



# PALM BEACH *Gardens*

## Mobility Plan

*April 2019*

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

**THE REPUBLIC OF DESIGN INC.**

**PTC**  
Transportation Consultants



Prepared by:

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Transportation Consultants

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*Share the Road*

## 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

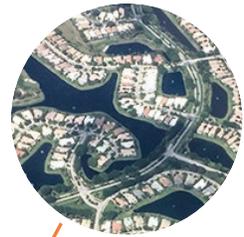
congestion and accommodating new development by adding road capacity while also preserving the quality of life in the community and protecting existing residential neighborhoods. Many communities have found that any new road capacity is quickly consumed through what is known as induced demand (build 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<sup>1</sup>. 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,

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



*The Mobility Plan establishes a shared community vision for how people travel that is built on providing mobility choices.*



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

## 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



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



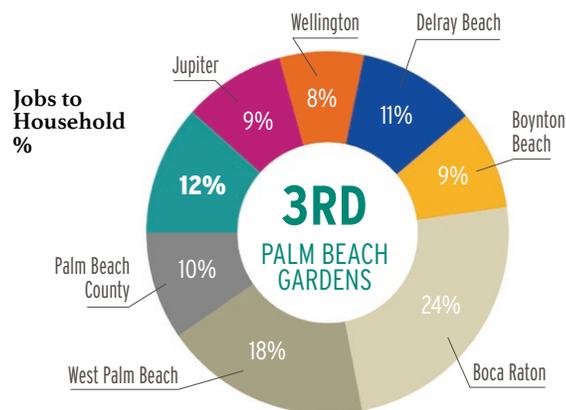


# Existing Travel & Growth



## 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

	Population	Jobs	Households	Jobs to Households
<b>Palm Beach Gardens</b>	<b>51,865</b>	<b>29,864</b>	<b>23,168</b>	<b>1.29</b>
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
<b>Palm Beach County</b>	<b>1,398,757</b>	<b>576,637</b>	<b>538,549</b>	<b>1.07</b>

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).

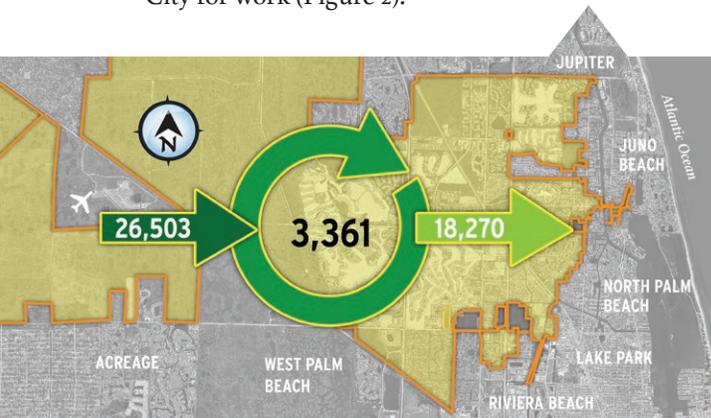


Figure 2

Table 2	Total	% Share
<i>Employed in Palm Beach Gardens</i>	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%
<i>Living in Palm Beach Gardens</i>	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.

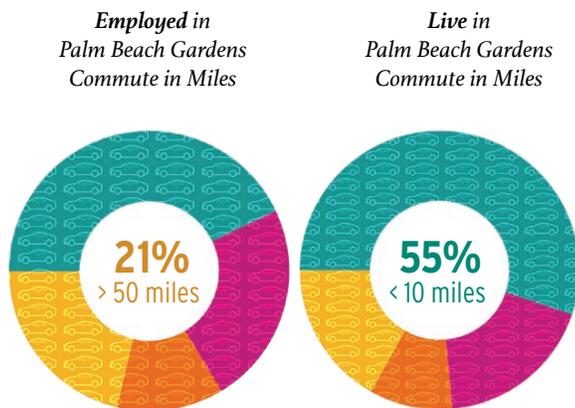
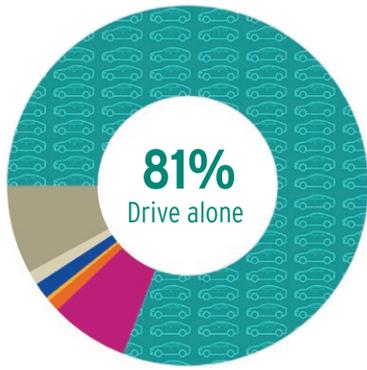


Table 3	Total	% Share
<i>Distance from Home to Work, Employed in Palm Beach Gardens</i>	29,864	100%
Less than 10 miles	12,818	42.9%
10 - 24 miles	7,000	23.4%
25 - 50 miles	3,680	12.3%
Greater than 50 miles	6,366	21.3%
<i>Distance from Home to Work, Live in Palm Beach Gardens</i>	21,631	100%
Less than 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% carpoled (Table 4). Only 1.5% of workers walked and 1.1% used public transit.



	Number	% Share
Drive alone	19,864	80.8%
Carpool	1,733	7.0%
Transit	272	1.1%
Bicycle	86	0.35%
Walking	366	1.49%
Other	299	1.22%
Worked at home	1,964	8.0%
<b>Total</b>	<b>24,584</b>	<b>100%</b>

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).

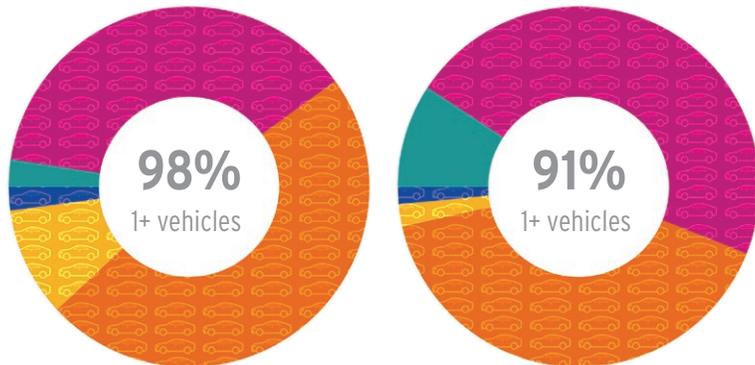
A total of 40% of all households have access to one motor vehicle and 44% of households have access to two motor vehicles.

	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%
<b>Total</b>	<b>16,290</b>	<b>100%</b>	<b>6,878</b>	<b>100%</b>

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

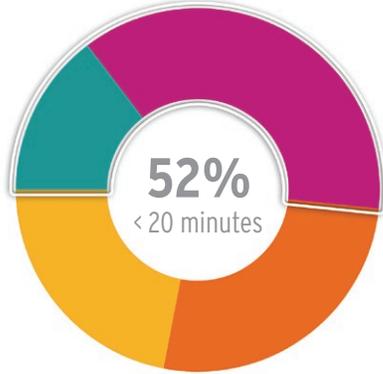
Owner Household

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.



	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%
<b>Total</b>	<b>22,620</b>	<b>100%</b>

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).

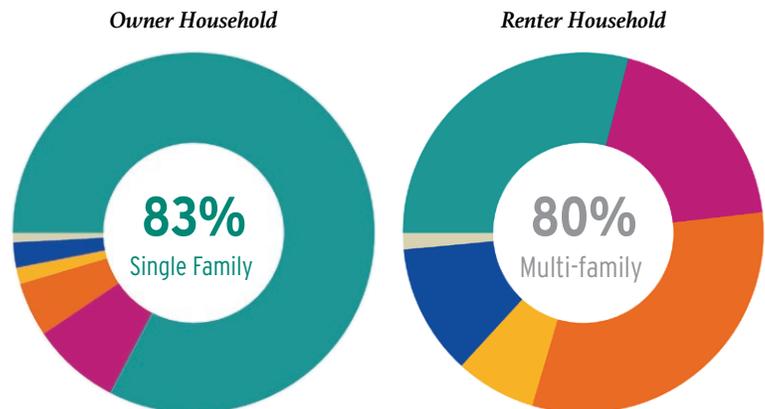
The majority of renter-occupied households live in multi-family housing, with 31% living in typically garden-style apartments that are between 5 and 19 units per building. There are a fairly significant number (about 12%) of households that rent in buildings of 50 or more units.

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.

	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%
<b>Total</b>	<b>16,290</b>	<b>100%</b>	<b>6,878</b>	<b>100%</b>

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



# 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.

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

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.

	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
<b>Increase (2016-2040)</b>	<b>674,678</b>	<b>417,032</b>	<b>1,091,710</b>

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	L RTP
Northlake Blvd	Seminole Pratt Whitney Rd	Coconut Blvd	2	4	L RTP
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	L RTP
Beeline Hwy (SR 710)	Seminole Pratt Whitney Rd	PGA Blvd	4	6	L RTP
Beeline Hwy (SR 710)	PGA Blvd	Northlake Blvd	4	6	L RTP
Beeline Hwy (SR 710)	Northlake Blvd	Blue Heron Blvd	4	6	L RTP
SR 7 Extension	60th St	Northlake Blvd	0	4	L RTP
Congress Ave Extension	Northlake Blvd	Alt A1A	0	2	L RTP
Old Dixie Hwy	Park Ave	Northlake Blvd	2	3	L RTP
Park Ave Extension	Old Dixie Hwy	Congress Blvd	0	2	L RTP
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	L RTP

# 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 Prosperity 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	L RTP
I-95	at Central Blvd	Interchange	L RTP
I-95	at PGA Blvd	Interchange	FDOT
I-95	at Northlake Blvd	Interchange	FDOT
Alt AIA	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 AIA 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.

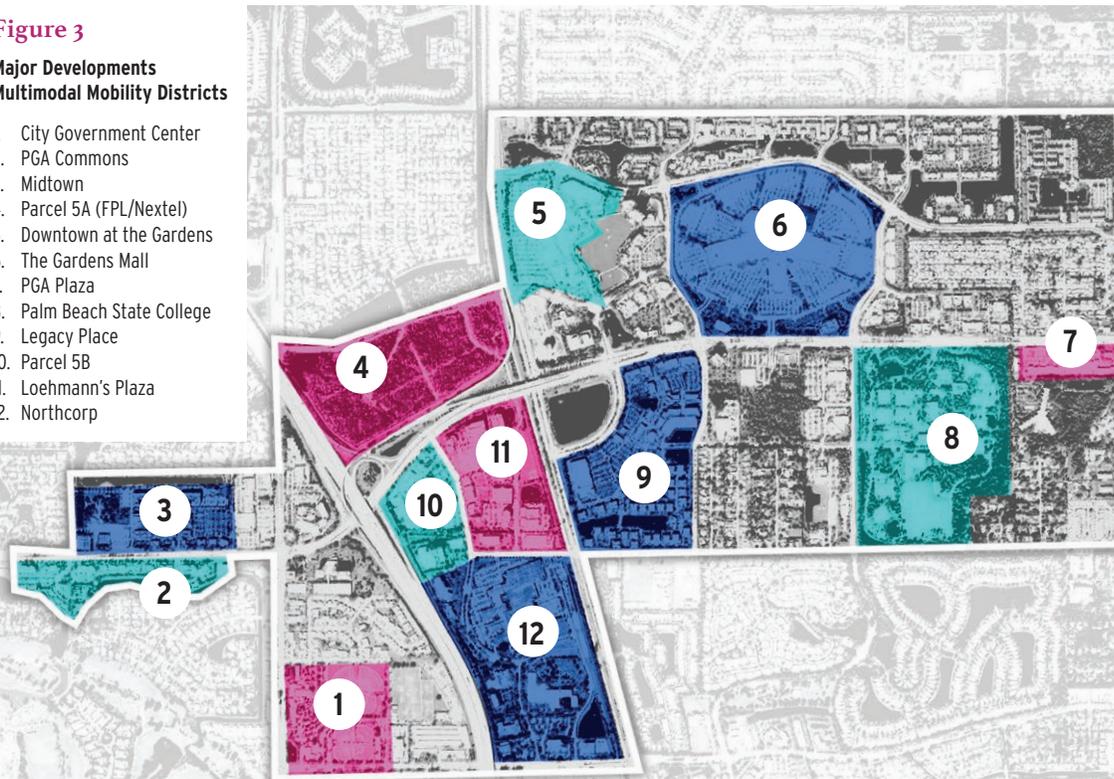
The Multimodal Mobility District City is currently comprised of several major retail, employment and educational destinations largely located along the PGA Boulevard Corridor and are within a one mile radius of the future Tri-Rail Coast Station. The PGA Boulevard Corridor, per Future Land Use Element 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**

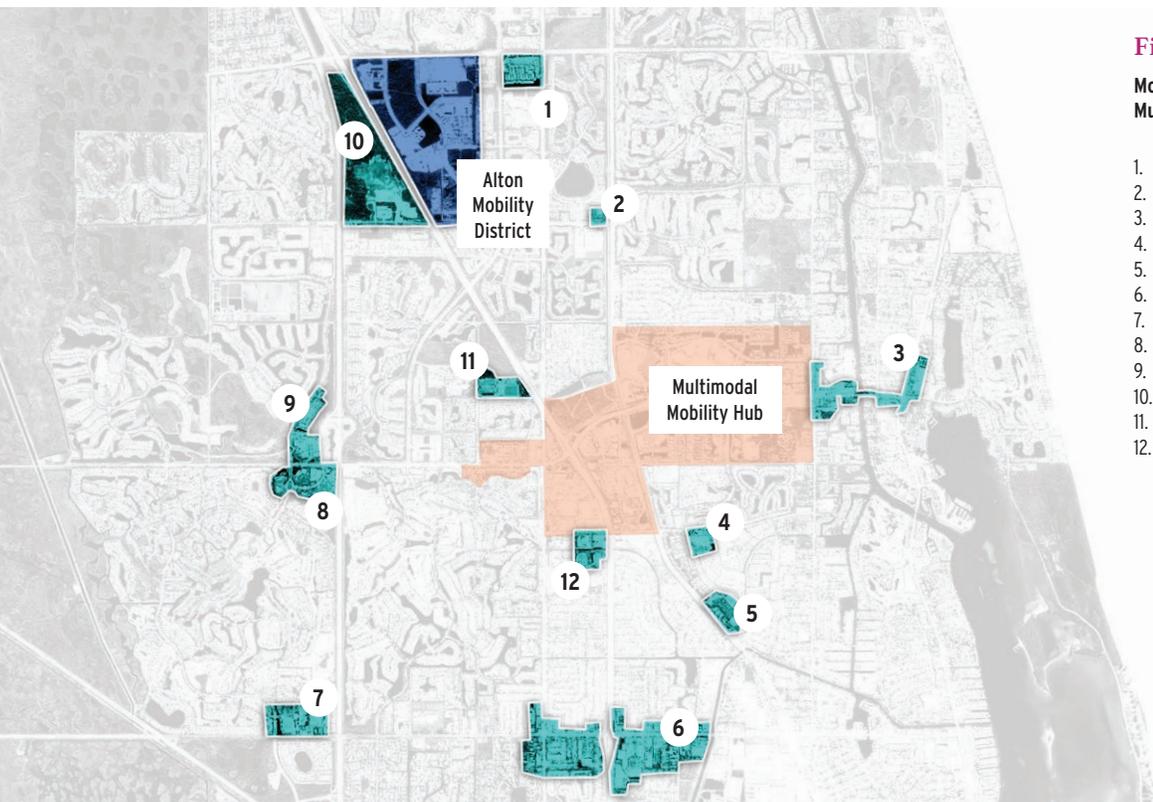
1. City Government Center
2. PGA Commons
3. Midtown
4. Parcel 5A (FPL/Nextel)
5. Downtown at the Gardens
6. The Gardens Mall
7. PGA Plaza
8. Palm Beach State College
9. Legacy Place
10. Parcel 5B
11. Loehmann's Plaza
12. Northcorp



**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

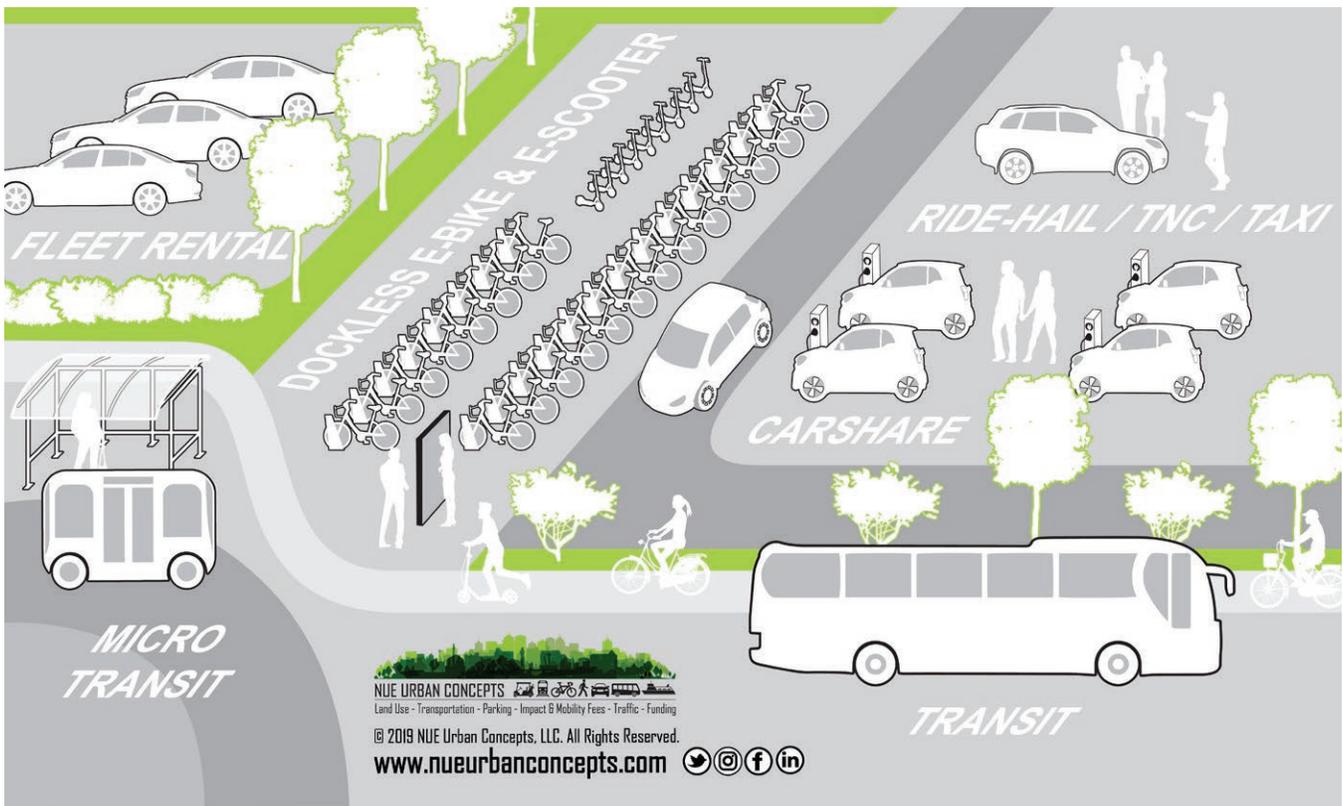
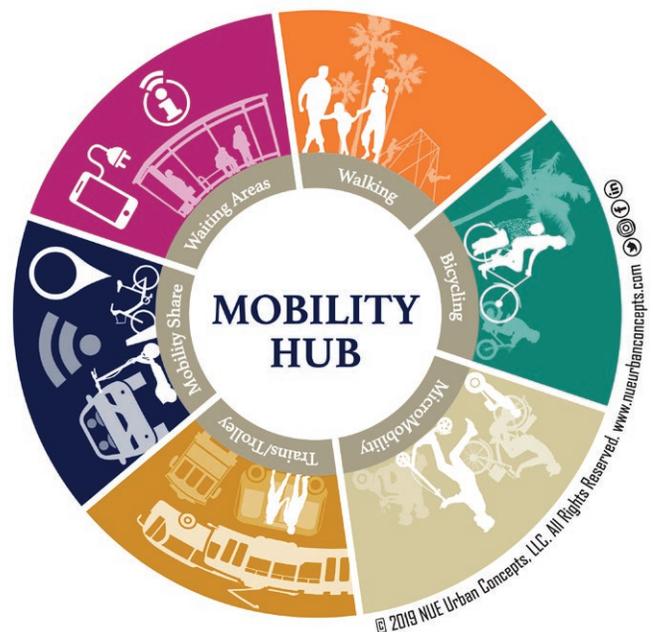


Figure 5

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 to, 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).

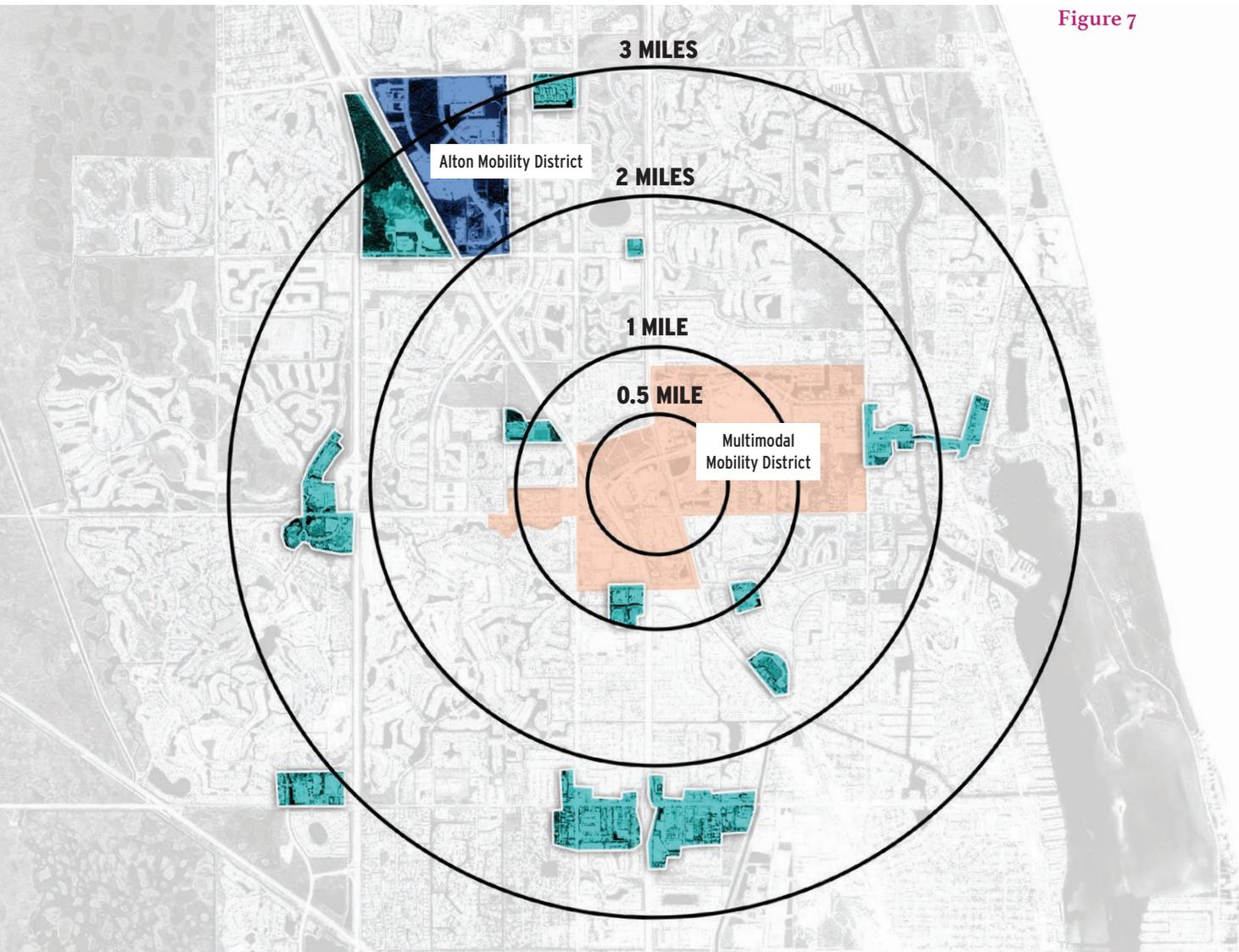


Figure 7

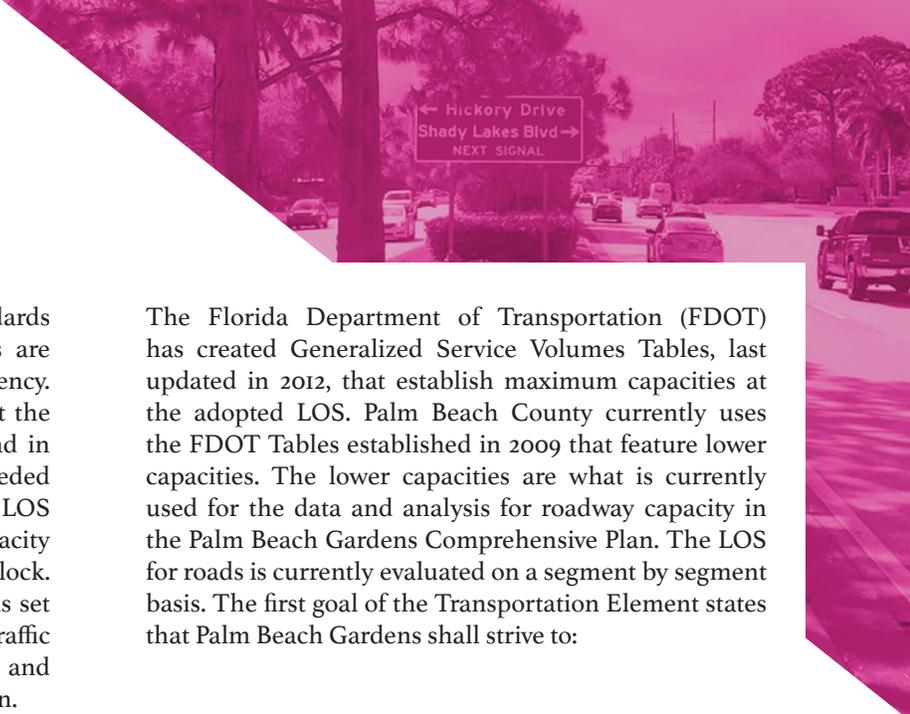
# Areawide Service Standards

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.

**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.

**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.



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:

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 2.1.1.21.:** 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.

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

<b>Table 12</b>	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

## People Walking & Biking Quality of Service (QOS)

### Level of Physical Separation

<b>Table 13</b>	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

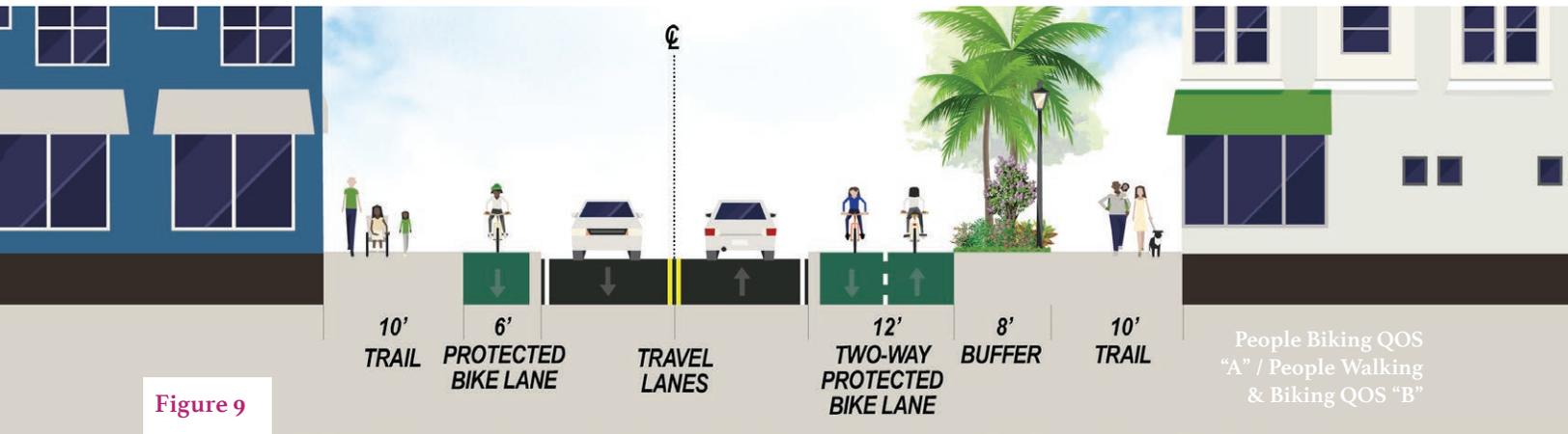


Figure 9

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.

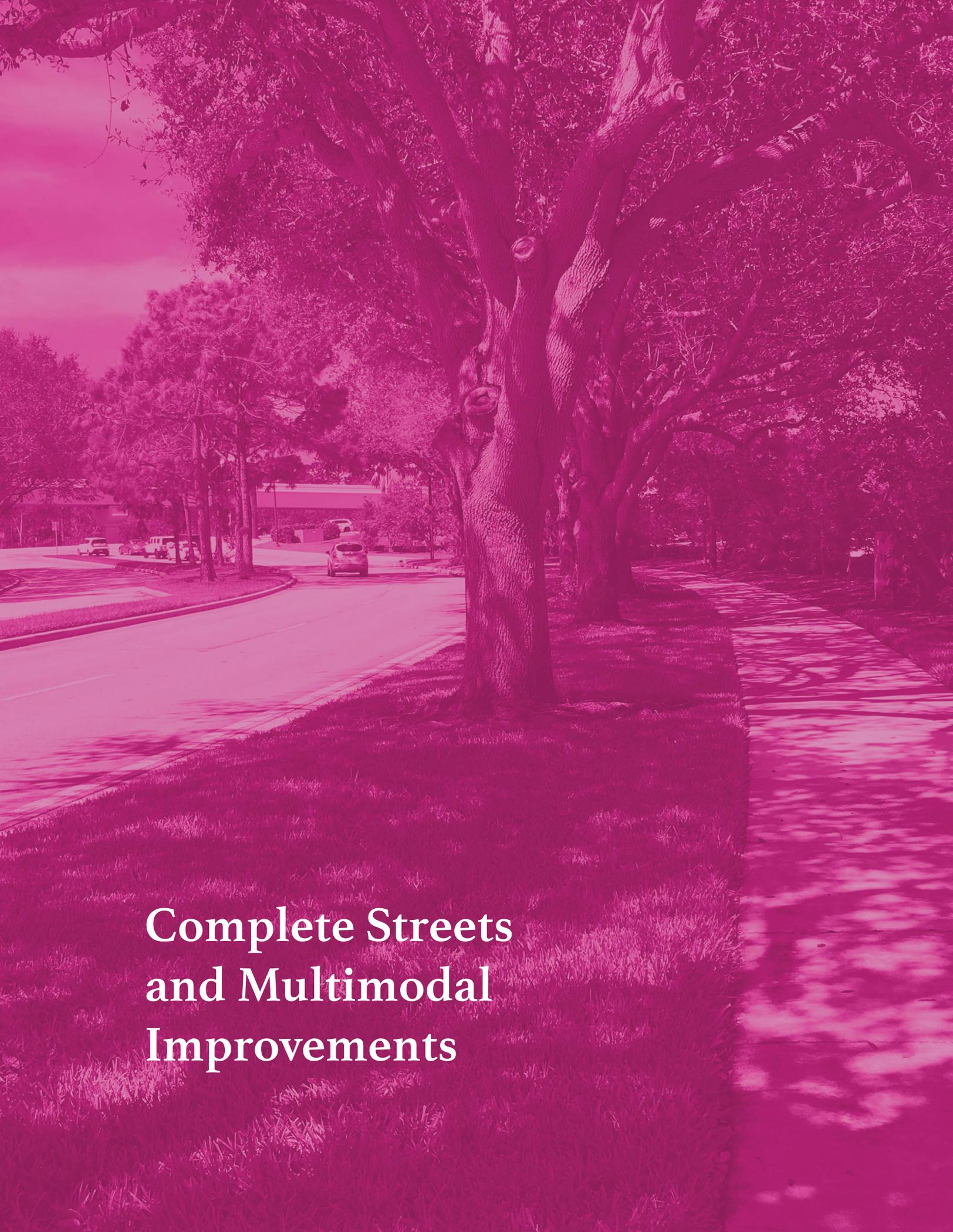
Land Development Regulations will be developed to further define the calculation of areawide LOS and QOS. The Regulations will also include additional provisions and recognition for streetscape, hardscape, and landscape improvements. Multimodal capacities will be established through Mobility Fee calculations.

### People Biking Quality of Service (QOS)

Level of Physical Separation

	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.

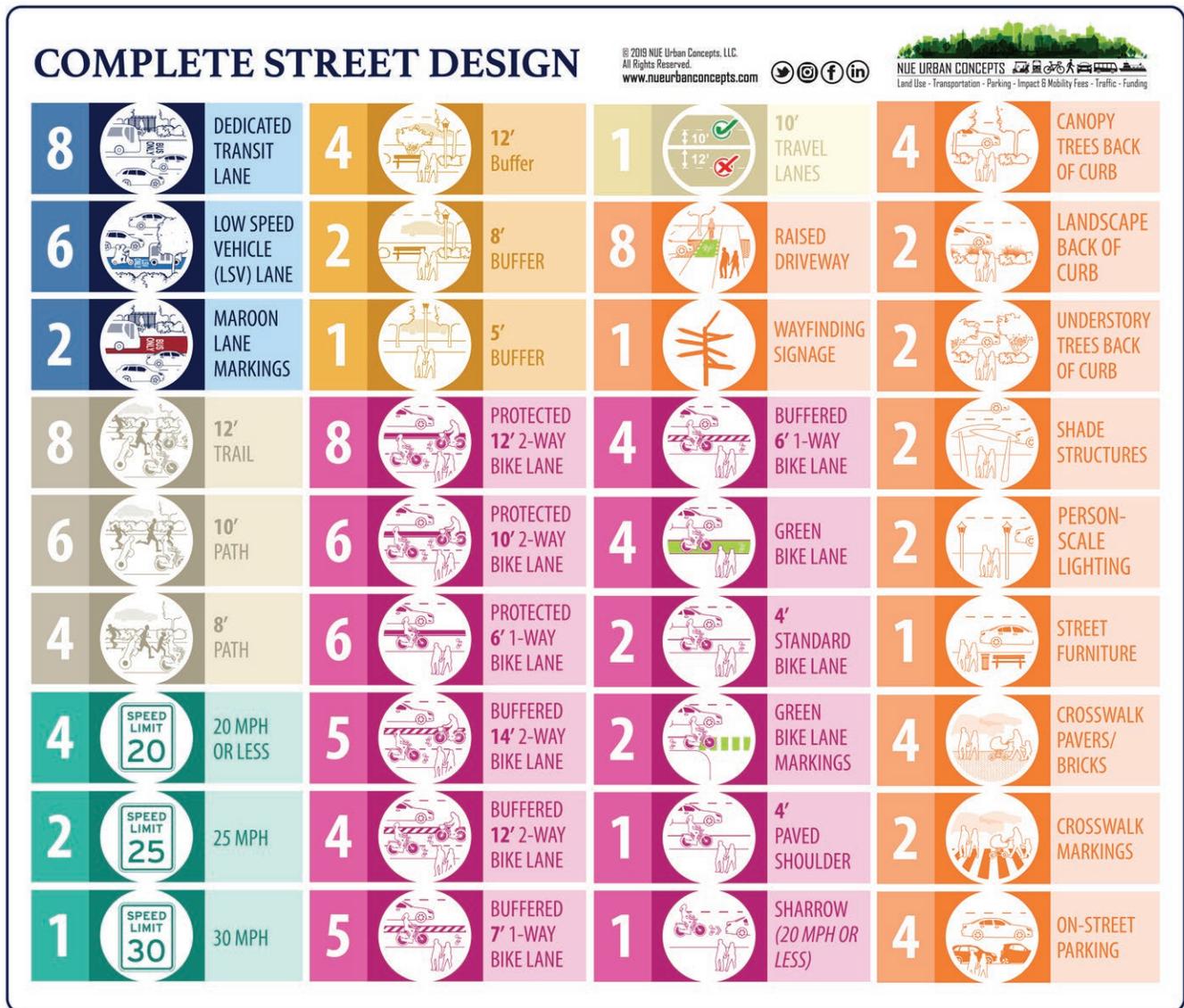
The Mobility Plan builds on the existing Parkways Overlay within the City and emphasizes providing 12' wide trails, with wide buffers that include landscape and streetscape between the back of curb and the front of the trail as the preferred approach to provide mobility for people walking, bicycling,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

**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.

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:

**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 undertaken 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.



Central Blvd Parkway System Trail



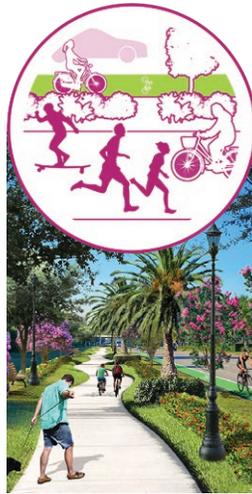
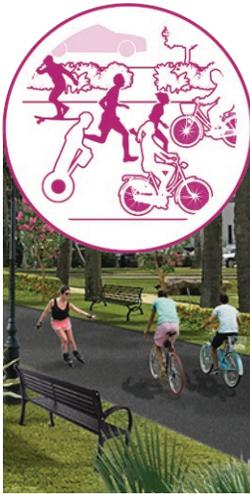
Donald Ross Rd Parkway System Trail

**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.



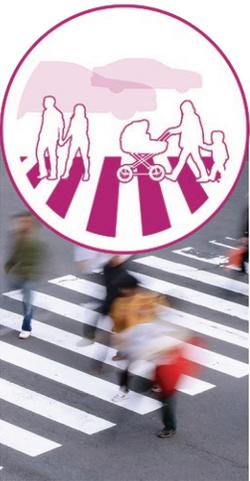
## MULTIMODAL TRAILS

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

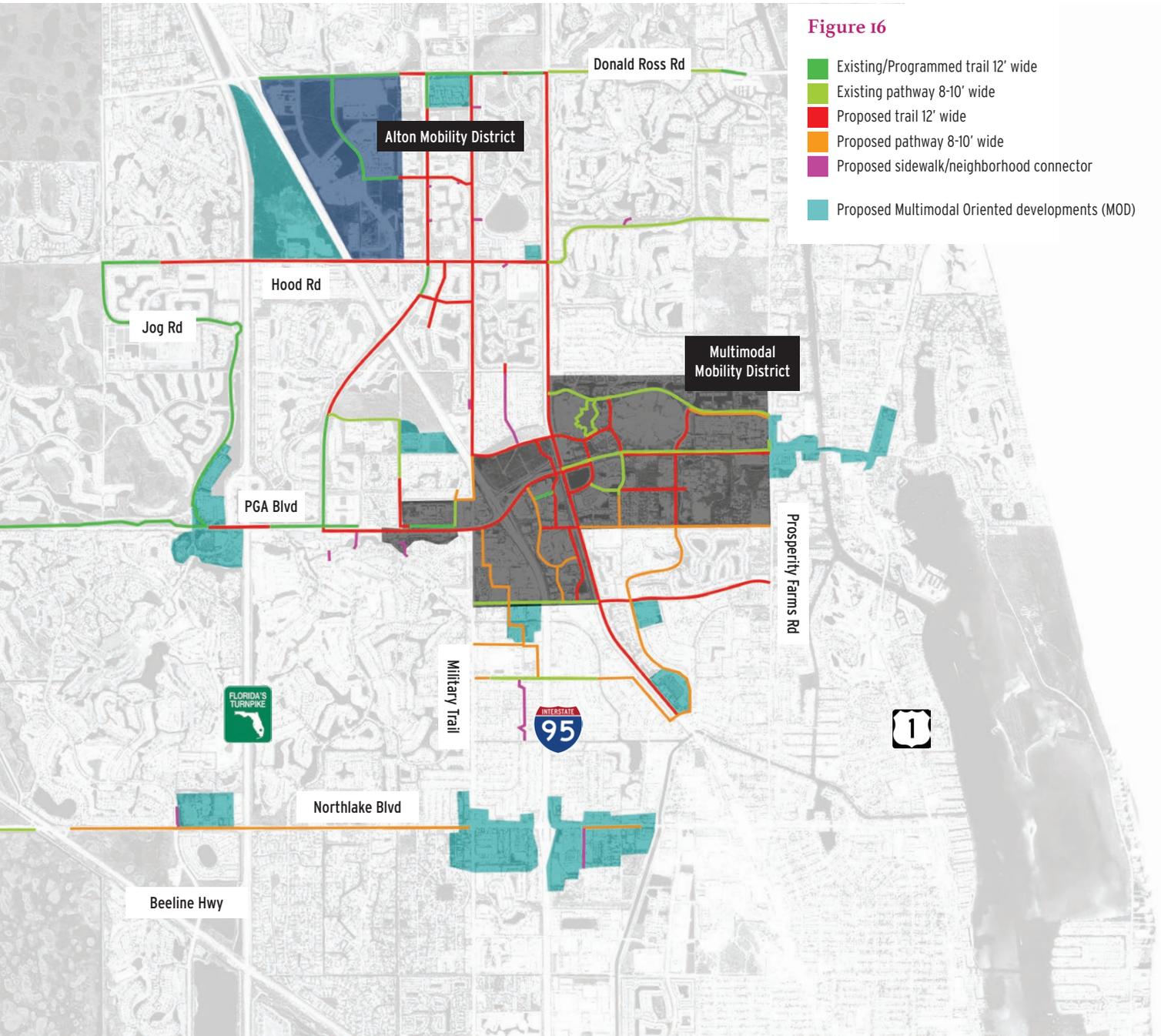
within Palm Beach County to have an adopted Plan with an extensive network of trails and pathways. To maximize the visibility, safety, and comfort of people walking and biking and to make the most efficient use of scarce resources to provide for a continuous and connected network of pathway and trails, 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** 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.





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<sup>1</sup>. 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.

<sup>1</sup> 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://trjournalonline.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).

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.

Figure 18





## 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 experience in a shared 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.



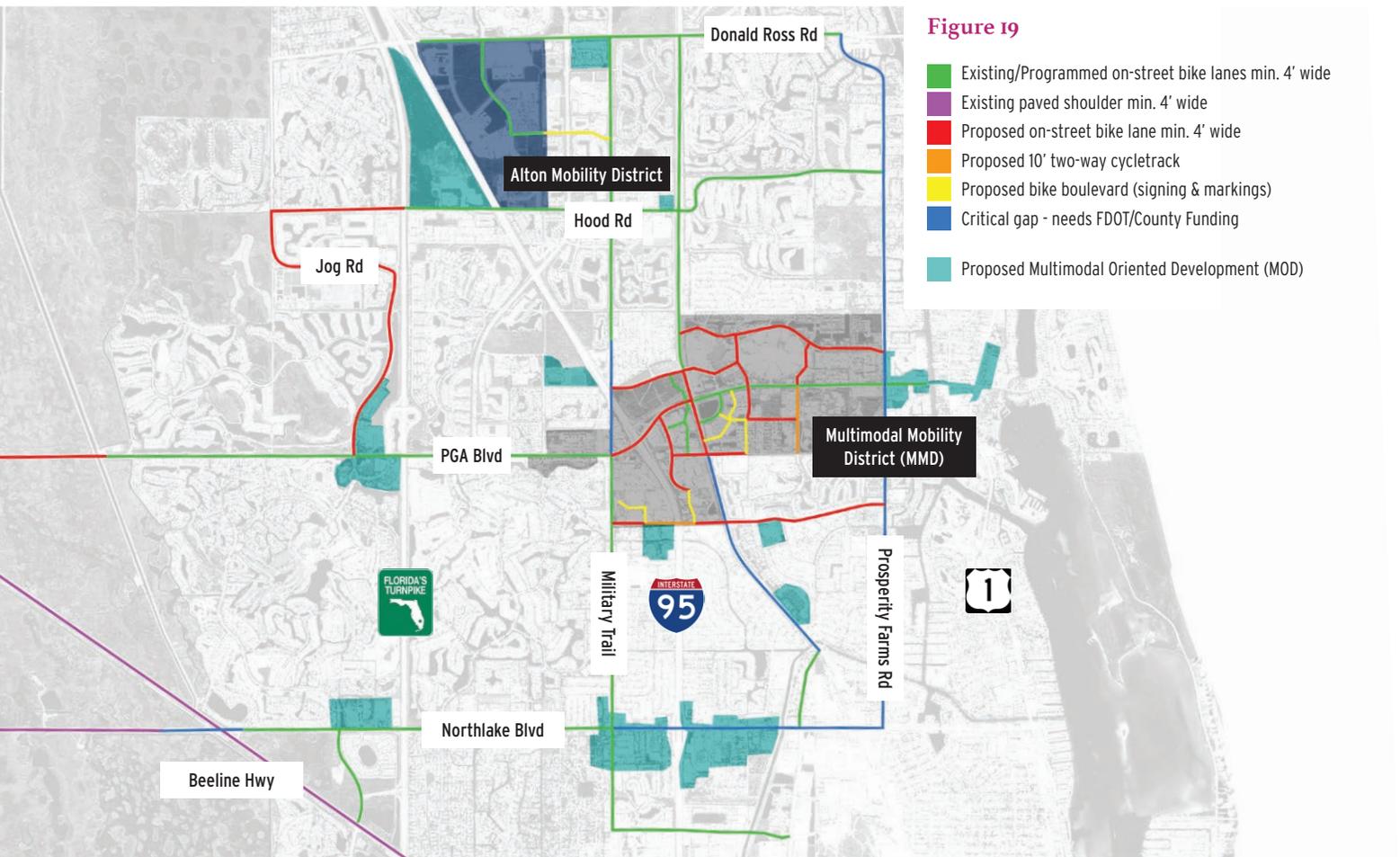
# Bicycling Plan

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.



# 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.



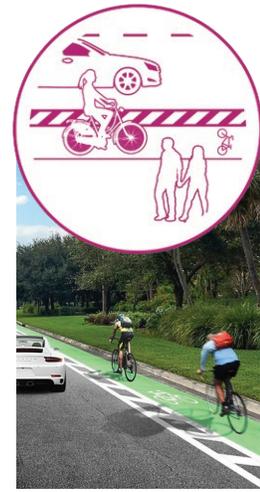
## PROTECTED BIKE LANES (CYCLETRACKS)

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 lane 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 facilities 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).



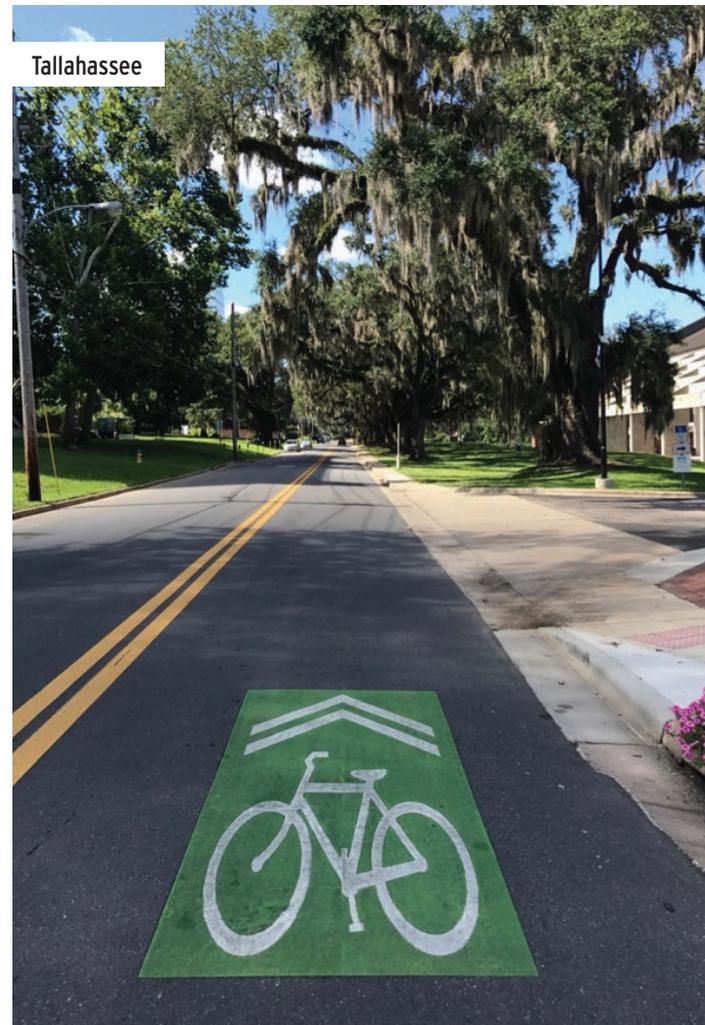
**Figure 22** illustrates a ten-foot (10') wide two-way protected bike lane on Cass Street in Downtown Tampa (left photo). The bicycle lanes are each four feet (4') in width and the raised median is two feet (2') in width. The protected bike lane in Downtown St. Petersburg on 1st Avenue South was the 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*

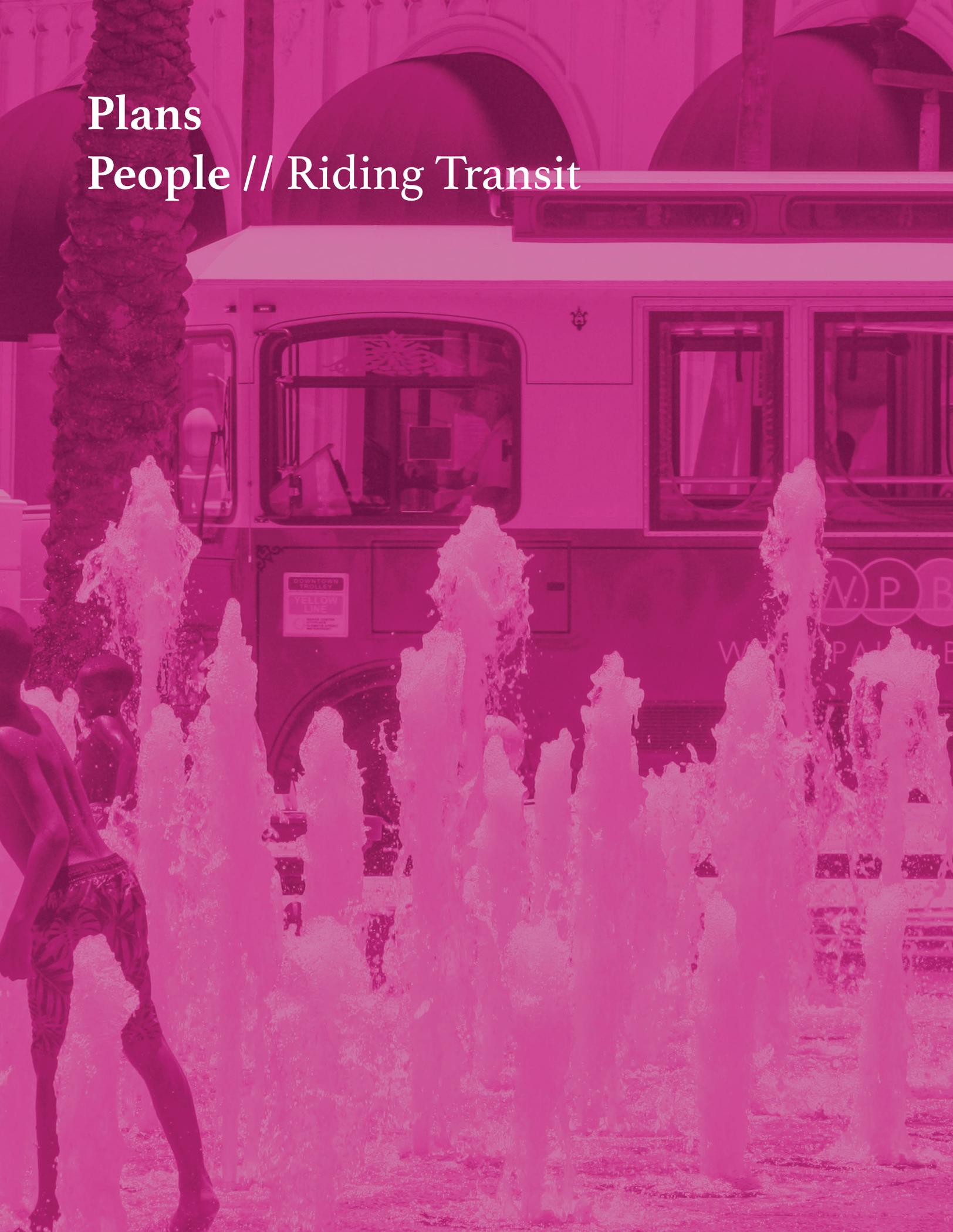
# Bicycle Boulevards

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 in 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.

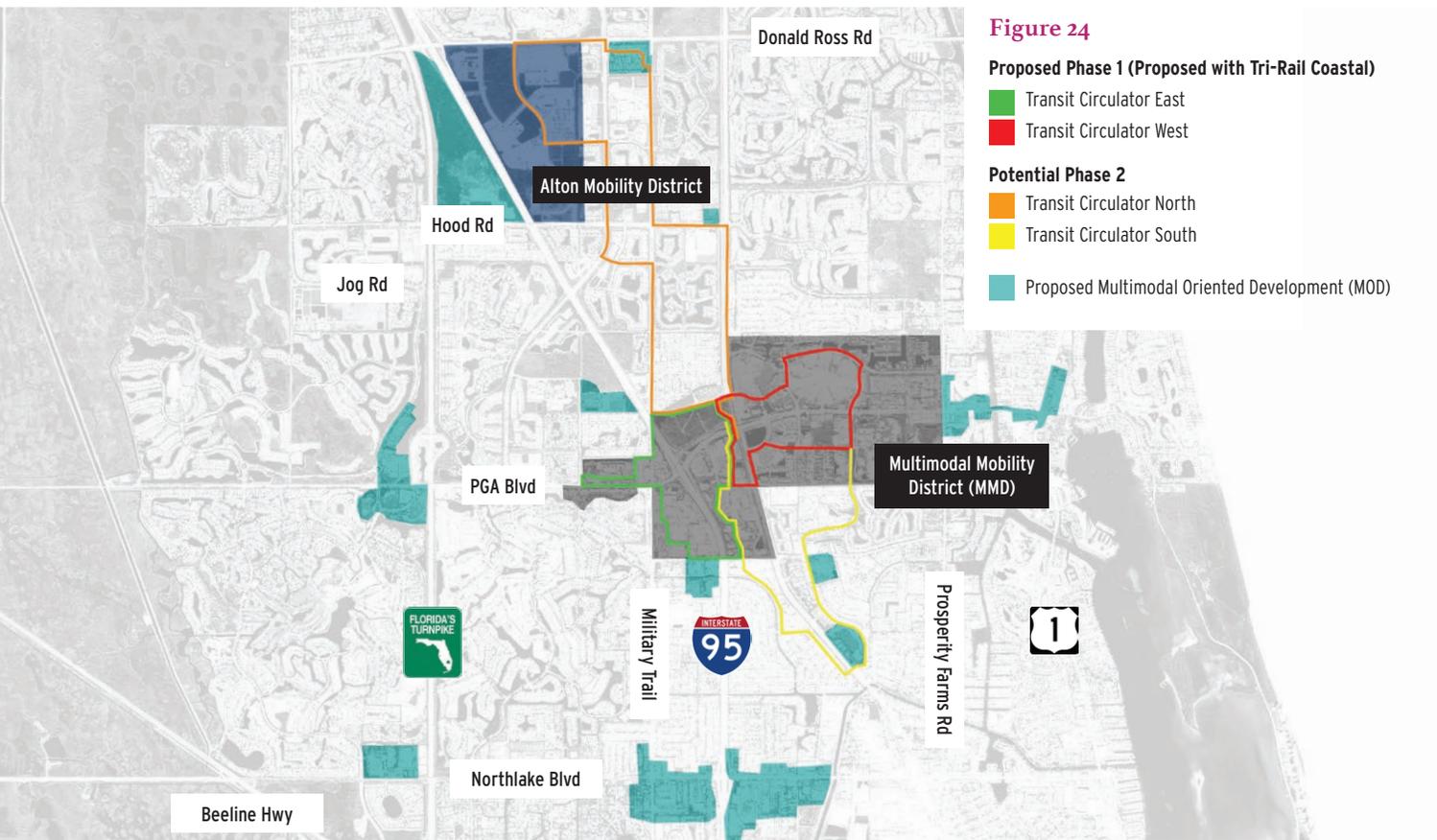
Depending upon the timing of Tri-Rail Coastal service and the success of the initial transit circulators, there are opportunities to provide additional transit circulator routes. The Transit Circulator North route would connect Tri-Rail Coastal with the Alton Mobility District and Donald Ross Village 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**

**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)



Figure 25 Transit (Trolley) Circulators

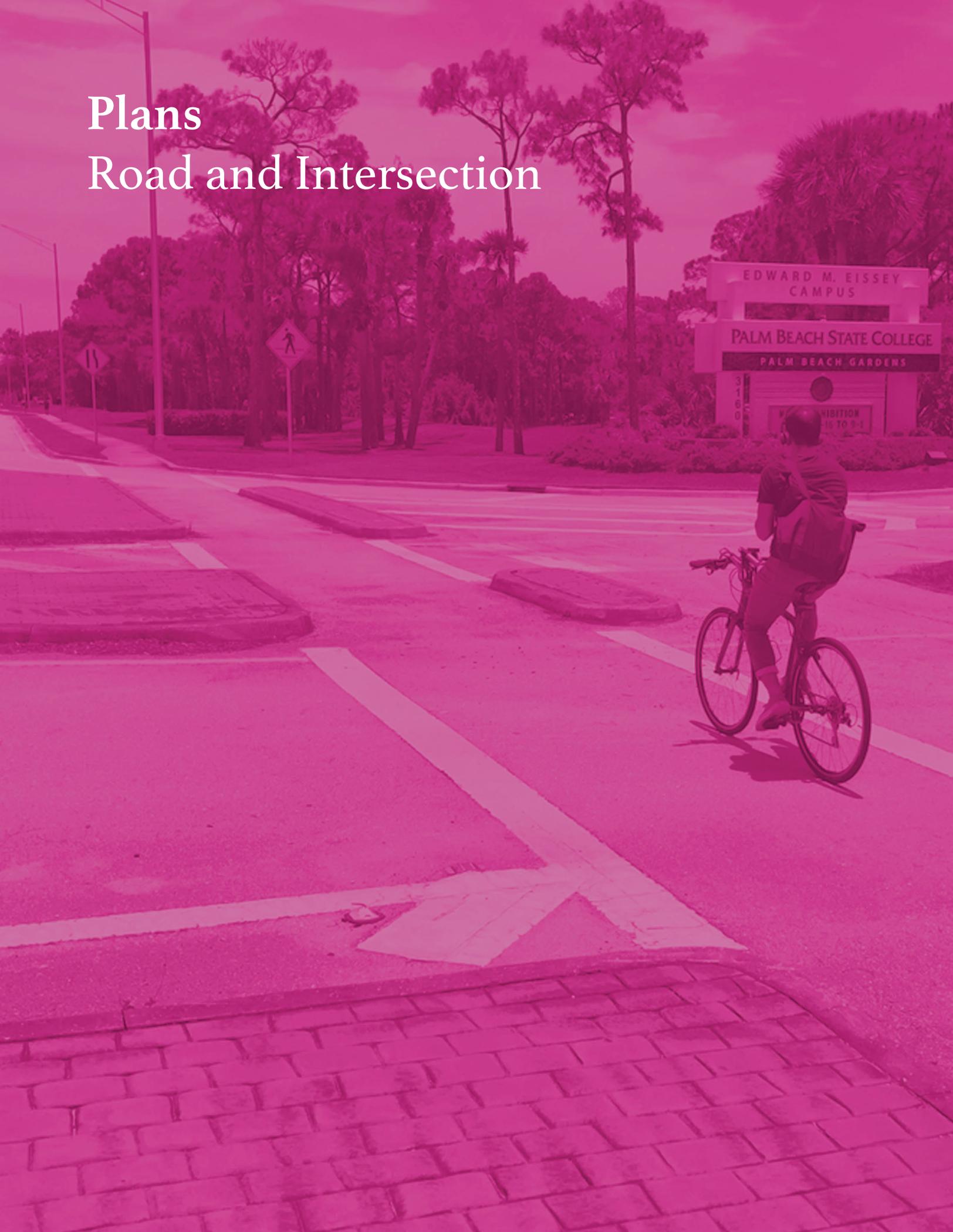
The ATVs are more expensive than rubber tire trolley vehicles at a cost of \$150,000 to \$200,000 per vehicle. They are also available to lease at roughly \$12,500 per month. The real savings with ATVs is in operations and maintenance. The City could elect to move forward with a rubber trolley transit 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 successfully integrate a transit circulator system into the overall multimodal transportation network.



Figure 26 Transit (Trolley) Circulators

# Plans Road and Intersection





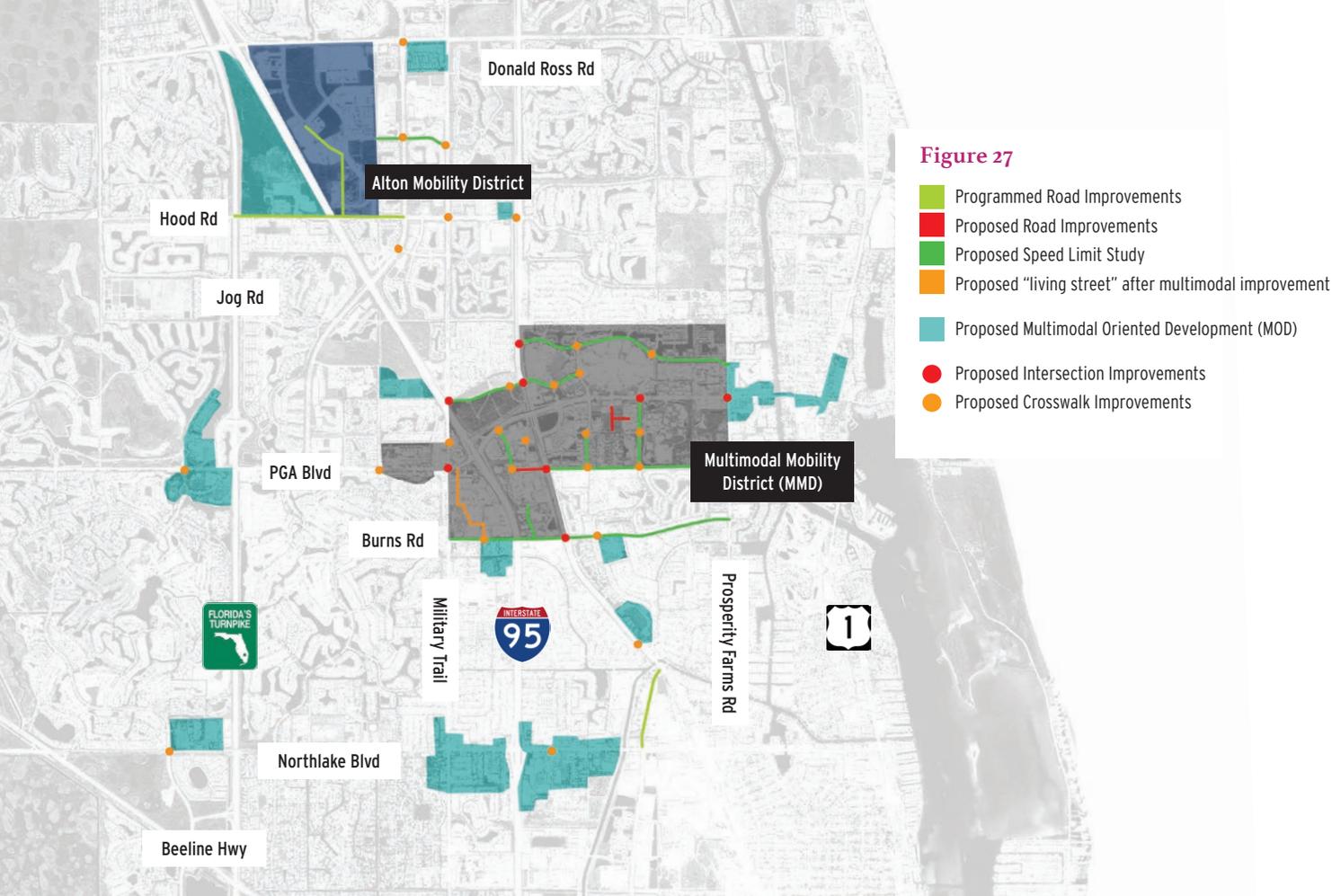
The 2040 Long Range Transportation Plan does not identify any new roads or the widening of existing arterial and collector roads east of the Florida Turnpike between 2020 and 2040 east. In large part, this is due to the fact that all roadways that could reasonably be widened already have been. The extension 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



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 their 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'

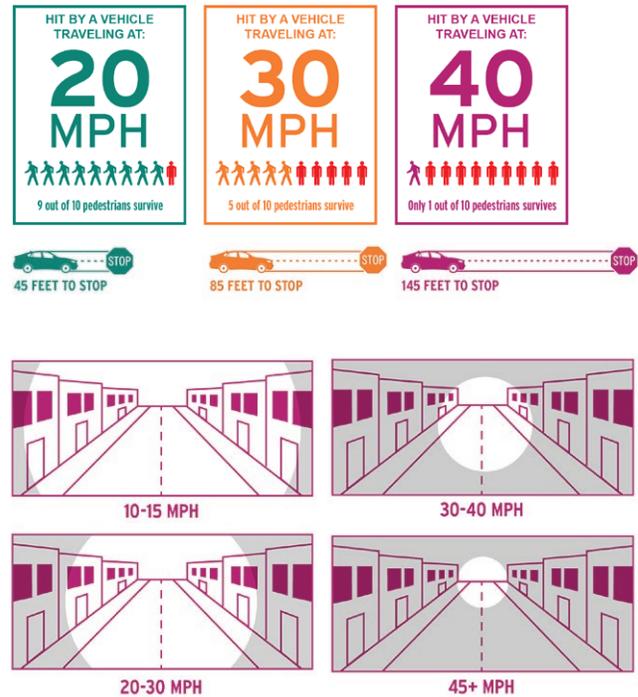
**Local Roads & Residential Streets:**

- 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 31



increases, the chances of a person surviving a crash greatly decrease. Further, the brake-to-stop distances greatly increase 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.

Figure 32

VISION ZERO SPEED LIMITS CITY OF PALM BEACH GARDENS				
Applicable Signage	Applicable Locations	Inside Downtown	Outside Downtown	Applicable Locations
	Pedestrian-only Streets City Centres Square/Plaza/Promenade(s)	--	--	Pedestrian-only Streets
	Woonerf (pl. woonerven) Living/Shared Streets Alleyways	SPEED LIMIT 10	SPEED LIMIT 15	Living Streets / Shared Streets
		SPEED LIMIT 15	SPEED LIMIT 20	Local Streets
		SPEED LIMIT 20	SPEED LIMIT 25	Collectors Streets
		SPEED LIMIT 25	SPEED LIMIT 30	Arterial Roads

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# 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

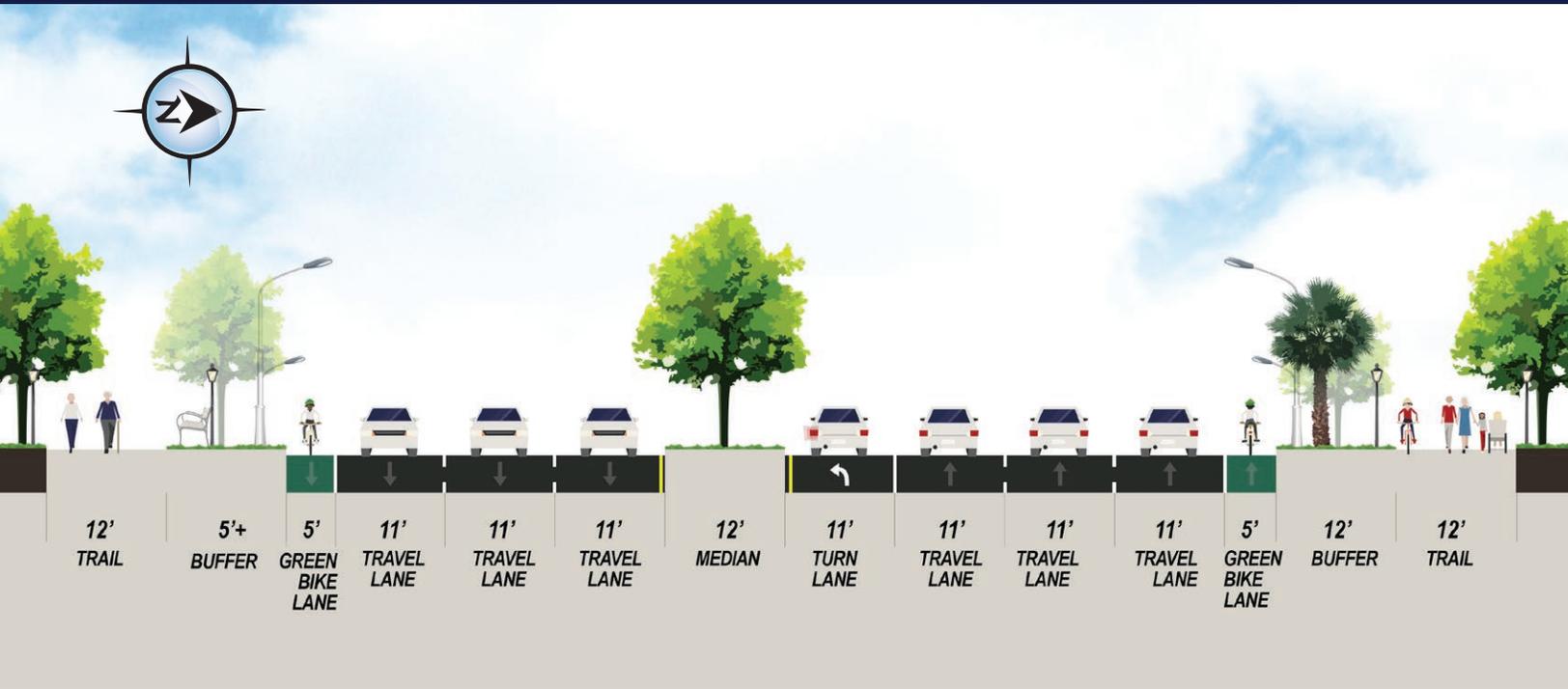


*6 lane divided  
11' travel lanes with 5' green bike lanes  
12' trail northside and southside*

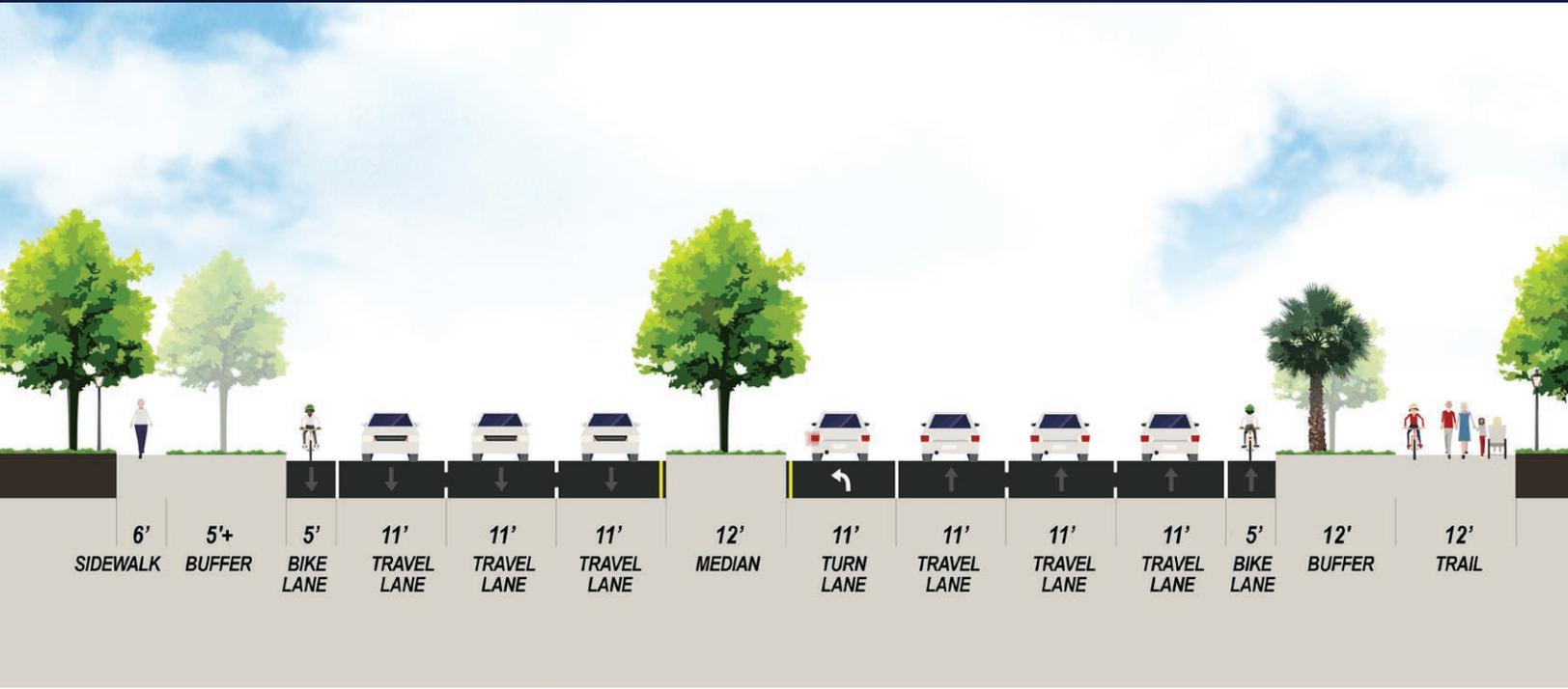


*Existing Conditions:  
6 lane divided  
11' travel lanes with 5' bike lanes  
Existing 12' trail northside & 5' sidewalk southside*

*Proposed*



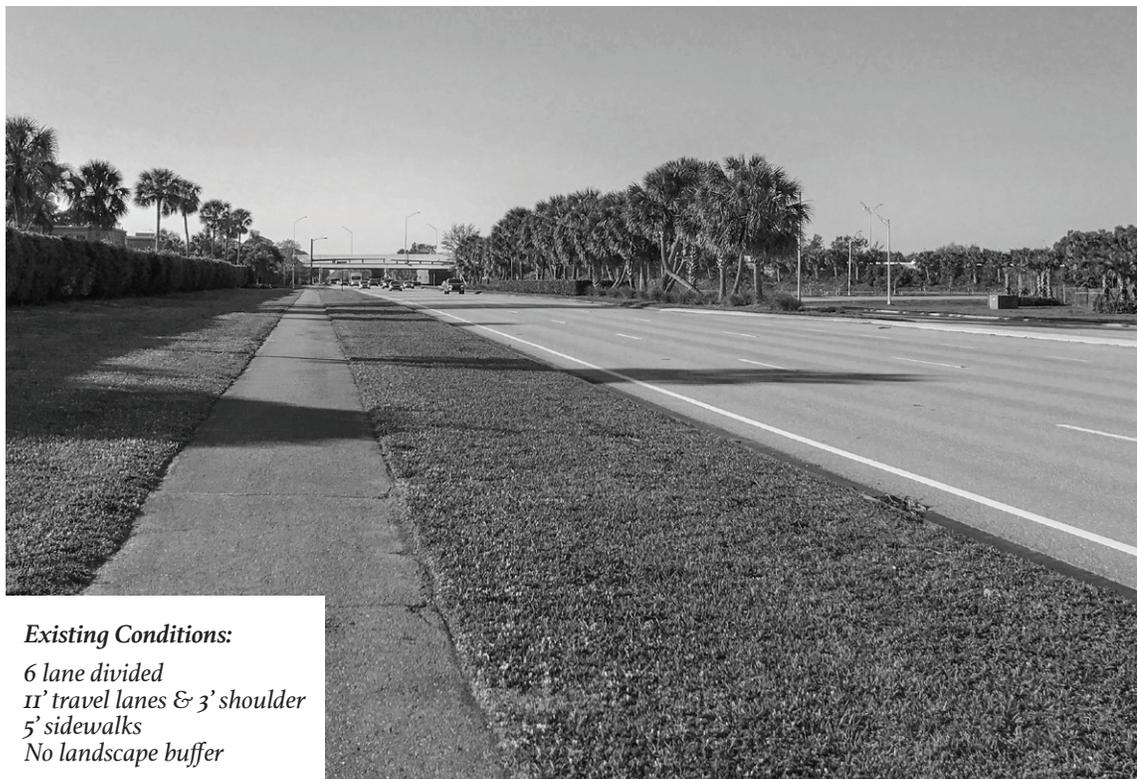
*Existing*



# Military Trail North of Kyoto Gardens

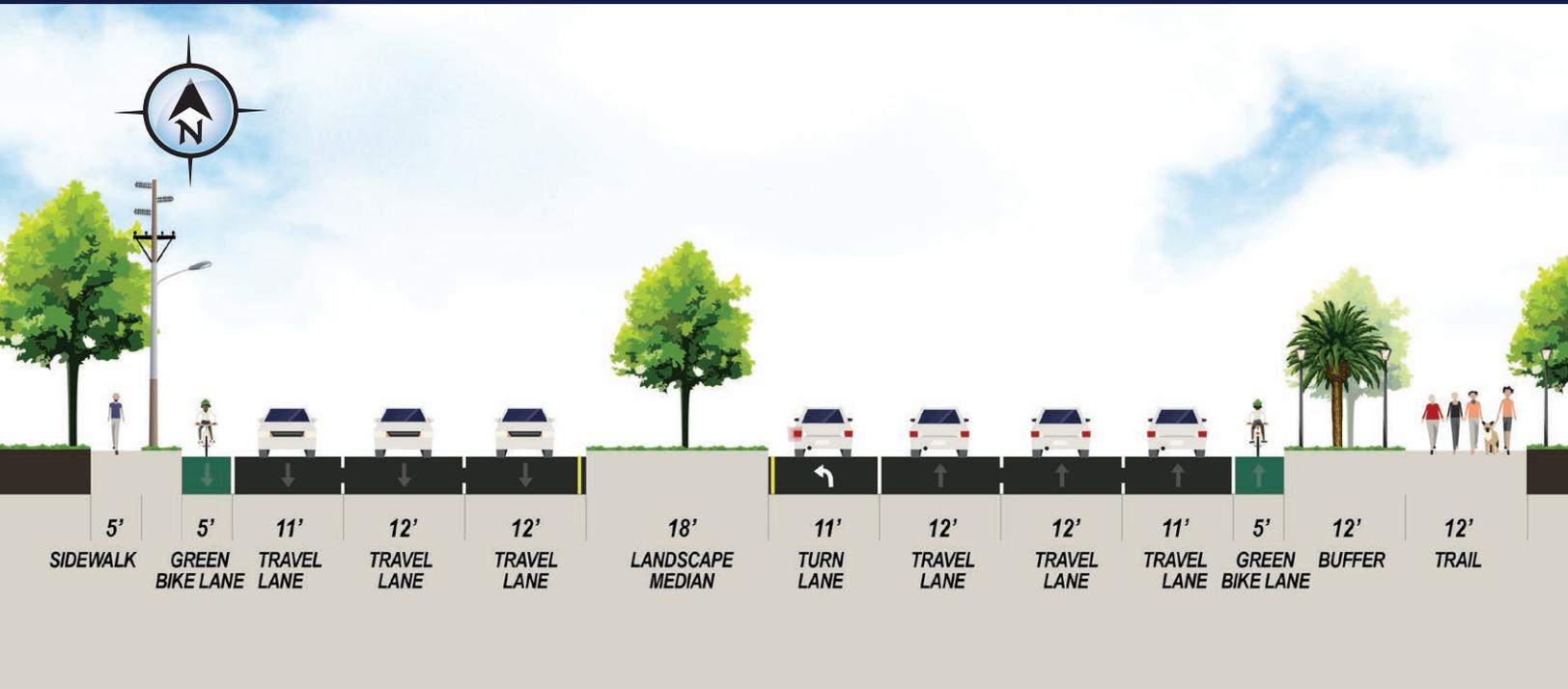


6 lane divided  
 11-12' travel lanes with 5' green bike lanes  
 12' wide trail eastside (5' sidewalk westside)  
 Landscape buffer

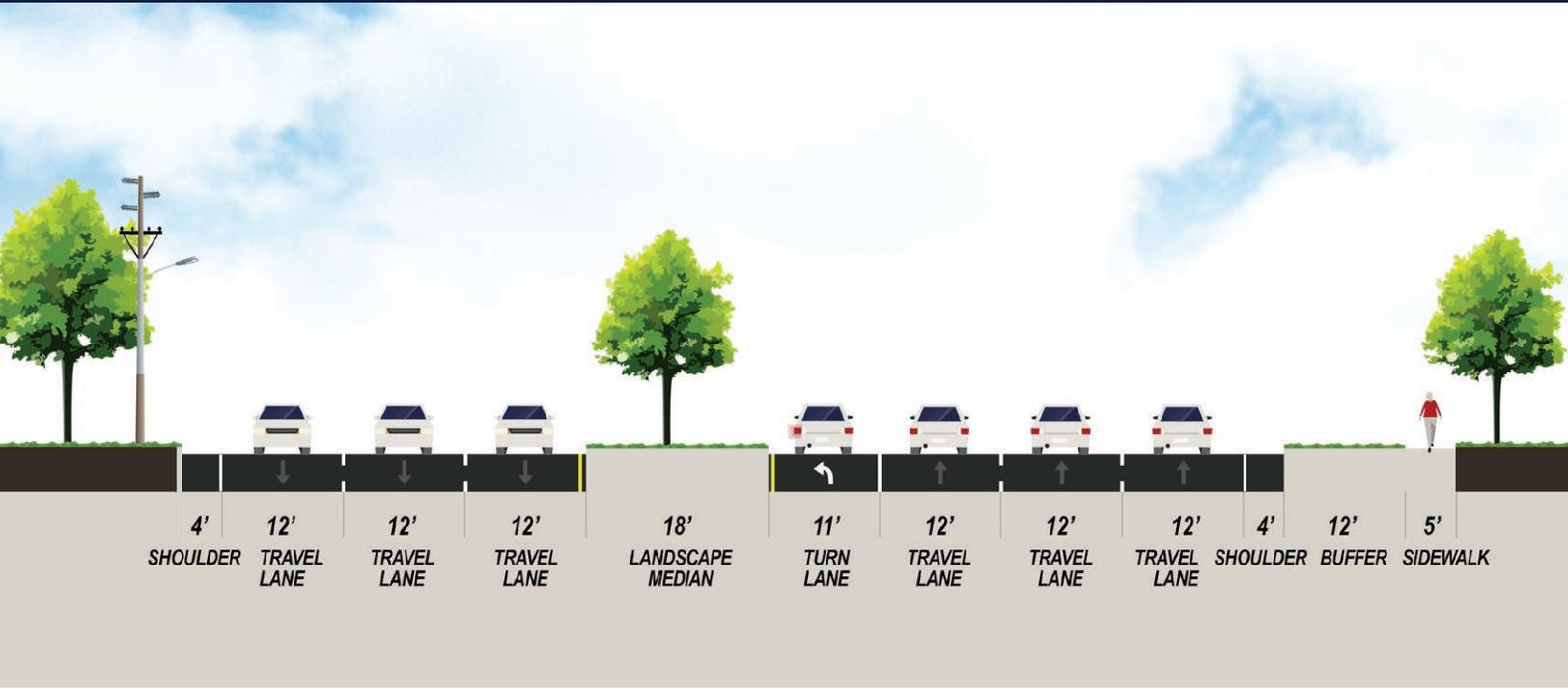


Existing Conditions:  
 6 lane divided  
 11' travel lanes & 3' shoulder  
 5' sidewalks  
 No landscape buffer

*Proposed*



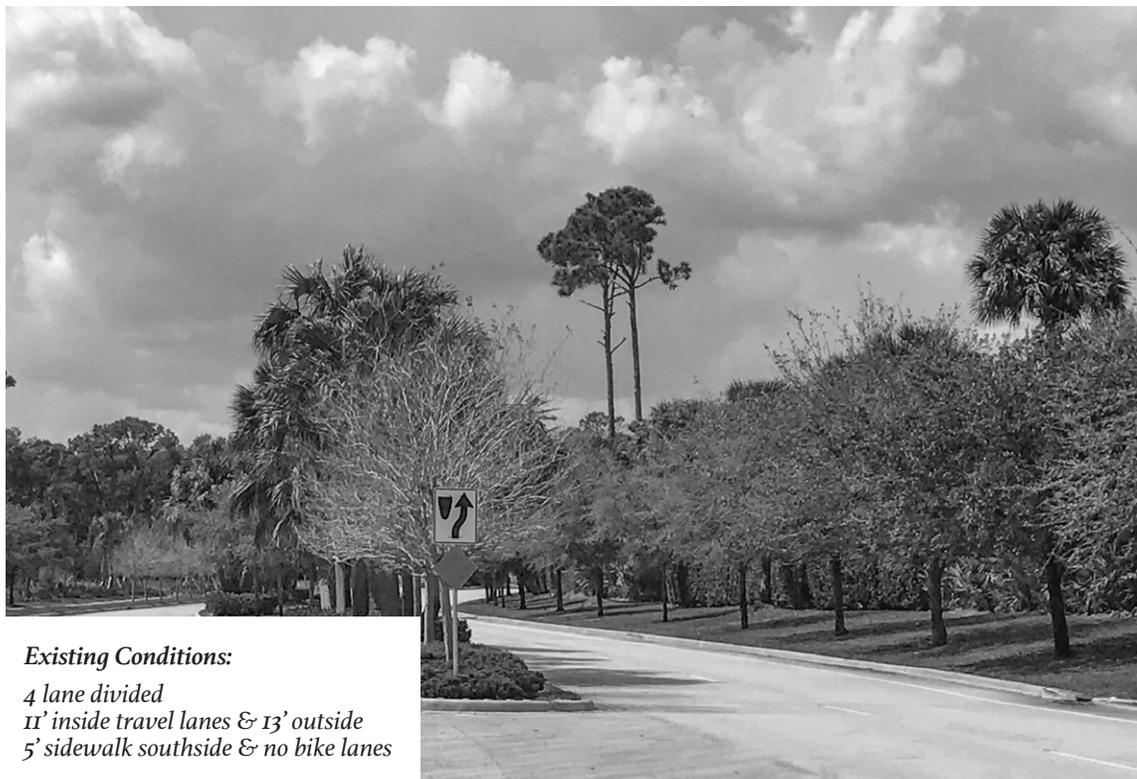
*Existing*



# Kyoto Gardens Drive *Military Trail to Alternate A1A*

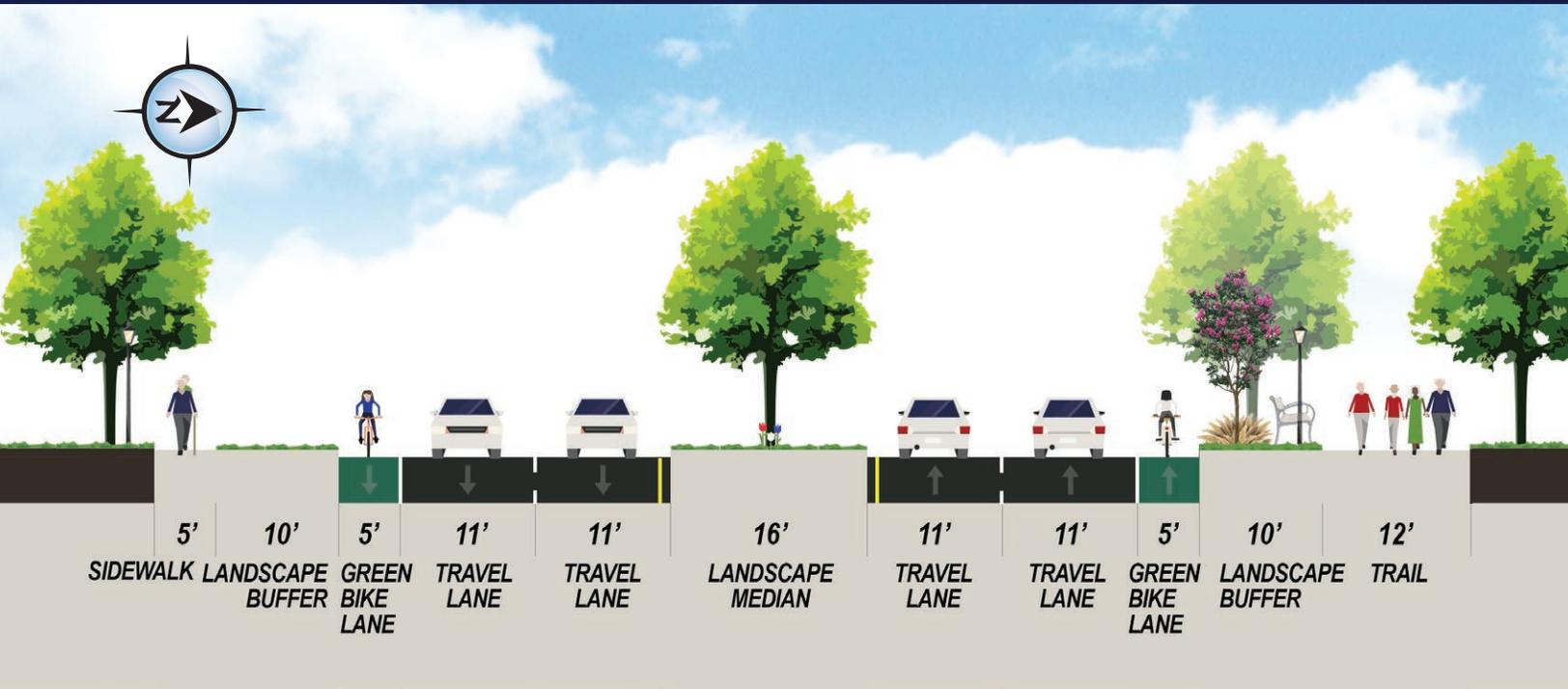


*4 lane divided  
11' travel lanes with 5' green bike lanes  
12' wide trail northside (5' sidewalk southside)  
12' trail northside landscape buffer*

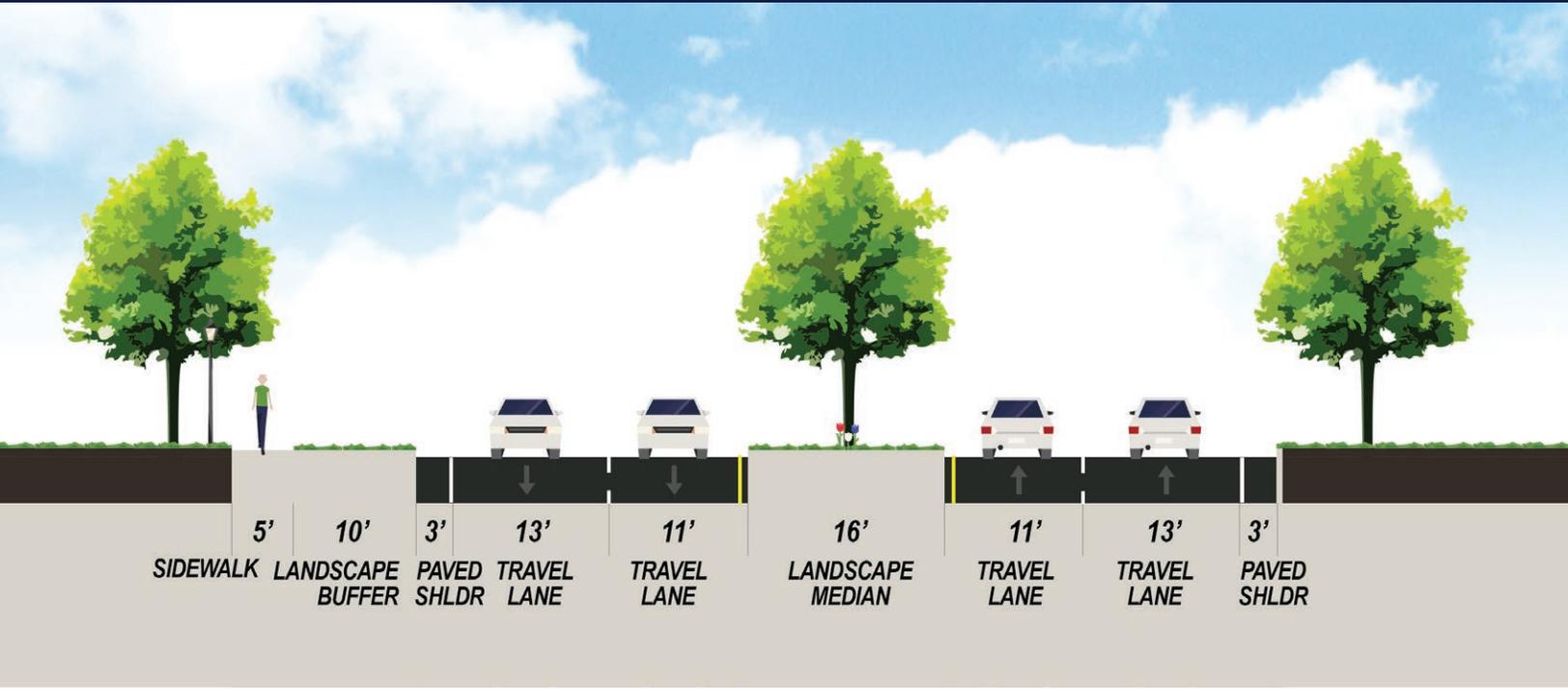


**Existing Conditions:**  
*4 lane divided  
11' inside travel lanes & 13' outside  
5' sidewalk southside & no bike lanes*

*Proposed*



*Existing*



# RCA Boulevard West of Alternate A1A

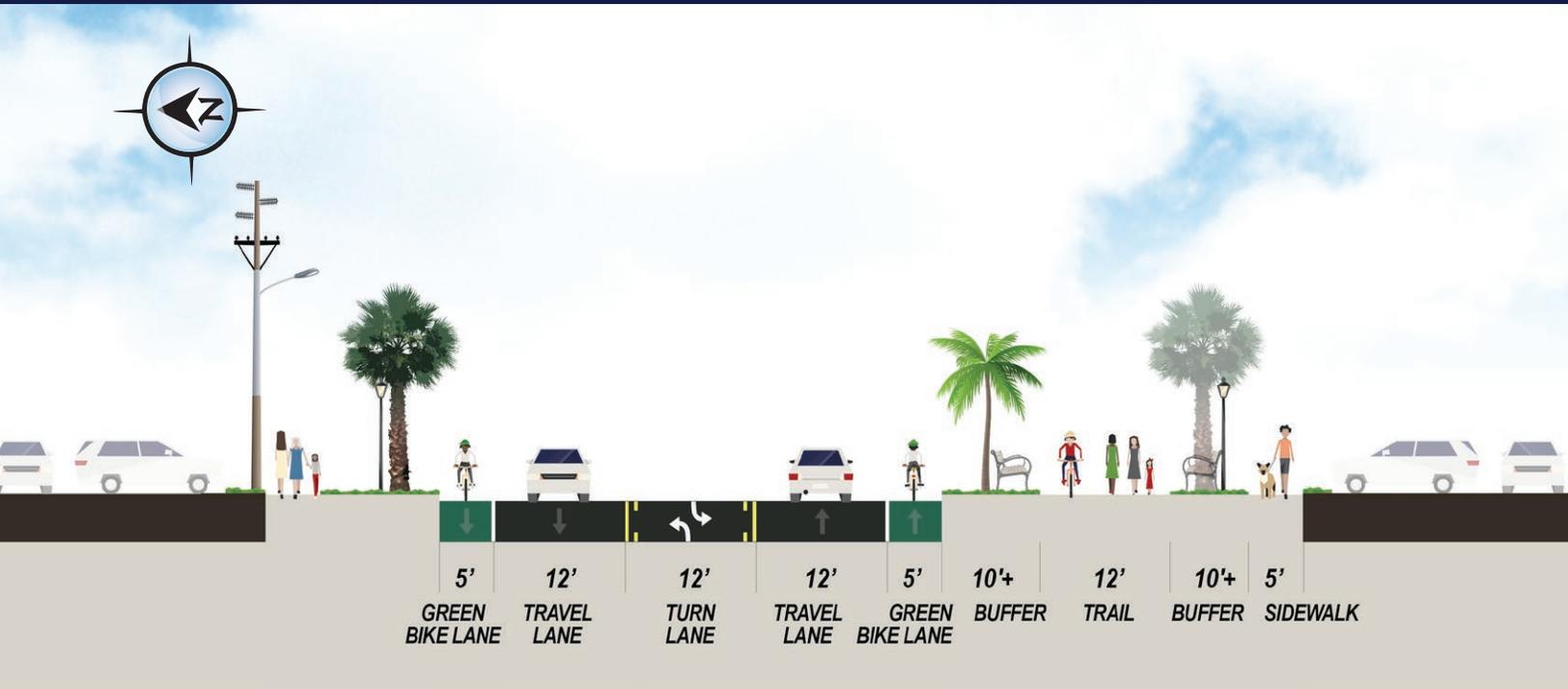


*2 lane undivided with turn lane  
12' travel lanes  
12' trail and 5' green bike lanes  
10'+ landscape buffer*

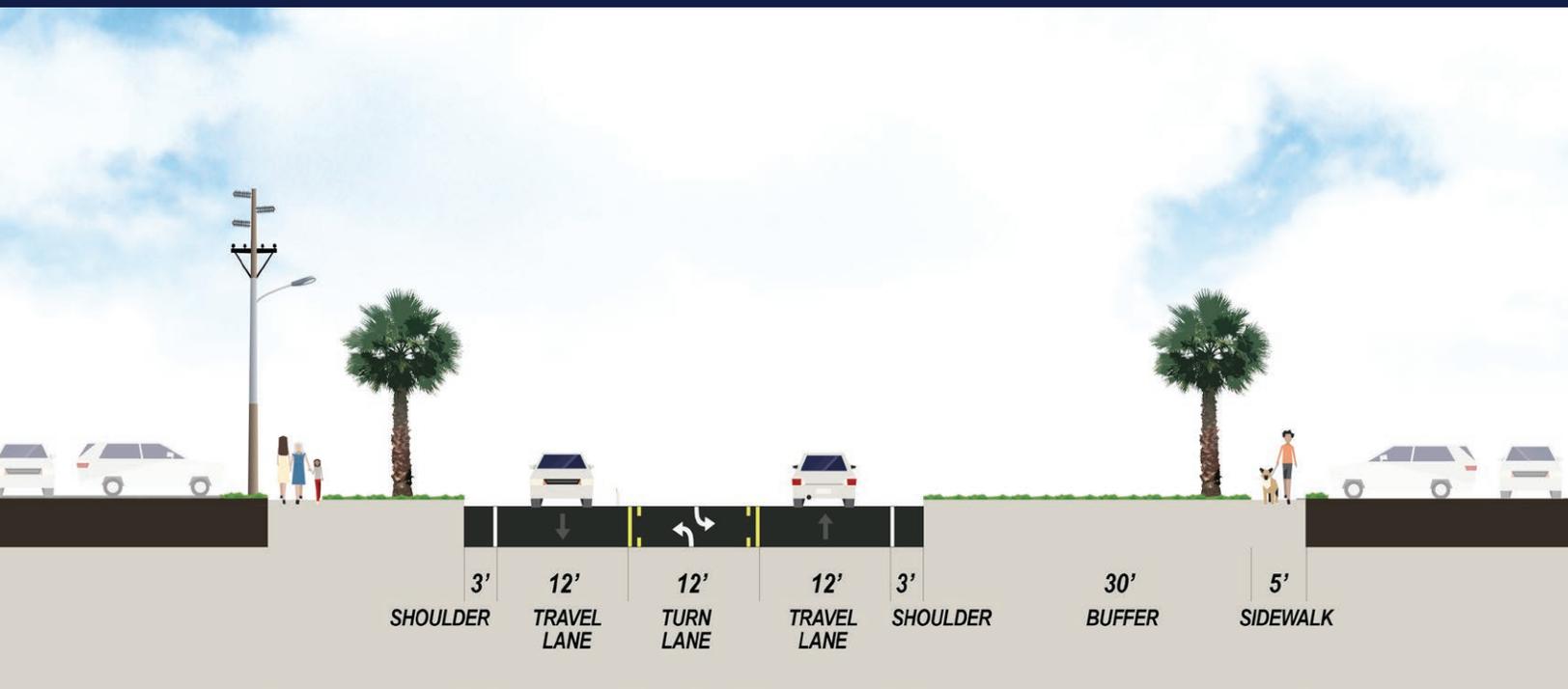


*Existing Conditions:  
2 lane undivided with turn lane  
12' travel lanes with 3' shoulder  
5' sidewalk and no bike lanes  
30' buffer*

*Proposed*



*Existing*



# Alternate A1A North of Burns Road

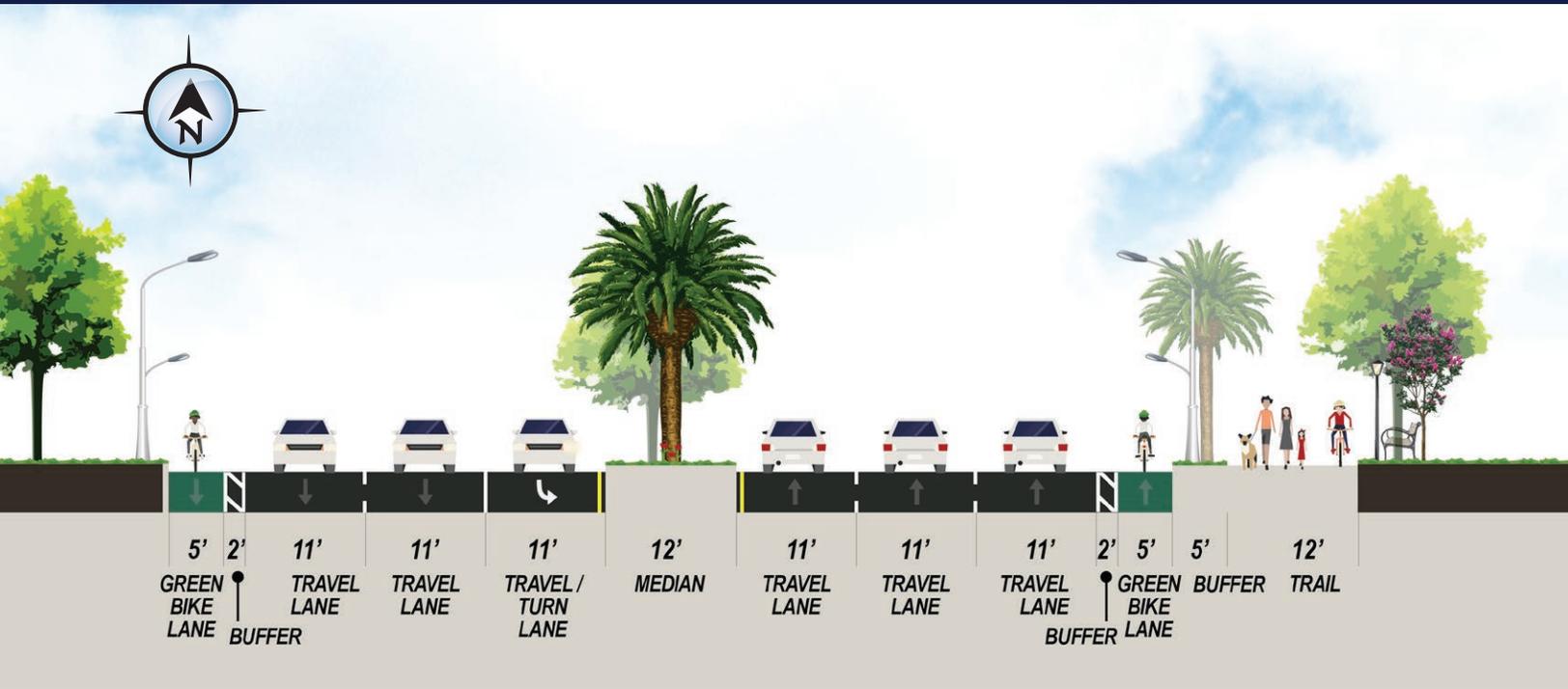


*6 lane divided  
11' travel lanes with 2' buffer & 5' green bike lanes  
12' trail eastside with landscape buffer*

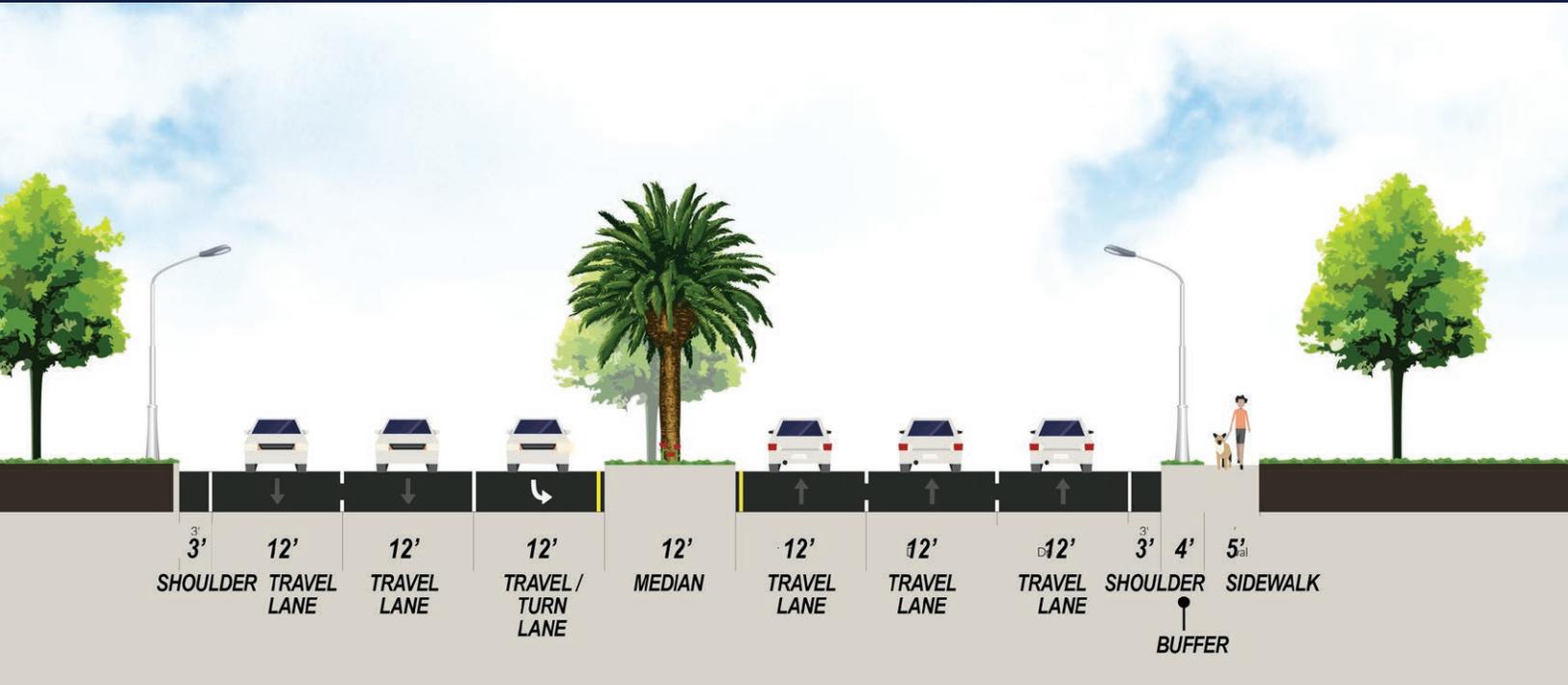


*Existing Conditions:  
6 lane divided  
12' travel lanes with 4' shoulders  
Existing 8' sidewalk eastside with landscape buffer*

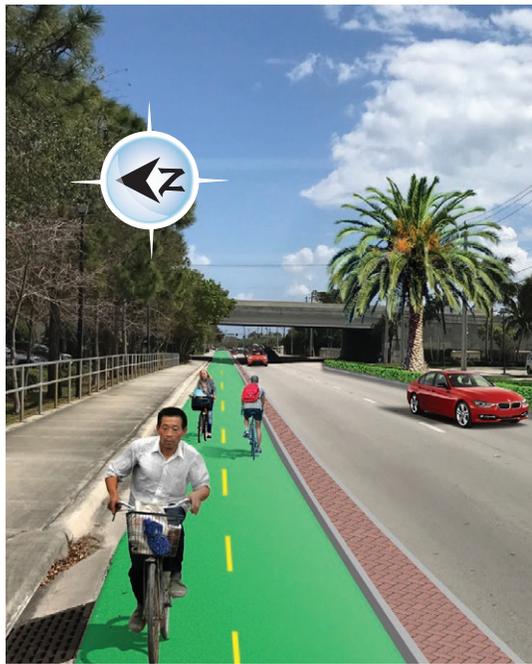
*Proposed*



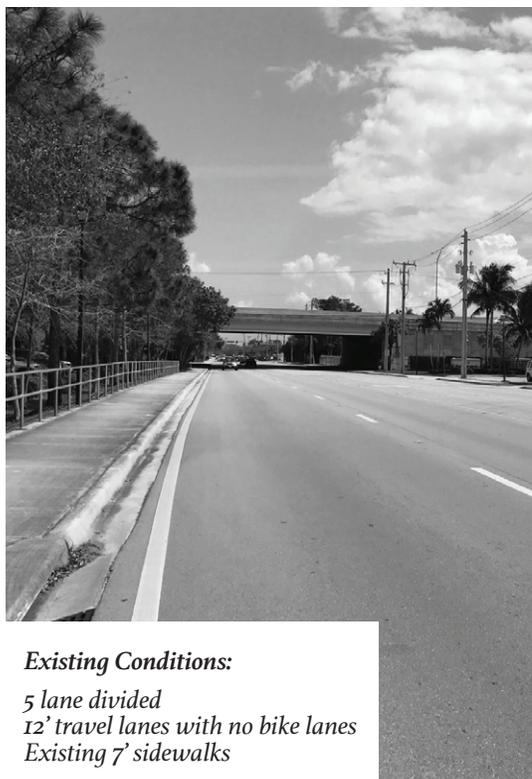
*Existing*



# Burns Road Weiss School to Riverside Drive



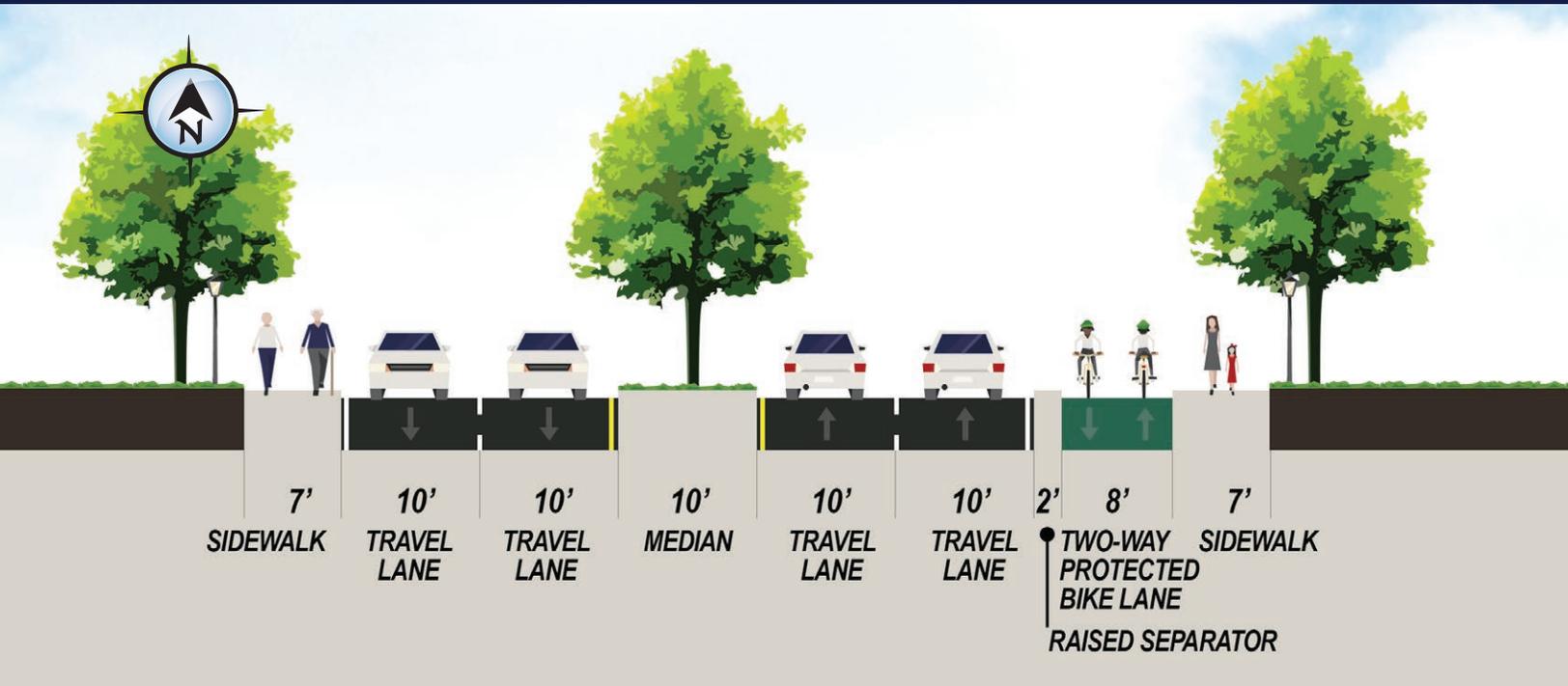
4 lane divided with landscaped median  
10' travel lanes with existing 7' sidewalks  
8' two-way protected bike lane with 2' raised separator



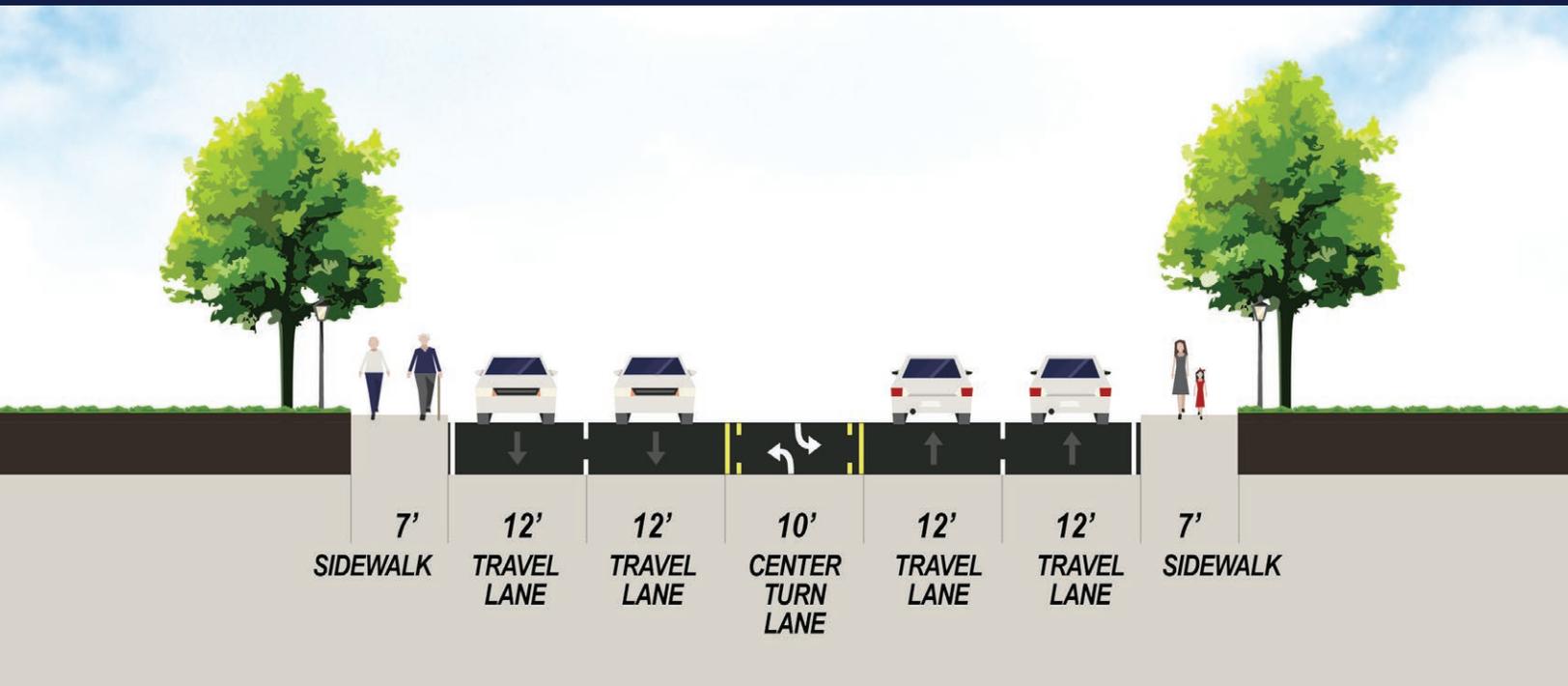
**Existing Conditions:**  
5 lane divided  
12' travel lanes with no bike lanes  
Existing 7' sidewalks



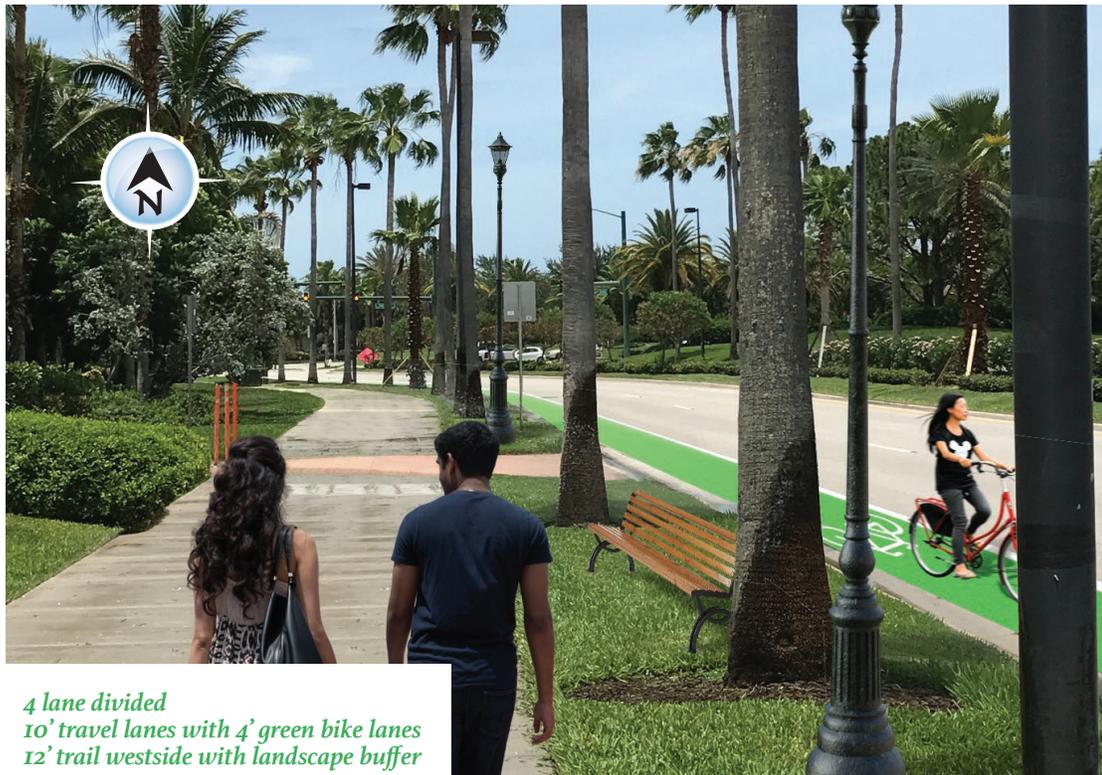
*Proposed*



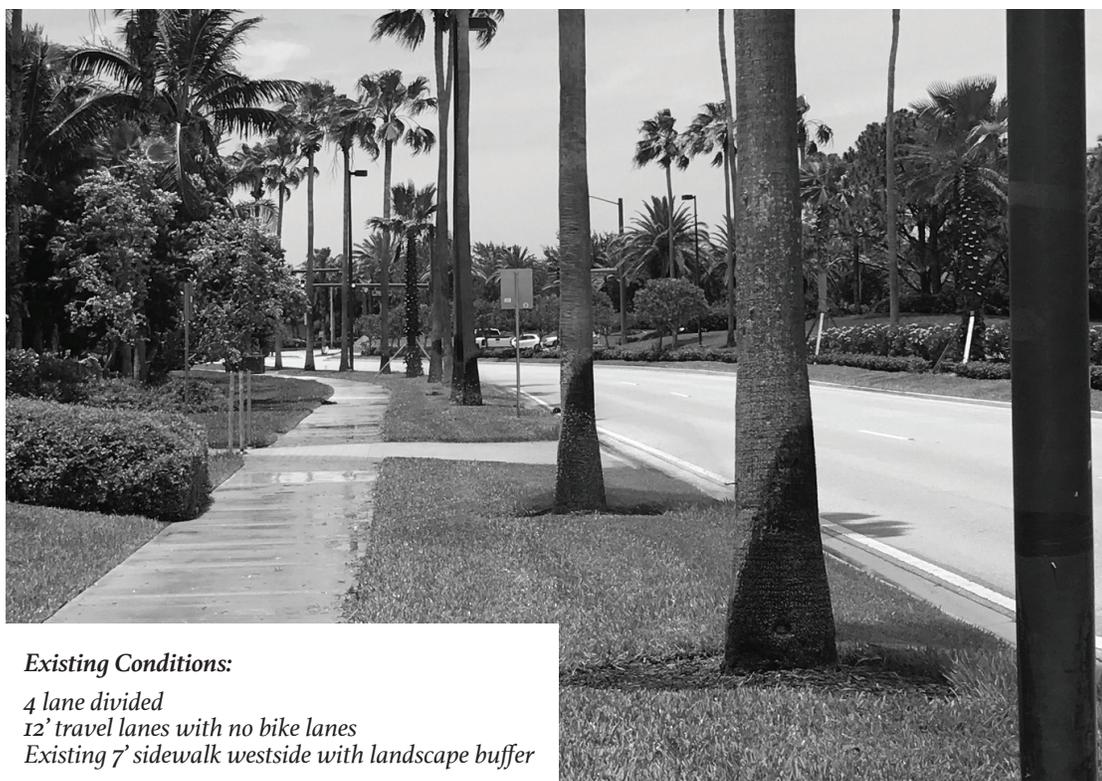
*Existing*



# Fairchild Gardens Avenue Gardens Parkway to PGA Boulevard

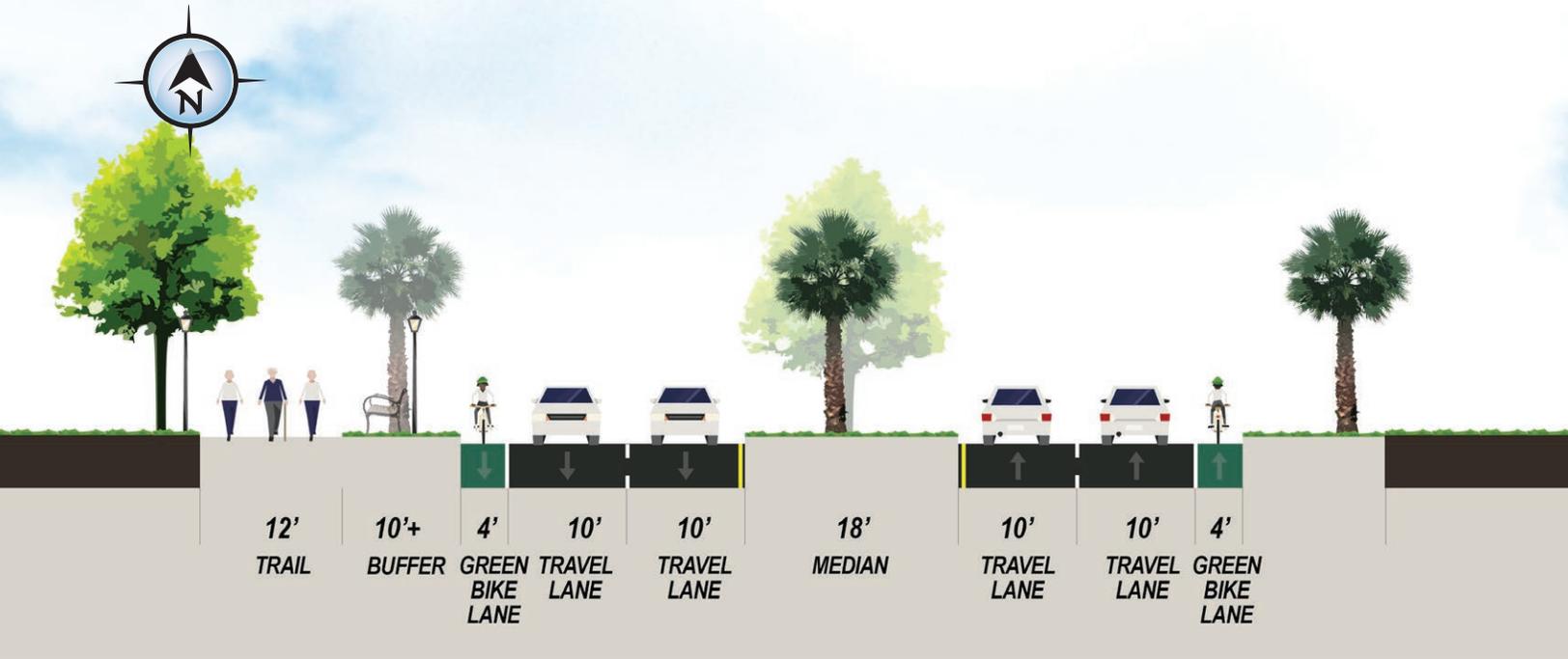


*4 lane divided  
10' travel lanes with 4' green bike lanes  
12' trail westside with landscape buffer*

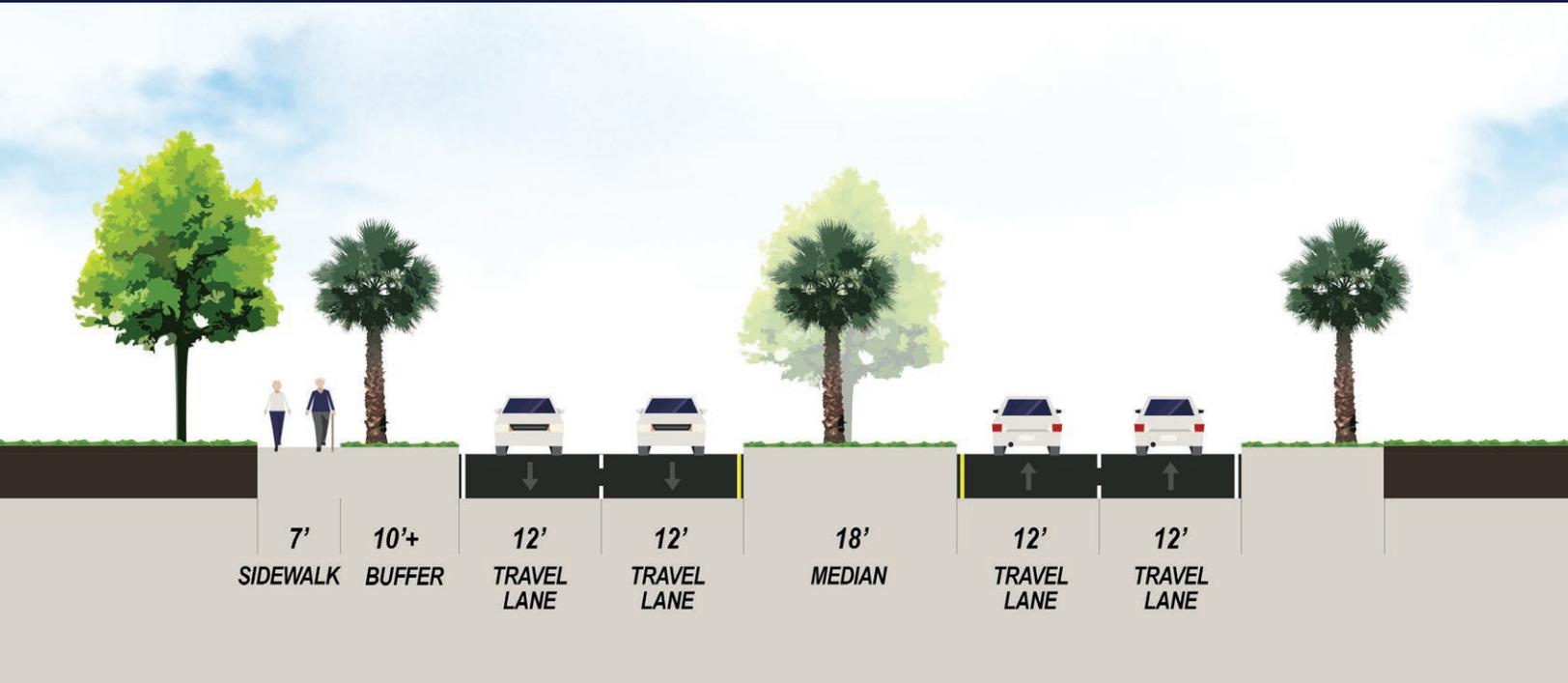


*Existing Conditions:  
4 lane divided  
12' travel lanes with no bike lanes  
Existing 7' sidewalk westside with landscape buffer*

*Proposed*



*Existing*



# Gardens Parkway Prosperity Farms Road to Kew Gardens Avenue

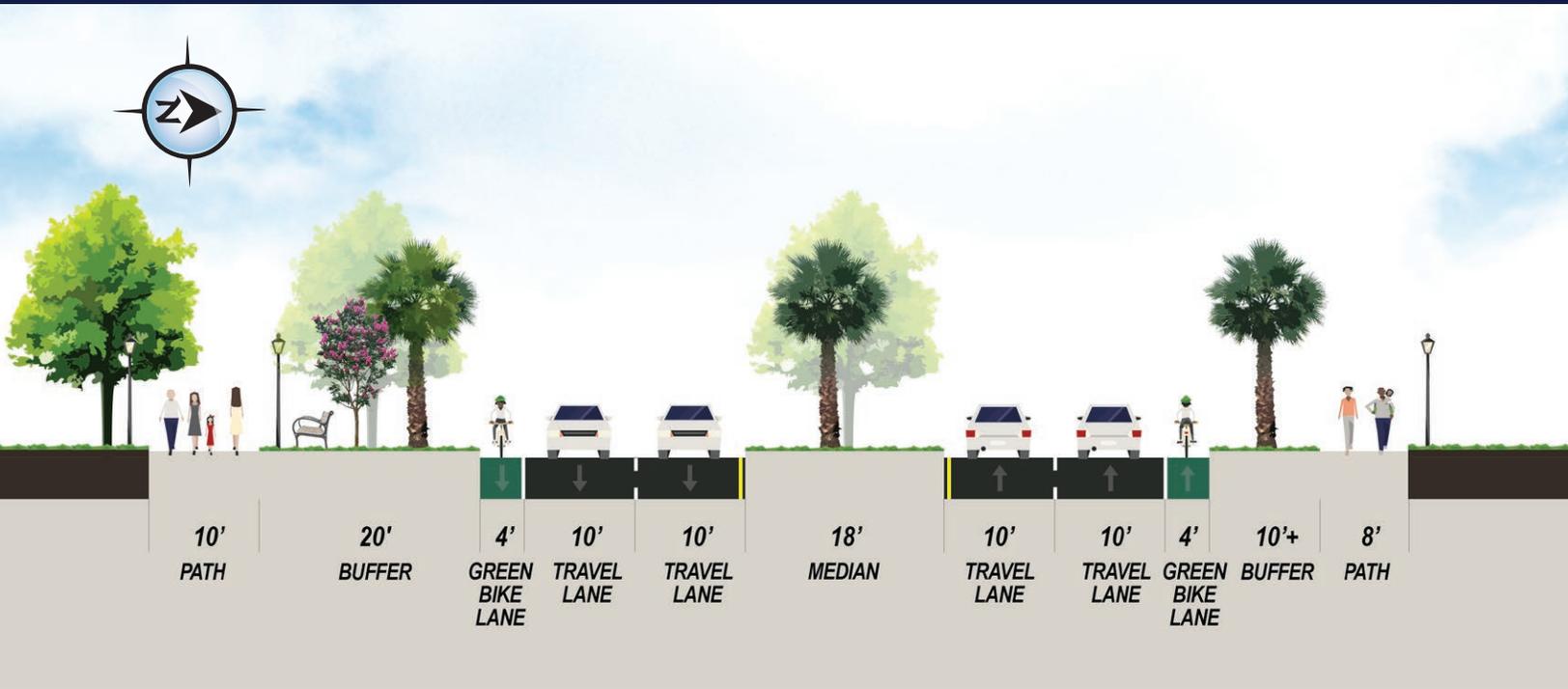


*4 lane divided  
10' travel lanes with 4' green bike lanes  
8' path northside & 10' path southside with landscape buffers*

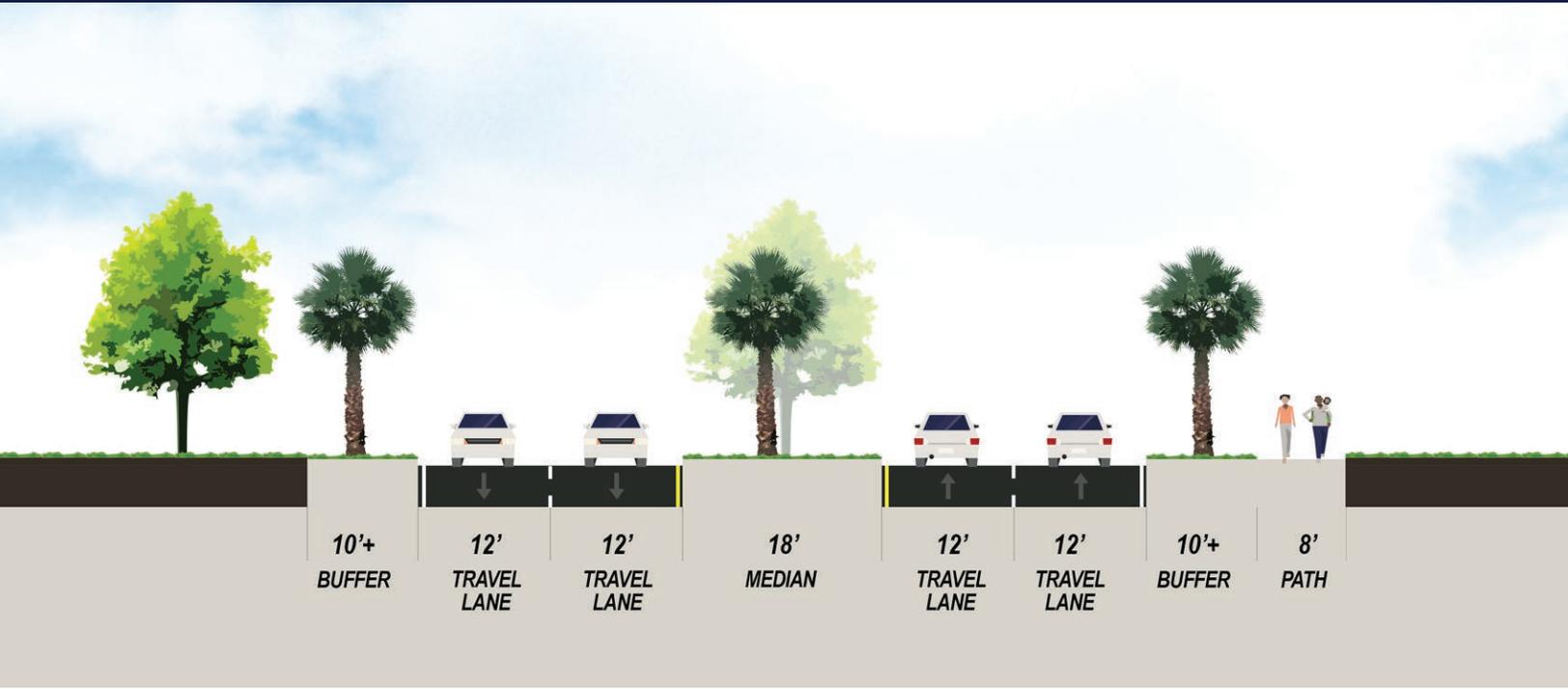


*Existing Conditions:  
4 lane divided  
12' travel lanes with no bike lanes  
8' path northside with landscape buffer*

*Proposed*



*Existing*



# Gardens Parkway - Alternate AIA 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

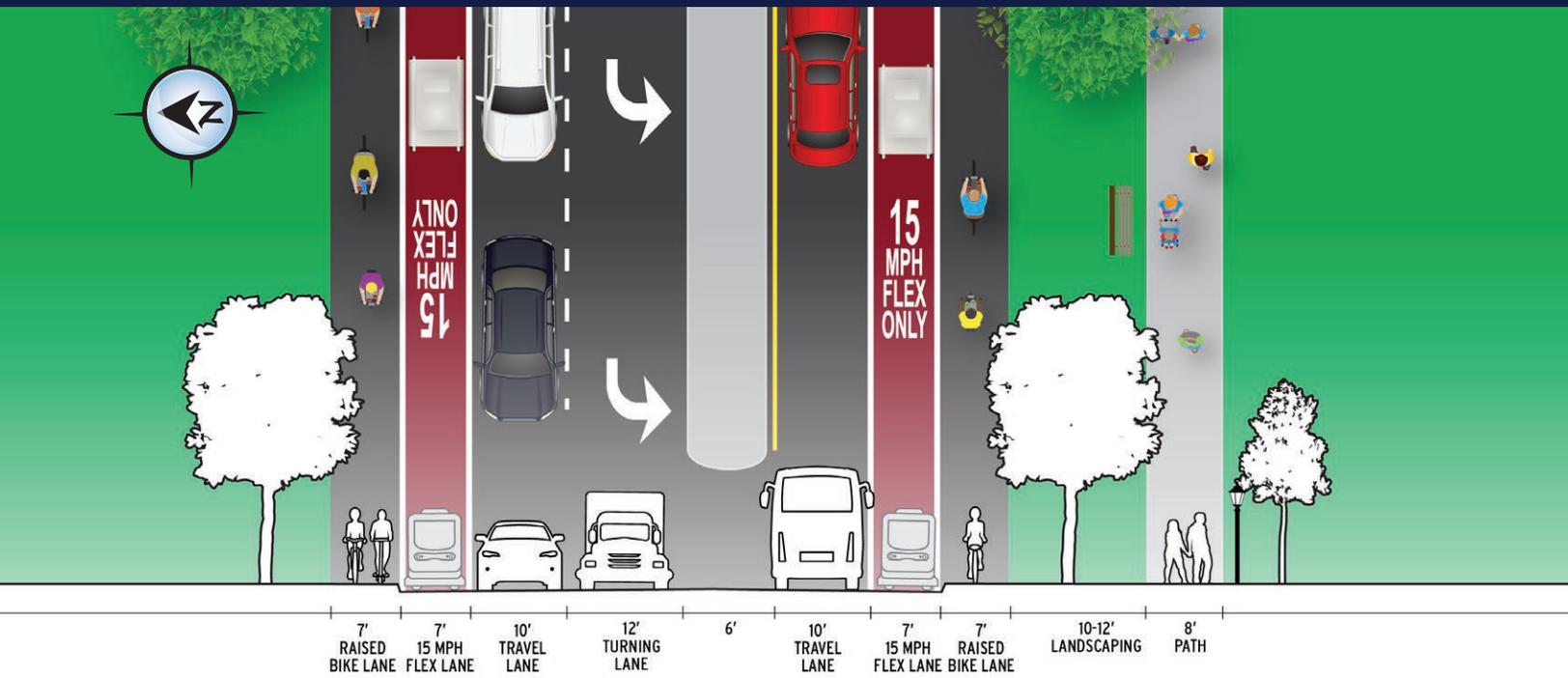


Existing



**Phase I Conditions:**  
 10' travel lanes with 4' green bike lanes  
 8' path northside with landscape buffer

Future Phase II



Phase I



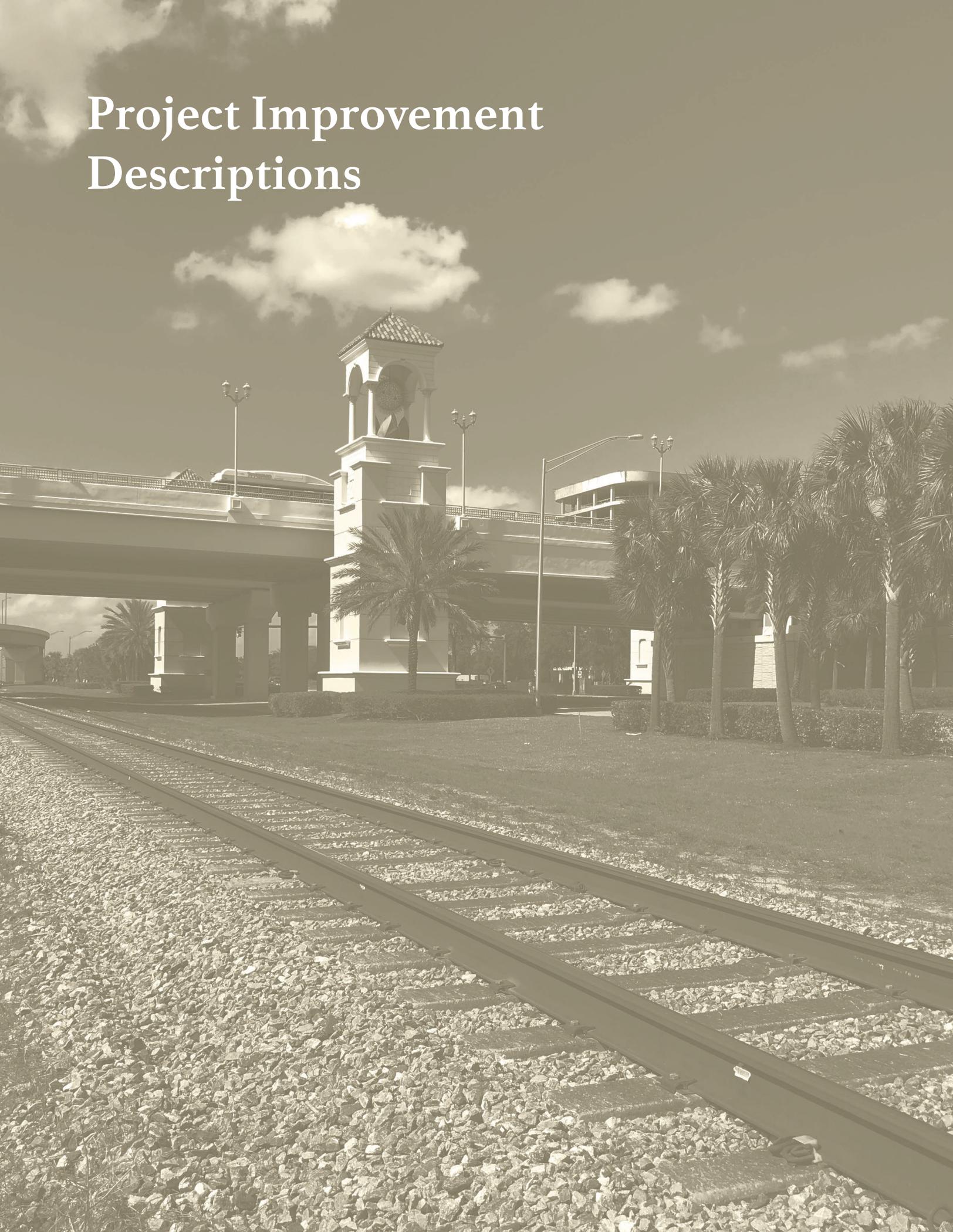
Existing





# 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

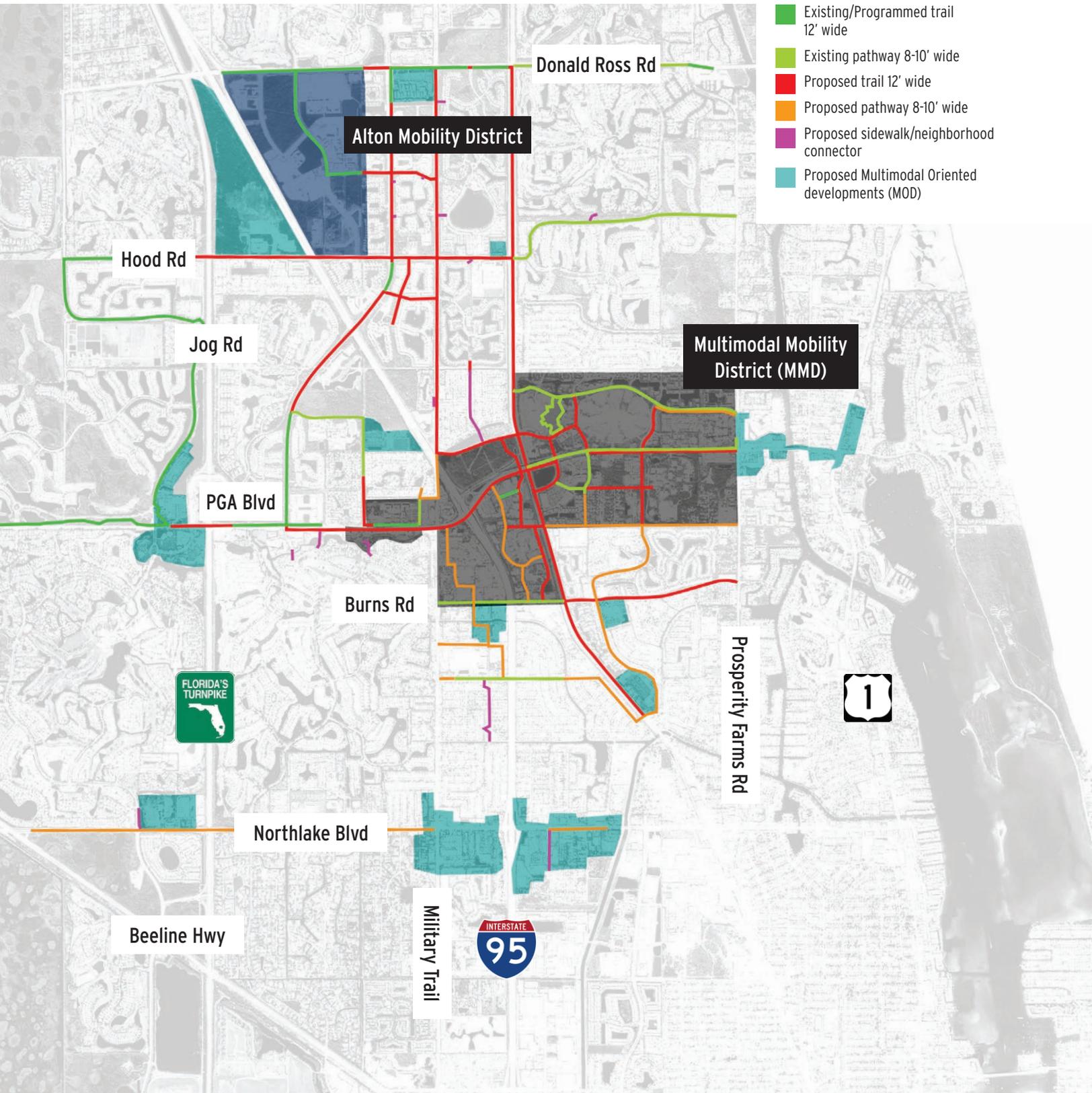


## Appendix B

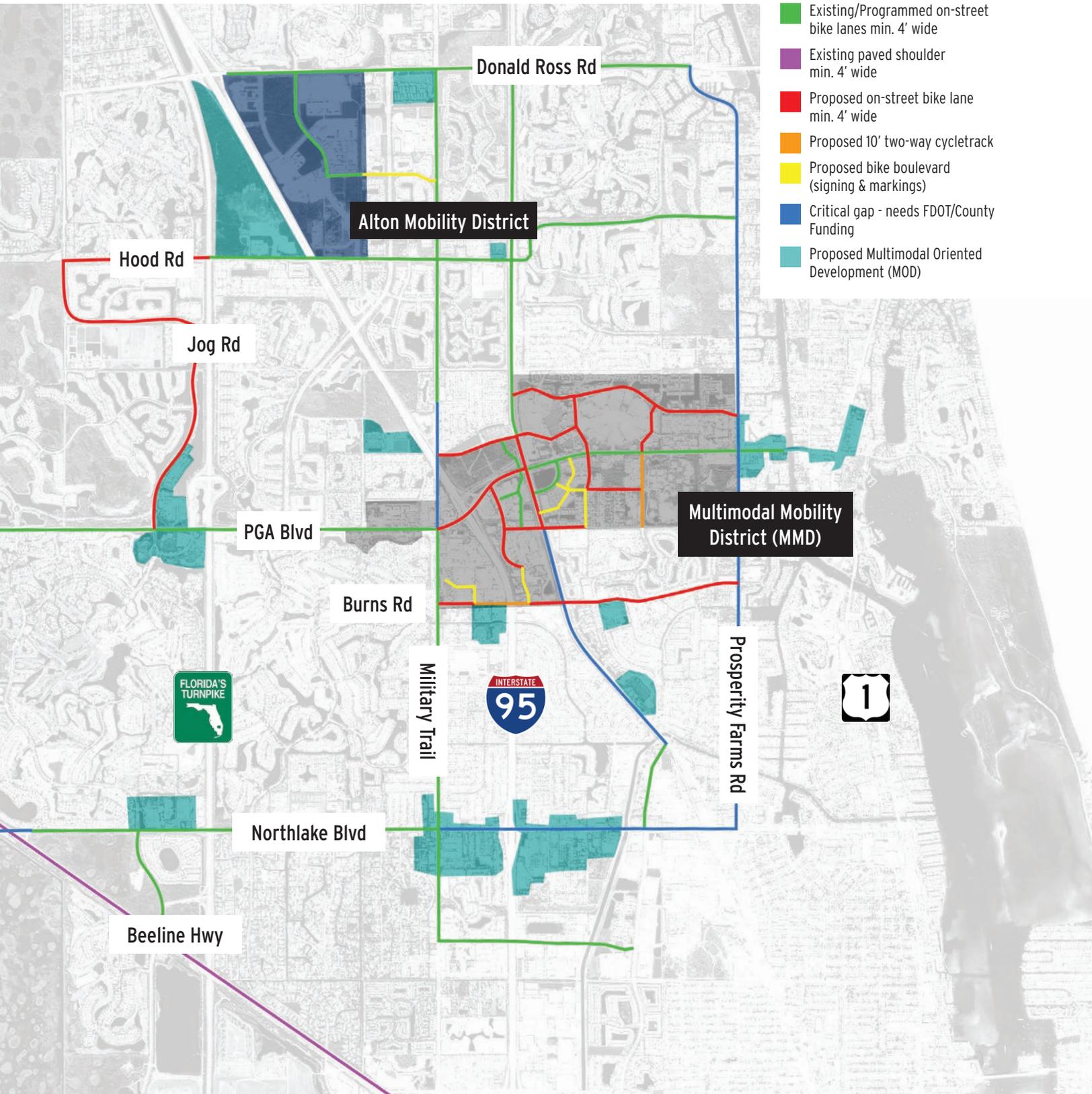
# Plans



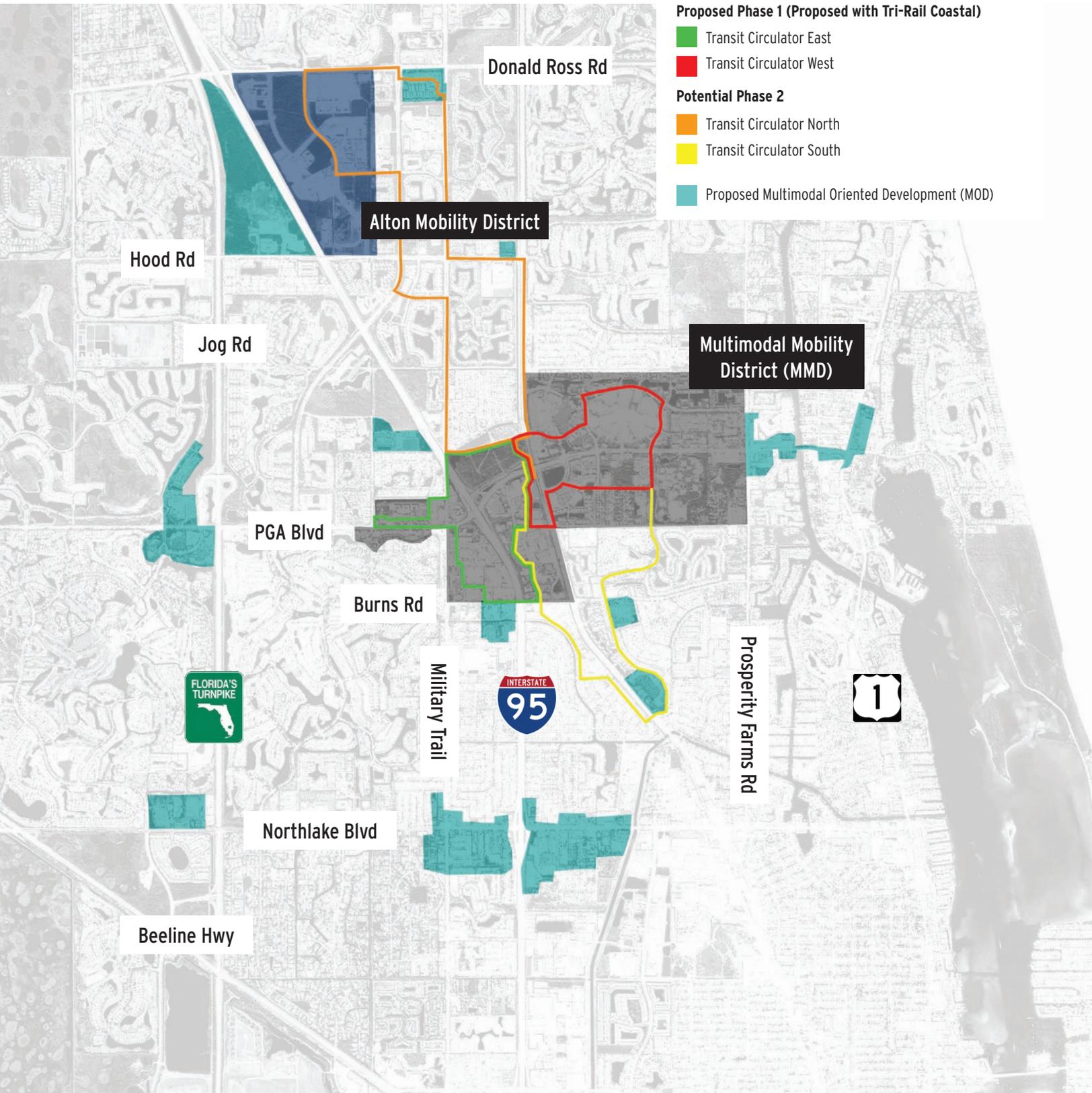
# Plan // Walking and Bicycling



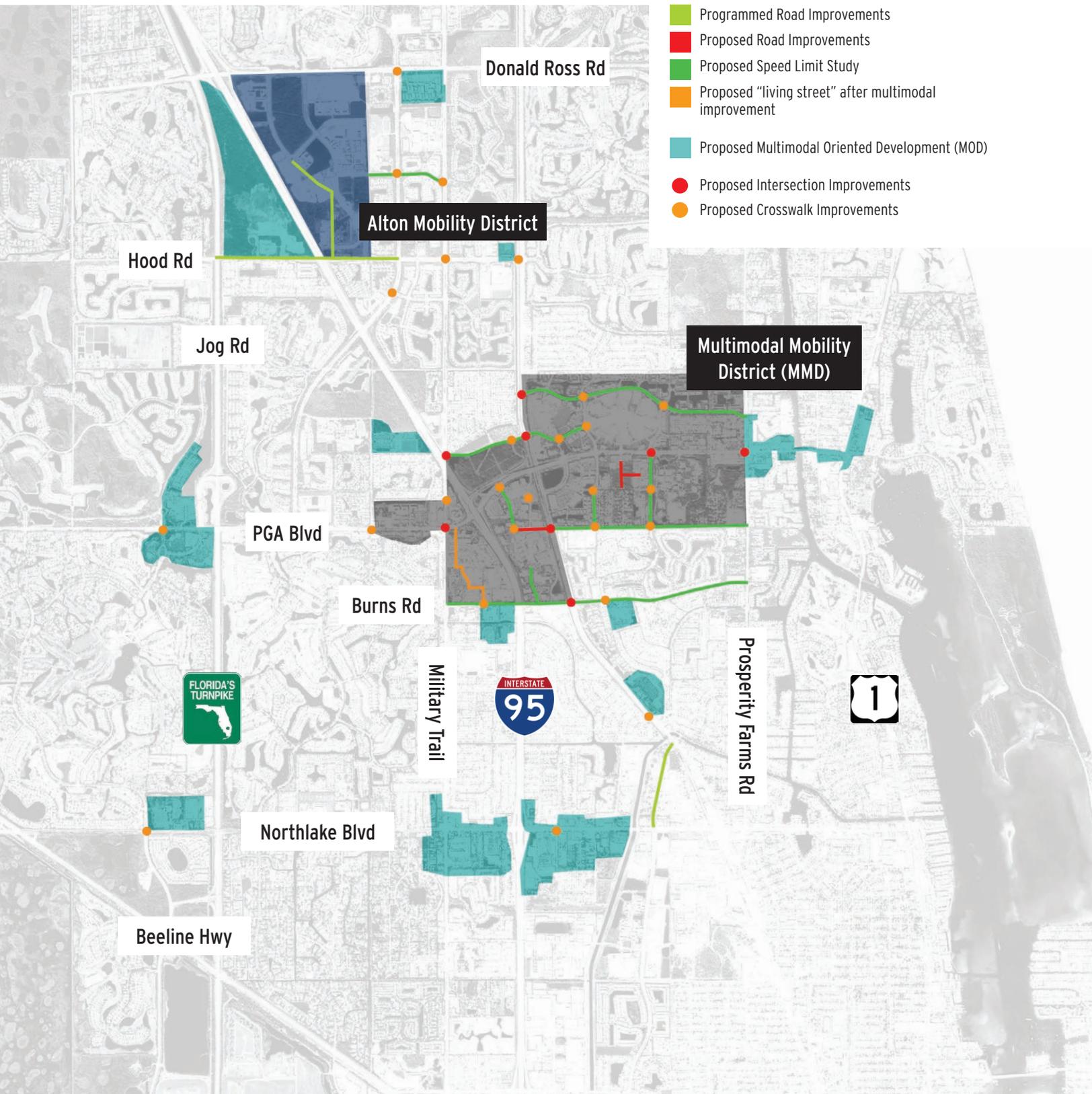
# Plan // Bicycling



# Plan // Transit Circulator



## Plan // Road and Intersection



- 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



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](http://www.nueurbanconcepts.com)  
[nueurbanconcepts@gmail.com](mailto:nueurbanconcepts@gmail.com)

