# HILLSBOROUGH COUNTY METROPOLITAN PLANNING ORGANIZATION

2035 Long Range Transportation Plan

# Needs Assessment Segment Summary: Carrollwood Area to Tampa International Airport

#### Prepared for:

Hillsborough County Metropolitan Planning Organization

P.O. Box 1110

**Tampa, FL 33601** 

www.hillsboroughmpo.org

Prepared by:

PB Americas, Inc.

**April 2010** 

1.0	INTRO	DDUCTION	1
2.0	STUD	Y AREA DESCRIPTION	1
3.0	THE 1	TRANSPORTATION PROBLEM	4
3.1	Tra	vel Patterns	4
3.	.1.1	Select Link Analysis	4
3.	.1.2	Travel Demand	5
3.	.1.3	Travel Markets	9
3.2	Trat	ffic Congestion	- 11
3.3	Tra	vel Times	- 12
3.4	Safe	ety & Security	- 13
3.5	Mod	dal Interrelationships	- 16
3.	.5.1	Hillsborough Area Regional Transit Authority	
3.	.5.2	Tampa International Airport	
3.	.5.3	Florida Strategic Intermodal System	- 19
3.	.5.4	Tampa Bay Area Regional Transportation Authority	- 19
3.6	Eco	nomic Development	- 19
3.7	Pote	ential Effects on Natural and Socio-Cultural Resources	- 20
		LIST OF TABLES	
Table	1 Volu	me to Capacity Ratios	- 11
Table	2 HAR	T Ridership Trends	- 16
		LIST OF FIGURES	
Figure	1: Stu	ıdy Area	2
Figure	2 203	5 Long Range Transportation Plan (Excerpt)	4
		erans Expressway Northbound	
		erans Expressway Southbound	
_		lerson Road	
Figure	6 TBA	ARTA Ridership Demand for Rail and Bus Service 2035	- 10
•		5 Congestion with Existing and Committed Improvements – Corridor Area	
		50 Crash Locations – Intersections and Segments	
		sh Locations – Pedestrian and Bicycle	
_		isting Local Transit Level of Service – Corridor Area	
Figure	: 11 Ta	mpa International Airport – Future Transit Corridor	- 18

### 1.0 INTRODUCTION

The Hillsborough County Metropolitan Planning Organization (MPO) is updating the Long Range Transportation Plan (LRTP) for 2035. This update will include a Problem Statement/Needs Assessment for nine potential rapid transit corridors in Hillsborough County. The nine corridors are:

- Downtown Tampa to University of South Florida
- University of South Florida to Wesley Chapel
- Downtown Tampa to Tampa International Airport
- Tampa International Airport to Carrollwood
- Busch Boulevard/Linebaugh Avenue Corridor West
- Busch Boulevard/Linebaugh Avenue Corridor East
- Brandon to Downtown Tampa
- West Shore to Pinellas County
- Downtown Tampa to South Tampa

The "Problem Statements" for these corridors will document current and future transportation system issues in each corridor, within the LRTP's time horizon, providing information for future decision-making and conception of alternative solutions.

# 2.0 STUDY AREA DESCRIPTION

The Tampa International Airport to Carrollwood corridor runs north-south and spans approximately 7 miles (See Figure 1). Throughout the Tampa Bay region, central Hillsborough County exhibits the most congestion and opportunity for transit development. The primary generators are Tampa International Airport, West Shore Business District (largest in the state), West Shore Plaza, International Plaza, Raymond James Stadium, George Steinbrenner Field, and surrounding residential areas. Several vital roadways run through this corridor, including north-south roadways such as Veterans Expressway, N. Dale Mabry Highway, and N. Himes Avenue, and east-west connections such as Gunn Highway, W. Linebaugh Avenue, W. Hillsborough Avenue, W. Martin Luther King Jr. Boulevard, and Spruce Street/Columbus Drive.

The study corridor is traversed by a number of major and minor streets and highways built and maintained by a variety of state and local government transportation agencies, including the Florida Department of Transportation (FDOT) District Seven, Hillsborough County, the Florida Turnpike Enterprise, and the City of Tampa. The primary roadway system serving the study area is a mix of limited access freeways/toll roads, divided and undivided arterial streets, and major collectors. These travel patterns, focused on major centers of commercial activity, generate substantial transportation demand within the study area, especially during peak hours.

Because several significant roadways have been identified as "constrained" due to neighborhood, policy, right-of-way, and environmental constraints, flexibility in developing transit service expansions like bus lanes or station area infrastructure is limited. Other existing rights-of-way, such as existing rail rights-of-way, must be considered to facilitate premium transit opportunities that are precluded by roadway constraints.

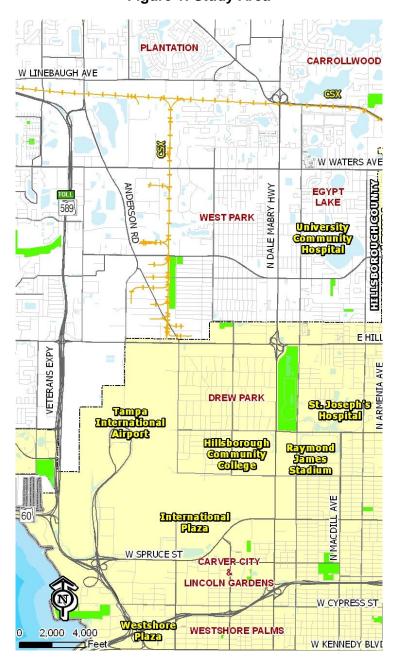


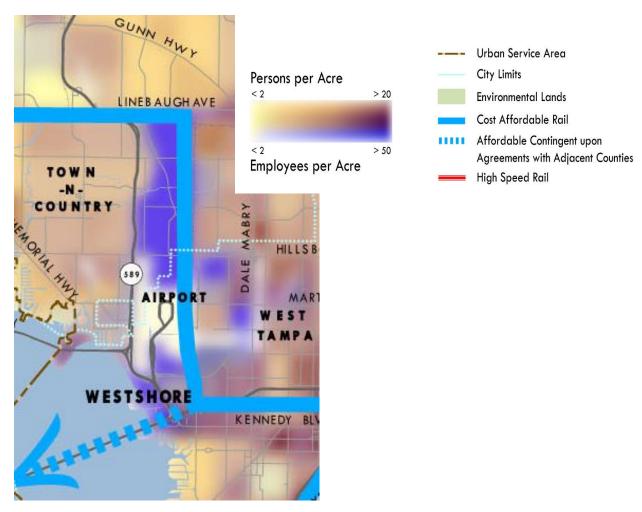
Figure 1: Study Area

The corridor is primarily low-density residential in Carrollwood to the north, high-density offices to the south in the West Shore area, and the Tampa International Airport and light industrial land uses in between. The West Shore area is classified as a regional activity center in the County Comprehensive Plan. The West Shore area is also designated as a Planning District with the specific purpose of supporting transit.

MPO projections indicate that Hillsborough County's population and employment numbers will increase by the year 2035 to 1.7 million and 1.2 million jobs respectively. The future landscape and concentration of the County's population and employment for the corridor in 2035 is shown in **Error! Reference source not found.** The corridor has a high concentration of employment adjacent to the east side of the Veterans Expressway, and the west side of the airport. Higher population levels are found in the eastern and western portions of the corridor.

Figure 2
2035 Long Range Transportation Plan (Excerpt)

Affordable Rail with Future Density of Population and Employment



# 3.0 THE TRANSPORTATION PROBLEM

#### 3.1 Travel Patterns

#### 3.1.1 Select Link Analysis

An analysis of travel patterns was completed on chosen roadway segments in the corridor, using the Tampa Bay Regional Planning Model (TBRPM) Version 7 for a select link analysis.

The select link analysis depicts trip patterns for vehicles using a particular 'link' in the roadway network to visualize the amount of traffic on the link, as well as where the trips' general origin and destination. The select link analyses for the chosen links in the corridor are summarized.

# Veterans Expressway: between Hillsborough Avenue and Waters Avenue (northbound and southbound)

Most of the traffic on the north and southbound Veterans Expressway links is regional traffic coming from western Hillsborough County, Pinellas County (primarily northern and central, Clearwater/Gateway/St. Petersburg, Pinellas County), and eastern and central Pasco County. These links also draw small shares of traffic from I-275, and even smaller shares of trips from the University of South Florida and I-75 areas. Heavier traffic volumes generally cease near the West Shore business district, suggesting the links are mainly used by commuters in the West Shore area. Figure 3 depicts the results of the select link analysis for the Veterans Expressway northbound. Figure 4 depicts the results of the select link analysis for the Veterans Expressway southbound.

#### Anderson Road: between Sligh Avenue and Waters Avenue

Heavy portions of traffic on this link results from local traffic within 2 to 3 miles of Anderson Road between Gunn Highway and Hillsborough Avenue, primarily west Anderson Road. Other traffic is associated with the Citrus Park area and other western Hillsborough County communities, northern Pinellas County, and central and eastern Pasco County. Lesser amounts of traffic is regional in nature and is from Brandon, I-4, and South Tampa. The majority of trips on this link is associated with the Anderson Road corridor, mainly between Linebaugh Avenue and Hillsborough Avenue, turning onto Hillsborough Avenue towards Dale Mabry Highway. Figure 5 depicts the results of the select link analysis.

#### 3.1.2 Travel Demand

Travel patterns are measured as person trip flows between origin and destination points (O/D). These points are generally transportation analysis zones (TAZ) or predefined districts, which are modeled using a variety of supporting data.



Figure 3 Veterans Expressway Northbound

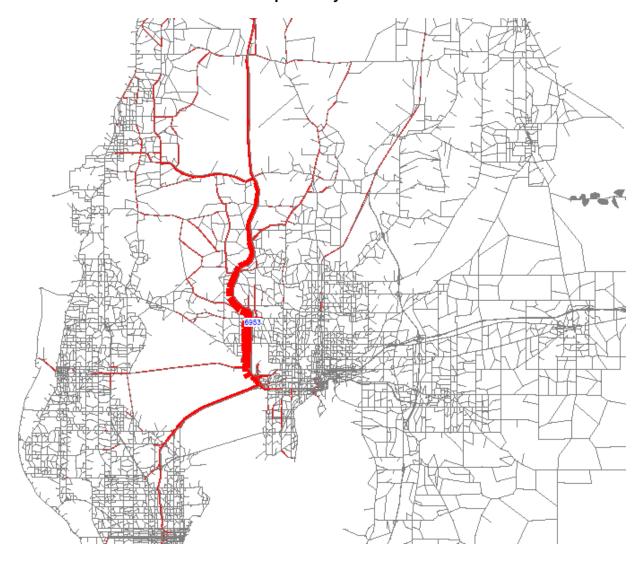
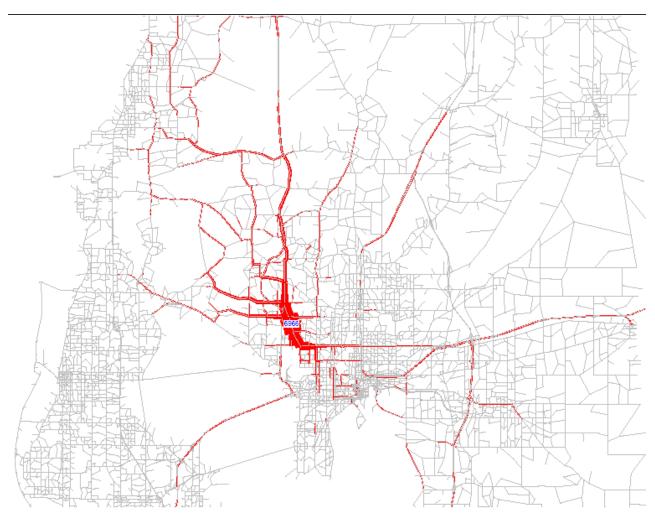


Figure 4 Veterans Expressway Southbound





An analysis of travel demand conducted for the Tampa Bay Area Regional Transportation Authority's (TBARTA) Master Plan looked at person trip flows between "super districts" (large land areas) in 2035 and 2050. The analysis showed that in 2035, almost half of all trips will occur within Northwest Hillsborough (the super district in which the Tlampa International Airport to Carrollwood corridor is located), and significant numbers of trips will occur between Northwest Hillsborough and West Shore/Southwest Hillsborough or Northeast Hillsborough. Together, these three super districts account for 84 percent of all trips to and from Northwest Hillsborough County. By 2050 the travel relationships are expected to continue. In both periods only three percent of trips are between Northwest Hillsborough County and the Tampa CBD.

TBARTA's analysis also forecast future ridership demand for a proposed regional network of rail and bus services. Figure 6 depicts strong demand in 2035 for transit service in this corridor, with regional connections. Sections of this corridor are among the highest in the eight-county regional network, in terms of demand for transit service.

#### 3.1.3 Travel Markets

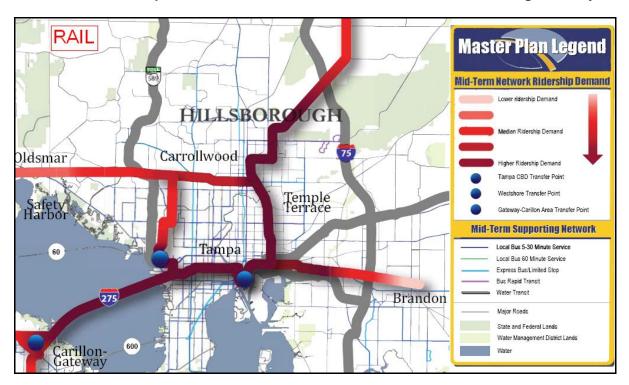
The following areas have been identified as critical travel markets for the corridor in response to existing and future travel patterns, land use patterns, and demographic trends. Due to high levels of traffic and a strong capacity for future growth, the following areas will likely benefit from fixed-guideway transit facilities in this corridor.

- Tampa International Airport, located at the southeast end of the Veterans Expressway, is a very busy center of activity, drawing about 40,000 trips to and from its area each day. Travelers and professionals throughout the Tampa Bay Region utilize TPA for various traveling purposes, creating more movement along interstates. TPA is part of the Hillsborough Aviation Authority (HCAA).
- Employment Area north of the Airport extends from Hillsborough Avenue northward to Linebaugh Avenue. The area contains light industrial and heavy commercial uses.
   It is a major attraction for employment and is prone to congestion and increased travel times.
- West Shore Business District, located on the west-upper side of the Tampa Peninsula just south of Tampa International Airport, is a major center for employment. High-capacity office buildings, West Shore Plaza, International Plaza, several restaurants, and hotels generate traffic within this region. Tampa International Airport traffic, employment center patrons, and commercial activity create many traffic problems within this corridor. Movement throughout this region is stifled by daily congestion and a walkable pedestrian environment is obstructed by wide, busy roads. There are many planning and zoning efforts targeted for this district.
- Carrollwood Area is primarily a residential community of single-family and multi-family homes centered on Dale Mabry Highway in northern Hillsborough County. Dale Mabry Highway is lined with commercial uses with the residential areas surrounding. This areas contains the Hillsborough Community College, Raymond James Stadium, and George Steinbrenner Field, all of which attract a large number of trips. This area attracts trips from the surrounding residential areas and those visiting the commercial districts.

The Carrollwood Community Plan recommends redevelopment and intensification of commercial corridors with a transit focus, particularly along Dale Mabry Highway and Linebaugh Avenue. The Plan also envisions North Dale Mabry Highway, Nebraska Avenue, and Florida Avenue being transformed into vibrant pedestrian friendly environments that serve as gathering places for adjacent neighborhoods.

• Community Redevelopment Areas (CRAs) have been designated by the City of Tampa as targets for redevelopment and urban infill projects within the county. Only Drew Park is within the corridor.

Figure 6
TBARTA Ridership Demand for Rail and Bus Service 2035 – Hillsborough County





# 3.2 Traffic Congestion

Congestion can be measured using a volume to capacity (v/c) ratio, a method used to determine how many cars are actually using the road, compared to the road's intended capacity. A summary of 2035 v/c ratios at roadway links within the study area is provided in Table 1. By 2035 these roadways will carry more vehicles than their intended design capacity (i.e. v/c ratios greater than 1.0) or will be very close to their intended capacity (i.e. v/c ratios approaching 1.0), as shown in Figure 7.

In addition, many of the major roadways in the study area cannot be widened further due to a variety of constraints. For example, portions of Boy Scout Boulevard, Hillsborough Avenue, and Gunn Highway are constrained by policy; some of Himes Avenue, Lambright Road, and Waters Avenue are all constrained by both limited right-of-way and surrounding neighborhoods; and all of Dale Mabry Highway, the corridor's spine, is constrained by policy, right-of-way, and surrounding neighborhoods. With roadways overburdened by too many vehicles and little opportunity to expand their capacity, transportation options must be expanded in order to accommodate future populations of commuters and residents

Table 1 Volume to Capacity Ratios

Roadway	2035 V/C
Dale Mabry Highway @ Fletcher Avenue/Village Drive	1.67
Himes Avenue @ Sligh Avenue	1.90
Veterans Expressway @ Boy Scout Boulevard	1.81
Boy Scout Boulevard @ Dale Mabry Highway	0.90
Hillsborough Avenue @ Veterans Expressway	1.55
Lambright Road @ Dale Mabry Highway	0.98
Waters Avenue @ Himes Avenue	0.97
Linebaugh Avenue @ Anderson Road	1.27
Gunn Highway @ Dale Mabry Highway	1.61
Anderson Road @ Waters Avenue	1.50
Average V/C Ratio	1.42

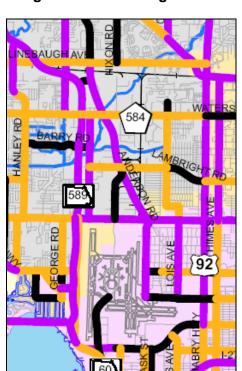


Figure 7. 2035 Congestion with Existing and Committed Improvements

**Congestion to Volume to Capacity Ratio** 

< 1 1 - 1.49 > 1.50

#### 3.3 Travel Times

As part of the 2035 Long Range Transportation Plan, the MPO analyzed and compared travel times in this corridor for current bus service, potential rail transit, and 2035 driving time at an average daily congested speed. The rail segment was assumed to follow the existing freight line in the vicinity of Anderson Road, while bus service and automobiles were assumed to follow a parallel roadway. Endpoints were Busch Boulevard and the Tampa International Airport terminal.

#### Tampa International Airport to Carrollwood

By Rail 13 minutes

By Auto, 2035 23 minutes 77% faster by rail

Current Bus Service 70 minutes 438% faster by rail

Driving times are at an average daily congested speed for the Carrollwood to Airport corridor, forecast for 2035 using the Tampa Bay Regional Planning Model Cost-Affordable Network. Current bus service is based on published HART bus schedules and Google Transit. Times are between the closest major bus stops, and may be an average of the

travel time in each direction. Rail travel times are based on the Tampa Bay Regional Planning Model Cost-Affordable Network and documented in the MPO Transit Level of Service Evaluation for 2035.

## 3.4 Safety & Security

Between 1995 and 2007, Hillsborough County had a higher crash rate (per million vehicle miles traveled (VMT)) and injury rate (per VMT) than the State of Florida.

Between 1995 and 2007, Hillsborough County had a higher crash rate (per million vehicle miles traveled (VMT)) and injury rate (per VMT) than the state of Florida. The Tampa International Airport to Carrollwood corridor contains two of the top 50 intersection crash rate locations in Hillsborough County. Of the top 50 roadway segments with the highest crash occurrence, four occur in the corridor (See Figure 8).

Within the study corridor, crash rates for bicycles and pedestrians trend average to slightly above average compared to the county (See Figure 9).

The Safety Technical Memo prepared for the MPO's LRTP offers a variety of recommendations to improve the safety of the most dangerous intersections and roadway segments in the county. Recommendations address many major issues common among all intersections and segments, including red light running, speeding and aggressive driving, bicycle and pedestrian safety, sight distance, roadway geometry, and incidence management, among others.

The Tampa Bay Regional Planning Council completed the "Tampa Bay Region Hurricane Evacuation Study" in 2006. When estimating evacuation clearance times, roadway segments with the highest volume ratios were considered as a "critical link" in the roadway system. These segments are not only carrying evacuees, but also the emergency responders and non-evacuees. While congestion would be widespread throughout the area during an evacuation, the study lists several locations where congestion would control the overall traffic flow for the area. In the study corridor, the Veterans Expressway/State Road 580 interchange is classified as a "critical link."

The Veterans Expressway, Dale Mabry Highway, and Hillsborough Avenue are all identified as evacuation routes within the corridor.

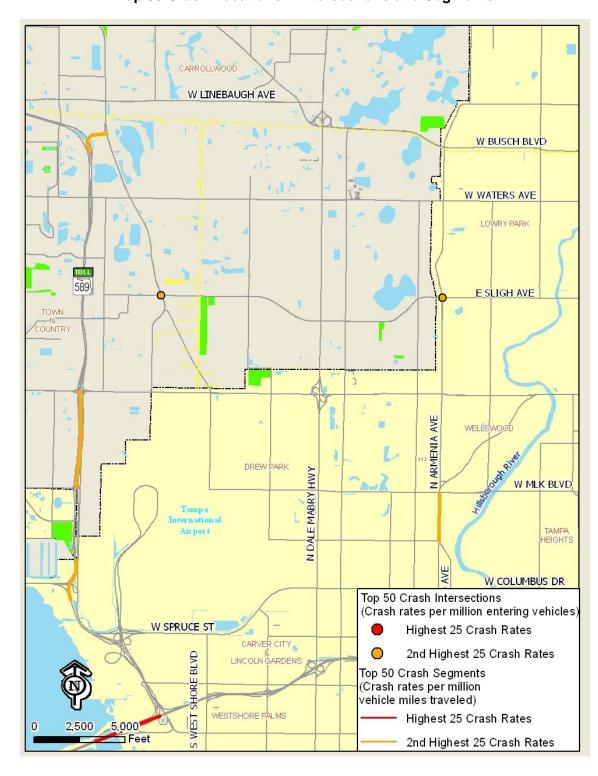


Figure 8

Top 50 Crash Locations – Intersections and Segments

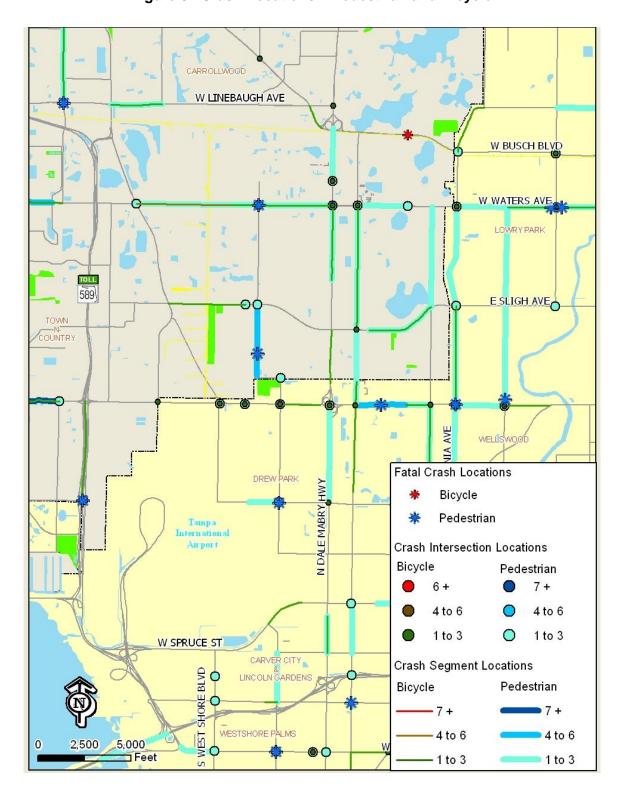


Figure 9. Crash Locations - Pedestrian and Bicycle

# 3.5 Modal Interrelationships

#### 3.5.1 Hillsborough Area Regional Transit Authority

The corridor today is served by seven major bus routes in the study corridor, though traveling between Carrollwood and TPA by bus requires at least one transfer since the airport is only served by route 30, which primarily operates outside of the Carrollwood to TPA corridor. Routes provide connection to the Marion Transit Center in Downtown Tampa, the Northwest Transit Center, and the Northpark Transit Center. Table 2 highlights HART ridership comparisons between fiscal year 2006 and year-to-date 2009.

HART is also in the planning phase of implementing a new intermodal hub at the TPA that will connect existing and future transit services, including HART local and limited express routes, cross-bay express service operated by Pinellas Suncoast Transit Authority (PSTA), and future Bus Rapid Transit (BRT) and circulator services. This transfer center is expected to be operational by mid 2011. It is located in the northwest quadrant of the airport service road and O'Brien Street.

Table 2
HART Ridership Trends

HART Service: Complete FY	2006	2007	2008	2009*	% Increase
Weekday Average Ridership	35,959	37,311	39,974	39,777	10.6%
Weekday Average Express Bus Ridership	758	937	1,071	936	23.5%
Saturday Ridership	16,979	17,856	19,019	18,951	11.6%
Sunday Ridership	8,495	9,656	10,715	10,261	20.8%
Total	62,191	65,760	70,779	69,925	12.4%

<sup>\*</sup>Year-to-Date Ridership April 2009

As part of the LRTP update, the MPO evaluated transit level of service (TLOS) for all roads where public bus service is operated in Hillsborough County. TLOS reflects transit service levels (bus frequency and daily hours of service) and transit accessibility (spatial coverage and transit versus auto travel time).

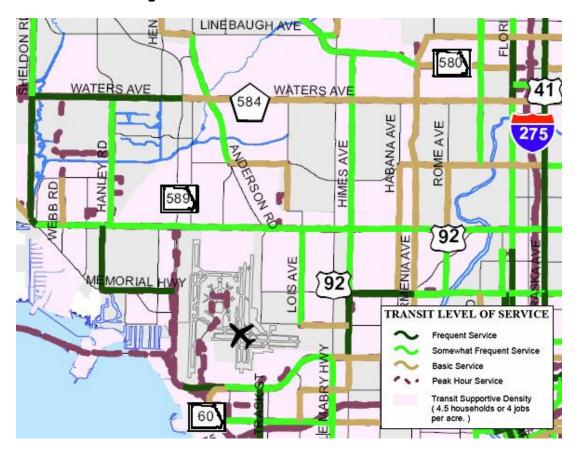
Many parts of the corridor are considered to be a transit supportive density today, at 4.5 households or 4 jobs per acre, as shown in Figure 10.

Although some service is provided to the transit supportive areas, many of the major roadways in the corridor exhibit low levels of service. Areas with basic service (averaging wait times greater than 30 minutes) or peak-hour focused service include:

Waters Avenue

- Several north-south roads
- Dale Mabry Highway

Figure 10
Existing Local Transit Level of Service – Corridor Area



# 3.5.2 Tampa International Airport

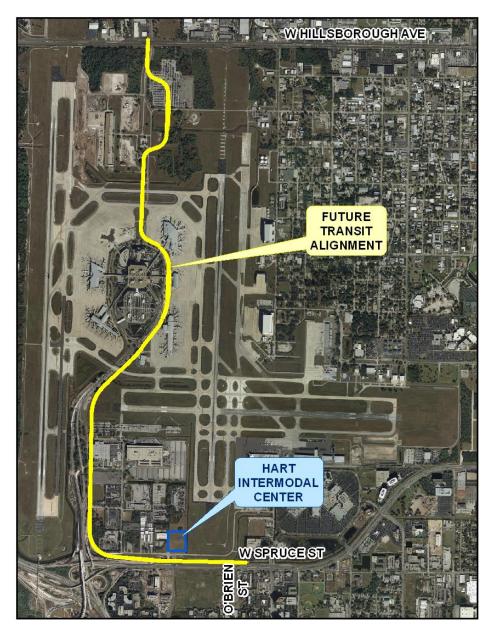
The most important intermodal link in the corridor is the Tampa International Airport (TPA), which handled over 19 million passengers in 2007 ranking it as the 27th busiest airport in North America.

The Airport Master Plan identifies a future transit corridor to serve the airport's employees and passengers. In 2007, the Hillsborough County Aviation Authority (HCAA) completed a study to identify both at-grade and aerial transit alignments and potential station locations for the existing landside terminal and the future northern terminal (See Figure 11). HCAA has

also provided land at the southern end of the airport, adjacent to Spruce Street to HART for a transit intermodal center (See Figure 11).

The hub will connect existing and future transit services, including HART local and limited express routes, cross-bay express service operated by Pinellas Suncoast Transit Authority (PSTA), and future Bus Rapid Transit (BRT) and circulator services.

Figure 11
Tampa International Airport – Future Transit Corridor



#### 3.5.3 Florida Strategic Intermodal System

In 2003, the Florida Governor and Legislature created the Strategic Intermodal System (SIS) to efficiently serve the mobility of Florida, and to help Florida become an economic leader, enhance economic prosperity and competitiveness, enrich the quality of life, and reflect environmental stewardship. The SIS is made up of state/regional significant facilities (roadways, ports, rail, waterways) and services that move both people and goods and integrates facilities, services, and modes into a comprehensive system.

Several SIS facilities are within the Tampa International Airport to Carrollwood corridor, including the Veterans Expressway, and W. Hillsborough Avenue. TPA and the warehousing district to its immediate north along Anderson Road are identified as regional freight activity centers. These facilities receive priority status for limited state transportation funds due to their regional and national importance.

#### 3.5.4 Tampa Bay Area Regional Transportation Authority

TBARTA has developed a Regional Transportation Master Plan for the greater Tampa Bay region – from Citrus County to Sarasota County – for the Mid-Term (2035) and Long-Term (2050).

The TBARTA Master Plan's Mid-Term Vision proposes regional express bus service and short-distance rail service along several corridors within the study area. Express bus service would include two routes along Veterans Expressway, featuring 15-minute peak headways and some of the highest demand throughout the region.

The Vision also proposes north-south short-distance rail service from Carrollwood to TPA/West Shore to Downtown Tampa, and east-west service from the University of South Florida through south Carrollwood to Clearwater. Both routes would operate along the existing rail corridors. While both corridors are expected to provide good transit connectivity, ridership, and access to employment, service between Carrollwood and TPA/West Shore is expected to outperform service between USF and Clearwater because of the concentration of jobs within the West Shore Business District and Downtown Tampa.

# 3.6 Economic Development

Transit-oriented development (TOD) around stations served by high-capacity transit can generate significant economic return in terms of development and increased tax revenue. Examples include:

- Dallas Area Rapid Transit (DART) light rail:
  - \$4.26 billion in total projects attributable to DART presence
  - \$127 million in state and local tax revenue once all projects around stations are completed

The Hillsborough County City-County Planning Commission's 2025 land use map includes:

- Dale Mabry Highway, the corridor's primary roadway, includes adjacent land uses such as office, commercial, and high-density residential development throughout the entire study area. Additional and more intense development along Dale Mabry Highway may be difficult given its current level of congestion and its capacity cannot be increased any further due to policy, right-of-way, and surrounding neighborhood constraints, with opportunities for redevelopment with a transit focus designated in the Tampa Comprehensive Plan
- Carrollwood mostly features low-density residential
- Anderson Road, north of TPA, will remain industrial
- West Shore Business District assigned regional mixed use (3.5 Floor Area Ratio (FAR))
- Tampa International Airport will continue to account for the majority of land in the southern portion of the corridor

The MPO had an assessment of TOD real estate development potential conducted in support of the LRTP and the Hillsborough County City-County Planning Commission's preparation of TOD-supportive comprehensive plan amendments. This assessment forecasted the development potential within a one-half mile radius around select station areas for 2035, one of which was the West Shore area. The study found the potential for:

- West Shore Station Area:
  - o 1,400 to 1,500 multi-family units
  - o 1.7 to 2.0 million square feet of office space

#### 3.7 Potential Effects on Natural and Socio-Cultural Resources

The construction of a passenger rail facility serving this corridor was evaluated for potential effects on natural and socio-cultural resources, using the State of Florida's Efficient Transportation Decision-Making (ETDM) Process. Through this process, agency representatives serving on an Environmental Technical Advisory Team (ETAT) reviewed a summary of the proposed project, and identified avoidance and minimization issues. The ETAT members consist of representatives from agencies which have statutory responsibility for issuing permits or conducting consultation under NEPA, and representatives of participating Native American tribes. The issues identified by the ETAT will be explored further through environmental impact studies and alternatives analyses.

This review process evaluates twenty resources and issue areas and identifies a degree of effect (DOE) that construction of a passenger rail facility may have on each. The DOE levels are characterized in the following table.

Degree of Possible effects that the transportation action has on environmental and community

Effect	resources
Enhanced Degree of Effect	Project concept has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement. b) Project concept has positive effect on community. Affected community supports the proposed project.
Minimum Degree of Effect	Project concept has little adverse effect on ETAT resources. Low cost options are available to address concerns. Permit issuance or consultation involves routine interaction with the agency. b) Project concept has minimum adverse effect on elements of the affected community. There is minimum community concern about the planned project. Little or no mitigation is needed.
Moderate Degree of Effect	Natural or cultural resources are affected by the proposed project, but avoidance and minimization measures are available and can be addressed during project development with a moderate amount of agency involvement and moderate cost impact. b) Project concept has adverse effect on some elements of the affected community. There is moderate community concern about the planned project. Public involvement is needed to seek alternatives more acceptable to the community. Moderate community involvement is required during project development. Some mitigation or minimization is needed to gain support from the community.
Substantial Degree of Effect	The project concept has substantial adverse effects, but ETAT understands the project need and is able to seek avoidance, minimization or mitigation measures during project development. Substantial interaction is required during project development and permitting. b) Project concept has substantial adverse effects on the affected community and faces substantial community opposition. Intensive community interaction with focused public involvement is required during project development to address community concerns. Project will need substantial mitigation to gain public acceptance.
Potential Dispute	Project concept may be contrary to a state or federal resource agency's program, plan or initiative. Project concept may have significant environmental cost. Reasons for indicating a potential dispute are contained in Agency Operating Agreements. Project concept may not be permittable. Reference Section 4.6, Process to Resolve Potential Dispute. b) Project concept is not in compliance with approved Local Government Comprehensive Plans, or may involve significant adverse effects on adjacent community.

For the Carrollwood Area to Tampa International Airport Corridor, the potential effects were considered substantial in the categories of **Floodplains** and **Water Quality and Quantity**. A full report summarizing the ETAT's comments is available through the Hillsborough MPO or as ETDM #12719. A summary of the ETAT's recommendations for Degree of Effect in all categories is provided below.

Affected Resource	Degree of Effect (DOE)
Air Quality	Enhanced
Coastal and Marine	Moderate

Contaminated Sites	Moderate
Farmlands	None
Floodplains	Substantial
Infrastructure	Minimal
Navigation	Minimal
Special Designations	Moderate
Water Quality and Quantity	Substantial
Wetlands	Moderate
Wildlife and Habitat	Moderate
Historic and Archaeological Sites	Moderate
Recreation Areas	Minimal
Aesthetics	Minimal
Economic	Enhanced
Land Use	Moderate
Mobility	Enhanced
Relocation	Minimal
Social	Minimal
Secondary & Cumulative Effects	Moderate