

# Chapter 7: Environmental Considerations

*A primary goal of the 2035 Plan is to improve the quality of life, promote energy conservation and enhance the environment, while minimizing transportation, related fuel consumption, air pollution, and greenhouse gas emissions. This chapter covers environmental and sustainability implications of the 2035 Plan*

*This chapter describes the Hillsborough County MPO's environmental consultation and general approach to mitigation activities in accordance with federal, state, regional and local regulations. A priority of the 2035 Plan is to develop solutions to ensure:*

- *Potential project effects on the surrounding environment are avoided or minimized,*
- *Proposed transportation projects fit within the physical and social settings of an area, and*
- *The purpose and need of each proposed transportation project meets local, state and regional objectives.*

*The chapter also presents the process and results of evaluating potential effects of the 2035 Plan's proposed transportation projects on the man-made and natural environment as well as environmental mitigation strategies developed in consultation with the Seminole Tribe of Florida and environmental resource agencies.*



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## Federal and State Environmental Planning Provisions

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The MPO has been, and continues to be, fully compliant with all federal and state environmental planning provisions required as part of the long-range transportation planning process.

### *Federal Requirements*

The environmental planning provisions of the SAFETEA-LU require transportation agencies to establish a process for conducting “efficient environmental reviews for project decision making” and to demonstrate the linkage between transportation planning and National Environmental Policy Act (NEPA) requirements. The SAFETEA-LU provisions specifically require all MPOs to:

- Identify environmental mitigation strategies and potential areas to carry out these activities within their respective LRTPs.
- Consider conservation plans or maps and inventories of natural and historic resources in the development of environmental mitigation strategies.
- Prepare environmental mitigation strategies in consultation with tribal nations (as appropriate) and state and local agencies responsible for land use management, economic development, natural resources, environmental protection/conservation and historic preservation.
- Provide opportunities for public, tribal and agency input in the preparation of a transportation project’s purpose and need.

The ultimate goal of the provisions is to promote consistency between transportation improvements and planned state and local growth patterns. The MPO is committed to meeting these provisions.

In addition, the Federal government sets air quality standards for pollutants such as ozone caused by vehicles, and MPO plans must comply with requirements to reduce automotive emissions.

## *State Requirements*

In addition to federal requirements, the MPO consistently adheres to FDOT guidance regarding the development, implementation and management of LRTPs. This guidance requires LRTPs to:

- Incorporate a screening process, referred to as Efficient Transportation Decision Making (ETDM), to provide for early consideration of environmental, land use, social and cultural issues, prior to a project moving into the FDOT Work Program and into the PD&E study phase, to satisfy NEPA requirements.
- Incorporate results from Sociocultural Effects (SCE) Evaluations prepared as part of the ETDM process to evaluate and provide commentary regarding potential effects of projects on social and cultural values.
- Include principles pertaining to the development of surface transportation systems that foster economic growth while minimizing transportation related fuel consumption, air pollution and greenhouse gas emissions.
- Include strategies that integrate transportation and land use planning to provide for sustainable development while reducing impacts to the environment.

## *Agency and Tribal Nation Consultation*

During the development of the *2035 Plan*, federal and state wildlife, land management and regulatory agencies, and the Seminole Tribe of Florida were consulted to identify potential effects to natural, cultural and community resources and state/local conservation plans as a result of the proposed projects. These entities were also given the opportunity to provide input on both the purpose and need of proposed transportation projects anticipated to use state or federal funds and mitigation strategies to minimize potential project impacts. As a result of the consultation, the proposed *2035 Plan* transportation improvements were prioritized in part based on their potential to 1) result in no or minimal effects to the protected area resources and 2) support specific agency projects, policies and/or initiatives.

**Environmental Issues**

- Air Quality
- Coastal and Marine
- Contaminated Sites
- Farmlands
- Floodplains
- Infrastructure
- Navigation
- Special Designations
- Water Quality & Quantity
- Wetlands
- Wildlife & Habitat
- Historic & Archaeological Sites
- Recreation Areas
- Section 4(f) Potential
- Aesthetics
- Economic
- Land Use
- Mobility
- Relocation
- Social
- Secondary & Cumulative Effects

## Efficient Transportation Decision Making Process

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Florida's ETDM process was developed as a framework to fulfill federal and state consultation and environmental planning requirements. The ETDM process uses a multi-agency team approach to identify transportation solutions that are responsive to environmental and cultural preservation goals and community quality of life objectives. The overall intent of the process is to improve transportation decision-making by integrating a balanced consideration of potential project effects to natural, cultural and community resources within the realm of transportation planning and by providing for early coordination with tribal nations, environmental resource agencies and the public.

Basically, the ETDM process allows the Hillsborough County MPO to:

- Facilitate early, continuous and meaningful consultation with stakeholders.
- Evaluate the relative environmental effects of transportation projects that are being considered for inclusion in the *2035 Plan* and identify fatal flaws/impacts as early as possible in the planning phase.
- Easily obtain comments from stakeholders about potential effects of transportation projects proposed for federal and state funding.
- Identify an array of mitigation strategies for the different types of potential project impacts in coordination with the Seminole Tribe of Florida and environmental resource agencies.
- Facilitate early NEPA reviews/approvals of projects and effective/timely decisions.

## *How Projects were Screened and Prioritized Using Environmental Factors*

The MPO, in coordination with FDOT District Seven, evaluated the relative effects of each candidate transportation project to natural, cultural and community resources. The evaluation was conducted through the ETDM Environmental Screening Tool (EST). The EST is an interactive database and Internet mapping application that integrates project data and environmental resource information from multiple sources into a single, standard format. The EST performs standardized analyses, comparing the proposed transportation projects to environmental resource datasets within a specified buffer area, to estimate each project's potential effects on the environment. It stores this information for use in subsequent project development phases so that identified environmental issues are addressed. The EST is used to specifically evaluate datasets of 21 issues (as listed). The potential impacts reported by the EST for each resource at the 200-foot project buffer level were added together. An average was then taken of all the reported sums. If the sum for each project was more than one standard deviation above the average, then the project received a score of zero. If the sum was less than one standard deviation above the average, then the project received a score of three. Projects received a score of five if they had previously undergone an ETDM screening or had a complete PD&E Study and the potential for a significant impact was identified. The higher a project's score, the better it is considered for the environment.

The results of this scoring process were combined with other prioritization criteria to rank the candidate projects as discussed in Chapter 9. The overall evaluation was used to identify fatal flaws of the candidate projects and to understand the magnitude of potential effects of the proposed *2035 Plan* projects on various resources. As such, projects were incorporated into the *2035 Plan* that both supported goals of the MPO and conservation initiatives practiced by the Seminole Tribe of Florida and environmental resource agencies.

### **Environmental Technical Advisory Team**

- Environmental Protection Commission of Hillsborough County
- Federal Aviation Administration
- Federal Hwy Administration
- Federal Transit Administration
- Florida Department of Agriculture & Consumer Services
- Florida Department of Community Affairs
- Florida Department of Environmental Protection
- Florida Department of State/ Advisory Council on Historic Preservation/  
State Historic Preservation Officer
- Florida Department of Transportation
- Florida Fish and Wildlife Conservation Commission
- Metropolitan Planning Organizations/  
Florida Metropolitan Planning Organization Advisory Council
- National Marine Fisheries Service
- National Park Service
- Native American Tribes
- Natural Resources Conservation Service
- US Army Corps of Engineers
- US Coast Guard
- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Forest Service
- Water Management Districts





## *Role of Environmental Technical Advisory Team*

As part of the *2035 Plan* development and ETDM processes, early and continuous agency interaction occurred to ensure transportation decisions were balanced with natural, cultural and community resource conservation goals, land use decisions and other agency objectives. This was accomplished through the Environmental Technical Advisory Team (ETAT). This team consists of over 20 resource agencies (Page 7-5). Each agency is responsible for providing information regarding their specific resource conservation plan or initiatives and identifying future conservation efforts as they relate to specific projects. As a result of the ETAT comments submitted through the EST during the ETDM project screening events, project flaws and potential mitigation opportunities were identified.

## *Projects Screened*

All projects proposed as part of the *2035 Plan* were uploaded to the EST for evaluation. The environmental evaluation that was conducted serves as a broad screening or analysis of potential project effects to environmental resources. Projects considered to be (1) “major capacity improvements” (primarily defined as roadway widenings, new roadways, new fixed-guideway transit facilities, etc.) and (2) anticipated to be funded by state or federal dollars went through a more detailed environmental analysis. These projects were released to the ETAT for review and comment through a formal ETDM screening. **Table 7.1** presents the *2035 Plan* projects that were screened.

**Table 7.1: 2035 Plan ETDM Projects**

<b>ETDM Project #</b>	<b>Project Name</b>
12716	Downtown Tampa to University of South Florida Light Rail Transit
12717	Downtown Tampa to Tampa International Airport Light Rail Transit
12718	University of South Florida to Wesley Chapel Light Rail Transit
12719	Tampa International Airport to Carrollwood Light Rail Transit
12720	Downtown Tampa to Brandon Light Rail Transit Corridor
12721	Busch Blvd-Linebaugh Ave Light Rail Transit Corridor West
12722	Busch Blvd-Linebaugh Ave Light Rail Transit Corridor East
12723	Downtown Tampa to South Tampa Light Rail Transit Corridor
12736	Westshore to Pinellas Light Rail Transit Corridor

### *Outcome of ETDM Screening*

As stated earlier, each candidate transportation project was evaluated and prioritized based on all potential resource impacts reported by the EST. The results for each project are summarized in the *ETDM Results Technical Memorandum*. The results are defined as having potentially high, medium, or low environmental effects. Low potential impacts suggest that avoiding or minimizing impacts to environmental resources is probable during the project development phase. Moderate potential impacts indicate that minimizing potential impacts to environmental resources is probable. High potential impacts suggest that environmental mitigation measures may be needed. No environmental fatal flaws were identified for projects in the Cost Affordable Plan.

The *ETDM Results Technical Memorandum* also includes the summary evaluation results for each of the nine transit projects that were formally reviewed through the ETDM screening process. The results reflect both the EST reported resource impacts and all ETAT comments. It should be noted that projects included in the 2025 LRTP were previously screened through the ETDM process. Most of these projects have complete PD&E Studies and were not re-screened as part of the *2035 Plan*.

## Constrained Corridors

Planning for the development of constrained corridors in the *2035 Plan* involved reviewing local comprehensive plans in consultation with state and local agencies regarding potential effects of transportation improvements to natural features, communities, historic preservation and cultural resources, policy directives, and the physical environment. While growth forecasts can suggest the need for transportation projects, these projects may be limited by physical, economic, or social conditions. The local comprehensive plans and past Long Range Transportation Plans have established a number of corridors as constrained from widening based on the following factors:

- Environment.
- Neighborhoods.
- Policy.
- Right-of-Way.

This means that roadway widening is not an option on corridors designated as constrained, even though future travel demand may suggest such a need.

### Environment

Wetlands and protected uplands can be damaged by road construction. Roadways can also damage the environment when they interrupt wildlife habitats, contribute to stormwater runoff or disrupt water movements. One of the key goals of the *2035 Plan* is to avoid or minimize impacts to the environment caused by improving the transportation system.

In addition, potential impacts of transportation facilities to culturally significant areas and tribal cultural resources, such as tribal lands held by the Seminole Indians adjacent to I-4, merit careful consideration during the planning process. These impacts are reviewed further during future project development phases. Federal standards (i.e., the Secretary of Interior's Standards) and requirements such as tribal consultation are also followed.

Under the National Historic Preservation Act of 1966, roadway improvements that adversely impact the historic character of these areas will be avoided wherever possible.





## Neighborhoods

Identifying established neighborhoods is critical to the process of evaluating transportation needs. This allows the *2035 Plan* to identify improvements or to propose design standards that will avoid or minimize neighborhood disruption.

Neighborhoods with historic significance are also considered in the Plan's development. Hillsborough County has nine historic districts listed or applying to be on the National Register of Historic Places:

- Downtown Plant City Commercial District.
- Downtown Plant City Historic Residential District.
- North Plant City Residential District.
- Hampton Terrace Historic District.
- Hyde Park Historic District.
- Seminole Heights Residential District.
- Tampa Heights Historic District.
- West Tampa Historic District.
- Ybor City Historic District.

## Policy

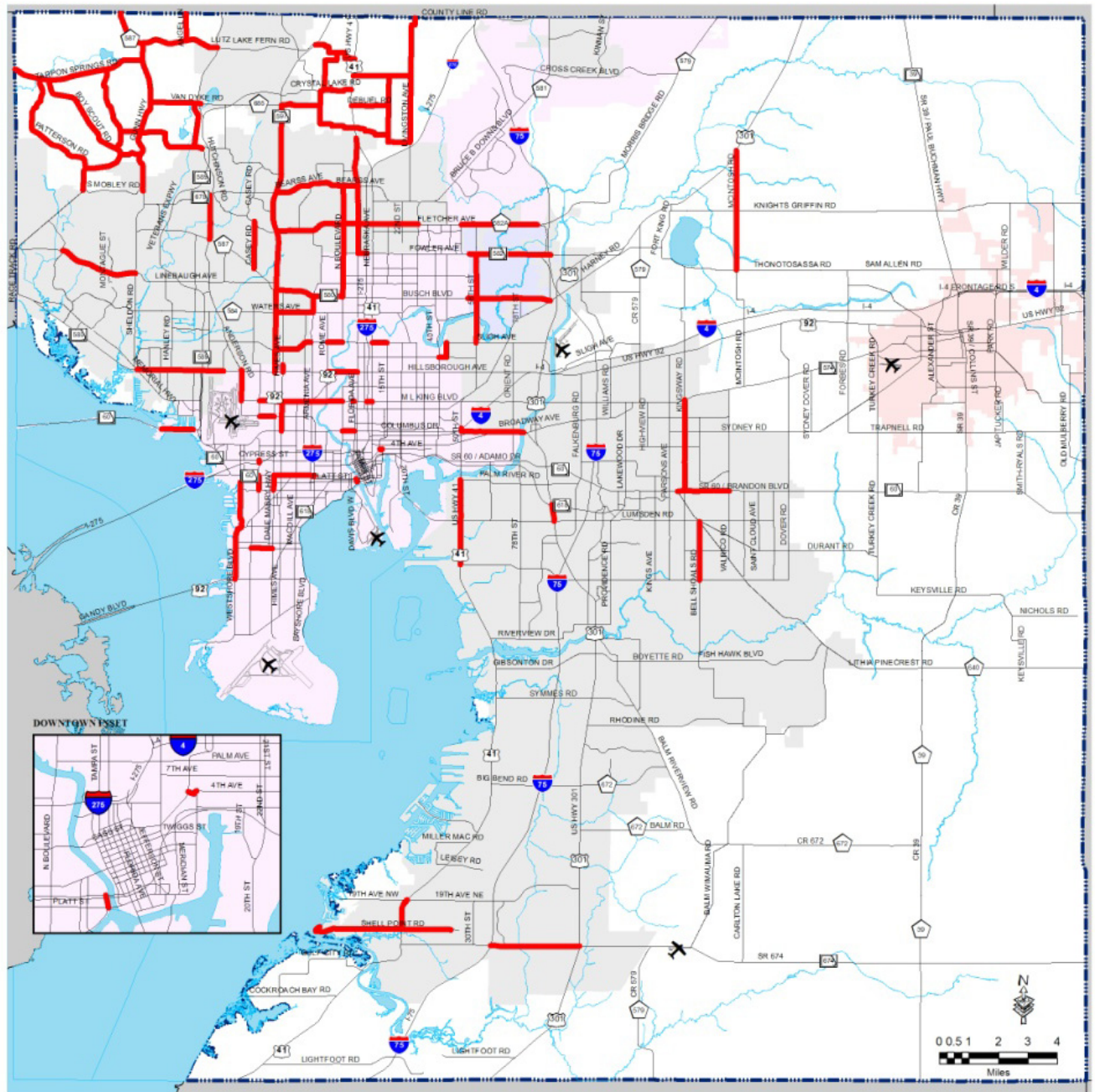
Arterials are high-volume, high-speed roads designed to facilitate through traffic movements. Ideally, access to abutting properties is minimized and controlled by access management regulations. In an urban setting, limiting access may be impractical because abutting properties have a history of direct access to the road. In fact, there may be no other means of access to these properties. Widening such roads to more than six through lanes may unnecessarily jeopardize public safety. High volume arterials with unlimited access are statistically the most dangerous roads. Due to the difference in speed of through trips vs. local travelers getting on and off the arterials, collisions can be extremely dangerous. Exacerbating the through movement vs. local access conflict should be avoided if possible. Consequently, some of these roadways are constrained as a matter of policy.

In addition, some roadways are constrained based on policy decisions made by elected officials. These decisions are documented in the Comprehensive Plans for Hillsborough County and its municipalities.

## Right-of-Way

There are also several roadways where, due to adjacent land uses, the cost to acquire needed right-of-way to widen the road is prohibitive. For example, roadways adjacent to cemeteries and other land uses that have cost prohibitive land acquisition costs are considered to be constrained.

Consistent with locally adopted comprehensive plans, current constrained roadways are listed in **Table 7.2** and illustrated through **Map 7.1**.



**Hillsborough County MPO 2035 Long Range Transportation Plan**  
**Map 7-1 Constrained Roads in Adopted Comprehensive Plans**

**ROADS**

Constrained

Fletcher Avenue to be constrained after widening to 6 Lanes

- |                     |                 |
|---------------------|-----------------|
| Urban Service Area  | Water and Bay   |
| Hillsborough County | Streams/Rivers  |
| Other Counties      | County Boundary |
| Tampa               | Major Roads     |
| Plant City          | Airports        |
| Temple Terrace      | Airfields       |

**Table 7.2: Constrained Rds**

On	From	To	Reason	Jurisdiction	Source Document
13th St Extension	4th Ave	Nuccio Ave	R	T	Tampa Comprehensive Plan
43rd St	Hanna Ave	Sligh Ave	R	T	Tampa Comprehensive Plan
50th St	I-4 Ramp	Melborne Ave	R	T	Tampa Comprehensive Plan
56th St	Sligh Ave	Hillsborough River	N R	HC	Hillsborough County Comprehensive Plan
56th St	Hillsborough River	Fowler Ave	N R	TT	Temple Terrace Comprehensive Plan
Adamo Dr (SR 60)	19th St	34th St	R	T	Tampa Comprehensive Plan
Anderson Rd	Hillsborough Ave	City Limits	R	T	Tampa Comprehensive Plan
Angel Lane	Lutz Lake Fern Rd	Pasco County Line	P	HC	Hillsborough County Comprehensive Plan
Armenia Ave	Waters Ave	Busch Blvd	N R	T	Tampa Comprehensive Plan
Bayshore Blvd	Platt St	Brorein St	R	T	Tampa Comprehensive Plan
Bearss Ave	Dale Mabry Hwy	Florida Ave	P R	HC	Hillsborough County Comprehensive Plan
Bell Shoals Rd	Bloomington Ave	Lithia-Pinecrest Rd	E P	HC	Hillsborough County Comprehensive Plan
Boy Scout Rd	Race Track Rd	Tarpon Springs Rd	P	HC	Hillsborough County Comprehensive Plan
Broadway Ave	Columbus Dr	City Limits	R	T	Tampa Comprehensive Plan
Busch Blvd*	Dale Mabry Hwy	Armenia Ave	P	HC	Hillsborough County Comprehensive Plan
Busch Blvd	52nd St	US 301	P R	TT	Temple Terrace Comprehensive Plan
Busch Blvd*	Armenia Ave	North Blvd	R	T	Tampa Comprehensive Plan
Casey Rd	Gunn Hwy	S. Village Dr	N	HC	Hillsborough County Comprehensive Plan
Columbus Dr	50th St	Broadway Ave	R	T	Tampa Comprehensive Plan
Columbus Dr	North Blvd	Tampa St	R	T	Tampa Comprehensive Plan
Courtney Campbell Cswy	Rocky Point Dr	Eisenhower Blvd	R	T	Tampa Comprehensive Plan
Crawley Rd	Boy Scout Rd	Tarpon Springs Rd	P	HC	Hillsborough County Comprehensive Plan
Crenshaw Lake Rd	Simmons Rd	US 41	P	HC	Hillsborough County Comprehensive Plan
Crooked Lane	Crystal Lake Rd	Lutz Lake Fern Rd	P	HC	Hillsborough County Comprehensive Plan
Crystal Lake Rd	Simmons Rd	US 41	P	HC	Hillsborough County Comprehensive Plan
Dale Mabry Hwy	Swann Ave	Azeele St	N	T	Tampa Comprehensive Plan
Dale Mabry Hwy	Azeele St	Kennedy Blvd	R	T	Tampa Comprehensive Plan
Dale Mabry Hwy	Hillsborough Ave	Van Dyke Rd	P R N	HC	Hillsborough County Comprehensive Plan
Debuel Rd	US 41	Hanna Rd	P	HC	Hillsborough County Comprehensive Plan
Euclid Ave	Manhattan Ave	Dale Mabry Hwy	N	T	Tampa Comprehensive Plan
Fletcher Ave	Dale Mabry Hwy	30th St (Bruce B Downs)	N R	HC	Hillsborough County Comprehensive Plan
Fletcher Ave*	52nd St	I-75	P	TT	Temple Terrace Comprehensive Plan
Florida Ave	Fowler Ave	Florida / Nebraska Apex	R	HC	Hillsborough County Comprehensive Plan
Fowler Ave	Florida Ave	I-275	R	T	Tampa Comprehensive Plan
Fowler Ave	52 <sup>nd</sup> St	I-75	P	TT	Temple Terrace Comprehensive Plan
Gunn Hwy	S. Mobley Rd	Pasco County Line	P	HC	Hillsborough County Comprehensive Plan

**Table 7.2: Constrained Rds**

On	From	To	Reason	Jurisdiction	Source Document
Hanna Ave	40 <sup>th</sup> St	43rd St	N	T	Tampa Comprehensive Plan
Hanna Rd	Vandervort Rd	Sunset Lane	P	HC	Hillsborough County Comprehensive Plan
Hillsborough Ave	Sheldon Rd	Hoover	R	HC	Hillsborough County Comprehensive Plan
Hillsborough Ave	Rome Ave	Florida Ave	R	T	Tampa Comprehensive Plan
Himes Ave	Columbus Dr	MLK Jr. Blvd	R	T	Tampa Comprehensive Plan
Himes Ave	Hillsborough Ave	Henry St	R	T	Tampa Comprehensive Plan
Hutchison Rd	N. Mobley Rd	Wilcox Rd	P	HC	Hillsborough County Comprehensive Plan
Kennedy Blvd	Dale Mabry Hwy	Howard Ave	N R	T	Tampa Comprehensive Plan
Kingsway Blvd	SR 60	SR 574 (MLK Jr. Blvd)	N	HC	Hillsborough County Comprehensive Plan
Lambright / Sligh Ave	Dale Mabry Hwy	Tampania Ave.	N R	HC	Hillsborough County Comprehensive Plan
Linebaugh Ave	Countryway Blvd	Sheldon Rd	N	HC	Hillsborough County Comprehensive Plan
Livingston Ave	Vandervort Rd	Pasco County Line	P	HC	Hillsborough County Comprehensive Plan
Lois Ave	Swann Ave	Kennedy Blvd	N R	T	Tampa Comprehensive Plan
Lois Ave	I-275	Cypress St	N R	T	Tampa Comprehensive Plan
Lutz Lake Fern Rd	Gunn Hwy	Suncoast Parkway	P	HC	Hillsborough County Comprehensive Plan
Lutz Lake Fern Rd	Dale Mabry Hwy	US 41	P	HC	Hillsborough County Comprehensive Plan
M.L. King, Jr. Blvd	Lois Ave	Dale Mabry Hwy	R	T	Tampa Comprehensive Plan
M.L. King, Jr. Blvd	Dale Mabry Hwy	Himes Ave	R	T	Tampa Comprehensive Plan
M.L. King, Jr. Blvd	Himes Ave	Armenia Ave	R	T	Tampa Comprehensive Plan
M.L. King, Jr. Blvd	Armenia Ave	North Blvd	R	T	Tampa Comprehensive Plan
M.L. King, Jr. Blvd	Highland Ave	Tampa St	R	T	Tampa Comprehensive Plan
M.L. King, Jr. Blvd	Marguerite St	Nebraska Ave	R	T	Tampa Comprehensive Plan
Lynn Turner Rd	Gunn Hwy	Ehrlich Rd	N	HC	Hillsborough County Comprehensive Plan
McIntosh Rd	Sam Allen Rd	US 301	P	HC	Hillsborough County Comprehensive Plan
N. Blvd	Bearss Ave	Busch Blvd	P	HC	Hillsborough County Comprehensive Plan
N. Mobley Rd	Crawley Rd	Hutchison Rd	P	HC	Hillsborough County Comprehensive Plan
Patterson Rd	Race Track Rd	Tarpon Springs Rd	P	HC	Hillsborough County Comprehensive Plan
Race Track Rd	S. Mobley Rd	Gunn Hwy	P	HC	Hillsborough County Comprehensive Plan
Shell Point Rd	Dead End	21st St SE	N	HC	Hillsborough County Comprehensive Plan
Simmons Rd	Van Dyke Rd	Crenshaw Lake	P	HC	Hillsborough County Comprehensive Plan
Simmons Rd	Crystal Lake Rd	Van Dyke Rd	P	HC	Hillsborough County Comprehensive Plan
Sligh Ave	Rome Ave	North Blvd	N R	T	Tampa Comprehensive Plan
Sligh Ave	Nebraska Ave	15th St	N	T	Tampa Comprehensive Plan
SR 60 (Brandon Blvd)	Lithia Pinecrest Rd	Valrico Rd	P	HC	Hillsborough County Comprehensive Plan
SR 674/Sun City Center	US 301	I-75	N	HC	Hillsborough County Comprehensive Plan
Sunset Lane	US 41	Livingston Ave	P	HC	Hillsborough County Comprehensive Plan

**Table 7.2: Constrained Rds**

On	From	To	Reason	Jurisdiction	Source Document
Tampa Bay Blvd	Lois Ave	Dale Mabry Hwy	N	T	Tampa Comprehensive Plan
Tarpon Springs Rd	Pinellas County Line	Gunn Hwy	P	HC	Hillsborough County Comprehensive Plan
Tobacco Rd	Hutchinson Rd	Van Dyke Rd	P	HC	Hillsborough County Comprehensive Plan
US 301	Causeway Blvd	Lee Roy Selmon Exp.	P	HC	Hillsborough County Comprehensive Plan
US 41 (50th St)	Madison Ave	Palm River	R	HC	Hillsborough County Comprehensive Plan
US 41	19th Ave NE	Little Manatee River	P	HC	Hillsborough County Comprehensive Plan
Van Dyke Rd	Dale Mabry Hwy	Simmons Rd	R	HC	Hillsborough County Comprehensive Plan
Van Dyke Rd	Gunn Hwy	Suncoast Parkway	P	HC	Hillsborough County Comprehensive Plan
Vandervort Rd	Hanna Rd	Livingston Ave	P	HC	Hillsborough County Comprehensive Plan
Waters Ave	Dale Mabry Hwy	Armenia Ave	N R	HC	Hillsborough County Comprehensive Plan
Waters Ave	City Limits	Armenia Ave	N R	T	Tampa Comprehensive Plan
Westshore Blvd	Gandy Blvd	Azeele St	N R	T	Tampa Comprehensive Plan
Westshore Blvd	ML King, Jr. Blvd	Hillsborough Ave	R	T	Tampa Comprehensive Plan
Whitaker Rd	US 41	Hanna Rd	P	HC	Hillsborough County Comprehensive Plan

\* Constrained after improvement is made

E = Environmental

P = Policy

N = Neighborhood

R = Right-of-Way



# Environmental Mitigation

The environmental provisions of SAFETEA-LU require the *2035 Plan* to describe the types of environmental mitigation activities potentially available and potential locations to restore and maintain environmental functions that could be impacted by transportation improvements. This section summarizes the natural resources found within Hillsborough County potentially impacted by transportation projects in the *2035 Plan*; current countywide land preservation efforts; and potential mitigation challenges, opportunities, and strategies associated with transportation related impacts to wetlands, water resources, and listed species habitat.

## Existing Natural Resources

Hillsborough County contains numerous natural resources which are beneficial for human recreational use and provide important habitat for a variety of wildlife species. Many privately-owned lands throughout the County contain diverse habitats used by wildlife for feeding, nesting, and breeding and serve as important corridors for wildlife movement. Although a significant amount of the County’s environmentally sensitive lands have already been placed in preservation, much of these undeveloped habitats are still under private ownership and are at risk of future development. Both wetlands and undeveloped upland regions provide equally important habitats to local and migratory wildlife species, many of which are currently protected due to declining populations. The predominant wetland and upland habitats native to Hillsborough County are listed in **Table 7.3** and described below.

**Table 7.3: Predominant Natural Habitats of Hillsborough County**

Wetland	Upland
Bottomland forest	Dry Prairie
Estuarine tidal marsh	Mesic hardwood forest
Estuarine tidal swamp	Pine flatwoods
Floodplain swamp	Sandhill
Freshwater marsh	Scrub
Hydric hammock	Xeric hammock
Hydric pine flatwoods	
Seagrass bed	

The natural communities listed above are defined by their landform characteristics, soil moisture, climate, fire regime, and vegetation. Much of the existing undeveloped natural habitats are located within the northeast and southeast regions of the County. Wetland communities generally occur within tidal marshes adjacent to bays and estuaries, along stream and river floodplains, and within scattered shallow depressions throughout the County. Upland, or “terrestrial” communities are located on dry to moderately moist soils located at slightly higher elevations within the County.





## Native Wetland Communities

Due to its geographic location near the Gulf Coast, Hillsborough County contains both freshwater and saltwater (estuarine) wetlands. Native freshwater wetlands primarily consist of bottomland forest, floodplain swamp, freshwater marsh, hydric hammock, and hydric pine flatwoods. Saltwater wetlands generally include estuarine tidal marsh, estuarine tidal swamp, and marine grassbed (a brief summary of each is provided below).

- Bottomland Forest – low-lying closed canopy forested wetland composed of tall trees and either dense understory of shrubby vegetation, or an open understory with various ferns, herbs and grasses.
- Floodplain Swamp – occurs along stream channels and river floodplains and typically composed of tall, water-tolerant trees with sparse understory.
- Freshwater Marsh – herbaceous wetland found in low-lying basins and topographical depressions throughout the County (often occurring in former lake beds).
- Hydric Hammock – well-developed forested wetland with a moderate to closed canopy composed of various water-tolerant hardwood species and an understory dominated by ferns and juvenile palms.
- Hydric Pine Flatwoods – relatively open-canopy forested wetlands dominated by mature pines with a sparse understory of water-tolerant shrubs.
- Estuarine Tidal Marsh – herbaceous wetlands located along tidally-influenced rivers, streams, and low-energy coastlines and characterized by salt-tolerant grasses, rushes, and shrubs.
- Estuarine Tidal Swamp – intertidal low-lying wetland forests dominated by mangrove, buttonwood, and various salt-tolerant shrubs.
- Marine Grassbed – occurs in shallow, subtidal marine environments with low wave energy and is dominated by various species of seagrasses and epiphytic algae.

## Native Upland Habitats

As previously discussed, upland communities occur at higher elevations and on drier soils than wetlands. For this reason, these communities are more desirable for development, and therefore, vulnerable to fragmentation and human encroachment. Important native upland habitats in Hillsborough County consist of dry prairie, mesic hardwood forest, pine flatwoods, sandhill, scrub, and xeric hammock (each is summarized below).

- Dry Prairie – located on relatively treeless, flat regions of Hillsborough County and dominated by wiregrass, saw palmetto, and other herbaceous vegetation. Much of this habitat within the County has been converted to agricultural land, due to its flat topography and lack of trees.



- Mesic Hardwood Forest – well-developed closed canopy forest dominated by a variety of upland hardwood tree species occurring on moist, clay-based soils. These communities occur in high elevations along hillsides and areas of limestone outcrop.
- Pine Flatwoods – open canopy forest dominated by tall, widely spaced pine trees with little to no understory, but contains a dense groundcover of shrubs (requires periodic fires to maintain vegetative structure and nutrient recycling).
- Sandhill – occurs at high elevations with sandy soils and is characterized by an open canopy of pines, understory of various oaks, and dense groundcover of grasses and herbs (requires natural frequent fires to maintain vegetative structure).
- Scrub – found on sand ridges of former shorelines and is composed of an open canopy of sand pines, with an understory of juvenile sand pines, scrub oak species, and various shrubs adapted to dry, sandy conditions.
- Xeric Hammock – an advanced succession of (or mature) scrub habitat generally located in small isolated patches on dry, sandy soils. This community type is multi-storied with a variety of oaks and may have an open or closed canopy.

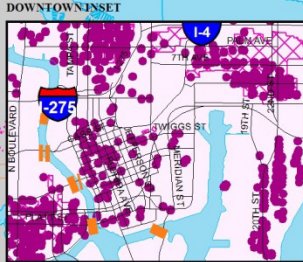
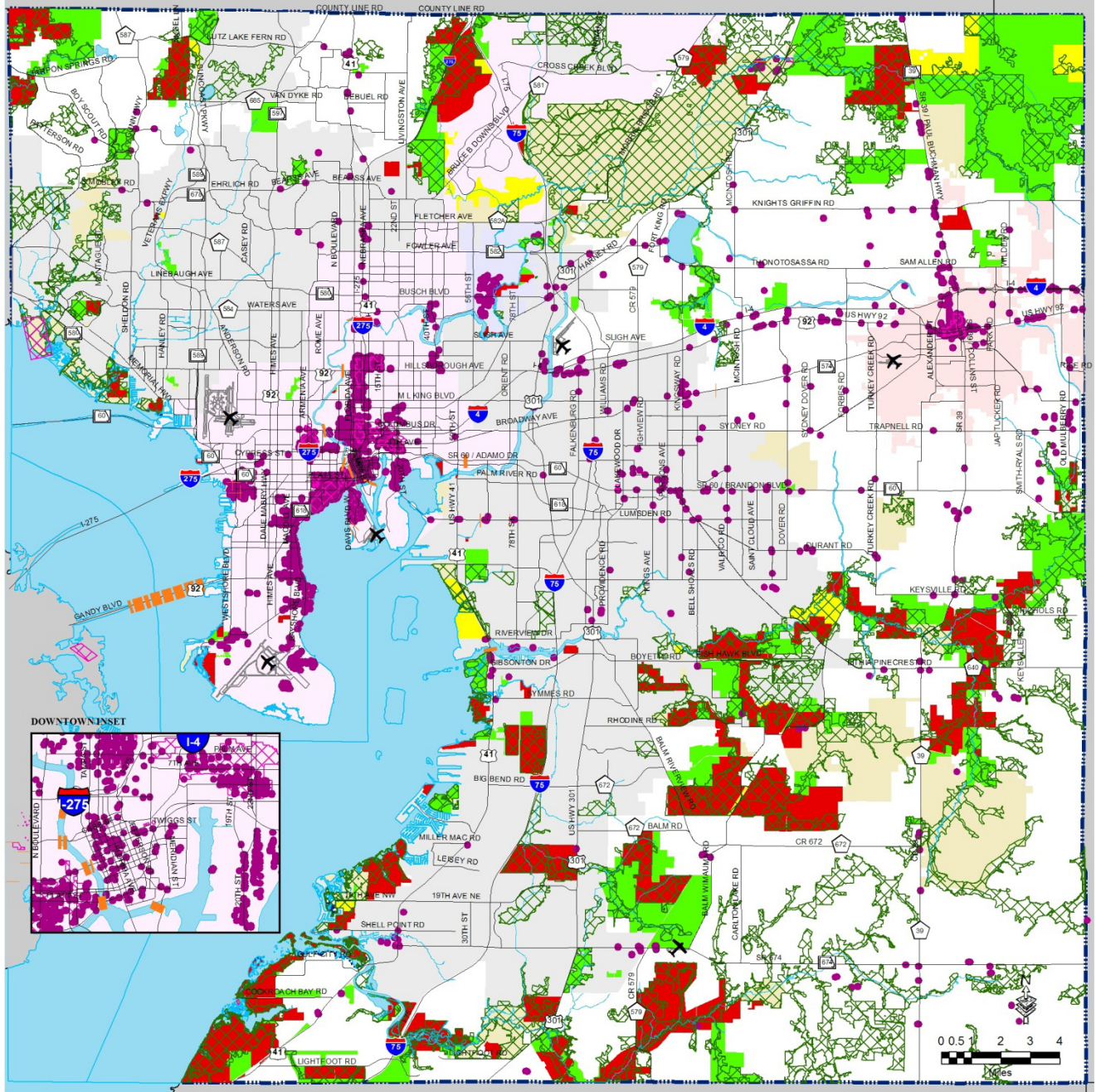
## Significant Wildlife Habitat

Specific regions of remaining natural wetland and upland habitats (of all types described above) have been designated by Hillsborough County as *Significant Wildlife Habitat*, due to their importance in supporting healthy and diverse wildlife populations. There are currently approximately 98,000 acres of designated *Significant Wildlife Habitat* on both public and private lands remaining in Hillsborough County, concentrated primarily within the north, west, and south regions and along river corridors (see Map 7.2 for locations of *Significant Wildlife Habitat* in Hillsborough County).

## Conservation Lands

### ELAPP

Many of the natural resources discussed above are located within conservation lands that are currently protected from future development. Hillsborough County established the Environmental Lands Acquisition and Protection Program (ELAPP) in 1987 for the purpose of purchasing and protecting sensitive environmental lands and has since acquired over 44,800 acres of land throughout the County which are now in preservation (with an additional 44,000 acres currently approved for future acquisition). These conservation lands, shown on **Map 7.2**, were acquired with ELAPP funding (derived from the County's property tax), as well as from both state and local grants.



### Hillsborough County MPO 2035 Long Range Transportation Plan

#### Map 7-2 Environmental Constraints

- |   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li> Historical Standing Structures</li> <li> Historical Bridges</li> <li> Sites, Buildings, Objects, Structures listed on the National Register</li> <li> Significant Wildlife Habitat</li> </ul> | <ul style="list-style-type: none"> <li> Acquired</li> <li> Approved</li> <li> Other Preservation</li> <li> Other Public Land</li> </ul> | <ul style="list-style-type: none"> <li> Urban Service Area</li> <li> Hillsborough County</li> <li> Other Counties</li> <li> Tampa</li> <li> Plant City</li> <li> Temple Terrace</li> </ul> | <ul style="list-style-type: none"> <li> Water and Bay</li> <li> Streams/Rivers</li> <li> County Boundary</li> <li> Major Roads</li> <li> Airports</li> <li> Airfields</li> </ul> |
|---|---|--|--|

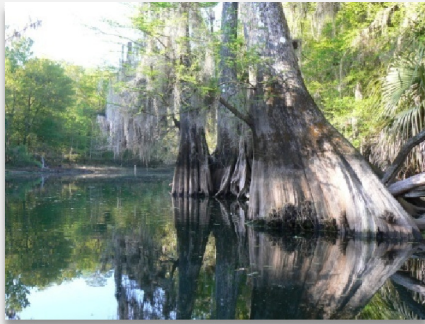
A complete listing of the ELAPP lands currently under preservation, ELAPP lands approved for future preservation, as well as the acreage of each site, is provided below in **Table 7.4**.

**Table 7.4: Existing and Approved ELAPP Conservation Lands**

Site Name	Acreage	Status
University of South Florida	640.00	ELAPP Acquired
Lake Rogers Park	269.00	ELAPP Approved
Tampa Bay Estuarine Ecosystem TECO Tract and Fulkerson Rd Shell Pit	2,494.00	ELAPP Approved
Little Manatee River Corridor	3,936.90	ELAPP Acquired
Blackwater Creek Preserve	1,993.20	ELAPP Acquired
Alafia Scrub Preserve	77.80	ELAPP Acquired
Boy Scout	601.90	ELAPP Acquired
Cypress Creek Preserve	2,547.30	ELAPP Acquired
Cockroach Creek Greenway	549.50	ELAPP Acquired
Reed Property	5.10	ELAPP Acquired
Apollo Beach Nature Preserve	62.80	ELAPP Acquired
Picnic Island	243.90	ELAPP Acquired
Bloomington Park	10.31	ELAPP Acquired
Cone Ranch	14,000.00	ELAPP Approved
Ekker Preserve	84.30	ELAPP Approved
Hamner Tower	8.70	ELAPP Acquired
Riverhills Park Addition	58.70	ELAPP Acquired
Bullfrog Creek Mitigation Park WEA Environmental Area	833.00	ELAPP Acquired
Bullfrog Creek Scrub	787.00	ELAPP Acquired
Pam Callahan Nature Preserve	96.60	ELAPP Acquired
South MacDill 48	47.80	ELAPP Acquired
Violet Cury Nature Preserve	106.70	ELAPP Acquired
Bower Tract Preserve	1,548.00	ELAPP Acquired
River Tower Restoration Site	12.80	ELAPP Acquired
Edward Medard Park and Reservoir	1,253.00	ELAPP Acquired
Ybor City Museum State Park	0.97	ELAPP Acquired
Diamondback Tract	10.40	ELAPP Acquired
Lithia Springs Preserve	39.40	ELAPP Acquired
Rocky Creek Coastal Preserve	279.20	ELAPP Acquired
Mckay Bay	52.00	ELAPP Acquired
Fish Hawk	1,493.45	ELAPP Acquired
Town and Country Preserve	150.00	ELAPP Acquired
Delaney Creek	10.60	ELAPP Acquired
Fred and Ida Schultz Preserve	120.00	ELAPP Acquired
Lithia Springs Park	160.00	ELAPP Acquired
New Tampa Nature Park	121.70	ELAPP Acquired
Hillsborough River State Park	3,789.00	ELAPP Acquired
Lower Hillsborough Flood Detention Area Detention Area	16,034.00	ELAPP Acquired
Upper Little Manatee River	1,379.40	ELAPP Acquired
Cypress Point Park	42.40	ELAPP Acquired

## SWIM Program

In 1987 the Florida Legislature created the Surface Water Improvement and Management (SWIM) Act to protect, restore and maintain Florida's highly threatened surface water bodies. Under this act, the state's five water management districts identify a list of priority water bodies within their authority and implement plans to improve them. SWIM projects also restore degraded or destroyed natural systems, enhance existing habitats, and promote the preservation of natural habitats. Since 1987, the SWIM Program has restored over 3,000 acres of freshwater, estuarine, and upland habitat.



## Mitigation Challenges, Opportunities, and Strategies

Environmental policies and criteria in Hillsborough County are administered by local, state, and federal regulatory agencies. Agencies having jurisdiction over wetland impacts and mitigation in Hillsborough County include the Environmental Protection Commission of Hillsborough County (EPCHC), the Southwest Florida Water Management District (SWFWMD), the Florida Department of Environmental Protection (FDEP), and the U.S. Army Corps of Engineers (USACE). Each of these environmental resource agencies has specific regulatory authority over certain environmental elements and may not be involved with every transportation project involving environmental impacts within Hillsborough County. However, all of these regulatory agencies require that a project be designed to avoid wetland impacts to the greatest extent practicable and minimize impacts to wetlands that are not avoidable. Mitigation is required for unavoidable impacts to wetlands. The EPCHC also requires that the applicant provide justification that the proposed wetland impacts are necessary for "reasonable use" of the property. In addition, the Florida Fish and Wildlife Conservation Commission (FWC), the U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS) have regulatory authority over protected animal species within the state of Florida. These agencies review state and federal permit applications for transportation projects and require that conservation measures such as avoidance of impact, relocation of protected species, and mitigation of lost habitat be undertaken to prevent or offset impact to state-and federal protected species.

There are currently several forms of wetland mitigation available for transportation projects in Hillsborough County, including the creation of new wetland habitat within uplands, restoration of degraded wetlands, enhancement of existing wetlands to a more desirable condition, preservation of existing wetlands to prevent future development and degradation, providing funds to the SWFWMD for "Senate Bill Mitigation" (discussed in more detail under mitigation opportunities), and purchasing credits from a mitigation bank within the same service area as the impacting project. These various mitigation strategies are described in more detail in the below paragraphs.

## Specific Mitigation Challenges

The wetland mitigation process consists of multiple components, each of which must be suitably addressed by proposed roadway projects within Hillsborough County. Potential mitigation challenges include lack of project funding; lack of wetland mitigation bank credit availability; and permitting issues with county, regional, state and federal regulatory agencies.

Furthermore, pursuant to Chapter 62-345, F.A.C., the Uniform Mitigation Assessment Method (UMAM) must be used to assess the functional loss of the impacted wetland and the amount of mitigation required to offset the functional loss. However, UMAM is not used to determine the appropriateness of the mitigation. Therefore, the appropriateness of the proposed mitigation must be negotiated with the permitting agencies.

All forms of mitigation in Hillsborough County require funding from the applicant; therefore the roadway project's budget must be sufficient to provide mitigation for the maximum extent of potential adverse impacts that could result from the proposed roadway design. However, even when a County roadway project has sufficient funding to purchase credits at a local mitigation bank, the required number and/or type of credits may not be readily available at the bank, or the bank may not offer both state and federal credits. Additionally, County roadway projects must be state-funded to utilize mitigation provided by the SWFWMD pursuant to F.S. 373.4137 (i.e., "Senate Bill Mitigation"). Also, "Senate Bill Mitigation" generally cannot be used for adverse impacts to seagrass (discussed in more detail below). When the specific required credits are not available at a mitigation bank located within the service area of the roadway project's impacts, and the project is not state-funded; the County must provide mitigation through wetland restoration, enhancement, preservation, or creation. Each of the above referenced forms of mitigation requires regulatory permitting through environmental resource agencies; however the latter method is usually more difficult, expensive, and time-consuming than purchasing credits from a mitigation bank or providing funding for "Senate Bill Mitigation". Wetland creation, restoration, enhancement, or preservation requires wetland design, purchase of property for the mitigation site, construction of the wetland, and follow-up monitoring with the permitting agencies to ensure success of the new/restored/enhanced wetland.

## Mitigation Opportunities

As previously discussed, there are a variety of mitigation opportunities available for future roadway projects in Hillsborough County. Also mentioned were the specific limitations and challenges associated with each mitigation type. This section provides further discussion on the current availability and anticipated future availability of the various forms of mitigation.

### *Tampa Bay Mitigation Bank*

The Tampa Bay Mitigation Bank is currently the only bank with wetland credits available for purchase for projects in Hillsborough County. The 161-acre wetland creation site is located in southwestern Hillsborough County, along the headwaters of Andrews Creek, and provides wetland credits for roadway projects located in western coastal regions of Hillsborough County (within the Tampa Bay Basin). Estuarine and tidal forest credits are available for state and federal permitting requirements, and estuarine and freshwater credits are offered to satisfy County permitting criteria. Although this mitigation bank currently has credits for sale, its future availability of credits for transportation projects listed in the *2035 Plan* will depend on the extent of future development within the bank's service area.

### *North Tampa Mitigation Bank*

The North Tampa Mitigation Bank is a 161-acre bank located in Temple Terrace, which will service projects located within the Hillsborough River Basin. This bank was permitted in November 2009 by the SWFWMD and is likely to have state wetland credits available for purchase soon; however the availability of credits is expected to be limited. The USACE permit is currently pending, and it is unknown when federal wetland credits will be available for purchase at this mitigation bank.

### *Regional Offsite Mitigation Areas*

Regional Offsite Mitigation Areas (ROMAs) are similar to private mitigation banks, but are sponsored by government entities to provide credits for associated government-funded projects. The Hillsborough County Board of County Commissioners currently owns a 14,000-acre tract of land located in northeastern Hillsborough County (Cone Ranch), which is currently targeted for ELAPP acquisition. Although a ROMA does not currently exist at Cone Ranch, it could potentially prove to be a suitable site for establishment of a ROMA, due to the strong need for land restoration and management activities at the site.

### *Senate Bill Mitigation*

"Senate Bill Mitigation" was established pursuant to Chapter 348 and 349 Florida Statutes (F.S.) and may be used for County roadway projects that are funded by FDOT. This form of mitigation consists of providing funding to the SWFWMD for "...acquisition for preservation, restoration or enhancement, and the control of invasive and exotic plants in wetlands and other surface waters, to the extent that such activities comply with the mitigation requirements adopted" under Chapter 373 FS. "Senate Bill Mitigation" is currently available for state-funded roadway projects throughout Hillsborough County and is expected to remain a viable option for future projects described in the *2035 Plan*; however it cannot be used to offset adverse impacts to seagrass resulting from transportation projects.

When these mitigation opportunities are not available for transportation projects in the *2035 Plan*, mitigation in the form of wetland habitat creation, restoration, enhancement, and/or preservation can be utilized to offset adverse wetland impacts resulting from transportation improvements in Hillsborough County. This can be accomplished by designing a mitigation site(s) that provides the necessary wetland functions to replace the ecological value of the impacted wetland(s). This method of mitigation may consist of creating a new wetland within an upland area, restoring a degraded wetland to its historic condition (this may include removal of undesirable plant species from the wetland), enhancing a wetland to a more desirable condition (in order to provide a greater habitat value to wildlife), and preservation (establishment of a conservation easement over the wetland to prevent future development). Due to the need for restoration, enhancement, and preservation of existing wetlands throughout Hillsborough County, these mitigation opportunities are expected to continue to remain available for transportation projects listed in the *2035 Plan*.

## Mitigation Strategies

Should mitigation be required for wetland impacts resulting from transportation projects contained in the *2035 Plan*, the primary component to efficient and successful mitigation is early regulatory agency involvement. This can be achieved through pre-application meetings with each of the regulatory agencies involved in the reviewing process and maintaining close coordination with the agencies throughout the design and permitting phases of the project. Additionally, many transportation projects may be screened early in the ETDM review process. Avoidance of wetlands to the most practicable extent should also be adhered to, and can be most easily achieved through agency input on a project's design.

Purchase of credits from one of the previously discussed mitigation banks should be the first option to offset wetland impacts resulting from projects listed in the *2035 Plan*. However, should a project be located outside of the banks' designated service areas or if the needed wetland credits are not offered at the local bank, alternative mitigation methods will be required. The first alternate strategy would be to utilize "Senate Bill Mitigation," in which funding is provided to the SWFWMD to provide offsite mitigation within the state of Florida. However, as previously mentioned, "Senate Bill" mitigation can only be applied to state-funded transportation projects. Other funding options for mitigation include providing funds to the ELAPP program for acquisition of land within Hillsborough County and providing funds to the SWIM program to perform wetland restoration activities. It should be noted, however, that the method of providing funding to the ELAPP and SWIM programs to offset adverse wetland impacts is not accepted by regulatory agencies in itself as a substantial form of mitigation, and therefore must be accompanied by an alternate method of mitigation in order to achieve the required UMAM credit.



40 percent of CO<sub>2</sub> emissions in Florida come from the transportation sector and of this 83 percent comes from vehicles.

Should none of the mitigation options discussed above be available to offset project-related wetland impacts, onsite or offsite wetland mitigation in the form of creation, enhancement, or restoration must be provided. Furthermore, the wetland mitigation site is required by the permitting agencies be located within the same watershed as the impacted wetland(s). Ideally, it should be located within as close proximity as feasible to the impacted wetland in order to provide the greatest ecological benefit to wildlife. This option should be pursued only after the previously discussed options have been exhausted, due to the complications and expense of design, permitting, and required long-term monitoring by the permitting resource agencies.

## Air Quality

### *Greenhouse Gas Reduction*

The primary environmental impacts of increased automobile use are the deterioration of air quality and increases in GHG emissions. Transportation-related GHG emissions are associated with four factors: vehicle technology/efficiency, fuel characteristics, VMT, and traffic operations. The Florida Department of Community Affairs estimates that over 40 percent of CO<sub>2</sub> emissions in Florida come from the transportation sector and of this, 83 percent comes from personal automobiles. The FDOT expects VMT in Florida to increase four-fold by 2060 based on current trends<sup>i</sup>. As a result, Florida law now encourages the MPO to consider strategies to integrate land use and transportation planning to reduce greenhouse gas emissions as part of its LRTP update process.

Overall, GHG reduction requires cooperation by all levels of government to promote a common vision, consistently apply the philosophy of reducing VMT in evaluating needs and setting priorities, and developing creative incentives through TDM programs to change driving habits. Four general methods to reverse the increase in GHG emissions include:

- Improve vehicle efficiency.
- Shift to alternative fuel sources.
- Reduce VMT through land use patterns.
- Improve traffic flow.

The GHG reduction strategies developed by the MPO are not only based on these four methods, but are focused around three concepts:

- Promote transit service expansion and usage.
- Promote transit-oriented design.
- Promote TDM programs.



The specific strategies proposed to achieve these concepts are as follows:

- BRT.
- Light/Commuter Rail.
- Improved Bus Service.
- Transit-Oriented Development (TOD).
- Pricing Strategies.
- Worksite TDM – Telecommuting, compressed work week, car and van pools.
- Traffic Operational Improvements.
- Education and Outreach Campaign.

Detailed information on the presented air quality improvement strategies and GHG reduction methods may be found in the Sustainability and GHG Reduction Strategies Technical Memorandum, provided as a separate document.

### *Ozone Non-Attainment Area Status*

In 2008, the Federal government reduced the National Ambient Air Quality Standard (NAAQS) for ozone from 0.080 parts per million (ppm) to 0.075 ppm. In March 2009, Governor Crist submitted recommendations to the EPA on the areas to be designated as Florida's non-attainment areas. The Tampa-St. Petersburg-Clearwater Core-Based Statistical Area (CBSA) consisting of Hernando, Pasco, Pinellas and Hillsborough Counties was one of the non-attainment areas submitted. EPA was expected to confirm the non-attainment area designations by July 2011.

In response to the anticipated non-attainment area designation, the MPO has initiated coordination with other members of the Tampa-St. Petersburg-Clearwater CBSA to reconvene the WCFAQCC to address air quality management issues arising from the designation. However, on September 16, 2009, the EPA announced it would reconsider the 2008 NAAQS standards for ground level ozone and is expected to finalize the ozone standard by August 2010. In light of this recent announcement, WCFAQCC activities will be dependent upon the EPA's decision regarding ozone standards.



## Sustainability

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Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. According to the American Association of State Hwy Officials (AASHTO), sustainability consists of three dimensions including environmental preservation, social equity, and economic efficiency<sup>ii</sup>. As such, a sustainable transportation system is one that meets the needs of today's population without jeopardizing the health of tomorrow's population.

To date, limited raw materials (generally from non-renewable resources) are increasingly used for both the expansion and construction of roadways to meet mobility demands. These improvements also increase the total amount of impervious surface in an area, leading to increased stormwater runoff. As a result, all MPOs are charged by the Florida Legislature to consider strategies that integrate transportation and land use planning to provide for sustainable development and reduced GHG emissions while improving mobility and stimulating compatible growth patterns.

Sustainability assessments should be dynamic (adapt to changes over time), sensitive to local context, and represent a continuum of varying degrees of sustainability, rather than a discrete assessment of what is sustainable or unsustainable. Sustainability needs should address issues such as the environment, future needs, and social equity and be measured across a transportation agency's entire spectrum of activities, including: long-range planning and programming; project development and design; construction; maintenance; and operations. The AASHTO stresses achieving "better than before" outcomes in which the natural, social, and built environments are improved concurrently with the implementation of transportation improvements.

Essentially, sustainability and GHG reductions can be achieved through a clear unified vision as illustrated by the following representation of integrated strategies. By balancing the transportation system between adding roadway capacity and providing alternatives to the automobile, reducing tailpipe emissions, greenhouse gases, fuel consumption, and traffic congestion, each individual's carbon footprint can be reduced

## REFERENCES

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- <sup>i</sup> *The Role of Local Land Use and Transportation Planning in Reducing GHG*, Tom Pelham, Secretary, FDCA 2008.
- <sup>ii</sup> AASHTO Center for Environmental Excellence.  
[http://www.environment.transportation.org/environmental\\_issues/sustainability/](http://www.environment.transportation.org/environmental_issues/sustainability/).