

OKEECHOBEE BLVD & SR 7

MULTIMODAL CORRIDOR STUDY



December 2022



Acknowledgements

Thank you to the many professionals who participated in and contributed to this study. From the communities along the corridor to the Study Advisory Working Group (SAWG) members, each professional played a crucial role in forming the vision for State Road 7 and Okeechobee Boulevard.

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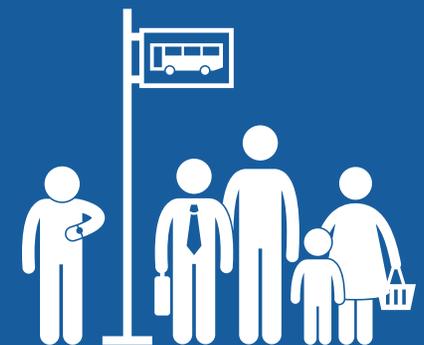
Florida Department of Transportation, District Four

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1 INTRODUCTION

Why Okeechobee Boulevard and State Road 7?

The Okeechobee Blvd. and State Road (SR) 7 corridors are rapidly redeveloping in both residential and non-residential uses. The corridor is one of the most traversed corridors in the County but holds the potential to be home to more residences and jobs immediately adjacent to the roadway, while also offering people the opportunity to walk, bike or use transit.

Okeechobee Blvd. plays a vital part in our regional goals because it is a primary east-west corridor linking western and eastern communities, provides access to a variety of destinations that need transportation options, and services transit-dependent riders, such as low income and senior population. This roadway provides connections to Tri-Rail and Brightline, two critical regional transit systems, and this corridor has the potential to support incremental, higher-density and mixed-use redevelopment necessary for premium transit.

Unfortunately, many people who use the corridor feel the current system is failing them and are worried about the future of their ability to conveniently access jobs and their home. On top of this issue, the corridor cannot expand outwards to support new growth and is bounded by the Atlantic Ocean to the east and the Everglades to the west. People will be forced to drive unless safe, convenient and accessible alternatives are developed.

A new vision for mobility must be created to meet the needs of a growing and prosperous community long into the future. This study envisions an Okeechobee Blvd. and SR 7 as a “**transit-first**” roadway, meaning a more efficient growth pattern, supported by mobility choices for all users.

The study corridor is 13.5 miles long and passes through Palm Beach County, the Village of Wellington, the Village of Royal Palm Beach and the City of West Palm Beach. Palm Beach County has several north/south transit lines, but there is still a need for a rapid and reliable east/west line.



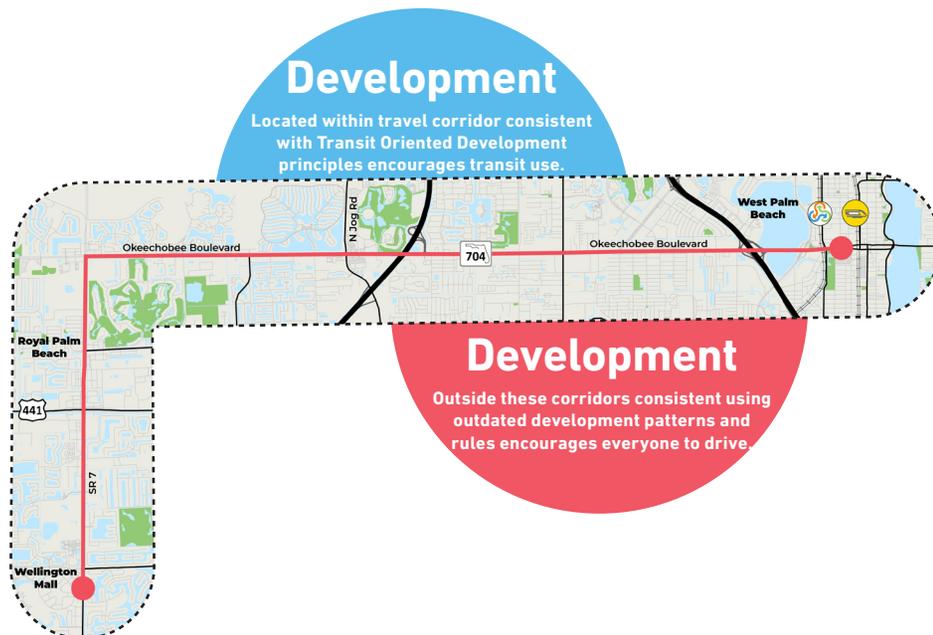
Ultimately this study aims to rethink the current menu of transportation choices people have in Palm Beach County to get around as the area welcomes new residents and visitors. It’s vision aims to open a conversation about how transit will best support a safe, connected and multimodal transportation system.

Why a Multimodal Corridor Study?

Frequent and reliable rapid transit is part of the vision for how people move in the future, being identified in the TPA's 2045 Long Range Transportation Plan (LRTP) and the Palm Tran Accelerate 2031 Transit Development Plan. These plans identify this 13.5-mile stretch of Okeechobee Blvd. and SR 7 as a key opportunity for enhanced transit.

The study corridor passes through parts of Palm Beach County, the Village of Wellington, the Village of Royal Palm Beach, and the City of West Palm Beach. The region has several north/south transit lines, but a rapid and reliable east/west line to connect communities to regional transit systems like Tri-Rail and Brightline is needed. Okeechobee Blvd. and SR 7 play a vital part in the regional goals because it runs east to west and has the potential to support the high-density, mixed-use growth necessary for premium transit.

This corridor study takes a new approach to moving people on the transportation system. It first accommodates all modes while envisioning a transit-first vision to meet the needs of current users and new residents and visitors long into the future.



What is a multimodal corridor study?

1

Concentrating redevelopment and new growth around high-frequency, high-quality transit.

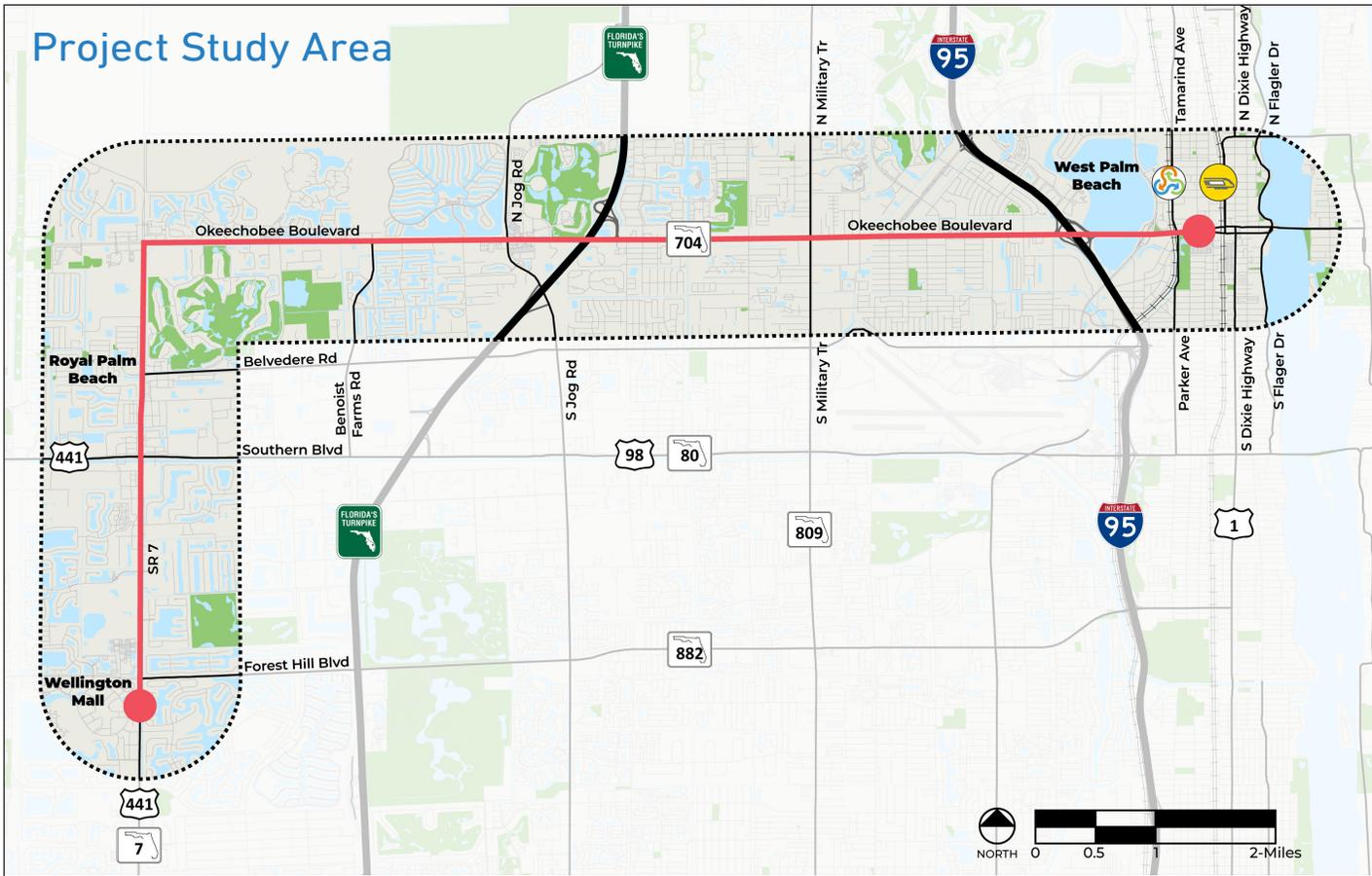
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Ensuring new development prioritizes modes other than vehicles and is sensitive to location, building design, parking, network connectivity, and travel demand management.

3

Creating or redesigning incentives that encourage choices consistent with TPA vision.

Project Study Area



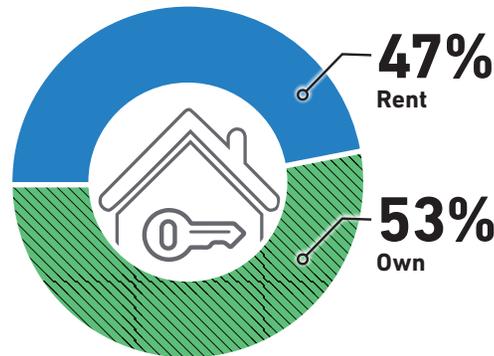
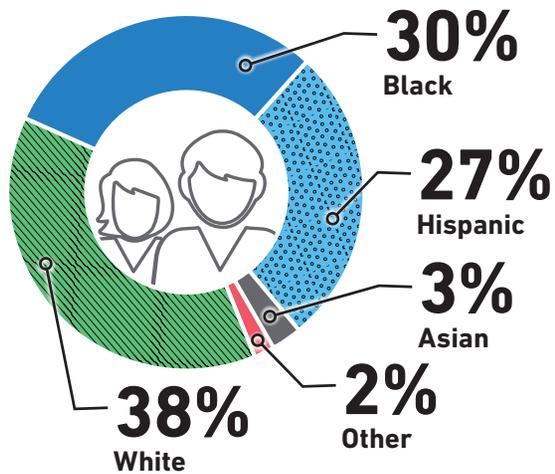
35% 
of the study area's population
is under 18 or over 65

37% 
Single Family Homes

38% 
Multifamily Homes

4% 
Mobile Homes

70% 
of corridor
residents do not
have a bachelor's
degree

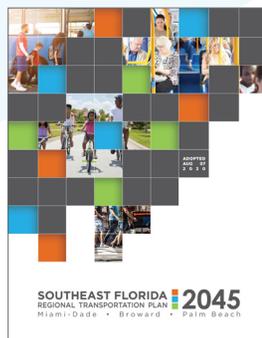
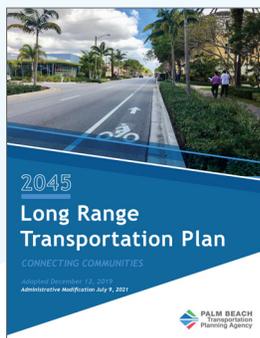


Aligning with Other Plans and Projects

This corridor plays an important role in other local and regional planning efforts. To maximize the benefits of this study and future improvement investments, the study analysis was aligned with other transportation plans and programmed projects from the Florida Department of Transportation (FDOT), Palm Beach County, Palm Tran, and the Village of Wellington, the Village of Royal Palm Beach, and the City of West Palm Beach. For a complete list, see appendix A.

Plans

- Southeast Florida Transportation Council’s 2045 Southeast Florida Regional Transportation Plan
- Palm Beach TPA’s 2045 Long Range Transportation Plan (LRTP) + 561 Plan
- Palm Tran’s Accelerate 2031 Transit Development Plan
- Village of Royal Palm Beach’s SR 7 Master Plan
- Village of Royal Palm Beach Bike Path Trailhead and Signage Plan
- Village of Royal Palm Beach Comprehensive Bicycle and Pedestrian Plan
- City of West Palm Beach downtown redevelopment plans
- Various Village of Wellington redevelopment plans



Programmed Projects

Palm Beach TPA TIP (FY 2021 – FY 2025)

- FM 44004561 – SR-7 at Weisman Way; Intersection Improvement
- FM 2023991 – Belvedere Road at SR-7; Intersection Improvement
- FM 4461771 – SR-7 from north of Southern Blvd. to Okeechobee Blvd.; Resurfacing
- FM 20239910 – Okeechobee Blvd. at Jog Road; Intersection Improvement
- FM 4415711 – Palm Tran bus shelters, various locations; Public Transportation Shelter
- FM 20219917 – Okeechobee Blvd. at Haverhill Road; Intersection Improvement
- FM 4397551 – I-95 at Okeechobee Blvd.; Interchange – Add Lanes
- 4461791 – Okeechobee Blvd. from Tamarind Avenue to West of Lakeview Avenue; Resurfacing

Palm Tran Transit Development Plan (FY 2022 – FY 2031) underscores similar improvements identified within this visioning plan for service and operations :

- Piloting a limited stop bus service on Okeechobee Blvd.
- Working with Transportation Network Companies to deliver first-last mile solutions.
- Developing TOD corridor and stop criteria.
- Expanding on-demand services to complement premium transit fixed route services.
- Continuing to study new technologies and service frameworks that are appropriate for Palm Beach County.

2 STUDY ANALYSIS & PROCESS

Because transportation serves such an important role in the community, a unique opportunity is presented to provide more transportation options to more people—especially those living in underserved and underrepresented communities. Premium transit along the study corridor could help address the intersectional issues of age, race, income, housing, education and health.

Section Contents



Community
Engagement



Key Community
Metrics



Alternatives
Summary

Community Engagement

A transportation system designed by one individual or organization, or without collaboration is destined to fail. To understand the communities' needs, the study team spent over a year developing over 2,500 community touchpoints, listening to people who live and travel through the corridor throughout the project process. In a series of public workshops, interviews, virtual surveys and an interactive public map, people who walk, bike, take transit and drive shared their individual and unique struggles when using roadways in the study area.

More than 500 community members shared their perspectives on the study corridor's issues and opportunities. Commissioners, council members, and other stakeholders in the public and private sector shared with us their experiences with who uses the corridor, what traffic is like, what safety challenges they see, and how they would like to see the corridor change and grow in the future. From these interviews, stakeholders shared they would like to see an Okeechobee Blvd that provides the following to those who use it:

- Approximately 80% of survey respondents indicated that they would use an enhanced transit system if one was introduced into the corridor. Over 50% shared they would prefer center-running dedicated service.
- An enhanced transit option that improves rush hour traffic and supports people who solely rely or choose to take transit.
- Station locations and developments that offer safe mobility options for first/last mile connections.
- Redevelopment opportunities of current land along the corridor
- Equitable transportation and socioeconomic outcomes for people with low-incomes or from minoritized backgrounds.

For more on how this project worked with the public, see appendix B.



400
completed surveys

100
interactive mapping
comments

900
unique website views

Over **1,400**
workshop site views



The study team utilized both direct and indirect engagement techniques to receive feedback directly from people who use the corridor. This included people walking, bicycling, using transit and driving both in the field and at meeting locations along the corridor.

Key Community Metrics

Using information gathered in public input and upon reviewing relevant plans and projects, seven metrics were developed and analyzed against the developed alternatives for the corridor and evaluated each one according to the project goals, how it would impact community health, and the study alternatives. A robust public engagement campaign helped to inform the study throughout all of study and provided key insights into crafting the vision for the corridor.



Mobility Choices



Economic Development



Safety



Land Use



Quality of Life & Environment



Equity



Affordable Housing



Mobility Choices

The transportation options presented to people along the study corridor are few and far between. People must be given the opportunity to choose their preferred means and equity of choice is also an important factor. Systems in place have not empowered all individuals with the economic mobility to safely participate in the existing system. Improving transportation options will improve conditions for all roadway users.

Walking & Bicycling

The study corridor's lack of safe and consistent facilities, limited crossing opportunities, and uninviting built environment create an unsafe and uncomfortable walking and bicycling environment.

Even though there are sidewalks along most of the corridor, people frequently attempt to cross outside of designated crosswalks because marked crossings are few and far between. When intersections are far away from one another, people must go further out of their way to find a crossing. The average distance between marked crossings within the study corridor is 0.5 miles in the western portion and 0.2 miles in the eastern portion, or about a 5 to 12 minute walk for an average person. And when designated crossings are inconvenient or there are many gaps between sidewalks, pedestrians are more likely to attempt a dangerous crossing in the middle of a roadway or people won't consider walking.



Existing non-motorized facilities do not promote walking, bicycling, or transit as transportation options.

How We Measure



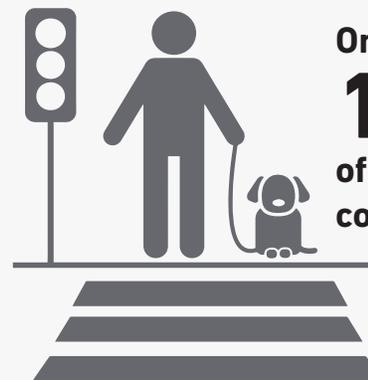
Walking

- Number of intersections and crossing opportunities
- Transit service and amenities
- Proximity and number of cultural venues, grocery stores, parks, dining and drinking establishments, schools and retail stores



Bicycling

- Bicycle Lanes
- Terrain and road condition
- Destinations and road connectivity
- Number of people bicycling



Only
11.3%
of the study area is
considered walkable

**Low Stress
Tolerance**

**High Stress
Tolerance**



While there are bike lanes along the corridor, they are too narrow for the number of vehicle lanes, traffic volumes and vehicle speeds. These facilities are indicative of an overall trend in the area, with insufficient infrastructure, only a small percent of users would be expected to see bicycling as a transportation option. Those who do bicycle are either used to riding in high-stress situations or have no other choice but to ride their bicycle.

Taking Transit

Many people in the study corridor depend on transit services to get to work and meet their daily transportation needs. The existing bus network provides essential service for captive riders, however, stop amenities, route gaps, and inconsistent reliability discourages or prevents choice ridership.

Stops with shade, lighting, seating, trash receptacles, and art or places of interest nearby help transit riders feel safe and comfortable on their journeys. A lack of amenities discourages ridership and creates an undignified circumstance for riders. Many transit stops along the corridor have no amenities at all.

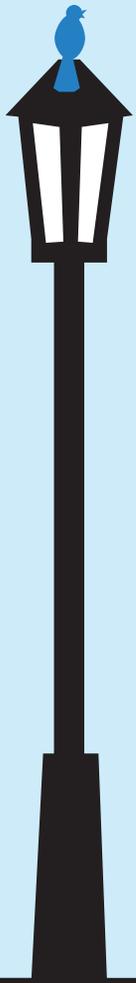
Today, high ridership areas correlate to areas with a high percentage of people who need transit to get to work or meet their daily needs. Areas with low ridership are near large, single family residential neighborhoods that have many households with one or more cars.

Palm Tran Route 43 is the primary route for the study corridor. Route 43 largely runs on time or better, except for one eastbound segment during the evening commute. This delay window is likely caused by commuter traffic trying to reach Florida's Turnpike. Route 43 serves the West Palm Beach Intermodal Transit Center, which includes connections to Tri-Rail and Amtrak. The Tri-Rail commuter service connects West Palm Beach to Mangonia Park and Miami International Airport. This route would remain in place providing local service, along with other Palm Tran Routes 40, 44, 33, and 52.

Many people in the study corridor depend on transit services to get to work and meet their daily transportation needs. The existing bus network provides essential service for captive riders, however, stop amenities, route gaps, and inconsistent travel time tends to discourage attracting choice riders.

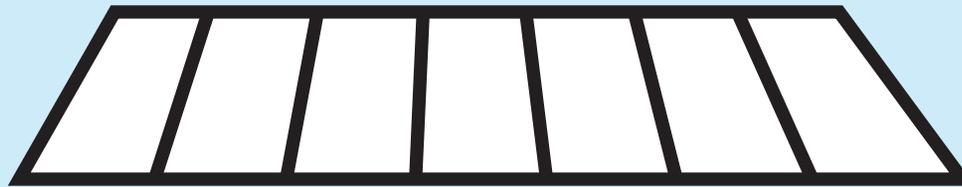
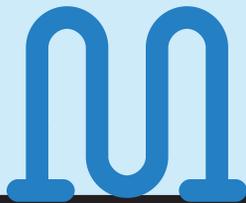


Current transit service is productive but limited and is impacted by traffic and many stops lack amenities that encourage ridership.



About **30%** of stops lack lighting within 20 feet to make people feel safe at night

Less than **2%** have bicycle racks to park a bicycle when the bus has no capacity

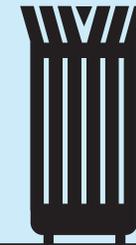


30% of stops have shelters to protect riders from the Florida sun and frequent showers

50% have seating to provide relief to people with disabilities, young, old, etc.

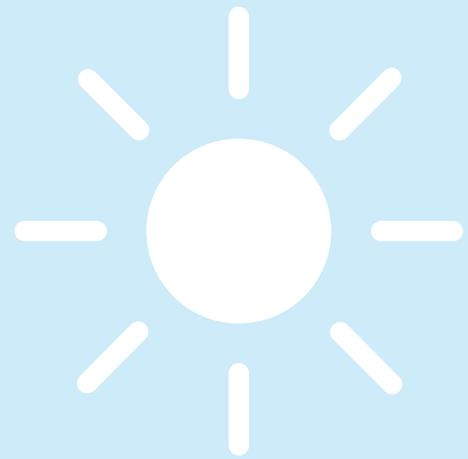


Less than **40%** have trash bins to keep roadways clean



127 Bus Stops

High Ridership Areas
Wellington Mall
Military Trail
Downtown West Palm Beach

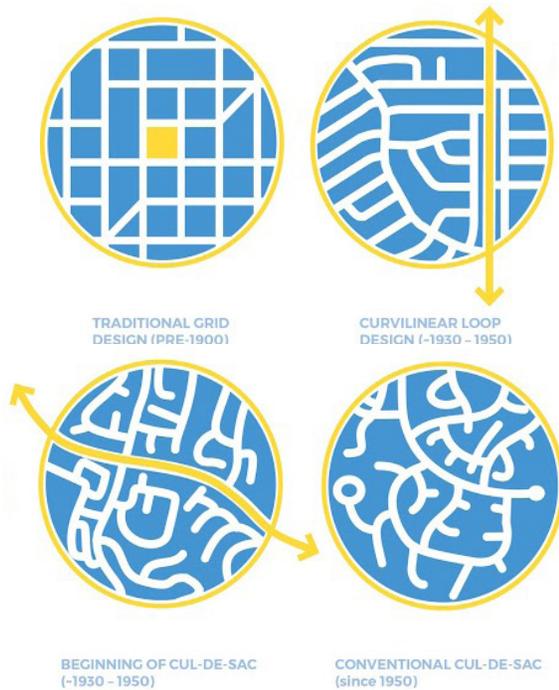


Driving

Balancing the need for development access and long distance mobility for drivers will only grow more challenging in the future. This is further intensified by the lack of parallel local and collector roadway connections along the corridor. People driving themselves have no choice but to become part of the congestion on Okeechobee Blvd.

While the corridor traffic volume and capacity appear sufficient today, the area's roadways will not be able to handle future growth. With 6–8 lanes through much of the corridor, there is little room to expand.

To make sure the transportation system will meet the needs of everyone down the road, more options must be developed to meet the mobility needs of everyone. Each person using rail, transit, walking, bicycling, and micro transit all help to alleviate the strain on vehicle traffic.



Connected street networks and reduces land consumption, provides greater accessibility and crossing opportunity, and increases network efficiency and reliability. (Source: Congress for New Urbanism, [Street Networks 101](#))

Top 5 Employment Centers

1

City of West Palm Beach

2

Wellington Village

3

Royal Palm Beach Village

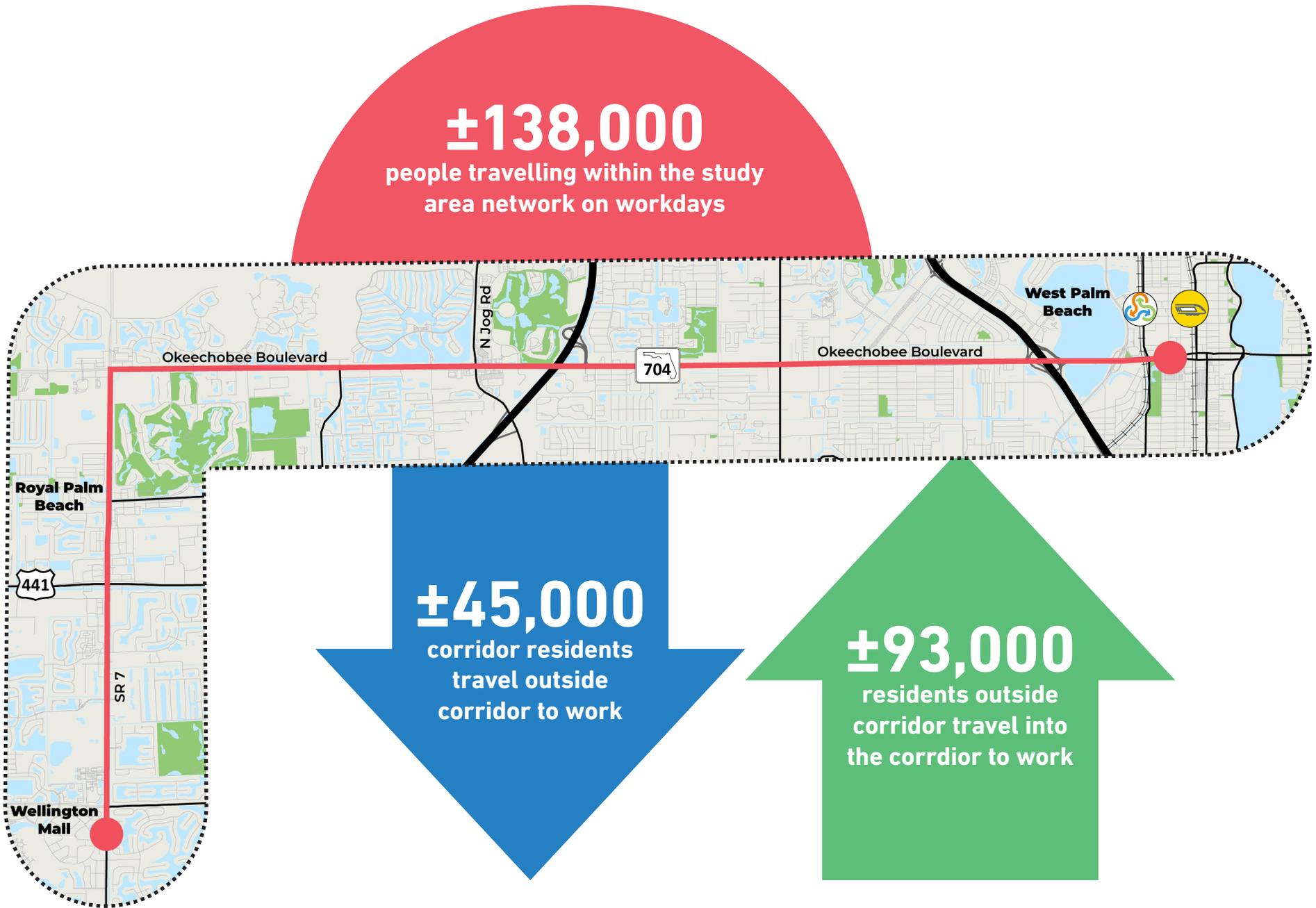
4

The Acreage
(Census Designated Place)

5

City of Palm Beach Gardens





United States Census Bureau (2021), <https://onthemap.ces.census.gov>.



Safety

Okeechobee Blvd. & SR 7 is historically one of the most crash-prone corridors in the county, with a high number of pedestrian crashes occurring between the Florida Turnpike and I-95.

Putting multimodal transportation modes first and creating a safe road for everyone go hand in hand because all people riding transit must use another mode at some point in their journey. To support safe, equitable, and multimodal transportation choices in Palm Beach County, the vulnerable road users who use first and last mile connections to access transit must be prioritized. Because areas with high transit ridership match those with lower walking and bicycling scores, it is that critical people who rely on transit have a safe and connected multimodal network to get where they need to go.



Traffic crashes killed 24 and incapacitated 61 people occurred between 2017 and 2021.

5,122

crashes along the
corridor 2017–2021



102

bicycle and
pedestrian crashes;
many of which
resulted in an injury

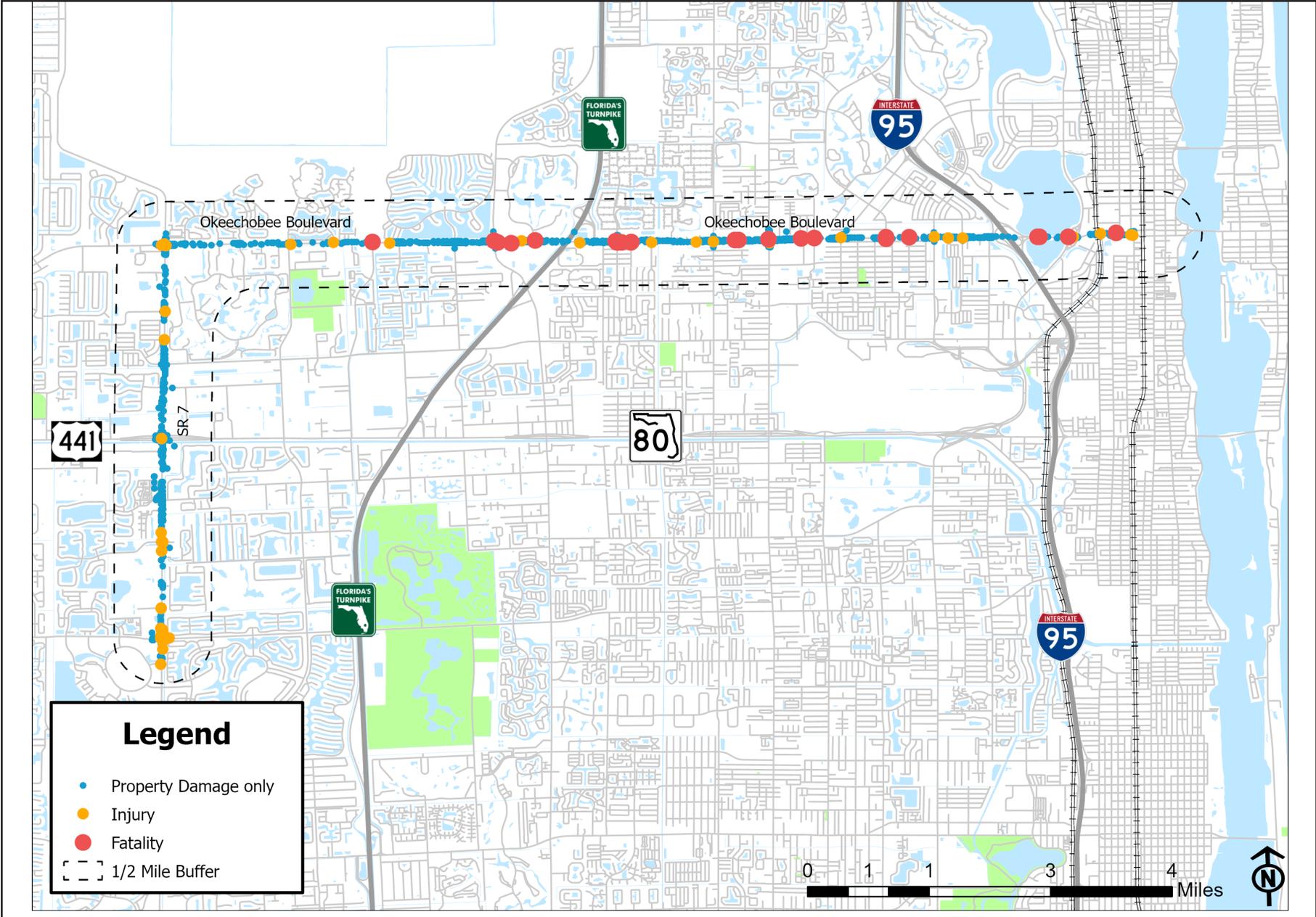


14

people killed walking or
bicycling in the corridor

Source: Signal4Analytics; University of Florida; 2017-2021.
signal4analytics.com/

Vehicular Crashes





Land Use

The existing land uses along the study corridor are primarily suburban neighborhoods and strip development commercial areas. However, almost all of the corridor east of Military Trail is either actively redeveloping or has the potential for higher-density, mixed-use developments, especially near West Palm Beach and the Westgate Community Redevelopment Area (CRA). The suburban areas west of Florida's Turnpike have wide right of ways which can accommodate more mobility options.

Today, most people travel the corridor by single-occupant vehicles and many people feel there are too many cars on the road already. Further, many of these people feel they have no option but to drive due to the community design around the roadways. Without a more efficient mode of transportation along the corridor such as transit and transit supportive investments in walking and bicycling, future redevelopment and growth will only add to the number of vehicles driving every day.

The corridor has many opportunities for both development and re-development to support transit investments. For example, the southeast corner of Okeechobee Blvd. and SR 7 could include in its redevelopment a park-and-ride facility to encourage suburban commuters from the west to take transit instead of driving.



Top Five Area Employment Generators: City of West Palm Beach, Village of Wellington, and Royal Palm Beach Village, the Acreage Census Designated Place (CDP) and the City of Palm Beach Gardens.

What is Context Classification?

FDOT uses context classification to design roadways in an area so people's driving needs are met. Context classification considers land use, development patterns and roadway network. Much of the study area is suburban residential, suburban commercial and urban general. Downtown West Palm Beach is classified as urban core.



C3R—Suburban Residential

Residential uses with large blocks and a disconnected or sparse roadway network.



C3C—Suburban Commercial

Mostly commercial uses with large buildings and parking lots and a disconnected roadway network.



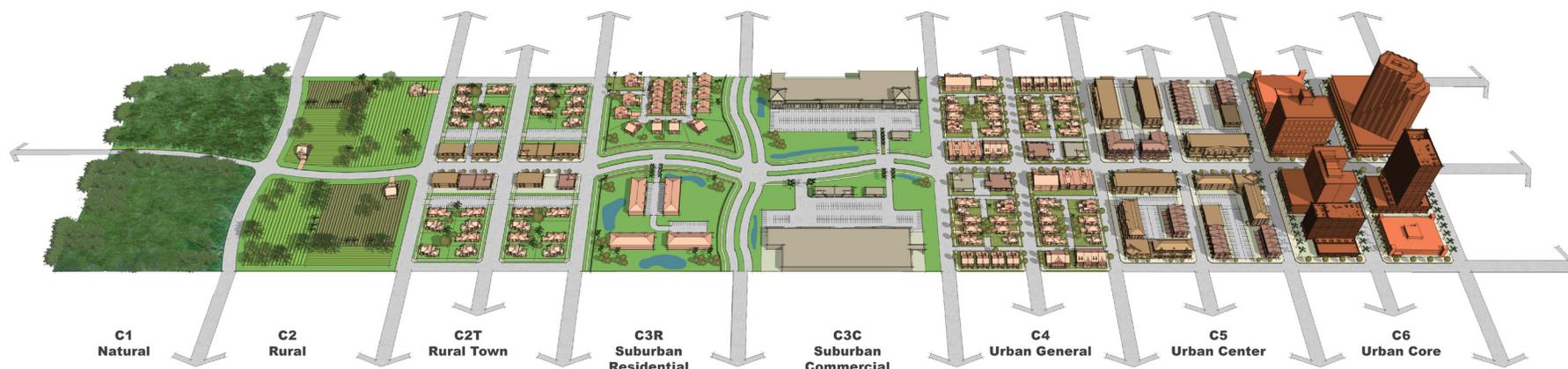
C4—Urban General

Mixed-uses with a well-connected roadway network.

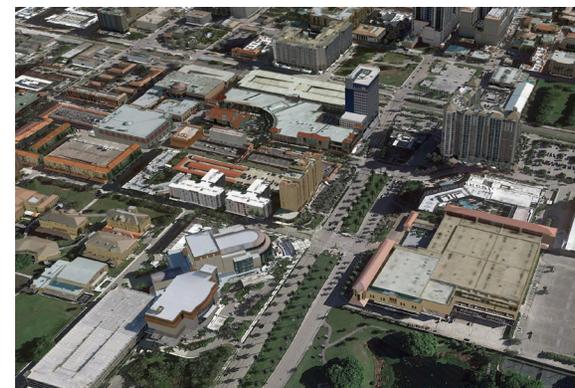
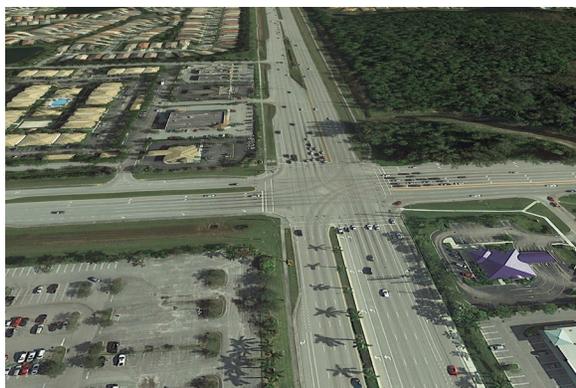


C6—Urban Core

Very high densities and the tallest building heights. A population greater than one million and a well-connected roadway network.

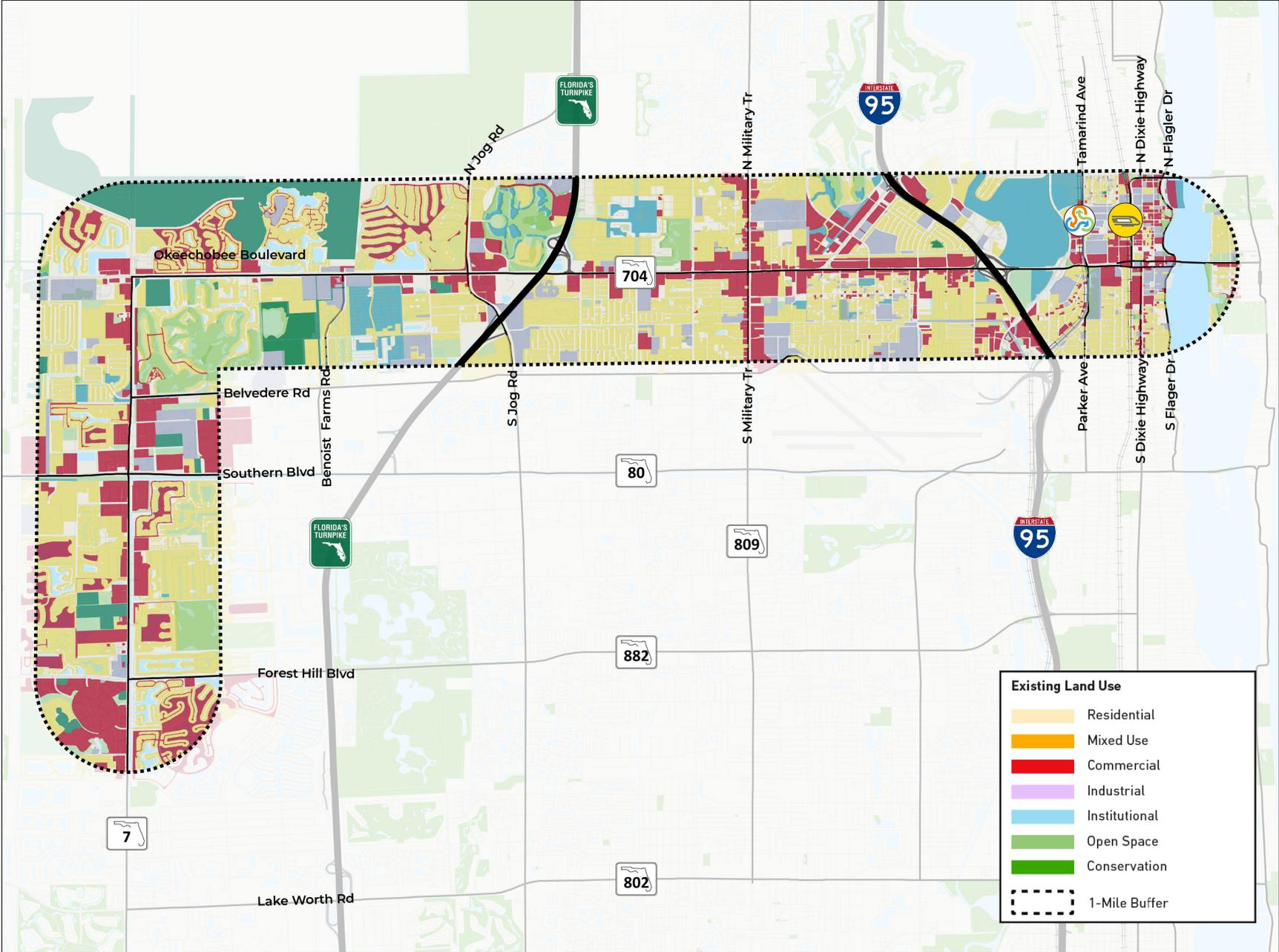


Additionally, neighborhoods with more people living in them and with more jobs have the greatest potential to support enhanced multimodal transportation for people walking, bicycling and using transit. Typically, more mixed-use and medium to higher density residential developments generate the greatest potential for developing a premium transit rider base. Likewise, underused parcels offer spaces to shift the region's built environment toward more walkable, bikeable and transit-friendly transportation.



Pictures from left to right at various locations along Okeechobee Boulevard: SR 7 demonstrating a C3C and C3R Context Classification; Palm Beach Lakes demonstrating a C4 Context Classification; and C6 in downtown West Palm Beach. (Source: Google Earth Pro, 2022 Aerial).

Land Use

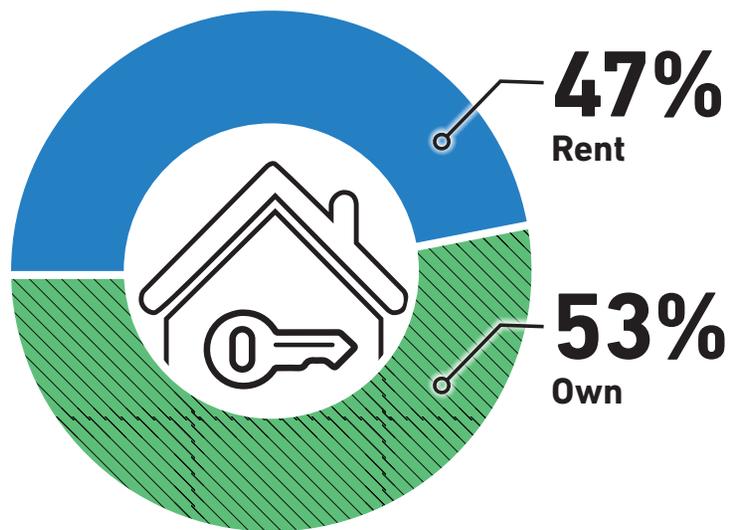




Affordable Housing

In Palm Beach County, the combined costs of transportation and housing for the average household is 66%. People whose costs exceed the national average of 45% are at higher risk for displacement or being cost burdened. There are large pockets of families, particularly around Military Trail and I-95, who are experiencing poverty or who do not own or have access to a vehicle.

Housing expenses plus transportation costs for purchasing, insuring, maintaining, and fueling a personal vehicle make simply meeting basic needs in Palm Beach County challenging for many residents. Walking, bicycling and taking transit are more affordable transportation options, but without safer, more connected and more accessible infrastructure, these alternative modes will remain out of reach for many community members.



More than **60%** of the corridor falls at or below the Palm Beach County's median family income of \$59,943.

More than **20%** of people living in the study area are experiencing poverty—that's nearly 10% higher than the countywide average.



Indicators of housing and transportation affordability suggest the study area is more likely to be cost-burdened by housing and transportation-related costs.



Quality of Life & Environment

Health

Reliance on personal vehicles as a primary mode of transportation presents several challenges to health. Nationally, the transportation sector contributes to 29% of the United States' greenhouse gas emissions, passenger cars being one of the main sources of emissions. Increases in greenhouse gases are associated with a multitude of negative health outcomes including heat-related illnesses, lung cancer, asthma, displacement, and increased prevalence of communicable disease. The study corridor sees heart disease, stroke, diabetes and homicide at rates double the county average.

A healthy transportation system helps make a healthy community. But without basic infrastructure that supports active modes like walking, bicycling and taking transit, community members must depend on cars to reach all their destinations. When communities are designed solely around cars, people who do not have access to a car or who cannot afford one lack access to the transportation system. Walking, bicycling, and using transit are all much more sustainable transportation modes than driving alone, which is characteristic of the corridor.

The associations between transportation design and health outcomes are well established in literature. The different design elements impact on various quality of life elements is shown below and was analyzed as part of this study.

The associations between transportation design and health outcomes are well established in literature. The different design elements impact on various quality of life elements is shown below and was analyzed as part of this study.



Study Area Health Conditions that Exceed the County Average

- Asthma
- Heart disease*
- Stroke*
- Nutritional deficiencies*
- Diabetes*
- Disability*
- Cancer
- Life expectancy
- Homicides*

*rates more than double the county

Okeechobee Blvd & SR 7 Corridor Study Design Elements by Transportation-Alternative Health Analysis Categories

Design Element	Air Quality & Resilience	Physical Activity	Road Safety	Accessibility	Health Equity
Sidewalk Width	+	+	+	+	+
Bicycle Lane Width	+	+	+		+
Travel Lane Width			+		
Buffer Zone Width	+	+	+	+	+
Type of Bicycle Lane	+	+	+		+
Median Green Space	+	+	+		
Type of Transit	+			+	+
Construction Impacts	+	+	+		

One example are the health effects resulting from designs that encourage walking or bicycling, as opposed to driving a car. Wider sidewalks and separated bicycle lanes promote pedestrian and bicyclist activity through related mechanisms. Both design features (i.e. broader walkways, and a physical barrier between oncoming traffic and bicyclists) increase the perceived safety of walking or bicycling along such areas, and may in turn promote physical activity. As such, design elements that increase active transportation engagement will also improve rates of physical activity, air quality, and their related diseases. Associated behavioral and health outcomes with transit include:

- Sustainable infrastructure in the form of green technology investments
- Reduction in greenhouse gas emissions

- Improve functional capacity in performing daily activities
- Increase the number of individuals meeting daily exercise requirements
- Lower Body Mass Index
- Increase social interactions within the community
- Reduce vehicle crashes
- Equitable access to employment opportunities, and goods and services, especially for low-income individuals, older adults, or people living with disabilities



Economic Mobility

The economic mobility of the corridor is limited. As documented previously, there is a strong presence of economic disadvantaged communities while also being transportation and housing costs burdened. The potential for premium transit to increase economic mobility could reduce transportation costs by providing new transit options, while also increasing the market rate and affordable housing supply.

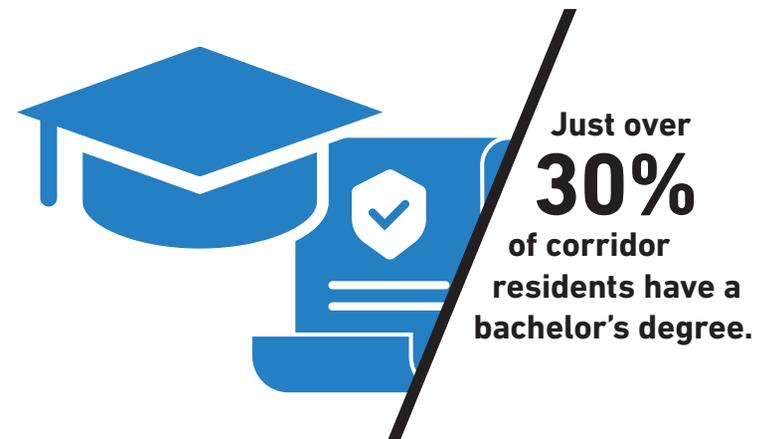
Combined with air pollution from vehicle exhaust, access issues undermine a community's mental and physical well-being. A transit-first corridor approach will have safer streets for people walking and bicycling, reduce the number of vehicles on the roads and driving speeds, greater opportunities for active recreation, and easier access to medical care, healthy foods and essential services. By developing a premium transit line, more people could live and work closer to options and allows them to consider non-driving options.

Education

Nearly 70% of the study corridor does not have a bachelor's degree. Education is an important factor in a person's employment potential and income opportunities. People with bachelor's degrees experience lower rates of unemployment and earn more than people who have less education. Safer and more reliable multimodal transit in Palm Beach County could help connect students of all ages to educational opportunities.

Range of Development Potential Premium Transit Scenarios

	Low (-10%)	Medium	High (+10%)
New Units and Affordable Units	15,760	17,511	19,262
Non-Residential (square feet)	13,778,478	15,309,420	16,840,362
Parking Spaces	36,558	40,620	44,682
Jobs	64,992	72,214	79,435





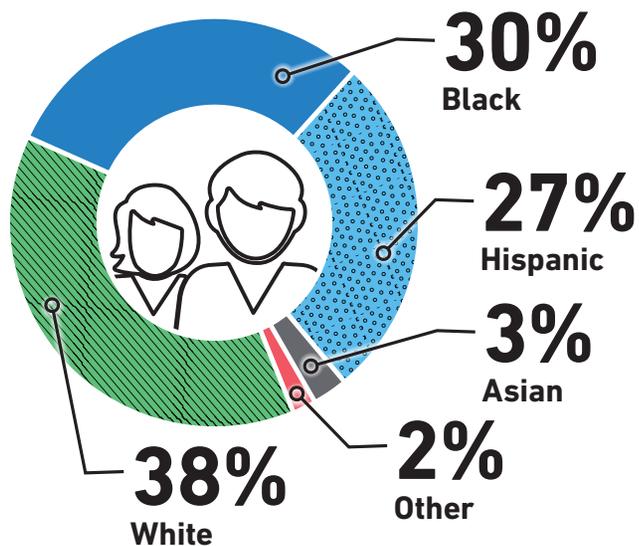
Equity

Several equity related measures were assessed. The transportation-alternative health analysis factors for health equity included:

- Construction impacts
- Aging-in place
- Distribution of diseases
- Social vulnerability

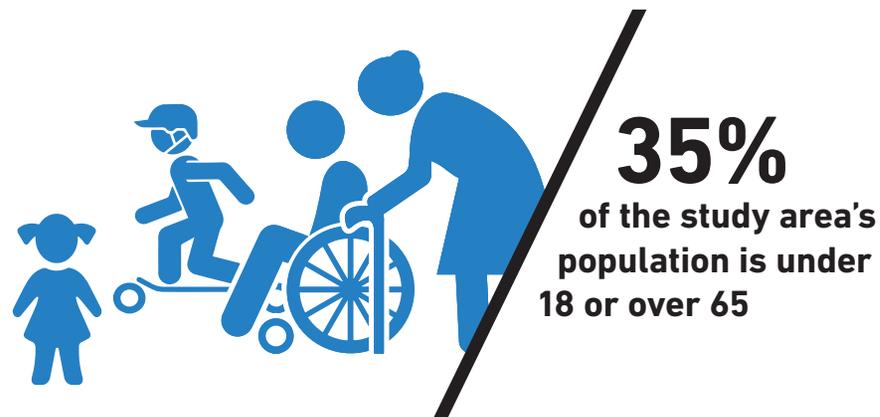
Race

More than 60% of the corridor's population identifies as Black, Hispanic, Asian or other. All communities must be accounted for when designing a transportation system. Premium transit along Okeechobee Blvd. and SR 7 could provide better and safer transit access for these communities.



Age

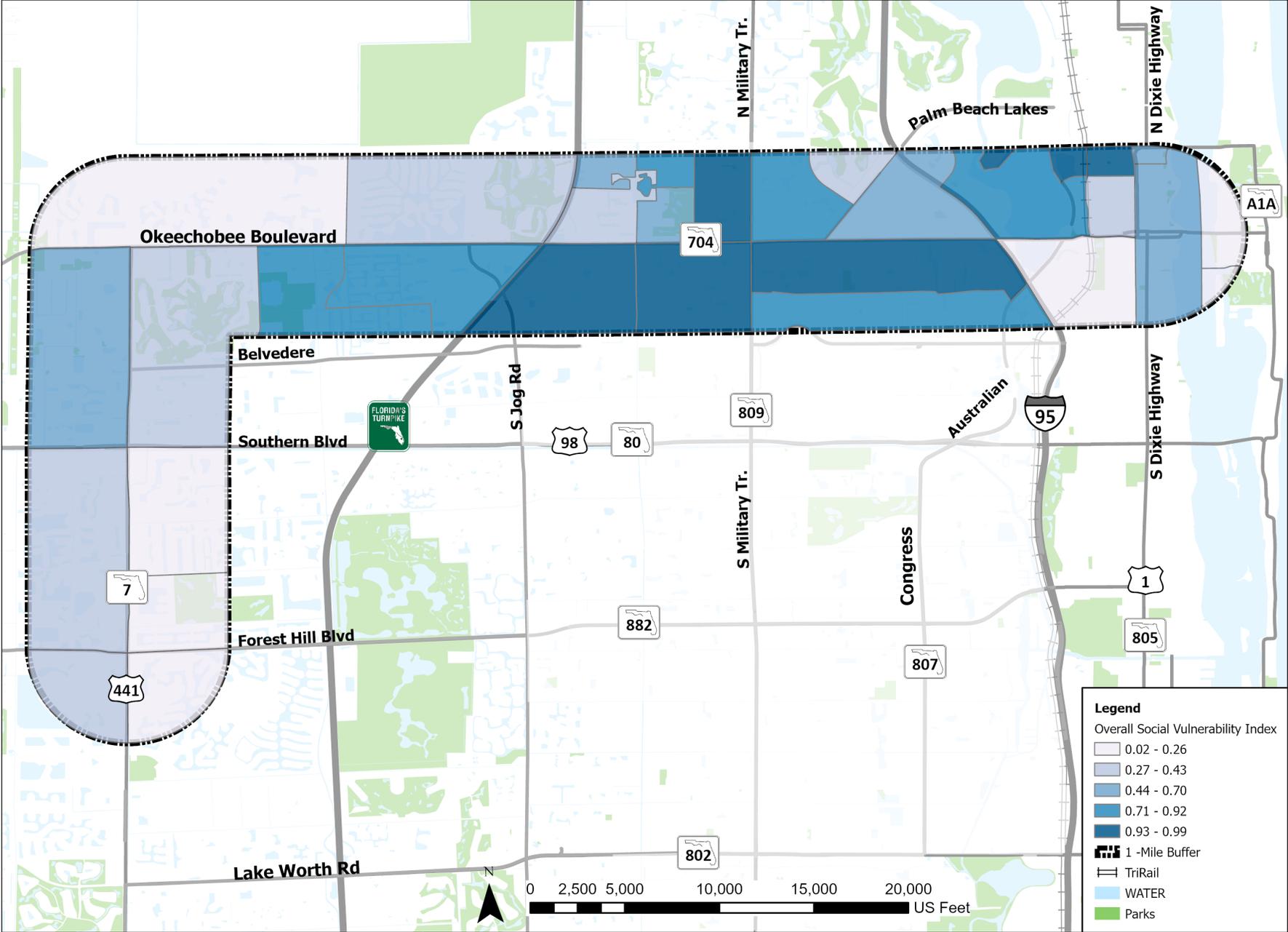
More than one third of the corridor's population is younger than 18 or older than 65. People in these age groups have unique transportation needs. Aging persons higher risk of fatal and severe injuries in car crashes and young drivers' inexperience and tendency to be easily distracted contribute to their higher rate of fatal crashes. As pedestrians, both children and older adults may need more time to cross the street safely.



Social Vulnerability

The CDC and Agency for Toxic Substances and Disease Registry's (ATSDR) Social Vulnerability Index (SVI) measures the impact of external stressors on health during times of emergency. Importantly, social vulnerability is a measure of community resilience. The social vulnerability index is composed of 15 factors from the US Census that identify subsets of a population with increased susceptibility to human suffering and economic losses in event of an emergency. Overall, there are four primary themes that affect social vulnerability, which are: housing and transportation, race/ethnicity/language, socioeconomic status, and household composition. The following map shows the overall social vulnerability in the Okeechobee Blvd. & SR 7 Study Corridor.

Overall Social Vulnerability Index



Alternatives Summary

Transit Alternatives

After careful study of the Okeechobee Blvd. & SR 7 corridor and listening sessions with the public and community stakeholders, the project team developed and evaluated seven transit alternatives.



1

No build alternative: This alternative functions as a control, allowing a baseline measurement against the six other alternatives to test the impacts of different alternatives.



2

Mixed Traffic Bus with Limited Stops: This alternative would improve transit travel time for long-distance trips by reducing stops at key destinations and transfer points. The buses would run in existing outside or curbside travel lanes shared with other cars and trucks.



3

Business and Access Transit Lanes: Business and access transit (BAT) lanes, which are bus-only lanes with limited access for other vehicles. BAT lanes are created by converting an existing curbside travel lane and marking the pavement as bus-only, sometimes in a different color to visually separate BAT lanes from regular travel lanes. Non-transit vehicles may only use the BAT lane when making a right-turn into or exiting a driveway or side street.



4 Curbside Dedicated-Lane Bus Rapid Transit: Another bus-only lane alternative, this option repurposes an outside or curbside lane for bus rapid transit (BRT). The BRT-only lane would run along more than 50 percent of the corridor length and have additional investments for transit stations. Although this alternative would restrict lane use for other vehicles, it would permit non-transit vehicles to access some adjacent driveways and side streets.



5 Center-Running Dedicated-Lane Bus Rapid Transit: The Bus Rapid Transit (BRT) repurposes an outside or curbside lane for bus exclusive use and would run along more than 50 percent of the corridor length. Although this alternative would restrict lane use for other vehicles, it would permit non-transit vehicles to access some adjacent driveways and side streets.



6 Center-Running Dedicated-Lane Light Rail Transit: The Center-Running BRT alternative would run within in the existing median, with center station platforms accessible from both sides of a street while establishing a refuge area for crossing pedestrians. Implementing this transit alternative requires repurposing one existing inside travel lane in each direction along the length of the corridor, and stations in the medians at major intersections.



7 Elevated Grade-Separated Light Rail Transit: This alternative would construct an elevated guideway above street level for LRT vehicles. For this alternative, support columns would be required along the entire corridor with constructed long segments to span major intersections.

How Alternatives were Evaluated

Each alternative was evaluated by the study team and evaluated to consider whether improvements would improve or degrade over time. This is represented by the graphic from green to red. For instance, the options favored by the public generally during community workshops leaned towards a dedicated space for transit operations. For more information on each assessment, consider reviewing Appendices A through E.

Alternatives Project Goal Performance Rating

Alternative/Project Goal	Mobility	Public Feedback	Safety	Health	Return on Investment
No Build	Red	Red	Red	Red	Red
Mixed Traffic Bus Stops	Yellow	Yellow	Red	Red	Red
Business and Access Transit Lanes	Yellow	Yellow	Yellow	Yellow	Yellow
Curbside Dedicated-Lane Bus Rapid Transit	Green	Green	Green	Green	Yellow
Center-Running Dedicated-Lane Bus Rapid Transit	Green	Green	Green	Green	Green
Center-Running Dedicated-Lane Light Rail Transit	Green	Green	Green	Green	Green
Elevated Grade-Separated Light Rail Transit	Green	Yellow	Green	Yellow	Red

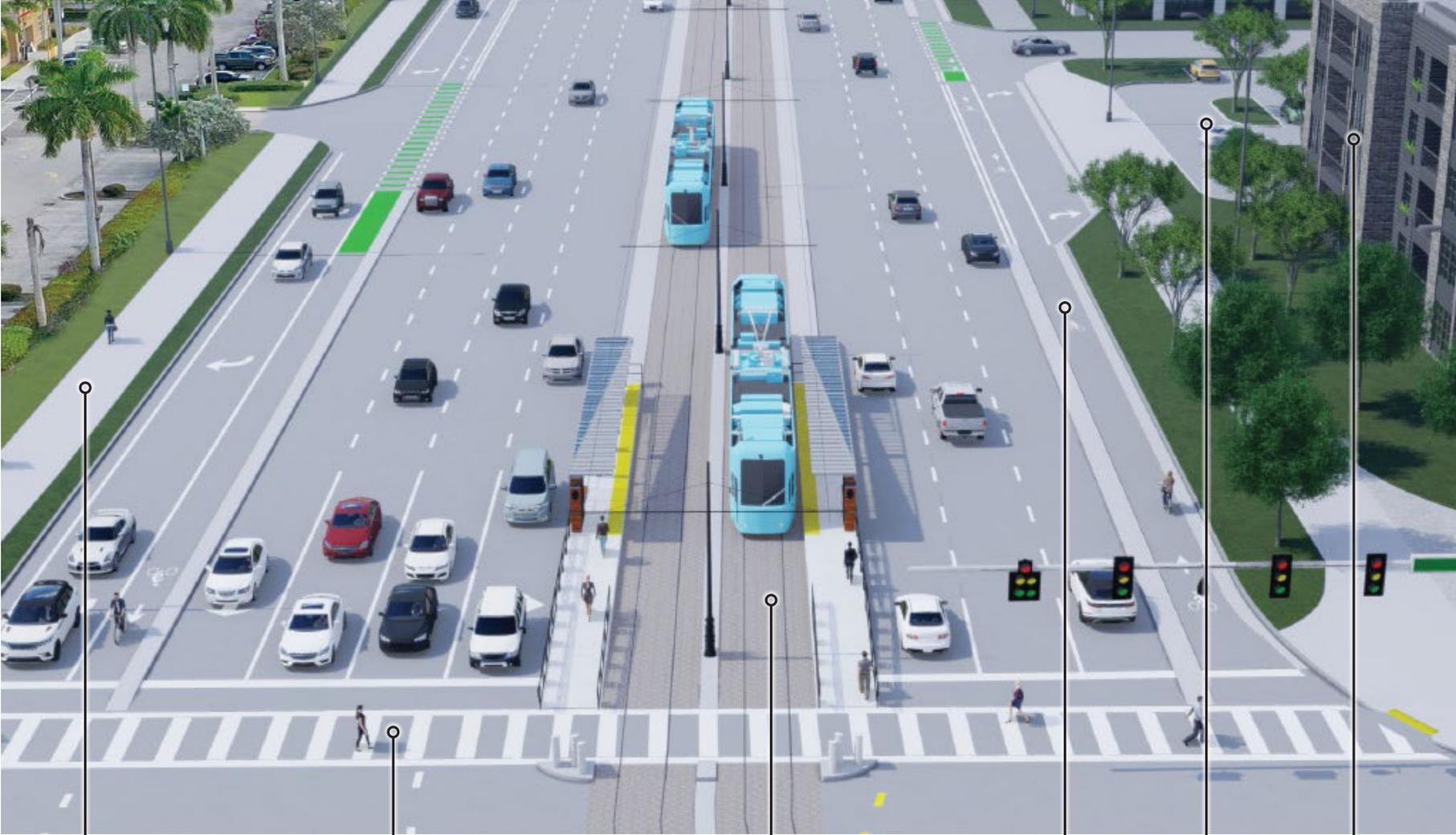
3 DESIRED CONCEPT

Center-Running Dedicated-Lane LRT

Based on a preliminary analysis of the corridor, center-running dedicated-lane light rail transit (LRT) will best serve Palm Beach County and the Okeechobee Blvd. & SR 7 corridor. Because of the more permanent nature of light rail investment, this type of transit has the potential to transform the corridor into the mixed-use, compact, and dense urban context necessary to support the area's projected population and economic growth. Transit-oriented development creates concentrated nodes; these mixed-use developments encourage people to walk, bike and use transit. By moving people with trains, bicycles and their own two feet, light rail and its surrounding development will help relieve additional congestion that will occur without additional transportation options along Okeechobee Blvd. & SR 7 and improve air quality along the way. The community enthusiasm generated by LRT will also help contribute to its long-term success, both in terms of ridership and funding.



Rendering of Center-Running LRT on Okeechobee Blvd.



Shared Use Paths

Crosswalk to Access Median Station

LRT Tracks in Median

Separated Bike Lanes

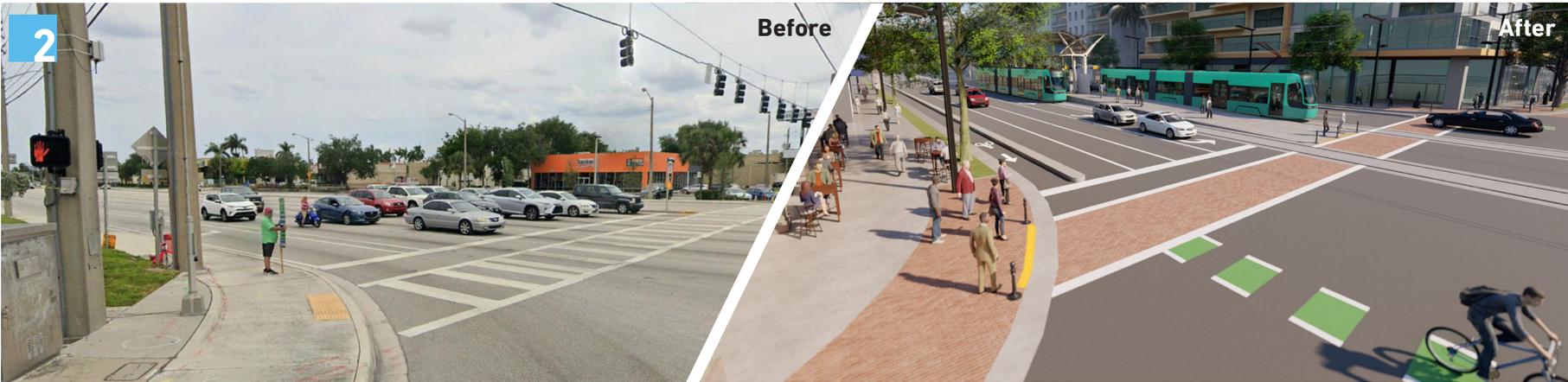
Park-and-Ride Lots Close to Stations

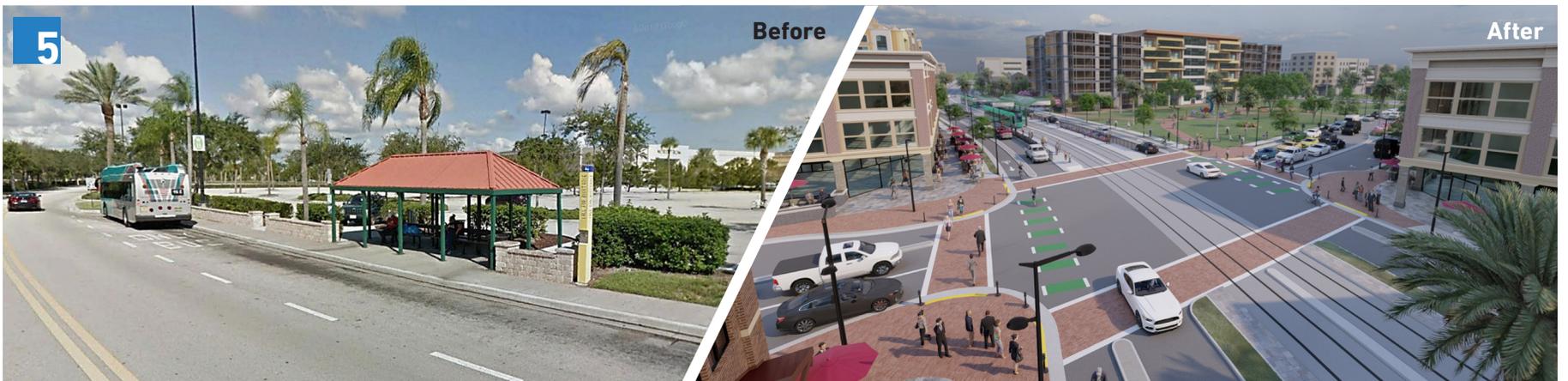
Transit Oriented Design

Before and After Station Area Renderings

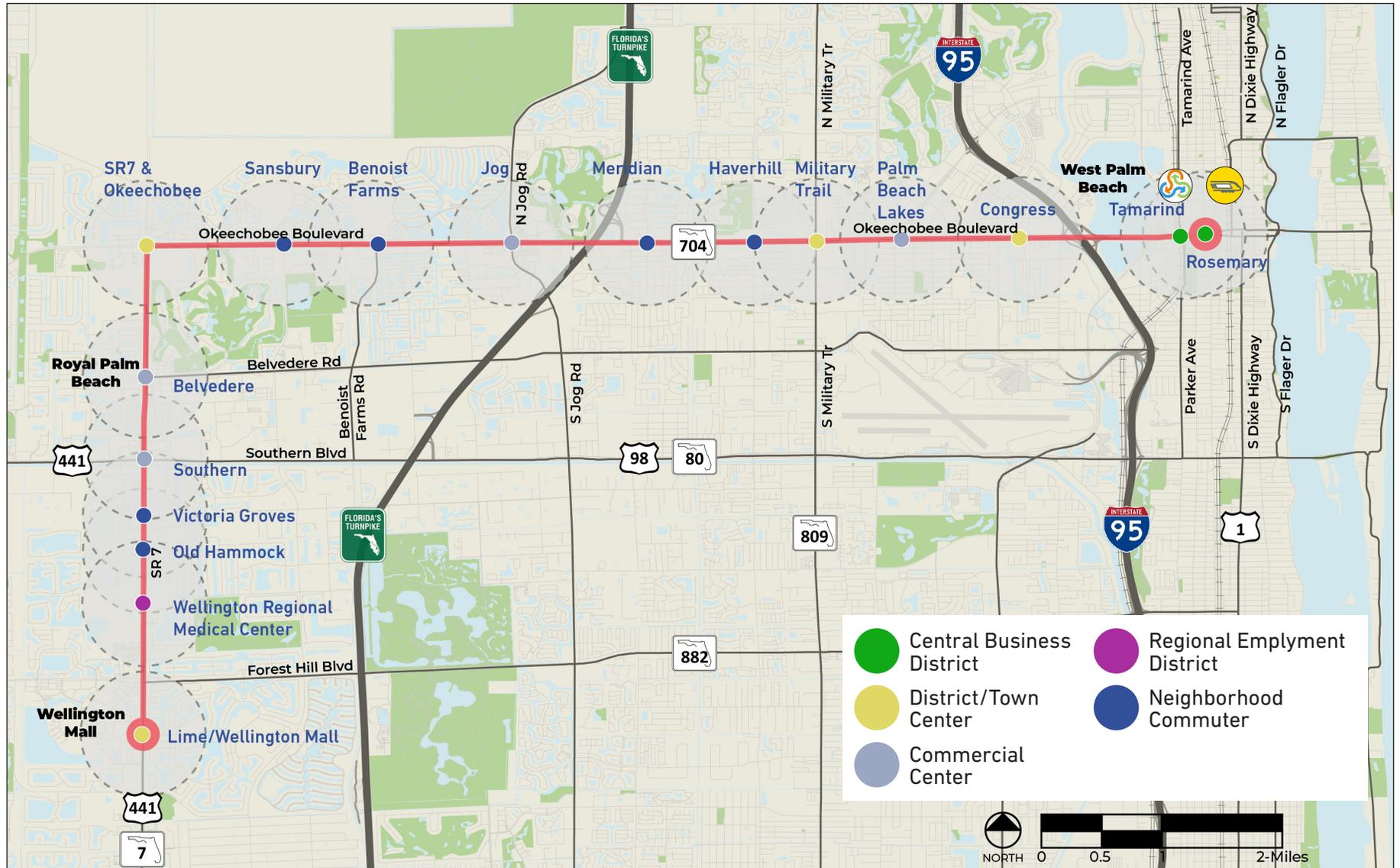
- 1 Congress Avenue Station Area
- 2 Military Trail Station Area
- 3 Jog Road Station Area

- 4 State Road 7 Station Area
- 5 Forest Hill Blvd. Station Area





Proposed Stations



LRT Benefits

- **The Okeechobee Blvd. corridor is the most centrally situated east-west corridor in the 561 Plan that connects to Downtown West Palm Beach.** Not only does it provide a direct east-west connection to Downtown West Palm Beach, but Okeechobee Blvd. is also the only east-west corridor in Palm Beach County to connect to both north-south passenger rail corridors (Tri-Rail/SFRC and Brightline/Coastal Link).
- **Highest potential for ridership and transit-supportive development.** Compared to driving and riding a bus, rail offers users smoother rides and less stress. Users are often more excited about and more eager to ride rail transit systems because of their modern design and future-oriented appeal. Like BRT, LRT allows the ability to increase capacity as ridership grows. As ridership increases, so too will the attractiveness and economic and residential benefits of transit-supportive development and redevelopment along the corridor.
- **More permanent infrastructure.** When paired with station-area and transit-oriented development, the permanence of LRT infrastructure helps to attract and focus development along the transit line.
- **The ability to choose transit over other modes.** Future residents, employees, and visitors along the corridor would be able to choose a reliable transit option that is competitive with other modes for their daily trips or commutes. This would also reduce the reliance on motor vehicles as a primary form of transportation. TPA data show that one in ten households located along the corridor are zero-car households.
- **Improvements to the corridor's tax-base.** Concentrating development near transit stations would improve infrastructure and increase property values.
- **Expanded affordable housing opportunities.** An LRT transit line along the corridor would provide safe and reliable transportation for people without access to cars. Development along this line would offer more locations for building much-needed affordable housing and many new jobs. Approximately 17,500 new homes and 72,200 new jobs could be created.
- **Reduce development pressure and create quality open spaces.** A higher-concentration of development through up-zoning or infilling around station areas may ease pressures on development in the western portion of Palm Beach County. Through redevelopment, more quality open spaces could be planned for increasing the overall amount of and access to open space.

Prioritizing Corridor Segments

Using premium transit to address the safety and congestion issues of Okeechobee Blvd between SR 7 and Downtown West Palm Beach should be a priority. The needs of SR 7 south of Okeechobee Blvd toward the Mall at Wellington Green are more uncertain. While the Mall and the Wellington Regional Medical Center may generate ridership as employment or commercial centers, the current land use patterns along SR 7 would likely limit the project's initial success. Moreover, advancing only the Okeechobee Blvd portion of the corridor will likely improve cost effectiveness metrics for Federal funding. (For more on segment priorities, see appendix C.)

Examples of Upcoming Development in the Downtown West Palm Beach Study Area



Tamrind Avenue Streetscape



Anchor Site

Additional Considerations

Transit-Oriented Development

Transit-oriented development (TOD) is pedestrian-oriented, compact, mixed-use development that is centered on quality public transit. It typically includes a mix of housing, office, retail, neighborhood amenities and other uses within walking distance of a transit station. TOD's are fundamental to both increasing the housing stock of both affordable and market rate homes, and to providing new transportation options to the area. TOD for this study area would increase ridership by creating:

- **Mixed uses** create density that attracts destinations and provides quick and easy access to goods and services. Such closeness supports quick trips by foot or bike, which reduces car dependency and increases transit ridership.
- **Mobility and circulation** help people move safely and comfortably and supports more walking and bicycling trips.
- **Improved access to premium transit** supports more equitable access to jobs, services, and affordable housing.

Station Area Plans

The redevelopment potential of station areas that would be served by LRT along Okeechobee Blvd and SR 7 was identified for stations along the proposed route. By concentrating intentional, transit-supportive development around transit stations, vibrant community spaces and neighborhoods could develop that people want to live in and visit around LRT stations. In these areas, walkable, mixed-use development patterns convert car-centric spaces into compact and engaging places that welcome pedestrians and cyclists.

To visualize how these stations might look, 17 station area conceptual plans were created along the study corridor. These plans use context-sensitive design to make sure the right amenities are in the right place for a particular station type. Land use scenarios for each station area reflect infrastructure and development necessary to support transit ridership and opportunities for economic development or redevelopment. (For the complete list of and more details on the station area plans, see appendix E.)

Sample Station Area Plan at SR 7



Station Area Projections

 <p>Potential New Residential 1,291 Homes 194 Affordable Units*</p>	 <p>Potential New Commercial 1,027,694 SF</p>	 <p>Estimated Ad Valorem Tax Revenue \$632,017,500</p>
 <p>Potential New Employment 5,568 Jobs</p>	 <p>Potential New Parking 1,028 Spaces</p>	 <p>Development Market Score HIGH</p>

*Assumes 15% of the overall new residential

Transit Supportive Neighborhood Elements



The neighborhood is safe, connected, and supports walking and bicycling.

- People feel like getting around by foot or bicycle is convenient, safe, and comfortable.
- Public spaces are active and vibrant
- Bicycle parking and storage is ample and secure.



There is a complete network of streets and paths.

- Walking and bicycling routes are short, direct, and varied.
- Motor vehicles can utilize a network rather than relying on major arterials



Opportunities for people of different backgrounds and incomes.

- Access to goods in services are within a short walking or bicycling distance
- Public space is active for much of the day.
- Transit routes are seen as a reliable means of movement.



There is nearby, high-quality public transportation.

- High-quality transit is accessible by foot or by bike.
- Reliability of frequent transit vehicles.



The community is accessible by a short transit ride.

- The development is in or near an existing urban area.
- Traveling through the area or city is convenient.



Transportation Demand Management.

- Use of the land is not tied to standardized parking requirements and is separate from leases.
- Property developers and managers are required to provide transportation demand management solutions.

4 WHAT'S NEXT?

Transit Over Time

The development of premium transit services does not happen overnight, and more frequently takes at least of decade of proofing to ensure the concept is feasible. Improvements to the corridors to service existing riders is one key

Many service enhancements are already planned or have occurred along these roadways and include both operations and capital investments. These enhancements include:

- Transit Signal Priority
- Enhanced Bus Shelters
- Service Enhancements consistent with the Palm Tran Transit Development Plan

Example Transformation Success Story – Phoenix, AZ

In the report, Building Communities and Enhancing Lives: A Quality of Life Report Valley Metro shares the changes light rail has supported in local communities across the Phoenix region since beginning service on December 27, 2008. The myriad benefits that light rail catalyzes in their communities is realized with more than \$11 billion in economic investment along light rail since 2008, providing a greater access

to jobs, schools and entertainment. Additional acceptance of transit was confirmed when city of Phoenix voters passed Proposition 104, a sales tax extension and increase known as Transportation 2050 (T2050), resulting in a \$31.5 billion funding mechanism to significantly enhance bus service, improve streets and advance rail projects.



“The Maricopa Association of Governments applauds the success of the first decade of light rail service in our region. The system benefits all communities, whether they have light rail or not. It reduces overall traffic and improves our quality of life by providing important regional connections.”

—Gail Barney, Queen Creek Mayor, Chair of the Maricopa Association of Governments

Park-and-Rides

Convenient park-and-ride lots support people who want to avoid the congested arterial system, but prefer to have the convenience of their personal automobile for a short distance. Commuters can drive to the transit station and park their cars while understanding that first mile and last mile connections will support the end of their journey. These facilities make LRT an attractive and convenient service, and would help remove people driving from the corridor. Additionally, park-and-rides can be a key tenant of land development requirements to ensure that development does not hinder neighboring communities access to the system.



**Park-and-Ride
(surface or structured parking)**

Station

**Mixed Use
Development**

5 REALIZING THE VISION

Establishing a desired concept is only a small step towards implementing any enhancements towards a much larger series of steps in the transit development process. Many different stakeholders are currently engaged but their attention must be retained throughout a series of projects, analysis, and key questions are answered between now and implementation. The goal before establishing a desired date for launch is to work collaboratively to enhance existing service for current riders, which will generate greater ridership and demand for enhanced transit service.

Different alternatives could be realized as the community works towards accomplishing the desired concept. As service and operational enhancements generate additional ridership. There are three key steps to accomplishing the first major step towards an enhanced, dedicated service in the study area. Further, developing a reliable and rapid transit service requires enhancements be made over time and alterations to systems and operations to guarantee the vision is realized and maintained. Some projects may require further alterations to the roadway after completion such as transit shelter placement and relocation.

Finally, the development of new transit systems typically require significant capital investment. This capital investment typically requires stringent federal level environmental screening and clearances to implement a new system. The development of a locally preferred alternative beyond this vision requires a collaborative and coordinated design between right-of-way owners, operators, jurisdictions and the TPA.



Implement Projects

- Transit Signal Priority and Enhanced Transit Shelters
- Service Enhancements consistent with the Palm Tran Transit Development Plan



Land Use & Economic Dev.

- Share Recommendations with Local Stakeholders
- Re-orient land use and zoning configurations to align with TOD station areas



Further Analyze & Refine

- FDOT to conduct detailed analysis of transit vision and alternatives
- Increase safe, convenient and connected walking, bicycling, and transit options along the corridor

Funding the Vision

Funding is necessary for the vision to ultimately become a reality. Several different funding sources will be explored moving forward, to include a variety of federal, state, and local options for transit capital investments.



Federal Resources

- Federal Transit Administration (FTA) Capital Investment Grants (CIG) Program, which provides funding for transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and BRT. Federal transit law requires transit agencies seeking CIG funding to complete a series of steps over several years. For New Starts and Core Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement – Project Development and Engineering. For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement – Project Development. The law also requires projects to be rated by FTA at various points in the process according to statutory criteria evaluating project justification and local financial commitment (For more on the requirements for this program, see Appendix C.)
- Discretionary Grants Program: There are several discretionary grants that are applicable for funding transit investments to include:
 - Rebuilding America Infrastructure with Sustainability and Equity (RAISE). The eligibility requirements of RAISE allow project sponsors at the State and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional DOT programs. RAISE can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State DOTs and transit agencies). This flexibility allows USDOT and partners at the State and local levels to work directly with a host of entities that own, operate, and maintain transportation infrastructure, but otherwise cannot turn to the Federal government for support.
 - Strengthening Mobility and Revolutionizing Transportation (SMART). The SMART program was established to provide grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.



State Resources

- State New Starts Funding: Provides up to 50% of the non-federal match for projects that successfully obtain FTA CIG funding
- State Transportation Trust Fund
- FDOT District 4 Dedicated Revenue Funding for Transit Operations
- Other Capital Sources
- Legislative Earmarks

Local Revenues

- Bonds
- Surtaxes
- Other





PALM BEACH
Transportation
Planning Agency