.94
Congregate Care Facility	Dwelling Unit	2.02	1	1.91	0.59	1.99	2.26
Assisted Living Facility	Bed	2.54	1	1.91	0.59	1.99	2.85
Nursing Home	1,000 sq. ft.	6.64	1	1.91	0.59	1.99	7.45
Lodging							
Hotel	Room	5.61	0.8	4.75	0.59	1.99	12.51
Recreational							
General Recreation	per Acre	0.78	0.5	5.05	0.59	1.94	1.13
Movie Theater	per Seat	1.76	0.5	5.05	0.59	1.94	2.54
Racquet Tennis Club	per Court	27.71	0.5	5.05	0.59	1.94	40.04
Recreational Community Center	1,000 sq. ft.	17.89	0.5	5.05	0.59	1.94	25.85
Institutions							
Private School (Pre K-12)	student	3.30	0.5	5.07	0.59	1.86	4.59
College or University	student	1.36	0.5	5.07	0.59	1.86	1.89
Places of Assembly	1,000 sq. ft.	6.95	0.5	4.67	0.59	2.34	11.20
Day Care Center	1,000 sq. ft.	47.62	0.3	1.91	0.59	3	24.15
Cemetery	Acre	6.05	0.5	6.99	0.59	1.48	9.23
Hospital	1,000 sq. ft.	10.72	0.5	6.99	0.59	1.48	16.36
Animal Hospital / Veterinary Clinic	1,000 sq. ft.	21.50	0.5	6.99	0.59	1.48	32.81
Funeral Home	1,000 sq. ft.	6.05	0.5	6.99	0.59	1.48	9.23
Office							
Office	1,000 sq. ft.	8.71	0.6	7.85	0.59	1.3	15.73
Medical Office	1,000 sq. ft.	19.98	0.6	6.99	0.59	1.48	36.59
Retail							
Retail	1,000 sq. ft.	37.75	0.4	4.43	0.59	1.79	35.32
New/Used Car Sales	1,000 sq. ft.	27.45	0.6	4.43	0.59	1.79	38.53
Convenience Store w/ Gas Pumps	1,000 sq. ft.	624.20	0.2	3.08	0.59	2.08	235.93
Pharmacy with or with drive-thru	1,000 sq. ft.	99.62	0.2	3.08	0.59	2.08	37.65
Furniture Store	1,000 sq. ft.	6.30	0.8	4.43	0.59	1.79	11.79
Bank with or without drive-thru	1,000 sq. ft.	100.03	0.4	3.08	0.59	2.08	75.62
Quality Restaurant	1,000 sq. ft.	83.84	0.3	4.23	0.59	2.46	77.21
High-Turnover Restaurant	1,000 sq. ft.	112.18	0.3	4.23	0.59	2.46	103.31
Fast Food Restaurant w/Drive-Thru	1,000 sq. ft.	377.45	0.2	4.23	0.59	2.46	231.73
Quick Lube	per Bay	40.00	0.2	3.08	0.59	2.08	15.12
Automobile Care Center	1,000 sq. ft.	18.33	0.6	3.08	0.59	2.08	20.78
Gas Service Station with or without Convenience Market	per Fuel Position	188.69	0.2	3.08	0.59	2.08	71.32
Car Wash	per Bay	108.00	0.2	3.08	0.59	2.08	40.82
Industrial							
General Light Industrial	1,000 sq. ft.	4.69	0.9	7.85	0.59	1.3	12.71
Warehousing	1,000 sq. ft.	1.75	0.9	7.85	0.59	1.3	4.74
Mini-Warehouse	1,000 sq. ft.	1.51	0.9	3.08	0.59	2.08	2.57

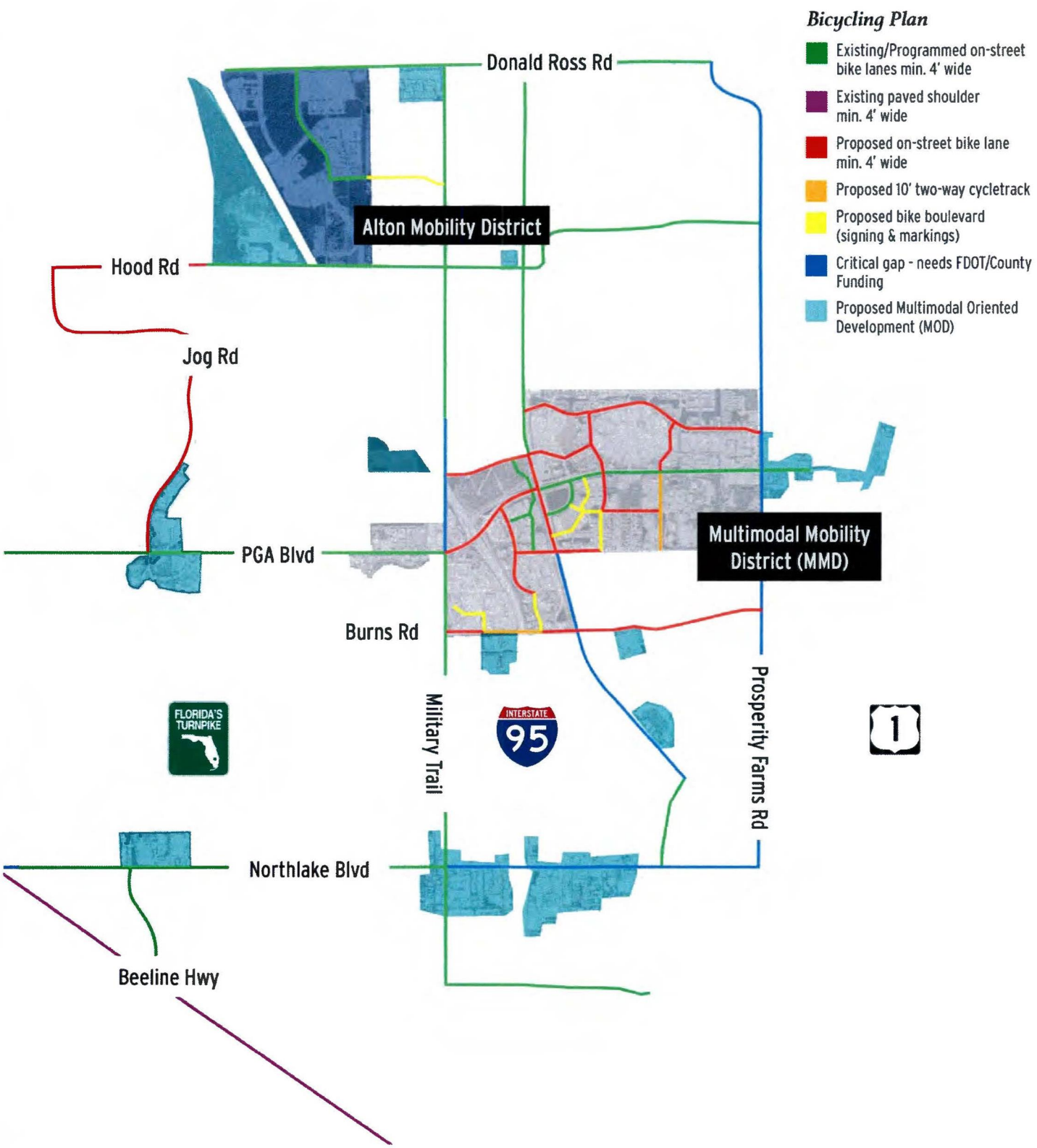
Map A

People Walking & Bicycling Plan


Walking and Bicycling Plan
Existing/Programmed trail 12' wide
Existing pathway 8-10' wide
Proposed trail 12' wide
Proposed pathway 8-10' wide
Proposed sidewalk/neighborhood connector
Proposed Multimodal Oriented developments (MOD)
Donald Ross Rd
Alton Mobility District
Hood Rd
Jog Rd
Multimodal Mobility District (MMD)
PGA Blvd
Burns Rd
FLORIDA'S TURNPIKE
Prosperity Farms Rd
1
Northlake Blvd
Beeline Hwy
Military Trail
INTERSTATE 95

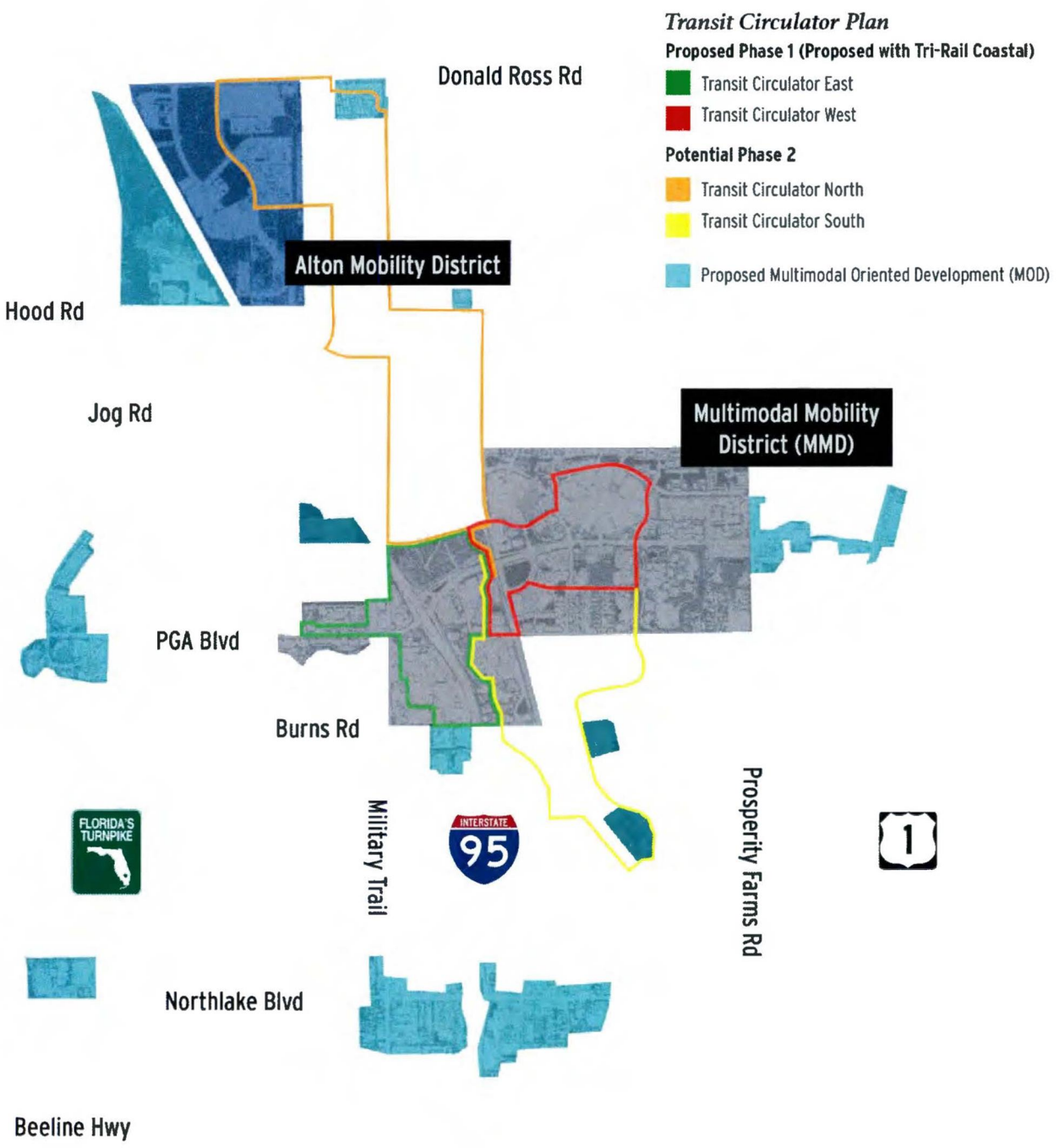
Map B

People Bicycling Plan


Bicycling Plan
Existing/Programmed on-street bike lanes min. 4' wide
Existing paved shoulder min. 4' wide
Proposed on-street bike lane min. 4' wide
Proposed 10' two-way cycletrack
Proposed bike boulevard (signing & markings)
Critical gap - needs FDOT/County Funding
Proposed Multimodal Oriented Development (MOD)
Donald Ross Rd
Alton Mobility District
Hood Rd
Jog Rd
PGA Blvd
Multimodal Mobility District (MMD)
Burns Rd
Military Trail
Prosperity Farms Rd
FLORIDA'S TURNPIKE
INTERSTATE 95
1
Northlake Blvd
Beeline Hwy

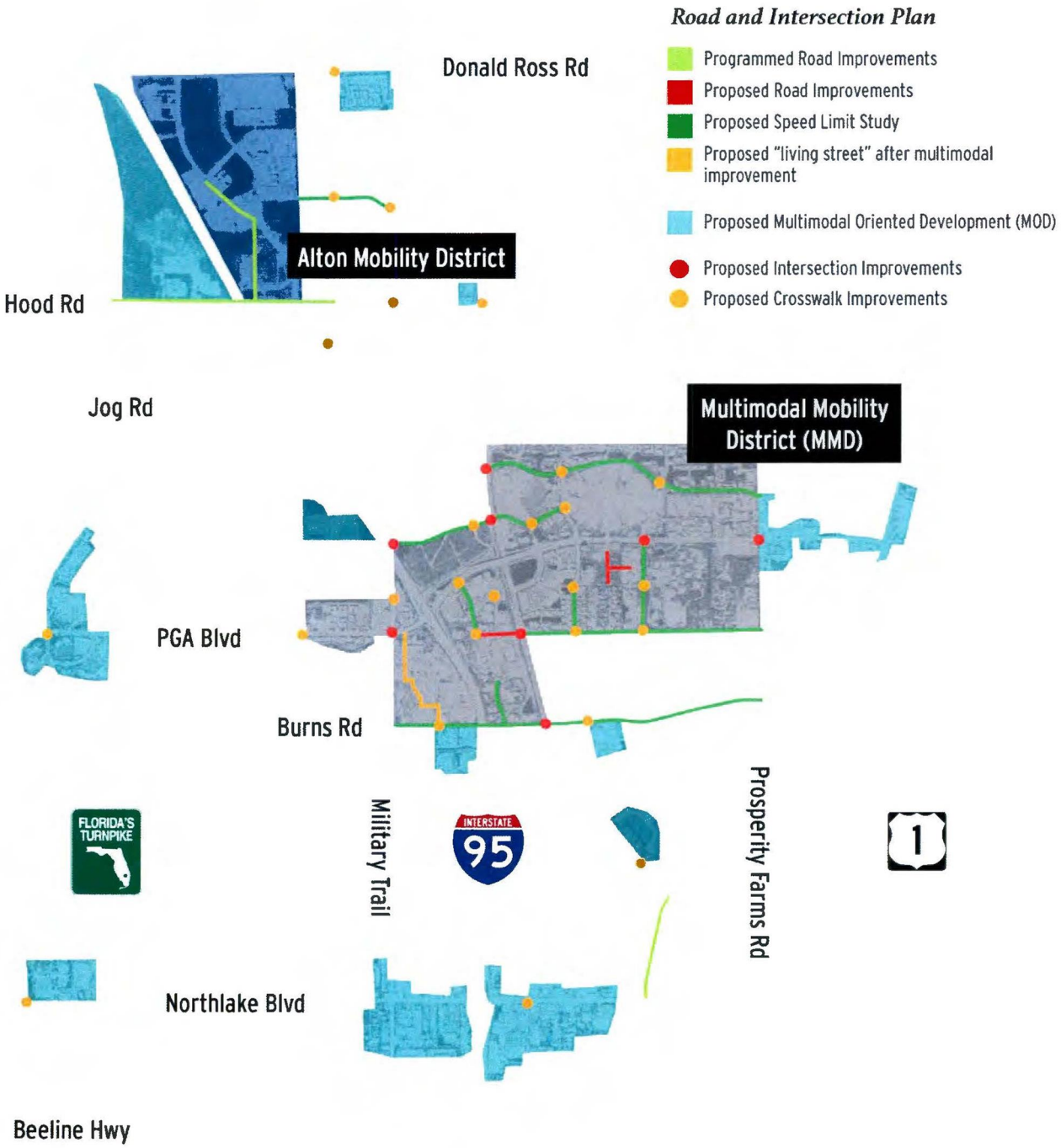
Map C

People Riding Transit Plan


Transit Circulator Plan
Proposed Phase 1 (Proposed with Tri-Rail Coastal)
Transit Circulator East
Transit Circulator West
Potential Phase 2
Transit Circulator North
Transit Circulator South
Proposed Multimodal Oriented Development (MOD)
Donald Ross Rd
Alton Mobility District
Hood Rd
Jog Rd
Multimodal Mobility District (MMD)
PGA Blvd
Burns Rd
FLORIDA'S TURNPIKE
Military Trail
INTERSTATE 95
Prosperity Farms Rd
1
Northlake Blvd
Beeline Hwy

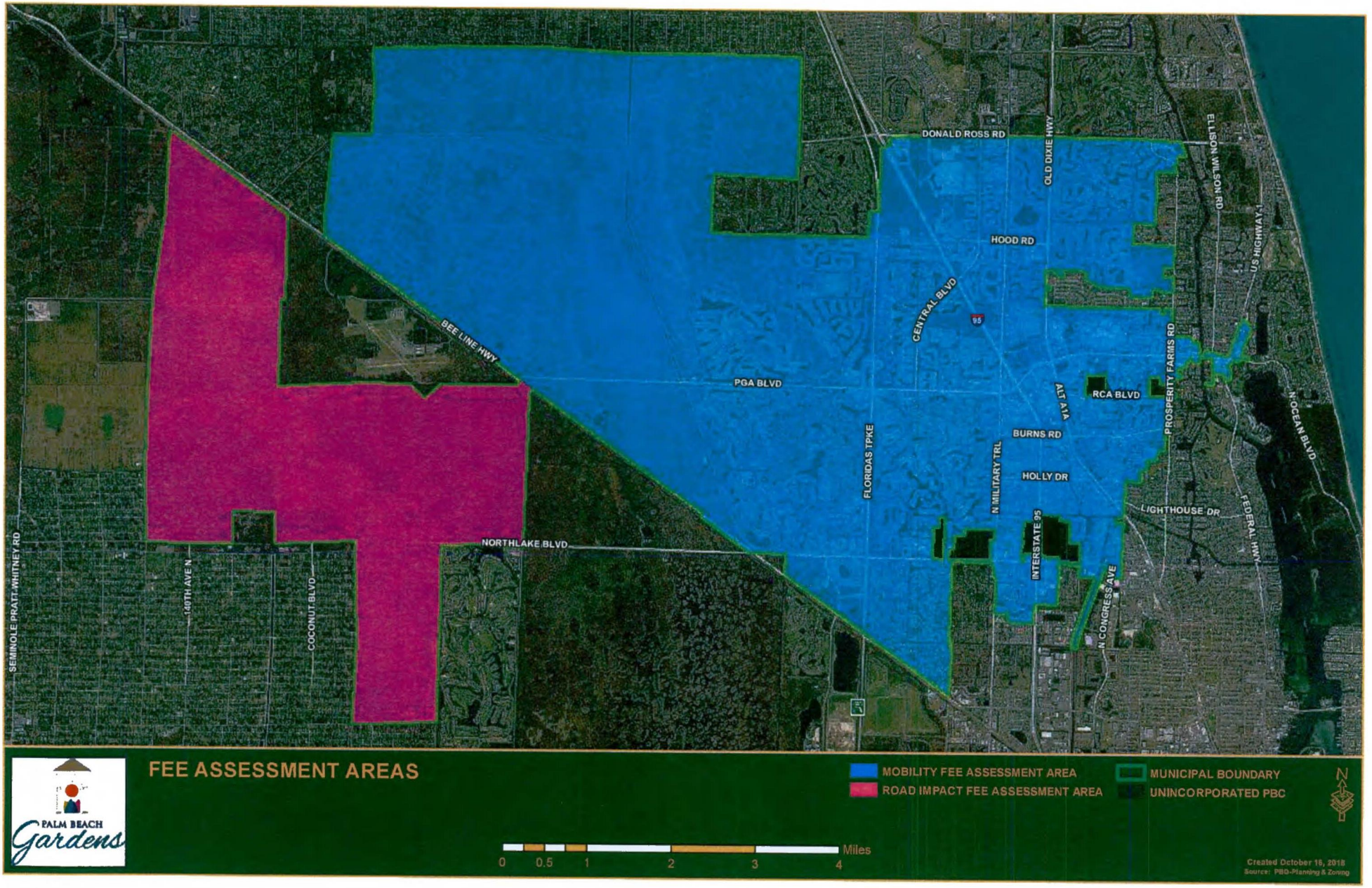
Map D

Road & Intersection Plan


Road and Intersection Plan
Programmed Road Improvements
Proposed Road Improvements
Proposed Speed Limit Study
Proposed "living street" after multimodal improvement
Proposed Multimodal Oriented Development (MOD)
Proposed Intersection Improvements
Proposed Crosswalk Improvements
Donald Ross Rd
Alton Mobility District
Hood Rd
Jog Rd
Multimodal Mobility District (MMD)
PGA Blvd
Burns Rd
FLORIDA'S TURNPIKE
Military Trail
INTERSTATE 95
Prosperity Farms Rd
1
Northlake Blvd
Beeline Hwy

Map E

Mobility Fee Assessment Area


DONALD ROSS RD
OLD DIXIE HWY
ELLISON WILSON RD
US HIGHWAY 1
HOOD RD
CENTRAL BLVD
95
BEE LINE HWY
PGA BLVD
ALT A1A
RCA BLVD
PROSPERITY FARMS RD
N OCEAN BLVD
BURNS RD
FLORIDAS TPKE
N MILITARY TRL
HOLLY DR
LIGHTHOUSE DR
FEDERAL HWY
INTERSTATE 95
N CONGRESS AVE
NORTHLAKE BLVD
SEMINOLE PRATT WHITNEY RD
140TH AVE N
COCONUT BLVD
FEE ASSESSMENT AREAS
MOBILITY FEE ASSESSMENT AREA
ROAD IMPACT FEE ASSESSMENT AREA
MUNICIPAL BOUNDARY
UNINCORPORATED PBC
N
Miles
0 0.5 1 2 3 4
PALM BEACH Gardens
Created October 16, 2018
Source: PBC-Planning & Zoning

NUE URBAN CONCEPTS

Land Use - Transportation - Parking - Impact & Mobility Fees - Traffic - Funding

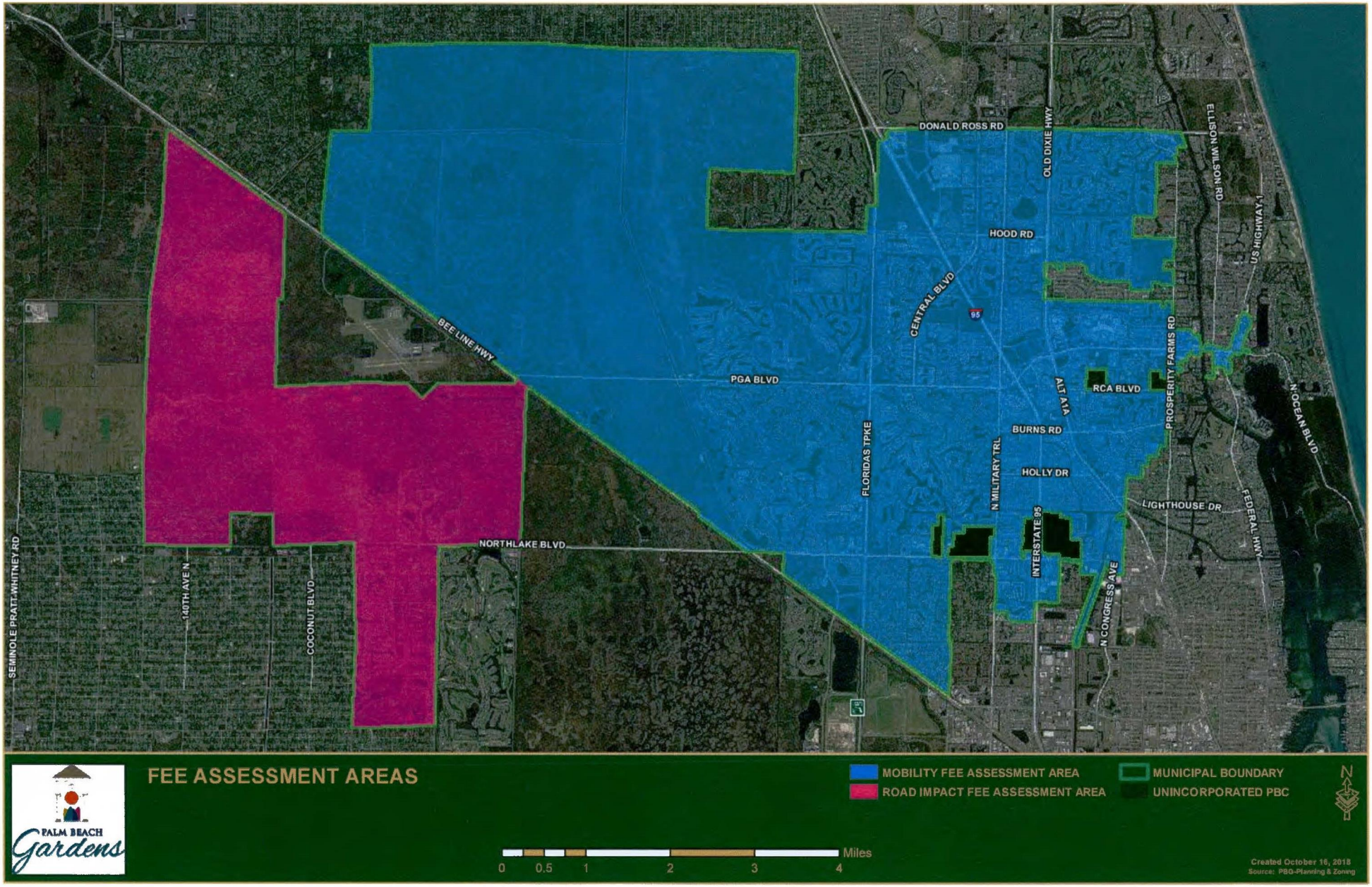
313 Datura St., Suite 200
West Palm Beach, FL 33401
Toll-free: 833-NUC-8484

www.nueurbanconcepts.com
nueurbanconcepts@gmail.com

THE REPUBLIC of DESIGN

PTC
Transportation Consultants

EXHIBIT "C"


DONALD ROSS RD
OLD DIXIE HWY
ELLISON WILSON RD
US HIGHWAY 1
HOOD RD
CENTRAL BLVD
95
BEE LINE HWY
PGA BLVD
ALT A1A
RCA BLVD
PROSPERITY FARMS RD
N OCEAN BLVD
BURNS RD
FLORIDAS TPKE
N MILITARY TRL
HOLLY DR
LIGHTHOUSE DR
FEDERAL HWY
INTERSTATE 95
N CONGRESS AVE
NORTHLAKE BLVD
SEMINOLE PRATT WHITNEY RD
140TH AVE N
COCONUT BLVD
FEE ASSESSMENT AREAS
MOBILITY FEE ASSESSMENT AREA
ROAD IMPACT FEE ASSESSMENT AREA
MUNICIPAL BOUNDARY
UNINCORPORATED PBC
N
PALM BEACH Gardens
Miles
0 0.5 1 2 3 4
Created October 16, 2018
Source: PBG-Planning & Zoning