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PLANPinellas_TRANSPORTATION SUPPLEMENTAL

TRANSPORTATION SUPPLEMENTAL [TRA]

INTRODUCTION

The interaction of systems is a guiding framework of PLANPinellas. Our transportation system connects people with places and opportunities – for housing, education, jobs, everyday needs, entertainment and community participation. Land use, economic, environmental, and social systems influence, and are influenced by, the planning, design, and implementation of our transportation system. These systems and their interaction shape the form and function of our communities. As we plan, we must consider this complex interaction and the significance of decision-making for our communities.

Because transportation affects so many other systems, some transportation related issues are covered elsewhere in PLANPinellas and are not addressed in detail herein to avoid repetition, including:

Topic	Element
Coastal Evacuation	Coastal Management
Sea Level Rise - Impacts to Infrastructure	Coastal Management
Air Quality	Natural Resources Conservation
Specific Land Use Densities and Building Intensities	Future Land Use
Individual Recreation Transportation Facilities	Recreation, Open Space and Culture

Consistent with the message of Advantage Pinellas, the County's Long Range Transportation Plan, the policy framework of PLANPinellas is focused on connecting people to opportunities – for housing, education and employment – through a safe, efficient, and convenient transportation system. As we plan, design, and implement transportation infrastructure and services, we must understand and anticipate the needs of current and future users while addressing gaps in the existing system. An equitable approach to transportation planning recognizes the challenges and opportunities for all users, while balancing opportunity costs (what is lost by choosing one alternative over another), externalities (secondary costs or benefits associated with an action affecting external systems), and the environmental and social implications of transportation decision-making.

As the County's population and employment opportunities continue to increase (projected to surpass one million people and add 60,000 new jobs by 2045[1]), the number of vehicles on the roads will likely increase. Personal vehicle travel will continue to predominate in Pinellas County as long as it is the most practical and convenient mode of transportation. Decision-making must consider the needs of drivers, while safely and equitably providing for other modes and encouraging sustainable development and transportation choices. As our transportation system moves forward to meet existing and future needs, the health and safety of all users must be the first priority.

The maps provided as part of this supplemental chapter are valid as of the date identified on the respective map. Please visit the County's Geographic Information System (GIS) tool for the latest information as linked here: https://egis.pinellas.gov/apps/egis/

HEALTH, SAFETY AND EQUITY IN TRANSPORTATION

According to the World Health Organization, health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Many facets of how we build our communities influence health – housing, employment, land use, transportation, and others – as well as how those systems and services are designed

1. Forward Pinellas Advantage Pinellas: 2045 Long Range Transportation Plan https://forwardpinellas.org/wpcontent/uploads/2020/07/2045_LongRangePlan_Complete_WCAG.pdf

and distributed. A safe, efficient and convenient multimodal transportation system – or a system that provides practical options for the way people travel – expands opportunities for everyone and improves community health, safety and welfare. The following discussion describes key connections between transportation and health.

ACCESS TO OPPORTUNITIES AND SERVICES

A vital measure of success for a transportation system is whether it provides accessibility, or the ability to reach desired services and destinations. This includes access to opportunities that improve our health, such as education and jobs.[2] A stable, high-quality job provides income and benefits to consistently meet basic needs such as housing, utilities, healthy food, and healthcare. To realize the benefits of education and employment, transportation policies must provide safe access to opportunities for all.

SAFE MOBILITY AND PREVENTION OF INJURIES

Traffic crashes are all too common. They are a leading cause of death in the United States.[3] According to the American Public Health Association, traffic crashes cost Americans more than $180 billion annually, including health care costs, lost wages, property damage, travel delays, and more.[4,5] Some roadway users – such as people who walk or bike – have less protection and are more vulnerable than motor vehicle drivers, putting them at greater risk for injury or death from collisions. In the 2010s, the Tampa-St. Petersburg-Clearwater metro area consistently ranked as one of the top 10 most dangerous for walking in the U.S.[6] Crashes are destructive and wasteful, and Pinellas County and its partners are committed to addressing transportation safety through planning, engineering, and education.

OPPORTUNITIES FOR PHYSICAL ACTIVITY

In 2016, more than half of Pinellas County adults (54.4%) did not meet physical activity recommendations established by the U.S. Department of Health and Human Services.[7] The link between physical activity and health is well established. Physical activity reduces the risk for heart disease, type 2 diabetes, depression, many types of cancer, and dementia.[8] Active transportation provides an opportunity to incorporate physical activity into an everyday routine. Studies show that public transit users have increased levels of physical activity and improved health outcomes.[9] [10]

Active transportation is any self-propelled, human-powered mode of transportation. It typically refers to walking and bicycling, but may also include roller skating, wheelchair use, skateboarding, etc. Public transportation includes components of active transportation because transit trips start and stop with walking, biking, or rolling.

ENVIRONMENTAL QUALITY

Impacts of transportation decisions affect our natural environment, including air and water quality, ecosystem function, and climate. Environmental effects of transportation can affect physical and mental health. People who live near busy roadways are exposed to traffic emissions and poor air quality, increasing their risk for asthma, heart disease, and other

2. Hahn, R. A., & Truman, B. I. (2015). Education Improves Public Health and Promotes Health Equity. International Journal of Health Services, 657–678.

3. U.S. Centers for Disease Control and Prevention. (2017, May). Key Injury and Violence Data. Retrieved from CDC.gov: https://www.cdc.gov/injury/wisqars/overview/key_data.html#:~:text=Motor%20vehicle%20crashes%20are%20a,prescription%20opioid%20overdoses%20in%202015.

4. American Public Health Association. (2010, February). The Hidden Health Costs of Transportation. Retrieved from APHA.org.

5. Cambridge Systematics, Inc. (2008). Crashes vs. Congestion – What's the Cost to Society? Bethesda: AAA.

6. National Complete Streets Coalition and Smart Growth America. (2019). Dangerous by Design. Smart Growth America.

7. Florida Behavioral Risk Factor Surveillance System telephone survey conducted by the CDC and Florida Department of Health

8. U.S. Department of Health and Human Services. (2018). Physical Activity Guidelines for Americans, 2nd edition.

9. Sener, I. N., Lee, R. J., & Elgart, Z. (2016). Potential Health Implications and Health Cost Reductions of Transit-Induced Physical Activity. Journal of Transport & Health, 133–140.

10. Rissel, C., Curac, N., Greenaway, M., & Bauman, A. (2012). Physical Activity Associated with Public Transport Use—A Review and Modelling of Potential Benefits. International Journal of Environmental Research and Public Health, 2454–2478.

health conditions.[11] In the U.S., 19.3% of the population lives near a high-volume road, and minorities and low-income households are overrepresented in high traffic areas.[12] In 2019, 14.9% of the Pinellas population lived within 500 feet of a "busy" roadway (more than 25,000 cars per day).[13] Exposure to traffic emissions is a product of land use and transportation decisions, and contributing factors include congestion, the prevalence of Single Occupancy Vehicle (SOV) travel, and the way vehicles are powered.

COMMUNITY CONNECTEDNESS AND WELL-BEING

The transportation system connects us not only to destinations but also to each other, allowing us to socialize and gain the health benefits of maintaining relationships with our family and friends. Commuting can affect stress levels and our mental health. Those with long or traffic-filled commutes experience greater stress and may see impacts on their sleep, relationships, or their ability to spend time doing things they enjoy.[14] A large portion of the population is unable to drive, including children, some older adults, those who cannot afford a vehicle, and those who have a disability that prevents them from operating a vehicle. In Pinellas, 8.1% of households[15] do not have access to a personal vehicle and are dependent upon alternative means of travel.

HEALTH AND TRANSPORTATION EQUITY

Children, low-income residents, people of color, older adults, people with disabilities, and those with limited English proficiency bear the burden of an inequitable transportation infrastructure.[16]

Automobile ownership is expensive. In Pinellas County, the typical household spends $11,490/year on transportation, or 24% of household income. Transportation costs are considered affordable if they represent 15% or less of household income.[17] Due to high costs, it is challenging for those with low incomes to afford a vehicle, decreasing mobility and access to opportunities. Income is not the only limiting factor in vehicle ownership. For children, older adults, or those who have a disability that prevents them from driving, limited transportation options can lead to social isolation.

Low-income households and people of color are more likely to use public transit and rely on active transportation, but these groups are often walking and bicycling in unsafe conditions.[18] Older adults, people of color, and people walking in low-income communities are disproportionately represented in fatal pedestrian crashes.[19] Despite driving less, low-income and non-white communities bear disproportionately high impacts from all sources of air pollution, but particularly transportation sources.[20] It is vital that infrastructure investments are equitable and that we address issues of safety and access in traditionally underserved areas.

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11. Krzyżanowski, Michał, Birgit Kuna-Dibbert, and Jürgen Schneider, eds. Health effects of transport-related air pollution. WHO Regional Office Europe, 2005.
12. https://www.sciencedirect.com/science/article/pii/S1361920913001107
13. Florida Dept of Health. (2019). Air Quality. Retrieved from FloridaTracking.com: www.floridatracking.com/healthtracking/topic.htm?i=18
14. https://www.scientificamerican.com/article/commuting-takes-its-toll/
15. 2018 American Community Survey 5-year Estimates for Pinellas County
16. Ayberk Kocatepe, Mehmet Baran Ulak, Eren Erman Ozguven, Mark W. Horner, Reza Arghandeh.2017. Socioeconomic characteristics and crash injury exposure: A case study in Florida using two-step floating catchment area method https://par.nsf.gov/servlets/purl/10040105. Harmak, Craig W., "Danger Afoot: Sidewalks, Environmental Justice, and Pedestrian Safety in Pinellas County, Florida" (2007).
17. https://htaindex.cnt.org/total-driving-costs/
18. Safe Routes to School National Partnership. (2015). Fighting For Equitable Transportation: Why It Matters. Retrieved from https://www.saferoutespartnership.org/resources/fact-sheet/fighting-equitable-transportation
19. National Complete Streets Coalition and Smart Growth America. (2019). Dangerous by Design. Smart Growth America.
20. Pratt, G. C., Vadali, M. L., Kvale, D. L., & Ellickson, K. M. (2015). Traffic, air pollution, minority and socio-economic status: addressing inequities in exposure and risk. International Journal of Environmental Research and Public Health, 5355-72.

"Health equity is both a process and an outcome. As a process it means passing policies, investing dollars, and supporting strategies that eliminate disparities in health by removing economic and social obstacles to health. The ultimate goal of health equity is the elimination of social disparities that cause health inequities, such as poverty and discrimination."

-Smart Growth America in The State of Transportation and Health Equity

Equity in transportation seeks fairness in mobility and accessibility to meet the needs of all community members. A central goal of transportation equity is to facilitate social and economic opportunities through equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved. According to the Federal Highway Administration's (FHWA) definition, traditionally underserved populations — sometimes referenced as vulnerable, low-resource, or disadvantaged — include persons or communities fitting one or more of the following descriptions: low income, minority, older adults, limited English proficiency, and persons with disabilities.

Existing County initiatives that will improve transportation health, safety, and equity outcomes include:

- **Health in All Policies (HiAP)**, an approach to decision-making through the consideration of health, equity, and the social determinants of health in the development and implementation of policies, projects, plans, programs, budgets, and the delivery of services.
- **Intergovernmental Cooperation** with the Florida Department of Transportation (FDOT), Forward Pinellas, Pinellas Suncoast Transit Authority (PSTA), the Pinellas County School Board, and municipalities to address identified safety concerns in our transportation system.
- **Safe Streets Pinellas**, led by Forward Pinellas, Pinellas County, municipalities and partner agencies are working together tohave developed a Vision Zero plan, and provide are committed to support to implementation of the initiative. First implemented in Sweden in the 1990s, Vision Zero is based on the simple concept that the only acceptable number of traffic related fatalities is zero.
- **Emergency Evacuation Operations** are another component of transportation health and safety, detailed in the Comprehensive Emergency Management Plan and further addressed in the Coastal Management Element of PLANPinellas. Demand management is a key component of Pinellas County's evacuation strategy, both in terms of public shelter and limiting the amount of traffic accessing designated hurricane evacuation routes (see Figure 1).

To maximize benefit, the community transportation system must be designed for all people. An efficient and health-conscious transportation infrastructure will improve health outcomes by encouraging physical activity, preventing deaths and serious injuries, increasing access to opportunities, reducing pollution, and increasing community connectedness through smart, people-focused design.

Image Source: @forwardpinellas

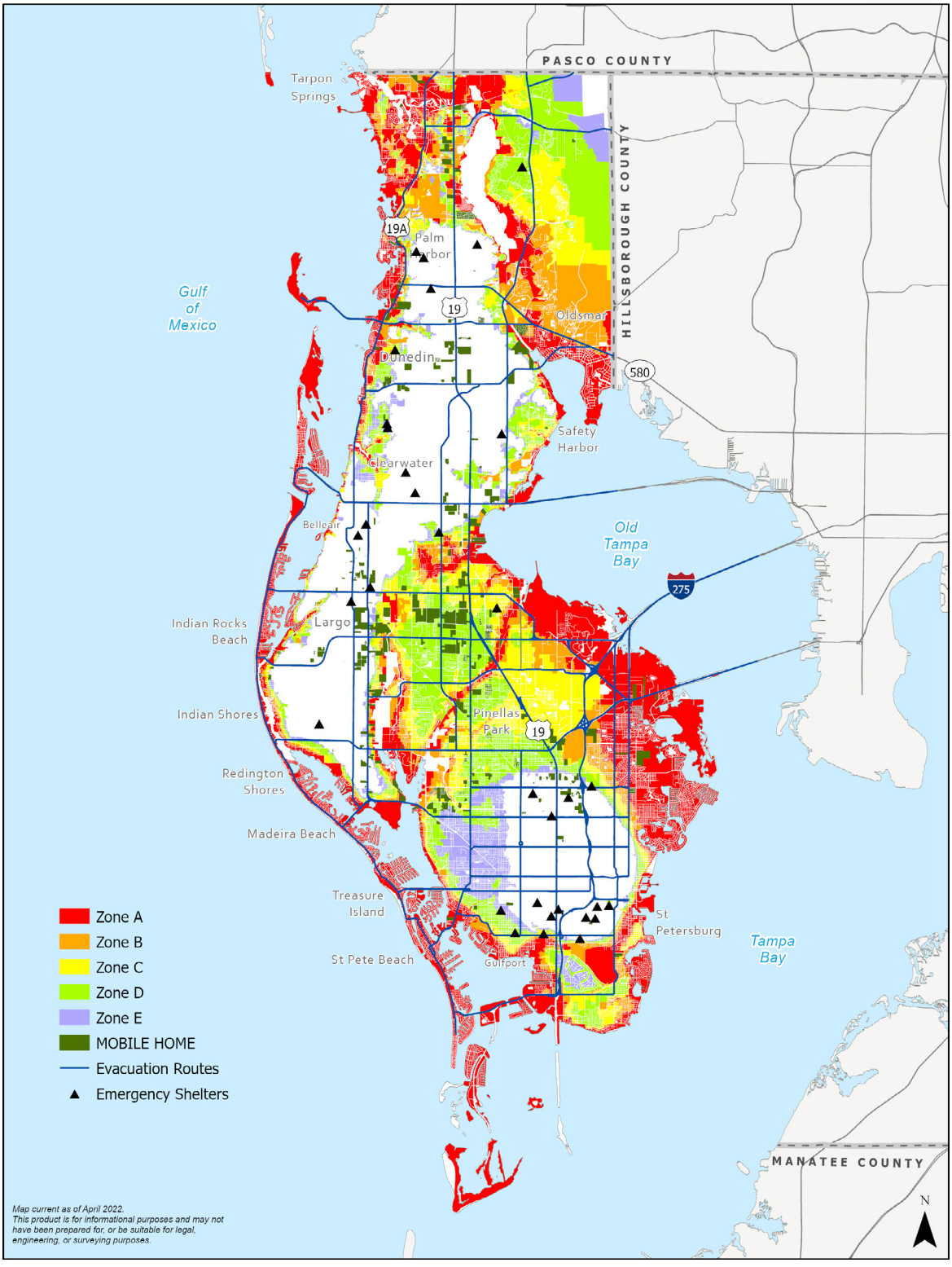

Figure 1: Hurricane Evacuation Zones and Routes in Pinellas County.

MULTIMODAL TRANSPORTATION

Individual mobility needs vary with circumstance and over a lifetime as one grows from child to older adulthood. Collective transportation needs shift in response to changes in our society, economy, land development practices, infrastructure, and advances in technology. These evolving mobility needs require alternative, adaptive responses to achieve a safe, convenient, equitable and resilient transportation network for all users. To this end, one of PLANPinellas' eight guiding principles is *Multimodal Transportation*.

To achieve a functional multimodal transportation system, the relationship to other systems – particularly land use, economics, environmental, and social – needs to be considered. Understanding this relationship and how it has evolved in Pinellas County can inform our planning for the future. The earliest development in Pinellas County was primarily coastal, as waterborne transportation was the primary link between the peninsula and other areas. The Orange Belt Railroad in 1888 provided the first easily traveled overland route to and through Pinellas County and development occurred along the rail corridor. In this pre-automobile period, compact towns and cities grew around rail stations. Roads and bridges were built radiating from and connecting these city-centers, allowing for agricultural expansion in the peninsula's interior and early tourist development along the beaches.

Areas developed in the late 19th and early 20th centuries have distinct, compact grid patterns still present in the County's historic downtown areas. As the automobile began to rise in popularity, development patterns shifted to larger blocks and lots as the need for compact walkable neighborhoods near a central downtown diminished. In the post-World War II era, residential development increasingly moved away from the grid pattern toward large subdivisions with curving streets, cul-de-sacs, and few connections with the surrounding road network. This development pattern reduced through-traffic in residential areas, but also reduced connectivity – the ability to access starting and end points through multiple routes and connections – and practical transportation alternatives to personal vehicles. Coupled with the separation of commercial and industrial land uses away from residential areas, travel for everyday needs became increasingly dependent on the automobile and the use of major roads.

The opening of US Highway 19 to St. Petersburg in 1955 provided a major north-south route that facilitated additional growth in north County. As the County developed, major roads became congested and were expanded to try to meet the needs of the travelling public. Transportation systems were designed primarily around the automobile and roadways were engineered to maximize traffic speeds and minimize congestion. This focus led to increasing infrastructure, maintenance, environmental and social costs.

Suburban sprawl is a major impediment to efficient, reliable and rapid transportation in general and transit specifically. Low density, strip commercial, and single use development patterns designed for personal automobiles often pose efficiency and safety challenges for other modes. To allow transit service to be a more viable form of transportation in the County, more mixed-use concentrated urban communities are needed to support it.

Additional coordination between transportation, land use, economic development, and environmental planning is needed to develop a more integrated and connected multimodal transportation system. Historically, conventional suburban planning forecasts additional automobile traffic based on future land use and responds with roadway capacity and efficiency improvements. An integrated planning approach develops transportation investment plans to accommodate and promote multimodal transportation, encourage more efficient land use patterns and manage transportation demands. Rather than a straight line of cause and effect, integrated planning requires an iterative process where transportation investments influence future development, and anticipated development needs shape the design of transportation infrastructure that is context-sensitive (fits its physical setting and preserves existing resources).

Safe and equitable *mobility* – the degree of ease and ability to move people and goods – and *accessibility* – the quality and convenience of movement to reach desired destinations – for all users is the primary focus of future transportation plans for Pinellas County. However, the need to improve and manage roadways for the efficient movement of people and goods is still important. New approaches to roadway planning must be used to meet our future transportation needs.

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The physical realities of Pinellas County necessitate a shift in transportation investments from a focus on increasing capacity through new travel and queuing lanes to maintaining, managing and supplementing our existing multimodal transportation network through integrated planning.

As we plan for our future multimodal transportation network, we must also consider emerging technologies and modes that will influence the requirements of our future system. Transportation technology is progressing at an unprecedented rate, and new technologies and modes (ridesharing applications, electric cars, autonomous vehicles, scooters, e-bikes, etc.) will influence how we plan future transportation infrastructure and site development. The progression of transportation technology shows no signs of slowing, and our system must be developed in a manner that can adapt to changing needs.

LAND USE COORDINATION

Pinellas County recognized the importance of coordinated land use and transportation planning through the creation of Forward Pinellas, which serves as both the Countywide Planning Authority (land use planning) and Metropolitan Planning Organization (MPO) (transportation planning).

Unincorporated Pinellas County's transportation and land use coordination efforts are carried out by the Housing and Community Development Department and the Local Planning Agency (LPA) for the Board of County Commissioners. The LPA consists of appointed members selected from the community and, advised by the Pinellas County Planning staff, makes recommendations to the Board of County Commissioners regarding amendments to the Pinellas County Comprehensive Plan. The Pinellas County Housing and Community Development Department prepares the Comprehensive Plan and plan amendments, makes recommendations regarding consistency with the Comprehensive Plan, and oversees the effectiveness and status of the plan.

The coordination of transportation and land use planning in Unincorporated Pinellas County occurs primarily through the review of proposed Future Land Use Map (FLUM) amendments, the creation of community plans; the site plan review process; and interdepartmental and interagency coordination to ensure consistency with the Comprehensive Plan.

The Forward Pinellas Countywide Plan is coordinated with the Advantage Pinellas Long Range Transportation Plan and guides land use planning in the County.[21] The Countywide Plan was revised in 2019 to create a network of high-density, walkable Activity Centers and Multimodal Corridors that can support multimodal transportation, while preserving and enhancing the suburban character of established neighborhoods as seen in Figure 2. Guided by the Countywide Plan, population and employment projections, and a strong public outreach process, the Advantage Pinellas Long Range Transportation Plan provides a program of transportation improvements to support the land use goals of the Countywide Plan.

The Countywide Plan promotes higher density residential, office, and retail development concentrated within easy walking distance (1/4 to 1/2 mile) of transit stops. Outside of the designated Activity Centers and Multimodal Corridor network, new density bonuses and a new medium density use will encourage greater housing affordability and mixed-use development throughout the County. The Countywide Plan encourages more housing units to be built on less land, and encourages walking, biking and transit use.

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21. Forward Pinellas Countywide Plan Strategies, Countywide Plan Rules, Countywide Plan Map. And Transit-Oriented Land Use Map
https://forwardpinellas.org/wp-content/uploads/2016/06/Countywide-Plan-Strategies.pdf
https://forwardpinellas.org/wp-content/uploads/2016/06/Countywide-Plan-Rules.pdf
https://forwardpinellas.org/wp-content/uploads/2016/06/Countywide-Plan-Map.pdf
https://forwardpinellas.org/wp-content/uploads/2016/06/Vision_Map_21000_scale.pdf

The County supports these integrated transportation and land use planning goals and has several initiatives to develop land use patterns that support walking, cycling and transit use. The goals, objectives, policies, and strategies in the PLANPinellas Future Land Use chapter are intended to further the implementation of the Countywide Plan in Unincorporated County communities.

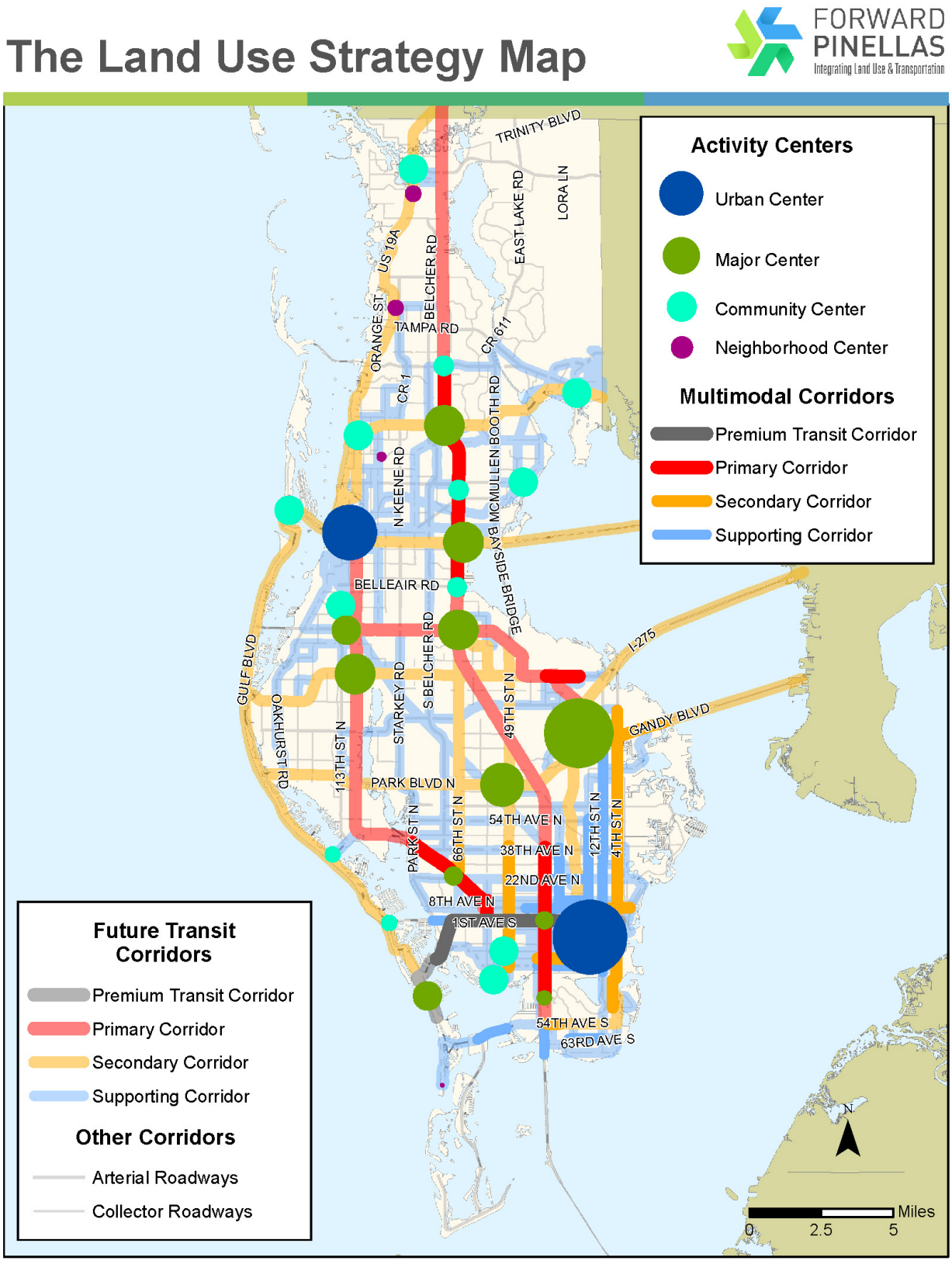

Figure 2: Countywide Land Use Strategy Map. Source: Forward Pinellas.

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As of 2021, the Land Development Code requires (re)development to make accommodations for transit users, pedestrians, and cyclists; connect bus stops to building entrances; orient building entrances closer to the street and provide buffered and landscaped walkways through parking areas.

Forwarding this approach, context-sensitive codes have been considered for defined places in Unincorporated County, including the Lealman Community Redevelopment Area and Downtown Palm Harbor, in order to address some of the adverse outcomes of suburban sprawl by encouraging (re)development that produces predictable results supporting multimodal transportation and a high-quality public realm. These codes would include provisions such as orienting buildings near the sidewalks and parking to the rear of the property, to minimize potential conflicts between automobiles and other modes. The associated Downtown Palm Harbor Master and Linking Lealman Plans include transportation improvements to develop an interconnected street network designed to make travel distances as short and direct as possible to support compact land development.

The Highpoint community in Unincorporated County is included in the Gateway Master Plan, to guide the re-development of the area into sustainable mixed-use districts, retain and encourage employment growth while providing new housing, services, and amenities for employees, residents and visitors. Connections to transit, safe walkable and bikeable streets, trails and blueways are central to the plan. As of 2021, the County intends to develop action plans to implement components of the Master Plan to achieve these goals.

Creating quality environments that facilitate walking between destinations involves urban design, transportation and parking policies. Requiring each parcel to provide its own off-street parking and allowing parking on all sides of a building creates dead zones of surface parking lots that characterize the landscape of much of Pinellas County in 2021. These dead zones make walking distances longer and experiences less pleasant, justifying getting back in the car just to go a few stores down. One transitional strategy to achieve the goals and objectives of the Countywide Land Use Plan is “park once” developments, where people carry out multiple activities, but only park one time. “Park once” developments encourage people to park in one place and make stops on foot rather than driving from one destination to another within the area. The County is exploring alternatives to incentivize quality redevelopment that facilitates walking between destinations.

Multimodal impact fees and Transportation Management Plans are required for development applications subject to the provisions of the Land Development Code. The intent of multimodal impact fees is to assure that new development bears a proportionate share of the cost of capital expenditures necessary to meet mobility needs. Multimodal impact fees are expended on multimodal improvements within the fee district they are collected. Transportation management plan strategies and improvements are determined at the time of site plan review and are intended to increase multimodal mobility while addressing the transportation impacts of development projects. Transportation management plan strategies may include, but are not limited to, density/intensity reductions, project phasing, access controls, capital improvements and/or initiatives encouraging transit, bicycle or pedestrian travel, ridesharing or roadway improvements. “Complete Streets” are context-sensitive transportation facilities that are planned, designed, and operated to be safe for everyone, regardless of mode, age, ability, or other social determinants. In Pinellas County, there are many roads where pedestrians, freight, people utilizing mobility devices, transit users, cars, trucks, motorcycles, buses, scooters and cyclists all need to function in the same space. All modes need to access the same destinations. Safe access for all users is the end goal, but incremental strategies are needed to achieve it.

The Pinellas County Complete Streets Corridor Evaluation, completed in 2019, took a first look at routes that could be made more accessible for vulnerable users – generally defined as pedestrians, cyclists, and motorcyclists – in the short-, mid-, and long-term, using a four-tier prioritization methodology.

This scope of this study was limited to minor arterial, collector, and local roadways with current posted speeds of less than 45 MPH, motor vehicle volumes less than 25,000 Annual Average Daily Traffic (AADT), and that did not require right-

of-way acquisition to accommodate pedestrian and cyclist infrastructure. State-owned facilities were not included in the study. The study prioritized connections to the Pinellas Trail, and excluded corridors with existing paved shoulders or marked bike lanes and downtown areas because of right-of-way constraints. The evaluation focused on roadways lacking any type of bicycle facility and is considered a starting point for completing streets in Pinellas County. See Figure 3 for the findings of that study.

PLANPinellas outlines the next step for creating a network of complete streets as identifying modal priorities for all transportation facilities under County jurisdiction and planning future improvements to align with those priorities. An evaluation of the functional classification of roadways and their characteristics is an initial step in establishing context-sensitive modal priorities.

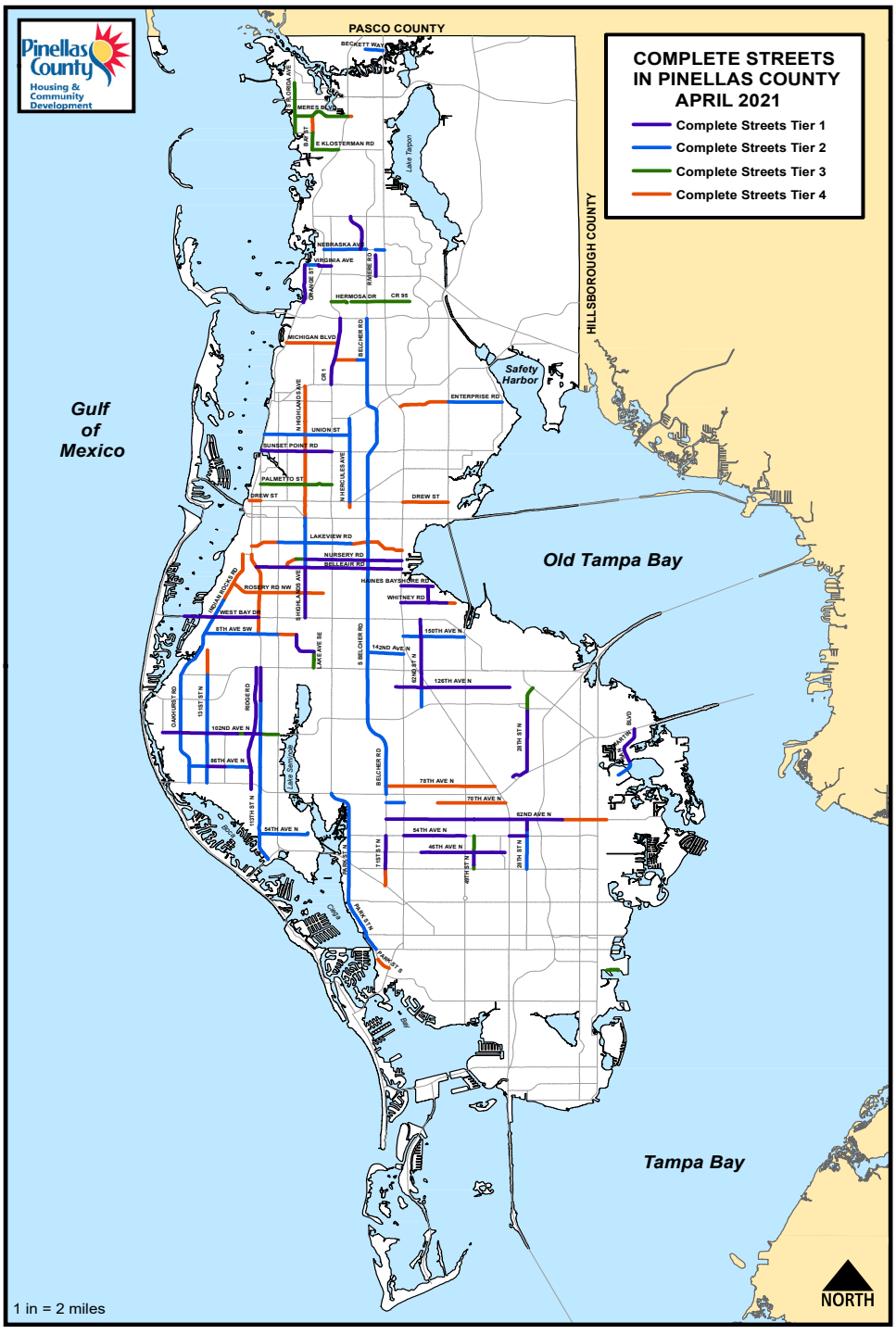

Figure 3: Identified Complete Streets Corridors

FUNCTIONAL CLASSIFICATION

Functional classification involves the assignment of roads into categories according to the character of service they provide in relation to the total transportation network. These categories determine appropriate regulatory controls and design criteria (e.g. setbacks, driveway connections, truck route restrictions) necessary for the roads to operate as planned. Categorizing roadways by functional class creates a hierarchy for the movement of people and goods, and as a result, affects their eligibility for State and Federal funding. Functional classification of roadways as of 2021 is illustrated on Figure 4.

Roads are functionally classified as Principal Arterial, Minor Arterial, Collector Road, and Local Road. Generally defined, arterial roads have the highest regional importance, providing service that is relatively continuous with longer trip lengths. Collector facilities serve average trip lengths while collecting and distributing traffic between local and arterial roads. Local roads provide service involving short trip lengths, minimal through traffic and frequent access to adjacent properties.

Functional Classification	Distance Served (and Length of Route)	Access Points	Speed Limit	Distance between Routes	Usage (AADT and DWMT)*	Significance	Number of Travel Lanes
Arterial	Longest	Few	Highest	Longest	Highest	Statewide	More
Collector	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Local	Shortest	Many	Lowest	Shortest	Lowest	Local	Fewer
**AADT = Average Annual Daily Traffic, DWMT = Daily Vehicle Miles Traveled.*							

Figure 4: Functional Classification and Travel Characteristics. Sourcee FHWA

Principal Arterial Characteristics[22]

- Serve major activity centers, highest traffic volume corridors and longest trip demands
- Carry a high proportion of total urban travel compared to mileage of facility
- Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving the urban area as well as movements through the urban area
- Serve demand for intra-area travel between central business districts and outlying areas

Minor Arterial Characteristics

- Interconnect and supplement the higher-level arterials
- Serve trips of moderate length at lower levels of mobility than Principal Arterials
- Distribute traffic to smaller geographic areas than those served by higher-level Arterials
- Provide more land access than Principal Arterials without intruding on identifiable neighborhoods
- Provide urban connections for Collectors

22. Source for roadway classification characteristics adapted from descriptions from FHWA: https://www.fhwa.dot.gov/planning%20/processes/statewide/related/highway_functional_classifications/section00.cfm

Major Collector Characteristics

- Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas
- Traverse residential neighborhoods, often for significant distances
- Distribute and channel trips between Local Roads and Arterials, usually over greater than three-quarters of a mile
- Medium speeds and more signalized intersections than minor collectors

Minor Collector Characteristics

- Serve both land access and traffic circulation in lower density residential and commercial/industrial areas
- Traverse residential neighborhoods, for shorter distances
- Distribute and channel trips between locals and arterials, usually over less than three-quarters of a mile
- Lower speeds and fewer signalized intersections

Local Roads

- Provide direct access to adjacent land
- Provide access to higher systems
- Carry little through traffic movement
- Lowest speeds and fewest controlled intersections

As illustrated in Figure 5, Pinellas County has many facilities that are classified as arterials, but also must perform the functions of collectors and local roads. Many primary arterials (for example, CR 611 [East Lake Road/McMullen Booth Road/Bayside Bridge/49th Street North]) provide direct land access to multiple land uses with frequent driveway access in places, but also serve important regional and intra-County mobility needs. Planning and design of future transportation improvements in corridors that serve multiple functions will be driven by established modal priorities. Design characteristics will prioritize safety for all modes and efficiency for the primary mode(s). In some cases, separated or parallel facilities for secondary modes may be the most appropriate treatment (for example, the parallel Pinellas Trail segment on East Lake Road). Future land (re)development in corridors serving multiple functions will also align with modal priorities and complementary design principles and land development practices (for example, eliminating driveways on arterials).

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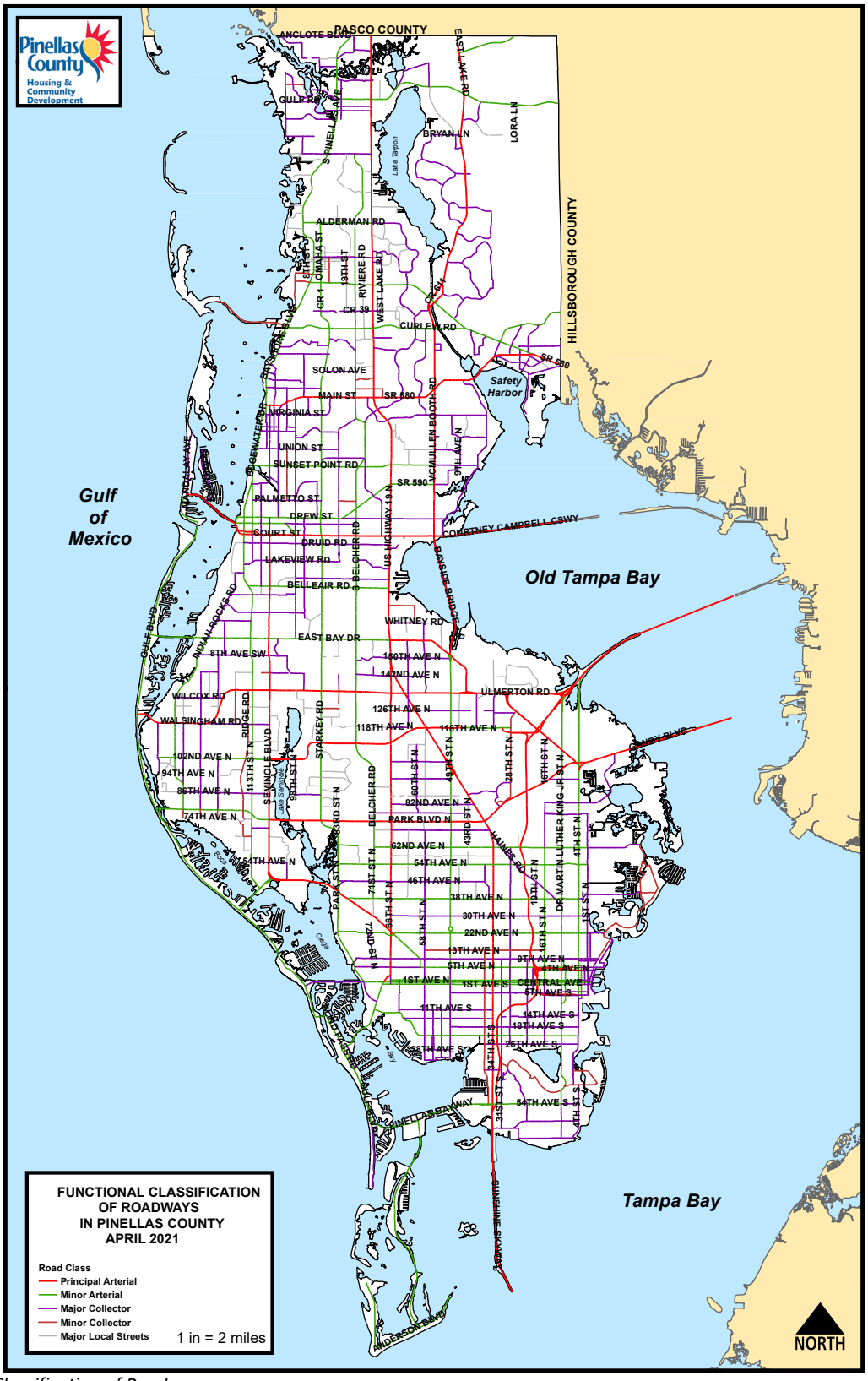

Figure 5: Functional Classification of Roadways

MULTIMODAL INITIATIVES

As of 2021, County-led initiatives intended to address multimodal deficiencies, include:

- All new road projects in the Capital Improvement Program (CIP) must consider provisions for pedestrians and cyclists (http://www.pinellascounty.org/budget/).
- All resurfacing, restoration, and rehabilitation of pavement projects must consider potential improvements to better address the needs of pedestrians and cyclists.
- The Linking Lealman Action Plan addresses mobility and complete streets in the Lealman Community Redevelopment Area in south Unincorporated County (http://www.pinellascounty.org/plan/Linking%20Lealman/pdf/street_plan.pdf).
- The Downtown Palm Harbor Master Plan includes targeted efforts for improving connectivity for all modes of travel https://www.pinellascounty.org/downtownpalmharbor/pdf/DPHPlanApp.pdf.
- East Lake Road capacity improvements evaluation – This study will evaluate a range of alternatives to improve operations in this corridor.
- US 19 North Land Use Plan – Identify and evaluate land use changes and County initiatives to facilitate redevelopment of the US 19 N Corridor in Palm Harbor in advance of the changes to the transportation facility.

Identified needs for addressing multimodal facility deficiencies in Unincorporated County communities include:

- Highpoint Area Action Plan – Identify and evaluate conceptual alternatives to improve mobility and accessibility in the Highpoint area in Unincorporated Mid-County for design and construction.
- Dansville Neighborhood Community Plan – Evaluation of community mobility needs and solutions in the Dansville area in Unincorporated Mid-County.
- Greater Ridgecrest Area Action Plan – Identify and evaluate conceptual alternatives to improve mobility and accessibility in the Greater Ridgecrest Area in Unincorporated Mid-County for design and construction.
- West Lealman Community Plan – Evaluation of community mobility and accessibility needs and alternative solutions in the West Lealman area in south Unincorporated County.

Effective community-based planning is responsive to changing community needs. Additional future planning efforts may change based on changing community needs.

The following discussion addresses alternative transportation modes individually while recognizing that each is a component of a comprehensive multimodal network responding to the connected land use, economic, environmental and social systems.

MOTOR VEHICLE TRAVEL IN PINELLAS COUNTY

It has been said that America has a love affair with cars.[23] While this sentiment is subjective, a strong argument can be made that no single technology has had a greater impact on the American landscape and society than the personal automobile. In 2021, the automobile is the primary mode of transportation in Pinellas County for most people. Historic and existing transportation infrastructure policies and investment (federal, state and local) has overwhelmingly been allocated to improve roadways for automobile travel. Reducing automobile travel times and congestion has been prioritized, and other modes of transportation have not been addressed with equal consideration. These policies, in conjunction with a focus on auto-related land development patterns, have produced communities where automobile travel is essentially required to safely and efficiently access key destinations such as work, school, shops, grocery stores, and parks.

23. Merrily We Roll Along: The Early Days of the Automobile. National Broadcasting Company, 1961. The origin of the trope of America's "love affair" with the automobile.

TRANSPORTATION SUPPLEMENTAL [TRA]

ROADWAY LEVEL OF SERVICE – EXISTING AND PROJECTED

Forward Pinellas compiles and analyzes roadway level of service (LOS) data annually for motor vehicles. The latest data can be found at http://forwardpinellas.org. Roads are assigned a letter grade between A and F based on performance characteristics and criteria, primarily volume to capacity (v/c) ratios. A v/c ratio of 1 indicates that the road is operating at 100% capacity.

Roads operating at peak hour LOS E or F or a v/c ratio of 0.9 or higher in Pinellas County are considered deficient. Deficient roads as of 2020 are depicted on Figure 6.

Annual average daily traffic (AADT) volumes remain relatively unchanged from year to year, except for facilities serving inter-county travel (like Interstate-275, the Howard Frankland Bridge, and East Lake Road [CR 611]) and roads that access employment and activity centers (like Ulmerton Road [SR 688] and Gulf to Bay Boulevard [SR 60]). On these roads, motorists continue to experience heavy traffic volumes at peak periods and during special events (for example, Spring Training and Spring Break). Disproportionate directional traffic (south and eastbound at AM peak and north and westbound at PM peak) on many of these roads reflects demand for regional travel, primarily for people commuting to work in Tampa, Clearwater and St. Petersburg from other places in the Tampa Bay Area.

Although vehicle miles travelled (VMT) has actually decreased in recent years, traffic congestion on key routes has been increasing. Pinellas County has added over 35,000 jobs and 58,000 new residents since 2010.[24] Future population and employment projections, prepared as part of the Advantage Pinellas Long Range Transportation Plan process, indicate that traffic volumes and congestion levels will continue to increase through the year 2045.[25] Socioeconomic projections anticipate that we will add an additional 93,000 in population and 60,000 in new jobs by the year 2045.[26]
The latest projected LOS from Forward Pinellas is for 2045 and is depicted on Figure 7.

24. Forward Pinellas Advantage Pinellas: 2045 Long Range Transportation Plan https://forwardpinellas.org/wpcontent/uploads/2020/07/2045_LongRangePlan_Complete_WCAG.pdf
25. Ibid
26.Ibid

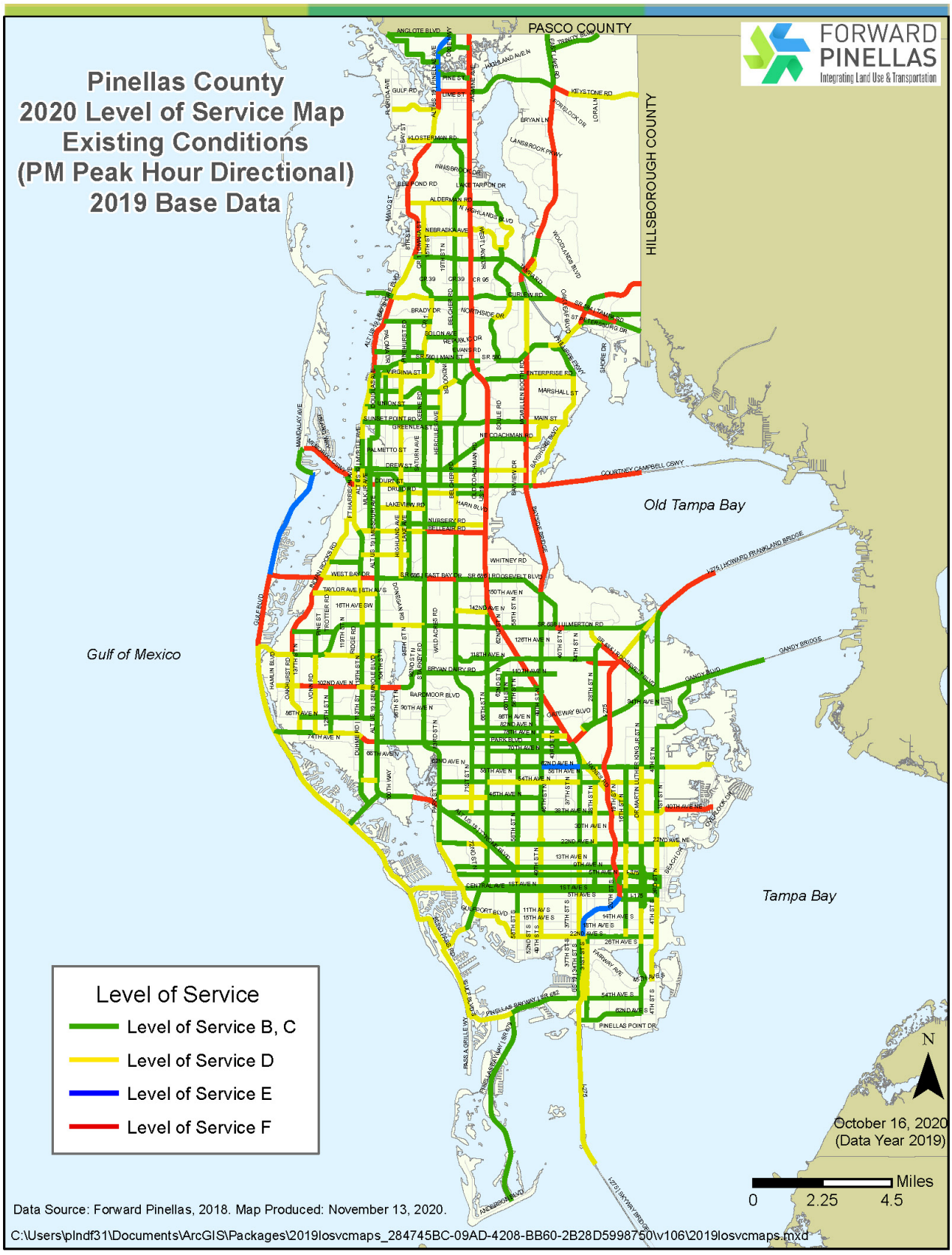

Figure 6: Level of Service – 2019

TRANSPORTATION SUPPLEMENTAL [TRA]

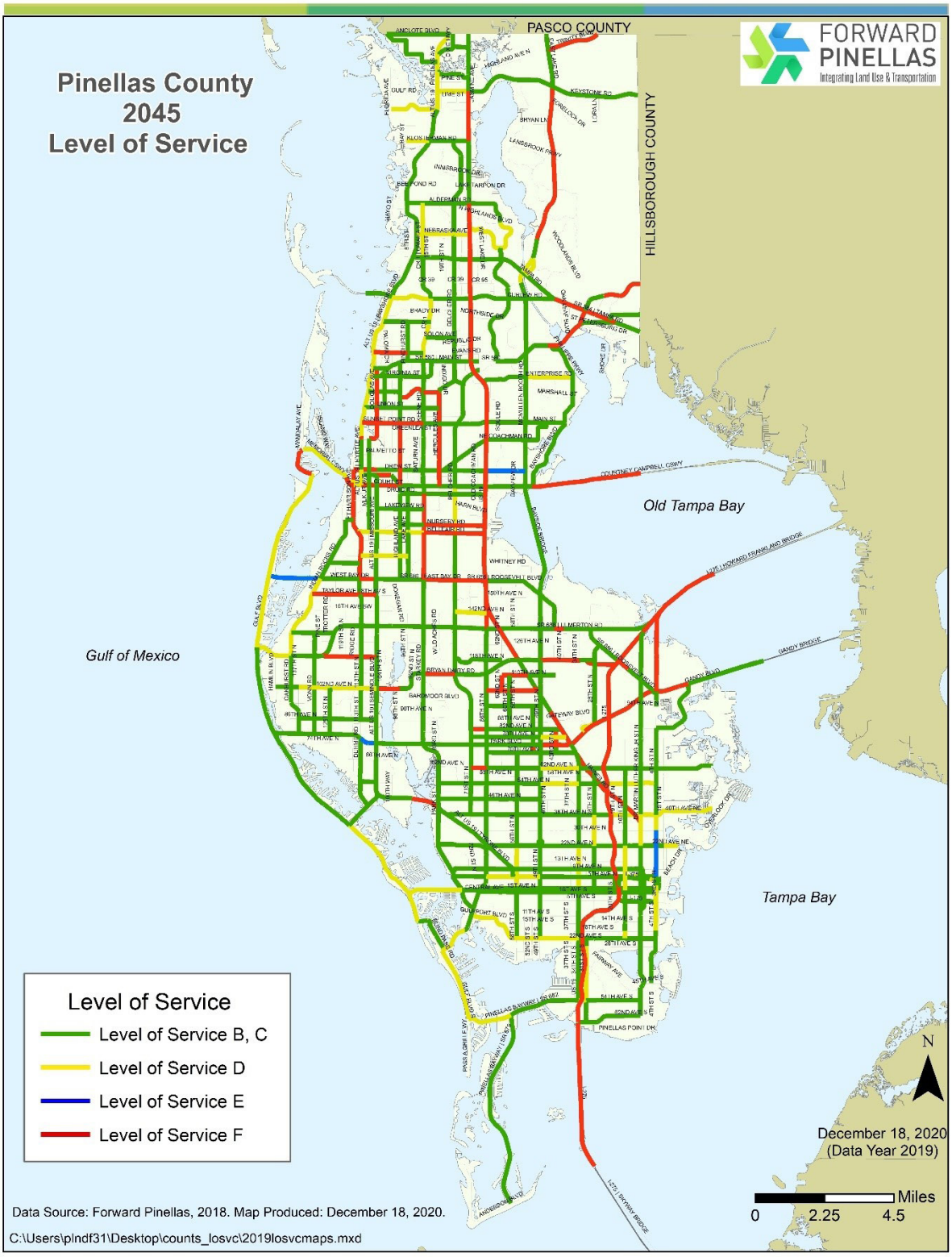

Figure 7: Projected Level of Service 2045

KEY CHALLENGES – MOTOR VEHICLES

- Congestion on important intra-county and regional facilities
- Increased delay and unreliable travel times associated with congestion
- Limited feasibility of capacity expansion
- Maintenance liabilities for existing facilities
- Inconsistent land use and roadway characteristics (e.g. many access points and high speed)
- Reliance on major roadways to make short trips due to poor network connectivity in conventional suburban development
- Conflict between the needs of motorists and other modes
- Detrimental environmental, public health and social consequences of continued auto-dependency

MOTOR VEHICLE LOS – ADDRESSING DEFICIENCIES

Scheduling of State Highway System needs within Pinellas County is determined by the Florida Department of Transportation (FDOT) and Forward Pinellas, in its role as the Pinellas County Metropolitan Planning Organization (MPO). The Board of County Commissioners determines the amount of financial assistance the County contributes to implement these projects. The most up-to-date information on State and County transportation projects that the County is funding for planning, design and construction are included in the Capital Improvement Program (CIP) available at http://www.pinellascounty.org/budget/.

As of 2021, major FDOT-led highway projects intended to improve traffic circulation by controlling access and expanding capacity include:

- Improvements to US 19 to control access and separate through and local traffic, while providing safe and equitable multimodal local access.
- The Gateway Expressway, providing two new elevated tolled roadways with direct connections between US 19 and I-275 and the Bayside Bridge and I-275.
- The Howard Frankland Bridge (I-275) replacement to include express lanes and a separated bicycle and pedestrian path.
- I-275 Bus on Shoulder project to allow transit vehicles to operate on the shoulder during congestion to remove buses from the general travel lanes and increase the reliability and efficiency of transit service.

FDOT oversees other projects intended to further improve multimodal mobility for all users on state roadways. However, the projects listed above have the greatest potential to improve LOS for motorized vehicular traffic, including automobiles, freight, and transit vehicles through increased capacity. To learn more about FDOT-led projects in Pinellas County, see https://www.fdottampabay.com/projects/.

Local roadway projects in Unincorporated County are determined through community planning efforts, resurfacing schedules, maintenance evaluations, and the Capital Improvements Portfolio Process. More about the Capital Improvements Program can be found in the Governance Element of PLANPinellas.

Right-of-way preservation facilitates the development of future transportation facilities. Acquiring right-of-way in the future can involve costly condemnation proceedings that can add significantly to the overall cost of the transportation construction project. Pinellas County policy is to retain existing rights-of-way unless it is determined that there is no potential for future public use of the property. Preservation of right-of-way may provide opportunities to improve connectivity and develop secondary networks see Figure 8: Pinellas County Right-of-Way Preservation Map.

The County plans to implement motor vehicle capacity improvements on some major roads to improve conditions. However, as of 2021, most major roadway expansion projects are focused on State facilities supporting regional travel. These include US Highway 19, Gandy Boulevard, and the new Gateway Expressway.

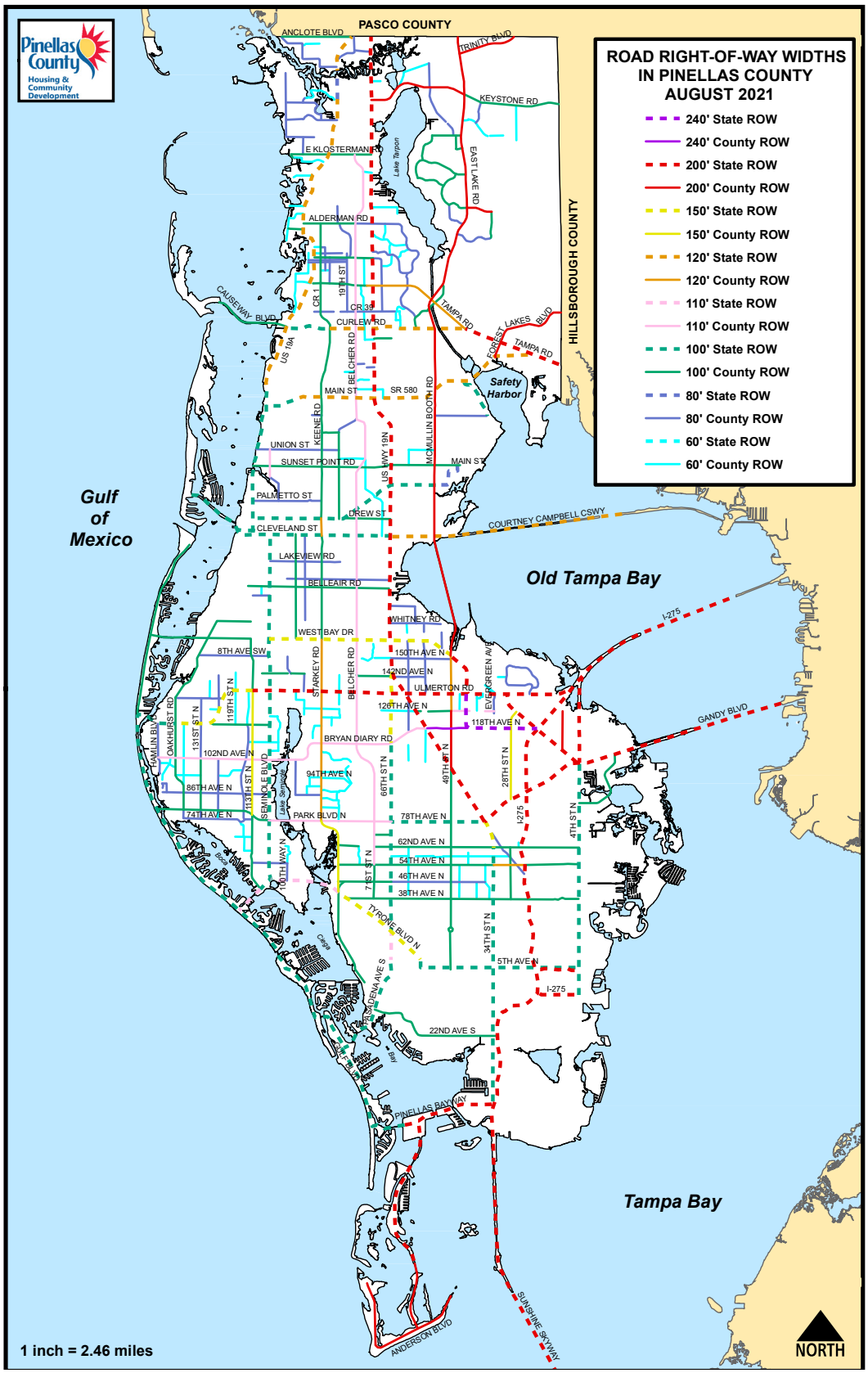

Figure 8: Pinellas County Right-of-Way Preservation Map

There are a few locations, like 126th Avenue North, where the County intends to improve the connectivity of the system by extending existing roadways to create more connections and alternative routes. There are other places, like CR 611 (East Lake Road/McMullen Booth Road/49th Street N) and Starkey Road, where alternatives are being considered to improve operations. However, there are very few places in the County where new roads or increasing the number of general travel lanes is possible or practical.

As of 2021, Pinellas County is reconstructing and widening Forest Lakes Boulevard, from west of Pine Avenue to east of Race Track Road in the City of Oldsmar, converting Forest Lakes Boulevard from two lanes to a four-lane suburban divided roadway. This project will provide localized capacity improvements in Pinellas County.

East Lake Road (CR 611) in north Unincorporated County experiences severe peak hour, directional congestion and poor levels of service for all users. As of 2021, a study will be developed to evaluate a range of alternatives to improve operations in this corridor. To the south, an evaluation of the 49th Street North corridor (CR 611) with respect to the effects of the Gateway Expressway implementation, emerging transit demand, and existing and future land use are planned as of 2021.

Roadway improvements will shift from increasing physical capacity to emphasizing safety, maximizing efficiency and operations, and maintaining existing facilities. Future roadway improvements may include new interchanges, managed lanes (toll, high occupancy vehicle [HOV], Business Access and Transit [BAT], reversible lanes), intersection improvements, access management, and signalization improvements. Existing and emerging technology solutions will also be a key component of future improvements.

ADVANCED TRANSPORTATION MANAGEMENT/INTELLIGENT TRANSPORTATION SYSTEMS

Smart Tracs incorporates concepts to enhance the county's Advanced Transportation Management System/Intelligent Transportation System (ATMS/ITS) and regional Smart City enterprise. This integration of information and communication technology with various connected smart devices improve safety and enhance mobility for motorists, transit, pedestrians and bicyclists. Bluetooth sensors, closed circuit television (CCTV) cameras, and mobile platforms transmit real-time data to the county's Traffic Management Center where it is used to monitor the transportation system, optimize signal patterns and control traffic flow.

Smart Tracs syncs data derived from traffic signal control devices and motorists to:

- Improve traffic flow by decreasing travel time and reducing time spent at red lights
- Keep citizens up-to-date on current travel conditions and delays or alternative routes
- Maintain a safe and efficient movement of motorists, transit, bicyclists and pedestrians
- Integrate signal preemption for emergency vehicles and provide accident location information

Transportation technology continually advances, and Pinellas County will continue to study these emerging technologies and make fiscally responsible decisions, weighing investment costs and outcome benefits, to integrate new technologies as needed to further the goals of PLANPinellas. Pinellas County has partnered with FDOT on a Connected Vehicle (CV) pilot project for the U.S. 19 corridor. The pilot project involves the installation of roadside communication units (RSUs) at 23 signalized intersections, from Ulmerton Road northward to the Pasco County line. Pinellas is among the first of only a few locations in the United States to be implementing CV technology. Through the use of wireless communication, primarily radio and mobile phone, CV will provide real-time data between the County's Traffic Management Center, buses, vehicles, pedestrians, bicyclists, emergency vehicles and transportation infrastructure. No personally identifiable information will be shared. Once CV is initiated in the County, system users will likely realize safety, mobility and environmental benefits. The groundbreaking technology application will provide drivers with advanced warnings of turning and stopped vehicles, allowing time for reaction and avoidance; better utilize roadway capacity and reduce congestion; improve coordination among vehicles and infrastructure to mitigate unnecessary breaking and stopping

at intersections, and benefit the environment through reduced fuel consumption and lowered emissions; and could significantly minimize crashes.

DEMAND MANAGEMENT

Transportation demand management (TDM) strategies aim to relieve peak hour traffic congestion by reducing the incidence of single-occupant motor vehicles. These strategies include promoting transit, cycling, telecommuting, staggering work hours by employers and ridesharing. Historically, TDM efforts in Pinellas County have centered on ridesharing through car and vanpools for commuters.

TDM efforts can include supporting employers that maximize telecommuting options and alternative work schedules. Telecommuting has increased in the past several years and the 2020 COVID-19 pandemic experience demonstrated that these measures effectively reduce demand. It is likely that some employers may offer more work from home options and/or alternative work schedules based on experience gained during the pandemic.

Managing demand can also be accomplished by developing places where walking, cycling and transit use are safe and feasible alternatives to single occupancy vehicles, as discussed throughout PLANPinellas.

TRANSIT IN PINELLAS COUNTY

There is a captive transit population in Pinellas County. In 2019, riders were asked what options they would have for their travel if Pinellas Suncoast Transit Authority (PSTA) transit service was unavailable. Almost one-quarter of respondents (24.6%) said they would not make their trip.[27]

The most common demographic markets for transit service in Pinellas County include:

- Lower-income workers and residents
- Older adult residents
- Residents with disabilities
- Minority residents
- High school and college students
- Persons who prefer to take transit for shorter local trips rather than drive
- Entertainment trips within downtowns, beaches, or other tourist areas
- Regional commuters with high car commuting costs[28]

The demographics of Pinellas County are relevant to a determination of future transit needs. As of 2019, approximately 41.8% of the County's population was either under the age of 18 or was 65 and over.[29] These two age groups have different transportation needs, but portions of both cohorts cannot depend on personal automobiles for transportation. Nearly 10% of the population under 65 has disabilities that may affect their mobility.[30] Over 39% of Pinellas County residents could be considered "transportation disadvantaged" due to age, income, or disability status.[31]
Persons with transportation disadvantages are located throughout the County and do not conform to one demographic. Future transit investments need to consider the differing needs of our multigenerational, diverse community.

27. Advantage Pinellas: Transit, Pinellas Suncoast Transit Authority FY 21-30 Transit Development Plan, April 2020 https://www.psta.net/media/4784/fy2021-2030-tdp.pdf
28. Ibid
29. US Census 2019 Population Estimates data https://www.census.gov/quickfacts/fact/table/pinellascountyflorida/RHI225219
30. Ibid
31. Forward Pinellas Pinellas County Transportation Disadvantaged Service Plan, 2017-2022 https://forwardpinellas.org/wp-content/uploads/2017/10/TransportationDisadvantagedServicePlan.pdf

PSTA provides critical services to those who cannot, or chose not to, own and operate a personal vehicle in a largely auto-centric suburban County. PSTA continually monitors and adapts services to meet the needs of citizens and visitors, initiating innovative practices and programs, and exceeding their national peers in services provided compared to funds spent.[32] Pinellas County is simply running out of places to feasibly increase roadway capacity. The commitment to provide equitable services in Pinellas County, along with spatial, social, and financial realities, require greater investment in transit in the future. As of 2021, these goals align with the Advantage Pinellas Long Range Transportation Plan and the requirements of Florida Statutes.[33]

The Transportation Disadvantaged (TD) Program is administered by the PSTA and provides low-cost, non-emergency transportation throughout Pinellas County to individuals who qualify. TD Program customers can receive reduced fee bus passes, and for those unable to ride the bus, non-emergency service is provided by taxi cabs and wheelchair accessible vans. PSTA also supports TD riders with on-demand trips to/from work when bus service is not available. The Lealman community in unincorporated south County has a high concentration of TD riders.[34]

The PSTA Demand Response Transportation (DART) program provides paratransit services to disabled persons who are unable to safely and independently use regular PSTA buses. DART service complements local bus service in accordance with the Americans with Disabilities Act (ADA). The TD and DART programs are critical services for many people in our County.

PSTA also provides services for year-round residents, part-time residents, and tourists that make activity centers more accessible without a personal vehicle, such as the Jolley Trolley, Suncoast Beach Trolley and Downtown Looper in St. Petersburg. The Jolley Trolley Coastal Route serves the unincorporated communities of Ozona and Palm Harbor with service between Tarpon Springs and Clearwater Beach.

TRANSIT LOS – EXISTING AND PROJECTED

Historically, transit LOS for Pinellas County has been to support PSTA to strive to provide transit access for all major traffic generators and attractors with no more than 30-minute headways (service frequency) in the peak hour and no more than 60 minutes in the off-peak period.[35] As we move to the future, the County will support PSTA in improving LOS beyond historic levels to offer more express and premium services to provide more transportation choices for our citizens and visitors. The County will also support PSTA in efforts to improve access to transit for Unincorporated County communities.

As of 2021, PSTA directly operates 36 local fixed-route bus routes, 2 trolley routes, and 2 express routes that connect to downtown Tampa.[36] PSTA's intra-county bus routes mostly operate local fixed-route service Monday through Friday between 5:00 AM and 1:00 AM, Saturdays between 5:30 AM and 1:00 AM, and Sundays and major holidays between 5:45 AM and 12:00 AM. Service frequency is low-to-moderate, ranging from 60- to 15-minute headways, with higher peak period frequencies on many routes

PSTA also operates two express bus routes between Pinellas County and downtown Tampa. Other fixed-route transit services in Pinellas County are operated by private contractors on behalf of PSTA and are marketed and scheduled with PSTA services to form a comprehensive network. This includes three Jolley Trolley routes that serve Clearwater Beach, including one with service to Ozona, Palm Harbor, and Crystal Beach in unincorporated north County.

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32. Advantage Pinellas: Transit, Pinellas Suncoast Transit Authority FY 21-30 Transit Development Plan, April 2020 https://www.psta.net/media/4784/fy2021-2030-tdp.pdf
33. F.S. 163.3177(6)(b)
34. Forward Pinellas, Pinellas County Transportation Disadvantaged Service Plan, 2017-2022 https://forwardpinellas.org/wp-content/uploads/2017/10/TransportationDisadvantagedServicePlan.pdf
35. Pinellas County Comprehensive Plan 2008
36. Advantage Pinellas: Transit, Pinellas Suncoast Transit Authority FY 21-30 Transit Development Plan, April 2020 https://www.psta.net/media/4784/fy2021-2030-tdp.pdf

TRANSPORTATION SUPPLEMENTAL [TRA]

PSTA continues to introduce ground-breaking transit services to our community. As of November 2020, PSTA implemented the Autonomous Vehicle Advantage (AVA) pilot project, the first autonomous vehicle in the Tampa Bay Area to share the road with personal vehicles. AVA serves the St. Petersburg Downtown Waterfront and seeks to gain community feedback and information on the use of autonomous transit vehicles in the future.

Increased transit investment and usage is critical to meeting the goals of the Advantage Pinellas Long Range Transportation Plan, PLANPinellas, and the requirements of Florida Statutes to provide "efficient public transit services based upon existing and proposed major trip generators and attractors, safe and convenient public transit terminals, land uses, and accommodation of the special needs of the transportation disadvantaged."[37] Figure 9 depicts major trip generators and attractors in Pinellas County.

KEY CHALLENGES – TRANSIT

- Vulnerable populations reliant on transit do not conform to a singular demographic and are located throughout the County
- Suburban development patterns (low network connectivity) present challenges to transit service planning and operation
- Many communities have insufficient density to support efficient, reliable and rapid transit
- Limited areas with existing walkable or bikeable networks to access transit
- Limitations on federal and state funding that can be used to invest in transit

TRANSIT LOS – ADDRESSING DEFICIENCIES

Pinellas County is addressing transit deficiencies through more transit-supportive land regulations, the development of complete streets, and improvements to the roadway network that will support increased transit use. Pinellas County will continue to collaborate with FDOT, PSTA, Forward Pinellas, and other state, regional and local partners to connect people to activity, employment and education centers through transit.

In 2019 and 2020, Pinellas County worked with Forward Pinellas and PSTA to define future transit needs and new ways to support additional investments in transit to provide more frequent, efficient and convenient service. Initial investment corridors had been identified with an emphasis on connecting people to opportunities and housing. While some of these efforts had been delayed due to the COVID-19 pandemic, interagency coordination continues to be necessary to ensure residents can reach essential services in the present, and future actions increase mobility, accessibility and connectivity in the long-term. Although the 2020 pandemic temporarily adversely impacted transit, the County is committed to supporting PSTA in improving transit LOS in the future.

Through the FY 21-30 Transit Development Plan process, conducted in tandem with the Advantage Pinellas Long Range Transportation Plan, PSTA developed future operating scenarios. The Optimal Plan scenario would improve Transit LOS, prioritizing the highest performing routes first and then throughout the system. Projected Transit LOS depends on future funding. If funding can be identified to achieve the Optimal Plan scenario, and transit investments increase, transit LOS will improve. The County will continue to collaborate with Forward Pinellas and the PSTA to improve transit service frequencies, span, and headways.

As of 2021, Bus Rapid Transit (BRT) plans are in place that will support transit investments in key corridors. The Central Avenue BRT, connecting downtown St. Petersburg to St. Pete Beach has been funded through the federal Small Starts process, and will utilize business access and transit (BAT) lanes for much of the corridor. PSTA is also working with FDOT, Pinellas County and the City of St. Petersburg on a Bus on Shoulder pilot project that will allow buses to bypass

37. FS 163.3177 (6) (b)

congestion on I-275 under certain conditions. The Bus on Shoulder pilot on I-275 in Pinellas County is part of a larger regional transit vision that would connect to Hillsborough and Pasco Counties.

Future strategies that Pinellas County may implement to improve transit could include transit service signal priority implementation; dedicated rights-of-way for transit, emergency, and high occupancy vehicles; and partnering with PSTA on integrating existing and emerging technologies to increase transit levels of service.

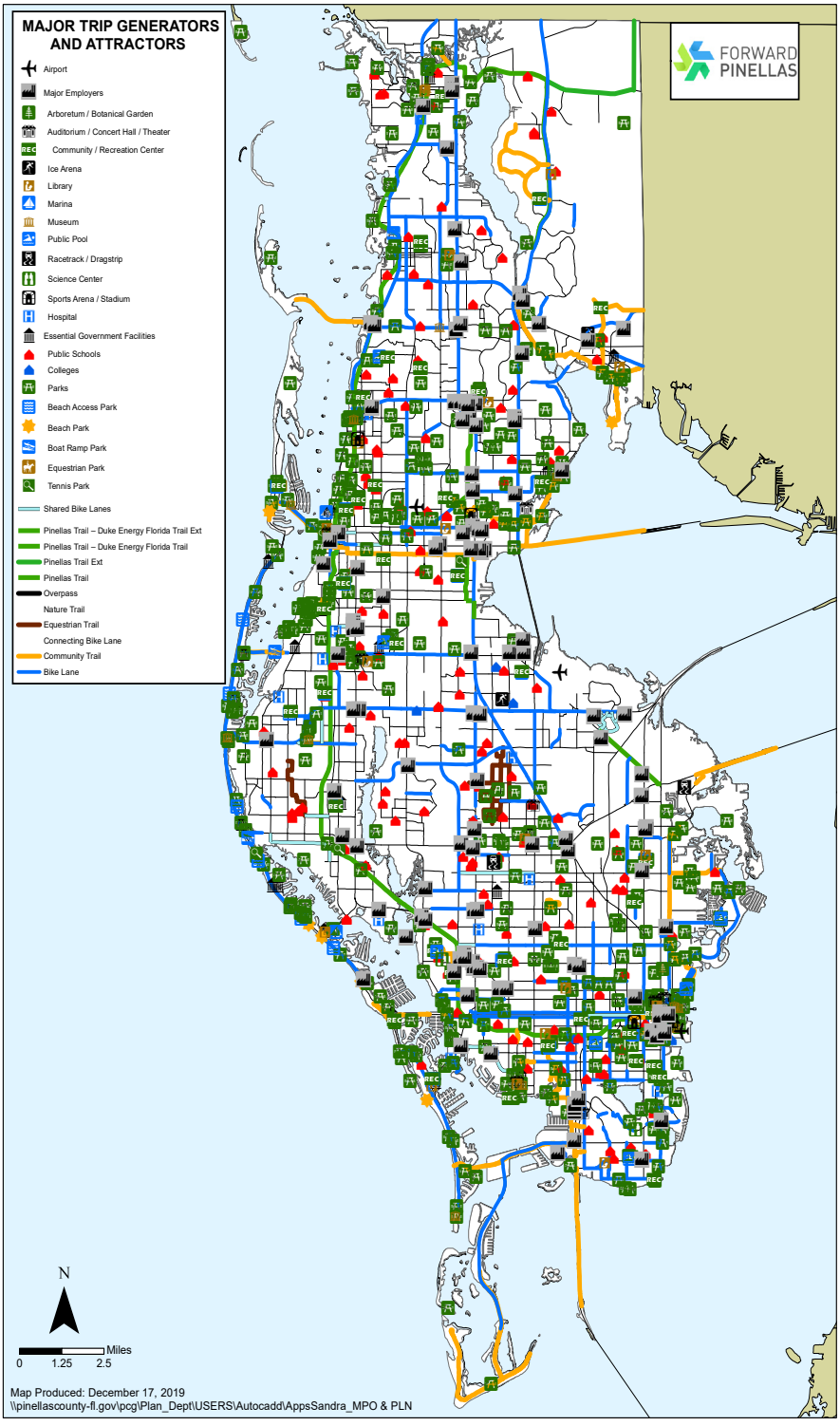

Figure 9: Major Trip Generators and Attractors

CYCLIST TRAVEL IN PINELLAS COUNTY

CYCLIST LOS – EXISTING AND PROJECTED

All County roads are also bikeways. Florida law considers bicycles legal vehicles that may be operated on the street, unless there is some guidance otherwise, such as marked bicycle lane. Figure 10 depicts locations of existing bicycle facilities and areas where additional bicycle facilities in Pinellas County are to be considered. However, many County roads, even with bicycle lanes, do not currently provide an environment where most people feel safe to ride.[38]

As of 2021, the County does not have existing LOS standards for cyclist travel. Bicycle level of service (BLOS) model calculations consider a number of factors, including physical and traffic conditions of roadways, effective speed limits, and peak hour considerations.[39] BLOS calculations are useful in determining the quality of shared facility service on a segment level. However, BLOS calculations are not the best tool available to determine the quality of a bicycle network, particularly a network like Pinellas County's that includes bicycle facilities separated from other vehicular traffic.[40] While capacity (in the form of available facilities) and BLOS are important considerations in meeting the needs of cyclists, Level of Traffic Stress is a more useful metric for setting performance standards.[41] Level of Traffic Stress categorizes on road facilities from 1 to 4, where Level 1 facilities are suitable for children, to Level 4, where only very confident riders would ride. A comprehensive model for bicycle level of service at the network level has yet to be fully refined.[42] This analysis considers available facilities and Level of Traffic Stress (see Figure 11) to evaluate levels of service for the Pinellas County bicycle network.

There are many factors that should be considered in the evaluation of bicycle facilities, but primary concerns include:

- The type of facility (mixed traffic or bike lanes)
- Presence of on street parking
- Number of lanes
- Average Daily Traffic
- Prevailing speed

Many minor local streets in Unincorporated County could be classified as Level 1 or 2. However, the majority of major local, collector and arterial roads are currently Level 3 or 4.

Initially developed along a 35-mile abandoned CSX railroad line, the nationally acclaimed Fred Marquis Pinellas Trail is cyclist sanctuary in urbanized Pinellas County. Currently stretching from the Pasco County line to the north to St. Petersburg in the south, the plan of an active transportation loop encircling the County is nearing completion. The 52-mile Fred Marquis Pinellas Trail is to be completed with an additional 23 miles of the Duke Energy Trail, providing a complete 75-mile loop (Figure 12).

38. Forward Pinellas Advantage Pinellas, Level of Traffic Stress
39. https://nacto.org/docs/usdg/bicylce_Level_of_service_model_sprinkle_consulting.pdf
40. Kazemzadeh K, Laureshyn A, Winslott Hiselius L, Ronchi E. Expanding the Scope of the Bicycle Level-of-Service Concept: A Review of the Literature. Sustainability. 2020; 12(7):2944. https://doi.org/10.3390/su12072944
41. Mekuria, Maaza et al. Low-Stress Bicycling and Network Connectivity. San Jose, CA. Norman Y. Mineta International Institute for Surface Transportation Policy Studies. 2012.
42. Kazemzadeh K, Laureshyn A, Winslott Hiselius L, Ronchi E. Expanding the Scope of the Bicycle Level-of-Service Concept: A Review of the Literature. Sustainability. 2020; 12(7):2944. https://doi.org/10.3390/su12072944.

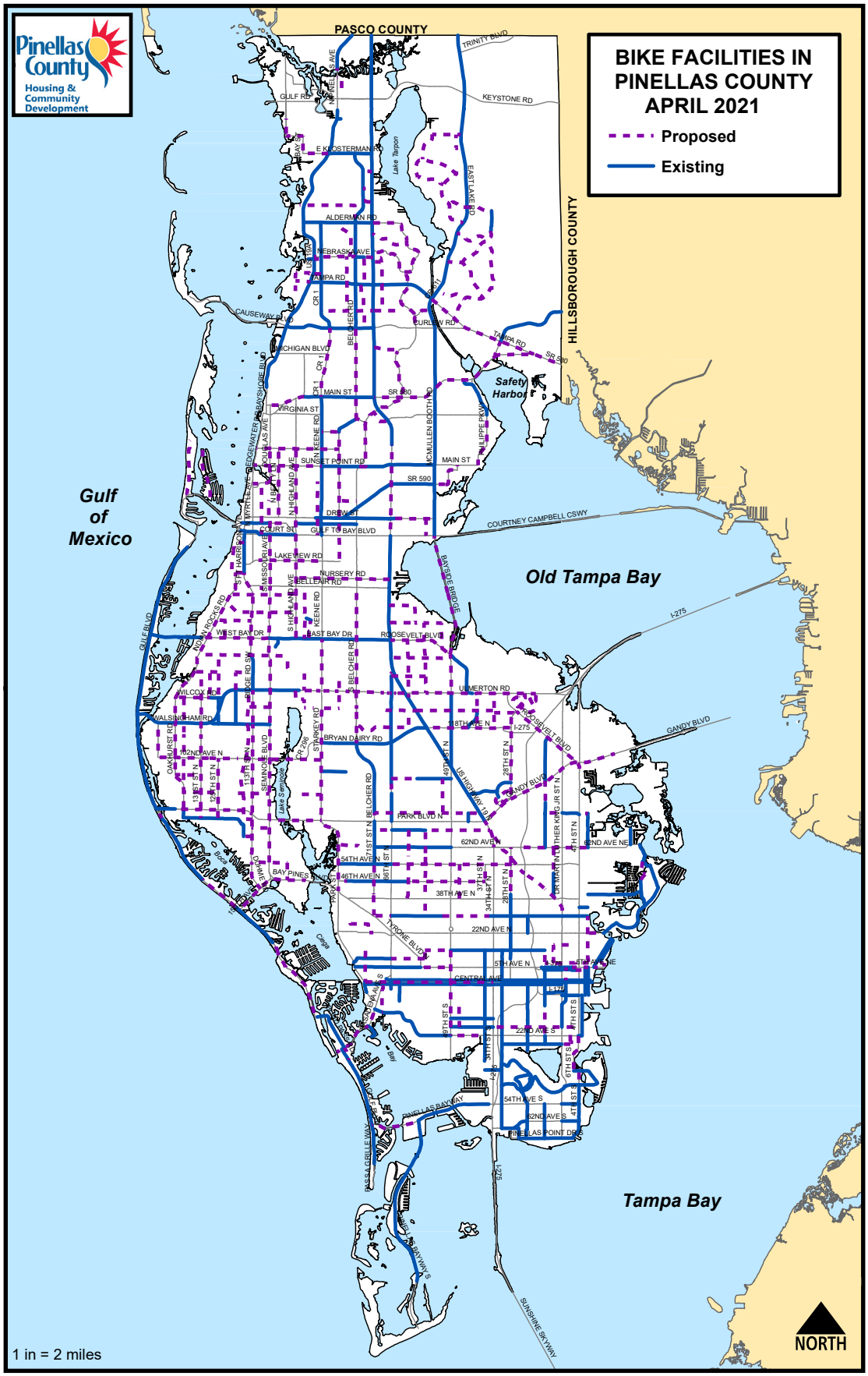

Figure 10: Pinellas County Existing and Proposed Bike Facilities. Source: Forward Pinellas

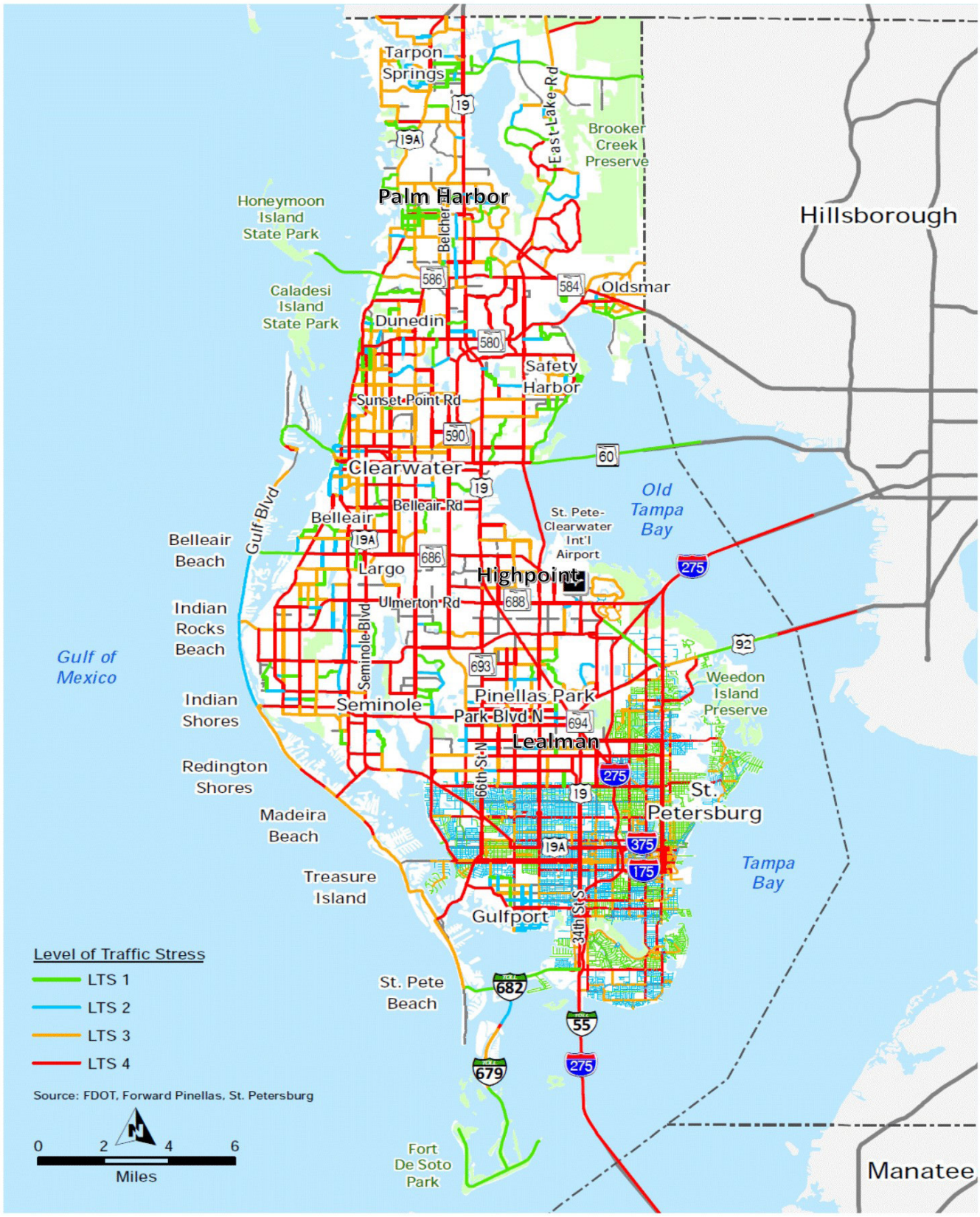

Figure 11: Bicycle Levels of Traffic Stress

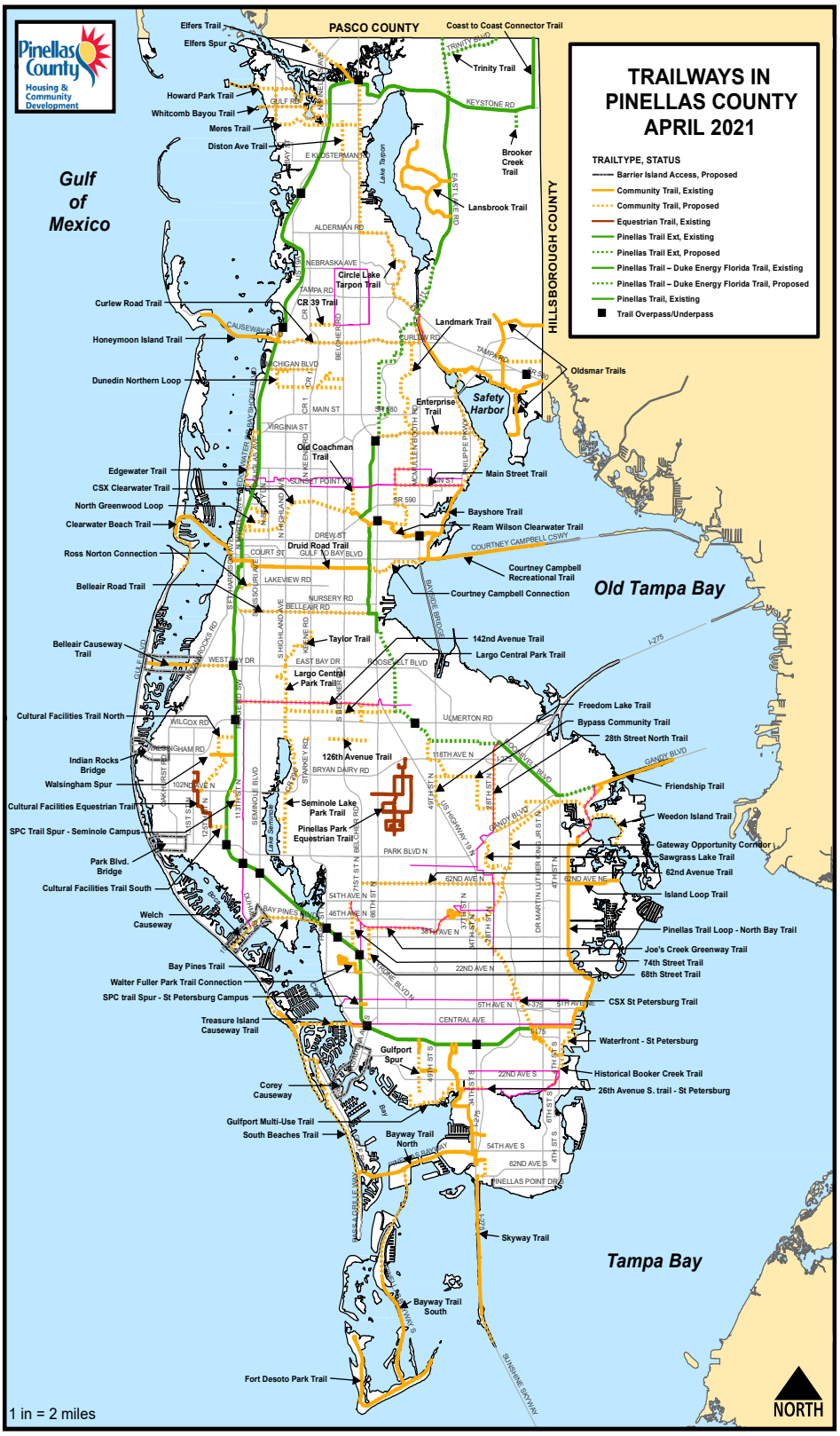

Figure 12: Pinellas County Trails - Existing and Planned

TRANSPORTATION SUPPLEMENTAL [TRA]

The Pinellas Trail is a component of the Florida Coast-to-Coast Trail (C2C), a continuous multi-use trail across the state of Florida from the Gulf of Mexico to the Atlantic Ocean. It will span approximately 250 miles and as of 2021, was more than 80 percent complete. When complete, the trail will link communities between St. Petersburg and Titusville (Figure 13).

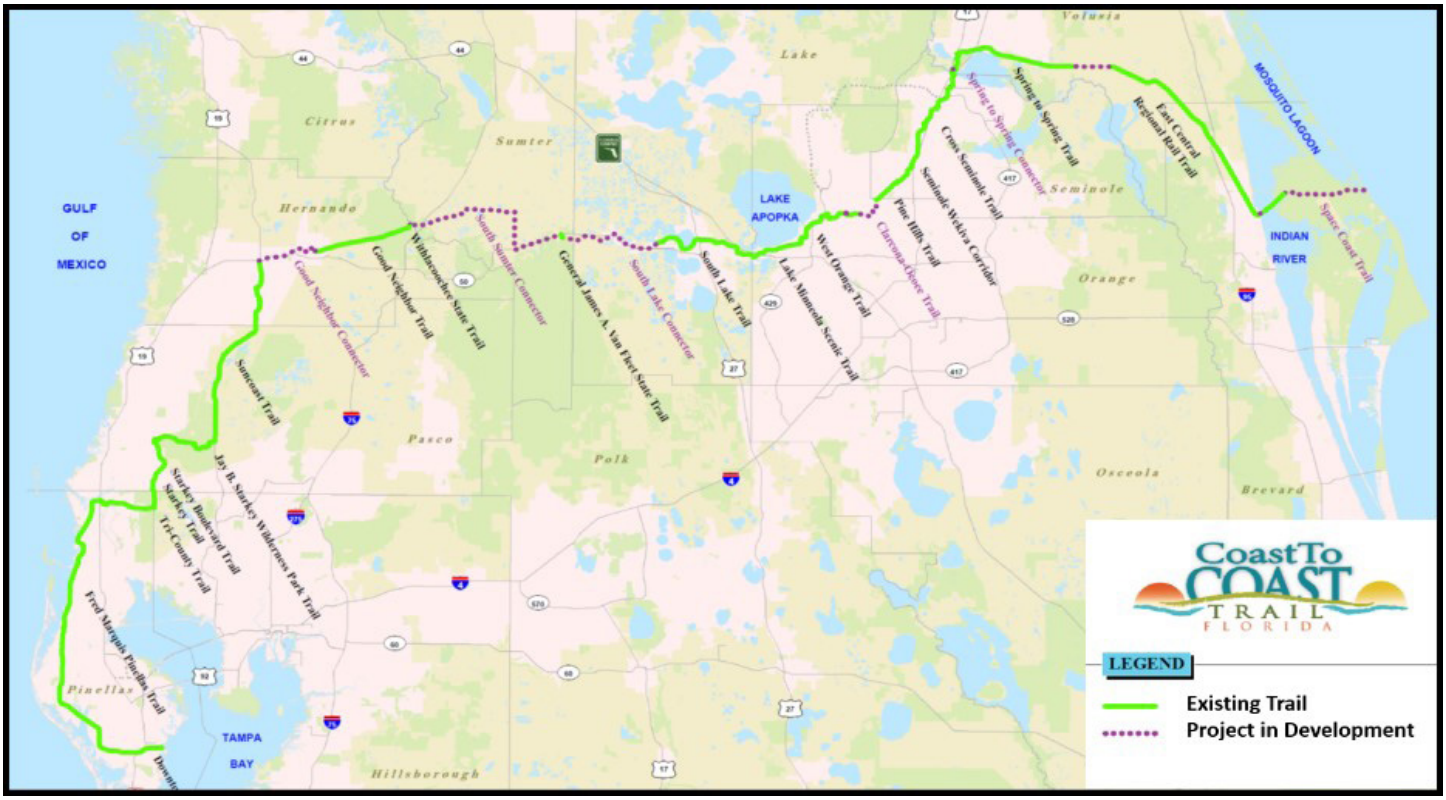

Figure 13: Coast to Coast Trail. Source: Florida Department of Environmental Protection

As the plan becomes reality, Pinellas County and our municipal partners are planning for the future of the facility. In 2020, the County initiated a study with regional and municipal partners and stakeholders to evaluate current and future needs for the Pinellas Trail. The scope of this study includes a consideration of connectivity, funding sources, maintenance issues, design standards, amenities (benches, lighting, water fountains, etc.) and other pressing issues that may come out of the process. In addition to an evaluation of the facility itself, the County will evaluate land use around the trail and solicit citizen participation to develop a vision for the future of the trail.

As of 2021, the Pinellas Trail includes 10 overpasses and three underpasses to allow trail-goers to travel above or underneath traffic at the busiest intersections, and additional overpasses are planned. Overpasses provide physical separation for safer operations and allow continuous pedestrian and cyclist movements. However, older and disabled users may have difficulty using overpasses, and safe, parallel at-grade crossings should be provided on the trail. At-grade crossings at overpass locations also facilitate maintenance activities on the bridge. In the evaluation of the physical facility, special consideration should be given to at-grade trail intersection treatments and current practices.

While the Pinellas Trail is the pillar of bicycle infrastructure in Pinellas County, there are numerous existing and planned trails that support local movement and connect cyclists to destinations. The existing and planned trail network as of 2021 is depicted on Figure 12. Improving connectivity of the bicycle network will improve LOS. Continuing commitments to complete streets, transportation equity, and multimodal improvements are also anticipated to improve LOS for cyclists in the future.

KEY CHALLENGES – CYCLING

- High levels of stress on high-speed multilane facilities
- Low network connectivity requiring the use of high-speed multilane facilities to complete trips
- Limited designated separate facilities
- Bike lanes on high-speed facilities without physical separation
- Limited lighting on multi-use trails and some roads
- Potential for conflict with other modes, particularly at intersections

CYCLING LOS – ADDRESSING DEFICIENCIES

As noted above, Pinellas County does not currently have LOS standards for cyclist facilities. LOS standards could be developed to ensure safe and comfortable operating conditions on facilities where cyclists have higher modal priority. BLOS analysis could be incorporated into the evaluation of alternatives for new roadways, changes to existing roadways, and as part of resurfacing, rehabilitation, and restoration projects. Context-sensitive design standards could be developed for activity centers and multimodal corridors to support and encourage cycling in these areas.

Bicycle accommodations and facilities planned as of 2021 would improve localized levels of traffic stress. Future multimodal planning initiatives could identify future improvements that would further improve conditions for cyclists. Future cycling improvements could include the development of cycle tracks, separated bike lanes, bicycle signals, exclusive facilities for cyclists, lowering speed limits and implementing traffic calming measures on roads where cycling is a higher modal priority. Cycling awareness and incentive campaigns may also improve cycling conditions, including additional road markings and signs alerting motorists of the presence of cyclist in high use corridors and areas.

The Pinellas Trail Loop is the backbone of cycling infrastructure in the County and the completion of the Loop will improve cycling levels of service. However, the Pinellas Trail is closed at night in most locations. Trail lighting is not provided, except where municipalities have taken over maintenance responsibilities and at overpasses, which remain open at night as safe passage across roadways. In 2019, Forward Pinellas began collecting hourly data, from which it is evident that the trail is used in darkness. Many people use the Trail daily to commute, which may require leaving or returning from work in darkness.[43] Lighting for portions of the Trail is being considered as part of the Pinellas Trail Visioning Study initiated in 2020. Providing lighting on multimodal trails and improving roadway lighting would improve safety for all users, including cyclists.

Many communities have started to recognize the difficulties of starting and stopping while on a bicycle and have adjusted physical designs and rules accordingly.[44] "Lean rails" are common cycling infrastructure in Europe's best bicycling cities and are becoming more common in the US.[45] Lean rails include a bar to grab, a platform to rest a foot and a traffic signal trigger button, that allows riders to queue at an intersection without having to get off their bike. Oregon, Idaho, Delaware and Arkansas have enacted laws specifying the conditions under which a cyclist may slow and yield, rather than come to a complete stop. The Oregon law requires cyclists approaching a stop sign or flashing red light to slow to a reasonable speed, yield to anyone already in the intersection, and not approach others in the intersection in proximity that creates a hazard. Cyclists still must stop for pedestrians in crosswalks, make every effort to avoid crashes, and follow the directions of a police officer or highway flagger.[46] Physical or operational changes that could improve stopping conditions for cyclists could be considered in future facility planning.

FDOT, Forward Pinellas and our municipal and community partners are also committed to improving cycling conditions throughout the County. The County will continue to seek opportunities to collaborate with state, regional, and local partners to make cycling a safe and easy option for more people.

43. Source: Forward Pinellas, Pinellas Trail Security Task Force Agenda https://forwardpinellas.org/wp-content/uploads/2019/12/PTSTF-January-14-2020-Agenda.pdf
44. Tekle, A. M. (2017). Roll on, Cyclist: The Idaho Rule, Traffic Law, and the Quest to Incentivize Urban Cycling. Chi.-Kent L. Rev., 92, 549.
45. Colville-Andersen, M. (2018). Copenhagenize: The Definitive Guide to Global Bicycle Urbanism. United Kingdom: Island Press.
46. Szczepanski, Carolyn (2013-05-18). "Bike Law University". League of American Bicyclists. https://bikeleague.org/bike-law-university

TRANSPORTATION SUPPLEMENTAL [TRA]

PEDESTRIAN TRAVEL IN PINELLAS COUNTY

PEDESTRIAN LOS – EXISTING AND PROJECTED

Everyone is a pedestrian at some point, whether it is a walk to your car, the use of a mobility device to the bus stop or walking between destinations in an activity center. Pedestrians include people of all ages and abilities, who may walk afoot, use wheelchairs (including manual wheelchairs, power wheelchairs, and electric scooters, or other power-driven mobility devices), use manually-powered mobility aids (such as walkers, crutches, canes, braces, and other similar devices) and people transporting children, pets or goods in strollers, carts or luggage. As the most vulnerable users of the transportation network, significant consideration should be given to the needs, safety, and comfort of all pedestrians. Sidewalks, crosswalks, trails, pedestrian bridges and curb cuts are examples of pedestrian infrastructure. However, factors beyond the existence of infrastructure contribute to the quality of pedestrian facilities and perceived safety, including:

- Sidewalk width
- Obstructions to pedestrian flow
- Potential points of conflict, such as driveways
- Adjacent motor vehicle speeds and volumes
- Distance from travel lanes including vegetative buffers and on-street parking
- Building orientation
- Provision of shade

As of 2021, Pinellas County does not utilize LOS standards for pedestrians, but has an abnormally high rate of fatal pedestrian crashes.[47] "Abnormal" is a term used in the evaluation of substantive safety. Substantive safety considers crash frequency, rate, type, and severity.[48] If a facility has a significantly higher incidence or severity of crashes than other facilities of its kind, it may have an "abnormal" substantive safety problem, if no nominal safety problems are evident (things are built to standard). High incidence of substantive safety issues within a system may also indicate a nominal safety concern, in that there may be substantive safety concerns with current standards. Pinellas County is included in the top 8 most dangerous metropolitan areas for pedestrians nationwide, which is an indicator of a substantive pedestrian safety concerns.

Being described as one of the most dangerous places for pedestrians is unwanted national recognition for our County, and an undesirable experience for residents and visitors. Being labeled as "one of the worst" could provoke a defensive response. However, rather than responding defensively, or assigning blame, we must view this problem for what it is: a matter of life and death with many contributing factors. Improving pedestrian safety is an opportunity to meet our County's strategic goals to deliver first class services to the public and ensure public health, safety and welfare. Eliminating pedestrian fatalities and serious injuries requires comprehensive evaluation of contributing factors and the development of corresponding changes – to facility design, land use and site planning, education, behavior, and perception.

Pinellas County has made progress in addressing substandard sidewalks and filling gaps in the sidewalk network, and more work needs to be done. Building sidewalks is only one component of the solution to our pedestrian safety issue and is not always a simple process. Drainage, utilities and many other factors must be considered, which can increase the time and costs associated with improving the pedestrian network. However, Pinellas County is committed to doing more in our communities to address transportation health equity.

47. Forward Pinellas 2019. Countywide Trends and Conditions Report https://forwardpinellas.org/wp-content/uploads/2017/11/Countywide_Trends_and_Conditions_Report.pdf
48. https://safety.fhwa.dot.gov/

KEY CHALLENGES – PEDESTRIAN

- Sidewalk gaps
- Destinations on high speed roadways
- Long distances between pedestrian crossings
- Long wait times at pedestrian signals
- Pedestrian crossings at typical four leg intersections have multiple points of potential conflict
- Deficient existing sidewalks (poor pavement condition, inadequate width, no buffer)
- Engineering challenges (drainage, utilities)
- Low connectivity in suburban development results in long walk paths
- Lack of pedestrian scale road lighting in high pedestrian traffic areas

PEDESTRIAN LOS – ADDRESSING DEFICIENCIES

As noted above, Pinellas County does not currently have LOS standards for pedestrians. Adoption of LOS or similar performance standards for pedestrians may be a future tool used to measure progress for pedestrians. The most important pedestrian performance measure is the reduction and eventual elimination of pedestrian fatalities and serious injuries.

The single most important factor in eliminating pedestrian fatalities and serious injuries is speed (see Figure 14).[49] As part of the Complete Streets approach, Pinellas County must reduce operating speeds on and around facilities with high volumes of vulnerable users such as pedestrians and cyclists.

Adding sidewalks, connecting sidewalk gaps, and improving sidewalk design will increase safety for pedestrians. Frequently much of the public right-of-way is dedicated to vehicles and minimum width sidewalks are constructed at the back of the curb. Adding buffers like landscape strips, trees, bike lanes or on-street parking can provide physical barriers between pedestrians and roadways, creating a safer pedestrian environment. Sidewalks located at the back of the curb can result in pedestrians walking inches away from a lane of cars going upwards of 40 miles an hour.

A minimum sidewalk width of five feet if separated from the curb or six feet at the back of curb is required to meet requirements for persons with disabilities. However, walking is often a social activity and five feet is barely adequate for two people to walk together, and often is inadequate for groups with persons in wheelchairs, using other mobility devices or pushing strollers.[50] In some areas, such as near schools, sporting complexes, parks, shopping districts, and other areas with significant pedestrian activity, wider sidewalks should be considered.

In Pinellas County, the provision of shade is very important for creating a comfortable pedestrian environment. This can be accomplished through trees and site plan design. Trees make places more walkable, bikeable and attractive, but there are other benefits of streetscaping, including reduced stormwater runoff, improved air quality, and improved safety for all roadway users. The right trees need to be located in the right place to provide maximum benefits, minimize potential infrastructure and maintenance impacts, and provide safe conditions for all users.

Green space, parks and other public spaces can also help improve walkability and provide refuge areas for pedestrians. More pedestrian activity can encourage drivers to be more careful and mindful. Parks, playgrounds, plazas, squares and courtyards can all help prioritize people in the public realm. Pedestrian scale lighting is also an important component of creating safe and functional public spaces.

49. Geneva, Global Road Safety Partnership (2008) Speed management: a road safety manual for decision-makers and practitioners https://apps.who.int/iris/bitstream/handle/10665/43915/9782940395040_eng.pdf;jsessionid=287BE5847D01CE8930872B8490050CCC?sequence=1
50. FHWA Course on Bicycle and Pedestrian Transportation https://safety.fhwa.dot.gov/ped_bike/univcourse/instrtoc.cfm

TRANSPORTATION SUPPLEMENTAL [TRA]

As of 2021, there are several sidewalk projects under construction, in design, or planned for the near future. The most up-to-date information on County sidewalk projects are included in the Capital Improvement Program (CIP) available at http://www.pinellascounty.org/budget/.

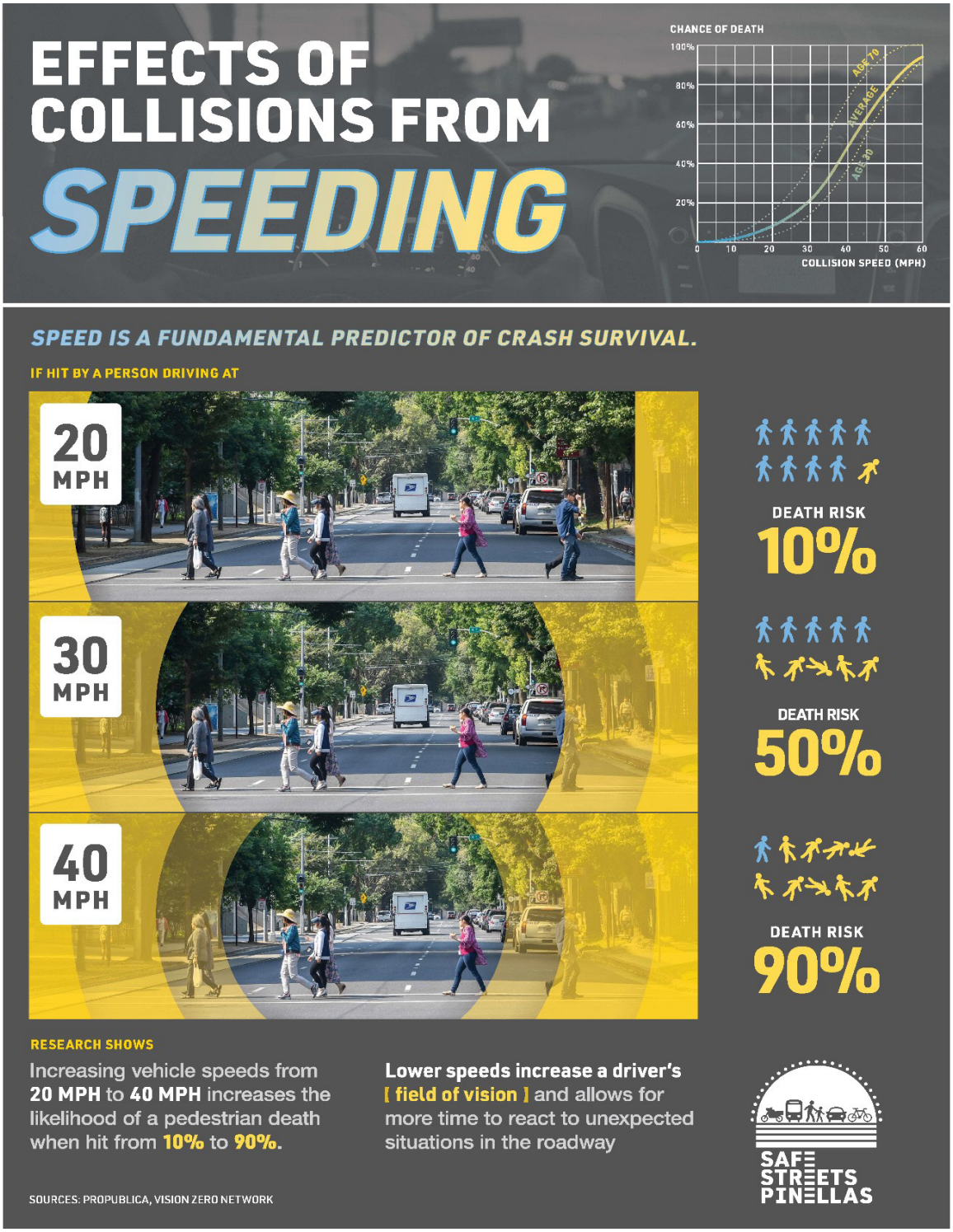

Figure 14: Effects of Collisions from Speed. Source: Forward Pinellas

FREIGHT TRAVEL IN PINELLAS COUNTY

The effective and efficient movement of goods supports essential activities and vibrant communities. Demand for goods movement is fundamentally a function of the economy and is generated by retail, construction, manufacturing, and wholesale trade operations. Most freight is moved relatively short distances (less than 250 miles). Approximately 67 percent of the weight and 52 percent of the value of goods moved less than 250 miles between origin and destination in 2018. In contrast, about 8 percent of the weight and 17 percent of the value of goods moved 1,000 miles or more.[51]

Modal shares of freight vary by distance. Trucks carry the largest shares by value, tons, and ton-miles for shipments moving 750 or fewer miles, while rail is the dominant mode by tons and ton-miles for shipments moved from 750 to 2,000 miles. Air, multiple modes and mail, and other/unknown modes accounted for 51.8 percent of the value of shipments moved more than 2,000 miles.

FREIGHT LOS – EXISTING AND PROJECTED

Trucks, the CSX Railroad and the St. Pete-Clearwater International Airport are the three primary sources of goods movement in Pinellas County.

Rail usage is measured in million gross ton miles (MGTM), which incorporates the weight of freight and the rolling stock. Lines carrying less than 5 MGTM are classified by the railroad industry as "light density" lines which are candidates for abandonment. As of 2021, the CSX railroad carries less than 1 MGTM and is one of the most seldom used lines in the Tampa Bay Region. A number of studies have been conducted since the 1990's considering the use of the CSX line in Pinellas County for passenger rail or other transportation uses, but as of 2021, there are no confirmed plans for the line.

St. Pete-Clearwater International Airport (PIE) is a commercial service airport that supports scheduled air passenger service, general aviation and military operations; however, historically the airport has also supported air cargo. The Airport Master Plan guides short- and long-term capital improvement development to meet future operational demands that may be required over the next 20 years, to support the continued growth of air carrier, air cargo, general aviation and military operations.

Freight carrying trucks move the largest number of goods through Pinellas County. The heaviest truck traffic in Pinellas County occurs on facilities that serve the County's most industrialized areas in mid-County. The Countywide Truck Route Plan designates facilities suitable for heavy truck use during daylight hours as well as routes where truck traffic is permitted at all hours (unlimited) as seen on Figure 15. The purpose of the Truck Route Plan is to facilitate the efficient movement of trucks on roads that are better designed to accommodate higher speeds and the turning movements of heavy vehicles while minimizing their impact on residential neighborhoods.

Projections indicate national freight tonnage will increase at about 1.2 percent per year through 2045.[52] Trucks carry 64 percent of the tonnage in the United States, and this is projected to grow by an average of 1.2 percent annually through 2045.

KEY CHALLENGES – FREIGHT

- Majority of freight moved on same roadways as personal vehicles
- Increasing medium truck traffic with more direct home deliveries
- Future technology – autonomous vehicles, drones

51. Bureau of Transportation Statistics https://data.bts.gov/stories/s/Moving-Goods-in-the-United-States/bcyt-rqmu
52. Bureau of Transportation Statistics https://data.bts.gov/stories/s/Moving-Goods-in-the-United-States/

FREIGHT – ADDRESSING DEFICIENCIES

The Gateway Expressway and the Howard Frankland Bridge replacement are identified priority freight needs in Pinellas County, and as of 2021 are anticipated to be complete by 2024.[53] Freight transportation systems have become more intricate, and are affected by the variety of static and dynamic elements associated with roadways. Effective ways to manage freight systems need to be identified through data analysis to support policy decisions. A recent study evaluated the accessibility of freight warehouses to intermodal freight facilities in the Tampa Bay region. Results indicate that there is a need for smart transport solutions such as dedicated truck-only lanes, Vehicle-to-Vehicle (V2V), and Vehicle-to-Infrastructure (V2I) to improve freight LOS.[54]

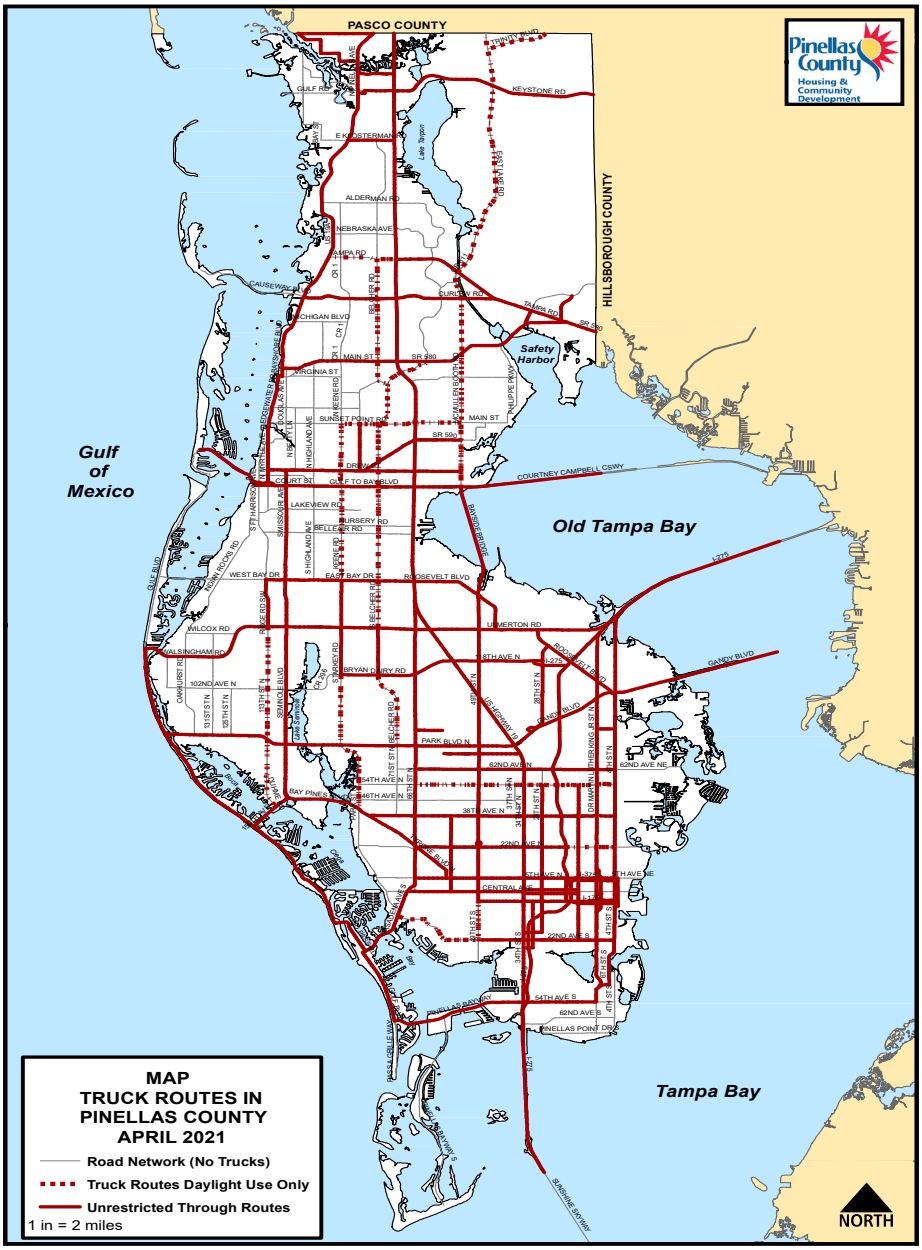

Figure 15: Truck Routes in Pinellas County.

53. FDOT Tampa Bay Regional Strategic Freight Plan 2018 https://tampabayfreight.com/wp-content/uploads/TBRGM_AbbContent_FINAL.pdf

54. Kocatepe, A., Ozkul, S., Ozguven, E., Olusegun, Sobanjo, J. and Moses, R. The Value of Freight Accessibility: a Spatial Analysis in the Tampa Bay Region

INTERMODAL FACILITIES IN PINELLAS COUNTY

Intermodal facilities are places where passengers and/or freight enter, leave or change modes within a transportation system. Examples of intermodal facilities include airports, parking garages, and transit centers. Intermodal facilities in the County also include the CSX rail line, bus terminals, water taxi docks, Park-and-Ride lots and public parking garages and lots. PSTA vehicles are mobile intermodal facilities: they are accessed by walking, cycling or and/or driving, and provide storage for your bicycle or mobility device with you to continue your trip!

INTERMODAL FACILITIES LOS – EXISTING AND PROJECTED

The PSTA made significant advancements in intermodal travel in the County in 2016 with the creation of the Direct Connect program. The first in the nation, the Direct Connect program is a "first mile, last mile" solution that provides reduced-cost rides to and from designated transit stops. Currently, the Direct Connect program is a partnership with Uber and United Taxi and includes a fare reduction for rides to and from 26 PSTA locations daily, from 5am to midnight. Direct Connect locations are the most recent advancement in intermodal facilities in the County, and Pinellas County will support PSTA in meeting identified needs at these locations as the program progresses. See Figure 16 for Direct Connect locations.

Additional intermodal facilities are needed throughout the County to reduce auto-dependence and increase mobility and accessibility for all. As improvements to the multimodal network are implemented, projected demand for intermodal facilities that provide safe, comfortable and convenient interface between modes will increase.

Figure 16: Direct Connect Locations. Source: PSTA 2021.

TRANSPORTATION SUPPLEMENTAL [TRA]

INTERMODAL FACILITIES – ADDRESSING DEFICIENCIES

The Florida Department of Transportation (FDOT) is conducting a site selection and conceptual analysis and for an intermodal center in the Greater Gateway area. The purpose of the Intermodal Center is to serve both local and regional travel needs, facilitate multimodal mobility, and support economic development in the Gateway area. Examples of the types of modes that may be served are local bus, regional express bus, bus rapid transit (BRT), vanpool, taxi & ride share services, bicycle, and pedestrian facilities.

The Master Plan for the St. Pete – Clearwater International Airport includes intermodal improvements to better serve the multimodal needs of aviation customers and Airport employees. Pinellas County will continue to coordinate with FDOT, PSTA, municipalities, and other local partners to address emerging intermodal facility needs.

PORTS, AIRPORTS, AND WATERBORNE TRANSPORTATION IN PINELLAS COUNTY

PORTS, AIRPORTS AND WATERBORNE TRANSPORTATION LOS – EXISTING AND PROJECTED

The St. Pete-Clearwater International Airport is under the jurisdiction of Pinellas County and discussed further in this section. The County has two other airports, the Clearwater Executive Airpark and Albert Whitted Municipal Airport in St. Petersburg. The only deep-water seaport in the County is the Port of St. Petersburg, which is not under the jurisdiction of Pinellas County.

The St. Petersburg Clearwater International Airport (PIE) occupies approximately 1,900 acres located along West Roosevelt Boulevard in mid-Pinellas County. The Pinellas County BCC owns, operates and maintains the airport. St. Pete-Clearwater International Airport (PIE) is a commercial service airport that supports scheduled air passenger service, general aviation and military operations; however, historically the airport has also supported air cargo.

The Airport Master Plan will help guide short- and long-term capital improvement development to meet future operational demands that may be required over the next 20 years, to support the continued growth of air carrier, air cargo, general aviation and military operations. Airport planning occurs at local, statewide, and national levels. Airport master plans provide planning at the local level, while statewide matters are addressed by FDOT and national issues by the Federal Aviation Administration (FAA). PIE is currently developing a new Master Plan to guide airport development consistent with this Comprehensive Plan and community objectives. The Master Plan is a 20-year development program to maintain a safe, efficient, economical, and environmentally responsible airport facility for the Tampa Bay community. Information about the PIE Master Plan can be found at http://piemasterplan.com/. Implementation of the PIE Master Plan is projected to increase aviation LOS.

Redevelopment of the St. Petersburg-Clearwater International Airport property is subject to approval by the Federal Aviation Administration and must be consistent with the objectives of the PIE Master Plan. Any airport redevelopment must be consistent with the goals and objectives of this Comprehensive Plan and undertaken in a manner that provides appropriate buffering for surrounding land uses.

Waterborne transportation in Pinellas County has expanded in recent years with the establishment of the Cross-Bay, Clearwater, and Dunedin Ferry services. The Cross-Bay Ferry is a seasonal service between Downtown St. Petersburg and Downtown Tampa partially funded by Pinellas County.[55] With over 41 miles of navigable intracoastal waters, increasing waterborne transportation is a viable alternative transit option for Pinellas County's transportation network.

55. https://www.thecrossbayferry.com/mission-and-purpose/

Pinellas County will continue to support Forward Pinellas, municipal, and other local and regional partners in advancing waterborne transportation, and projected LOS will improve as additional services are added.

AIRPORT AND WATERBORNE TRANSPORTATION LOS – ADDRESSING DEFICIENCIES

The primary goal of the PIE Master Plan is to create a 20-year development program to maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. The Master Plan provides guidance to satisfy aviation demand in a financially feasible and responsible manner. Implementation of the PIE Master Plan will accomplish the following objectives:

- Ensure orderly development: consider short-term needs and long-term plans;
- Maximize level of service to passengers while maintaining low operating costs;
- Serve increasing number of passengers in a phased and cost-effective manner;
- Provide for the growth of air cargo and general aviation;
- Diversify airport revenue streams and increase regional economic impact;
- Ensure compliance with latest FAA design criteria, grant assurances, and policies;
- Refine land development strategy;
- Integrate sustainability and resiliency concepts to ensure long-term viability;
- Provide flexibility to allow the airport to respond to changes in the aviation industry;
- Meet FAA Airport Geographic Information System (AGIS) mandate;
- Create a new Airport Layout Plan drawing set;
- Capitalize on airport branding; and
- Secure broad community buy-in for the future airport development program.

Forward Pinellas has developed a Waterborne Transportation Subcommittee to determine how to best support the sustained success and expansion of the waterborne transportation system in Pinellas County. Representatives from FDOT, Forward Pinellas, Pinellas County, PSTA and municipalities are working together to explore opportunities for the expansion of waterborne transportation. Improving LOS to develop reliable, efficient waterborne transportation as an alternative to other modes could help relieve congestion and improve the multimodal network.

RECREATIONAL TRANSPORTATION

In addition to encouraging a healthy alternative to motorized travel, interconnected networks of cycling and pedestrian facilities can have a positive influence on local economies, stimulating commercial activity, attracting and revitalizing businesses, creating jobs, promoting tourism and increasing property values.

RECREATIONAL TRANSPORTATION LOS – EXISTING AND PROJECTED

The Pinellas Trail Loop is the premier recreational transportation facility in the County. Automated trail counters recorded a total of 1,223,114 trail users at eight locations on the Pinellas Trail Loop in 2018.[56] Approximately 5% of users surveyed in 2019 primarily used the Pinellas Trail for commuting, the overwhelming majority typically used the trail for exercise and recreation.[57] Users also indicated secondary use of the trail for shopping, going to restaurants, going to the park or the beach, and socializing.[58] A large majority of users surveyed indicated they would like to use other trails.[59]

56. Source: Forward Pinellas Countywide Trends and Conditions Report https://forwardpinellas.org/wp-content/uploads/2017/11/Countywide_Trends_and_Conditions_Report.pdf
57. Source Forward Pinellas 2019 Pinellas Trail User's Survey https://forwardpinellas.org/wp-content/uploads/2016/08/Pinellas-Trail-Users-Survey.pdf
58. Ibid.
59. Ibid.

TRANSPORTATION SUPPLEMENTAL [TRA]

Many Pinellas County parks offer excellent opportunities for recreational transportation in the form of hiking and multiuse trails. Brooker Creek Preserve provides over nine miles of equestrian trails operated and maintained by the County. The Walsingham Equestrian Park is located south of Walsingham Park on County-owned land that is leased and operated by non-profit corporations. Many County parks have mangrove trails and blueways for non-motorized boats. The Pinellas County Blueways Guide provides information on Pinellas County paddling opportunities and designated launch points, and is available at http://www.pinellascounty.org/blueways/. Cross Bayou has recently been added to the County's list of designated blueways and is shown on the Florida Greenways and Trails System Plan as shown in Figure 17. Park amenities are discussed in PLANPinellas' Recreation, Open Space and Culture chapter, and up to date information can be found at http://www.pinellascounty.org/park/default.htm.

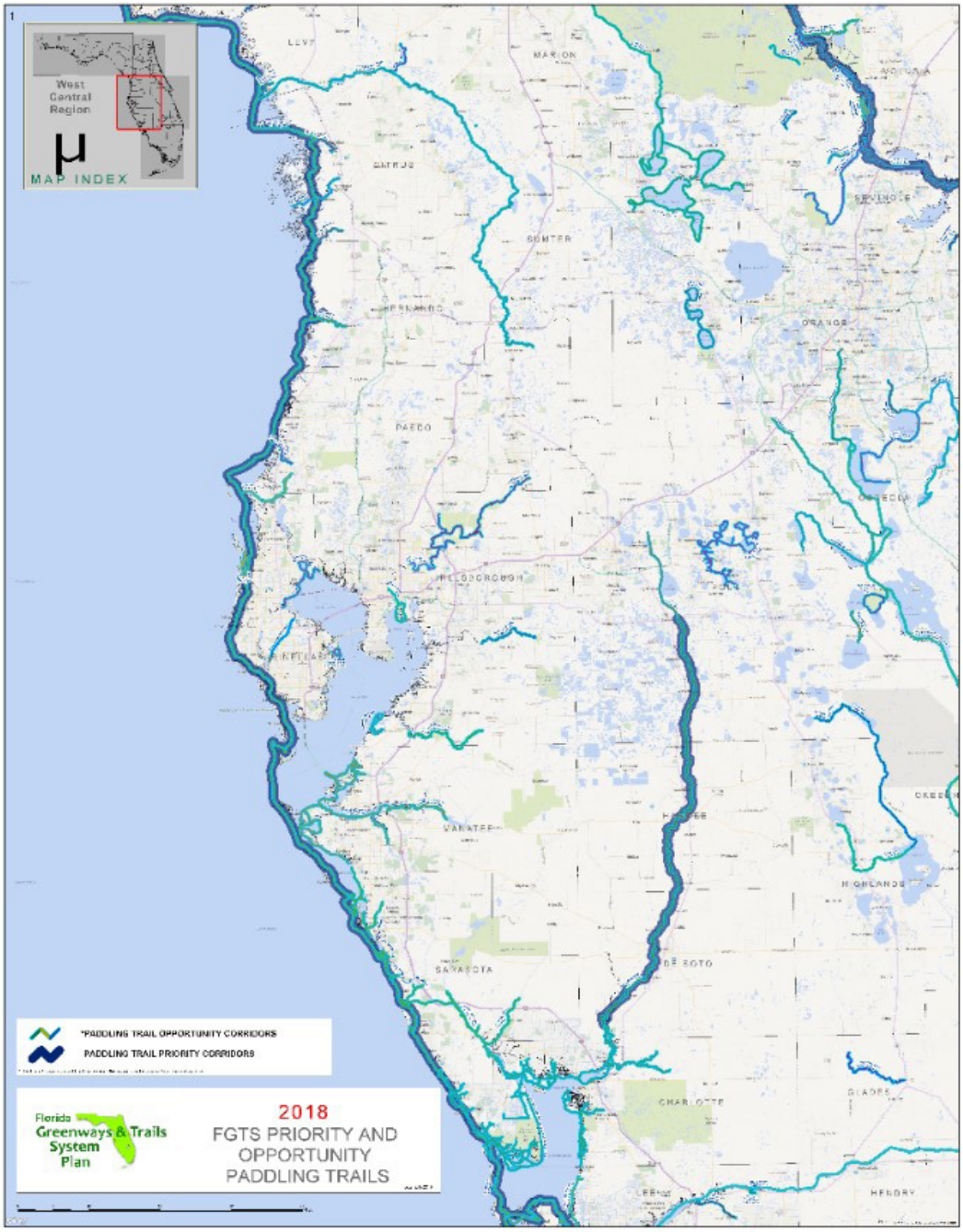

Figure 17: Priority and Opportunity Paddling Trails. Source: FGTS

In many Florida communities, golf carts and low speed vehicles (LSVs) serve as both functional and recreational travel modes. As of 2021, Florida law allows on-road operation of golf carts in certain situations if the entity with jurisdiction over the facility designates it for golf cart use.[60] Florida law also states that a low speed vehicle may operate on streets where the posted speed limit is 35 mph or less and can cross intersecting roadways where the speed is greater than 35 mph. A Low Speed Vehicle is defined as a four wheeled vehicle whose top speed is greater than 20 mph, but less than 25 mph. Golf carts are defined as motor vehicles designed and manufactured for operation on a golf course or recreational purposes with a top speed of 20 mph. LSVs require titling and registration, golf carts do not.

Golf cart use is permitted in the Village of Ozona, Crystal Beach, Safety Harbor and portions of Downtown Palm Harbor and the Highland Lakes community in Unincorporated County.

Golf carts and LSVs can be a component of multimodal transportation in mixed use areas and can reduce the amount of space needed for parking in activity centers. Because they can only operate at low speeds these vehicles are better suited than standard passenger vehicles for areas with high pedestrian and cyclist activity. The County will continue to evaluate appropriate areas for the operation of these recreational vehicles.

Pinellas County's 587 miles of coastline provide ample and diverse opportunities for waterborne recreation and transportation to access to points of interest. The waters of Pinellas County offer a wide range of paddling opportunities for all levels of experience. The Guide to Pinellas County Blueways, provides residents and visitors information on paddling opportunities in Pinellas County's coastal and inland waters. The Guide provides detailed information on 49 separate launch points and amenities.

There are over 100 combined unincorporated and municipal boat ramps available for public use in Pinellas County. The number and distribution of boat ramps has remained relatively static, with a significant majority of them located in the southern part of the County. County-managed boat ramp parks are discussed in PLANPinellas' Recreation, Open Space and Culture chapter.

The supply of publicly available marina space has declined, primarily due to the surge in demand for waterfront property. This is an important consideration in a highly developed County with many registered pleasure boats. To help meet demand, Pinellas County purchased its first marina property in 2006. For more information on access to the water, please see the PLANPinellas Coastal Management and Recreation, Open Space and Culture chapters.
Planned improvements to walking, cycling, and recreational facilities are projected to improve recreational transportation levels of service.

RECREATIONAL TRANSPORTATION LOS – ADDRESSING DEFICIENCIES

Additional future improvements to recreational transportation infrastructure may be needed to accommodate our future population. Pinellas County has prioritized the expansion of parks and preservation of open space to meet resident's expectations for recreational transportation opportunities.

EMERGING TECHNOLOGIES AND MICROMOBILITY

New technologies are transforming the way we live and how we travel. The effects of online commerce, shared-use vehicles, and advanced vehicle technology (automation, cameras, GPS, sensors) on the movement of people and goods have been rapid and continue to be unpredictable. Continued advances in automated, connected, electric and shared-use vehicles along with more general changes in travel behaviors and preferences complicate long-range transportation planning.

60. F.S. 316.212

TRANSPORTATION SUPPLEMENTAL [TRA]

Automated and connected vehicles could dramatically reduce the number of deaths and serious injuries caused by crashes on our streets and highways, as well as increase transportation options and reduce travel times.[61] Conversely, there is potential for these advances in technology to have adverse health, equity, land use and environmental impacts.[62] Policies related to emerging technology must be continually reviewed and adapted to ensure we are supporting positive outcomes and discouraging adverse social and environmental impacts.

Long-range planning provides an opportunity to shape the future. County policies and investments must be responsive to new transportation technology, as well as new and increased uses of existing modes. The earliest form of transportation in Pinellas County, waterborne transportation, has been re-established to provide transportation alternatives to congested destinations, and offers significant potential as a component of our future multimodal network. The evaluation of the feasibility of rail and aerial transit has been proposed, and seemingly futuristic high-speed passenger and freight conveyance systems, such as the Hyperloop, are transitioning from demonstrations to projects with "real world" utility.

Micromobility refers to the increasingly important "middle modes" that utilize relatively low-weight, low maximum speed vehicles for shorter trips such as e-bikes, scooters and electric skateboards. In recent years, micromobility has emerged in response to several factors including the high cost of personal automobile ownership, the need for first and last mile solutions for transit connectivity, competition for space in urban areas, and the rise of shared mobility companies and their deployment in activity centers.

Providing spaces for middle modes does not require planning new facilities for their exclusive use. Micromobility vehicles have similar infrastructure requirements as bicycles and designing low-speed environments where multiple modes can safely operate and interact will further the goal of a safe, efficient, and equitable multimodal network.
As we plan for the use of emerging and existing technology, we must be consistent with community values and vision. Promoting shared use of emerging technologies prioritizes public benefit over private profit. Implementation of new mobility systems must align with the goals of PLANPinellas to promote equitable access and expand multimodal choices. Regulation, development, and robust and targeted public engagement strategies are important steps to realizing the future of multimodal transportation.

GAINING MOMENTUM

The transportation network is the infrastructure that connects us to our daily destinations. A multimodal network helps to ensure that we provide both convenient and equitable access to these destinations and opportunities for recreation and physical activity. PLANPinellas is the foundation for building an integrated multimodal transportation system that:

- Is safe, equitable, convenient and energy efficient;
- Supports, and is supported by, efficient land use patterns;
- Improves quality of life and increases choices for all residents;
- Connects housing, employment centers, educational facilities, activity centers, and intermodal centers;
- Advances a thriving economy and maximizes opportunities for everyone;
- Promotes positive health outcomes;
- Adapts to changing needs, vehicles and technology; and
- Efficiently maintains, utilizes, and renovates existing facilities, capacity and rights-of-way.

61. Gruel, W., & Stanford, J. M. (2016). Assessing the long-term effects of autonomous vehicles: a speculative approach. Transportation research procedia, 13(2016), 18-29.
62. Milakis, D., Van Arem, B., & Van Wee, B. (2017). Policy and society related implications of automated driving: A review of literature and directions for future research. Journal of Intelligent Transportation Systems, 21(4), 324-348.

Streets provide infrastructure to reach destinations: right-of-way provides physical space, lights illuminate existing conditions and opportunities ahead, signals and signs guide direction and momentum, transit shelters offer a place to wait until the opportunity to board arrives or a shower passes. A street provides opportunities to reach a destination by multiple modes at differing speeds, with varying stops and starts. Similarly, the Transportation Element of PLANPinellas provides the infrastructure to reach our comprehensive transportation goals and objectives through implementation of policies and strategies. The application of plan infrastructure may vary over time and circumstance, but the destinations of safety, equity, opportunity, choice, efficiency, innovation, and progress remain constant in our journey towards the future.