

# **HILLSBOROUGH COUNTY METROPOLITAN PLANNING ORGANIZATION**

**2035 Long Range Transportation Plan**

## **Needs Assessment Segment Summary: Downtown Tampa to South Tampa**

**Prepared for:**

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## 1.0 INTRODUCTION

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

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

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

## 2.0 STUDY AREA DESCRIPTION

The Downtown Tampa to South Tampa corridor is approximately 5 miles in length (See Figure 1). Throughout the Tampa Bay region, central Hillsborough County exhibits the most congestion and opportunity for transit development. The study area is generally bounded by Downtown Tampa in the east, Gandy Boulevard in the south, Dale Mabry Highway in the west and I-275 in the north. The study area includes generators such as Downtown Tampa, the University of Tampa area, Hyde Park, MacDill Air Force Base, and the Howard Avenue corridor with surrounding areas of development. Roadways include major north-south links such as Dale Mabry Highway, MacDill Avenue, Armenia Avenue, Howard Avenue, North Boulevard, and other minor north-south streets. Traversing east-west, major roadways are I-275, Kennedy Boulevard, Cleveland Street, Platt Street, Azeele Street, Bay to Bay Boulevard, Euclid Avenue, and Gandy Boulevard. Running northeast to southwest are the Selmon Expressway, Henderson Avenue, and the CSX S line, which terminates at MacDill Air Force Base.

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

**Figure 1  
Study Area**



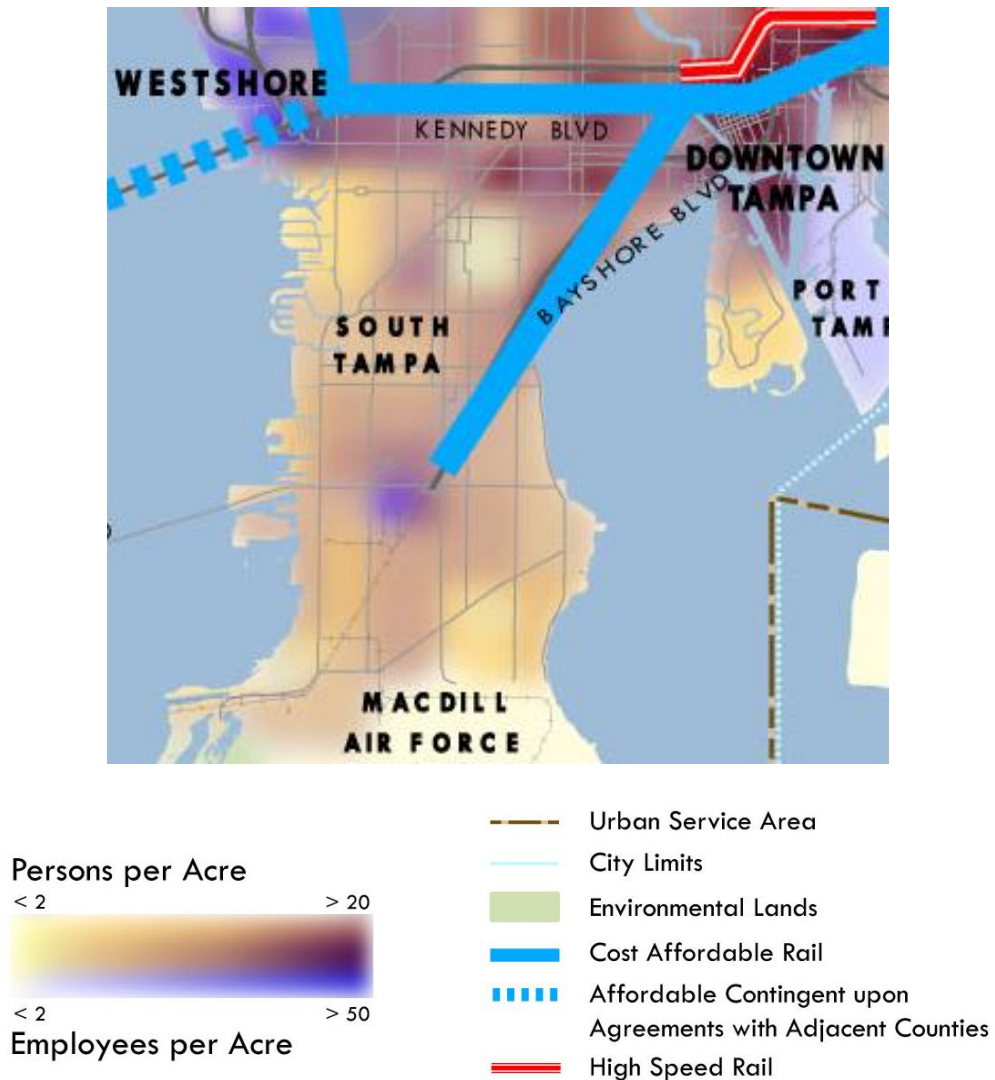
Because several significant roadways have been identified as “constrained” due to neighborhood, policy, right-of-way, and environmental constraints, flexibility in developing transit service expansions like bus lanes or station area infrastructure is limited. Other existing rights-of-way, such as existing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

Residential land use within the study area is mainly characterized by single- and multi-family homes. There is also an extensive amount of light commercial development, scattered heavy commercial development, and public use. Within the downtown portions of the study corridor, the City of Tampa has designated Community Redevelopment Areas (CRA),

meaning the CRAs will emphasize transit-oriented, mixed-use land uses as development occurs. The Hyde Park and West Tampa (portion between I-275 and Kennedy Boulevard) areas are also classified as activity areas in the City of Tampa Comprehensive Plan, listed as an Urban Village. The corridor is a common connection point between the industrial areas along Gandy Boulevard, Pinellas County, and Downtown Tampa.

MPO projections indicate that Hillsborough County's population and employment numbers will increase by the year 2035 to 1.7 million persons and 1.2 million j respectively. The future landscape and concentration of the County's population and employment for the corridor in 2035 is shown in Figure 2. The corridor has a high concentration of employment spanning from downtown Tampa, eastward to I-75, with higher concentrations of population in the Brandon area.

**Figure 2**  
**2035 Long Range Transportation Plan (Excerpt)**  
**Affordable Rail with Future Density of Population and Employment**



## **3.0 THE TRANSPORTATION PROBLEM**

### **3.1 Travel Patterns**

#### **3.1.1 Select Link Analysis**

An analysis of travel patterns was completed on chosen roadway segments in the corridor, using the Tampa Bay Regional Planning Model (TBRPM) Version 7 for a select link analysis. The select link analysis depicts trip patterns for vehicles using a particular 'link' in the roadway network to visualize the amount of traffic on the link, as well as where the trips' general origin and destination. The select link analyses for the chosen links in the corridor are summarized.

##### **Selmon Expressway: just south of Platt Street (eastbound and westbound)**

Most of this traffic on this link comes from South Tampa and St. Petersburg that travel to or originate from Downtown Tampa. A small share of this traffic originates from MacDill Air Force Base (AFB) and Apollo Beach; some trips are along I-275 between Downtown and Fowler Avenue, New Tampa, and I-4. The trips from the east shore of Tampa Bay are generally associated with MacDill AFB. Figure 3 depicts the results of the select link analysis for the Selmon Expressway westbound. Figure 4 depicts the results of the select link analysis for the Selmon Expressway eastbound.

##### **Bayshore Boulevard: just east of Howard Avenue**

This link depicts the same general travel patterns as the Selmon Expressway links, with trips associated with Pinellas County, South Tampa, and the US 41 and I-75 corridors south of I-4. More than half of the traffic on this link is served between MacDill Air Force Base and Downtown Tampa along Gandy Boulevard. Figure 5 depicts the results of the select link analysis.

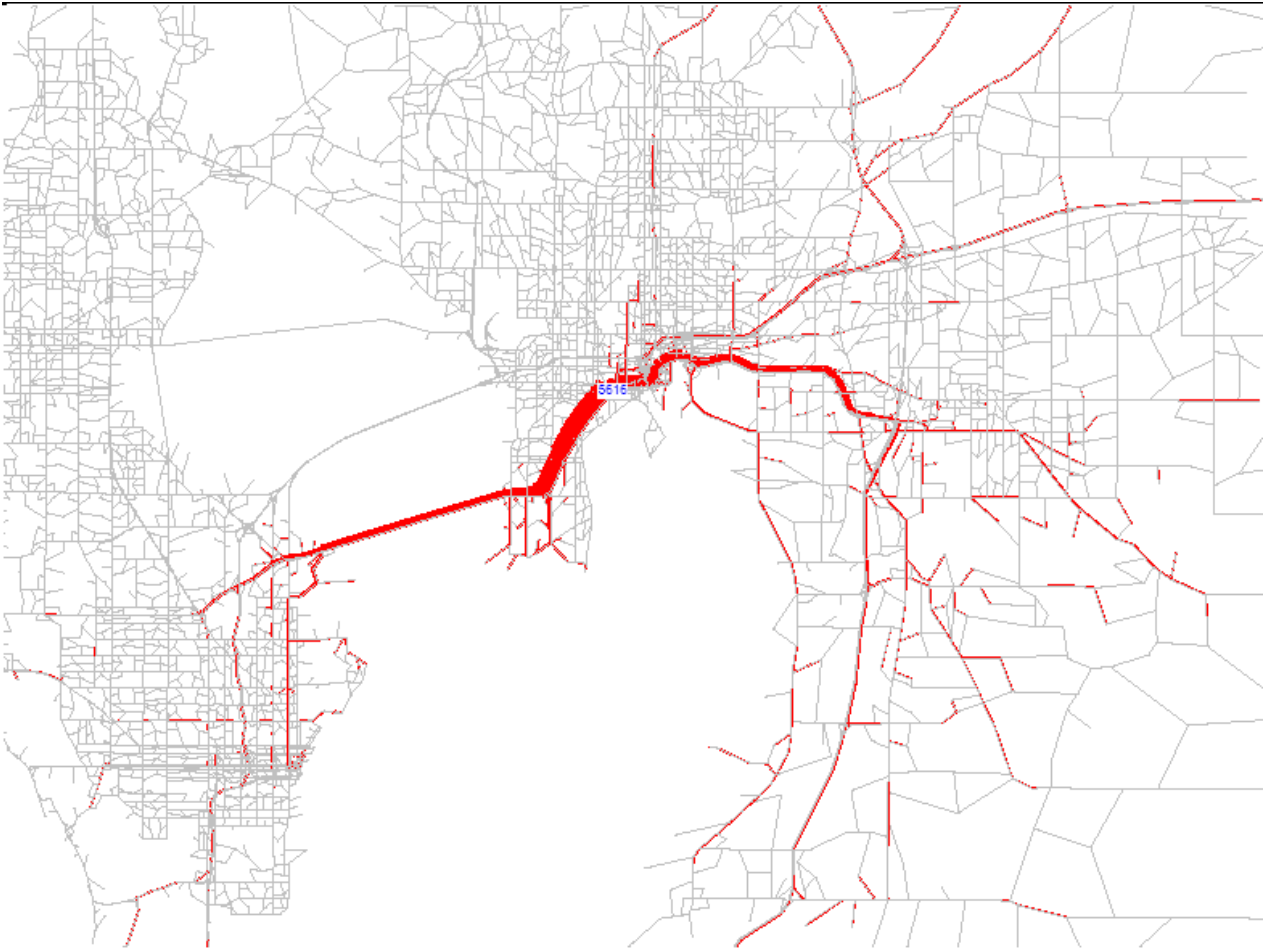
#### **3.1.2 Travel Demand**

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

An analysis of travel demand conducted for the Tampa Bay Area Regional Transportation Authority's (TBARTA) Master Plan looked at person trip flows between "super districts" (large land areas) in 2035 and 2050. The analysis showed that in 2035, 414,466 trips were destined for the Downtown Tampa CBD, while another 1.5 million trips were forecasted for the West Shore and Southwest Hillsborough County region, which includes South Tampa. These trips account for over eight percent of the total 2035 trips for the seven-county TBARTA region. The regional importance of the two districts within the study corridor is evident in that over 60 percent of the trips to the districts are from other regional districts.

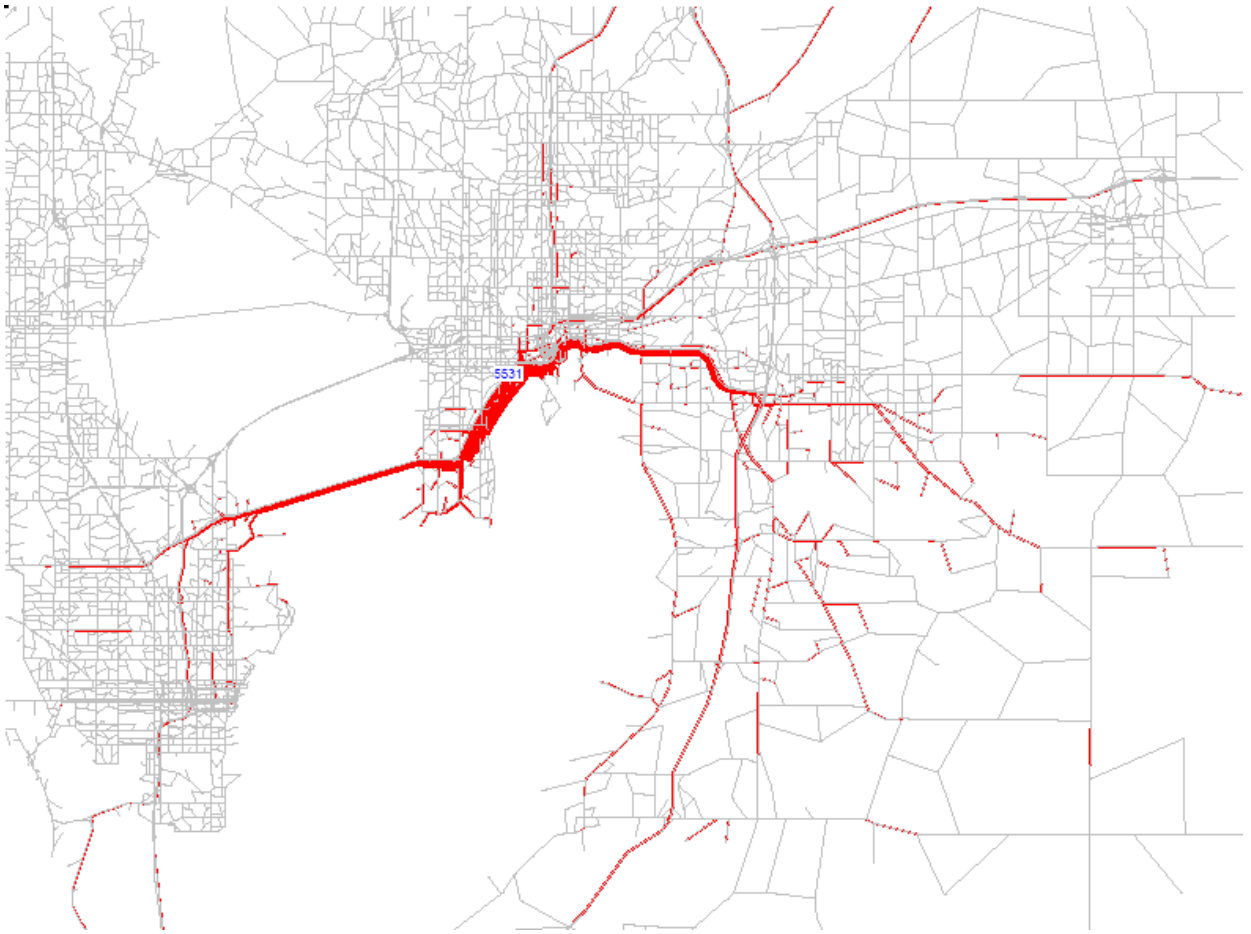


**Figure 3**  
**Selmon Expressway – Westbound**





**Figure 4**  
**Selmon Expressway – Eastbound**



**Figure 5**  
**Bayshore Boulevard**



The corridor between Downtown Tampa and South Tampa attracts a large number of trips throughout the area. Density analysis within the study corridor and attractions, show both home-based work trips and total trips within the study area. Based on the production and attraction densities, trips generally flow to Downtown Tampa.

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

### 3.1.3 Travel Markets

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

- *Downtown Tampa* is a Central Business District (CBD) located just east of the Tampa Peninsula. Downtown Tampa has an array of local attractions, including the St. Pete Times Forum; the Florida Aquarium; the Tampa Convention Center; Tampa General Hospital (a regional hospital); the Tampa History Center; the Tampa Museum of Art; the Channelside District; the Tampa Bay Performing Arts Center; and several local parks, recreational facilities, and hotels. The daily traffic coming into and out of the area generates congestion during peak hours of traffic.
- *University of Tampa* is a 100-acre campus located just west of Downtown Tampa. The University of Tampa experiences high levels of traffic during peak hours because it is located across the Hillsborough River from Downtown Tampa, adjacent to W. Kennedy Boulevard, south of I-275, and north of the Selmon Expressway. School events create more traffic in this region.
- *Hyde Park area*, is a mix of low to moderate density residential development among corridors of commercial – retail, office, entertainment – activity. The commercial center of Hyde Park on Swann Avenue generates trips, causing some traffic congestion and delays.
- *Tampa General Hospital* is one of the largest hospitals in the state of Florida with 988 beds and over 6,000 employees. Tampa General serves patients from a dozen surrounding communities, attracting thousands of employees, patients, and visitors 24 hours a day.
- *Community Retdevelopment Areas (CRAs)*, have been designated by the City of Tampa as targets for redevelopment and urban infill projects within the county. These areas include Tampa's Central Business District, Tampa Heights, Channel District, Central Park, and Drew Park.
- *Regional Areas*, including other areas of the surrounding Tampa Bay region, are drawn to Downtown Tampa for employment and cultural activities.

### 3.2 Traffic Congestion

Congestion can be measured using a volume to capacity (v/c) ratio, a method used to determine how many cars are actually using the road, compared to the road's intended capacity. A summary of 2035 v/c ratios at roadway links within the study area is provided in

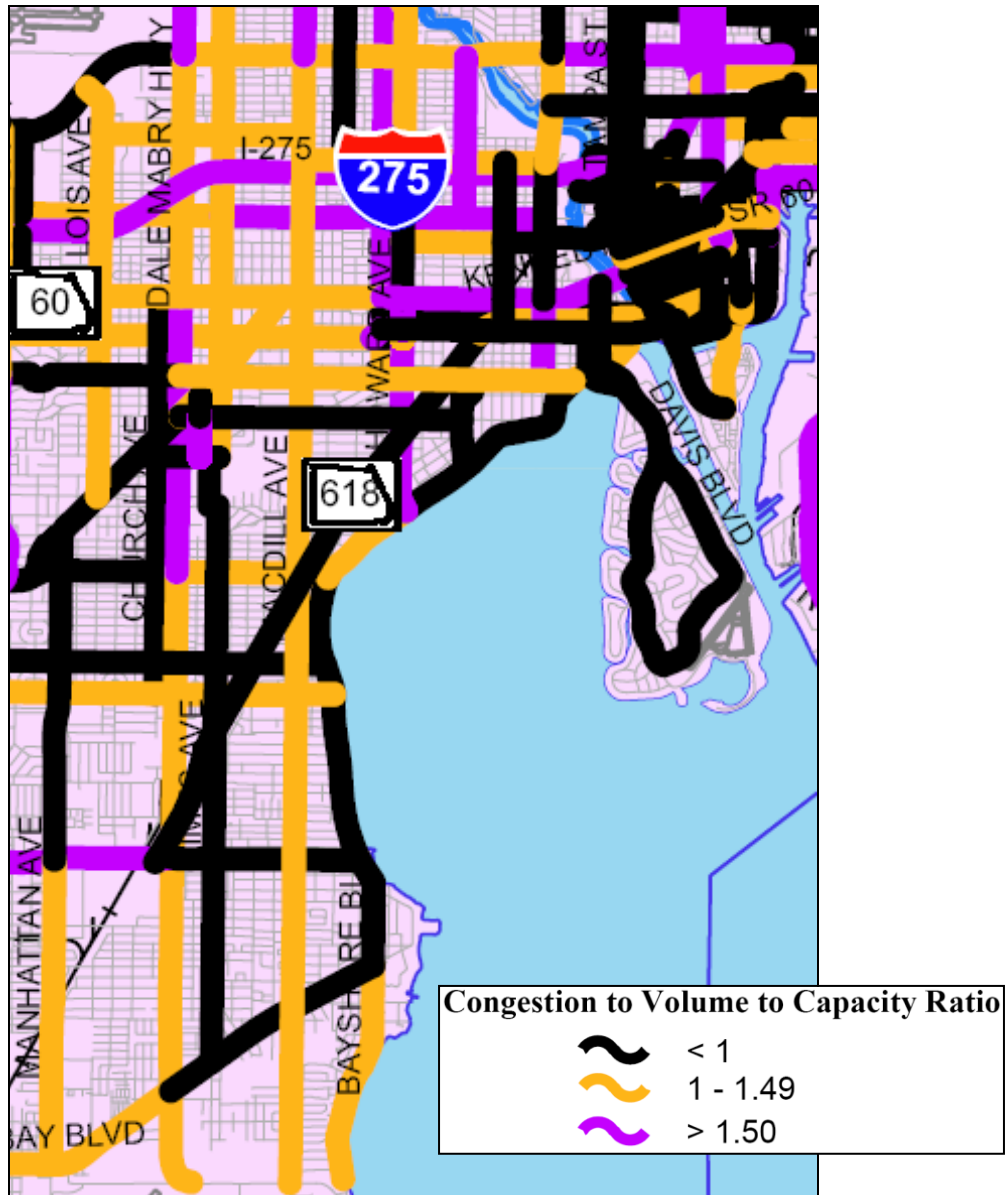
Table 1. By 2035 these roadways will carry more vehicles than their intended design capacity (i.e. v/c ratios greater than 1.0), as shown in Figure 6. By 2035, even with existing plus committed improvements, major roads within the study area are projected to exhibit a v/c ratio higher than 1, of the display near or than 1.25. higher and most roads will ratios greater

Table 1  
Capacity

Roadway	2035 V/C
Bay to Bay Boulevard at MacDill Avenue	1.12
Bayshore Boulevard at Howard Avenue	1.24
Dale Mabry Highway at Gandy Boulevard	1.06
Howard Avenue at Azeele Street	1.64
Kennedy Boulevard at the Hillsborough River	1.58
<b>Average V/C Ratio</b>	<b>1.33</b>
Roadway	2035 V/C
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Volume to Ratios

**Figure 6**  
**2035 Congestion with Existing and Committed Improvements – Corridor Area**



Within the study corridor, the majority of roads also exhibit a level of service (LOS) of D, E, or F for 2035, including existing and committed improvements.

### 3.3 Travel Times

As part of the 2035 Long Range Transportation Plan, the MPO analyzed and compared travel times in this corridor for current bus service (based on HART schedules), potential rail transit, and 2035 driving time at an average daily congested speed. Rail was assumed to travel in separate right-of-way, such as in the freight rail corridor adjacent to the Selmon Crosstown Expressway, while auto and bus were assumed to use parallel roadways.

Endpoints were the Britton Plaza area (vicinity of Dale Mabry Highway and the Selmon Crosstown Expressway) and a station on Franklin Street in Downtown Tampa.

#### Downtown Tampa to South Tampa

By Rail	12 minutes	
By Auto, 2035	14 minutes by auto	<i>14% faster by rail</i>
Current Bus Service	15 minutes	<i>25% faster by rail</i>

Driving times are at average daily congested speed, forecast for 2035 using Tampa Bay Regional Planning Model Cost-Affordable Network. Current bus service is based on published HART bus schedules and Google Transit. Times are between the closest major bus stops, and may be an average of the travel time in each direction. Rail travel times are based on analyses prepared for TBARTA Master Plan, provided courtesy of TBARTA and FDOT.

### **3.4 Safety & Security**

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

The study corridor possesses over four of the top 50 crash intersections (all within Downtown Tampa) and seven of the top 50 crash segments within the county (See Figure 7).

Within the study corridor, crash rates for bicycles and pedestrians trend slightly average to higher compared to the county (See Figure 8).

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

The Tampa Bay Regional Planning Council completed the "Tampa Bay Region Hurricane Evacuation Study" in 2006. When estimating evacuation clearance times, roadway segments with the highest volume ratios were considered as a "critical link" in the roadway system. These segments are not only carrying evacuees, but also the emergency responders and non-evacuees. While congestion would be widespread throughout the area during an evacuation, the study lists several locations where congestion would control the overall traffic flow for the area. In the study corridor, the I-275/I-4 interchange and Gandy Boulevard/Selmon Expressway interchange are classified as "critical links."

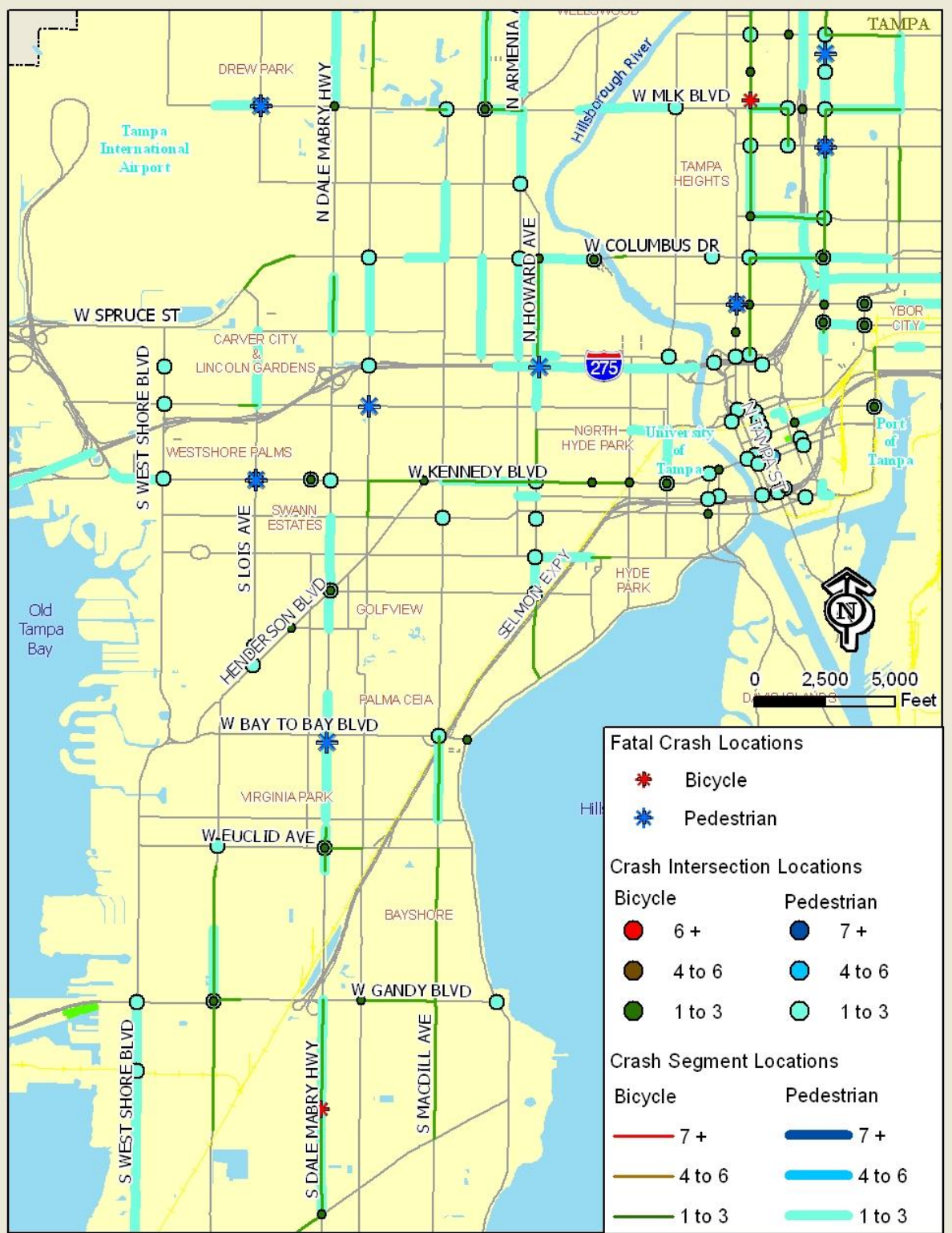
There are five evacuation routes within the corridor: I-275, W. Kennedy Boulevard, Dale Mabry Highway, Selmon Expressway, and Jackson Street.

**Figure 7**  
**Top 50 Crash Locations – Intersections and Segments**





**Figure 8**  
**Crash Locations – Pedestrian and Bicycle**



## 3.5 Modal Interrelationships

### 3.5.1 Hillsborough Area Regional Transit Authority

The corridor today is served by 13 routes that are destined to, travel through, or within the corridor. These routes include ten local routes and three express routes. Table 2 highlights HART ridership comparisons between fiscal year 2006 and year-to-date 2009.

**Table 2**  
**HART Ridership Trends**

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

\*Year-to-Date Ridership April 2009

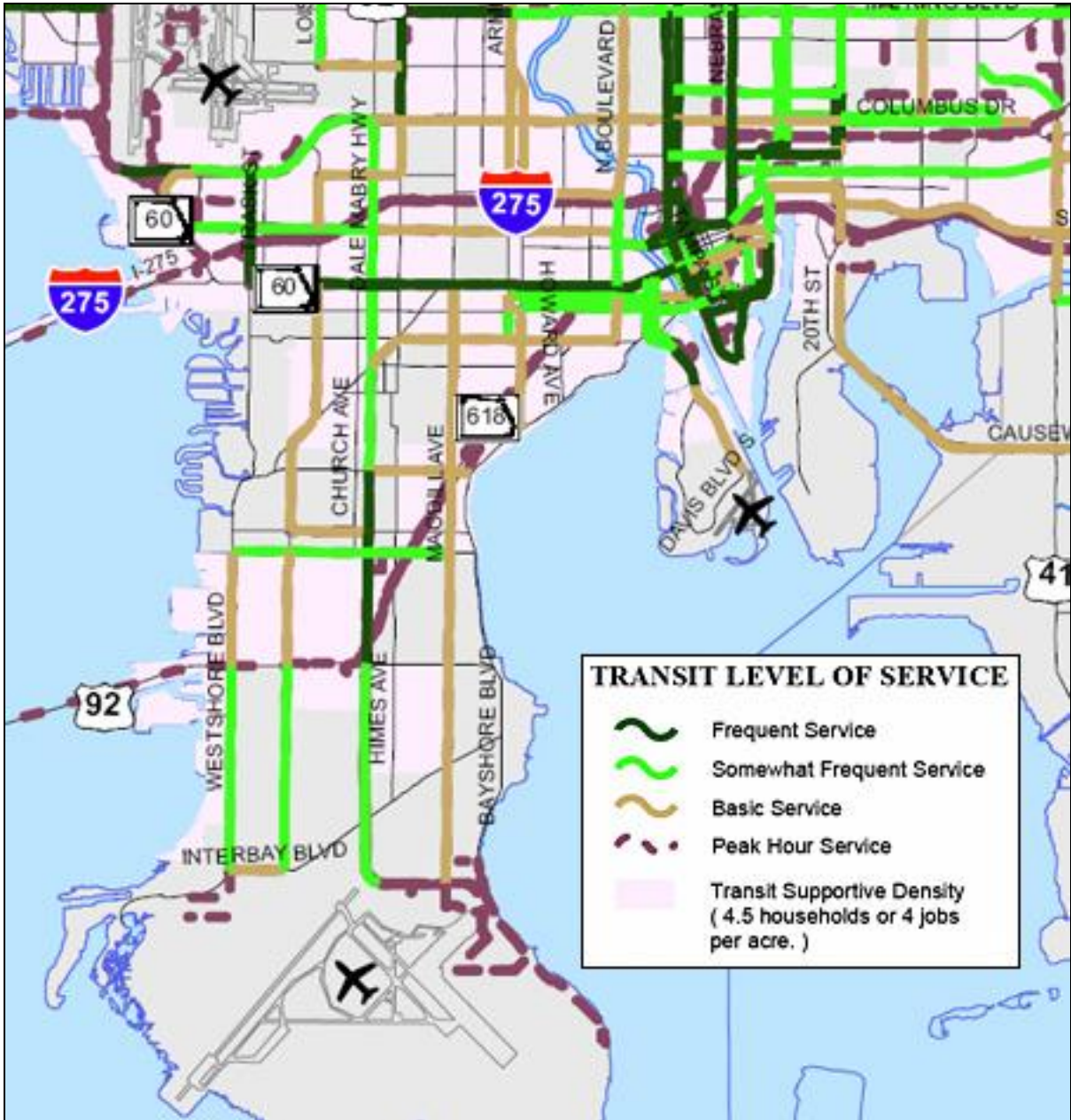
As part of the LRTP update, the MPO evaluated transit level of service (TLOS) for all roads where public bus service is operated in Hillsborough County. TLOS reflects transit service levels (bus frequency and daily hours of service) and transit accessibility (spatial coverage and transit versus auto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

Many parts of the corridor are considered to be a transit supportive density today, at 4.5 households or 4 jobs per acre, as shown in Figure 9.

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

- North Boulevard
- MacDill Avenue
- Manhattan Avenue
- Cypress Street
- I-275

**Figure 9**  
**Existing Local Transit Level of Service – Corridor Area**



### 3.5.2 Streetcar

Tampa's Tampa Electric Company (TECO) Streetcar Service, which is at the northeast end of the study corridor area, runs from Dick Greco Plaza Transportation Center in Downtown Tampa to Centennial Park Station in Ybor City, with headways ranging from 15 to 30 minutes. The Streetcar stops at the Tampa Convention Center, the St. Pete Times Forum, Channelside Bay Plaza, the Florida Aquarium, the Tampa Port Authority, the University of South Florida Downtown Campus, and Ybor City. Weekday service does not begin until 11:00 AM. Due to its limited schedule, the Streetcar cannot be regarded as a major

commuter line, but provides circulation among some major destinations in the downtown area. HART recently began construction of a 1/3-mile extension of the Streetcar along Franklin Street to Whiting Street and the Fort Brooke parking garage. The extension has an anticipated operating date of December 2010.

### **3.5.3 Tampa Bay Area Regional Transportation Authority**

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

The TBARTA Master Plan's Mid-Term Vision proposes a regional short-distance rail link in this corridor. Via this segment, travelers would have the ability to continue on rail to Pinellas County to the west, northern Hillsborough and Pasco Counties to the north, and eastern Hillsborough and Polk Counties to the east. Other transit mode connections – express bus, long distance rail –are possible at various planned stations. The plan also calls for increased local transit service to feed the rail segment.

The TBARTA board recently adopted the Group 1 priority list of projects. It is anticipated that this corridor will receive priority status due to the potential for high ridership.

### **3.5.4 Florida Strategic Intermodal System**

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

The study corridor contains elements identified in the SIS including I-275, Port of Tampa, Greyhound Intercity Bus Terminal, Selmon Expressway, State Road 60 (W. Kennedy Boulevard), and the existing rail lines. These facilities receive priority status for limited state transportation funds due to their regional and national importance. I-275 northbound is currently being widened to four lanes.

### **3.5.5 Florida High Speed Rail Authority**

The Florida High Speed Rail Authority has submitted an application to the federal government for funding to construct a high speed rail line between Tampa and Orlando. The current alignment starts at the Tampa Station, located at the old Tampa City jail site (Scott Street and Morgan Street) in Downtown Tampa, and runs parallel to I-275, then turns onto the median of I-4 between 15<sup>th</sup> and 21<sup>st</sup> Streets. The site for the Tampa Station has been acquired by FDOT for development of one of two major intermodal transit centers in Tampa Bay, that will provide connections between transit modes – high speed rail, light rail, bus, streetcar, and any other future planned modes – as well as have facilities for taxis, parking, access to interstate, pedestrians, and/or bicyclists.

The alignment and Tampa station both fall within the Downtown Tampa to South Tampa corridor.

### **3.5.6 Tampa Port Authority**

The Tampa Port Authority owns 2,500 acres of land that make up the Port of Tampa, which is an important job center. The port contains facilities on both Old Tampa and Hillsborough Bays. The port serves both cargo and passenger activities. This industrial enclave is surrounded by single- and multi-family residential uses as well as wetlands and public recreation uses. The community around the Port of Tampa is generally supportive of its industrial operations while proactively seeking methods to minimize the effects of significant truck traffic on their neighborhood. The Port of Tampa includes the Motiva petroleum terminal and a major aviation fuel terminal with pipelines to the Tampa International Airport, MacDill Air Force Base, and Orlando International Airport. Intermodal connections with the Port of Tampa would serve employees and cruise passengers.

In early 2010, the FDOT will begin construction of a new connector interchange between I-4 and the Selmon Expressway. The project is an elevated design to improve access between I-4 and the Selmon Expressway and with a set of ramps to improve truck access to the Port of Tampa. Construction is anticipated to be completed in late 2014.

## **3.6 Economic Development**

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

- Dallas Area Rapid Transit (DART) light rail:
  - \$4.26 billion in total projects attributable to DART presence
  - \$127 million in state and local tax revenue once all projects around stations are completed
- Santa Clara Valley Transportation Authority (VTA) light rail:
  - \$4 per square foot increase in land values surrounding stations (23 percent)
  - \$25 per square foot increase in land values surrounding CalTrain commuter rail stop (125 percent above mean property value)
- Portland Streetcar:
  - \$2.28 billion of investment within two blocks of streetcar alignment
- METRO Light Rail, Phoenix:
  - \$3.5 billion in private investment around light rail
- HealthLine BRT, Cleveland:
  - \$4.3 billion in current and anticipated development along route
- Other studies have shown that along a new rail line:
  - housing values can increase up to 17 percent
  - commercial values can increase up to 30 percent
  - ad-valorem revenues can increase 10 to 191 percent



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

- Tampa CBD is classified as central business district surrounded by regional mixed use (3.5 Floor Area Ratio (FAR)).
- The areas around the existing rail alignment and the Selmon Expressway feature low- to high-density residential (0.35 to 1.0 FAR) and pockets of community commercial (2.0 FAR)
- Large areas of community commercial (2.0 FAR), community and general mixed use (1.5 to 2.0 FAR), and some light industrial populate the area around Gandy Boulevard where the Selmon Expressway terminates.

This corridor travels through designated historic districts and coastal high hazard areas southwest of the Tampa CBD.

The MPO had an assessment of TOD real estate development potential conducted in support of the LRTP and the Hillsborough County City-County Planning Commission's preparation of TOD-supportive comprehensive plan amendments. This assessment forecasted development potential with a one-half mile radius around select station areas for 2035, one of which is included in this corridor: Tampa CBD. The proximity to Downtown Tampa and relatively higher-density neighborhoods around the Selmon Expressway ensures this corridor has high station area development potential. Further development is certainly possible given the abundance of surface parking lots and underdeveloped parcels in the Tampa CBD. In addition, the area near the termination of the Selmon Expressway along Gandy Boulevard is a natural choice for station area development. The study found the potential for:

- Tampa Downtown Station Area:
  - 5,800 to 6,000 multi-family units
  - 2.6 to 3.0 million square feet of office space
  - 350 additional hotel rooms
  -

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

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

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

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

For the Downtown Tampa to South Tampa Rail Corridor, the potential effects were considered substantial in the category of **Water Quality & Quantity**. A full report summarizing the ETAT's comments is available through the Hillsborough MPO or as ETDM #12723. A summary of the ETAT's recommendations for Degree of Effect in all categories is provided below.

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



<b>Farmlands</b>	None
<b>Floodplains</b>	Moderate
<b>Infrastructure</b>	Minimal
<b>Navigation</b>	Moderate
<b>Special Designations</b>	Moderate
<b>Water Quality and Quantity</b>	Substantial
<b>Wetlands</b>	Moderate
<b>Wildlife and Habitat</b>	Minimal
<b>Historic and Archaeological Sites</b>	Moderate
<b>Recreation Areas</b>	Minimal
<b>Section 4(f)</b>	Moderate
<b>Aesthetics</b>	Minimal
<b>Economic</b>	Enhanced
<b>Land Use</b>	Moderate
<b>Mobility</b>	Enhanced
<b>Relocation</b>	Minimal
<b>Social</b>	Minimal
<b>Secondary &amp; Cumulative Effects</b>	Moderate