

FREIGHT



LOGISTICS ZONE

STRATEGIC PLAN

HILLSBOROUGH METROPOLITAN PLANNING ORGANIZATION

JUNE 2016





Table of Contents

Executive Summary.....	2
Introduction	3
What is a Freight Logistics Zone?	3
Study Area	3
Freight Movement in the Tampa Bay Region	3
Central Florida Intermodal Logistics Center	4
Logistics Clusters.....	4
Stakeholder Coordination	6
Freight Logistics Zone.....	6
Existing Transportation Infrastructure.....	7
Planned Freight Infrastructure Projects.....	8
Workforce Availability.....	9
Workforce Training Capabilities.....	10
Development Incentives	12
Consistency with Local Plans.....	13
Strategic Element.....	14
Appendix A – FLZ Stakeholder Summit Presentations.....	A
Appendix B – Plan References	B
Appendix C – Supporting Data	C



Executive Summary

A Freight Logistics Zone (FLZ) is defined as a designated grouping of freight activity and transportation infrastructure in an area around an Intermodal Logistics Center (ILC). The purpose of the *Hillsborough+Polk FLZ Strategic Plan* is to identify a zone and supporting infrastructure that demonstrably serve a strategic interest in the region and the State. The Plan is a culmination of a regional collaborative effort that involves public and private stakeholders to compile, analyze and relate freight activity and needed infrastructure improvements to the FLZ. The strategic needs identified in the Plan represent the FLZ’s high priority freight infrastructure improvements crucial to the future mobility and reliability of goods movement in the region. These improvements are prime candidates for consideration of prioritized State funding.

HILLSBOROUGH+POLK FLZ

The Hillsborough+Polk FLZ, depicted in **Figure 1**, is located in one of the most economically productive centers of freight activity in Florida, featuring the largest seaport in the State in terms of cargo tonnage and area, a major international airport, an ILC, and a Foreign Trade Zone. It includes 12 logistics clusters with a variety of manufacturing, warehousing, intermodal operations, and distribution centers. The transportation infrastructure needed to provide quality access to these freight generators is critical to the continued economic prosperity of the region and the State as a whole.

The Hillsborough+Polk FLZ is oriented in an east/west direction, with *Port Tampa Bay* (PTB) and *Tampa International Airport* (TIA) anchoring the west side of the zone and the *Central Florida ILC* anchoring the east side. I-4 is one of the primary transportation facilities that provides freight mobility within the zone and to points east of Polk County. The I-4 corridor has evolved over the years to become a major distribution hub within one of the fastest growing regions in the State.

FREIGHT GENERATORS

PTB is the primary generator of freight activity in the FLZ, processing over 36 million tons of freight annually. **Approximately 85% of that tonnage moved over land is transported by truck**, with the remainder transported by rail. Of the 9,000 truck movements into and out of the Port, the majority are west or east bound, with the remainder destined to points north or

south. TIA is another major freight generator, specializing in relatively small but high value commodities amounting to **100,000 tons annually**. Other general aviation airports in the FLZ with air cargo or warehousing capacity include Tampa Executive, Lakeland Linder Regional, and Bartow Municipal airports.

The opening of the *Central Florida ILC* in 2014 in central Polk County provided another significant freight generator in the region. The ILC features almost two miles of rail lines and three cranes with the capacity to process 300,000 containers annually. Other freight activity centers in the

36 MILLION TONS
ANNUALLY THROUGH PORT
TAMPA BAY

FLZ include 35 distinct areas of freight activity that comprise the logistics clusters identified in the FLZ.

ECONOMIC DEVELOPMENT

Growth in the Gulf-Central Florida region is facilitated by its centralized location, land availability and value, large workforce and training institutions, and business friendly development environment. A robust program of local development incentives such as ad valorem tax and impact fee exemptions, regulatory assistance, and a variety of grant programs attracts the interest of international businesses from around the world. The growth potential of the area surrounding the **ILC alone will support 8 million square feet of warehouse space and 5,000 new jobs** and has drawn interest from Brazilian, Chinese, Mexican and American businesses.

The greater Tampa metropolitan area has expanded its employment by 24 percent since 2009, and now ranks 4th in the U.S and #1 in the state of Florida for the most growth (Source: New York Times). PTB is poised to accommodate future growth with plans to quadruple its container storage capacity and the

recent delivery of two Post-Panamax gantry cranes. **TIA also has expansion plans, with nearly \$1 billion worth of improvements** in its Master Plan.

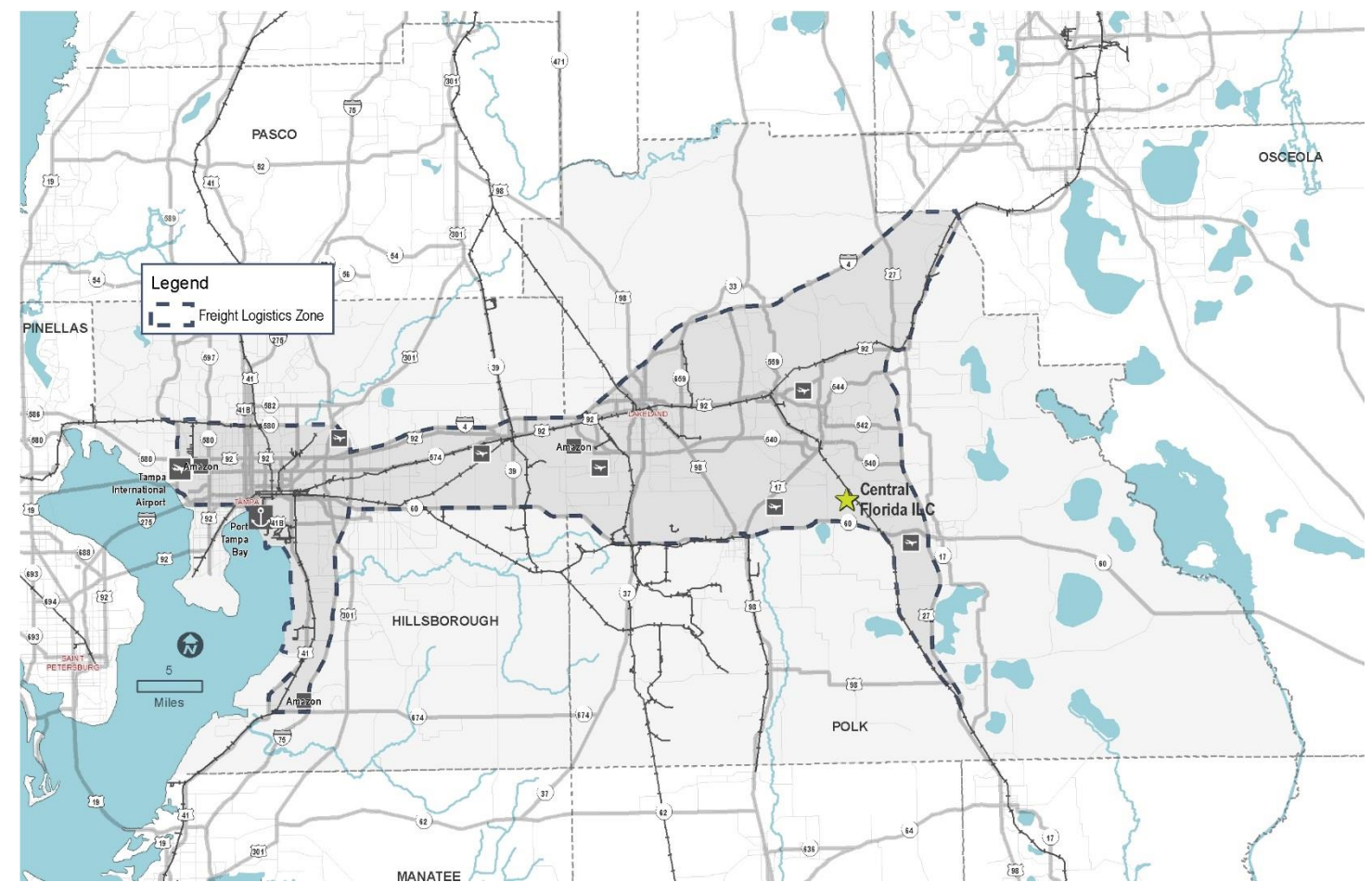
There is an ample workforce in the region, with a variety of workforce training programs available within the FLZ. **Training capabilities in the FLZ consist of 14 various programs** including numerous heavy machinery repair, maintenance and operation programs as well as higher education supply chain logistics and command language programs.

9 OF 14 TRAINING PROGRAMS ARE WITHIN A LOGISTICS CLUSTER

INFRASTRUCTURE

The Hillsborough+Polk FLZ is served by over 300 miles of Strategic Intermodal System (SIS) roadways, as designated by FDOT to represent the State’s primary transportation network for freight and personal travel. The SIS roadways in the FLZ are complemented by 240 miles of railroads and 270 miles of regionally designated freight corridors.

Figure 1. Hillsborough+Polk FLZ





Introduction

The Hillsborough Metropolitan Planning Organization (MPO) and the Polk Transportation Planning Organization (TPO) have joined together in partnership to designate the *Hillsborough+Polk Freight Logistics Zone* (FLZ) in order to advance the planning and funding of infrastructure that facilitates freight movement across the two-county region. The FLZ encompasses areas of both counties that play a significant role in the generation of freight activity and/or hold future potential for freight-related development that will make a substantial positive contribution to local economic competitiveness.

This Strategic Plan is designed to meet the requirements of Section 311.103 (2) of the Florida Statutes for designating a FLZ. It serves as a framework for directing potential funding to freight infrastructure and a coordinating document linked to freight projects identified in State, regional, and local plans. It is also a resource for economic development stakeholders at all levels from the public, private, and nonprofit sectors who are interested in the continued growth and prosperity of Hillsborough and Polk Counties. The Plan is intended to be maintained with periodic updates, evolving in parallel with the growth and emerging needs of the local freight economy.

What is a Freight Logistics Zone?

As defined in the Florida Statutes, a Freight Logistics Zone is “a grouping of activities and infrastructure associated with freight transportation and related services within a defined area around an intermodal logistics center.” As a core component of an FLZ, an intermodal logistics center (ILC) also is statutorily defined as:

a facility or group of facilities serving as a point of intermodal transfer of freight in a specific area physically separated from a seaport where activities relating to transport, logistics, goods distribution, consolidation, or value-added activities are carried out and whose activities and services are designed to support or be supported by conveyance or shipping through one or more seaports.

The Hillsborough/Polk County area is a major hub of freight movement in Central Florida where local planning authorities and other stakeholders have been working extensively for some time to evaluate freight needs, identify key infrastructure and centers of activity, and plan for an improved freight transportation network. A new ILC near Winter Haven has been developed and is surrounded by over 1,500 acres of land available for future expansion. With an emerging ILC, several cargo airports, a seaport (Port Tampa Bay), and a robust regional freight

roadway and rail network, Hillsborough and Polk counties are well positioned for growth in a globally connected freight industry that is both increasingly competitive and increasingly important for local economic growth.

Study Area

The study area evaluated for potential FLZ designation includes all of Hillsborough and Polk counties. The natural areas of focus for the FLZ designation include areas surrounding the key generators of freight activity and the transportation networks that serve freight traffic between them and to points outside of the study area. Port Tampa Bay, the Central Florida ILC, Tampa International Airport, and numerous Freight Activity Centers identified by project stakeholders anchor the local freight economy, and key transportation routes such as I-4, I-75, I-275, US 41, and other state and local roadways, as well as CSX rail lines, form the backbone of the freight network.

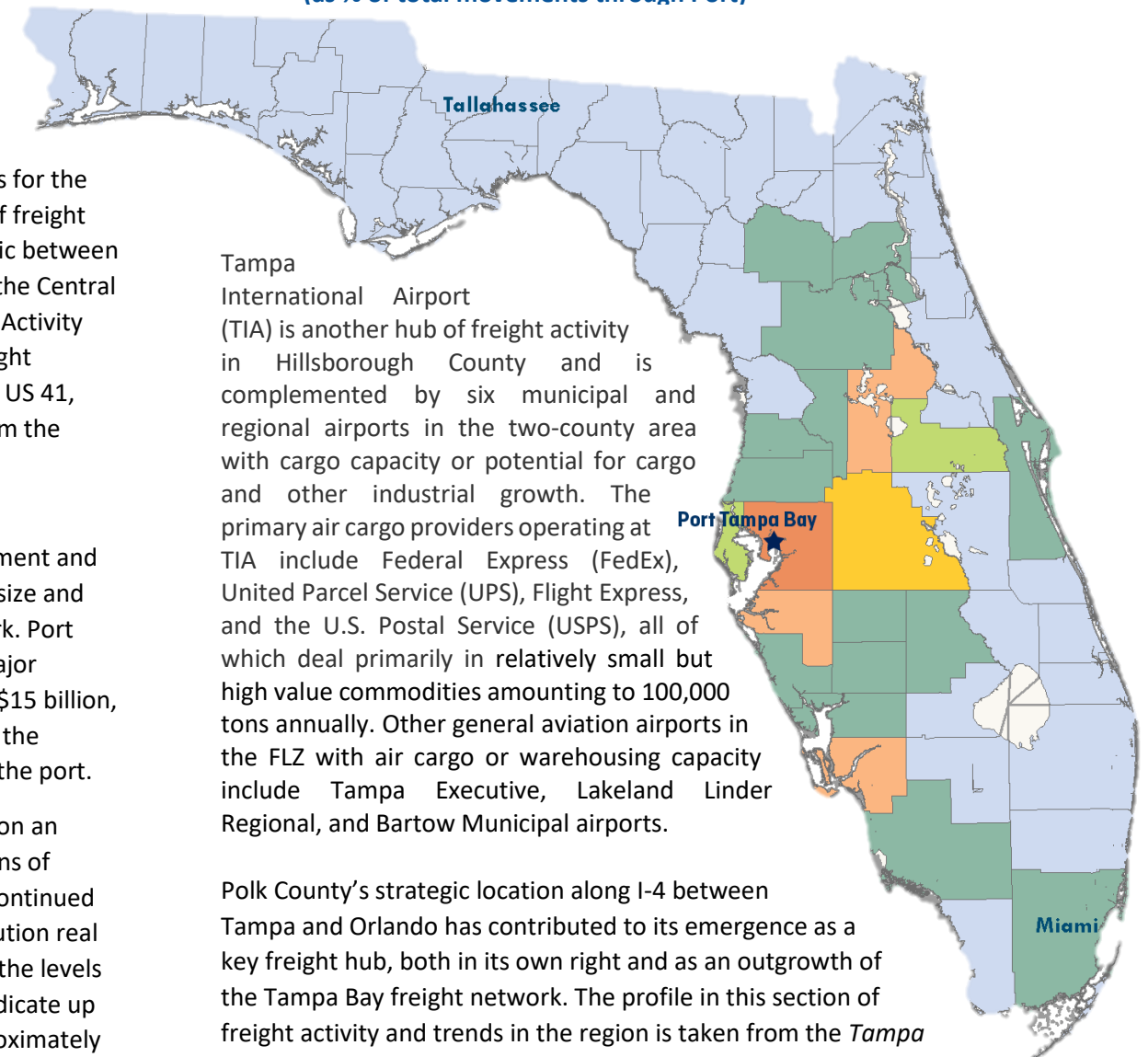
Freight Movement in the Tampa Bay Region

Hillsborough and Polk counties form a corridor of freight movement and activity in the broader region and state as a whole due to their size and strategic location relative to the regional transportation network. Port Tampa Bay (PTB) is the epicenter of freight movement and a major economic driver with an estimated annual economic impact of \$15 billion, reflecting both direct and indirect employment associated with the freight, cruise and shipbuilding & repair business generated by the port.

PTB processes more than 9,000 truck trips and 2,400 train cars on an average day. In fiscal year 2015, PTB handled over 36 million tons of cargo, the majority of which is oriented to/from the east. The continued growth of the region’s population and warehousing and distribution real estate markets, particularly in the I-4 corridor, directly impacts the levels of goods moving into and out of the Port. Projections by PTB indicate up to 60 percent growth in commodities moved by truck and approximately nine percent by rail over the next fifteen years.

Figure 2 illustrates heavy truck origins and destinations served by the Port. The primary market area for PTB includes the Gulf Coast from Hernando County to Collier County and most of Central Florida, with the highest concentration of freight activity in the counties surrounding the I-4 corridor. More than 30 percent of freight traffic interacting with the Port has an origin or destination in Hillsborough and Polk counties. This can be attributed to the significant distribution centers, mining operations, and population base in the counties. Orange and Osceola counties are the third and fourth largest generators of truck traffic destined to the Port with over five percent of the total port traffic destined to or originating in these counties.

Figure 2. Truck Movements In/Out of Port Tampa Bay (as % of total movements through Port)



Tampa International Airport (TIA) is another hub of freight activity in Hillsborough County and is complemented by six municipal and regional airports in the two-county area with cargo capacity or potential for cargo and other industrial growth. The primary air cargo providers operating at TIA include Federal Express (FedEx), United Parcel Service (UPS), Flight Express, and the U.S. Postal Service (USPS), all of which deal primarily in relatively small but high value commodities amounting to 100,000 tons annually. Other general aviation airports in the FLZ with air cargo or warehousing capacity include Tampa Executive, Lakeland Linder Regional, and Bartow Municipal airports.

Polk County’s strategic location along I-4 between Tampa and Orlando has contributed to its emergence as a key freight hub, both in its own right and as an outgrowth of the Tampa Bay freight network. The profile in this section of freight activity and trends in the region is taken from the *Tampa Bay Regional Strategic Freight Plan* prepared by FDOT District Seven.

The Hillsborough+Polk FLZ area’s central location within Florida uniquely qualifies the region for enormous growth potential in trade activity serving state, national, and international markets. A combination of population growth in West Central Florida, continued development of the Interstate-4 corridor as a distribution hub, widening of the Panama Canal in 2015, potential for future trade with Cuba, and overall expansion of Latin American and Caribbean markets will spur increased goods movement across the state and in the Tampa Bay region.

<= 1%
1%-3%
3%-5%
5%-10%
10%-20%
> 20%



Hillsborough County has historically served as a freight distribution hub for the Tampa Bay region and beyond due in large part to the intense freight activities supporting Port Tampa Bay and CSX freight rail operations. These significant freight distribution activities have expanded along the Interstate 4 corridor due to a number of factors, including:

- Polk County’s centralized location relative to Florida markets and lower transportation costs;
- Abundant land available for distribution facilities at relatively low prices;
- Large workforce and technical training institutions catering to the freight distribution industry; and
- A business friendly environment that incentivizes companies to locate in the area.

The freight transportation industry is a major employer in the two-county region. Freight transportation providers, warehouses, and distribution centers directly employ nearly 32,000 people working to expedite the movement of goods to consumers and businesses. Together with other freight generating activities including manufacturing, mining, and wholesale trades, the total freight-related employment in the eight-county Tampa Bay region reaches over 240,000 workers.

The Federal Highway Administration’s Freight Analysis Framework estimates over 280 million tons of freight originating, terminating, or circulating within the Tampa Metropolitan Statistical Area (MSA) in 2015. In that same year, inbound commodities accounted for 133 million tons, while outbound commodities destined for both domestic and international locations accounted for 91 million tons. Internal movements, defined as goods produced and consumed within the region, accounted for about 55 million tons in 2015. By 2040, the total goods moved into, out of and internally in the region is projected to climb to 317 million tons.

9,000 TRUCKS PER DAY AT PORT TAMPA BAY

The various commodities moving through the region are carried by a variety of transportation modes,

including trucks, sea vessels, freight trains, cargo planes, and pipelines or some combination of these modes. The vast majority of domestic freight – over 200 million tons in 2015, or about 82 percent of the total – is moved by trucks alone, and trucks are expected to absorb most of the growth in freight traffic in the future.

One of the major reasons for the dominance of truck shipping is that while in many regions fuel is distributed by pipeline, in the Central Florida region it is distributed from seaport terminals within the region and in

other parts of the state by truck. Other key commodities carried primarily by trucks include gravel and nonmetal mineral products (building materials), waste/scrap (metals), other agricultural products (produce), fertilizers (phosphate derived), and other foodstuffs.

The rail mode is the other major overland carrier of goods. In 2012, railroads carried more than 21 million tons of freight (not including multimodal cargoes). The primary commodity moved by rail is fertilizer. Other major commodities served by rail include nonmetallic minerals, coal, and basic chemicals. Many commodities are moved by a combination of modes, usually truck and rail. In 2012, at total of 15 million tons were moved into, out of, or around the Tampa MSA by multiple modes. Major multimodal commodities include fertilizers, gasoline, nonmetallic minerals, coal, and animal feed.

Central Florida Intermodal Logistics Center

CSX Transportation recently constructed one of Florida’s largest intermodal logistics centers in the Winter Haven area,

300,000 CONTAINER CAPACITY AT ILC

complementing the many companies with distribution facilities in the I-4 corridor. The Central Florida ILC location enables it to function as a centralized transportation and logistics hub for CSXT. The ILC terminal is the first of its kind in the southeastern United States, handling the transfer of new automobiles and containers from railcars to trucks. The contents of the containers are consumer goods such as merchandise, food products, and building materials. The ILC is expected to increase the reliability and efficiency of freight movement, while significantly reducing transport costs. The facility currently features 14 miles of mainline and terminal tracks, five loading and unloading tracks, two 10,000-foot arrival and departure tracks, and three cranes.

In its current state, the ILC features primarily the intermodal infrastructure necessary for intermodal freight activity with the capacity to process up to 300,000 containers annually. Further development of the ILC will include up to eight million square feet of warehousing on over



1,500 acres and add up to 5,000 new jobs to the area. International interest in the development potential of this site includes supply chain,

petroleum distribution, recycling processing, manufacturing, fluid processing, and cold storage and distribution companies.

Logistics Clusters

There are numerous existing and emerging centers of freight activity within the study area of Hillsborough and Polk counties. These places have a combination of freight-oriented businesses, business parks and industrial land with excellent road and/or rail accessibility, and other key locational characteristics which highlight these places as important components of the local freight economy. These logistics clusters were identified and mapped, and the analysis served as the primary guidance for designation of the FLZ area.

There are three direct sources used to define logistics clusters in the study area, plus a set of indirect sources that informed the analysis and influenced the cluster identification process.

200 SQUARE MILES OF LOGISTICS CLUSTERS

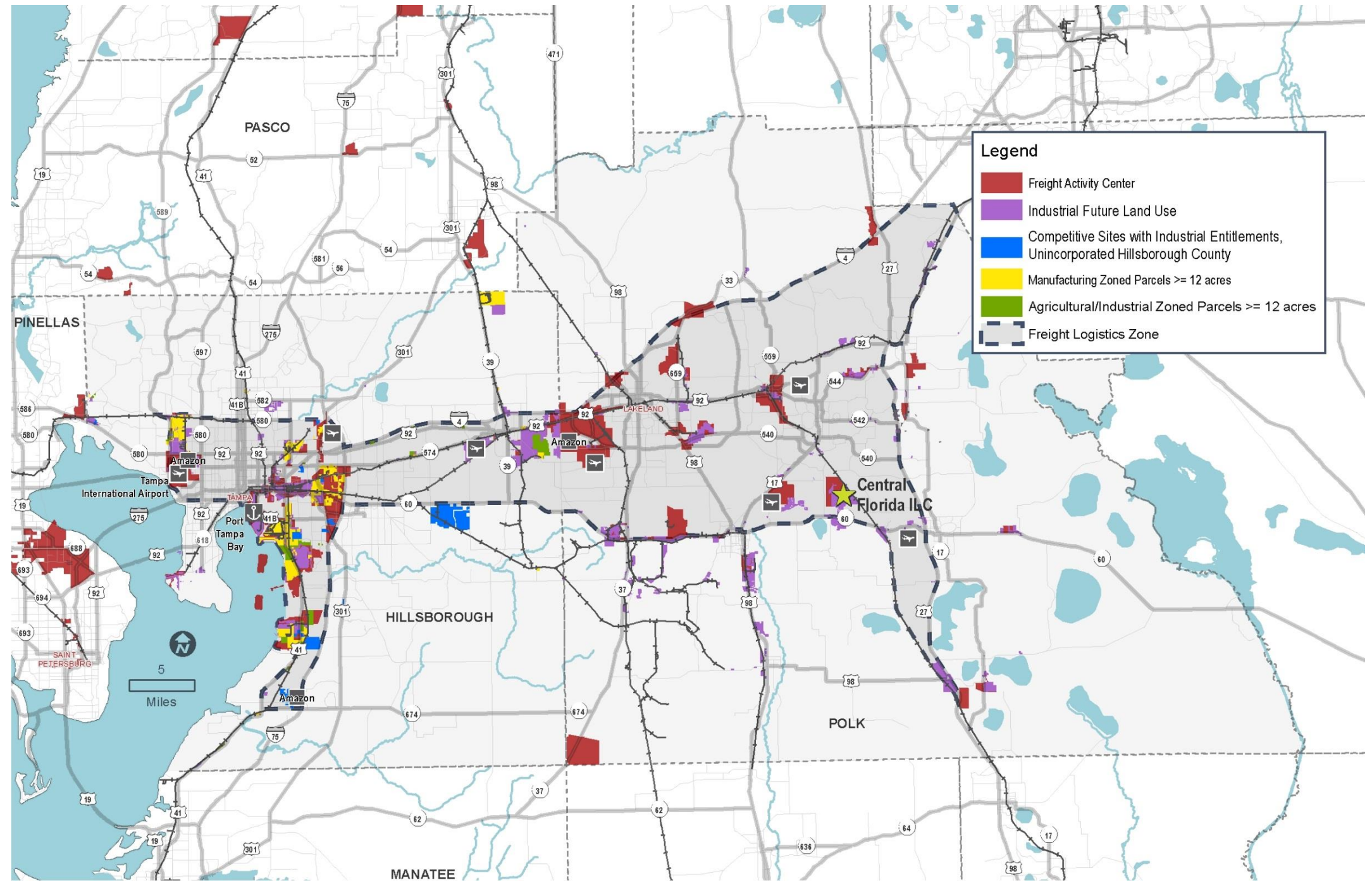
- Freight Activity Centers (FACs) have been identified in the region by FDOT, which include clusters, large and small, of existing and emerging freight activity. An extensive set of evaluation factors guided FAC designation, including level of freight activity, existing or emerging role in the regional economy, existing and future industrial and freight related land uses, capacity for growth and expansion, geographic extent of the market served by the center, and consistency with the region’s vision for economic growth.
- Hillsborough County’s Competitive Sites program has identified parcels that are ripe for growth and development. The program is designed to highlight prospective sites for targeted industry development, allowing the County’s economic development staff to seize opportunities and facilitate fast-moving private sector decision making. To focus on logistics clusters, competitive sites that were prioritized included Developments of Regional Impact (DRIs) and Planned Developments with industrial entitlements, or sites that hold a high level of development potential generally.
- In order to capture areas still emerging or anticipated to potentially emerge as freight hubs, the analysis included land designated for industrial uses that is in or near clusters of existing freight activity. A number of sites were identified by members of the regional freight stakeholders group as worthy of consideration for inclusion in a logistics cluster.



- Several indirect sources were consulted in order to supplement the primary identification factors, including clusters of warehousing activity from an FDOT database, truck origin/destination data, heavy truck traffic volumes, rail traffic volumes, long range transportation plans (MPO plans, the FDOT Strategic Intermodal System plan, and the FDOT Freight Mobility and Trade Plan), and the regional freight network.

Identification of logistics clusters was thus a cumulative process of layering the various data sources to produce a set of locations that ranked highest on a broad range of factors that cover freight activity, accessibility, land availability, and development potential. The logistics clusters that emerged from this assessment represent a comprehensive account of both existing and potential freight activity in the study area as depicted in **Figure 3**. These clusters are the building blocks used to develop a FLZ boundary that is directly and functionally related to the current and future freight activity within Hillsborough and Polk counties. Other ongoing work efforts by FDOT District Seven to assess the development potential in and around the logistics cluster areas can be used to refine the cluster boundaries, if necessary in future updates of the FLZ Strategic Plan.

Figure 3. Building Blocks of Logistics Clusters





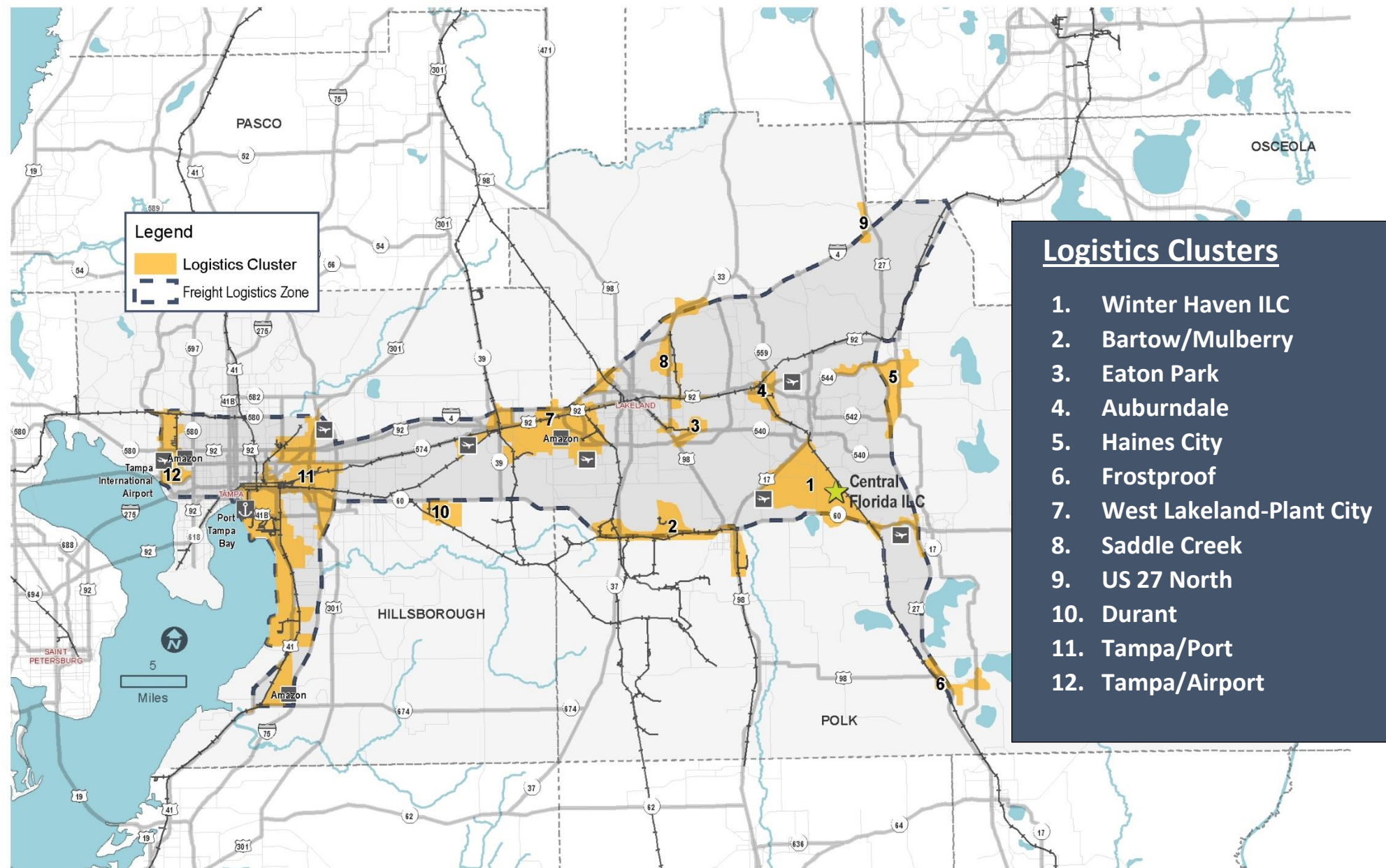
Stakeholder Coordination

The Hillsborough MPO and Polk TPO have joined together in partnership to designate the Hillsborough+Polk Freight Logistics Zone. As the primary long range transportation planning agencies for their respective counties, these two organizations led the initiative that will help organize and facilitate the improvement of the local freight transportation network. A wide variety of agencies, jurisdictions, and other stakeholders with responsibility for local and regional freight transportation and economic development were engaged in the FLZ planning effort. The FLZ Strategic Plan was developed in coordination with the following agency stakeholders:

- State agencies
 - FDOT District One
 - FDOT District Seven
- Local governments
 - Hillsborough County Economic Development Dept.
 - Hillsborough County Department of Public Works
 - Hillsborough County Planning Commission
 - Polk County
 - City of Lakeland
 - City of Plant City
 - City of Tampa
 - City of Winter Haven
- Intermodal agencies and freight providers
 - CSX Railroad
 - Port Tampa Bay
 - Tampa International Airport
- Economic development organizations (separate from local governments)
 - Central Florida Development Council
 - Lakeland Economic Development Council
 - Plant City Economic Development Council
 - Tampa Hillsborough Economic Development Corp.
 - Winter Haven Economic Development Council

Coordination has been especially important to compile the infrastructure needs in the study area that support freight movement. The various agencies charged with transportation planning at the state and local levels have provided lists of cost feasible projects and unfunded needs that comprise the future transportation improvements in Hillsborough and Polk Counties, including those both with and without identified funding sources. Presentations delivered at stakeholder summits are included in **Appendix A**.

Figure 4. FLZ and Logistics Clusters Boundaries



- #### Logistics Clusters
1. Winter Haven ILC
 2. Bartow/Mulberry
 3. Eaton Park
 4. Auburndale
 5. Haines City
 6. Frostproof
 7. West Lakeland-Plant City
 8. Saddle Creek
 9. US 27 North
 10. Durant
 11. Tampa/Port
 12. Tampa/Airport

Freight Logistics Zone

The Freight Logistics Zone includes a two-level hierarchy that reflects the intent for the zone to be both inclusive and flexible, encompassing future freight needs, and relevant to specific clusters of freight activity that affect the current network. The overall boundaries of the FLZ area are:

- North: I-4 and SR 580
- East: US 27
- South: SR 60, I-75, and SR 674
- West: Tampa Bay and Veterans Expwy

The FLZ contains the identified logistics clusters as well as land area that is developed/designated for other land uses. While some of the included area is not designated for freight development, it is necessarily included in a consolidated area that physically connects the logistics clusters and is influenced by the course of freight development in the future. Logistics cluster locations within the FLZ boundary are shown in **Figure 4**.

The following sections address the required elements of a FLZ Strategic Plan as described in Section 311.103 (2) of the Florida Statutes.



Existing Transportation Infrastructure

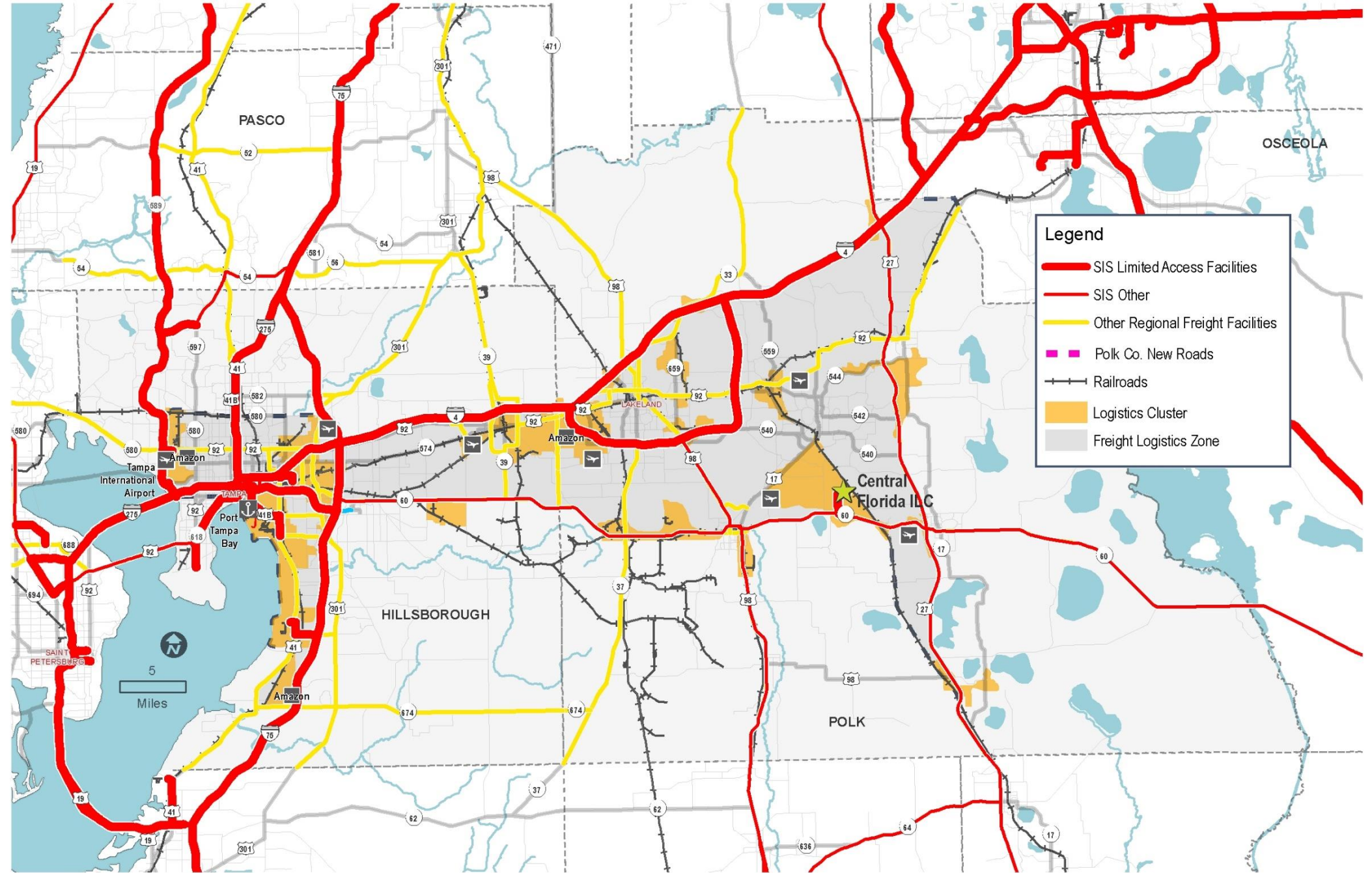
A regional freight network has been designated by the local FDOT Districts in coordination with all local jurisdictions and their respective truck route policies. The network includes a hierarchical structure that reflects a clear understanding of the freight infrastructure in the region in terms of each part’s function and context within the broader system. The FDOT Strategic Intermodal System (SIS) represents the core of the freight network statewide and is included in the higher orders of the locally designated network. The four primary pieces of the system include:

- **Freight Railroads:** rail infrastructure inter-connecting the freight activity centers within the region and to the broader state and national goods movement markets;
- **Limited Access Roadways:** interstates and toll roads that represent the backbone of the state’s freight network or SIS;
- **Regional Freight Mobility Corridors:** roadways providing regional through movements as well as linkages to the limited access roadways to and from FACs; and
- **Freight Distribution routes:** provide circulation and distribution of goods throughout the region.

The freight network serving the FLZ extends throughout the overall area and provides access to all of the identified logistics clusters. **Figure 5** depicts the SIS designated network in Hillsborough and Polk counties as well as other regional mobility corridors and planned new roadways.

Appendix C includes maps depicting 2014 heavy truck counts in absolute terms and as a percentage of Average Annual Daily Traffic counts (AADT).

Figure 5. Designated Freight Network





Planned Freight Infrastructure Projects

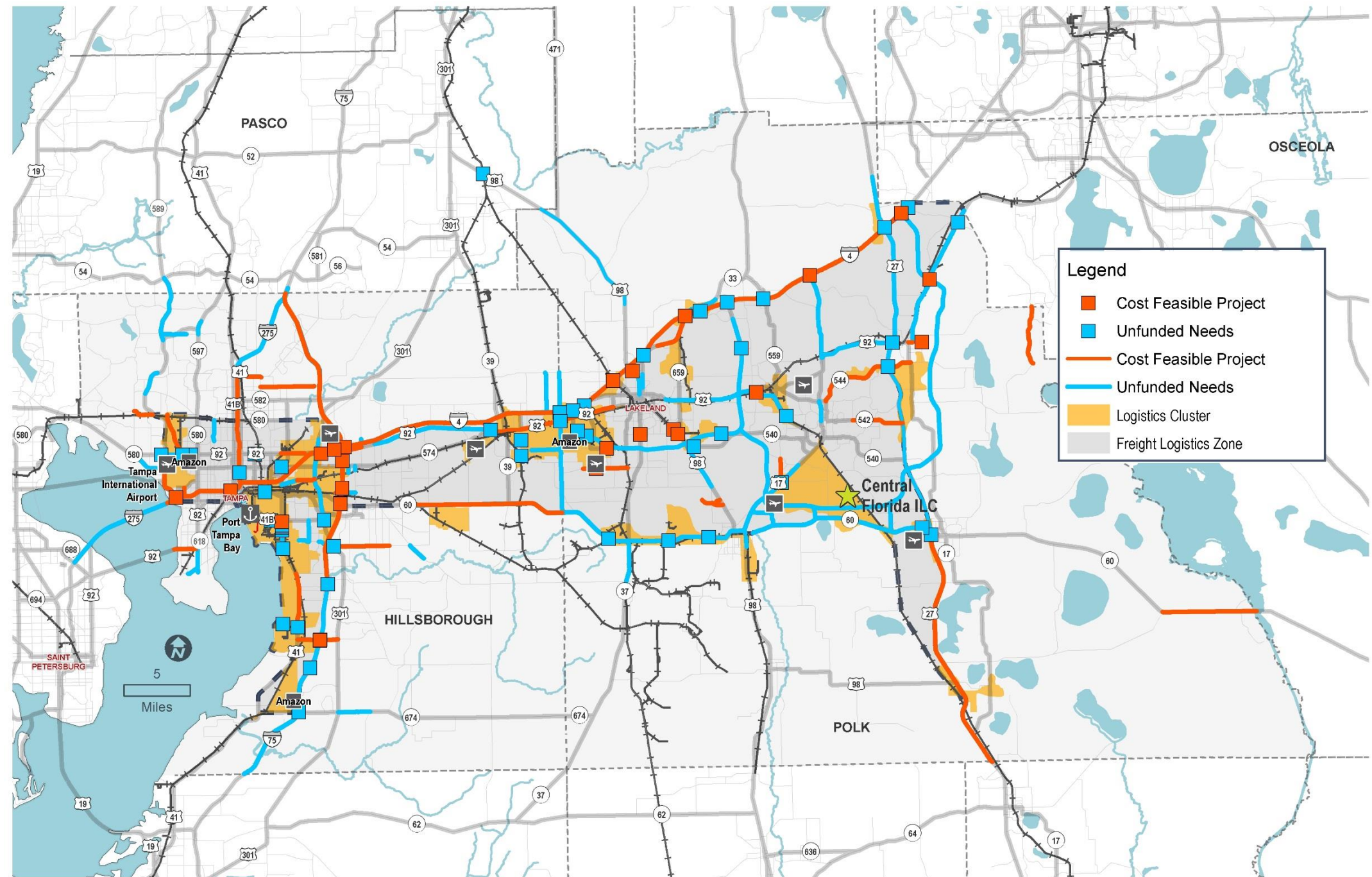
Infrastructure improvement needs on designated regional freight network facilities in the region ranging from traffic signal improvement to major highway capacity needs were compiled from four primary sources.

- The FDOT Freight Mobility and Trade Plan (FMTP), which essentially compiles project needs initially identified in FDOT district and local needs plans.
- The FDOT Strategic Intermodal System (SIS) long range plan, which identifies both cost feasible and unfunded needs for this high priority, state designated system.
- MPO and TPO long range transportation plans that provide comprehensive and detailed accounts of unfunded needs and long range cost feasible projects.
- Emerging or other improvement needs that have yet to be formally included in existing plans but are known to the MPO/TPO or other stakeholders.

A compilation of infrastructure needs from all of the sources listed above, overlaid on the logistics cluster locations, is depicted in **Figure 6**. Other sources of infrastructure needs incorporated by reference in the Strategic Plan include those identified in airport and seaport master plans. The regional needs considered for explicit inclusion in **Figure 6** represent a comprehensive inventory of future roadway and other transportation projects on the designated freight network that have been determined to best address the mobility needs of the study area. A locally prioritized set of strategic infrastructure needs is included in the Strategic Element section below.

Planned projects referenced in **Figure 6** and in modal master plans are referenced via web links listed in **Appendix B**.

Figure 6. Planned Improvements





Workforce Availability

Data from the U.S. Census Bureau’s American Community Survey was mapped and analyzed to relate the logistics centers and overall FLZ to workforce availability in the region. The two primary sectors of workforce data used in this analysis are freight-related workforce and unemployed workforce. The identified freight-related workforce sectors include mining/extraction, manufacturing, wholesale trade, and transportation/warehousing. The analysis isolates workforce within five miles of the 12 logistics clusters as a measure of accessibility to the clusters. The total freight-related workforce meeting that criterion is just over 106,000 workers, representing 89 percent of the approximately 120,000 total freight-related workers in the region. The total unemployed workforce within five miles of one or more clusters includes 89,000 workers, representing 90 percent of the approximately 99,000 total unemployed workers in the region. **Table 1** includes a breakdown of the available workforce by logistics cluster. **Figure 7** illustrates the buffered unemployed workforce availability by logistics cluster. **Appendix C** includes both unemployed and freight related workforce maps in percentage terms (of total workforce within buffered area).

Figure 7. Unemployed Workforce Availability – 2010-2014 American Community Survey

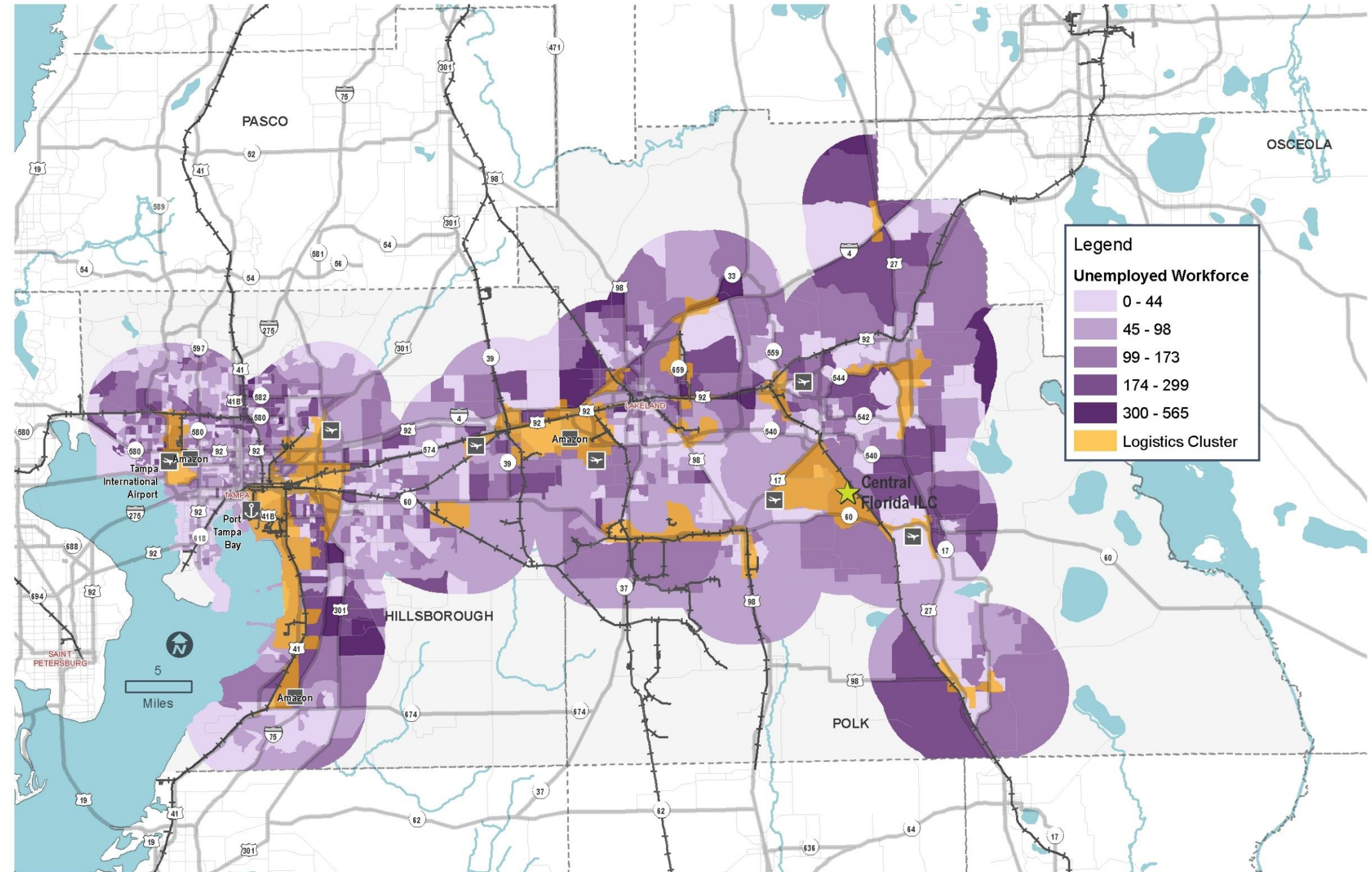


Table 1. Workforce Availability (# of workers)

Logistics Cluster	Freight Related	Unemployed
1. Winter Haven ILC	10,561	7,880
2. Bartow/Mulberry	8,823	4,509
3. Eaton Park	10,534	10,053
4. Auburndale	6,868	6,651
5. Haines City	7,360	6,992
6. Frostproof	922	593
7. W. Lakeland-Plant City	25,463	17,538
8. Saddle Creek	13,367	12,867
9. US 27 North	1,254	1,417
10. Durant	12,230	6,434
11. Tampa/Port	40,900	39,892
12. Tampa/Airport	29,428	27,575
Freight Clusters Total	106,754	89,025
Countywide Total	120,303	99,424



Workforce Training Capabilities

There are numerous freight-related workforce training capabilities across the region, including higher education programs, machinery operation training programs, and machinery repair and maintenance programs. Specific program types include:

- Supply chain and logistics education
- Industrial machinery repair and maintenance
- Heavy truck repair and maintenance
- Aircraft maintenance
- Forklift operation
- Truck driving

In partnership with Hillsborough County Public Schools, Hillsborough Community College, the University of South Florida, CareerSource Tampa Bay, manufacturers and manufacturing-related associations, Hillsborough County's Economic Development Department is implementing an initiative to engage local manufacturers in the process of strengthening the pipeline of employable manufacturing talent.

The Manufacturing Alliance of Hillsborough County Program takes a three-pronged approach to support our local manufacturing employers with the following primary strategies:

- **Awareness:** Against a backdrop of family and societal guidance to take the “college” pathway to a career, the majority of students, and parents, do not view manufacturing as a viable career pathway. Marketing strategies will be developed to raise student and community awareness of and interest in manufacturing career opportunities and pathways.
- **Training:** Work with manufacturers and manufacturing-related associations to align public high school and post-secondary manufacturing-related curriculum, training and certifications with industry standards and hiring needs. Pathways for a career in manufacturing will be expanded to include a fast-track manufacturing program with a special emphasis on minorities, women and veterans, who are underrepresented in manufacturing.
- **Coordination:** Coordinate with public educational institutions, workforce development partners, manufacturers and manufacturing-related associations, to develop work experience opportunities and job placements for participants. We will also seek to create a more efficient system of information sharing and connecting of resources.

A total of 14 distinct program locations were identified, all of which are located within the FLZ boundary as depicted in **Figure 8**. Half of the logistics clusters contain at least one training provider, and eight of the 14

identified programs are located within a cluster and thus in very close proximity to the freight workforce.

Secondary and Higher Education Certificate and Degree Programs

There are numerous community colleges, technical colleges, and four-year universities in the region that offer freight-related educational programs, both in the technical and management arenas of goods movement.

- **Florida Polytechnic University:** The University's Science and Technology Management program offers concentrations in logistics and materials & supply chain that prepare students for careers in supply chain and logistics management.
- **Polk State Corporate College:** The Supply Chain and Logistics (SCL) program offers courses in Transportation/Logistics, Warehousing/Distribution, and technical skills associated with supply chain management. The program offers certification tracks as well as associate degrees in supply chain management. The College is focused on providing a range of training programs designed to supply the logistics industry with well-trained and skilled employees.

The Advanced Manufacturing Institute (AMI) at Polk State Corporate College offers high tech manufacturing industry training, workforce development, and workforce training solutions to assist manufacturers in their workforce training needs. The Institute provides flexible solutions to companies that have specific needs, giving them the option to design a customized training package that meets their needs.

- **Brewster Technical College:** The Distribution and Logistics Management program at Brewster provides a comprehensive education in logistics management that includes coursework in the entire supply chain from product design to procurement of raw materials, manufacturing, warehousing, distribution, marketing, import/export, and reverse logistics. The College offers training on state of the art industry computer programs that facilitate inventory and operational process.
- **Hillsborough County Public Schools:** Various high schools in Hillsborough County offer an array of production technology training and education, including: Applied Robotics (King H.S.), Pathways to Engineering (Middleton H.S.), Engineering Technology (Gaither H.S.), Machining Technology (Armwood H.S.), and Welding (Hillsborough, Jefferson, and Tampa Bay Tech H.S.).

Machinery Repair and Maintenance Training Programs

The variety of industrial machinery and vehicle repair and maintenance training programs that exist in the two-county region include a broad range of program types offering training to a broad range of workforce participants.

- **Brewster Technical College:** The Industrial Machinery Maintenance and Repair program at Brewster provides student with maintenance and repair training in the areas of safety, computer skills, hand and power tools, business operations, industrial physics, basic electricity and electronics, refrigeration, pneumatics, hydraulics, programmable logic controls, mechanical drive systems, pumps, pipe and tubing systems, air compressors, pollution control systems, basic machine shop operations, lubricants, robotics, boilers and schematic reading.
- **Erwin Technical College:** The Heavy Equipment Mechanic (Diesel) apprenticeship program is a four-year program in heavy-duty truck and bus repair providing both classroom and on-the-job training. The program includes a full suite of preventive maintenance and repair training, providing students with Automotive Service Excellence (ASE) certification.
- **Hillsborough Community College (HCC):** The Brandon campus of the college offers an Engineering Technology program that caters to students interested in high technology industry employment, providing certificate programs in high tech production, manufacturing, distribution and engineering with specific programs in automated control systems, lean manufacturing, pneumatics, hydraulics, and motors for manufacturing. HCC is proud to house the Florida Advanced Technological Education (FLATE) Center, located at the Brandon Campus of HCC. A National Science Foundation Center of Excellence, FLATE provides best practices and resources supporting the high performance skilled workforce for Florida's manufacturing sector.

HCC also participates in the Florida TRADE (Transforming Resources for Accelerated Degrees) consortium develops and implements technical training programs and services for displaced and unemployed workers, incumbent workers, students, and returning veterans to prepare candidates for employment in high-wage, high-skill advanced manufacturing occupations at their Brandon Campus.

The Advanced Transportation Technology Center (ATTAC) at HCC features Automotive Collision Repair, Automotive Technology, Advanced Welding Technology and Bus Transit Technology



maintenance and repair programs. In May 2016, HCC added four new training programs in Diesel Technologies, Alternative Fuels Systems (CNG & LP), Aviation/Avionics, and an Automated People Mover/Light Rail Systems training program on site at Tampa International Airport. The program is partially funded with a \$1 million gift from JP Morgan Chase. This public private partnership is a symbol of the regional commitment to economic development and job growth across the spectrum of stakeholders. The impact expected by HCC is over 50,000 jobs in the first five years of the program.

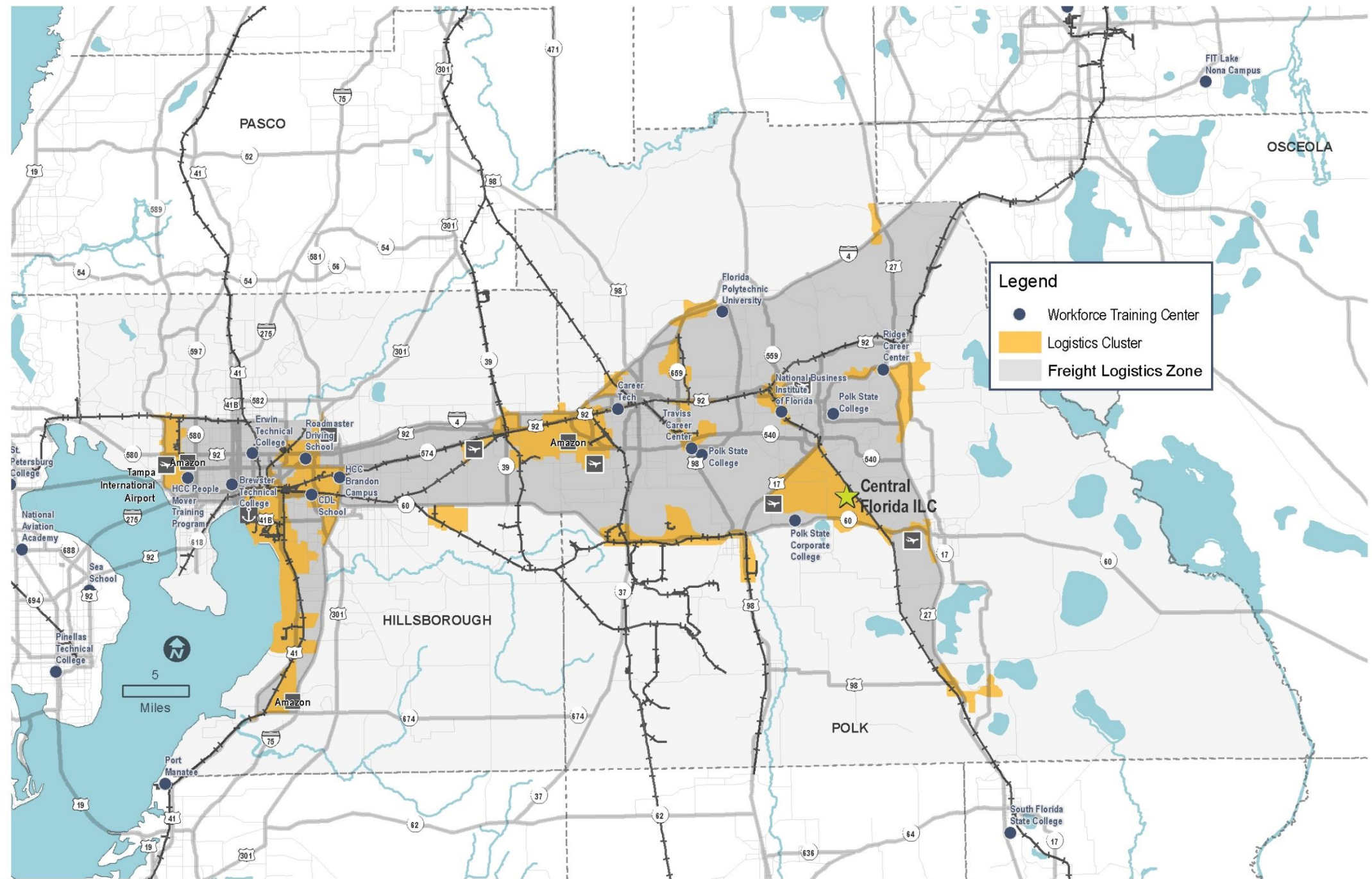
- **Traviss Career Center:** Traviss offers several programs related to transportation, distribution, and logistics, including aircraft maintenance and repair; automotive repair and service; avionics systems repair; and medium and heavy duty truck and bus repair and maintenance.

Machinery Operation Training Programs

Truck driving, cargo aviation, and forklift operation training programs abound in Polk and Hillsborough counties, offering both certificate and college degree programs.

- **Polk State College:** The Aerospace program at Polk State College trains students for professional careers as commercial pilots, flight instructors and aerospace administrators. The program offers Associate and Bachelor degrees as well as the Federal Aviation Administration (FAA) Commercial Pilot Certificate.
- **Career Tech:** The Forklift Operator program at Career Tech includes both classroom and hands on training in forklift operation. The program offers a Occupational Safety and Health Administration (OSHA) certificate.
- **Commercial Vehicle Driving Programs:** Truck driver training is available through a number of providers in the region, including:
 - Roadmaster Driving School, Tampa
 - CDL School, Tampa
 - Ridge Career Center, Winter Haven
 - National Business Institute of Florida, Winter Haven

Figure 8. Workforce Training Program Locations





Consistency with Local Plans

The FLZ Strategic Plan is not a regulatory document, so Comprehensive Plan amendments are not required as part of the implementation process. Consistency with local Comprehensive Plans is a function of the inclusive hierarchy that moves from broad designation down to site-specific planning and implementation.

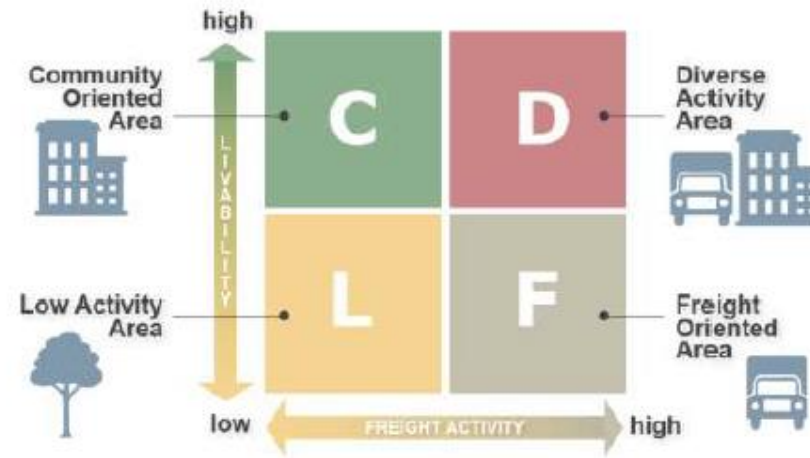
- **Freight Logistics Zone (FLZ):** This highest level is inclusive of a large portion of the two-county area and the transportation network that connects places within it. Its inclusiveness does not imply that the entire area is freight oriented, merely that the vast majority of freight activity in the region is contained in the FLZ.
- **Logistics clusters:** The next level of the hierarchy encompasses geographically defined but still broad areas of current and potential future freight activity to which priority focus should be given when considering infrastructure needs and other aspects of freight development. The clusters, like the broader FLZ, are inclusive but more focused, in terms of the concentration of freight-related activity.
- **Individual sites:** At the most detailed level, specific sites within logistics clusters include both industrial and non-industrial land uses that conform to the local Comprehensive Plan standards.

While the FLZ does not represent a land use overlay or future land use designation in the local comprehensive plans, county and municipal staff were consulted throughout the FLZ development process to ensure consistency with their respective plans. The Polk Transportation Planning Organization at its regular meeting convened on August 11, 2016, executed a resolution endorsing the FLZ. The Hillsborough County City-County Planning Commission issued a finding of consistency for the FLZ Strategic Plan, as it pertains to the Hillsborough County, City of Plant City, and City of Tampa Comprehensive Plans on September 12, 2016 and recommended adoption of the Freight Logistics Zone by Hillsborough and Polk Counties. The Hillsborough County Metropolitan Planning Organization, at its regular meeting on October 4, 2016, approved the FLZ Strategic Plan and encouraged Hillsborough County and Polk County to designate the FLZ. The Hillsborough County Board of County Commissioners adopted the Strategic Plan and designated the Freight Logistics Zone on October 4, 2017. The Polk County Board of County Commissioners adopted the Strategic Plan and designated the Freight Logistics Zone on October 17, 2017. **Appendix C** includes documentation of those findings.

Freight and Land Use Compatibility

Several of the logistics clusters in the FLZ feature a variety of land uses ranging from residential to heavy industrial, indicating the need to mitigate potential conflicts pertaining to freight movement in those areas. FDOT has performed extensive analysis in the District Seven area, which includes Hillsborough County, to identify those areas that are either community oriented or freight oriented, or fall somewhere in the middle of the community/freight spectrum. Using local and regional land use data and heavy truck traffic data, the freight and land use compatibility analysis specifies each roadway’s context in terms of the surrounding land use and level of freight activity. The respective context of any given area in terms of the levels of livability and freight activities is a crucial consideration in the identification of appropriate infrastructure improvement strategies, particularly at the intersection of incompatible land uses. **Figure 9** illustrates the concept of freight and land use compatibility used to assign typology to any given area or network link. A design guideline document developed by District Seven provides a valuable resource for roadway design elements specific to land use and freight activity context.

Figure 9. Freight and Land Use Compatibility



Freight Roadway Design Considerations

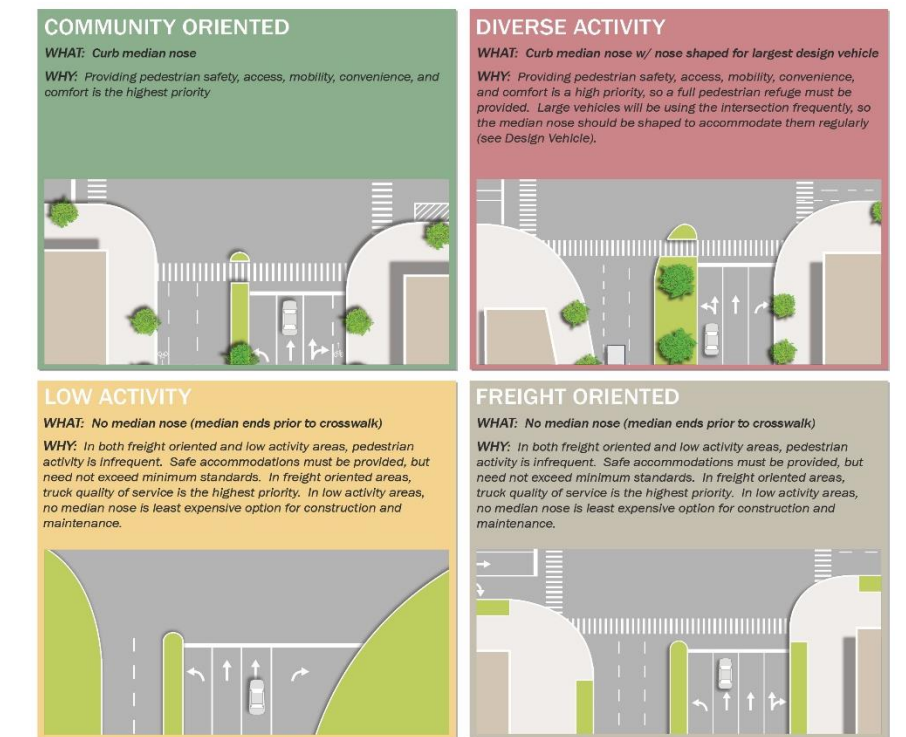
The Freight Roadway Design Considerations (FRDC) developed by FDOT District Seven as part of a broader regional freight planning effort is a resource for planners and roadway design professionals for engineering solutions consistent with the function and underlying activities of a given corridor or facility. The FRDC was recognized in FDOT’s 2015 Complete Streets Implementation Plan as an integral roadway design resource and recommended for inclusion in the Department’s Plans Preparation Manual.

The FRDC include recommended design elements for any number of contexts in the spectrum of freight activity relative to community orientation, or livability. The ultimate goal of the document is to assist roadway engineers to design facilities in a way that optimizes mobility for heavy trucks, while maintaining an appropriate level of safety and comfort for other users of the given roadway, including pedestrians and bicyclists. Examples of design elements recommended in the FRDC for diverse areas where there is a high degree of potential conflict between multimodal travel and freight include:

- Exclusive left turn lanes with long storage length
- Medium curb return radius with no right turn channelization
- Median with curb nose shaped to accommodate large vehicles
- Intersections with bulb-out and prohibited U-turns
- Indirect rear alley access point for heavy trucks

A sample of design considerations for left turn lanes and median nose treatments is depicted in **Figure 10**. Design elements for all combinations of freight and underlying land use combinations are also included in the FRDC document. It is recommended that any and all freight related roadway improvements on non-limited access roadways refer to the FRDC in the PD&E phase of project development to ensure the appropriate planning and design of appropriate solutions, particularly in areas with potential conflicts.

Figure 10. FRDC Left Turn / Median Nose Treatments





Strategic Element

The primary freight generators in Hillsborough and Polk counties are oriented in an east/west corridor anchored in Hillsborough County by Port Tampa Bay properties and Tampa International Airport and in Polk County by the Central Florida Intermodal Logistics Center. These anchors are connected and served by both Interstate 4 and SR 60. The 700 square mile area defined by the FLZ boundary also includes 200 square miles of logistics clusters consisting of distribution centers, aggregate processing plants, manufacturing plants, citrus packing plants, and other industrial land uses that generate freight movement.

Central and Gulf-central Florida is one of the fastest growing areas in Florida and is dependent on the efficient and reliable movement of goods. The infrastructure needed to accommodate the growing goods movement in the region provides the linkages critical to success. The Hillsborough MPO and Polk TPO strategic priorities to support freight operations in the region include a mix of capacity and operational improvements designed to accommodate goods movement and mitigate adverse traffic impacts. Two of the primary improvement types identified and prioritized by stakeholders are capacity improvements to limited access roadways and grade separation improvements at rail crossings with regional roadway corridors.

Figure 11 and Tables 2 and 3 depict the local strategic priorities identified by freight stakeholders to improve goods movement in the region and include the I-75, I-4, US 41, US 92, US 98 and other regional roadways connecting freight activity centers within and outside the region.

Figure 11. Strategic Infrastructure Improvements

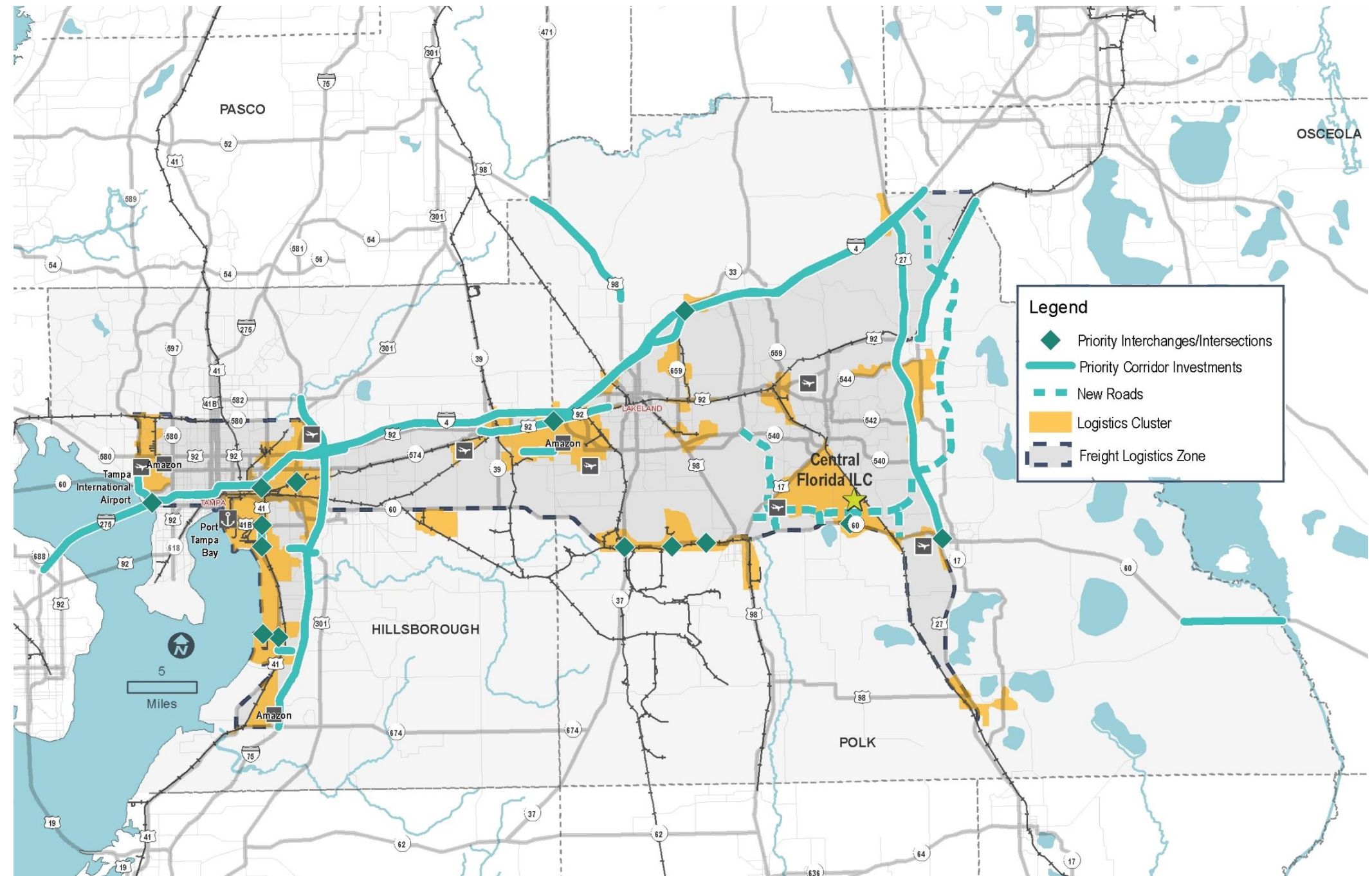




Table 2. Strategic Infrastructure Improvements in Hillsborough County

Facility	From	To	Improvement
Big Bend Rd	US 41	Covington Garden Dr	Capacity
Columbus Rd	at US 301		Intersection improvement
I-275	Pinellas County	Hillsborough River Bridge	Capacity/Express lanes
I-275	at SR 60		Interchange improvement
I-4	I-275	Polk Pkwy	Capacity/Express lanes
I-75	SR 674	Fowler	Express lanes
Port Redwing Access			Access improvement
Progress Blvd	Magnolia Park Blvd	Valley Dale Dr	Capacity
Rice Rd	County Line Rd	Coronet Rd	Road extension
SR 60/Memorial Hwy	I-275	Boy Scout Blvd	Capacity
US 301 @ Bloomingdale			Intersection improvement
US 41	at Causeway Blvd		Grade separation
US 41	at Madison Ave		Intersection improvement
US 41	at CSX S of Broadway		Grade separation
US 41	Pendola Point	Causeway Blvd	Capacity
US 41	at Pembroke Rd		Intersection improvement
US 92	US 301	CR 579	Capacity
US 92	Reynolds St	County Line Rd	Capacity
Veterans Expwy	Courtney Campbell Cswy	Independence Pkwy	Capacity

Table 3. Strategic Infrastructure Improvements in Polk County

Facility	From	To	Improvement
Bartow North. Connector	SR 60	US 17	New road
Central Polk Pkwy	I-4	Polk Pkwy	New road
County Line Rd	at US 92		Grade separation
I-4	Polk Pkwy	US 27	Express lanes
SR 33	Old Combee Rd	N of Tomkow Rd	Interchange improvement
SR 60	CR 630	Kissimmee River Bridge	Capacity
SR 60	at Logistics Pkwy		Intersection improvement
SR 60	at US 27		Grade separation
SR 60	Mulberry	Bartow	Grade separations (x3)
US 17/92	SR 17	Osceola Co line	Capacity
US 27	SR 60	I-4	Adaptive Signal Control
US 92	County Line Rd	Wabash Ave	Capacity
US 98	W Socum Loop Rd	Pasco Co line	Capacity

For more information about planned improvements, potential funding sources, and timeframes, reference plan links for county Long Range Transportation Plans, FDOT Strategic Intermodal System long range plans, and modal master plans are listed in Appendix B. Other interchange projects are also planned on the limited access facilities to support the capacity projects.

Appendix A – FLZ Stakeholder Summit Presentations

Appendix B – Plan References

FDOT District Seven Strategic Regional Freight Plan - <http://tampabayfreight.com/strategic-plan/tampa-bay-strategic-freight-plan/>

FDOT Strategic Intermodal System long range plan - <http://www.dot.state.fl.us/planning/systems/programs/mspi/plans/>

Hillsborough County 2040 Long Range Transportation Plan - <http://www.planhillsborough.org/2040-lrtp/>

Lakeland Linder Regional Airport plans - <http://www.lakelandairport.com/administrative-documents>

Lake Wales Municipal Airport Master Plan - <http://www.cityoflakewales.com/DocumentCenter/View/655>

Polk County 2040 Long Range Transportation Plan - <http://polktpo.com/2040-lrtp.aspx>

Port Tampa Bay Master Plan (under development) - <https://www.tampaort.com/About-Port-Tampa-Bay/About-Port-Tampa-Bay/Port-Tampa-Bay-Vision-2030>

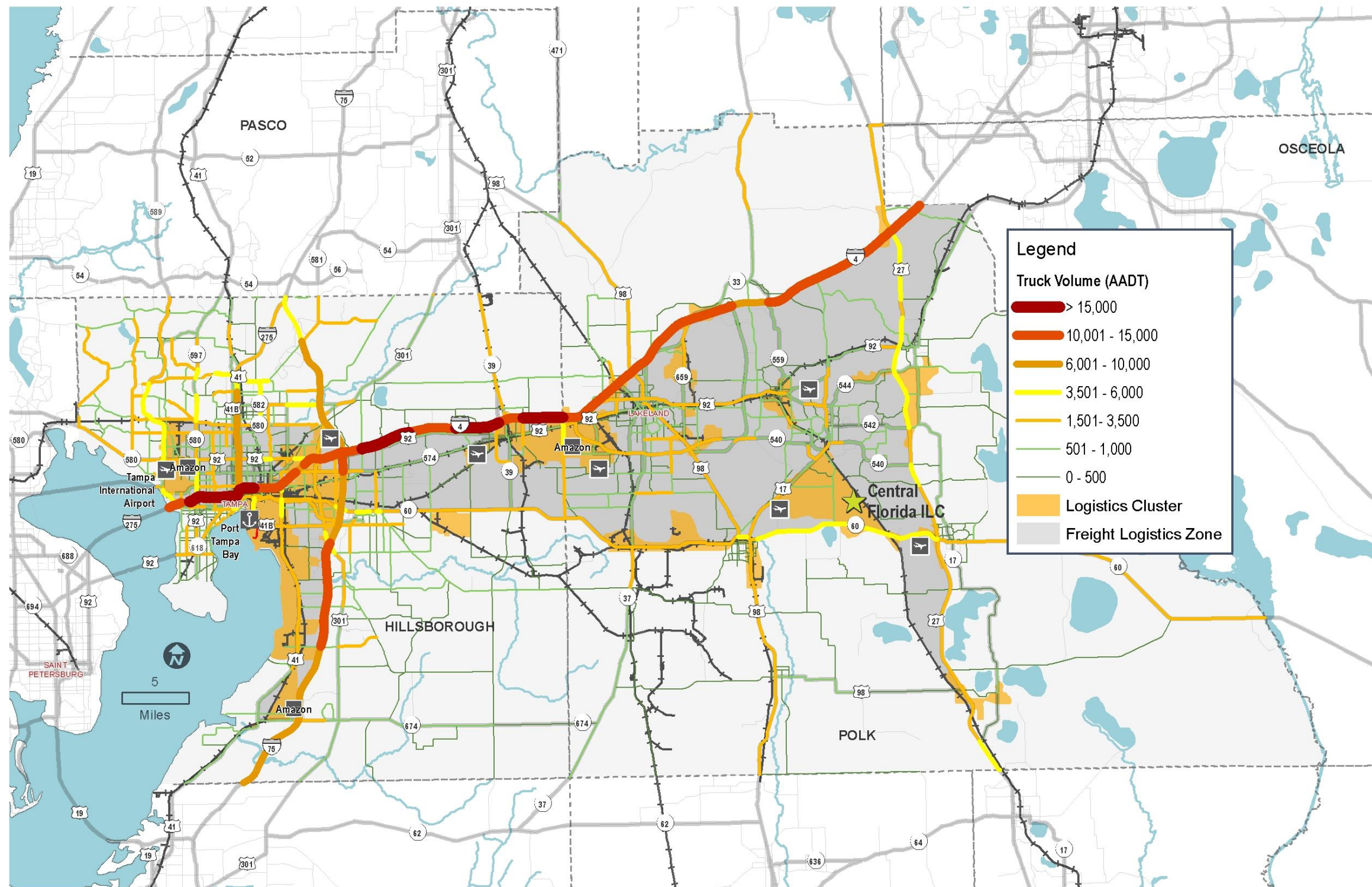
Tampa International Airport Master Plan - <http://www.tampaairport.com/master-plan-documents>

Winter Haven Municipal Airport Master Plan - <https://sites.google.com/site/winterhavenmunicipalairport/home/airport-master-plan>

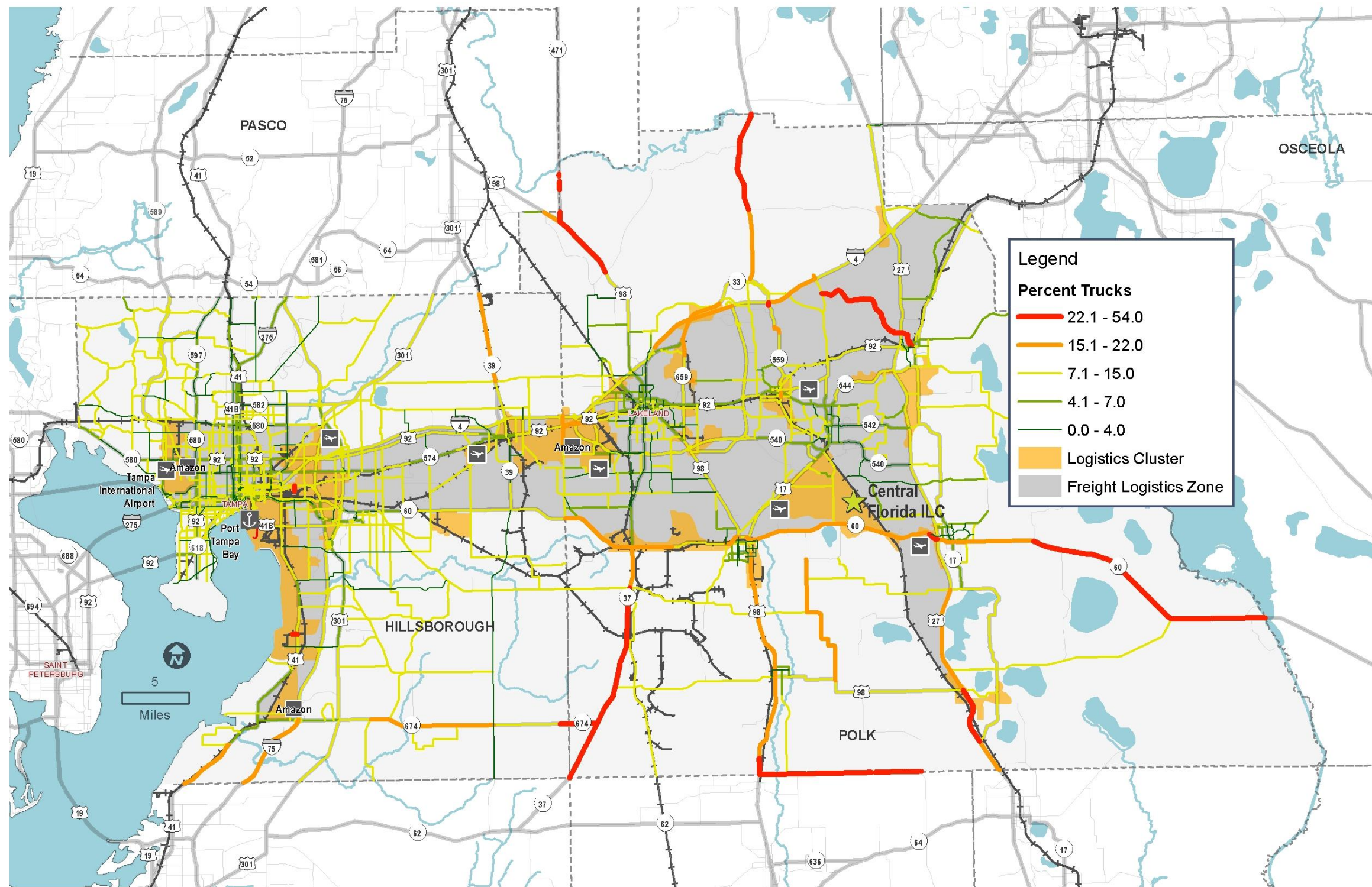
Appendix C – Supporting Data

- 2014 Truck counts
- 2014 Truck count %
- % Unemployed workforce
- % Freight related workforce
- Workforce training capabilities

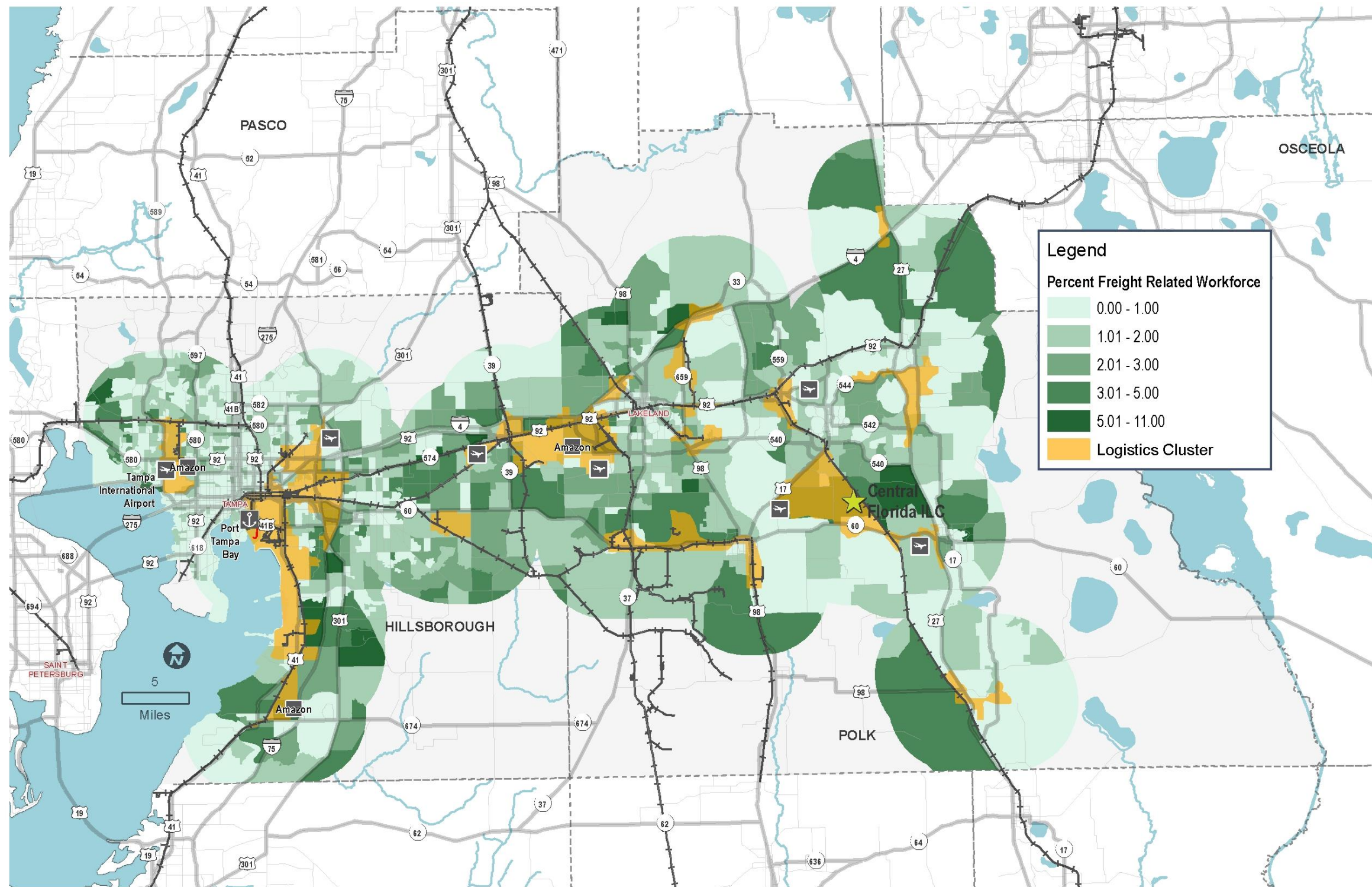
2014 Average Annual Daily Truck Traffic (Source: FDOT)



2014 Truck Traffic % of Average Annual Daily Traffic (Source: FDOT)



Freight Related Workforce as % of Total Workforce (Source: 2010-2014 US Census American Community Survey)



Unemployed Workforce as % of Total Workforce (Source: 2010-2014 US Census American Community Survey)

