



Future of Hillsborough

Comprehensive Plan for Unincorporated Hillsborough County Florida

TRANSPORTATION ELEMENT

**As Amended by the Hillsborough County Board of
County Commissioners June 5, 2008 (Ordinance 08-
13)**

**Department of Community Affairs Notice of Intent
to Find Comprehensive Plan Amendments in
Compliance published August 4, 2008 {DCA PA No.
08-1ER-NOI-2901- (A)-(1)}**

August 26, 2008 Effective Date

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Hillsborough County Transportation Element

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Sections IV, V, VI, Appendix C, D, G, I, and Appendix J Maps 2, 2B, 15, and 25 of the Transportation Element have been adopted by the Board of County Commissioners as required by Part II, Chapter 163, Florida Statutes. The remainder of the Transportation Element and appendices contains background information.

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Hillsborough County Transportation

LIST OF COMPREHENSIVE PLAN AMENDMENTS

| Comprehensive Plan Amendment No. and Element Amendment Description | BOCC Ordinance No., Adoption Date, DCA Notice of Intent Publication Date (if applicable), & Effective Date |
|---|---|
| <p>Transportation Element (Text and Maps) Description: <i>Future of Hillsborough Comprehensive Plan for Unincorporated Hillsborough County.</i> Updated data and analysis, maps, goals, objectives, and policies. Horizon Year 2010. (Evaluation and Appraisal Report Based Plan Update Amendment)</p> | <p>Ordinance No. 89-28 adopted by BOCC July 12, 1989.</p> |
| <p>Transportation Element (Text and Maps) Description: Updated data and analysis, maps, goals, objectives, and policies. Horizon Year 2015. (Evaluation and Appraisal Report Based Plan Update Amendment)</p> | <p>Ordinance No. 94-10 adopted by BOCC October 27, 1994. DCA Notice of Intent to find amendment in compliance published in the <i>Tampa Tribune</i> on December 26, 1994. Effective Date January 16, 1995.</p> |
| <p>CPA 96-05 Transportation Element (Text) Description: Incorporated references to Greenways Master Plan terminology in the Transportation, Recreation and Open Space, and Future Land Use Elements (Regular Plan Amendment)</p> | <p>Ordinance No. 96-10 adopted by BOCC June 19, 1996. DCA Notice of Intent to find amendment in compliance published in the <i>Tampa Tribune</i> on July 13, 1996. Effective Date July 13, 1996.</p> |
| <p>CPA 00-10 Transportation Element (Text and Maps) Description: Updated data and analysis, maps, goals, objectives, and policies in the Element, including references to Port of Tampa and Aviation Master Plans. Horizon Year 2020. (Evaluation and Appraisal Report Based Amendment Fourth Group)</p> | <p>Ordinance No. 00-42 adopted by BOCC December 13, 2000. DCA Notice of Intent to find amendment in compliance published in the <i>Tampa Tribune</i> on February 6, 2001. Effective Date February 28, 2001.</p> |
| <p>CPA 03-07 Transportation Element (Text and Map) Adds text and maps to establish a boundary and a community vision and implementing strategies based on environmental resources, cultural/historic resources, and transportation corridors and improvements to existing corridors for the SouthShore Areawide Systems Plan</p> | <p>Ordinance No. 03-10 adopted by BOCC 6/25/03. DCA Notice of Intent to find amendment in compliance published in <i>Tampa Tribune</i> on 8/13/03. Effective Date of Amendment 9/3/03.</p> |
| <p>CPA 04-17 - Transportation Element, Capital Improvements Element, and Future Land Use Elements (Text) Includes Hillsborough County Roadway Transportation Corridor Preservation</p> | <p>Adopted by BOCC 10/28/04 Notice of Intent published in the <i>Tampa Tribune</i> on 12/16/04. Effective date of Amendment 1/7/05.</p> |

I. INTRODUCTION

PURPOSE

The purpose of the Transportation Element is to plan a transportation system to accommodate existing and future motorized and non-motorized travel in Hillsborough County. A transportation system is a group of different transportation modes, such as roads, transit, bicycle and pedestrian ways, that work together to satisfy the community's transportation needs. This element combines roadways, public transportation, congestion management, intermodal facilities, and bicycle and pedestrian considerations, into one element so that transportation is looked at as an integrated system, rather than several disjointed pieces.

The needs of the future transportation system are based on the Future Land Use Element. The location, type, and intensity of future land utilization has a strong influence on the location and extent of transportation system improvements. The Transportation Element serves as a guide to achieve the goal stated herein, which is to provide a safe, efficient, environmentally sensitive, and integrated multi-modal transportation system for the movement of people and goods in Hillsborough County.

BACKGROUND

The major roadway network planned for Hillsborough County (meaning Federal, State, and County roads) will not be sufficient to support all travel demand in the year 2025. That is why the Transportation Element emphasizes a transportation system that will require the use of various modes of transport to effectively move people in the future. That system will be heavily dependent on expanded use of alternative modes to provide enough capacity to accommodate future travel demand at an acceptable level of service standard.

Buses, guideway transit vehicles, bicycles, and walking are examples of modes of transportation which are alternatives to the automobile. The automobile, in spite of its wonderful qualities of convenience and autonomy, has several negative qualities which will eventually limit its continued growth as the predominant form of transportation. The negative aspects of automobiles are:

- High consumption of fossil fuels which causes air pollution and reduces the availability of petroleum resources for other applications such as plastics and synthetics.
- The growth in vehicular travel in recent years has outpaced population growth in Florida. Florida and Hillsborough County

- now have more registered vehicles than licensed drivers. It is unlikely that the state and local governments can afford, or have the desire, to continuously expand the road system to accommodate this growth in one person per vehicle travel.
- The automobile requires large amounts of land for roads and parking. Building new roads and expanding existing roads often requires condemnation of property and structures. Community opposition to land acquisition can sometimes stop a road improvement project.
 - The average cost of property acquisition for roadways is now almost equal to, and in some cases exceeds, the cost of construction. High acquisition costs are inflating the total costs of roadway improvement projects, and are making the costs of alternative modes more attractive.
 - In 2005 the use of automobiles in the state of Florida resulted in 3,533 crashes involving fatalities. Hillsborough County ranked 3rd in the State with 207 fatal crashes.

ORGANIZATION

The Transportation Element is arranged as follows.

Section I, Introduction, provides the purpose, background and organization of the Transportation Element. It also provides an introduction into the Planning Process, the Public Participation Process, and some of the factors that have been developed through the Long Range Transportation Plan Development Process.

Section II, Inventory and Analysis, provides an inventory of the existing transportation system. The inventory includes both the roadway and the transit network. Section II also identifies existing deficiencies and needs in Hillsborough County.

Section III, Future Needs and Alternatives, identifies transportation system improvements necessary to serve future travel demand. Future travel demand is based on the land uses shown in the Future Land Use Element.

Section IV sets forth the Goals, Objectives, and Policies. The goals outline the desirable characteristics of our transportation system. The objectives are measures to gauge progress toward achieving the goal. The policies are guides for actions which will result in achievement of the objectives.

Section V, Plan Implementation and Monitoring, outlines the implementation strategies necessary to put the policies into action. The implementation strategies are directed at funding transportation system needs and monitoring the performance of that system.

Section VI, Definitions, contains definitions of many of the terms used throughout the Transportation Element.

Appendices - Other adopted and supportive technical information are included in the appendices. These materials include all the existing and future map series as well as many of the tables.

PLANNING PROCESS

Hillsborough County has two long range transportation planning processes in place. The Federal Highway Administration requires the Hillsborough County Metropolitan Planning Organization (MPO) to maintain a comprehensive, coordinated and continuing planning process which includes short and long range plans for all modes. The State of Florida also has mandated that the local land planning agency carry out a planning process (Chapter 163, FS) which requires development of an implementable long range transportation plan as a part of the Hillsborough County Comprehensive Plan. This Transportation Element update is the result of that process.

THE EVALUATION AND APPRAISAL (EAR) PROCESS AND PUBLIC INPUT

In accordance with Chapter 163.3191, Florida Statute, Hillsborough County must identify “major issues” that affect the local government’s ability to achieve its goals, and then assess the Comprehensive Plan’s effectiveness in addressing those issues as part of evaluation and appraisal of the Comprehensive Plan. There has been a substantial amount of public outreach to involve and educate the citizens of Hillsborough County and to solicit input from governmental entities.

- In late 2003, a meeting was held with elected and other government officials, including the Board of County Commissioners, Tampa City Council, the Plant City Commission, Temple Terrace, and the Planning Commission to identify major concerns and issues.
- Also in 2003, a meeting was held to get input from staff representatives of local jurisdictions, departmental staffs, surrounding jurisdictions, and other government agencies.
- Beginning in early 2004, seven Public Outreach Open Houses were held in various parts of the County. These meetings were in an open

format designed to encourage dialog from the citizens and identify what they thought were the major issues facing Hillsborough County. Approximately 550 people participated in these meetings.

- In April 2004, a Student Forum was held. Students from over 20 Hillsborough County High Schools participated in the half-day meeting. The purpose of this forum was to identify the issues and concerns of the younger citizens of the community.
- Throughout much of 2004, staff attended approximately 50 smaller community meetings and events. These events, typically with 15 to 40 people in attendance, allowed the staff to present information and receive input on the issues and concerns of the particular group.

All the comments received from the various meetings were entered into “content analysis” software and a series of issues identified. For Transportation, the concerns raised by the public are grouped into three broad categories:

Road Network and Connectivity Concerns. The plan must effectively and safely balance the needs of people to get from point “A” to point “B” with the needs of people along the path. The network of roads should be designed to provide property access as needed while maintaining through-traffic flow and minimizing crashes. The network should efficiently accommodate through-traffic while minimizing its impacts.

Infrastructure to Support Growth. There is a level of frustration that traffic congestion continues to grow and a feeling that that the growth management/concurrency system is not working as it relates to transportation. To the greatest extent possible, the comprehensive plan should ensure that transportation improvements are in place before development occurs.

Alternatives to Driving. The Comprehensive Plan should provide for safe and effective alternatives to driving in order to reduce the demand on the road system, cultivate desirable options for people stuck in traffic, improve air quality, and allow non-drivers to maintain their independence. It should promote a balanced transportation system and a land use pattern that supports such balance.

As applicable, and to the maximum extent feasible, the update of this Transportation Element and the MPO’s Long Range Transportation Plan are intended to address the major issues identified through the public involvement process.

THE ADOPTED 2025 LONG RANGE TRANSPORTATION PLAN

The MPO's adopted 2025 Long Range Transportation Plan was formulated based on both technical analyses and public input. Public concerns expressed at the community meetings and open houses were considered in updating the Plan.

In November of 2004, the Hillsborough County Metropolitan Planning Organization adopted its 2025 Long Range Transportation Plan. By 2025, it is estimated that over 5.3 million person trips will occur in Hillsborough County daily. The majority of these will be made on the highway system.

Year 2025 travel patterns indicate that 36% of all vehicle miles traveled will be on freeways (Interstates and Expressways) and 42% will be on the arterial system. Therefore, most capacity improvements will be on the Interstate and arterial systems. Approximately 15 miles of reconstruction and widening are planned for I-275, I-4, and portions of I-75. An additional 67 miles of new roads are also planned where none exist now.

Overall, the adopted 2025 Long Range Transportation Needs Assessment recommends more than twice as many divided arterials for improvement than are currently programmed. Similarly, the percentage of freeway system center lane miles remain at 11% in 2025 but lane miles of freeway will increase 89%, meaning that significant new capacity will be added to the freeway system by 2025. In summary, the Highway component of the Needs Assessment includes:

- Capacity improvements for the Interstate and major arterials to accommodate the bulk of the region's travel demand in 2025. These are shown on the MPO's 2025 Long Range Transportation Needs Assessment Highway Network found in [Map 24](#). Capacity improvements will include a "standard package" of sidewalks, crosswalks, handicapped ramps, bikeways, landscaping and, in some cases, street lighting.
- Congestion Management techniques for constrained roads currently operating or projected to function at or below an acceptable level of service, but which cannot accommodate more lanes. These include car and van pools, parking solutions to encourage mass transit patronage, flex time, staggered work hours, and other transportation demand management strategies.

- Enhanced Roads are facilities designated for improvements at key intersections, signal timing changes, and removal of on-street parking. Enhanced Roads strive for greater highway operating efficiency without adding through lanes but may include turning, passing or other auxiliary lanes. Bikeways, sidewalks, resurfacing, and drainage improvements may also be included. Approximately 113 miles of Enhanced Roads are recommended.
- Transit Emphasis Corridors have been identified along major arterials that will have the most frequent transit service, with buses running on fifteen-minute schedules. Bus Rapid Transit (BRT) enhancements are proposed for these corridors. In addition, two Super Express corridors have also been identified in the Plan. These corridors would also have BRT improvements and provide Express Service on a 15 minute schedule during peak commute times. As reconstruction of these roads occurs, their planning and design will include features to give the transit system a competitive advantage over the single-occupant vehicle and attract riders. In most cases designated bus lanes and pullouts, shelters, sidewalks and crosswalks are included. Approximately 101 miles of roads are recommended as Transit Emphasis/Super Express Corridors.

Many roads fall into more than one category. For instance, an Enhanced Road can also be a Transit Emphasis Corridor.

Appendix F is a listing of the roadway improvements needed to complete the 2025 Cost Affordable Transportation Plan. This listing includes all state roads in the unincorporated area and all the County roads. Those roadways which have been designated as "Enhanced" facilities are also identified.

INTERPRETATIONS

The Planning Commission is the source of official interpretation of this and all other Elements of the Comprehensive Plan. Questions regarding interpretation should be directed to:

Executive Director
Hillsborough County City-County
Planning Commission
601 East Kennedy Blvd., 18th Floor
Tampa, Florida 33602
(813) 272-5940

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II. INVENTORY AND ANALYSIS

INTRODUCTION

The inventory and analysis section identifies the existing facilities, which make up the transportation system and analyzes the operating conditions on those facilities. The inventory and analysis is broken down into the following sections: highway operations, transit operations, intermodal facilities, bicycle, and pedestrian facilities.

HIGHWAY SYSTEM

Inventory and Data Analysis

The major roadway network in Hillsborough County is shown on [Map 1](#) of Appendix J. This map shows the number of existing lanes for each roadway, and identifies limited access facilities.

The Florida Department of Transportation's (FDOT)/Federal functional classification of the existing roadway network is shown on [Map 2](#). This map differentiates between principal arterial, minor arterial, urban collector, rural major collector and rural minor collector roadways. There are approximately 1,146 miles of functionally classified roadways within Hillsborough County. Of the functionally classified roadways, 446 miles are under the jurisdiction of the state and 743 miles of roadway are under County jurisdiction.

Hillsborough County also maintains a functional classification for local use. These classifications are referred to in various County regulations that apply to Community Plans or regulate, for example, the placement of signs and the placement of residential traffic control devices such as speed humps, etc. The local functional classification is listed in Appendix I and shown on Map 2B of Appendix J.

An inventory of all major roads on the State and County roadway network is maintained as the basis for evaluating roadway operating conditions, deficiencies and needs. The information provided in this inventory includes: the jurisdiction having maintenance responsibility; functional classification; roadway segment length; the current lane arrangement; level of service standard; existing roadway capacity; current daily traffic volume; volume to capacity ratio (v/c); and level of service. (Local residential streets are not included in the inventory.)

Related transportation facilities such as ports, airports, and rail lines, are identified on [Map 3](#) of Appendix J.

Analysis Methodology

Highway level-of-service is a concept developed by the Transportation Research Board to identify, for the general public, the quality of roadway operating conditions. Level-of service is a ranking system, which corresponds to the grading system many of us are familiar with from grammar school. The level of service categories and their definitions are outlined below. They have become a standard for evaluating roadway operating conditions.

- LOS A — Represents free flow. Individual users are virtually unaffected by others in the traffic stream. Vehicles are completely unimpeded in their ability to maneuver and as a result, freedom to select a desired speed exists. Delay at intersections is minimal.
- LOS B — Represents reasonably unimpeded operations. Ability to maneuver and select a desired speed is only slightly restricted and delays are not bothersome.
- LOS C — Represents stable flow. The ability to maneuver and select a desired speed is restricted by the presence of others.
- LOS D — Represents high-density, but stable, flow. Speed selection and maneuverability are severely restricted. Small increases in flow may cause substantial delays and significant decreases in operating speed.
- LOS E — Represents operating conditions at or near capacity. Freedom to maneuver and select a desired speed is extremely restricted. Attempting to change lanes usually requires another motorist to yield. Small increases in flow will cause operational breakdown.
- LOS F — Represents forced flow or breakdown. Severe intersection congestion is likely at critical intersections with long delays resulting. Operations are characterized by stop-and-go waves that are extremely unstable.

The analysis of level of service used the revised 2002 capacity tables and software approved by the Florida Department of Transportation. The tables are based on the latest Highway Capacity Manual update.

Rule 9J-5 requires the use of peak hour peak direction levels of service for existing conditions and peak hour levels of service for future conditions. The Florida Department of Transportation (FDOT) recommends using the 100th highest hour to meet this requirement. The 100th highest hour approximates a peak hour during the peak season. The level of service analysis used for this Transportation Element follows the FDOT recommendations.

All roadway segments, along with their corresponding volume, capacity, and resulting levels of service are shown in Appendix A and Appendix B.

[Map 4](#) in Appendix J illustrates the existing Levels of Service on the major roadway network.

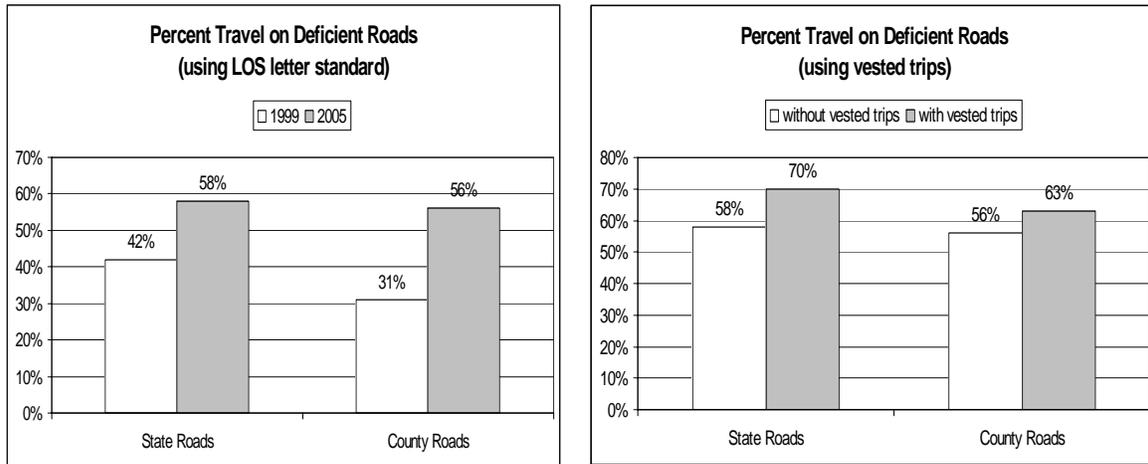
Roadway Deficiencies

The analysis outlined above resulted in identification of roadway deficiencies. Most of the major roadways in unincorporated Hillsborough county are operating at or above (i.e. better than) the adopted LOS standard. However, the roadways that are operating below the peak hour/peak direction LOS standard are noted in Appendix C and D. These roadways presently have traffic volumes that exceed the roadway capacity as determined by the level of service analysis.

Based on the Level of Service analysis there are a total of 306 miles of deficient roadways that are under the jurisdiction of the State or County within unincorporated Hillsborough County. The County maintains 59 percent of these roadways (approximately 181 miles) and the State maintains the other 41 percent (approximately 125 miles). The deficient roadways account for 32 percent of all functionally classified roads in unincorporated Hillsborough County.

The analysis also calculated the percentage of travel on deficient roadways. Travel is measured as the number of vehicles times the length of the roadway. The chart below on the right shows that 58 to 70 percent of the travel on State roads and 56 to 63 percent of the travel on County roads occurs at conditions below (worse than) the level of service standards, as set in the Comprehensive Plan, with and without vested trips. Vested trips are new vehicle trips anticipated during recent development reviews. The following charts compare the percent of travel, in the years 1999 and 2005, on deficient State and County roadways where the LOS is worse than the adopted LOS standard.

Percent of Travel on Deficient Roadways



Existing Needs

The level of service analysis of existing conditions (2005) identified that many roadways are deficient. This means that they operate at worse than the adopted level of service standard (including vested trips) in the Comprehensive Plan. An analysis was conducted to identify what improvements would need to be made in order to bring all the County and State roadways back up to the desired level of service standard. Appendix E identifies the improvements that would be needed.

Using generalized cost estimates, the cost (in 2005 dollars) of the improvements identified in the above analysis was estimated. This analysis estimates that to bring the existing roadway network in unincorporated Hillsborough County up to the currently adopted level of service standards would cost \$1.8 billion for the County road system and \$500 million for the State road system, not including the interstate.

Some of the county roads identified as deficient in Appendix D, are either presently being improved or are scheduled to be improved within five years, as noted in the Capital Improvements Element.

Some of the State roads identified in Appendix C are also scheduled for improvement in the FDOT five-year work program. Some of them will have acceptable levels of service after improvement. However, some will continue to operate at LOS F. Roadways such as this may need to be considered for improvement alternatives other than additional lanes. Through the Metropolitan Planning Organization's Congestion Management System, "low cost" improvements to reduce congestion on

deficient corridors are studied. Another way to add capacity to a roadway corridor without adding lanes is to increase the level of transit service. While transit cannot improve roadway capacity, it can add greatly to the “people” moving capacity of a corridor.

Parking Capacity

The County's current supply of significant (structured) parking facilities is listed below and shown in [Map 5](#).

| <u>LOCATION</u> | <u># OF SPACES</u> |
|-------------------------------------|--------------------|
| Brandon Hospital | 320 |
| Citibank | 3,000 |
| Citrus Park Mall | 1,200 |
| County Center Garage | 454 |
| Federal Courthouse | 130 |
| Fort Brooke Garage | 1,530 |
| International Mall | 1123 |
| Pierce Street Parking Garage | 560 |
| Poe Parking Garage | 935 |
| Port Authority Garage | 2,100 |
| Seminole Hard Rock Hotel and Casino | N/A |
| South Regional Parking Garage | 1,500 |
| St Joseph Hospital | 1,388 |
| Tampa General Hospital | 904 |
| Tampa International Airport | 20,515 |
| TECO Garage | 486 |
| Twiggs Parking Garage | 897 |
| University Community Hospital | N/A |
| University Mall | 1,600 |
| USAA | 600 |
| University of South Florida | 500 |
| Westshore Mall | 2,900 |
| Whiting Street Garage | 503 |
| Ybor Garage (2) | 1,200 |

Natural Disaster Evacuation Efforts

The *Tampa Bay Region Hurricane Evacuation Study 2000 Technical Data Report* prepared by the Tampa Bay Regional Planning Council is an update to the 1992 comprehensive evaluation of hurricane effects on a region-wide basis that includes the counties of Hillsborough, Manatee, Pasco, and Pinellas. This report provides an evaluation of the nature of hurricane threats based on the SLOSH (Sea, Lake, and Overland Surges from Hurricane) Model that predicts storm surge and identifies all evacuation zones. The report consisting of hazards, vulnerability, transportation, and behavioral analyses was modified to calculate the impacts on the region for

a multi-regional evacuation and concludes that the evacuation clearance times for a multi-regional evacuation are the highest in the country.

The objective of the evacuation study is to consider the effects of evacuating coastal areas where more than one county shares the same evacuation routes and "must undertake evacuation planning with constant consideration of neighboring jurisdictions' potential impact upon their ability to timely relocate their own residents who are vulnerable to the hurricane's hazards."

The study provides a transportation analysis that calculated the "clearance times based upon (1) the regional evacuation roadway network, (2) storm intensity, (3) evacuation population, and (4) behavioral response." The evacuation levels are based upon five different scenarios of hurricane intensities. Critical roadway locations/segments were identified for each of the counties included in the study. For Hillsborough County, those included: I-275/I-75 interchange; I-275/I-4 interchange; I-275 northbound on ramps; I-4 eastbound on ramps; SR 580/Veterans Expressway interchange; and Gandy Boulevard/Crosstown Expressway Interchange. In evaluating the clearance times under differing evacuation scenarios including only local (Tampa Bay Region) and multi-regional evacuations, the times ranged from a low of 13 hours based on a Level A Evacuation to 21 ½ hours for a Level D/E evacuation. These times only included in-county movements. Regional clearance times with a Southwest Florida Evacuation were measured to be as much as 98 hours under a Level D/E Evacuation. Refer to [Map 6](#), "Tampa Bay Region Hurricane Evacuation Network" and [Map 7](#), "Hillsborough County Hurricane Evacuation Zones", in Appendix J.

TRANSIT INVENTORY AND ANALYSIS

Introduction

The Hillsborough Area Regional Transit Authority (HART) is designated by the State of Florida as the provider of public mass transportation in Hillsborough County. HART must provide all public mass transportation directly, or by a third party through agreement with HART. In March 1980, HART, then known as Tampa Bus Lines, became the operator of public transportation as a separate governmental agency. A board of directors governs HART with representatives from all of the jurisdictions served.

The Transit Authority is partially funded by ad valorem tax revenues approved by voter referenda in Hillsborough County, the City of Tampa, and the City of Temple Terrace. These local jurisdictions have approved up to a one-half mil tax on property within their jurisdictions to fund the

local share of mass transit. The transit authority also receives federal funds from the Federal Transit Administration, and state funds from the Florida Department of Transportation. Funds for planning of transit are coordinated with other federally-funded transportation planning activities through the MPO, and documented in the MPO's Unified Planning Work Program. The MPO also has a limited planning and oversight role.

Current Bus Routes

HART's transit system is made up of both local and express bus routes, as shown in [Map 8](#). Local routes primarily serve the urban core, with a limited number of routes serving suburban areas such as Brandon and southern Hillsborough County. Express routes serve downtown Tampa from park-and-ride facilities in suburban areas such as Brandon, Carrollwood, New Tampa, North Tampa, Temple Terrace, Seffner/Dover, Riverview, and Ruskin/Apollo Beach/Sun City. HART has one regional route linking the Hillsborough County service area with Clearwater, and the Pinellas Suncoast Transit Authority offers two additional regional routes between St. Petersburg, the Gateway District, and Tampa.

HART operates fixed route bus service seven days per week, including most holidays. Service on weekdays begins at 4:00 a.m. and ends at 11:20 p.m. Only local routes run on Saturday and a limited local schedule is operated on Sunday. Most routes have weekday frequencies (headways) 30 to 60 minutes between buses.

Ridership

HART's goal is to increase ridership 4% each fiscal year over the previous year, based on farebox data. In fiscal year 2005, HART buses carried 10 million passenger trips, a 13% increase over 2004. Ridership is projected to increase by 4% in 2006. The following table shows the ridership by route for fiscal year 2005.

Total Ridership – FY 2005

| LOCAL ROUTES | | | | | |
|--|--------------------------------|-----------------------------------|-----------------------------------|------------------------------------|----------------|
| | 1st Quarter (Oct- Dec04) | 2nd Quarter (Jan- Mar05) | 3rd Quarter (Apr- Jun05) | 4th Quarter (Jul- Sept05) | FY 05 Total |
| 1 - Florida Ave. | 184,723 | 190,391 | 182,991 | 192,262 | 750,367 |
| 2 - Nebraska Ave. | 271,223 | 298,561 | 284,776 | 298,186 | 1,152,746 |
| 4 - Palma Ceia - MacDill | 25,625 | 22,357 | 26,963 | 27,835 | 102,780 |
| 5 - 40th St. | 98,121 | 100,323 | 97,148 | 96,208 | 391,800 |
| 6 - 56th St. | 168,128 | 172,035 | 166,380 | 181,107 | 687,650 |
| 7 - West Tampa - Citrus Park | 131,976 | 121,236 | 117,037 | 127,568 | 497,817 |
| 8 - Progress Village - Brandon | 69,622 | 72,629 | 87,708 | 90,250 | 320,209 |
| 9 - 15th St. | 110,834 | 105,074 | 109,997 | 120,902 | 446,807 |
| 10 - Cypress St. | 25,570 | 24,969 | 25,331 | 26,835 | 102,705 |
| 11 - Northwest Tampa* | 31,595 | | | | 31,595 |
| 12 - 22nd St. | 186,012 | 196,835 | 191,873 | 195,916 | 770,636 |
| 14 - Armenia Ave | 33,038 | 33,949 | 35,966 | 37,473 | 140,426 |
| 15 - Columbus Dr. | 70,956 | 77,528 | 77,277 | 81,704 | 307,465 |
| 16 - Waters Ave. | 37,450 | 35,814 | 38,217 | 37,847 | 149,328 |
| 17 - MacDill - Downtown Tampa* | 19,361 | | | | 19,361 |
| 18 - 30th St. | 82,610 | 88,687 | 85,909 | 89,417 | 346,623 |
| 19 - Port Tampa | 84,028 | 89,994 | 88,522 | 93,643 | 356,187 |
| 30 - Town N' Country | 110,677 | 112,277 | 110,098 | 112,846 | 445,898 |
| 31 - South Hillsborough County | 15,370 | 16,318 | 16,166 | 17,874 | 65,728 |
| 32 - MLK Blvd. | 71,428 | 76,281 | 76,938 | 79,866 | 304,513 |
| 33 - Fletcher Ave. | 33,245 | 32,096 | 30,516 | 31,605 | 127,462 |
| 34 - Hillsborough Ave. | 117,444 | 130,722 | 124,575 | 128,442 | 501,183 |
| 36 - Dale Mabry - Himes Ave. | 80,566 | 80,610 | 80,748 | 84,669 | 326,593 |
| 37 - Brandon - Netpark | 42,282 | 44,796 | 41,720 | 43,026 | 171,824 |
| 39 - Busch blvd. | 79,950 | 77,649 | 77,226 | 80,355 | 315,180 |
| 41 - Sligh Ave. | 22,652 | 29,860 | 28,465 | 28,344 | 109,321 |
| 44 - UATC-Habana- Westshore | 8,785 | 31,166 | 34,495 | 37,964 | 112,410 |
| 45 - UATC-Rome- Westshore | 14,119 | 47,652 | 48,649 | 52,787 | 163,207 |
| 46 - Davis Island - West Brandon | 16,099 | 15,997 | 16,961 | 16,914 | 65,971 |
| 57 - UATC-Temple Terrace- Netpark | 3,954 | 25,909 | 23,371 | 23,799 | 77,033 |
| 70 – Strawberry Connection- South/West Plant City** | 3,019 | 3,955 | 2,262 | 0 | 9,236 |
| 71 – Strawberry Connection- South/East Plant City** | 2,845 | 2,384 | 1,440 | 0 | 6,669 |
| 72 – Strawberry Connection- North/West Plant City** | 2,295 | 3,091 | 1,547 | 0 | 6,933 |
| 73 – Strawberry Connection- North/East Plant City** | 1,639 | 1,212 | 1,064 | 0 | 3,915 |
| 81 – Westshore – Britton Plaza* | 2,561 | | | | 2,561 |

| | 1 st Quarter (Oct- Dec04) | 2 nd Quarter (Jan- Mar05) | 3 rd Quarter (Apr- Jun05) | 4 th Quarter (Jul- Sept05) | FY 05 Total |
|---|--|--|--|---|------------------|
| 83 – University Area Connector | 43,357 | 41,782 | 42,138 | 45,855 | 173,132 |
| 84 – South County Circulator | 10,236 | 10,341 | 8,727 | 8,921 | 38,225 |
| 85 – MacDill – Britton Plaza Weekend Connector | 2,092 | 4,180 | 3,968 | 4,314 | 14,554 |
| 88 – Town N’ Country Connector | 4,169 | 3,851 | 5,439 | 6,675 | 20,134 |
| 89 – South Tampa Connector | 4,896 | 17,493 | 15,700 | 16,711 | 54,800 |
| 96 – In-Town Trolley – Downtown | 31,795 | 25,251 | 28,312 | 24,923 | 110,281 |
| 98 – In-Town Trolley – Hyde Park | 2,787 | 13,433 | 13,379 | 11,481 | 41,080 |
| 99 – Hooter’s Lunchtime Shuttle | 3,512 | 3,137 | 5,538 | 4,521 | 16,708 |
| 701 – Non Regularly Scheduled Public Service Trips | 5,141 | 8,681 | 4,004 | 1,151 | 18,977 |
| Total Local | 2,367,787 | 2,490,506 | 2,459,541 | 2,560,196 | 9,878,030 |
| * Route Discontinued 12/5/04 | | | | | |
| **Service Transferred to Plant City 6/2/05 | | | | | |

| EXPRESS SERVICE | | | | | |
|--|--|--|--|---|----------------|
| | 1 st Quarter (Oct- Dec04) | 2 nd Quarter (Jan- Mar05) | 3 rd Quarter (Apr- Jun05) | 4 th Quarter (Jul- Sept05) | FY 05 Total |
| 20X – Lutz Express | 1,416 | 1,167 | 1,487 | 1,609 | 5,679 |
| 22X – North Brandon Express | 1,683 | 1,416 | 1,751 | 1,717 | 6,567 |
| 23X – Temple Terrace Express | 940 | 801 | 1,038 | 992 | 3,771 |
| 25X – Mac Dill AFB Express | 2,376 | 2,060 | 3,719 | 3,638 | 11,793 |
| 26X – Carrollwood Express | 511 | 468 | 526 | 684 | 2,189 |
| 27X – South Brandon Express | 1,308 | 1,178 | 1,616 | 1,618 | 5,720 |
| 28X – Plant City Express | 1,182 | 1,006 | 1,416 | 1,535 | 5,139 |
| 50X – Citrus Park Express | 744 | 623 | 774 | 697 | 2,838 |
| 57LX – North Cross County Limited Express* | | | | | 0 |
| 58LX – South Cross County Limited Express* | | | | | 0 |
| 58LX – Oldsmar Limited Express*** | 296 | 255 | 236 | 404 | 1,191 |
| 59LX – Town N’ Country Limited Express | 1,365 | 1,178 | 1,643 | 1,708 | 5,894 |
| 200X – Clearwater Express | 901 | 923 | 1,128 | 1,235 | 4,187 |
| Total Express | 12,722 | 11,075 | 15,334 | 15,837 | 54,968 |

* Route Discontinued 12/5/04

***Service Begun 12/5/05

Revenues from the farebox accounted for 25.8% of costs during fiscal year 2005. This exceeded HART’s goal of a 21% farebox recovery ratio on

fixed-route transit service. The national average for urbanized areas of similar size is also 20%. [Source: *National Transit Summaries and Trends for the 2002 Section 15 Report Year.*]

Bus Fleet

Since 1994, the average age of the HART bus fleet has been reduced from 10.4 to 7.2 years. The average life span of a heavy duty 30-40 foot bus is only ten years. In 2004, forty-five HART buses over 15 years old were replaced. To continue to maintain and reduce the fleet's average age, between 2004 and 2014 HART intends to purchase 247 large and small buses, 70 mini-buses and vans and 138 vans for vanpools. Twenty-five additional buses are proposed to be purchased to expand peak period service on local routes and to provide new express service.

Most of the fleet consists of heavy-duty, diesel-powered, 30-40 foot vehicles. Some newer buses have a low-floor design to better accommodate wheelchairs. The versatility of the fleet has also been expanded with the addition of some compressed-natural-gas-fueled rubber-tire trolleys and smaller vehicles for neighborhood circulation.

Bus Transit Transfer Centers

HART operates several terminals throughout the county, located at activity centers where several routes convergence ([Map 10](#) of Appendix J). Passengers are provided with covered seating areas and other amenities. These centers include:

- Britton Plaza
- Citrus Park Mall
- Netp@rk
- Tampa Bay Center
- Marion Street Transfer Center
- University Mall
- University Area Transfer Center
- Westshore Plaza

In addition, several new transit centers are being planned or constructed:

- Bearss Transit Center – Planned for the area of Florida Avenue and Bearss Avenue to serve the upper northwest portion of Hillsborough County, including New Tampa.
- Brandon Transit Center – A long-term project to create a Brandon Main Street including a transit center to serve the rapidly growing population in that area.
- Northwest Transit Center – Proposed to be located in the vicinity of the Waters – Sheldon intersection, this center will replace the

obsolete Hanley-Waters Plaza and provide a permanent home for this area's routes to converge.

- South County Intermodal Transit Center – This center will provide connections for rural southern Hillsborough County between HART's local bus routes, inter-city bus lines, and commonly used retail and governmental services. ([Map 10](#))

In addition, HART operates park-and-ride facilities in predominantly suburban locations throughout the county. ([Map 10](#)) These locations provide free parking and are served by express bus routes.

Tampa – Ybor Historic Electric Streetcar

The first phase of the TECO Line Streetcar System is a 2.4 mile section that opened in 2002, connecting the Downtown Convention Center and St. Pete Times Forum with the Channel District, cruise ports and Ybor City, supporting tourism and providing an alternative mode of transportation during high-traffic events. The next phase of the system will be a 1/3 mile extension that will run north on Franklin Street to Whiting Street and the Fort Brooke parking garage, improving access to the central business core and connecting the more than 35,000 people who work in the downtown area to the streetcar's current destinations and a number of recent residential developments along the line.

Other Transit-Supportive Facilities

The HART Transit Infrastructure Committee is charged with the responsibility to construct bus bays and bus shelters within Hillsborough County. When these transit supportive facilities are constructed, HART also designates significant funding to make transit infrastructure improvements such as crosswalks, curbing, detectable warning strips, drainage, landing pads, landscaping, railing, shelter pads, sidewalk connectivity and sod placement. These facilities are designed and constructed to meet applicable regulatory requirements. Funding sources include Hillsborough County impact fees and federal/state funding. Further, HART partners with the Florida Department of Transportation and Hillsborough County to incorporate transit improvements, including intersection improvements and traffic signalization, into future roadway projects. HART also promotes the design and construction of transit improvements by private developers who meet the developer thresholds in the Hillsborough County Land Development Code. Currently, no agreements exist between Hillsborough County and HART for this type of work.

Sidewalks

Hillsborough County and HART entered into an agreement on August 1, 2001 so that HART could designate funds during FY 2001 and FY 2002 for sidewalk and accessibility improvements on nine roadway segments. HART and the County have not entered into any other agreement.

Intersection Improvements

According to the HART Transit Friendly Planning and Design Handbook and Technical Manual, the curb radius required is 30' minimum for buses turning into two or more traffic lanes (35' is desirable). Older intersections often have shorter radii. Hillsborough County and HART partnered and solved such a problem near the University Area Transit Center.

Bus Bays

A spot for bus drivers to pull out of through traffic lanes while passengers embark and disembark, bus bays can have both advantages and disadvantages. They can slow bus service by making it more difficult for the bus to get back on the road after a stop. However, the improvement in through traffic flow can be valuable, particularly on single-lane roads. The Hillsborough County Land Development Code requires developments of 500 to 1,000 residential units and non-residential and mixed use developments of 200,000 square feet or more to provide bus bays on transit roadways.

Informational signage

Three hundred and thirty informational kiosks and smaller information panels are installed. Transit display for maps, brochures and schedules are placed and updated at 244 locations that includes businesses, social service agencies and medical facilities.

Administration and Maintenance Facilities

The main operational facility for HART is located at 4305 East 21st Avenue in Tampa. This facility is home to HART's Finance and Human Resources Divisions as well as Operations, which includes the Transportation and Maintenance Departments. HART is currently proceeding with the rehabilitation of the 21st Avenue facility to improve operational efficiency. Planning, marketing, development, and executive functions are conducted at 201 East Kennedy Boulevard, Suite 1600 900 in Downtown Tampa.

Transit Level of Service (TLOS)

The development of level-of-service standards for transit is required by Chapter 9J-5, Florida Administrative Code (FAC). Historically, Hillsborough County has addressed this requirement with measurements such as the number of transit seats available at peak hour, comparable to the capacity-based level-of-service standard for roadways. However, transit capacity is arguably more complex than highway capacity: it deals with the movement of both people and vehicles; depends on the vehicle sizes and how often they operate; and reflects the interactions between passenger traffic concentrations and vehicle flow. Accordingly, the traditional concepts applied to highway capacity must be adapted and broadened.

Hillsborough County is moving towards a more complex set of parameters for evaluating transit systems, as proposed by the Transportation Research Board (TRB) and supported by the Florida Department of Transportation. The revisions to the TRB's *Highway Capacity Manual* for the year 2000 encompass a shift in emphasis from a person-capacity standard to a "quality of service" standard. In the words of the TRB's Transit Cooperative Research Program, "Quality of service" reflects the transit-user perspective and should be measured by a quantitative measurement or prediction of how a transit route, facility, or system is operating under specified demand, supply, and control conditions. The concept of quality of service for transit includes some of the same factors that affect capacity, such as vehicle size, load factor, service frequency, and travel time. Travel time is influenced by such factors as stop frequency, dwell times, road and rail traffic interference, and right-of-way design. In addition to the factors that affect both quality of service and capacity, quality of service also includes such items as accessibility, comfort, area coverage, and reliability.

Hillsborough County has developed a new transit level-of-service standard based on the quality of service concept. Following is an evaluation of the quality of service available in Hillsborough County, assessing the frequency of service, span of service, and area coverage. The following sections examine these three indicators.

Frequency Level of Service

Criteria for evaluating the frequency of service are as follows:

| LOS | Headway (minutes) | Vehicles/ Hour | Comments |
|-----|-------------------|----------------|--|
| A | <10 | >6 | Passengers don't need schedules. |
| B | 10-14 | 5-6 | Frequent service, passengers consult schedules. |
| C | 15-20 | 3-4 | Maximum desirable time to wait if bus/train is missed. |
| D | 21-30 | 2 | Service is unattractive to choice riders. |
| E | 31-60 | 1 | Service is available during hour. |
| F | >60 | <1 | Service is unattractive to all riders. |

| LOCAL ROUTES | | | | | | | | |
|-------------------------------------|--------------------------|------------------|--------------------------|------------------|-----------------------------|------------------------------|------------------|----------------------|
| | Peak Hours | | Midday 9am-3:29pm | | | Evening 6:30-Midnight | | Frequency LOS |
| | Headway (Minutes) | LOS Score | Headway (Minutes) | LOS Score | Numerical Conversion | Headway (Minutes) | LOS Score | |
| 1 FLORIDA AVENUE | 20 | C | 30 | D | | 30 | D | D |
| 2 NEBRASKA AVENUE | 15 | C | 15-30 | D | | 15-30 | D | D |
| 4 PALMA CEIA/ MACDILL | 60 | E | 60 | E | | 60 | E | E |
| 5 40 TH STREET | 30 | D | 30 | D | | 30 | D | D |
| 6 56 TH STREET | 30 | D | 30 | D | | 30 | D | D |
| 7 WEST TAMPA/ CITRUS PARK | 30 | D | 30 | D | | 30 | D | D |
| 8 PROGRESS VILLAGE/ BRANDON | 30-45 | E | 45 | E | | 45 | E | E |
| 9 15 TH STREET | 30 | D | 30 | D | | 30 | D | D |
| 10 CYPRESS STREET | 30 | D | 30 | D | | 30 | D | F |
| 12 22 ND STREET | 20-30 | D | 30-20 | D | | 20-30 | D | D |
| 14 ARMENIA AVENUE | 45 | E | 45 | E | | 45 | E | E |
| 15 COLUMBUS DRIVE | 45 | E | 45 | E | | 45 | E | E |
| 16 WATERS AVENUE | 45 | E | 45 | E | | 45 | E | E |
| 18 30 TH STREET | 30 | D | 30 | D | | 30-60 | E | D |
| 19 PORT TAMPA | 30 | D | 30 | D | | 30 | E | D |
| 30 TOWN 'N COUNTRY | 30 | D | 30 | D | | 30-50 | E | D |
| 31 SOUTH HILLSBOROUGH COUNTY | 100-120 | F | 90-120 | F | | 95 | F | F |
| 32 DR. MARTIN LUTHER KING JR. BLVD. | 30 | D | 30 | D | | 30 | D | D |
| 33 FLETCHER AVENUE | 60 | E | 60 | E | | 60 | E | E |

| LOCAL ROUTES | | | | | | | | |
|----------------------------------|-------------------|-----------|------------------------------|-----------|----------------------|---------------------------------------|-----------|---------------|
| | Peak Hours | | Midday 9am-3:29pm | | | Evening 6:30- Midnight | | |
| | Headway (Minutes) | LOS Score | Headway (Minutes) | LOS Score | Numerical Conversion | Headway (Minutes) | LOS Score | Frequency LOS |
| 34 HILLSBOROUGH AVENUE | 30 | D | 30 | D | | 30 | D | D |
| 36 DALE MABRY/ HIMES AVENUE | 30-35 | D | 35-50 | E | | 30 | D | D |
| 37 BRANDON/ NETPARK | 40-50 | E | 45 | E | | 45 | E | E |
| 39 BUSCH BOULEVARD | 60 | E | 60 | E | | 60 | E | E |
| 41 SLIGH AVENUE | 60 | E | 60 | E | | 60 | E | E |
| 44 UATC/ HABANA/ WESTSHORE PLAZA | 60 | E | 60 | E | | 60 | E | E |
| 45 UATC/ ROME/ WESTSHORE PLAZA | 60 | E | 60 | E | | 60 | E | E |
| 46 DAVIS ISLANDS/ WEST BRANDON | 60 | E | 60 | E | | 60 | E | E |
| 57 UATC/ TEMPLE TERRACE/ NETPARK | 60 | E | 60 | E | | 60 | E | E |
| 83 UNIVERSITY AREA CONNECTOR | 30 | D | 30 | D | | 30-35 | E | D |
| 84 SOUTH COUNTY CIRCULATOR | 65-120 | F | 90-120 | F | | 90 | F | F |
| 85 SOUTH TAMPA WEEKEND CONNECTOR | | | | | | | | |
| 88 TOWN 'N COUNTRY CONNECTOR | 90 | F | 90 | F | | 90 | F | F |
| 89 SOUTH TAMPA CONNECTOR | 30-25 | D | 22-38 | D | | 30 | D | D |
| 96 INTOWN TROLLEY DOWNTOWN | 15 | C | 15 | C | | 15 | C | C |
| 98 INTOWN TROLLEY HYDE PARK | | F | 15 | C | | 15 | C | E |
| 99 HOOTERS – CHANNELSIDE EXPRESS | 10 | B | 10 | B | | 10 | B | B |

| EXPRESS | | | | | | | | |
|----------------------------------|-------------------|---|------------------------------|--|--|---------------------------------------|--|--|
| | Peak Hours | | Midday 9am-3:29pm | | | Evening 6:30- Midnight | | |
| 20 LUTZ EXPRESS | 45-55 | E | | | | | | |
| 22 NORTH BRANDON EXPRESS | 30-45 | E | | | | | | |
| 23 TEMPLE TERRACE EXPRESS | 30-60 | E | | | | | | |
| 24 FISHHAWK – MACDILL A.F.B. | 30-60 | E | | | | | | |
| 25 MACDILL A.F.B. EXPRESS | 15-30 | C | | | | | | |
| 26 CARROLLWOOD EXPRESS | | | | | | | | |
| 27 SOUTH BRANDON EXPRESS | 20-30 | D | | | | | | |
| 28 PLANT CITY EXPRESS | 30-35 | E | | | | | | |
| 200 CLEARWATER EXPRESS | 35-105 | F | | | | | | |
| 50 CITRUS PARK EXPRESS | | | | | | | | |
| 51 NEW TAMPA EXPRESS | 45-55 | E | | | | | | |
| 52 NEW TAMPA EXPRESS | 45-55 | E | | | | | | |
| 58 OLDSMAR LIMITED EXPRESS | 30-40 | E | | | | | | |
| 59 TOWN 'N COUNTRY LIMIT EXPRESS | 30-45 | E | | | | | | |

| PLANT CITY LOCAL SERVICE | | | | | | | | |
|---------------------------------|-------------------|---|------------------------------|---|--|---------------------------------------|--|---|
| | Peak Hours | | Midday 9am-3:29pm | | | Evening 6:30- Midnight | | |
| 70 STRAWBERRY CONNECTION | 60 | E | 60 | E | | | | F |
| 71 STRAWBERRY CONNECTION | 60 | E | 60 | E | | | | F |
| 72 STRAWBERRY CONNECTION | 60 | E | 60 | E | | | | F |
| 73 STRAWBERRY CONNECTION | 60 | E | 60 | E | | | | F |

* With the exception of Express Routes, the “Average Frequency LOS” was calculated as a weighted average of the frequency LOS scores for regular hours, peak hours, and evening hours. Specifically, Average Frequency LOS = [(2 * mid-day span score) + (2 * peak hour span score) + (evening span score)] / 5. In translating letter grades to numerical values, the following assumptions were made: grade “A”=95, “B”=85, “C”=75, “D”=65, “E”=55, and “F”=45. Express routes, which operate primarily at peak hours and supplement congested peak hour road capacity, are scored solely based on peak hour frequency.

Span Level of Service

Criteria for evaluating the span of service hours are as follows:

| LOS | Hours per Day | Comments |
|-----|---------------|--|
| A | 19-24 | Night-owl service is provided. |
| B | 17-18 | Late evening service is provided. |
| C | 14-16 | Early evening service is provided. |
| D | 12-13 | Daytime service is provided. |
| E | 4-11 | Peak hour service/ limited midday service. |
| F | 0-3 | Very limited to no service. |

LOCAL ROUTES

| | Weekdays | | | Saturday Hours | | Sunday Hours | | Span of Hours LOS |
|-------------------------------------|-------------------------|-----------|----------------------|-------------------------|-----------|-------------------------|-----------|-------------------|
| | Number of Service Hours | LOS Score | Numerical Conversion | Number of Service Hours | LOS Score | Number of Service Hours | LOS Score | |
| 1 FLORIDA AVENUE | 18:18 | B | | 14:24 | C | 12:59 | D | B |
| 2 NEBRASKA AVENUE | 18:40 | B | | 17:06 | B | 14:11 | C | B |
| 4 PALMA CEIA/ MACDILL | 15:08 | C | | 0:00 | F | 0:00 | F | D |
| 5 40TH STREET | 17:24 | B | | 13:53 | C | 12:51 | D | B |
| 6 56TH STREET | 17:09 | B | | 13:33 | C | 13:10 | C | |
| 7 WEST TAMPA/ CITRUS PARK | 17:31 | B | | 13:53 | C | 13:58 | C | B |
| 8 PROGRESS VILLAGE/ BRANDON | 18:12 | B | | 13:15 | D | 13:52 | C | B |
| 9 15TH STREET | 16:32 | C | | 14:08 | C | 0:00 | F | C |
| 10 CYPRESS STREET | 15:21 | C | | 0:00 | F | 0:00 | F | D |
| 12 22ND STREET | 19:08 | A | | 13:57 | C | 13:56 | C | B |
| 14 ARMENIA AVENUE | 15:46 | C | | 0:00 | F | 0:00 | F | D |
| 15 COLUMBUS DRIVE | 17:32 | B | | 14:08 | C | 14:02 | C | B |
| 16 WATERS AVENUE | 14:14 | C | | 13:54 | C | 0:00 | F | C |
| 18 30TH STREET | 17:26 | B | | 15:12 | C | 0:00 | F | C |
| 19 PORT TAMPA | 17:36 | B | | 14:11 | C | 1:01 | F | C |
| 30 TOWN 'N COUNTRY | 16:38 | C | | 14:38 | C | 14:38 | C | C |
| 31 SOUTH HILLSBOROUGH COUNTY | 15:18 | C | | 0:00 | F | 0:00 | F | D |
| 32 DR. MARTIN LUTHER KING JR. BLVD. | 17:04 | B | | 13:27 | D | 13:57 | C | B |
| 33 FLETCHER AVENUE | 14:46 | C | | 13:45 | D | 0:00 | F | D |
| 34 HILLSBOROUGH AVENUE | 17:29 | B | | 13:53 | C | 12:54 | D | B |
| 36 DALE MABRY/ HIMES AVENUE | 16:12 | C | | 13:54 | C | 12:54 | D | C |
| 37 BRANDON/ NETPARK | 16:14 | C | | 13:55 | C | 0:00 | F | C |
| 39 BUSCH BOULEVARD | 16:46 | C | | 15:40 | C | 13:40 | D | C |
| 41 SLIGH AVENUE | 13:55 | C | | 0:00 | F | 0:00 | F | D |
| 44 UATC/ HABANA/ WESTSHORE PLAZA | 17:25 | B | | 0:00 | F | 0:00 | F | C |

| LOCAL ROUTES | | | | | | | | |
|----------------------------------|-------------------------|-----------|----------------------|-------------------------|-----------|-------------------------|-----------|-------------------|
| | Weekdays | | | Saturday Hours | | Sunday Hours | | |
| | Number of Service Hours | LOS Score | Numerical Conversion | Number of Service Hours | LOS Score | Number of Service Hours | LOS Score | Span of Hours LOS |
| 45 UATC/ ROME/ WESTSHORE PLAZA | 17:25 | B | | 14:13 | C | 14:13 | C | B |
| 46 DAVIS ISLANDS/ WEST BRANDON | 12:57 | D | | 0:00 | F | 0:00 | F | E |
| 57 UATC/ TEMPLE TERRACE/ NETPARK | 17:51 | B | | 0:00 | F | 0:00 | F | C |
| 83 UNIVERSITY AREA CONNECTOR | 17:46 | B | | 14:18 | C | 12:56 | D | B |
| 84 SOUTH COUNTY CIRCULATOR | 15:05 | C | | 12:23 | D | 0:00 | F | D |
| 85 SOUTH TAMPA WEEKEND CONNECTOR | 0:00 | F | | 13:41 | D | 13:41 | D | E |
| 88 TOWN 'N COUNTRY CONNECTOR | 12:55 | D | | 0:00 | F | 0:00 | F | E |
| 89 SOUTH TAMPA CONNECTOR | 15:55 | C | | 0:00 | F | 0:00 | F | D |
| 96 INTOWN TROLLEY DOWNTOWN | 16:21 | C | | 0:00 | F | 0:00 | F | D |
| 98 INTOWN TROLLEY HYDE PARK | 12:18 | D | | 12:15 | D | 8:45 | E | D |
| 99 HOOTERS - CHANNELSIDE EXPRESS | 3:08 | F | | 0:00 | F | 0:00 | F | F |

| PLANT CITY LOCAL SERVICE | | | | | | | | |
|---------------------------------|-------------------------|-----------|----------------------|-------------------------|-----------|-------------------------|-----------|-------------------|
| | Weekdays | | | Saturday Hours | | Sunday Hours | | |
| | Number of Service Hours | LOS Score | Numerical Conversion | Number of Service Hours | LOS Score | Number of Service Hours | LOS Score | Span of Hours LOS |
| 70 STRAWBERRY CONNECTION | 7:25 | E | | | | | | |
| 71 STRAWBERRY CONNECTION | 7:25 | E | | | | | | |
| 72 STRAWBERRY CONNECTION | 7:25 | E | | | | | | |
| 73 STRAWBERRY CONNECTION | 7:25 | E | | | | | | |

* The “Average LOS” for Span of Service Hours was calculated as a weighted average of the span LOS scores for weekdays and weekend days. Specifically, Average Span LOS = [(5 * weekday span score) + (Saturday span score) + (Sunday span score)] / 7. In translating letter grades to numerical values, the following assumptions were made: grade “A”=95, “B”=85, “C”=75, “D”=65, “E”=55, and “F”=45.

Final Score For Each Route

For all local routes, the final level-of-service score is a simple average of its “frequency” and “span” scores. For express routes, whose function primarily is to provide additional options for peak-hour commuting, the peak hour frequency LOS score was used as the final score.

Existing service levels (HARTline system as of April 2005):

| LOCAL ROUTES | | | | |
|-------------------------------------|-------------------|---------------|-----------|---|
| | Span of Hours LOS | Frequency LOS | Total LOS | Peak Hour Frequency LOS (Express Routes Only) |
| 1 FLORIDA AVENUE | B | D | C | |
| 2 NEBRASKA AVENUE | B | D | C | |
| 4 PALMA CEIA/ MACDILL | D | E | D | |
| 5 40TH STREET | B | D | C | |
| 6 56TH STREET | B | D | C | |
| 7 WEST TAMPA/ CITRUS PARK | B | D | C | |
| 8 PROGRESS VILLAGE/ BRANDON | B | E | D | |
| 9 15TH STREET | C | D | D | |
| 10 CYPRESS STREET | D | F | E | |
| 12 22ND STREET | B | D | C | |
| 14 ARMENIA AVENUE | D | E | D | |
| 15 COLUMBUS DRIVE | B | E | D | |
| 16 WATERS AVENUE | C | E | D | |
| 18 30TH STREET | C | D | C | |
| 19 PORT TAMPA | C | D | C | |
| 30 TOWN 'N COUNTRY | C | D | D | |
| 31 SOUTH HILLSBOROUGH COUNTY | D | F | E | |
| 32 DR. MARTIN LUTHER KING JR. BLVD. | B | D | C | |
| 33 FLETCHER AVENUE | D | E | D | |
| 34 HILLSBOROUGH AVENUE | B | D | C | |
| 36 DALE MABRY/ HIMES AVENUE | C | D | D | |
| 37 BRANDON/ NETPARK | C | E | D | |
| 39 BUSCH BOULEVARD | C | E | D | |
| 41 SLIGH AVENUE | D | E | D | |
| 44 UATC/ HABANA/ WESTSHORE PLAZA | C | E | D | |
| 45 UATC/ ROME/ WESTSHORE PLAZA | B | E | D | |
| 46 DAVIS ISLANDS/ WEST BRANDON | E | E | E | |
| 57 UATC/ TEMPLE TERRACE/ NETPARK | C | E | D | |
| 83 UNIVERSITY AREA | B | D | C | |

| LOCAL ROUTES | | | | |
|----------------------------------|-------------------|---------------|-----------|---|
| | Span of Hours LOS | Frequency LOS | Total LOS | Peak Hour Frequency LOS (Express Routes Only) |
| CONNECTOR | | | | |
| 84 SOUTH COUNTY CIRCULATOR | D | F | E | |
| 85 SOUTH TAMPA WEEKEND CONNECTOR | E | | F | |
| 88 TOWN 'N COUNTRY CONNECTOR | E | F | E | |
| 89 SOUTH TAMPA CONNECTOR | D | D | D | |
| 96 INTOWN TROLLEY DOWNTOWN | D | C | C | |
| 98 INTOWN TROLLEY HYDE PARK | D | E | E | |
| 99 HOOTERS - CHANNELSIDE EXPRESS | F | B | D | |

| EXPRESS | | | | |
|----------------------------------|-------------------|---------------|-----------|---|
| | Span of Hours LOS | Frequency LOS | Total LOS | Peak Hour Frequency LOS (Express Routes Only) |
| 20 LUTZ EXPRESS | | E | E | E |
| 22 NORTH BRANDON EXPRESS | | E | E | E |
| 23 TEMPLE TERRACE EXPRESS | | E | E | E |
| 24 FISHHAWK - MACDILL A.F.B. | | E | E | E |
| 25 MACDILL A.F.B. EXPRESS | | C | C | C |
| 26 CARROLLWOOD EXPRESS | | E | E | |
| 27 SOUTH BRANDON EXPRESS | | D | D | D |
| 28 PLANT CITY EXPRESS | | E | E | E |
| 200 CLEARWATER EXPRESS | | F | F | F |
| 50 CITRUS PARK EXPRESS | | E | E | |
| 51 NEW TAMPA EXPRESS | | E | E | E |
| 52 NEW TAMPA EXPRESS | | E | E | E |
| 58 OLDSMAR LIMITED EXPRESS | | E | E | E |
| 59 TOWN 'N COUNTRY LIMIT EXPRESS | | F | F | F |

| PLANT CITY LOCAL SERVICE | | | | |
|---------------------------------|-------------------|---------------|-----------|---|
| | Span of Hours LOS | Frequency LOS | Total LOS | Peak Hour Frequency LOS (Express Routes Only) |
| 70 STRAWBERRY CONNECTION | E | F | F | |
| 71 STRAWBERRY CONNECTION | E | F | F | |
| 72 STRAWBERRY CONNECTION | E | F | F | |
| 73 STRAWBERRY CONNECTION | E | F | F | |

Area Coverage

The area served by a transit system typically is determined by the distance a person can comfortably walk to a bus route. The closer the bus, the better the transit service to an area, and the higher the quality of service score might be in that area.

For this initial analysis of TLOS in Hillsborough County, a simple ¼ mile typical walking radius was used around each local route. Express routes served by park-and-ride lots in suburban areas may attract riders from a greater distance, so a 1 to 5 mile driving area is indicated around park-and-rides. The resulting service areas are illustrated in [Map 11](#).

Establishing TLOS Standards

The following analysis documents the existing quality of transit service (transit level of service or TLOS) provided to land uses within the county. Standards for future transit service will be developed based on the percent of the desired service area, percent of the population, or percent of target corridor miles that are served by transit at a desired quality level.

Urban Services Area Served By Transit

The Urban Services Area (USA) represents the location where the bulk of growth will occur over the next 20 years. [Map 11](#), depicting existing transit service areas, also shows the location of the USA boundary. As shown in that map, approximately 25.8% of the USA is currently served by transit of quality of service level “D” or better (that is, the buses operate at least 12 hours per day and arrive an average of 30 minutes or less apart). The following table provides a more detailed analysis of the quality of transit service available in the USA.

| TLOS | Acres | % of USA | Cumulative % |
|-------------|--------------|-----------------|---------------------|
| A | 0 | 0 | 0 |
| B | 0 | 0 | 0 |
| C | 128,007 | 14% | 14% |
| D | 108,705 | 11.8% | 25.8% |
| E | 32,916 | 11.9% | 37.8% |
| F | 15,500 | 2.2% | 40% |

Transit Service in “Constrained and Deficient” Roadways

“Constrained roadways” denote major roads to which lanes cannot be added because adjacent neighborhoods, historic or cultural resources, or natural environments would be unduly damaged. Some of these roadways already operate at a poor highway level of service and are termed “deficient.” In planning improvements for such roads, strategies such as improved signal timing, turn lanes at select intersections, and bicycle/pedestrian improvements may be considered. Transit is another tool that can supplement the capacity of such corridors.

The following table documents bus corridors with an existing TLOS score of “D” or better, as of April 30, 2005. These “High TLOS” corridors, in which buses operate at least 12 hours per day and arrive every 30 minutes or less on average, already supplement some of the existing constrained and deficient roadways in Hillsborough County. The road segments listed in the following table are within 1320 feet of TLOS “D” or better bus service and are located in unincorporated Hillsborough County. Some of them are also classed as constrained and deficient. [Map 12](#) shows the location of these corridors.

This table is provided for illustrative purposes, as an indication of corridors with more intensive transit service in operation as of this writing. For concurrency management purposes, please refer to the annually updated Roadway Level of Service Report for the latest available data.

HIGH TRANSIT LEVEL OF SERVICE CORRIDORS

| High TLOS Corridors in the Unincorporated County As of April 2005** | | | Constrained & Deficient? |
|--|------------------|---------------------|---|
| Road Name | From | To | |
| 131ST AVE | NEBRASKA AVE | 30TH ST | |
| 15TH ST | FOWLER AVE | FLETCHER AVE | |
| 22ND ST | FLETCHER AVE | BEARSS AVE | |
| 30TH ST | FOWLER AVE | BEARSS AVE | |
| 43RD ST | HANNA AVE | SLIGH AVE | |
| 50TH ST (USF) | FOWLER AVE | FLETCHER AVE | |
| 50TH ST/56TH ST | M L KING BLVD | FOWLER AVE | |
| 78TH ST | MADISON AVE | TECO DRIVEWAY | |
| ARMENIA AVE | HILLSBOROUGH AVE | WATERS AVE | |
| ARMENIA AVE | WATERS AVE | BUSCH BLVD | yes |
| ARMENIA AVE | BUSCH BLVD | LINEBAUGH AVE | |
| BEARSS AVE | FLORIDA AVE | NEBRASKA AVE | |
| BEARSS AVE | SKIPPER RD | LIVINGSTON AVE | yes |
| BEARSS AVE | LIVINGSTON AVE | BRUCE B DOWNS BLVD | |
| BROADWAY AVE | CITY LIMITS | M L KING BLVD | |
| BUSCH BLVD | DALE MABRY HWY | ARMENIA AVE | |
| CAUSEWAY BLVD | 78TH ST | PROVIDENCE RD | |
| CITRUS PARK DR | SHELDON RD | GUNN HWY | |
| DALE MABRY HWY | HILLSBOROUGH AVE | N NORTH LAKEVIEW | |
| FALKENBURG RD | WOODBERRY RD | HIGHLAND MANOR DR | |
| FLETCHER AVE | DALE MABRY HWY | 30TH ST | yes |
| FLETCHER AVE | 30TH ST | 50TH ST | |
| FLORIDA AVE | FOWLER AVE | BEARSS AVE | |
| FOWLER AVE | FLORIDA AVE | 30TH ST | |
| FOWLER AVE | MCKINLEY DR | 46TH ST | |
| FOWLER AVE | BULL RUN | 56TH ST | |
| GORNTO LAKE RD | LUMSDEN RD | BRANDON TOWN CENTER | |
| GRAND REGENCY BLVD | SR 60 | WOODBERRY RD | |
| GUNN HWY | CITRUS PARK DR | DALE MABRY HWY | yes |
| HABANA AVE | CITY LIMITS | WATERS AVE | |
| HANLEY RD | HILLSBOROUGH AVE | WATERS AVE | |
| HARNEY RD | HILLSBOROUGH AVE | SLIGH AVE | |
| HILLSBOROUGH AVE | MEMORIAL HWY | HOOVER RD | |
| HIMES AVE | CITY LIMTS | BUSCH BLVD | |
| I-275* | WESTSHORE BLVD | HIMES AVE | |
| I-275* | ARMENIA AVE | BEARSS AVE | |
| I-4* | I-275 | 40TH ST | |
| KELLY RD | MEMORIAL HWY | HILLSBOROUGH AVE | |
| KINGS AVE | OAKFIELD DR | SR 60/BRANDON BLVD | |
| LAKEWOOD DR | PROVIDENCE RD | SR 60 | |
| LINEBAUGH AVE | GUNN HWY | DALE MABRY HWY | |
| LIVINGSTON AVE | BEARSS RD | SINCLAIR HILLS DR | |
| M L KING BLVD | 56TH ST | HIGHVIEW RD | |
| MEMORIAL HWY | KELLY RD | INDEPENDENCE PKWY | |
| NEBRASKA AVE | FOWLER AVE | BEARSS AVE | |

| High TLOS Corridors in the Unincorporated County As of April 2005** | | | Constrained & Deficient? |
|--|-----------------------|--------------------|---|
| Road Name | From | To | |
| NORTHDALE BLVD | MAPLEDALE BLVD | DALE MABRY HWY | |
| OAKFIELD DR | LAKEWOOD DR | PARSONS AVE | |
| ORIENT RD | BROADWAY AVE | HILLSBOROUGH AVE | |
| PALM RIVER RD | US HWY 41 | 78TH ST | |
| PARSONS AVE | OAKFIELD RD | SR 60 | |
| PAULS DR | OAKFIELD DR | SR 60 | |
| PROGRESS BLVD | 78TH ST | 82ND ST | |
| PROVIDENCE RD | LUMSDEN RD | SR 60 | |
| SHELDON RD | HILLSBOROUGH AVE | CITRUS PARK DR | |
| SKIPPER RD | NEBRASKA AVE | 16TH ST | |
| SLIGH AVE | 43RD ST | ORIENT RD | |
| SR 60 / BRANDON BLVD* | I-75 | PARSONS AVE | |
| US HWY 301 | SABAL INDUSTRIAL BLVD | M L KING | |
| US HWY 41 | PALM RIVER RD | ADAMO DR/SR 60 | |
| WATERS AVE | SHELDON RD | CITY LIMITS | |
| WOODBERRY RD | FALKENBURG RD | GRAND REGENCY BLVD | |

* On Florida Intrastate Highway System, so max V/C is set by FDOT (i.e. not 1.20).

** This table is provided for illustrative purposes. For concurrency management purposes, please refer to the annually updated Roadway Level of Service Report for the latest available data.

Transit Service to Transit Trip Generators

Map 13 shows the transit service area in relationship to the populations most in need of and/or most likely to use transit. These populations were identified based on six socio-economic variables having a direct correlation with transit use in the market. Ranges for high, medium, and low propensity to use transit were developed for each variable based on literature, previous studies and analysis conducted by HART. The six variables were:

- Population per acre
- Housing units per acre
- Median household income
- Number of females per acre (ages 22-59)
- Auto ownership per household
- Number of seniors per acre (ages 62+)

Using data from the 2000 Census, block groups were scored on each of the above variables. A composite score was then generated for each

block group, creating the categories of high, medium, and low propensity to use transit.

As shown in [Map 13](#), transit service is concentrated in areas with a high or medium transit propensity.

Transit Service to Trip Attractors

[Map 14](#) shows the transit service area – at level of service “D” or better – in relationship to major activity centers in Hillsborough County. These “trip attractors” represent local concentrations of activities, such as shopping and services, employment, social and civic activities. All activity centers designated in the Land Use Element of the Comprehensive Plan – regional, community, and neighborhood centers – are shown. Also shown are activity centers that have been identified in the City of Tampa Comprehensive Plan – high intensity, regional, and community centers – and in the Tampa Bay Regional Planning Model for the evaluation of transportation alternatives.

As shown in [Map 14](#), approximately two-thirds of the identified activity centers in Hillsborough County are served by transit at level of service “D” or better. The remaining activity centers are located in outlying areas. About half of these (Citrus Park, Lutz, I-75 and Fletcher, I-75 and Gibsonton, Apollo Beach, Ruskin, and Sun City) receive limited transit service, such as express routes operating a few hours per day.

TRANSPORTATION DISADVANTAGED SERVIC

Chapter 427, Florida Statutes, defines the Transportation Disadvantaged as:

“Anyone who, because of physical or mental disability, income status, or age or who for other reasons are unable to transport themselves or to purchase transportation. They are, therefore, dependent on others to obtain access to health care, employment, shopping, social activities or other life-sustaining activities. This includes children who are handicapped or high-risk as defined in Section 411.202, Florida Statutes.”

Specialized Transportation, or door-to-door van service provided on an advanced-reservation basis, is available in Hillsborough County for a limited number of trip purposes, for individuals who meet the definition of Transportation Disadvantaged and meet specific criteria of the funding agency or organization.

The designated Community Transportation Coordinator (CTC) for Hillsborough County is the County Administrator, acting on behalf of the Board of County Commissioners. The CTC is responsible for ensuring that transportation disadvantaged services are provided throughout Hillsborough County.

The program uses four types of carriers to transport passengers, including:

- Fixed-route bus services by HART and by Plant City
- Door-to-door services provided by the Sunshine Line, HART complementary paratransit, contractors of the Medicaid Non-Emergency Transportation program, and other agencies
- For-profit carriers - taxi cabs and wheelchair vans
- Volunteer associations such as the American Red Cross

The main scheduling/dispatch facility is called Coordinated Transportation Reservations (CTR).

The Hillsborough County Transportation Disadvantaged Service Plan 2003- 2008, commissioned by the MPO, projected a total transportation disadvantaged population (disabled, low income, elderly, and children with disabilities and/or at “high risk”) of 90,130 with a demand of 3.8 million one-way client trips in 2006. The Plan recognized that over the foreseeable future, demand would continue to exceed capacity, and that capital and operating funds were not sufficient to meet this need. Therefore, the Plan recommends increasing the efficiency of the current operation through improved scheduling, adding mobile data terminals to vehicles, and by diverting more trips to the fixed-route transit system. Hillsborough Area Regional Transit Authority (HART) participates in the transportation disadvantaged system by complying with the Americans with Disabilities Act (ADA). The ADA requires wheelchair lifts on all public transportation vehicles. It also requires HART to provide paratransit service for the disabled traveling within the same area (i.e. within 3/4 mile of a local bus route) and at the same times as the fixed-route bus system (see [Map 16](#)). The purpose is to offer persons with disabilities the same level of mobility afforded to others.

The ADA imposes a significant financial burden on local transit systems such as HART. No additional federal funding came with this mandate. To meet these requirements, HART must find additional revenues or save costs in other areas, even if fixed-route bus service must be sacrificed. (Persons interested in more information on the local transportation disadvantaged program should reference the Transportation Disadvantaged Service Plan and Transit Development Plan. These

documents are available for review in the library of the Planning Commission.)

Public Transportation Commission (PTC) is an independent Special District created by a Special Act - Chapter 2001-299, Laws of Florida. The Commission regulates vehicles for-hire as defined in the Special Act and these include taxicabs, limousines, vans, basic life support ambulances and those wrecker services that support government agencies such as the law enforcement agencies in Hillsborough County.

Currently, there is no requirement that taxicab companies in Hillsborough County have wheelchair accessible vehicles in their fleet. The PTC staff in their June 2006 Taxicab Regulation Modification Plan proposed that companies with ten or more taxicab permits be required to make 10% of the permitted vehicles wheelchair accessible. The proposal is currently under consideration by the PTC Board pending further research and awaiting a legal opinion from the Florida Attorney General.

CONGESTION MANAGEMENT

Over the past several years, traffic demand has greatly exceeded the growth in new roadway capacity. This has resulted in congested roadways throughout the community. In December 1995 the Hillsborough County Metropolitan Planning Organization completed its first Congestion Management System Performance Report. The System Performance Report represented Hillsborough County's initial steps to implement the Congestion Management System (CMS) provisions of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and identified the location of congested corridors and subareas within the County

ISTEA mandated development of congestion management system plans for urban areas with a population in excess of 200,000. Congestion management continues to have a prominent role under the Transportation Equity Act for the 21st Century (TEA-21) of 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, although renamed to "Congestion Management Process" (CMP).

A CMP is a systematic process that provides information on transportation system performance and alternative strategies to alleviate congestion and enhance the mobility of persons and goods. It includes methods to monitor and evaluate transportation performance, assess and implement cost-effective actions, and evaluate the effectiveness of implemented actions.

The MPO has continued to follow its CMP work plan that specifies major activities, responsibilities and a timeline demonstrating full operation and use of the CMP. The MPO's CMP remains consistent and coordinated with similar congestion management efforts being undertaken by the Florida Department of Transportation and other MPOs in the Tampa Bay region.

Two more CMS Performance Reports for Hillsborough County have been published (in June, 2001 and September, 2005) since development of the initial performance report in December, 1995. A primary purpose of these reports is to identify particular roadway corridors within Hillsborough County that are well-suited for further, more detailed analysis.

The CMS Steering Committee selected several corridors for study based on the transportation performance data contained in both the 1995 and 2001 CMS Performance Reports and a review of volume-to-capacity ratios on congested and constrained roadways. These studies identified low-cost, quick response strategies to improve mobility by increasing alternative travel modes and/or reducing traffic congestion.

Corridors (entirely or in part) within unincorporated Hillsborough County selected for analysis included:

- Dale Mabry Highway/Himes Avenue from Kennedy Boulevard to Ehrlich Road (November, 1998);
- Bearss Avenue from Dale Mabry Highway to Bruce B. Downs Boulevard (July, 1999);
- Hillsborough Avenue/Memorial Highway from W. Long Boat Boulevard to Dale Mabry Highway (February 2000); and
- Fletcher Avenue from Florida Avenue to 56th Street (March 2000).

As the CMP process continues to evolve, its monitoring aspects will provide staff a unique opportunity to evaluate the effectiveness of strategies chosen for implementation.

Several of these strategies are detailed below:

Transportation System Management (TSM)

TSM strategies seek to better utilize existing roadway capacity. Several strategies addressed in the Congestion Management Component are summarized in the following paragraphs.

Traffic Signal Improvements - Traffic signal improvements generally provide the greatest payoffs for reducing congestion on surface streets. There are a number of relatively basic improvements that can and should be made to improve traffic flow on arterials. They include:

- **Equipment Update** - Inventory existing traffic control devices to determine if new, more modern equipment can replace them. This allows for the planning of a more comprehensive set of strategies to improve traffic flow.
- **Timing Plan Improvements** - Collect data necessary to update the traffic signal timing to correspond to current traffic flow. Retiming signals has been very successful in improving traffic congestion.
- **Interconnected Signals** - Specific improvements that include one or more of the following: interconnected pre-timed signals, traffic actuated signals, interconnected actively managed timing plans and master controls.
- **Traffic Signal Removal** - Many traffic signals are no longer warranted in urban areas due to changes in traffic patterns. In some cases, conversion of control from full to flashing operation can provide significant reductions in delay and congestion during the off-peak times.
- **Traffic Signal Maintenance** - Preventive and response maintenance are critical to keep signals functioning in the most efficient and effective manner.
- **Arterial surveillance and management** -- Through the use of video cameras and other traffic sensing equipment, arterial surveillance is often used to improve traffic flow. It is particularly effective in the following areas:
 - Incident detection and follow-up action to remove incidents;
 - Improvements in signalization and timing, and;
 - Integration of freeway and arterial management programs.

Hillsborough County is building a new Traffic Management Center that will serve as the hub for the management of its Intelligent Transportation Systems (ITS) initiatives, many of which will implement the type of improvements identified above.

Intersection Improvements - Several intersection traffic control devices can be used to improve the flow of vehicles and the safe passage of pedestrians. These devices include stop signs, yield signs, traffic signs,

turning lanes, traffic islands, channelization and improved design. In recent years Hillsborough County has invested portions of the Community Investment Tax and other transportation funds in its Intersection Improvement Program.

Turn Prohibitions – Congestion delay and safety problems at intersections and driveway access points are often caused by conflicts between turning vehicles and pedestrians and/or other vehicles approaching from the opposite direction. Prohibiting turns at selected intervals during the day is a means of reducing congestion and accidents.

One Way Streets - Although most streets are designed for use by two-way traffic, on some high volume roadways, traffic can be more effectively managed through one-way traffic regulations. These can be operated in the following ways:

- Traffic moves on a street in one direction at all times
- At certain times during the day, a street that normally operates in one direction will be operated in the reverse direction to provide additional capacity in the predominant direction of flow, and;
- A street that normally carries two-way traffic but which during peak traffic hours may be operated as a one-way street, usually in the heavier direction of flow. Such a street may operate in one direction during the evening (or morning) peak hours, with two-way traffic during all other hours.

One-way streets provide increased capacity, often resulting in a more cost effective operation that can help meet other community objectives (such as saving sidewalks and trees sometimes lost to capacity improvements, facilitating the loading and unloading of commercial vehicles with minimal impact on traffic flow, meet changing traffic patterns very quickly, etc).

Reversible Traffic Lanes - A reversible-lane system is one of the most efficient methods of increasing rush hour(s) capacity of existing streets. The system is operated by designating one or more lanes for one-way movement during part of the day, and the opposite direction during another part of the day. With minimal capital costs, it takes advantage of unused capacity in the direction of lighter traffic flow; therefore making better use of all the lanes. Appropriate safety precautions must be taken when implementing reversible traffic lanes because commuters can become confused about the change in the use of lanes. An example of this is the reversible lanes on the Lee Roy Selmon Expressway.

Parking Management - Parking management programs can take on several different components with several different results. For this reason, they must be sensitive to the economic climate of the area of the city in which they are employed. In the Central Business District (CBD), parking usually has a fee structure associated with the location of major activities. In suburban office parks, parking is usually free. A significant change in this arrangement can produce undesirable economic effects. Parking management programs can include the following categories:

- **On-Street Parking Supply** - Strategies include adding/removing spaces, changes in the mix of short and long-term parking spaces, parking restrictions, residential parking permit programs, carpool/vanpool preferential parking and loading zone regulations. It is important to be careful of parking abuses, especially in residential areas when looking at uses of the on-street parking supply.
- **Off-Street Parking Supply in Activity Centers** - Strategies include expanding/restricting off-street supply in CBD and activity centers, change mix of short and long-term parking, restrict parking before or during selected hours of the day and preferential parking.
- **Fringe and Corridor Parking** - Includes strategies for fringe parking, park and ride parking and carpool/vanpool parking.
- **Pricing** - Strategies to include changing parking rates, discount programs and employer parking subsidies.
- **Enforcement and Adjudication** - Multiple program types to implement both of these tactics.
- **Marketing** - Advertising and convenience programs (such as monthly contracts).

Goods Movement Management - An additional element of traffic congestion that should be addressed is goods movement management. It is possible to minimize unnecessary congestion through better management of the time and location of truck deliveries and pick-ups. Some of the elements of a goods movement management strategy will include the following:

- **Improvements at Shipping and Receiving Points** - Facilitating on-street loading and unloading by designing additional curb space for loading zones and enforcing time restrictions.
- **Reducing Operational and Physical Constraints** - Changing the timing of traffic signals or using demand-actuated signals at intersections with large volumes of trucks to compensate for the acceleration, deceleration and turning characteristics of large trucks. Intersections can be widened and horizontal and vertical

obstacles (islands, lamps, utility poles, etc.) can be removed or relocated.

- **Changes in Business Operating Practices** - Reducing or changing the time required for pick-ups and deliveries can help reduce congestion.
- **Changes in Public Policy** - The most effective mitigation of truck-induced congestion is realized through the separation of trucks from other traffic. Land use planning, zoning and building regulations requiring off-street loading and unloading facilities may be implemented.

High Occupancy Vehicle (HOV) Facilities - Priority treatment (such as exclusive travel lanes) for high occupancy vehicles (HOVs) often results in more effective management of scarce highway infrastructure during peak-hour travel times by moving a greater number of people in fewer vehicles. There are several types of HOV facilities that can be used in urban areas:

- **Concurrent Flow** - These HOV lanes usually are in operation during the AM peak hour period, PM peak hour period, both AM and PM peak hour period, or daylight hours. Typically, these lanes in urban areas are not physically separated from the other travel lanes and must be enforced to be effective.
- **Contraflow HOV Lanes** - Most contraflow operations occur on one-way streets, although a few have been implemented on two way surface streets, either on the opposite side of the median or as a reversible center lane.
- **Exclusive Transitways** - Limited access running ways, usually along limited access roadways, abandoned rail lines, or wide boulevards. Transitways may be fully “grade separated” (avoiding street intersections through bridges) or “at-grade” (crossing streets at signalized intersections).
- Other supportive HOV applications include exclusive transit streets (Marion Street Transit Mall), priority signal for HOVs, priority parking for HOVs and priority parking rates for HOVs.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) strategies encourage alternatives to the single occupant vehicle and more efficient use of the transportation system by encouraging carpooling and vanpooling, flexible work hours, bicycle and transit use as well as parking controls. They are typically near term, relatively low cost, activities designed to influence the demand for transportation by changing commuter behavior.

Ridesharing - Ridesharing involves the shared use of a vehicle by two or more people for the purpose of getting to or from work, school or other locations. A number of ridesharing options exist:

- **Carpools** - The most common form of ridesharing is the use of a private vehicle by two or more people to travel to and from work. The passengers may use one vehicle and share expenses or rotate vehicles with no additional cost to passengers.
- **Vanpools** - Six or more passengers who share a ride in a pre-arranged group are considered a vanpool. In most cases, one or more of the pool members are regular drivers who pick up others at specific points, drop them off at common sites, and return them to pickup points at the end of the day. While some portion of van ownership and operating costs is generally shared by the riders, the costs associated with providing vehicles with larger seating capacity often requires non-rider support which includes sponsorship, subsidization, ownership and/or operation of vanpool programs by employers, employee cooperatives, credit unions, public transit authorities, labor unions, or another third party.
- **Transit** - Transit also can be an effective transportation alternative to relieve congestion. The cost of commuting by transit should be competitive with the cost of driving alone or with other commute options. Transit routes must serve the areas where employees live, and transit stops/stations should be located within a short walking distance of work sites. Transit schedules should be compatible with employee work hours. A full component of the comprehensive plan is devoted to mass transit.
- **Park and Ride Lots** - These lots should be strategically located to maximize their potential as a staging location for transit ridership, carpools, vanpools and buspools.
- Public policy can support ridesharing activities through (a) trip reduction or zoning ordinances, which may require developers or employers to provide preferential parking for rideshares; (b) consideration of high occupancy vehicle (HOV) lanes when planning new or expanded highway capacity; and (c) reductions in the amount of free or on-street parking in the central business district and other activity centers, coupled with strict enforcement of parking meter violations and other deterrents to single occupant vehicle use.
- Employers can have a variety of roles in supporting ridesharing activities such as providing bulletin board space to advertise or solicit ridesharing activities or providing ridesharing incentives including free, discount or preferential parking, flexible work schedules and time allowances for pickup and drop off.

Work Hours Management - Alternative work arrangements can reduce congestion by both spreading the peak hour trips to and from the work place and by completely eliminating work trips on certain days. The most common types of work hour adjustments are:

- **Staggered Work Hours** - This is a program in which work day arrival and departure times are staggered by the employer, usually by increments of fifteen or thirty minutes for up to two hour ranges. Staggered work hours are popular with companies in which ingress and egress to the work site are difficult or in certain downtown districts and office parks where the vast majority of commuters try to enter or leave the area at about the same time.
- **Flexible Work Hours (Flextime)** - Flextime gives employees the option to stagger their arrival (and thus departure) times within an eight hour/five day work week to best suit their personal schedules on a daily basis. Usually, there are a certain number of core hours in the middle of the day in which all employees must be present.
- **Modified or Compressed Work Weeks** - This is where employees work the usual number of hours each week or pay period, but do so in fewer days. Many employees perceive a compressed work schedule as a benefit, since his/her ability to work more than eight hours during a work day can result in a "day off" or a reduced work day during the week. There are three ways that work weeks are usually modified: (a) 4/40 Schedule -employees work 40 hours in four days; (b) 9/80 Schedule -employees work 80 hours in nine days; and (c) 5/4/9 Schedule - employees work nine hours on four days and four hours on a fifth day of the week. The latter schedule may reduce peak hour traffic, but it would have little or no impact on energy conservation or air quality improvement efforts.

Alternative Work Sites - While alternative work sites may not reduce the number of single occupant vehicles on the road, they have proven effective in relieving congestion in high traffic areas. With this strategy, employers seek to decentralize their work force by shifting workers to satellite offices or permitting selected employees to telecommute or work at home.

- Satellite offices are smaller offices generally scattered around a metropolitan area, usually in outlying suburban communities or at the edge of city boundaries. The objective is to bring the office closer to those employees living in suburban areas. A company must carefully analyze how to locate satellite offices and how to assign employees to those locations. It is important to note that this strategy can make some work sites difficult to serve with public transit.
- Telecommuting is an arrangement whereby an employee can work at home or in a small, nearby office and link up with the company

via telephone or computer modem. Such arrangements may be appropriate for employees who are engaged in work that may require extensive reading, telephone communication, writing or other tasks which do not require daily presence in the office.

Transportation Management Organizations (TMOs) - TMOs are public/private partnerships (typically not for profit) between businesses and local/state governments designed to help solve local transportation problems associated with rapid suburban growth. TMOs give the business community a voice in local transportation decision making. They have become an important entity in the fight against traffic congestion and in increasing commuting options to regional activity centers. There are many factors and situations that warrant the development of a TMO are:

- A concentration of employment within a well defined geographical area, with a large number of employers that allows for a substantial base for a rideshare matching system;
- Projections that existing or anticipated traffic congestion is or will be intolerable;
- A member of the private sector or business community who leads the effort for the formation of the TMO and can convince fellow area employers to participate;
- A group of individuals, which may include legislators, businessmen, merchants, developers, and private citizens who perceive there may be a direct benefit from participation in a TDM program;
- A regulatory environment that requires or rewards participation in a TDM program, and;
- Making the location of employers facilities in existing business centers more attractive. This will enhance opportunities for public transportation.

INTERMODAL INVENTORY AND ANALYSIS

Intermodalism refers to the business of moving goods between specific origins and destinations by using two or more modes. Historically, the term intermodal has referred to the line-haul shipment of goods by rail, with door-to-door pick-up services performed by truck. Today, the term also includes passenger travel. An "intermodal transfer" is the practice of transporting commodities and/or passengers between two modes. Depending on what transport mode is used (i.e., land, water, air) the mode can be rail, highway truck, airplane, or ship.

METHODOLOGY

The Port and Aviation component addresses port, aviation and related facilities on a county-wide basis, reflecting the multimodal nature of these facilities within the Cities, Hillsborough County, the region, and the State.

Information concerning existing facilities and the future trends were obtained from the respective Port or Aviation Authority staff members or from existing Master Plans.

SEAPORT FACILITIES

Port of Tampa

The Port of Tampa, Florida's largest seaport and the nation's 12th largest port in terms of gross cargo weight, consists of several public and private dock facilities located on 2,600 acres on the northeast corner of Tampa Bay and extending south to Big Bend. Of this total, approximately 400 acres are available for development.

Activity at the Port of Tampa represents the single most important contributor to the economy of west central Florida's five-county region. An estimated 68,000 jobs in Hillsborough, Pinellas, Pasco, Polk and Hernando counties are directly attributed to Port related business. This includes 15,000 jobs at the Port, 7,000 in transportation and other services to the Port; and 46,000 jobs in production, processing and distribution of goods and materials that pass through the Port.

The port is home to 58 cargo terminals, of which 28 are privately owned. The port invested heavily in expansion prior to 1999, and spent another \$100 million through 2002 on new construction and refurbishment projects. In addition, the port is in the process of expanding its container facilities, which will increase capacity from 6,000 containers per year to over 400,000 per year.

Fifty percent of Florida's waterborne cargo (47.9 million tons) passed through the Port of Tampa in 2001. Of this total, 35.9 million tons were imports and 11.9 million tons were exports. Nearly 90 percent (11 million tons) of exports were phosphate-related.

This cargo is transported to and from the port by approximately 11,200 heavy trucks and 850 rail cars per day. This total is expected to grow to over 17,000 trucks and 1,025 rail cars by 2010.

The Port of Tampa is divided into the following four industrial areas, which are listed below and described in detail later in this section. The distribution of gross tonnage passing through each is given in parentheses:

- Hooker's Point (including the Inner Harbor and Channel District areas) (42.37%)
- Rockport (11.73%)/Port Sutton/Pendola Point (18.03%)
- Alafia River (5.03%)
- Big Bend/Port Redwing (22.85%)

Roadways are an important landside component of the Port's interface between land and water transportation. Trucks need safe, and efficient roads to haul goods and materials to and from the Port, and nearly all of the Port's large work force travels to and from work via the local and regional roadway networks serving the Port. With new growth in and around the Port, the problems caused by deficiencies on the supporting roadway network today will become more critical, unless steps are taken to correct these deficiencies and meet the demands of new growth.

The following key roadway corridors serve the Port of Tampa:

North / South Corridors

- I-75
- I-275
- US 41 and US 301
- 21st and 22nd Streets North

East / West Corridors

- I-4
- SR 60 (Adamo Drive)
- Lee Roy Selmon Crosstown Expressway
- Causeway Boulevard

The following sections provide further detail regarding each of the Port of Tampa's four industrial areas:

Hookers Point (Including the Inner Harbor and Channel District)

Hooker's Point, a peninsula east of downtown Tampa, is a premier seaport. It is served by a significant CSXT railroad network, primarily used for the bulk transfer of minerals, petroleum products, agricultural products, and scrap steel. The Tampa Port Authority recently began receiving new automobiles, produced in Mexico, through Hooker's Point and added a small but expanding container operation.

Land Use: There are a wide variety of businesses located at Hooker's Point. These include GATX Terminal Corporation (pipeline), Tampa Bay Ship Building and Repair, and CF Industries. Additionally, Hooker's Point is home to many privately owned terminals, including the petroleum distributors CITCO, HESS, BP/Amoco, and Marathon Ashland. The City of Tampa wastewater treatment facility is also located on Hooker's Point.

The southern half of Hooker's Point is surrounded on three sides by water. On the east side of 22nd Street, north of the intersection of Causeway and Maritime Boulevards, the predominant land use is medium-density residential and associated neighborhood commercial. Between 20th and 22nd streets, the existing land use is a mixture of residential, commercial and light industrial.

Access: The primary roadway corridors that provide access to Hooker's Point are I-4, I-75, SR 60, 21st Street/22nd Street, Causeway Boulevard and the Lee Roy Selmon Crosstown Expressway. The most direct route to I-4 is through the historic Ybor City district. CSXT provides rail access to the port from a spur that runs south of SR 60 and enters the port at 20th Street and again at Durham Street. Once inside Hooker's Point, the rail line splits to serve the east and west sides of the port.

A recently completed transportation project was the expansion of 20th Street south of the Lee Roy Selmon Crosstown Expressway to the main port entrance at Maritime Boulevard from two lanes to a six-lane divided roadway. This new facility carries most of the trucks in the area, improves access to the petroleum terminals north of the main entrance, and removes heavy trucks from 22nd Street, which was closed at East Long Street.

Rockport / Port Sutton / Pendola Point

Rockport, Port Sutton, and Pendola Point, located on the eastern shore of Tampa Bay west of US 41, contain private and port-owned berths and landside facilities. This activity center also incorporates a large area of existing industrial uses and industrial designated land eastward to 66th Street south of Hartford Street and to 54th Street north of Hartford

Street. It also includes industrial land north of Causeway Boulevard eastward to 54th Street.

Land Use: Rockport is a phosphate terminal owned by CSXT and served by rail. Phosphate rock and phosphate chemicals are the primary cargo exported through Rockport. In 2000, this cargo accounted for approximately 12 percent of the total tonnage of cargo transported through the port annually.

Port Sutton is home to TECO's Gannon Station power plant, which imports approximately 2 million tons of coal annually for their operations. The Steel Port of Florida, Inc., PASCO Terminals, and Holnam, Inc. operate terminals on land owned by the port at the tip of Port Sutton.

The southern portion of Port Sutton, known as Pendola Point, is owned by the Tampa Port Authority with the exception of a small piece of land occupied by Pakhoed Dry Bulk Terminals. Businesses located at Pendola Point include Southdown, Inc., Vulcan/ICA, Drummond Company, Leigh/Portland, Martin Gas Sales, Inc., Freeport Sulfur, Progress Environmental Labs and Marathon Ashland Asphalt Terminal.

Access: The roadway facilities serving Port Sutton include US 41, US 301, I-75, Causeway Boulevard, and Madison Avenue/Progress Boulevard. A CSXT Tampa Terminal rail spur serves the Rockport Intermodal Phosphate Pier. In addition to the rail service to Rockport, CSXT serves terminals located at Port Sutton/Pendola Point.

Alafia River

The Alafia River Terminal is located south of Pendola Point on the north side of the Alafia River, west of US 41. East of US 41, the facility extends to south Falkenburg Road north of Riverview Drive and south of Archie Creek.

Combined imports and exports account for approximately 5 percent of the port's total annual cargo tonnage.

Land Use: Existing land use at the Alafia River Terminal is heavy industrial. The privately-owned Alafia River Terminal, home to the Mosaic Company fertilizer plant, is located at the Alafia River site.

Contiguous to the port activity centers located on the east side of Tampa Bay is a large, mostly vacant tract of industrial land that is generally bounded by US 41 on the west, 78th Street on the east, Madison Avenue on the North, and Riverview Drive on the South. The area includes the

Gardinier Disposal Site (consisting primarily of a large gypsum stack) and Reed's Minerals, located along a CSXT rail spur east of US 41 and south of Madison Avenue. The GAF Roofing product plant, which produces roof shingles and other roofing products, is also located east of US 41 and north of Madison Avenue.

Access: The roadway facilities providing access to the Alafia River site include Gibsonton Road, Madison Avenue, and US 41. The Mosaic fertilizer plant is also served by CSXT rail at the East Tampa CSXT Yard located west of US 41 on a spur from the Palmetto Subdivision main line.

Big Bend / Port Redwing

Big Bend / Port Redwing is located on the east side of Tampa Bay along the US 41 corridor north of Apollo Beach. Most of this site is privately owned by TECO and the Mosaic Company. Port Redwing is located on publicly owned land and has approximately 175 undeveloped acres available for future development. The site extends east of US 41 to the CSXT railroad right-of-way and south to the northern boundary of the Apollo Beach residential community.

Land Use: The existing land use at the Big Bend / Port Redwing activity center is predominately industrial. The TECO Big Bend power plant, the Mosaic fertilizer plant, and National Gypsum are the primary industrial uses in the area.

The west side of US 41 is part of the Port of Tampa and the land use is compatible with current and future industrial activity. South of the light industrial area is the residential waterfront community of Apollo Beach, which has expanded nearly to the boundary of the industrial area. East of US 41, the CSXT railroad serves as a boundary between land designated light industrial, and a new residential area that is under construction on the north side of Big Bend Road. The area north of Big Bend Road and west of I-75 includes Eisenhower Middle School and East Bay High School.

Access: The main roadway facilities providing access to Big Bend / Port Redwing are US 41, US 301, I-75 and Big Bend Road (CR 672). Rail service is provided by a CSXT Palmetto Subdivision spur, which crosses US 41 north of Big Bend Road. The Covington Park development, Eisenhower Middle School, East Bay High School, and proposed retail development in the area will eventually result in increased traffic congestion in the area and contribute to truck delays.

Port Tampa

Port Tampa is located on the southwest side of the Interbay Peninsula in Port Tampa City. This industrial area is surrounded by single- and multi-family residential uses, as well as wetlands and public recreation. Due to its location and surrounding residential neighborhoods, expansion of industrial uses in this area is constrained.

Land Use: The existing land use in this area is heavy industrial. Major industrial operations at Port Tampa include National Gypsum, Ashland Chemicals, Tampa Bulk Services, British Petroleum (BP), Chevron USA, the Hardaway Company (Standard Concrete Products), and Motiva Enterprises.

National Gypsum manufactures products for the building industry, generating over 150 truck trips per day. Ashland Chemicals, Shell, BP, and Chevron import, store, and distribute petroleum products (including gasoline) to merchants in the Tampa Bay area. Aviation fuel is transported to Tampa International Airport and MacDill Air Force Base via pipeline from Port Tampa.

Standard Concrete Products, a division of the Hardaway Company, produces a variety of structural products, including pre-stressed concrete pilings of all sizes. Port Tampa's water access facilitates delivery of large products such as these throughout the United States, Mexico, the Caribbean, and Central America.

Adjacent land uses include residential, including historic homes, MacDill Air Force Base, sensitive environmental lands, and a public beach.

Access: Major roadway facilities serving Port Tampa are Dale Mabry Highway and the Lee Roy Selmon Crosstown Expressway. Connecting the industrial facilities within Port Tampa to these facilities are Interbay Boulevard, Gandy Boulevard, and Westshore Boulevard (south of Gandy Boulevard).

Trucks using both Westshore and Interbay Boulevards traverse developed residential neighborhoods, contributing to traffic congestion and noise. Local residents understand the need for trucks to use these roadway corridors, however, they would like these issues mitigated to the highest degree possible.

Rail access is provided by CSXT via the Port Tampa Spur. Approximately 6 trains per week serve businesses in Port Tampa and other areas along the corridor.

INLAND INTERMODAL FACILITIES

The *Tampa Bay Regional Goods Movement Study* describes several inland intermodal facilities within Hillsborough County serving freight transfers between truck and rail modes.

South I-75 / Sabal Park Industrial Area

The South I-75 Corridor (Sabal Park Industrial Area) is bound by Martin Luther King Boulevard on the north, US 301 on the west, and I-75 on the east. It also includes several smaller industrial parks along the west side of US 301. The southern boundaries include the Lee Roy Selmon Crosstown Expressway, and the area south of Progress Boulevard.

Land Use: The existing land use is a mixture of industrial, community mixed-use, and urban mixed-use including manufacturing, warehousing, business and office parks, a community college, commercial and multi-family residential. This area is primarily developed with large warehousing and distribution companies as well as specialized manufacturing.

Access: The main roadway corridors providing access to the area north of SR 60 include I-4, I-75, US 301, Falkenburg Road and Martin Luther King Boulevard. CSXT also provides rail service throughout the Sabal Park Industrial Area with several rail sidings off the CSX Lakeland Subdivision main line.

Access to the areas south of SR 60 is provided by Falkenburg Road, the Lee Roy Selmon Crosstown Expressway, US 301, Palm River Road, and I-75. Most of the activity in this area has direct access to and from US 301.

East Central Tampa Industrial Area

The East Central Tampa Industrial Area is located in the area generally bound by 50th Street on the west, Orient Road on the east, Hillsborough Avenue on the south and Sligh Avenue on the north. The area is split by 56th street, a major north-south commuter corridor that serves Temple Terrace, the University of South Florida and Busch Gardens amusement park.

Land Use: This area consists of several large industrial operations that manufacture pre-stressed concrete construction products, wood trusses, and iron pipes. The area also includes distribution centers for Garnett Distributing, Budweiser and Cott Beverages. Trucking firms (Seaboard,

Laney & Duke Trucking, and Averitt Express), warehouses and a large recycling center operated by Waste Management, Inc. are also located there.

Parke East, a 100-acre industrial area located north of Hillsborough Avenue between Harney Road and Orient Road near I-4, is the only business/industrial park located within the area.

Access: Roadway corridors serving the area include I-4, I-75, Harney Road, 56th Street, 50th Street and Hillsborough Avenue. The area is also served by the CSXT NEVE Spur, which has several rail sidings used for intermodal transfers and shipping of manufactured products.

Plant City Airport Industrial Area

The Plant City Airport Industrial Area is bound by SR 574 to the north, the CSXT railroad line to the south, and Turkey Creek Road to the west. Plant City Airport and Plant City Industrial Park are located within the area.

Land Use: Existing land use is a mixture of light and heavy industrial uses. External expansion of this area is constrained by surrounding residential and agricultural uses.

The Plant City Municipal Airport is a 190-acre facility within this area. 48,000 flight operations were conducted there in 2000. The airport supports primarily business and recreational aircraft operations.

The Plant City Industrial Park is home to Del Monte Packaging (fruit and vegetable processing), Redman Homes (manufactured homes), Alcoa Extruded Products (aluminum building products) and Bulk Manufacturing (builds wet and dry bulk truck trailers).

Other industrial uses in the area include James Hardle Building Products, Southern Culvert, and American Cast Iron, which produce concrete and steel pipes and other concrete building products. Several food processing operations, including Lykes Meat Products, and Dart Containers, producers of plastic and paper cups, are also located in the area.

Together, these operations generate a significant amount of freight related truck activity; most of which is directed to the I-4 corridor.

Access: The primary roadway corridors serving the area include Sydney Road/Woodrow Wilson Street, Martin Luther King Boulevard (SR 574),

Sammonds Road, and Turkey Creek Road. The Plant City Airport Industrial Park is served by the CSXT Yeoman and Lakeland subdivisions, which have several rail sidings to businesses located in the area. I-4 is accessed via US 92 and Forbes Road.

East Plant City Industrial Area

The East Plant City Industrial Area is located along the Park Road corridor and extends eastward along US 92 to County Line Road. Major industrial operations in the area include Albertson's and Kash 'n Karry distribution centers, Walden Business Park, Greg Business Center and Plant City Commerce Park.

Land Use: This area is currently in its early development stages, and has significant growth potential. Several large recreation facilities, including the Plant City Stadium and a public golf course, are located within the area.

The Albertson's and Kash 'n Karry distribution centers each generate over 100 heavy truck movements per day. CSR Rinker, located at US 92 and Park Road, produces rebar for the construction industry. Gregg Business Center, located in the northeast portion of the area, has three large tenants: 84 Lumber (building products), International Paper (juice container manufacturing) and Starr Distribution, a large, long-haul trucking firm.

Walden Business Park, in the southwest portion of the area, recently added several large distribution warehouses that generate significant heavy truck traffic. These include Willamette Industries, and International Foods Group.

Plant City Commerce Park is a new, 560-acre industrial park located on County Line Road just south of I-4. Major employers include Sav-a-Lot (grocery distribution center), Square D (safety switches), USW Logistics (distribution), ATCO Rubber Products, and Plastipak (bottles and containers). Together, these firms occupy over 600,000 square feet of industrial floor space.

Access: Collectively, the industrial activities within the activity center generate significant heavy truck traffic. A significant portion of this traffic uses Jim Johnson Road and Park Road to access I-4 north of the area, while other traffic use SR 39 to move goods to the south via SR 60 and I-75.

AIRPORTS

The Hillsborough County Aviation Authority currently operates four airports:

- Tampa International Airport
- Peter O. Knight
- Vandenberg
- Plant City

In addition to the county operated airports, MacDill Air Force Base is a military airport and employment center in Hillsborough County.

Tampa International Airport (TIA)

Tampa International Airport (TIA) is situated in the midst of the Tampa Bay Region, comprised of the cities of Tampa, St. Petersburg and Clearwater. It is Florida's most populous Metropolitan Service Area (MSA), displacing the Miami-Hialeah MSA in 1986.

Within TIA's present service area there are currently 3.5 million permanent residents. The service area for TIA consists of Hillsborough, Pinellas, Pasco, Citrus, Hernando, Sumter, Manatee, Sarasota, Hardee, and western Polk counties. As part of its long range plans to provide access options for its passengers and employees, TIA's Master Plan includes both a Light Rail Station & Rail alignment that is integrated into the existing & future (post 2020) passenger terminal complexes.

The most recent TIA Master Plan Update, finalized in 2005, covers a time span to the year 2025. Commercial airline traffic at TIA is expected to continue its long-term trend of firm, steady growth. Since 1980, enplaned passenger levels at TPA have grown significantly, more than doubling to 8.5 million.

The following table shows the historical level of enplaned passengers for domestic and international activity from 1997 to 2004 – the period since completion of the last Master Plan Update:

| Year | Enplaned Domestic Passengers | Enplaned International Passengers | Total Enplaned Passengers |
|-------------|-------------------------------------|--|----------------------------------|
| 1997 | 6,359,678 | 287,855 | 6,647,533 |
| 1998 | 6,685,266 | 150,172 | 6,835,438 |
| 1999 | 7,283,112 | 165,824 | 7,448,936 |
| 2000 | 7,801,805 | 157,354 | 7,959,159 |
| 2001 | 8,045,203 | 138,612 | 8,183,815 |
| 2002 | 7,472,875 | 145,723 | 7,618,598 |
| 2003 | 7,489,320 | 171,465 | 7,660,785 |
| 2004 | 8,306,186 | 259,537 | 8,465,723 |

In 1996 enplaned passenger levels increased sharply, by almost a million passengers, largely as a result of Southwest Airlines (SWA) beginning service into TIA. As has occurred in virtually every market that SWA has entered, enplanements sharply increased in response to the introduction of low fare service by SWA and the need for other carriers serving TIA to respond by reducing their fares.

Enplaned passenger levels at TIA continued a pattern of steady growth through the end of Fiscal Year (FY) 2001, which ended September 30 of 2001. Over the period including FY 1996 to FY 2001, total passengers boarding flights at TIA increased by 1.65 million.

The terrorist attacks of September 11, 2001, combined with the beginning of an economic recession that same year, had a significant impact on the U.S. airline industry and are reflected in the passenger enplanement levels since 2001 at TPA. Overall enplaned passengers dropped by approximately 500,000 from FY 2001 to FY 2002, and were only slightly better in FY 2003.

However, as passenger security concerns lessened, and the airline industry began to adjust business models to induce passenger demand, by the end of FY 2004 passenger levels at TPA recovered – exceeding the previous all time record level. In FY 2004, total enplaned passengers at TPA reached 8,465,720 (281,905 more than in the previous record year of 2001).

Since 2001, the major network carriers have undertaken extensive evaluations of their business models and are in the process of making changes in their cost structures and manner in which they operate. Two key trends relating to these changes were identified for consideration in developing the forecasts for the 2005 TPA update:

- **Enhanced Fleet Commonality:** The network carriers have historically maintained several aircraft, of varying sizes and from various manufacturers, in an attempt to match aircraft size with route densities. This practice results in significant costs to the airlines. Recognizing this, several airlines are now taking steps to reduce the number of different types of aircraft in their fleets to enhance commonality and reduce costs.

Network carriers are placing greater emphasis on the use of their narrow-body aircraft for domestic and transcontinental service, while refocusing their wide-body aircraft on international routes and some long-haul domestic routes. This fleet conversion to a

predominantly narrow body domestic mix needs to be considered in the forecast process.

The impact of this conversion to a market such as TPA (which has been experiencing operations by wide body aircraft on short haul service by one of their dominant carriers) is that there could be an increase in the frequency of service by smaller aircraft. This would correspond to a reduction in growth in seats per departure in the near term, as well as over the longer-term forecast period.

- **Business Model Changes:** Network carriers, as a result of the massive financial losses they've incurred since 2001, are fundamentally changing their business models. At the same time, low cost/low fare airlines are doing so because of opportunities that have emerged as a result of the financial condition of the network carriers.

Changes in the business models employed by the airlines primarily involve the expansion of the role of regional airlines, the changing nature of aircraft in the regional airline fleet, and the emerging strength of low-cost carriers in the U.S. domestic airline industry.

Passenger Activity Forecasts

The aviation activity forecasts for the 2005 TIA Master Plan Update were developed with an eye toward these changes in the business environment in which airlines operate. A baseline demand scenario forecast, together with six alternate future demand scenario forecasts were envisioned for the 2005 TIA Master Plan Update.

- Demand Scenario One: Aggressive International Traffic Demand
- Demand Scenario Two: Aggressive Population Growth in the Region along with Higher Economic Growth
- Demand Scenario Three: High Tourism Growth
- Demand Scenario Four: Regional/Commuter Fleet Mix Change
- Demand Scenario Five: Liberalization of Cuba
- Demand Scenario Six: Alternate Air Service

The results of the total (domestic and international) enplanement forecasts for each alternate future demand scenario are presented here*:

| Projected Enplanements - Demand Scenario One | | |
|---|-----------------|----------------------------|
| | Baseline | Demand Scenario One |
| FY 2005 | 8,814,476 | 8,858,837 |
| FY 2010 | 9,965,542 | 10,092,363 |
| FY 2015 | 11,034,192 | 11,309,612 |
| FY 2020 | 12,673,946 | 13,217,823 |
| FY 2025 | 14,352,070 | 15,371,484 |
| Average Annual Growth Rate (2005 - 2025) | 2.5% | 2.8% |

| Projected Enplanements – Demand Scenario Two | | |
|---|-----------------|----------------------------|
| | Baseline | Demand Scenario Two |
| FY 2005 | 8,814,476 | 8,777,077 |
| FY 2010 | 9,965,542 | 10,514,343 |
| FY 2015 | 11,034,192 | 12,595,581 |
| FY 2020 | 12,673,946 | 15,088,916 |
| FY 2025 | 14,352,070 | 18,075,968 |
| Average Annual Growth Rate (2005 – 2025) | 2.5% | 3.7% |

| Projected Enplanements – Demand Scenario Three | | |
|---|-----------------|------------------------------|
| | Baseline | Demand Scenario Three |
| FY 2005 | 8,814,476 | 8,770,159 |
| FY 2010 | 9,965,542 | 10,464,717 |
| FY 2015 | 11,034,192 | 12,486,806 |
| FY 2020 | 12,673,946 | 14,899,750 |
| FY 2025 | 14,352,070 | 17,779,121 |
| Average Annual Growth Rate (2005 – 2025) | 2.5% | 3.6% |

| Projected Enplanements – Demand Scenario Five | | |
|--|-----------------|-----------------------------|
| | Baseline | Demand Scenario Five |
| FY 2005 | 8,814,476 | 8,814,476 |
| FY 2010 | 9,965,542 | 10,158,566 |
| FY 2015 | 11,034,192 | 11,393,318 |
| FY 2020 | 12,673,946 | 13,274,464 |
| FY 2025 | 14,352,070 | 15,146,307 |
| Average Annual Growth Rate (2005 – 2025) | 2.5% | 2.7% |

| Projected Enplanements – Demand Scenario Six | | |
|---|-----------------|----------------------------|
| | Baseline | Demand Scenario Six |
| FY 2005 | 8,814,476 | 9,915,595 |
| FY 2010 | 9,965,542 | 12,212,794 |
| FY 2015 | 11,034,192 | 15,085,313 |
| FY 2020 | 12,673,946 | 18,428,076 |
| FY 2025 | 14,352,070 | 22,314,360 |
| Average Annual Growth Rate (2005 – 2025) | 2.5% | 4.5% |

* The RJ/Commuter fleet mix change scenario assumes that enplanements established in the baseline forecast would remain unchanged. This shift in fleet would not leverage additional activity, nor would it result in any loss of activity at TPA. Therefore, no projected enplanement forecast is presented for Scenario Four.

The scenario exhibiting the largest average annual rate of growth (4.5%) from 2005 to 2025 is Demand Scenario Six. Demand Scenario Six describes an environment where an increase in the low-cost carrier market share at the Airport takes place, as does the emergence of a low cost/low fare carrier choosing the Airport as a focus city (or mini-hub) to

serve as a domestic/international market interface for service between the U.S. and the Caribbean and South/Central America.

The Scenarios exhibiting the next-largest average annual rates of growth, at 3.7% and 3.6%, respectively, are Demand Scenarios Two (Aggressive Population Growth in the Region along with Higher Economic Growth) and Three (High Tourism Growth).

The Scenarios exhibiting the next-largest average annual rates of growth, at 2.8% and 2.7%, respectively, are Demand Scenarios One (Aggressive International Traffic Demand) and Five (Liberalization of Cuba).

As it is assumed that enplanements established in the baseline forecast will remain unchanged from the Baseline Scenario, Scenario Four (Regional/Commuter Fleet Mix Change) yields no growth above the baseline.

The total number of passengers departing at the Airport is projected to increase by nearly 95 percent, from 6.5 million in 1997 to 12.7 million by 2010 a yearly growth rate averaging 2.8 percent. Passenger totals for 1999 are at the same level as the projected totals for 2000 (15.3 million)

Freight Forecasts

Air cargo at TPA is categorized into one of two primary categories, consisting of that which is accommodated as “belly haul” on one of the various domestic or international passenger airlines serving the Airport, or that handled by one of several all-cargo airlines that operate at TPA. In recent years, due to the significant increase in security concerns, the volume of cargo handled as belly haul in the U.S. has declined as requirements, such as the “known shipper” criteria, have been employed as a security enhancement measure for passenger airlines carrying belly haul cargo.

The following table illustrates the total (domestic and international) historical levels of enplaned and deplaned belly haul cargo (in pounds) for the period of FY 1998 through FY 2004:

| | Enplaned | Deplaned | Total |
|-------------|-----------------|-----------------|--------------|
| 1998 | 27,032,678 | 17,224,385 | 44,257,063 |
| 1999 | 26,749,219 | 18,639,526 | 45,388,745 |
| 2000 | 25,643,300 | 19,812,894 | 45,456,194 |
| 2001 | 21,183,641 | 15,383,480 | 36,567,121 |
| 2002 | 16,927,469 | 16,894,181 | 33,821,650 |
| 2003 | 18,348,632 | 16,872,702 | 35,221,334 |
| 2004 | 18,144,029 | 17,077,364 | 35,221,393 |

As is shown above, belly haul cargo volumes decreased significantly in 2001 due to the combined impact of the events of September 11, 2001 and the economic recession that began in late 2000.

Next, the total (domestic and international) historical levels of enplaned and deplaned cargo (in pounds) handled by all-cargo carriers for the same periods are presented:

| | Enplaned | Deplaned | Total |
|-------------|-----------------|-----------------|--------------|
| 1998 | 70,396,343 | 79,882,847 | 150,279,190 |
| 1999 | 70,007,746 | 81,438,037 | 151,445,783 |
| 2000 | 68,974,269 | 75,446,762 | 144,421,031 |
| 2001 | 54,694,269 | 59,510,223 | 114,479,492 |
| 2002 | 49,849,949 | 69,927,370 | 119,777,310 |
| 2003 | 50,203,253 | 93,409,798 | 143,613,051 |
| 2004 | 51,467,532 | 76,480,173 | 127,947,705 |

Anderson Road / TIA Freight Activity Center (FAC)

Viewed from a broader perspective, TIA is one component of a much larger area of intermodal operations. In the 2005 *Tampa Bay Regional Goods Movement Study*, this area was named the “Anderson Road / Tampa International Airport Freight Activity Center” (Anderson Road FAC).

The Anderson Road FAC, in addition to TIA, includes a large warehousing, distribution and manufacturing district that extends along Anderson Road between Linebaugh Avenue and Hillsborough Avenue.

Land Use: The area contains several railroad spurs serving local industries, including the CSXT/TDSI Auto Yard, a 100-acre facility extending along both sides of Sligh Avenue east of Anderson Road.

Within the Auto Yard, a 75-acre north yard is used to unload new vehicles and has a 3,600 automobile capacity, while a 25-acre south yard is used to unload used vehicles.

Other major intermodal staging areas located within this FAC include the Sunstate Business Center, Tampa West Industrial Park, Northport Business Center, Pioneer Industrial Park, Thompson Center, Woodland Corporate Business Park, Benjamin Center, Jet Port Corporate Business Park, and Airport Industrial Park.

There are several moving companies located within the FAC between Sligh Avenue and Hillsborough Avenue. These companies ship household items and provide temporary storage in company-owned warehouse facilities.

Additionally, Home Depot operates a large, break-bulk distribution center within the area that is served by CSXT rail.

Tampa International Airport is located at the southern end of the Freight Activity Center. TIA services 26 airlines, including eight cargo carriers. FedEx and Emery Air Freight are two of the largest freight carriers serviced by TIA. In addition to cargo-only airlines, air freight is also carried on scheduled commercial flights.

Access: The Veterans Expressway, Hillsborough Avenue, and Anderson Road combine to serve the Anderson Road / TIA Freight Activity Center. Hillsborough Avenue is the primary connecting route from the north side of the airport and the industrial activities along Anderson Road. I-275 is accessed from the Veterans Expressway via Memorial Highway (SR 60) south of the airport.

CSXT provides rail service to the Anderson Road yards and to the industrial area along Anderson Road via several sidings, off the Clearwater Subdivision Drew Spur, throughout the FAC.

Plant City Airport

In October, 2003, the Plant City Airport (PCM) updated its Master Plan.. During the time between these updates, PCM experienced several major changes, including the addition of larger based aircraft at the airport. Included in the *Plant City Airport Master Plan Update* is an inventory of existing facilities and operating characteristics.

Plant City Airport is located approximately two miles southwest of Plant City, and 25 miles east of Tampa. It is categorized as a general aviation airport, as such; its primary users include recreational fliers, though there is some business aviation at PCM.

Plant City's airfield has one runway, Runway 10-28, which measures 3,950 feet long by 75 feet wide. The approach end of Runway 10 is displaced 200 feet to accommodate an obstruction in the approach path.

Navigational aids at Plant City include Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) on each end of the runway. Non-precision approaches are available for each runway end. Runway 28 has a VOR approach, while NDB and GPS approaches are available on Runway 10.

The airport's 3,000 square-foot general aviation terminal building was constructed in 2000 and houses one Fixed Base Operator. Also located on the airfield are several t-hangar units, bulk hangars, and an airfield maintenance facility.

The only direct ground access to PCM is via North Airport Road. This road forms the northern boundary of the Airport. PCM is located near Interstate 4 and can be reached via Branch Forbes Road, U.S. 92 and Turkey Creek Road. Except for I-4, these are all two-lane roads. From the Airport, Plant City can be reached via Woodrow Wilson Street and North Airport Road.

Operations: Airport master records (FAA Form 5010) documenting historical operations at Plant City Airport show a six percent increase in the period from 1990-2000. This included a five percent increase in local operations, and a 10 percent increase in itinerant operations. The growth in itinerant operations can be seen as a result of the increasing urbanization of the area, the Airport's value as an alternative to more centrally-located airports, and an increasing interest in agribusiness within the region.

The increase in local operations reflects a general increase in flight training throughout the state and region, and a migration of some basic training activity from the busier urban airports in the Authority study area.

BICYCLE COMPONENT

Hillsborough County is served by a bicycle network consisting of over 300 miles of on-road bicycle lanes or shoulders, and over 40 miles of off-road trail.

The network continues to increase especially after the enactment of the Intermodal Surface Transportation Efficiency Act which identified federal funds for non-motorized transportation projects. The current bicycle network, including on-road bike lanes and off-road paved trails, is displayed in Map 22.

On-Road Bicycle Facilities

The county's on-road bicycle facilities meet FDOT criteria for a bicycle lane: a paved shoulder at least 5 foot wide in rural areas and/or 4 feet between the outside travel lane and the curb and gutter in urban areas. Dedicated bicycle lanes provide the greatest level of comfort for cyclists riding in traffic and because they are riding with the flow of traffic, motorists can predict the cyclist's actions. Without dedicated bike lanes, cyclists often share sidewalk space with pedestrians or ride against the flow of traffic.

Major bikeways in the county include U.S. 301, U.S. 41, SR 574, the Gandy Trail/Bridge, SR 60 between Tampa and Brandon, and SR 39 north of Plant City.

Some of the existing gaps in the county's bicycle network are as follows:

- Hillsborough Avenue from I-275 and 50th Street
- Boyette Road between Balm-Riverview and Bell Shoals Roads
- Progress Boulevard between U.S. 41 and U.S. 301
- Highland/Tampa Street from Hillsborough Avenue to Tampa CBD
- Livingston Avenue near Sunset Lane
- Gandy Boulevard between Friendship Trail and Bayshore
- Gunn Highway from Anderson Road to Sheldon Road

Examples of where new bicycle lanes will be added to the countywide network in the following roadway projects:

- 40th Street between Hillsborough Avenue and Fowler Avenue
- Manhattan Avenue between Gandy and Euclid.
- Gunn Hwy. from Tarpon Springs to Sheldon Road.

Trails and Greenways

The current paved, major trails in the county include:

- Flatwoods Trail (11-mile paved loop trail)
- Town and Country Greenway Trail (1.3 miles)
- Bruce B. Downs Bicycle/Pedestrian Pathway (4 miles paved trail)
- Upper Tampa Bay Trail (9 miles currently)
- Bayshore Boulevard Greenway (5.5 mile multi-use sidewalk)
- McKay Bay Greenways (2, 1-mile sections currently)

- South Tampa Greenway (Friendship Trail/Bridge 2.5 miles, Gadsden 1.5 miles)
- Tampa Bypass Canal Trail
- New Tampa Greenway (5 miles)
- Hillsborough River Greenway (Blake High School 0.5 mile, Rivercrest 1.1 miles)
- Suncoast Parkway Trail (1.5 miles in Hillsborough)
- West Tampa Greenway (Cypress Park 0.5 mile)

The 42-mile Suncoast Parkway Trail is part of a growing network of regional trails. The final phase of the Upper Tampa Bay Trail will connect to the Suncoast and eventually the Withlacoochee State Trail – the longest trail in Florida.

In addition to paved trails, there are unpaved trails for off-road mountain cycling, hiking and equestrian trails in Hillsborough County. Greenways also include linear corridors that are preserved in their natural state and not necessarily set aside for a particular use. The County’s Greenways Committee is implementing the recommendations of the Hillsborough Greenways Master Plan, with the objective of accommodating non-motorized transportation

While building community support for greenways in Hillsborough County through public outreach and various forms of media, the county has also demonstrated success in the area of providing needed guidance to public agencies regarding new trail designations and prioritizing unfunded projects.

The incorporated cities in Hillsborough County are building trails in coordination with the County efforts. Connecting to existing or planned trails across jurisdictional lines will maximize the effort and the funds to create a network of trails across the county.

Map 22 displays the existing trail network within the county, and those trails that are needed by 2025.

Current Bicycle Usage Comparison

The Florida Department of Transportation (FDOT) District 7 conducts a Travel Characteristics Survey throughout the District partly to determine information about trip rates, mode preferences, and trip lengths. The data provides an overall indicator of travel behavior in the region.

The table below shows that mode share for cycling and walking in Hillsborough is about average with the surrounding counties. However, Hillsborough's mode share is about half of the national averages. Given that the county is home to a major urban area, these mode share percentages are lower than would normally be expected.

Relevant to getting a handle on current bicycle usage is HART's Bikes on Buses which show approximately 5,000 uses of the racks each month. Another indicator of bicycle usage is the sheer number of reported motorist/bicyclists crashes.

Summary of Walking & Cycling Mode Share - Hillsborough & Surrounding Counties

| <i>County</i> | <i>Walking Trips</i> | <i>Cycling Trips</i> | <i>Total</i> |
|---------------------|----------------------|----------------------|--------------|
| Hillsborough | 2.1% | 1.2% | 3.3% |
| Pinellas | 4.4% | 1.3% | 5.7% |
| Citrus | 1.1% | 1.5% | 2.6% |
| Hernando | 0.5% | 0.5% | 1.0% |
| Pasco | 2.6% | 1.2% | 3.8% |
| National Av | 5.4% | 0.9% | 6.3% |

Bicycle Usage and Behavior in Hillsborough County

The MPO has undergone a data collection effort to monitor trends in bicycle/pedestrian activities and behavior. The effort included a survey of 20 intersections conducted in 2000 and in 2005. Information was noted such as whether or not the cyclist was wearing a helmet, or where in the street they were riding, and if the cyclist violated any traffic laws. A summary of the key findings from the data collection is presented below:

- In 2005, there were a total of 2,586 observations of pedestrians and cyclists at the twenty locations (up from 2,458 in 2000)
- 750 or 29% were cyclists. Over two-thirds (68.5%) of the travelers were male – exactly as that observed in 2000.
- The majority of non-motorized travelers were noted “adults”. Only 18% were noted as children or teens.
- The number of cyclists wearing helmets increased from 15.6% to 23.3% wearing helmets in 2005. Two recreational sites- Bayshore Blvd. and Suncoast Trail accounted for 52% of helmets observed at all 20 sites.
- There was no change in the percentage of male versus female observations from 2000 to 2005; 69% male to 31% female.
- Sites with significantly **MORE** observations in 2005 than 2000:
 - Gandy & Westshore – popularity of the Gandy TrailBridge

- Lutz Lake & Suncoast – completion of the Suncoast trail
- Ehrlich & Gunn – popularity of the Upper Tampa Bay Trail (UTBT)
- Waters & Montague – UTBT in proximity to Alonso HS
- Sites with significantly **LESS** observations than 2000:
 - Fowler & Riverhills
 - Linebaugh & Anderson
 - Fletcher & B. B. Downs – surprising with BBD trail
 - 40th & Bougainvillea
 - Howard & Main

Numbers decreased possibly due to roadway construction. Marked increases were seen on Lutz Lake Fern with the opening of the Suncoast Trail and by Rowlett Park, a popular place for exercise and recreation.

As the cost of fuel, car maintenance, and parking rise the trend should show more people choose walking, bicycling or transit for their travel purposes.

POTENTIAL FOR BICYCLE USAGE

Quantifying current bicycle usage is difficult, but what is even more difficult to quantify is the *potential* for bicycle usage. The Latent Demand Score, one analytical tool applied to roadways in this Plan update does a good job at predicting trips that may be made to destinations such as schools and parks if there were no impedances from cars.

To see real gains in bicycle usage, construction of bicycle facilities, installation of secure parking, and a better correlation of land use patterns, will facilitate a large increase in the number of bicyclists, in particular those who can use a bicycle for commuting.

Crash Data

Bicycle crashes in Hillsborough County have been studied and overall, the County’s bicycle fatality rate from as far back as 1995 until the most current data in 2003 averages almost four times the national average for bicyclist fatality rates per 100,000 population.

When the crashes are mapped, several roadway segments show higher concentration of crashes. These segments include:

- Waters Ave. near Sheldon and between 40th St. and 56th St.;
- Manhattan Ave. north of Gandy Boulevard
- Dale Mabry Highway from Gandy Boulevard to Interbay;
- Hillsborough Ave. from Dale Mabry Hwy to Habana Ave.;
- Columbus Avenue from North Boulevard to 22nd Street;
- 22nd St. from Adamo Dr. to Dr. Martin Luther King Jr. Blvd;

- Florida Ave. south of Columbus, near Waters, and north of Busch
- Nebraska Ave. near Hillsborough., near Waters Ave, and north of Busch Blvd;
- Bearss Ave. west of 22nd St; and
- Fowler Avenue near Nebraska Avenue and 40th Street.

Analysis reveals a tremendous need for improving the safety of bicycle travel in Hillsborough County. Many of the physical constraints to bicycling can be alleviated through design, engineering or maintenance activities. These constraints and corresponding improvements are addressed in the Comprehensive Bicycle Plan.

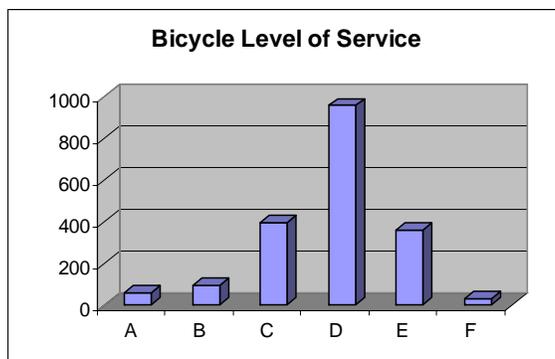
Bicycle Levels of Service (BLOS)

Bicycle Level of Service (BLOS) is a commonly used quantitative assessment used to describe the *performance* and actual *perception* of a highway corridor, relating to a bicyclist’s comfort level with using the highway. The Highway Capacity Manual describes these conditions using factors such as:

- The ability to maneuver through traffic,
- Pavement conditions,
- On-street parking,
- Vehicle speeds and types
- Delay, speed and travel time.

As a decision-making criterion, BLOS is a strong quantitative tool that can be used by Hillsborough County MPO in aiding the prioritization of proposed projects. The BLOS methodology existed since 1994, and is gaining national acceptance among state DOTs as a legitimate planning and decision-making tool.

The BLOS was evaluated for almost 2,000 roadways segments in Hillsborough County. A graphical depiction of the results is presented in the table below.



Out of 1,900 non-limited access highway segments evaluated in Hillsborough County, over 50% have a BLOS rating of “D”, with an additional 20% scoring at a level “E” or worse.

The results indicate that BLOS C or better conditions exist on less than 30% of the roads in Hillsborough County.

Summary of Current BLOS in Hillsborough County

| <i>BLOS Rating</i> | <i>Total Segments</i> | <i>% of Network Segments</i> | <i>Total Length in Miles</i> | <i>% of Network Length</i> |
|--------------------------------|-----------------------|------------------------------|------------------------------|----------------------------|
| A (good conditions) | 66 | 3 | 92.87 | 6.89 |
| B | 116 | 6 | 127.80 | 9.48 |
| C | 421 | 21 | 352.75 | 26.17 |
| D | 980 | 50 | 560.16 | 41.56 |
| E | 356 | 18 | 204.41 | 15.17 |
| F (least favorable conditions) | 32 | 2 | 9.82 | 0.73 |

Latent Demand Scores (LDS)

While sophisticated models have been developed to predict auto and transit travel, until recently there were no models for predicting cycling trips. There is limited information available on current bicycle facility usage, and even less information on how many bicycle-related trips are generated by different land uses. Bicycle usage is affected by other factors than automobile travel such as land use density, trip distance, and the availability of facilities.

Over the last several years, many new methods have been created for estimating walking and cycling trips. One of the methods described in the FHWA “*Guidebook on Methods to Estimate Non-Motorized Travel*” is called the latent demand score. This method has been applied in several metropolitan areas across the US, and is gaining acceptance. The probability-based model is based on a similar approach used for predicting vehicle travel and involves the following steps:

1. Identify the trip generator (e.g., homes, etc.) and attractors (e.g., employment, parks, schools, etc.) along a corridor segment.

2. Geocode (using GIS) the attractors and generators along the corridor, and determine the number of attractors/generators within probable travel distances.

3. Determine the trip generation of the attractors/generators based on standard trip generation rates, and adjust the trip generation for bicycle and pedestrian travel based on local Census data.
4. Compute the trip making probability summations, which includes multiplying the trip generation figures by trip distance impedance factors.
5. Sum the trips, and determine the latent demand score.

The result of the analysis will be a latent demand score for roadway segments. The latent demand score provides an indication of the potential for bicycle trips along a roadway segment, regardless of the status or condition of the facilities along the roadway segment.

The latent demand score is one of the criteria that will be used in evaluating proposed projects. Those projects with a higher latent demand score will receive more points, and a higher priority.

The Hillsborough County MPO latent demand model examined about 2,000 segments of the highway network and generated a latent demand score for each based on conditions in 2001. The results of this analysis are graphically depicted in Exhibit 11. As expected, the areas with the highest demand are those that have the highest density of development. These areas include downtown Tampa, some of the older/denser surrounding neighborhoods to Tampa, and other built-up areas in the County such as Plant City. Other areas that generate a higher demand include universities and colleges, large parks, schools, and major employment centers.

Below is a summary of the results of the latent demand analysis. The data shows that a majority of links in the county network (nearly 63%) has lower than average demand for bicycle trips. This can be attributed to the low-density nature of much of the development in the County.

Summary of Current Hillsborough County Latent Demand Results

| <i>Latent Demand Score</i> | <i>Total Segments</i> | <i>% of Network Total</i> |
|---------------------------------|-----------------------|---------------------------|
| 0-100 Low demand for cycling | 856 | 43 |
| 101-200 | 391 | 20 |
| 201-300 | 318 | 16 |
| 301-400 | 345 | 18 |
| 401-500 High demand for cycling | 61 | 3 |

PEDESTRIAN COMPONENT

The most important element of pedestrian infrastructure is continuous sidewalks on major roads. Pedestrians are best served when continuous sidewalks are available on both sides of the street, providing access to all destinations and reducing the need to cross the road in order to continue a walking trip.

An inventory of sidewalks on Hillsborough County arterial and collector roads shows the percentage of the roadway segment on the left and right sides of the road. Map 23B shows the sidewalks which exist on the major road network.

ROADS AND SIDEWALKS BY MUNICIPALITY

| Municipality | Arterial and Collector Roadway Miles | Sidewalk Miles (either side) | Zero Sidewalks | |
|----------------|--------------------------------------|------------------------------|----------------|-----|
| | | | Miles | % |
| Tampa | 412 | 288 | 123 | 30% |
| Temple Terrace | 5 | 4 | 1 | 20% |
| Plant City | 80 | 27 | 53 | 66% |
| Unincorporated | 886 | 313 | 573 | 65% |

Sidewalk access to key destinations enables and encourages pedestrian activity, and is vital to providing safe access to schools as well as supporting the community's investment in public transportation. The following tables analyze the proximity of sidewalk coverage to public schools and transit stops.

Sidewalk Access to Schools

| Public School Location Criteria | Number of Schools (out of 244) | |
|--|--------------------------------|-----|
| Schools within ¼ mile of an arterial or collector road | 206 | 84% |
| Schools within ¼ mile of road with any sidewalk coverage | 188 | 77% |
| Schools within ¼ mile of road with 0-50 % sidewalk coverage | 87 | 36% |
| Schools within ¼ mile of road with 60-100% sidewalk coverage | | |

| |
|--|
| School locations are based on data from Hillsborough County. |
|--|

Sidewalk Access to Transit Stops

| Transit Stop Location Criteria | Number of Transit Stops (out of 5,755) | |
|--|---|-----|
| Transit within ¼ mile of an arterial or collector road | 5,212 | 91% |
| Transit within ¼ mile of road with any sidewalk coverage | 4,942 | 86% |
| Transit within ¼ mile of road with 50 % or lower sidewalk coverage | 2147 | 37% |

Parks, greenways and off-road trails also provide recreational opportunities and are frequently located within walking distance of neighborhoods Hillsborough County is also in the process of developing a system of trails for recreational and transportation use, since many people are more comfortable walking, skating or riding a bicycle on a paved trail that is physically separated from traffic. Map 22 identifies the existing trails in Hillsborough County.

BARRIERS FOR PEDESTRIANS Barriers to pedestrian circulation include infrastructure that blocks physical access, such as walls, landscaping, drainage canals or fences that separate one parcel from another. In commercial areas, adjacent parcels are typically developed independently, with little or no coordination to insure pedestrian access except from the street. Often dense hedges, fences or walls are built between sites. As a result, the route from one destination to the next can be long, and may require walking across large parking areas. Neighborhood street networks with loops and cul-de-sacs also impede pedestrian circulation because they do not provide direct routes from place to place.

The areas around interstates, expressways, and grade-separated roads frequently create an inhospitable walking environment. Interchanges, large intersections and multiple turn lanes form barriers to pedestrian access to commercial areas. On grade-separated highways, such as Dale Mabry, sidewalks are provided but the fast-moving traffic, frequent driveways and relatively unprotected sidewalk make walking a dangerous task. The lack of available right-of-way when lanes are added to arterial roads often forces sidewalks to be constructed at the edge of the curb rather than with a modest 3-5 foot buffer. Without on-street parking or

shade trees to serve as a buffer, many arterial roads in Hillsborough place pedestrians in an uncomfortable and challenging environment.

LAND USE

Activity Centers

Hillsborough County has a diverse array of destinations where pedestrian connectivity is important. In many cases pedestrian access has been ignored in the planning and development of these destinations, or has been added as an afterthought. Some of the primary attractors and corridors in unincorporated Hillsborough County include:

UNIVERSITY OF SOUTH FLORIDA

Some of Hillsborough County's highest residential densities are found around USF, partly for the tens of thousands of students living off-campus. Commercial uses are largely oriented to arterial roads, with few mixed-use areas. Key corridors: Fletcher Avenue; Bruce B. Downs Boulevard; Fowler Avenue; and 50th Street.

CARROLLWOOD AND TOWN & COUNTRY

These two older, established neighborhoods are conventional suburban developments, with single-use residential neighborhoods separated from commercial areas. The Carrollwood area is projected to be one of the fastest-growing areas of Hillsborough County in the coming decades. Key corridors: Dale Mabry Highway, North Boulevard, Fletcher Avenue, Linebaugh Avenue, Gunn Highway, Memorial Highway, Waters Avenue, Hillsborough Avenue, Sheldon Road, and Hanley Road.

BRANDON

Brandon is a predominantly residential area whose commuters use I-75, the Lee Roy Selmon Expressway and SR 60 to reach employment centers elsewhere in the Tampa Bay region. Key corridors. SR 60, Lumsden, Bloomingdale, Lithia Pinecrest.

OTHER ACTIVITY CENTERS IN HILLSBOROUGH COUNTY

The South County area, encompassing the small communities of Ruskin, Sun City Center, Gibsonton and Riverview, is expected to experience high growth in the coming years. Other rural enclaves are sprinkled throughout the county and whether densities are too low or land uses separated, shopping centers, office parks and schools and not readily accessible to pedestrians. A sampling of the key corridors in Hillsborough County includes: Falkenburg Road, Eisenhower Boulevard; US 41, US 301, US 92, Tampa Road, and Causeway Boulevard

COMMUNITY PLANS

Community plans have been developed, or under development, for many areas of Hillsborough County:

- Brandon Main Street Community Plan
- Citrus Park Village Plan
- Keystone-Odessa Community Plan
- Lutz Community Plan
- SouthShore Area Wide Systems Plan (includes Apollo Beach, Gibsonton, Riverview, Ruskin, Sun City Center, and Wimauma)
- Thonotosassa Community Plan
- Riverview Community Plan
- Ruskin Community Plan
- Town & County Community Plan
- University Area Community Master Plan

Each plan considers the need for pedestrian mobility as an important factor, and some specifically reference pedestrian-friendly improvements. The existence of these community plans and their commitment to providing pedestrian-friendly development indicates a level of community support for pedestrian transportation. They will be key in identifying specific roadways where pedestrian and shared-use facilities are needed.

SAFETY CONDITIONS

Hillsborough County consistently ranks as one of the most dangerous areas in the country for pedestrians. The fatality rates are often more than twice that of New York City, Boston, Chicago, Seattle, San Francisco, Washington DC-Baltimore, Dallas, Atlanta, and many other large American cities.

Many pedestrian deaths are attributed to lower density development patterns that include wide, high-speed arterial roads, and to the lack of pedestrian facilities such as sidewalks and crosswalks.

PEDESTRIAN CRASH REPORTS

Pedestrian crashes are spread fairly evenly throughout the county, but the following areas stand out as high-crash areas in unincorporated Hillsborough County:

- The area bounded by Bearss Avenue on the north, N. Boulevard on the west, 30th Street on the east, and Fowler Avenue on the south. Of the 748 reported pedestrian crashes from 1999 to 2001, 85 (11 percent) of them were within this area, which measures approximately six square miles.
- In the area bounded by Waters Avenue to the north, Sheldon Road to the west, Habana Avenue to the east, and Hillsborough Avenue to the south, there were 46 pedestrian crashes from 1999 to 2001. This ten-square-mile area includes segments of Dale Mabry

Another observation that can be made is that crash locations do not necessarily occur where there are no sidewalks. Most crashes involving pedestrians occurred on roads with sidewalks on at least one side of the road, either at intersections or at mid-block.

III. FUTURE NEEDS AND ALTERNATIVES

The purpose of this chapter is to identify the needs of the traffic circulation system for the planning horizon year 2025. Analysis of projected traffic circulation was done in compliance with Chapter 9J-5, FAC. Land use determines the volume of traffic generation. The location and extent of the traffic circulation system improvements is based on the future land-uses identified on the Future Land Use Element (FLUE) map. Future traffic volumes were projected using the Florida Standard Urban Transportation System Model Structure (FSUTMS) developed for FDOT. The model uses daily trip generation rates that are specific to each category of land use.

Future Population, Employment and Land Use Trends

Population trends in unincorporated Hillsborough County delineate a high rate of population growth. Between the years 1980 and 2004, the unincorporated county population grew by over 387,000 persons, from 347,000 to 734,430, a 112% increase. The total 2004 population for Hillsborough County was 1,115,960. It is projected to grow by almost 36 percent to 1,532,000 people by the year 2025.

Similarly, the County's economy will continue to expand throughout the next twenty years, because of its status as a seaport and airport, a major distribution and wholesaling center, and its other strengths, such as phosphate mining and processing, agribusiness, a diverse manufacture base, construction industry, and tourism. In 2000 there were 672,400 jobs in Hillsborough County. This number is expected to grow by almost 67 percent or to 1,120,400 by the year 2025.

The projected transportation system volumes, levels of service, and system needs are based on an analysis using the Florida Standard Urban Transportation Modeling Structure (FSUTMS) adopted and maintained by the Hillsborough County Metropolitan Planning Organization. The socio-economic data developed for the model is based on the land uses proposed in the Future Land Use Map (FLUM), segregated into Transportation Analysis Zones. The most recent population and employment projections (as described above) for the analysis year, together with other pertinent data are used as the basis to project future traffic conditions consistent with the FLUE proposals.

Year 2025 Transportation System

The 2025 transportation system was developed using a process that involved testing a series of comparative alternatives. The final alternative identified those highway and transit improvements necessary to

minimize congestion, within the limits of anticipated revenues for transportation improvements in Hillsborough County.

By the year 2025, many roadways within Hillsborough County will be close to being expanded to the maximum extent feasible. Application of the policies in this element regarding constrained facilities, backloged facilities, and transportation concurrency management areas may be necessary to allow reduced levels of service on certain roadways. As Hillsborough County continues to develop and mature as a community, there will be fewer opportunities to build new roads and expand existing roads. The cost of acquiring developed land for roadway construction has been rising rapidly, and is expected to continue. For this reason a more intensive use of existing and planned roads will be necessary. At present, the best ways to achieve this is by making the roadway system more efficient and by increasing the occupancy of private automobiles and use of public transit.

The efficiency of the roadway system can be improved through the use of Intelligent Transportation System (ITS) strategies. ITS is the application of sensors, computers, electronics, and communications technologies in an intergraded manner to increase the effectiveness of the operation of the surface transportation system.

Given the assumption that travel demand will continue to grow as the population of Hillsborough County grows, roads alone, even with the implementation of ITS strategies, will not be sufficient to support peak hour traffic volumes in the year 2025. This will be especially true if vehicle occupancy rates remain as they are today. A much greater use of transit and high occupancy vehicles will be necessary to accommodate the travel demand projected for the future. The goals, objectives, and policies of this Element are structured to promote and create incentives for the increased use of transit and alternative transportation modes within the urbanized portions of Hillsborough County.

2025 Roadway Network

The 2025 highway network, developed for this analysis contained nearly 1,577 centerline miles of roadway, excluding local streets. These roadways have the equivalent of nearly 4,677 lane miles. Roadways are classified by three major categories, namely freeways, arterials and collectors. There are approximately 955 lane miles of freeways, 2,129 lane miles of arterial roadways and 1,499 lane miles of collector roadways. The MPO's Year 2025 Cost Affordable highway improvements for Hillsborough County are shown on [Map 18](#) of Appendix J.

A list of the road improvement projects needed to complete the 2025 plan is included in Appendix F. The future roadway functional classification is illustrated on Map 20 in the map series.

Future Highway Alternatives Analysis

By the year 2025 the transportation model simulation projects that there will be approximately 4.9 million daily vehicle trips generated and assigned to roadways throughout Hillsborough County. These vehicle trips will account for approximately 38 million vehicle miles of travel daily. Due to traffic congestion, it is estimated that the roadway system will experience 572,047 vehicle hours of delay daily. The peak hour speed on the system will be 25 miles per hour. As a result of proposed improvements the levels of service on many roadways improved, however there are roadways operating below the adopted LOS standards. Projected Year 2015 and 2025 peak hour levels of service are illustrated in [Maps 17B and 19](#).

Constrained Facilities

A constrained facility is a roadway that cannot be improved to the extent necessary to provide an acceptable level of service. The Florida Department of Transportation defines a constrained facility as a roadway “operating at conditions below the Level of Service standards,....” but which “...cannot reasonably accommodate additional lanes” due to having buildings close to the right of way, high cost of right of way acquisition, or environmental or social/political constraints.

A listing of existing constrained facilities is provided in Tables 5 and 6 of Section IV, Goals Objectives and Policies. Roadway constraints were originally determined based upon environmental, policy, neighborhood or right-of way considerations.

Concurrency Management System

To address the impacts of development on the transportation system the County adopted the “Adequate Public Facilities Ordinance. The intent of the ordinance was to ensure that public facilities and services are available concurrent with the impacts of developments as required by Rule 9J-5.005.

For the purpose of issuing Development Orders the minimum peak hour, peak season level of service standards are used on both State and County roadways. Highway capacities are determined by using the FDOT Tables of Generalized Level-of Service maximum service volumes and/or FDOT approved capacity/level of service software. Any alterations to capacity on the State Highway System beyond ranges

established by agreement between the County and FDOT shall require FDOT review and approval.

TRANSIT FUTURE NEEDS AND ALTERNATIVES

Introduction

As the year 2025 approaches and roads are expanded to the maximum extent feasible, an enhanced transit system will be necessary for the continued growth and development of Hillsborough County, especially in high-density areas. In general, public infrastructure of many kinds is more efficiently provided to high-density centers than to low-density areas, making high-density centers fiscally desirable. When land use and transportation decisions are coordinated and mutually reinforcing, the resulting higher-density development will support an efficient transit system. The discussion which follows includes detail of the concepts outlined above, and also covers pedestrian and bicycle access to transit, bus systems, people-movers, and mobility for the transportation disadvantaged.

Planning for Future Transit

To analyze future transportation system needs, a number of local governments and agencies, including Hillsborough County, HART, and the Metropolitan Planning Organization (MPO), studied numerous multi-modal alternatives. These were evaluated in terms of their ability to achieve specific goals:

- Enhancing quality of life
- Creating supportive land use patterns
- Minimizing adverse or fostering positive environmental impacts
- Providing for mobility
- Providing for a cost-effective and efficient investment.

The alternatives included:

- Roadway improvements such as new road connections, widening existing roads, and operational strategies such as better intersections, signals, and Intelligent Transportation Systems.
- Bus system improvements such as expanded bus route coverage, hours of service, and more frequent service. High Occupancy Vehicle (HOV) lanes and busways (exclusive transit-only roadways) were also studied.
- Pedestrian and bicycle improvements such as better sidewalks, trails, bicycle lanes, and streetscape improvements or landscaping.
- Rail transit encompassing a number of different technologies such as commuter rail, electric or diesel-powered light rail, heavy rail, maglev, and monorail.

Nine different transportation corridors were identified for which the above alternatives were considered:

- Lakeland to Tampa
- Brandon to Tampa
- Brandon to USF
- Interbay Area to Tampa
- USF/Temple Terrace to New Tampa
- Land 'O Lakes to Tampa
- Westshore to Tampa
- Oldsmar to Tampa
- Carrollwood to Tampa

Following local government and community preferences, a set of specific alternative improvements were considered in each corridor. They were evaluated by measures of effectiveness addressing the above goals. An increasing level of detail was applied as the alternatives were narrowed down. Community, land use, and environmental impacts, for example, were identified and compared through a geographic information system (GIS) analysis. Forecasts of future travel demand and ridership were evaluated based on the Tampa Bay Regional Planning Model, which was developed by the Florida Department of Transportation (FDOT) and MPOs in the region. Comparative costs were developed based on typical unit costs applied to conceptual designs.

The result of this evaluation is summarized in the *Tampa / Hillsborough/ Lakeland / Polk Alternatives for Mobility Enhancement Major Investment Study: Locally Preferred Strategy Report* of April 1998 (“Mobility Study”). The Mobility Study continues to inform both short and long range planning for transit.

Short Range Transit Planning

The short-range plan for public transit is documented in the Transit Development Plan (TDP). This is a five-year plan that is prepared by HART and incorporated into the MPO’s five-year Transportation Improvement Program (TIP). The TIP is a coordinated five-year plan that consolidates the capital improvement plans of all transportation implementing agencies in Hillsborough County. It also establishes priorities for needed transportation improvements throughout Hillsborough County. The TDP and the transit portion of the TIP cover the entire service area and do not distinguish between the jurisdictions currently served (the City of Tampa, the City of Temple Terrace, and unincorporated Hillsborough County).

Bus service currently is limited by the amount of funding available for transit *operations* (as opposed to capital investment in transit). If a new or expanded source of stable funding for transit operations becomes available, HART's goals are to expand hours of service, increase frequency during mid-day, and expand and increase the frequency of express bus service. HART also continues to pursue adding small bus routes and developing flexible routing in suburban areas.

Expanding service to weekends and late evening hours may not result in significant increases in fare revenue, because this service may be primarily utilized by current riders traveling at different times than they do today. Whether or not it attracts a large number of new riders, expanding hours provides an important service -- for example, by allowing working riders to keep their jobs if they are rotated to a later shift.

On the other hand, providing more frequent trips during mid-day could encourage people traveling at those times to use transit rather than the automobile. This could result in an increase in ridership.

Expanding express bus service will require additional vehicles; this service typically is provided at peak hour, when the HART fleet is already in use. Expansion would begin with the addition of trips to existing routes. New areas to be served with express routes would be selected using the Mobility Project Bus Plan analysis. Such areas might include Lutz, Lakeland, New Tampa, and Oldsmar, and the corridor from the University of South Florida to Britton Plaza, reflecting the high traffic corridors.

If new funding becomes available, new transit services would be designed with community participation, using established service planning methodology. Service improvements would be implemented by the HART Board considering community need, business impact, and market potential.

Long Range Transit Planning

The long range plan for public transit is documented in the MPO's 2025 Long Range Transportation Plan. The MPO's Long Range Transportation Plan identifies opportunities to build upon the existing HART route system, extending existing routes and providing new routes to growing communities and employment centers in Hillsborough County.

Bus Service

A greatly improved bus system is identified in the Needs Assessment chapter of the 2025 Plan. Improvements include an expanded service

area to cover most of the urbanized part of the county, more frequent bus service, and longer service hours including weekend service for many routes. A conceptual map is shown in Map 13B.

The bus service and facility improvements identified as affordable in the 2025 plan include:

*

- Added express service in two key corridors: 1) Lee Roy Selmon Crosstown Expressway serving Brandon and South County; and 2) Bruce B. Downs Boulevard serving the New Tampa area.
- Twenty-five diesel and hybrid buses will be purchased to accommodate expanded peak period service on local routes and new express routes.

Capital Facilities

To support and accommodate transit ridership, the 2025 Plan includes investment in capital facilities. Improvements envisioned include:

- An expanded network of park-and-ride lots throughout the service area, including lots in the New Tampa, and Brandon and Riverview areas.
- New bus transfer centers and improved existing centers, with bus frequency enhancements to facilitate timed transfer between routes. These transit centers will be located at major destination points (“activity centers”) as well as points where several routes converge:
 - Downtown Tampa
 - Britton Plaza (Interbay)
 - Westshore
 - Tampa Bay Center
 - University of South Florida
 - Net Park
 - Brandon Town Center
 - Downtown Plant City
 - Downtown Lakeland
 - Northwest Hillsborough County
- Future extensions of the streetcar line serving downtown Tampa, to bring service to the heart of the downtown business district.
- Transit Emphasis corridors, with enhanced facilities both for rider comfort and for transit vehicle priority over single-occupant vehicles.

- Rider comfort improvements include such items as street furniture, shelters, and signage, sidewalks, crosswalks, handicapped ramps, and bike racks.
- Transit preference improvements include such items as preferential bus lanes or high occupancy vehicle lanes, metered freeway ramps with "slip lanes" for buses, bus bays or pull-outs at key stops; traffic signal preemption or queue jumpers for buses to reduce delays at signalized intersections, and intersections designed specifically to accommodate wide-turning buses.

Transit emphasis corridors support land-use planning by improving access to activity centers, and are in turn supported by transit-oriented land use regulations offering incentives to encourage transit utilization.

Transit Emphasis Corridors Include:

| Facility | From | To |
|---|---------------------------------|--------------|
| Columbus Dr (including 17 th , 18 th , and 19 th Aves, where they form a one-way pair with Columbus) | Westshore | Orient Rd |
| Hillsborough Avenue | Sheldon Rd | Net Park |
| Florida and Nebraska Avenues | Marion Street Transit Center | Fletcher Ave |
| M. L. King, Jr. Blvd. | Tampa Bay Center | I-75 |

- Future transit-only facilities in designated high-traffic corridors of importance to the region. These corridors were identified in the Florida Department of Transportation’s Interstate Master Plan and in the Mobility Study for Hillsborough County, and were adopted in the MPO’s 2020 Plan as future rail corridors. Transit-only facilities could consist of dedicated lanes on roadways, dedicated busways, fixed-guideway technology, or other types of service that separate transit vehicles from other types of traffic. To implement such service in the future, rights-of-way must be preserved, so that the physical space for the service will be available when implementation of the service is desired. These future transit-only facilities are planned for the following corridors:

| Corridor | From | To |
|------------------|----------------------|------------------|
| I-4 | I-275 | Polk County Line |
| I-275 | Pinellas County Line | Livingston Ave. |
| CSX right-of-way | USF | Port Tampa |

| | | |
|----------------------|-----------------------------|----------------------|
| CSX right-of-way | Brandon | HCC (Dale Mabry) |
| CSX right-of-way | Polk County Line | Tampa |
| CSX right-of-way | Citrus Park | Bearss Ave. |
| CSX right-of-way | Tampa International Airport | Sulfur Springs |
| CSX right-of-way | Sulfur Springs | Pinellas County Line |
| Developer Provided | Brandon | South Brandon |
| Bruce B. Downs Blvd. | USF | Cross Creek Blvd. |

Transit Plan Implementation

Hillsborough County will implement the Transit Component through Land Development Regulations that implement the Future Land Use Element, and provide transit facilities as specified in the Goals, Objectives and Policies of this Element. Hillsborough County will coordinate with the Hillsborough Area Regional Transit Authority, the Florida Department of Transportation, the Hillsborough County MPO, and The Planning Commission in order to implement the provisions of this Element of the Comprehensive Plan.

The Hillsborough Area Regional Transit Authority Board of Directors will be responsible for providing, monitoring, and evaluating the actual operations of any transit service in Hillsborough County. The Planning Commission will be responsible for the evaluation and monitoring of land use and zoning decisions that affect transit.

The Hillsborough County Metropolitan Planning Organization (MPO) is mandated by federal regulations to provide a continuing, cooperative, and comprehensive transportation planning process for all local jurisdictions within Hillsborough County. The MPO will coordinate with the Hillsborough Area Regional Transit Authority to implement the improvements contained in the Short and Long Range Transit Plans.

Travel Demand Management Planning

Travel Demand Management (TDM) comprises an array of strategies to address peak-hour congestion by reducing demand for road space. By encouraging travelers, especially commuters, to make their trip via some method other than driving alone (bus, carpool, vanpool, bike or walk); not to make the trip at all (telecommute, reduced work week); or to shift travel to off peak hours (flex time hours), TDM planning and implementation can facilitate a more effective transportation network and a healthier community lifestyle.

TDM programs are implemented in Hillsborough County by a number of agencies working in partnership with HART and the Bicycle/ Pedestrian Advisory Committee, including:

- Bay Area Commuter Services (BACS)
- Westshore Alliance
- Tampa Downtown Partnership
- New North Transportation Alliance
- American Lung Association
- Hillsborough County Environmental Protection Commission (EPC)

A key component to the success of these agencies in implementation of TDM programs is outreach through major employers that encourages voluntary adoption and support of programs like carpooling, vanpooling, telecommuting, or transit-use incentives. Identified as needed in Hillsborough County are employer TDM programs available to at least 50,000 workers. The TDM agencies would accomplish this by cultivating the participation of at least 320 major employers. By targeting companies with more than 100 employees, exposure is limited to only 3% of all companies, but reaches more than 56% of all workers in Hillsborough County. The recommended TDM program also includes the following trip reduction facilities and incentives:

- A public transit system that includes the needs assessment bus and rail elements;
- An expanded vanpool program, including program management and promotions;
- Preferential parking for carpools and vanpools, provided voluntarily by employers that choose to participate;
- Compressed work week and telecommuting options, also provided voluntarily by employers;
- A government-funded match for employer subsidies of employees' transit fares (so that, for example, an employee could buy a bus pass at half price if the employer covers only 25% of the bus pass cost).

INTERMODAL FUTURE NEEDS

The *Tampa Bay Regional Goods Movement Study*, completed in 2005, identifies future infrastructure needs for the region's seaports and inland intermodal terminal facilities. Through an examination of potential future land use activity, opportunities to implement new capital improvements are detailed. Constraints that may affect the provision of these improvements are also identified.

PORT FACILITIES

Port of Tampa

Hooker’s Point: There is sufficient available land on Hooker’s Point to attract new tenants and to allow existing tenants to expand. The area surrounding this activity center will remain industrial, according to the *City of Tampa Future Land Use Plan*. There are some residential uses remaining near the port area east of 22nd Street. They are separated from the industrial uses by a narrow band of transitional uses between 20th and 22nd Streets.

Freight Related Issues at Hooker’s Point

| Opportunities | Constraints |
|--|---|
| <ul style="list-style-type: none"> Develop infrastructure to increase the capacity of container operations, including an additional access point to increase throughput | <ul style="list-style-type: none"> Limited capacity for drayage to rail intermodal yard Single access point at Maritime Boulevard will limit truck throughput. |
| <ul style="list-style-type: none"> Increase capacity to handle more automobile imports | <ul style="list-style-type: none"> Limited short-term storage. Single point of access. |
| <ul style="list-style-type: none"> Develop exclusive access from the port to the I-4/Crosstown Connector. Direct access from 20th Street to “truck only” lanes on the I-4/Crosstown Connector and the east-west Lee Roy Selmon Crosstown Expressway general use lanes | <ul style="list-style-type: none"> Right-of-way acquisition costs. Funding. Community Concerns |
| <ul style="list-style-type: none"> Expand Hooker’s Point for container and automobile shipping/receiving. <ul style="list-style-type: none"> + Include capability for direct loading of containers on rail cars to mitigate the increased number of trucks used to drag containers to the CSXT intermodal facility. | <ul style="list-style-type: none"> Market need: long haul vs. short haul containers. Truck capacity and gate limitations Container storage limitations |

Rockport/Port Sutton/Pendola Point: According to the Hillsborough County Future Land Use Plan, this area will remain heavy industrial west of US 41 and light industrial east of the road. There is an area designated as general mixed-use located north of Causeway Boulevard between US 41 and the CSXT railroad right-of-way north to South 12th Avenue. East of the area, the land use is designated as residential.

Freight Related Issues at Rockport/Port Sutton/Pendola Point

| Opportunities | Constraints |
|--|---|
| <ul style="list-style-type: none"> Improve traffic flow on US 41 and Causeway Boulevard by reducing rail/vehicle conflicts. Create grade separation of US 41 and | <ul style="list-style-type: none"> Cost of grade separating a six-lane divided highway. Proximity of the Causeway Boulevard intersection. |

| | |
|---|--|
| <ul style="list-style-type: none"> the Rockport rail crossing. Combine grade separation of both the Rockport rail crossing and Causeway Boulevard on US 41. | <ul style="list-style-type: none"> Increased commuter traffic on US 41 and Causeway Boulevard due to new residential development in southern Hillsborough County. |
| <ul style="list-style-type: none"> Reroute rail to southern approach to reduce impact to Causeway Boulevard, SR 60, and US 41 (Rockport). | <ul style="list-style-type: none"> A relocated rail crossing would still require a grade separation on US 41 due to increased vehicle traffic and train crossings. Would require a new rail line from eastern Hillsborough County. |
| <ul style="list-style-type: none"> Fully develop vacant land on Pendola Point | <ul style="list-style-type: none"> Increased truck traffic through single entrance point. |
| <ul style="list-style-type: none"> Improve Madison Avenue and Progress Boulevard from US 41 to US 301 to include “truck-friendly” design features | |

Alafia River: According to the *Hillsborough County Future Land Use Plan*, the area west of US 41 will remain heavy industrial and the area to the east will remain light industrial. There is a small section of residential area located at the northeast corner of Riverview Drive and US 41.

Freight Related Issues at the Alafia River

| Opportunities | Constraints |
|---|---|
| <ul style="list-style-type: none"> Rework switching operations at the East Tampa CSXT Yard (Mosaic fertilizer plant) to prevent unnecessary impacts to US 41. Engineer override of gate activation. | <ul style="list-style-type: none"> Switching operations at the East Tampa CSXT Yard block US 41 that result in delays to trucks using the highway to access other port facilities. Location of on-site tracks near the highway. |
| | <ul style="list-style-type: none"> Gypsum stack occupies a large portion of the activity center, limiting internal expansion opportunities. |
| | <ul style="list-style-type: none"> Public boat ramp and park located on the Alafia River adjacent to the Mosaic fertilizer plant requires joint use of access with heavy trucks. |

Big Bend/Port Redwing: The *Hillsborough County Future Land Use Plan* continues to maintain the heavy industrial land use at Port Redwing and light industrial south of the port to Apollo Beach and across US 41 to the CSXT rail line. In addition to the existing industrial activity, there is a proposal to construct a solid sulfur processing plant at Big Bend that will be jointly owned by the Mosaic Company and CF Phosphate.

The plant will process the solid sulfur into liquid sulfuric acid for use in making fertilizer. Covington Park, a large new subdivision, is under construction as part of the South Bend DRI, approximately one mile east of US 41 at the intersection of Big Bend Road and I-75. A regional mall is also proposed to be located at the southwest corner of Big Bend Road

and I-75, and a new neighborhood shopping center is proposed to be located at the southeast corner of Big Bend Road and US 41.

Freight Related Issues at Big Bend/Port Redwing

| Opportunities | Constraints |
|---|--|
| <ul style="list-style-type: none"> • Develop Port Redwing into a state-of-the-art container port. • Relocate and consolidate CSXT rail operations from Anderson Road, TransFlo, and Uceta to the Big Bend activity center. <ul style="list-style-type: none"> + Provide direct loading of containers onto rail cars eliminating drayage impacts on the road system. + Load and assemble container trains at the port. + Reorganize several CSXT facilities in a single location. + Allow redevelopment of industrial uses in previously occupied rail yards. + Move container operations and automobile operations out of Hooker’s Point. | <ul style="list-style-type: none"> • Cost of developing new container facility. • Cost of relocating CSXT operations. • Potential community issues. <ul style="list-style-type: none"> + Noise, air, water and light pollution + Increased shipping effects on pleasure boating. + Shoreline erosion. + Increased truck traffic. + Train crossings. |
| <ul style="list-style-type: none"> • Establish a direct “trucks only” connector road from I-75 to the Port Redwing/US 41 gateway connector road and interchange. <ul style="list-style-type: none"> + Reduces trucks on Big Bend Road. + Provides direct access for container trucks to I-75. + Connects to potential future dedicated truck lanes on I-75 (SIS) from south of Big Bend Road to north of SR 54. • Define and protect the right-of-way from incompatible development. | <ul style="list-style-type: none"> • Cost and funding options. • Right-of-way acquisition. • Compatibility with nearby developments. |

Port Tampa

The *City of Tampa Future Land Use Plan* maintains the heavy industrial designation for this area. Currently the area is built-out and there is no room for external expansion. The area surrounding Port Tampa is a mixture of recreational/open space, environmentally sensitive, and residential land use. Further north on Westshore Boulevard, former industrial land is being converted to mixed-use and new residential development. Other zoning changes, from industrial to mixed-use development, are being proposed for the industrial areas north of MacDill AFB.

Freight Related Issues at Port Tampa

| Opportunities | Constraints |
|----------------------|--------------------|
|----------------------|--------------------|

| | |
|--|--|
| <ul style="list-style-type: none"> • Port Tampa is physically separated from the rest of Tampa’s port operations + Over time, relocate Port Tampa operations to the east side of Tampa Bay. + Consolidate all port activities along US 41. + Potential redevelopment of Port Tampa into residential uses | <ul style="list-style-type: none"> • Cost to move public and private port activities to the east side of Tampa Bay. • Relocating aviation fuel pipelines to MacDill AFB and Tampa International Airport would be difficult and costly. • Cost for environmental cleanup |
| <ul style="list-style-type: none"> • Improve Port Tampa access and reroute trucks to minimize effects to Port Tampa neighborhoods | <ul style="list-style-type: none"> • Identification of a cost-effective alternate route |
| <ul style="list-style-type: none"> • Develop truck corridor along CSXT rail right-of-way to provide direct access from Port Tampa to the Lee Roy Selmon Crosstown Expressway | <ul style="list-style-type: none"> • Potential purchase of additional right-of-way and noise mitigation for adjoining neighborhoods. |

INLAND INTERMODAL FACILITIES

South I-75 / Sabal Park Industrial Area

The *Hillsborough County* and *City of Tampa Future Land Use Plans* specify a mixture of land-uses for this inland intermodal facility, including light industrial between Broadway Avenue and Palm River Road along US 301, general mixed-use and public between Falkenburg Road and I-75 north of SR 60, and general mixed-use between I-75 and US 301 south of SR 60.

Freight Related Issues at the I-75 Corridor/Sabal Park Industrial Area

| Opportunities | Constraints |
|---|--|
| <ul style="list-style-type: none"> • Vacant land is available for expansion as market dictates; mostly in the south. | <ul style="list-style-type: none"> • Mixed-use zoning allows for residential building within the area that may be incompatible with industrial uses + Incompatible land uses in the area include Hillsborough Community College, Hillsborough County Administrative Offices, and the Hillsborough County Jail. |
| <ul style="list-style-type: none"> • Vacant land is available south of Broadway Avenue for potential relocation of CSXT intermodal operations. | <ul style="list-style-type: none"> • Some of the land may be environmentally sensitive, thus reducing full operational use of the property. |
| | <ul style="list-style-type: none"> • Heavy truck travel along Falkenburg Road through a residential subdivision is a concern of neighborhood residents. |

East Central Tampa Industrial Area

According to the *Hillsborough County Future Land Use Plan*, this area will remain a mixture of light and heavy industrial uses with some commercial, general mixed-use, and public uses. Residential and commercial uses bound the area on the north, south and west, while general mixed-use bounds the area on the east, north of Hillsborough Avenue.

Freight Related Issues at East Central Tampa Industrial Area

| Opportunities | Constraints |
|---|--|
| <ul style="list-style-type: none"> • Redevelopment of functionally obsolete structures. | <ul style="list-style-type: none"> • None |
| <ul style="list-style-type: none"> • Improve internal street circulation and off-road parking for heavy trucks | <ul style="list-style-type: none"> • Expanding right-of-way may be difficult due to buildings' proximity to roadway. • Lack of space for off-street parking of large trucks. • Ingress/egress is difficult due to lack of signals on 56th Street and on Hillsborough Avenue. |

Plant City Airport Industrial Area

The *Plant City Future Land Use Plan* maintains the light industrial uses in this area, with the exception of a small area of residential and commercial uses along the west side of Alexander Street near the downtown area. Residential subdivisions are located on the north, south and east; however, the area on the west side is mostly large parcel properties limited to one dwelling unit per acre, in contrast to the higher density subdivisions to the north and south.

Freight Related Issues at Plant City Airport Industrial Area

| Opportunities | Constraints |
|---|---|
| <ul style="list-style-type: none"> • Develop industries in the area that can benefit from the rail network to transport goods. | <ul style="list-style-type: none"> • None |
| <ul style="list-style-type: none"> • Improve access connectors (Turkey Creek Road, US 92, and Forbes Road) to I-4 including: <ul style="list-style-type: none"> + Additional storage on left turn lanes + Signal timing that benefits truck movements + Truck-friendly intersection geometry | <ul style="list-style-type: none"> • Right-of-way acquisition costs. |

East Plant City Industrial Area

The *Plant City Future Land Use Plan* maintains the light industrial land use in this area with heavy industrial uses at the location of the former Coronet phosphate plant. The area around the Plant City Stadium will remain public/semi-public. A proposed new mixed-use development is initially planned to include 2.3 million square feet of industrial uses located south of the Plant City Commerce Park west of County Line Road. Plant City had recently rezoned a portion of the Walden Business Park on the north side of Alexander Street for multi-family residential.

Freight Related Issues at East Plant City Industrial Area

| Opportunities | Constraints |
|---|---|
| <ul style="list-style-type: none"> • Sufficient land is available for internal expansion south of Park Boulevard in the Walden Business Park. | <ul style="list-style-type: none"> • Rezoning portions of industrial land for residential uses along Alexander Street. |
| <ul style="list-style-type: none"> • Gregg Business Center currently has only three occupants. This is an ideal location for growth in similar freight warehousing operations. | <ul style="list-style-type: none"> • This area is targeted for rezoning to mixed-use, which will allow over 2,500 new homes. • The area southeast of Gregg Business Center may contain significant amounts of toxic waste from the nearby fertilizer plant. |

Tampa International Airport

The future land use plan maps for Tampa and unincorporated Hillsborough County designate TIA, MacDill AFB and Vandenberg Airport as Public/Quasi Public (P/QP). Plant City Airport in Plant City, is designated Industrial.

The Aviation Authority is currently completing an update to its Master Plan. The horizon year for the plan is 2025. As in the past, the updated Aviation Authority Master Plan will be incorporated by reference into the Transportation Element of the Hillsborough County’s Comprehensive Plan. [Map 21](#) illustrates the recommended future airport development plan for Tampa International Airport (TIA). The other airports under the jurisdiction of the Aviation Authority will be updated in the future.

The Aviation Authority's most recent Master Plan includes a number of recommendations concerning long range transportation improvements to be implemented within the Master Plan’s horizon timeframe.

Roadways

George Bean Parkway: An additional one lane in each direction will be needed on this facility (for a total of three lanes in each direction) to accommodate horizon-year traffic levels, which are expected to reach

the facility's two-way peak-hour capacity of 7200 vehicles within the planning horizon period.

Tampa Airport Interchanges: Though not expressly recommended in the 2005 Master Plan Update, the Florida Department of Transportation (FDOT) has recently begun construction on a major package of improvements within the vicinity of TIA. This project is on S.R. 60/Memorial Highway from I-275 to the Courtney Campbell Causeway interchange. The project also extends west onto the Courtney Campbell Causeway (S.R. 60) approximately 5000 feet and will significantly improve access to TIA. Collectively, this set of projects is known as the Tampa Airport Interchange improvements.

The Spruce Street/S.R. 60 interchange and the Courtney Campbell /S.R. 60 interchange will be improved to a three-level directional interchange. This configuration eliminates S.R. 60 traffic signals within the Courtney Campbell interchange and on the Causeway at the entrance to the Hyatt Hotel.

It also provides a two lane frontage road system for access to the Hyatt property. The new interchange configuration features the separation of local and express traffic with collector/distributor (C/D) roads and express lanes. This system is also expected to relieve congestion on interstate ramps within the area.

The project is estimated to be complete by Spring, 2010.

Airfield Improvements

The airfield improvements recommended in the 2005 Master Plan Update include five taxiway improvements:

- Extension of Taxiway A northward to the approach end of Runway 18R.
- A new angled exit off Runway 18R, just south of the current Taxiway J intersection.

These two taxiway projects are expected to be implemented in the very near timeframe.

- A high-speed exit taxiway off Runway 18L.
- The extension of Taxiway N to the west, connecting with Taxiway A.

The fifth taxiway improvement is a new, partial full length parallel taxiway serving the proposed third parallel runway, Runway 17-35. The 2005 Master Plan Update, in its airfield analysis, contains an assessment and validation of this recommended facility.

Several “carry-forward” recommendations from the previous Master Plan are also included in the 2005 Update. These include:

- Extension of Runway 18L;
- Extension of Runway 27;
- Extension of Taxiways R, S, N, and J eastward to the approach end of Runway 27;
- Extension of Taxiway S westward towards the approach end of Runway 9;
- Extension of Taxiway D northwards;
- Realignment and extension of Taxiway E northwards to the approach end of Runway 18L;
- Extension of Taxiways A and C northwards to the approach end of Runway 18L;
- The extension of Taxiway A southwards to the approach end of Runway 36L, with provision of a new hold area; and
- Modifications to Taxiway E contingent upon the development of the future cargo facility in the east development area.

Terminal Facilities

Projects recommended for the existing terminal complex include the outward relocation of one of the automated people mover stations, serving either Airsides E or F, to provide increased public space in the Transfer Level; the merging, extension and replacement of the baggage claim conveyor units; and the future expansion of the security checkpoints for Airsides A and F.

Capacity enhancement projects for the existing terminal include the expansion of Airside F, should more aggressive growth occur in

international passenger volumes. The 2005 Update has also identified an 8-gate redevelopment concept for Airside D, should the need for a small cluster of gates emerge prior to the development of the North Terminal Facilities.

The degree of congestion experienced by arriving passengers at terminal curbsides is anticipated to be reduced through implementation of several new management procedures, many relying on ITS technologies. In addition to reducing delay, these will increase safety as arriving vehicles will be less likely to stop in active travel lanes for passenger egress.

An automated people mover system connecting the existing terminal with the new north terminal is also proposed.

Two corridors that would preserve proposed access to the north terminal are included in the 2005 Update. One is for a north entrance to the terminal. The other is for a light rail system bisecting the Airport in a north-south direction, with passenger loading and unloading stations proposed along the east side of the terminal for both the existing and north terminals.

Air Cargo and General Aviation

- The 2005 Update recommends that air cargo be relocated to the Drew Park Land Acquisition area on the eastside of the airport, sometime within the 2008-2012 timeframe. The timing of this project is flexible, and subject to the availability of funds to relocate facilities presently located in the north terminal site to the Drew Park parcels.
- General Aviation facilities will continue to be developed on the north and south sides of Runway 27 as needed.

Minimization of Environmental Impact During Airport Development

The 2005 TIA Master Plan Update finds no significant environmental constraints on its implementation. The following table summarizes the potential impacts that were found, and lists possible measures to mitigate those impacts.

Potential Significant Project Impacts and Recommended Mitigation Measures

| Category | Impact | Recommended Action / Mitigation Measure |
|---------------------------|---|---|
| Surface water and wetland | Some integrated plan components not included in Joint ERP/Dredge and Fill Permit. | Permit needs to be revised. |

| | | |
|---|---|---|
| Coastal zone management | No impact anticipated. | No impact anticipated |
| Floodplains | No impact anticipated | No impact anticipated |
| Water quality | No impact anticipated | No impact anticipated |
| Biotic communities / Threatened or endangered species | Potential impacts to habitat and biotic communities, especially the gopher tortoise | Coordination with Florida Fish & Wildlife Conservation Commission is recommended. |
| Air Quality | No impact anticipated | No impact anticipated |
| Hazardous waste and contaminants | No impact anticipated | Generator ID Numbers for new tenants. No impact anticipated. |
| Storm water | Increase impervious surfaces | Revise and update storm water management options |
| Noise | No impact anticipated | Continue to promote land use compatibility in airport environs. |
| Compatible land use | No impact anticipated | No impact anticipated. |

Coordination Among Stakeholders

As the need arises for transportation improvements, coordination of these projects will be conducted through the Hillsborough County Metropolitan Planning Organization’s Technical Advisory Committee and Citizen Advisory Committee processes. This process provides a forum for all agencies and citizens affected by the proposed improvements to find solutions that will be beneficial to all parties. These Committees make recommendations to the MPO Board who in turn adopt and prioritize transportation improvement projects.

Plant City Airport

The *Plant City Airport Master Plan Update*, completed in October 2003, provides forecasts of future aviation activity at Plant City Airport based on research of historical demand, growth trends and regional economic information. Recommendations of future facility requirements are based on these forecasts.

Activity Forecasts: Operations and based aircraft at Plant City are projected to increase an average of 1.9% per year. By the year 2020 this translates to 54,613 annual operations and 108 based aircraft at PCM, an increase of 34 based aircraft.

Facility Requirements: The *PCM Master Plan Update* has considered the facilities required to meet the aviation demand specified in its forecasts. Areas of the airport requiring improvements to meet forecast demand include the location of the parallel taxiway (which does not meet FAA safety standards), the number of t-hangar units and the size of the airport maintenance facility.

Development Alternatives: Concepts for future airport development were based on the forecasts for aviation demand and the facility requirements. Two concepts were developed for the *Master Plan Update*.

The preferred concept specifies relocating the taxiway parallel to Runway 10-28 to meet FAA safety standards, construction of a new airfield maintenance facility, and construction of new t-hangar units. The preferred development concept also reserves undeveloped airport land for future uses.

Environmental Assessment: An overview of the environmental implications of the preferred development alternative was performed. Airport noise was projected to change minimally over the twenty year planning period. Areas of environmental concern include observed threatened or endangered wading birds and gopher frogs in the study area, and the possibility of gopher tortoises in the area. These concerns will be addressed prior to any development.

Phasing, Costs and Funding Sources: Cost estimates, a phasing plan and funding sources were identified for each of the projects included in the preferred development plan. The estimated total cost of development is \$4,310,085, structured in three development phases as follows:

| | |
|-------------|-------------|
| Phase I: | \$988,845 |
| Phase II: | \$1,220,340 |
| Phase III: | \$2,200,900 |
| Total Cost: | \$4,310,085 |

Economic Impact Analysis: The economic impact of PCM on the local economy was estimated in the 2003 Master Planning effort. The analysis considered direct impacts, indirect impacts and induced impacts. The total annual economic impact of Plant City Airport was estimated to be (in year 2000 dollars):

- 71 Jobs
- \$1.2 million in Wages
- \$2.99 million in total economic output (This value represents business sales for private-sector entities, and annual budgets for public-sector or non-profit organizations. For visitor spending, output represents visitor expenditures).

BICYCLE COMPONENT

On-Road

Approximately 2,000 roadway segments in Hillsborough County have been analyzed to determine if there was a critical need to add bicycle facilities. These roadway segments comprise the significant transportation corridors in the county. In general, lower volume local and neighborhood roads have lower traffic volumes and lower speeds that are already more accommodating to bicycle travel and bike lanes and other improvements are not as critical.

A needs analysis was based on three key quantitative factors; the bicycle level of service (BLOS), the latent demand score (LDS), and safety data.

In addition to using the quantitative factors to identify needs, input from citizens, members of the Bicycle/Pedestrian Advisory Committee, identified candidate projects for the needs assessment.

Although bicycle facilities are considered “needed” on all 2,000 roadway segments in the network, the list had to be reduced to a manageable number of segments.

The analysis resulted in the identification of 264 segments for inclusion in the needs assessment analysis to pursue for bicycle facilities. The segments included those that had high BLOS and LDS scores, high number of crashes, and recommendations from citizens and the BPAC. The segments represent a wide cross section of roads in the county, in urban, suburban and rural areas.

Off-Road

For off-road facilities, a process similar to that conducted for the on-road facilities was followed. Candidate projects in the county were identified from the Hillsborough County Greenways Master Plan. Also, as with the on-road facilities, input was received from citizens and the BPAC.

In order to develop the needs assessment, each of the trail segments was analyzed based on two key quantitative factors; the LDS and safety data.

FUNDING LEVELS

Funding sources most consistent with past practices have been Federal Enhancement Funding and Congestion Mitigation/Air Quality dollars. Although Hillsborough County is not currently designated as an Air Quality Non-attainment area or receiving CMAQ funds, changes in air quality standards may cause the area to again be designated as “non-attainment”.

Although other sources of funding will likely help in constructing priority projects, such as the local Community Investment Tax funds and various grants, those are decisions that will be made by local governments

The following table represents the assumptions that were made in the MPO’s Comprehensive Bicycle Plan about available funding. These assumed allocations were considered tentative and represented the starting point for assigning funds to specific projects.

REASONABLY EXPECTED REVENUES (ASSUMING YEAR 2000 DOLLARS)

| SOURCE | 2007-2025 | ON-ROAD BIKE | TRAILS | PROGRAMS | PEDESTRIAN |
|---------------------|---------------|-----------------------|----------------------|-----------------------|-----------------------|
| Enhancement* | \$32 M | \$5.76 M (18%) | \$12.8M (40%) | \$640,000 (2%) | \$12.8 M (40%) |
| CMAQ** | \$19 M | \$3.42 M (18%) | \$7.6 M (40%) | \$380,000 (2%) | \$7.6 M (40%) |
| TOTAL | \$51 M | \$9.18 M | \$20.4 M | \$1.02 M | \$20.4 M |

*Assuming 80% of available Enhancement Funds (\$40.1 million ‘07-‘25)

**Assuming 15% of available CMAQ Funds (\$123.6 million ‘07-‘25)

PRIORITIZATION OF NEEDS

The projects from the Needs Assessment were prioritized based on the evaluation methodology described earlier. All of the data for the quantitative evaluation criteria were analyzed for each of the roadway and trail segments. The BPAC members provided data for the qualitative rating of the regional impact criterion and citizen input. Map 22 shows the needed bikeways and trails.

On-Road

For each of the roadway segments, a composite score was created to rank the projects. A spreadsheet was used to calculate a composite score that sums each of the weighted scores for each of the evaluation criteria.

The roadway segments in the needs plan represented a wide cross section of roadways throughout the county. The prioritization of these segments represented many small segments of roadways that by themselves would not form a complete, connected and comprehensive bicycle network. Thus, working with the MPO and the BPAC, the prioritized roadway segments were grouped into unified projects to form corridors running north-south and east-west across the county.

During this process, meetings with the BPAC, FDOT, City and County staff were conducted by the MPO to determine the feasibility of the projects. Some projects, because of right-of-way or other constraints, were determined to be unfeasible. For some of these projects, suitable alternatives were created, where possible.

In addition to identifying each project, a cost for each of the projects was estimated. The cost estimate was based on the type of roadway improvement, either re-striping the existing roadway surface for a bike lane or adding new pavement for a bike lane. The cost for re-striping was estimated at \$20,000 per mile (source: Hillsborough County Public Works Department). The cost for adding a new bike lane was estimated to be \$293,280 per mile, which includes a 41% multiplier for right-of-way costs (source: Florida Department of Transportation, 2000 Transportation Costs, July, 2001).

The results of all the analyses, rankings, meetings, and cost estimates are summarized below in priority order and with an estimated cost for each project.

One very significant feature of the on-road bicycle priorities is the assumption that all roadway projects, except for limited access highways, include bikeways and sidewalks. Wherever a proposed project in MPO's Long Range Transportation Plan is recommended, the corresponding on-road bicycle project is still listed, but the cost estimate was removed.

Lastly, the opportunity during resurfacing to stripe for bikeways, must be taken advantage of regardless of whether the roadway is a top priority or not. Re-striping a roadway, particularly during resurfacing may not require any additional funds than what is set aside to repave.

SUMMARY OF ON-ROAD PROJECTS AND COSTS

| # | Roadway Project | From | To | Area | Dist ¹ | Cost | Running Total |
|----|---------------------------|----------------|-------------------------|------------------|-------------------|--------------|---------------|
| 1 | MANHATTAN AVE | GANDY BLVD | EUCLID AVE | County | 0.99 | \$0 | \$0 |
| 2 | BEARSS AVE | NEBRASKA AVE | 22ND ST | County | 1.27 | \$372,466 | \$372,466 |
| 3 | LAKEWOOD DR | OAKFIELD DR | SR 60 | County | 0.24 | \$0 | \$372,466 |
| 4A | HILLSBOROUGH | COUNTRYWAY | FRONTAGE RD | State | 5.18 | \$103,600 | \$476,066 |
| 4B | HILLSBOROUGH | NEBRASKA | 50 TH STREET | State | 3.49 | \$106,725 | \$582,791 |
| 5 | NEBRASKA AVE | KENNEDY BLVD | BEARSS AVE | State | 9.46 | \$0 | \$582,791 |
| 6 | GUNN HWY | TARPON SPRINGS | SHELDON RD | County | 5.1 | \$0 | \$582,791 |
| 7 | BAKER ST | US 92/SR 600 | REYNOLDS ST | Plant City | 1.78 | \$522,038 | \$1,104,829 |
| 8 | WATERS AVE | SHELDON RD | 22ND ST | County/ Tampa | 9.05 | \$181,000 | \$1,285,829 |
| 9 | BUSCH / BOUGAINVILLEA | | | | 7.23 | \$ 1,393,081 | \$2,678,909 |
| | BUSCH BLVD | DALE MABRY | ARMENIA AVE | State | 1.3 | \$0 | |
| | ARMENIA AVE | BUSCH BLVD | LINEBAUGH | County | 0.57 | \$0 | |
| | LINEBAUGH | ARMENIA AVE | N BOULEVARD | Tampa | 0.74 | \$217,027 | |
| | N BOULEVARD | LINEBAUGH AVE | BOUGAINVILLEA | Tampa | 0.2 | \$58,656 | |
| | BOUGAINVILLEA | N BOULEVARD | 56TH ST | Tampa/ TT | 4.37 | \$1,117,398 | |
| 10 | EUCLID (ALT FOR GANDY) | WESTSHORE | BAYSHORE | Tampa | 2.23 | \$44,600 | \$2,723,509 |
| 11 | M L KING BLVD | | | | 14.73 | \$1,984,725 | \$4,708,234 |
| | ML KING BLVD | WESTSHORE | 40TH ST | Tampa/ State | 6.91 | \$1,879,925 | |
| | ML KING BLVD | I-4 | HIGHVIEW | State | 5.24 | \$104,800 | |
| | ML KING BLVD | HIGHVIEW | KINGSWAY | State | 1.27 | \$0 | |
| 12 | 46TH ST | FLETCHER AVE | SKIPPER RD | County | 0.77 | \$225,826 | \$4,934,059 |
| 13 | YUKON ST | RIVERHILLS DR | 40TH ST | Tampa | 0.8 | \$234,624 | \$5,168,683 |

| # | Roadway Project | From | To | Area | Dist ¹ | Cost | Running Total |
|----|-------------------------------------|-------------------------|-------------------|-------------------|-------------------|-------------|---------------|
| 14 | LUMSDEN RD | KINGS AVE | VALRICO RD | County | 2.51 | \$736,133 | \$5,904,816 |
| 15 | US HWY 301 | BALM RIVERVIEW | GORNTOL LAKE | State | 1.56 | \$31,200 | \$5,936,016 |
| 16 | 22ND ST / ROWLETT PARK / RIVERHILLS | | | | 6.4 | \$565,984 | \$6,502,000 |
| | 22ND ST | ADAMO DR | 23RD AVE | State | 1.07 | \$21,400 | |
| | 21ST ST | ADAMO DR | 23RD AVE | State | 1.09 | \$21,800 | |
| | 22ND ST | 23RD AVE | SLIGH AVE | State/ Tampa | 2.69 | \$68,200 | |
| | ROWLETT | SLIGH AVE | RIVERHILLS | Tampa | 1.02 | \$299,146 | |
| | RIVERHILLS | ROWLETT PARK | YUKON ST | Tampa | 0.53 | \$155,438 | |
| 18 | SAMMONDS RD | M L KING BLVD | WOODROW WILSON | Plant City | 0.71 | \$208,229 | \$6,710,229 |
| 19 | SR 39 | ALEXANDER EX | KNIGHTS-GRIFFIN | State | 0.16 | \$46,925 | \$6,757,154 |
| 20 | COLUMBUS DR | | | | 9.66 | \$152,000 | \$6,909,154 |
| | COLUMBUS DR | DALE MABRY | AVENIDA REPUBLIC | County | 3.75 | \$75,000 | |
| | 17TH AV/18TH AV/19TH AV | AVENIDA REPUBLIC | COLUMBUS DR | County | 2.13 | \$42,600 | |
| | COLUMBUS DR | 43 rd STREET | BROADWAY | County/ Tampa | 3.78 | \$34,400 | |
| 21 | MACDILL AVE | INTERBAY BLVD | EUCLID AVE | Tampa | 1.98 | \$0 | \$6,909,154 |
| 22 | CASEY RD | EHRlich RD | DAWN VIEW | County | 0.5 | \$146,640 | \$7,055,794 |
| 17 | HIMES (ALT FOR DALE MABRY) | INTERBAY BLVD | WATERS AVE | Tampa/ County | 10.04 | \$2,944,531 | \$10,000,325 |
| 23 | FLETCHER AVE | | | | 4.37 | \$1,002,888 | \$16,057,385 |
| | FLETCHER AVE | DALE MABRY | NEBRASKA | County/ /State | 3.35 | \$982,488 | |
| | FLETCHER AVE | NEBRASKA AVE | 22ND ST | County | 1.02 | \$20,400 | |
| 24 | BIG BEND RD | SUMMERFIELD | BALM RIVERVIEW | County | 2.11 | \$618,821 | \$10,619,146 |
| 25 | SLIGH AVE | I-275 | ROWLETT PARK | County/ /Tampa | 1.17 | \$343,138 | \$10,962,284 |
| 26 | MEMORIAL HWY | | | | 3.10 | \$909,168 | \$11,871,452 |
| | MEMORIAL HWY | WEBB RD | KELLY | County | 0.86 | \$252,221 | |
| | MEMORIAL HWY | INDEPENDENCE | GEORGE | Tampa | 0.38 | \$111,446 | |
| | MEMORIAL HWY | VETERAN'S EXPWY | COURTNEY CAMPBELL | | | \$290,347 | |
| | MEMORIAL HWY | BOY SCOUT BLVD | I-275 | County | 1.42 | \$255,154 | |
| 27 | WHITING ST | FRANKLIN ST | FLORIDA AVE | Tampa | 0.05 | \$1,000 | \$11,872,452 |

| # | Roadway Project | From | To | Area | Dist ¹ | Cost | Running Total |
|----|------------------|-----------------|------------------|------------|-------------------|-------------|---------------|
| 28 | JEFFERSON ST | CHANNELSIDE | BROREIN ST | Tampa | 0.1 | \$2,000 | \$11,874,452 |
| 29 | TWIGGS ST | TAMPA ST | FRANKLIN ST | Tampa | 0.05 | \$1,000 | \$11,875,452 |
| 30 | ZACK ST | MARION ST | MORGAN ST | Tampa | 0.05 | \$1,000 | \$11,876,452 |
| 30 | HUTCHINSON RD | LYNN TURNER | EHRlich RD | County | 0.96 | \$281,549 | \$12,158,001 |
| 32 | JACKSON ST | MARION ST | MORGAN ST | State | 0.06 | \$17,597 | \$12,175,598 |
| 33 | KENNEDY BLVD | LOIS AVE | FLORIDA AVE | State | 1.07 | \$313,810 | \$12,489,408 |
| 34 | INDEPENDENCE | MEMORIAL HWY | VETERAN'S | County | 0.02 | \$0 | \$12,489,408 |
| 35 | FRONTAGE RD | CYPRESS ST | BOY SCOUT | Tampa | 0.75 | \$219,960 | \$12,709,368 |
| 36 | MAIN ST / FOWLER | US HWY 301 | HARNEY RD | County | 0.84 | \$246,355 | \$12,955,723 |
| 37 | FALKENBURG RD | M L KING BLVD | HILLSBOROUGH | County | 0.97 | \$284,482 | \$13,240,205 |
| 38 | CR 579 | I-4 | MAIN ST | County | 3.58 | \$1,000,085 | \$14,240,290 |
| 39 | VAN DYKE RD | GUNN HWY | SIMMONS RD | County | 5.78 | \$1,695,158 | \$15,935,448 |
| 40 | HENDERSON BLVD | LOIS AVE | NEPTUNE ST | County | 0.36 | \$105,581 | \$16,041,029 |
| 41 | AIRPORT RD | TURKEY CREEK | SYDNEY RD | Plant City | 1.53 | \$448,718 | \$16,489,747 |
| 42 | LAKE AVE | 15TH ST | 22ND ST | Tampa | 0.5 | \$146,640 | \$16,636,387 |
| 43 | ARMENIA AVE | LAKE ELLEN DR | FLETCHER | County | 0.51 | \$149,573 | \$16,785,960 |
| 44 | BOYETTE RD | BALM RIVERVIEW | BELL SHOALS | County | 2.76 | \$0 | \$16,785,960 |
| 45 | US HWY 41 | PORT SUTTON RD | LEE ROY SELMON | State | 3.02 | \$885,706 | \$17,671,666 |
| 46 | BLOOMINGDALE | US HWY 301 | BELL SHOALS | County | 4.19 | \$83,800 | \$17,755,466 |
| 47 | PROGRESS BLVD | FALKENBURG RD | US HWY 301 | County | 1.85 | \$542,568 | \$18,298,034 |
| 48 | PROVIDENCE RD | PROVIDENCE LAKE | S OF LUMSDEN | County | 1.03 | \$302,078 | \$18,600,112 |
| 49 | WHEELER RD | PARSONS RD | VALRICO RD | County | 2.01 | \$589,493 | \$19,189,605 |
| 50 | ALEXANDER ST | SR 600 | BAKER ST | Plant City | 0.09 | \$0 | \$19,189,605 |
| 51 | HABANA AVE | SLIGH AVE | WATERS AVE | County | 1.04 | \$305,011 | \$19,494,616 |
| 52 | BALM RD | US HWY 301 | BALM RIVERVIEW | County | 3.8 | \$1,114,464 | \$20,609,080 |
| 53 | INTERBAY BLVD | WESTSHORE | BAYSHORE BLVD S | Tampa | 2.9 | \$850,512 | \$21,459,592 |
| 54 | ROME AVE | MAIN ST | COLUMBUS DR | Tampa | 0.14 | \$41,059 | \$21,500,651 |
| 55 | PARK RD EXT | SR 39 | PARK RD | County | 0.74 | \$217,027 | \$21,717,678 |
| 56 | HARNEY RD | HILLSBOROUGH | US HWY 301 (2ND) | County | 6.53 | \$1,915,118 | \$23,632,796 |

| # | Roadway Project | From | To | Area | Dist ¹ | Cost | Running Total |
|----|--------------------|-----------------|-----------------|--------|-------------------|-------------|---------------|
| 57 | COMMERCE ST | PICNIC ISLAND | INTERBAY | Tampa | 1.26 | \$369,533 | \$24,002,329 |
| 58 | FLORIBRASKA AVE | FLORIDA AVE | NEBRASKA | County | 0.5 | \$146,640 | \$24,148,969 |
| 59 | N BOULEVARD | COLUMBUS DR | WEST ST | County | 0.25 | \$73,320 | \$24,222,289 |
| 60 | NORTHDAL BLVD | CLAYWELL SCHOOL | NORTHDAL | County | 0.36 | \$105,581 | \$24,327,870 |
| 61 | SAM ALLEN RD | FORBES RD | SR 39 | County | 3.51 | \$991,286 | \$25,319,156 |
| 62 | THONOTOSASSA RD | TAYLOR RD | BRANCH-FORBES | County | 6.38 | \$1,871,126 | \$27,190,282 |
| 63 | VICTORIA ST | HILLTOP RD | KINGS AVE | County | 0.75 | \$219,960 | \$27,410,242 |
| 64 | KNIGHTS GRIFFIN RD | STACY/ FT KING | COUNTY LINE | County | 13.98 | \$4,100,054 | \$31,510,296 |
| 65 | LUTZ LAKE FERN RD | GUNN HWY | US HWY 41 | County | 7.83 | \$2,296,382 | \$33,806,678 |
| 66 | WILLIAMS RD | M L KING BLVD | US 301 | County | 5.26 | \$1,542,653 | \$35,349,331 |
| 67 | KINGSWAY RD | WHEELER RD | US HWY 92 | County | 2.24 | \$656,947 | \$36,006,278 |
| 68 | HIGHLAND | M L KING BLVD | HILLSBOROUGH | Tpa/ST | 1 | \$20,000 | \$36,026,278 |
| 69 | CYPRESS ST | LOIS AVE | N BOULEVARD | Tampa | 2.78 | \$55,600 | \$36,081,878 |
| 70 | SYDNEY RD | VALRICO RD | SAMMONDS | County | 7.6 | \$2,228,928 | \$38,310,806 |
| 71 | CR 39 | SR 674 | SR 60 | County | 10.52 | \$3,085,306 | \$41,396,112 |
| 72 | FORT KING RD | MAIN ST | KNIGHTS GRIFFIN | County | 1.37 | \$401,794 | \$41,797,906 |
| 73 | HANNA RD | VANDERVORT RD | SUNSET LANE | County | 2.31 | \$677,477 | \$42,475,383 |
| 74 | JOE EBERT RD | WILLIAMS RD | CR 579 | County | 1.99 | \$583,627 | \$43,059,010 |
| 75 | BUSCH BLVD | N BOULEVARD | 56TH ST | State | 2.65 | n/a | \$43,059,010 |
| 76 | GANDY BLVD | LOIS AVE | MACDILL AVE | State | 0.96 | \$281,549 | \$43,340,559 |
| 77 | MACDILL AVE | SPRUCE ST | COLUMBUS DR | Tampa | 0.5 | \$146,640 | \$43,487,199 |
| 78 | WESTSHORE BLVD | SWANN AVE | AZEELE ST | County | 0.25 | \$73,320 | \$43,560,519 |
| 79 | FLORIDA AVE | PALM AVE | BOUGAINVILLEA | State | 5.25 | \$105,000 | \$43,665,519 |
| 80 | US HWY 92 | US HWY 301 | THONOTOSASSA | State | 9.01 | \$2,642,453 | \$46,307,972 |
| 81 | DALE MABRY HWY | INTERBAY BLVD | HILLSBOROUGH | State | 9.00 | \$2,639,520 | \$48,947,492 |
| 82 | TAMPA ST | ZACK ST | POLK ST | State | 0.42 | \$17,597 | \$48,965,089 |
| 83 | HOWARD AVE | KENNEDY BLVD | CASS ST | County | 0.42 | \$7,200 | \$56,469,819 |
| 84 | FRANKLIN ST | MADISON ST | TWIGGS ST | Tampa | 0.05 | \$14,664 | \$56,484,483 |

Off-Road

The off-road, or trail and greenways projects, were ranked in a similar process as described for the on-road projects. The results of the off-road project prioritization are shown below, along with the estimated costs. The costs were estimated assuming a 12-foot wide path, with a cost of \$369,000 per mile (source: Hillsborough County Planning & Growth Management, July 2001). A decision was made to not include right-of-way costs as a majority of the proposed trails will be along public land.

When the expected available funds for trails are applied, the top priority off-road projects are determined. The shaded trail segments indicate the trails that were not able to be funded with the projected revenues over the next 20 years.

Summary of Off-Road Projects

| Project | Score | Rank | Cost |
|---------------------------|--------------|-------------|---------------------|
| West Tampa Greenway | 2.653 | 1 | \$3,247,200 |
| Friendship Trail | 2.600 | 2 | \$2,398,500 |
| Hillsborough River Trail | 2.595 | 3 | \$4,243,500 |
| River-Canal Connector | 2.380 | 4 | \$1,365,300 |
| Upper Tampa Bay Trail | 2.344 | 5 | \$3,579,300 |
| Tampa By-Pass Canal Trail | 2.160 | 6 | \$4,206,600 |
| McKay Bay Greenway | 2.023 | 7 | \$2,804,400 |
| Northdale-Lake Park Trail | 1.927 | 10 | \$332,100 |
| Total Funded | | | \$22,176,900 |
| Cross County Greenway | 1.959 | 8 | \$12,988,800 |
| South Coast Greenway | 1.934 | 9 | \$8,302,500 |
| Town-n-Country Greenway | 1.896 | 11 | \$1,918,800 |
| Old Fort King Trail | 1.842 | 12 | \$627,300 |
| Northwest Regional Trail | 1.804 | 13 | \$3,247,200 |
| Total Unfunded | | | \$27,084,600 |
| TOTAL | | | \$49,261,500 |

PEDESTRIAN COMPONENT

An analysis was done on the areas of Hillsborough County with the greatest potential for pedestrian activity. Taken into account were the existing and future land use designations, number of jobs, residential density, demographic characteristics, and proximity to important destinations.

| Indicator | Description | Method of Point Assignment |
|-------------------------------|---|--|
| Universities & public schools | Proximity to a university or public school | Point applied to university and public school property and ¼ mile buffer. |
| Parks | Proximity to a public park | Point applied to ¼ mile buffer around park |
| Transit | Proximity to a transit route | Point applied to ¼ mile buffer around transit stops |
| Shopping | Proximity to shopping opportunities | Point applied to ¼ mile buffer around parcels with retail DOR codes |
| Children | Presence of children (between 5 and 17) | 1. Census blocks where at least 30% are children. 2. Point applied to parcels with residential DOR code |
| Elderly | Presence of the elderly (age 65 and up) | 1. Census blocks where at least 30% are elderly. 2. Point applied to parcels with residential DOR code |
| Density | Total dwelling units divided by gross area. | 1. At least 8 du/acre, based on dwelling unit and acreage data 2. Point applied that overlap w/residential FLU |
| Employment | Presence of existing or future employment opportunities | 1. At least 25 jobs per acre, based on employment data 2. Point applied for existing employment and future employment |
| Mixed use | Commercial, professional/ office/ institutional, residential occupying > than 20% of the total land use | Point applied FLU categories from city and county comp plans. |
| Built environment | Floor area ratio (heated acres/parcel acres) | Point applied to non-residential parcels with FAR greater than or equal to 1 |

The analysis finds that areas of high pedestrian demand are found throughout Hillsborough County. Sidewalk coverage within the higher-scoring areas is typically 100 percent, although areas remain where demand is moderate to high but sidewalks are incomplete or missing.

Two types of pedestrian projects have been identified:

- *Priority Corridors* have high levels of pedestrian demand and a greater need for pedestrian treatments.
- *Sidewalk gaps* are defined as arterial and collector roads within the Urban Services Area of Hillsborough County that are missing sidewalks.

FUNDING LEVELS

Based on local and statewide estimates of pedestrian facilities, the cost of implementation for each Priority Corridor and sidewalk gap has been projected.

There is approximately \$51.6 million available for pedestrian projects over the 20-year horizon of the Comprehensive Pedestrian Plan. Of this amount, \$26 million is earmarked for Priority Corridors, and \$20 million will be used to fill gaps in the sidewalk network on roads throughout the Urban Services Area.

Costs were estimated for each Priority Corridor, based on completion of the sidewalk on both sides of the street and the addition of pedestrian treatments such as crosswalks, appropriately scaled lighting and trees.

Two assumptions were made in the estimation of costs. First, the cost of sidewalk construction is assumed to be \$157,000 per mile, based on the Florida Department of Transportation's statewide average costs for transportation improvements. This estimate was used for both Priority Corridors and sidewalk gaps. Second, the assumed cost per mile for pedestrian improvements to roadways is \$1 million per mile.

These assumed costs were applied using the following methodology:

For filling sidewalk gaps:

1. The percent of sidewalk that was missing from each side of each defined segment of the roadway was determined;
2. The side of the street (left or right) with the lower percentage of needed sidewalk was selected;
3. This percentage was multiplied by the length of the entire segment, resulting in the total length of sidewalk needed; and

4. The length needed was multiplied by \$157,000, resulting in the estimated cost to complete 100 percent sidewalk coverage on one side of the road.

For Priority Corridors:

1. The cost of filling in sidewalk gaps was based on the percent of sidewalk needed on both sides of each street segment;
2. The segment length was multiplied by \$1 million to determine the cost of adding pedestrian improvements to the entire corridor;
3. The two totals were added together to determine the estimated cost to complete 100 percent sidewalk coverage on both sides of the road as well as pedestrian improvements for the entire length of the corridor project.

PRIORITY CORRIDORS

All elements of the street realm – the street itself, the sidewalk, the intersections, the buildings, the landscaping, and the parallel and adjoining streets that carry pedestrian and automobile traffic to the main corridor – should all be considered as part of the corridor.

These corridors were selected on the basis of several criteria, including the pedestrian demand score as described above, prevalence of sidewalks, reported automobile crashes involving pedestrians, and other considerations of the pedestrian environment. Map 23 identifies these corridors under the heading “Major roads with pedestrian destinations, but inadequate provisions for pedestrian safety or comfort.” These corridors fall into three categories:

- Corridors with Committed Funding - road segments selected as priority corridors, and have already been identified for funding. It is assumed that these roadway projects will include bicycle and pedestrian facilities.
- Highest Priority Corridors are the needed corridor projects that have been moved to the top of the list due to considerations such as high pedestrian demand and anticipated future development.
- Priority Corridors are the remainder of the corridors that are not cost affordable at this time, but are recommended for implementation if additional funding becomes available.

| |
|---|
| Corridors with Committed Funding |
| Bayshore Blvd from Platt St to Gandy Blvd |
| 22nd St from Bearss Ave to 131st Ave |
| Bruce B. Downs from Fletcher Ave to Pasco County |
| Ashley Dr from I-275 to Tyler St |
| Tampa St from Scott St to Harrison St |
| Gandy Blvd from the Gandy Bridge to the Crosstown Expressway |
| Highest Priority Corridors |
| US 301 from MLK Jr. Blvd to Broadway Ave |
| Dale Mabry Hwy from Fletcher Ave to Waters Ave |
| Tampa St and Florida Ave from Lake Ave to downtown Tampa |
| Nebraska Ave from Lake Ave to downtown Tampa |
| Fowler Ave from I-275 to 56th St |
| Dale Mabry Hwy from Boy Scout Blvd/Columbus Dr to Bay to Bay |
| Brandon Blvd from I-75 to Valrico Rd |
| Gandy Blvd from the Crosstown Exwy to Bayshore Blvd |
| Hillsborough Ave from Memorial Hwy to George Rd & Westshore to Dale Mabry |
| Priority Corridors |
| Riverwalk in downtown Tampa |
| Bayshore Blvd from Gandy Blvd to MacDill Ave |
| Rome Ave from Columbus Dr to Cypress St |
| Priority Corridors |

| |
|---|
| Jackson St from Nebraska Ave to Meridian St |
| Nebraska Ave from Washington St to Jackson Ave |
| Washington St from Brush St to Nebraska Ave |
| Westshore Blvd from Gandy Blvd to Interbay |
| Commerce Street from Picnic Island to Interbay Boulevard |
| Downtown Tampa grid: the Riverwalk, Tyler, Cass, Polk, Zack, Twiggs, Madison, Kennedy, Jackson, Washington, Whiting; Tampa Street, Franklin Street, Florida Avenue, Marion, Morgan, Pierce, Jefferson |
| Cleveland Street from Willow Avenue to N. Boulevard |
| Missing sidewalks in area of Jefferson, Morgan, Ice Palace Dr, Channelside, Gunn Street, Cumberland Street, Caesar Street, the Riverwalk from Fort Brook to Channelside |
| Habana Ave and Armenia Ave from MLK Jr. Blvd to Main Street |
| Palm Ave, 7th Ave, and 4th Ave from I-275 to 22nd St |
| Fletcher Avenue from Interstate 275 to 56th Street |
| Lois Ave and Church Ave from Kennedy Blvd to Henderson Blvd (including cross-streets such as Neptune St and Morrison Ave) |
| Hyde Park Ave and Plant Ave from Kennedy Blvd to Bayshore |
| Providence Road from Lumsden Rd to Riverview Dr |
| Rome Ave from Kirby St to Martin Luther King, Jr. Blvd |
| 56th St from Fletcher Ave to Busch Blvd |
| Baker St and Reynolds St in downtown Plant City |
| Hanley Rd from Waters Ave to Hillsborough Ave (Town & County Community Plan) |
| Gunn Hwy at North Mobley Rd (Keystone-Odessa Community Plan) |
| Priority Corridors |

| |
|---|
| Lutz Lake Fern Rd at US 41 (Lutz Community Plan) |
| SR 674 from I-75 to Westlake Dr; US 41 from 19th Ave NE and SR 674; US 41 from Elsberry Rd to Leisey Rd (SouthShore Area Wide Systems Plan) |
| Harney Rd |
| McKinley Dr/40th St |
| Riverview Dr and Symmes Rd from US 41 to US 301 |

SIDEWALK GAPS

In addition to the priority corridors listed above, there are a number of roadways throughout Hillsborough County that lack any sidewalk coverage, creating a dangerous roadside environment for pedestrians.

Based on revenue projections, adding sidewalks on one side of roadways that currently have zero percent sidewalk coverage on either side will be cost affordable. Map 23 shows the major roads with no sidewalk on either side. It should be noted that to encourage safer walking, sidewalks should be present on both sides of a roadway so that a pedestrian is not forced to cross back and forth to use a sidewalk that is on one side only or may alternate sides. The full list of these roadways, with estimated costs can be found in Appendix H.

SAFETY EDUCATION

The most effective approach to safety and education is a coordinated effort among local, county and state agencies, colleges and universities, business, community, and private organizations, and neighborhood associations to provide services, literature and training.

The following measures are recommended for safety and education of pedestrians and motorists:

- Traffic safety education incorporated in the curricula for physical education courses with interaction with police officers. Driver education courses for high school students with a section on watching for and accommodating pedestrians.

- The Sheriff's Community Resource Officer should work with the School Coordinator to incorporate bicycle and pedestrian safety resources from organizations such as the Florida Department of Transportation's Safety Office.
- Around universities and colleges, a "Corridors to Campus" initiative designed to identify, evaluate and prioritize the most cost effective strategies to support walking and cycling to and from each of the universities.
- Employers to distribute bicycle and pedestrian safety information and encouragement to working age adults. Information can be distributed by the Chamber of Commerce to and through major employers.
- The various resources and organizations for seniors can serve as conduits for sharing information and safety training for the elderly.

ADDITIONAL RECOMMENDATIONS

There is often a lack of awareness about pedestrian improvement needs and strategies, and the role they play in community revitalization, accessibility and mobility.

The following recommendations promote a shift in the transportation system to create a greater role for pedestrians and, in many cases, bicycles and transit as well. The goal is not to make driving inconvenient, but rather to balance convenience and accessibility for all modes of travel.

Multi-modal Transportation District

Special transportation districts were created by the Florida Legislature to offset the tendency for concurrency requirements to create urban sprawl and discourage use of non-auto modes. Multi-modal Transportation Districts (MTDs) provide the policy framework for compact, mixed use pedestrian-scaled or transit-oriented development to occur where automobile capacity may be limited. A MTD will not solve an automobile concurrency problem, but it will provide a community with the tools to create a pedestrian/transit-friendly environment where residents and employees realistically have alternatives to automotive transportation.

Pedestrian-Supportive Development Review

Each municipality should establish consistent development review policies that require new development proposals to conduct a pedestrian and bicycle accessibility audit of the site as part of the site plan submittal and review process. Essentially, the Land Development Codes would require an applicant to identify pedestrian desire lines (e.g., to transit stops, commercial uses, schools, parks, trail linkages, etc.) within a quarter- to a half-mile of the project site, and identify the supporting facilities and any potential barriers or deficiencies that may reduce optimal access. Incentives to encourage developer mitigation could relate to density bonuses, relief from transportation concurrency, or other mechanisms that support city and county growth management objectives.

Livable Lane Widths

Due to right-of-way constraints, every possible alternative should be identified to modify roadway lane widths for greater accommodation of bicycle and sidewalk facilities. Narrow lanes are possible under Florida's Livable Community Policy guidelines and there are speed reduction advantages to using narrower lanes on many facility types. Policy should be considered for reducing lane widths on all future road projects.

Transit Promotion

All transit riders are pedestrians for at least part of their trip. These modes complement each other in many ways. Where walking is a supported and feasible mode of transportation, transit generally has much greater patronage and public acceptance. Several options should be considered to promote transit and non-motorized policies.

- Growth management staff should consider development incentives such as flexible design options and density bonuses for new multi-family residential developments located within 1/2 mile of a bus route and with heavy student populations, when these developments are designed to accommodate bicycle, pedestrian, and transit transportation.
- Designate Transit Emphasis Corridors in the community where transit service exists, or is planned. The County would adopt transit-supportive design guidelines and require an increased level transit infrastructure.

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