Project Development & Environment Study

I-75 (SR 93A)

From Moccasin Wallow Road (CR 6)
to South of US Highway 301 (SR 43)

Draft
Noise Study Report

WPI Segment No.: 419235 2
Manatee & Hillsborough Counties

Prepared for the

Florida Department of Transportation
District Seven

April 2010

Manuel Santos, E.I.
FDOT Project Manager

Project Development & Environment Study

I-75 (SR 93A)
From Moccasin Wallow Road (CR 6)
to South of US Highway 301 (SR 43)

Draft
Noise Study Report

WPI Segment No.: 419235 2
Manatee & Hillsborough Counties

Prepared for the

Florida Department of Transportation
District Seven

Prepared by
KB Environmental Sciences, Inc.

9500 Koger Boulevard, Suite 211▪ St. Petersburg, FL ▪ 33702

In association with
American Consulting Engineers of Florida, LLC

2818 Cypress Ridge Boulevard, Suite 200▪ Wesley Chapel, FL ▪ 33544

April 2010

Manuel Santos, E.I.
FDOT Project Manager

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate capacity improvements along approximately 25 miles of Interstate 75 (I-75) (State Road (SR) 93A) from Moccasin Wallow Road in Manatee County to south of US 301 (SR 43) in Hillsborough County, Florida**.** The design year for the improvements is 2035.

This PD&E Study is being conducted concurrently with the PD&E Study for the portion of I-75 that extends from south of US 301 to north of Fletcher Avenue (CR 582A) in Hillsborough County.

The objective of this PD&E Study is to assist the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives. The social, physical, and natural environmental effects and costs of these improvements were identified. The alternatives were evaluated and compared based on a variety of parameters utilizing a matrix format. This process assists in identifying the alternative that will best balance the benefits with the impacts (such as environmental effects and costs).

The PD&E Study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), in order for this project to qualify for federal-aid funding of subsequent development phases (design, right-of-way (ROW) acquisition, and construction).

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM project #8001. An ETDM *Programming Screen Summary Report* was published on March 29, 2007, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources. Based on the ETAT comments,

the FHWA has determined that this project qualifies as a Type 2 Categorical Exclusion (CE).

This *Noise Study Report (NSR)* was prepared as part of this PD&E Study. The objectives of this *NSR* are to identify noise sensitive sites adjacent to the project corridor, to evaluate future traffic noise levels at the sites with and without the proposed improvements, and to evaluate the need for and effectiveness of noise abatement measures. Additional objectives include the evaluation of construction noise impacts and the identification of noise impact "contours" adjacent to the corridor.

Noise Sensitive Sites

Within the project limits, 979 noise sensitive sites have the potential to be affected by traffic noise with the proposed improvements. The sites consist of 975 single-family (SF) residences, common use pools in two subdivisions, an assisted living facility (Cypress Creek Assisted Living Residence), and the recreational area of a school (Spoto High School).

Traffic Noise Levels

The results of the analysis indicate that existing (2007) and future (2035) traffic noise levels without the proposed improvements to I-75 (No-Build) approach, meet, or exceed the FHWA's Noise Abatement Criteria (NAC) at 502 of the evaluated. And, in the future (2035) with the proposed improvements (Build), traffic noise levels would approach, meet, or exceed the NAC at 852 of the evaluated sites. Notably, when compared to existing conditions, traffic noise levels are not predicted to increase greater than 8.6 dBA with the improvements to I-75. As such, none of the sites would experience a substantial increase (15.0 dBA or more) in traffic noise as a result of the project.

Noise Abatement Measures

Noise abatement measures were evaluated for each of the 852 affected sites. The measures were traffic management, alternative roadway alignments, buffer zones, and noise barriers. Based on the results of the analysis, traffic management and alternative roadway alignments would not be reasonable methods of reducing predicted traffic noise impacts at the affected sites. Providing a buffer between the highway and noise sensitive land uses constructed in the future can be implemented through the local land use

planning process. This abatement measure cannot be applied to existing noise sensitive sites.

The results of the analysis do indicate that construction of noise barriers is potentially both a feasible and reasonable abatement method to reduce predicted traffic noise levels at up to 828 of the 852 affected sites. There do not appear to be any feasible and reasonable methods to reduce predicted traffic noise at the remaining 24 sites. The subdivisions/complexes for which barriers were determined to be a potentially feasible and reasonable abatement measure in connection with the proposed improvements to I-75 are:

- Barrier 7: Lake St. Clair, a subdivision located west of I-75 and south of Big Bend Road;
- Barrier 8: Covington Park, a subdivision located west of I-75 and south of Big Bend Road;
- Barrier 9B: A noise sensitive area located west of I-75 and south of Gibsonton Drive. The area has existing isolated and/or residences in small enclaves and residences in the Southwind, East Bay Lakes, and Bullfrog Creek Estates subdivisions;
- Barrier 11: A noise sensitive area located west of I-75 and north of the Alafia River. The area has existing isolated and/or residences in small enclaves and residences in the Lake Fantasia subdivision;
- Barrier 12: A noise sensitive area located east of I-75 and north of the Alafia River. The area has existing isolated and/or residences in small enclaves and residences in the Riverview Drive Estates, Byars Riverview Acres, and Lake St. Charles subdivisions; and;
- Barrier 13: Eagle Palms complex located in the City of Riverview, west of I-75 and north of the Alafia River.

The FDOT will make a final determination of the feasibility and reasonableness of constructing the barriers during the design phase of the I-75 project. Notably, during the design phase, the length, height, and location of any of these noise barriers could change

from what is presented in this *NSR*. As such, at this time and for the communities identified above, FDOT is only committing to performing a *NSR* update during the final design phase of the I-75 project (i.e., the FDOT is not currently committing to construct any of the noise barriers). Construction of all of the barriers is also contingent on the following:

- Refined noise analysis using engineering details developed during the final design phase supports noise barriers as a feasible and cost reasonable abatement measure.
- All safety and engineering aspects of the barriers, as they relate to the roadway users and to the adjacent property owners, have been reviewed and approved.
- The property owners indicate a positive desire for a barrier (including type, height, length, and location).

Construction Noise and Vibration

Construction of the proposed roadway improvements would have a temporary impact on sensitive sites adjacent to the project corridor. Trucks, earth moving equipment, pumps, and generators are sources of construction noise and vibration. These impacts will be minimized by adherence to FDOT's *Standard Specifications for Road and Bridge Construction*.

Noise Contours

To reduce the possibility of additional traffic noise related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the distance from the improved roadway's edge-of-travel lane where the 66.0 dBA (the NAC for land uses that include residences) is expected to occur in the year 2035 with the proposed improvements to I-75. The results of the analysis indicate that within the project limits, the extent of the 66.0 dBA extends from 800 to 855-ft from the improved roadway's edge-of-travel lane.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

LIST OF APPENDICES

LIST OF FIGURES

Figure **Page**

LIST OF TABLES

Section 1 - INTRODUCTION

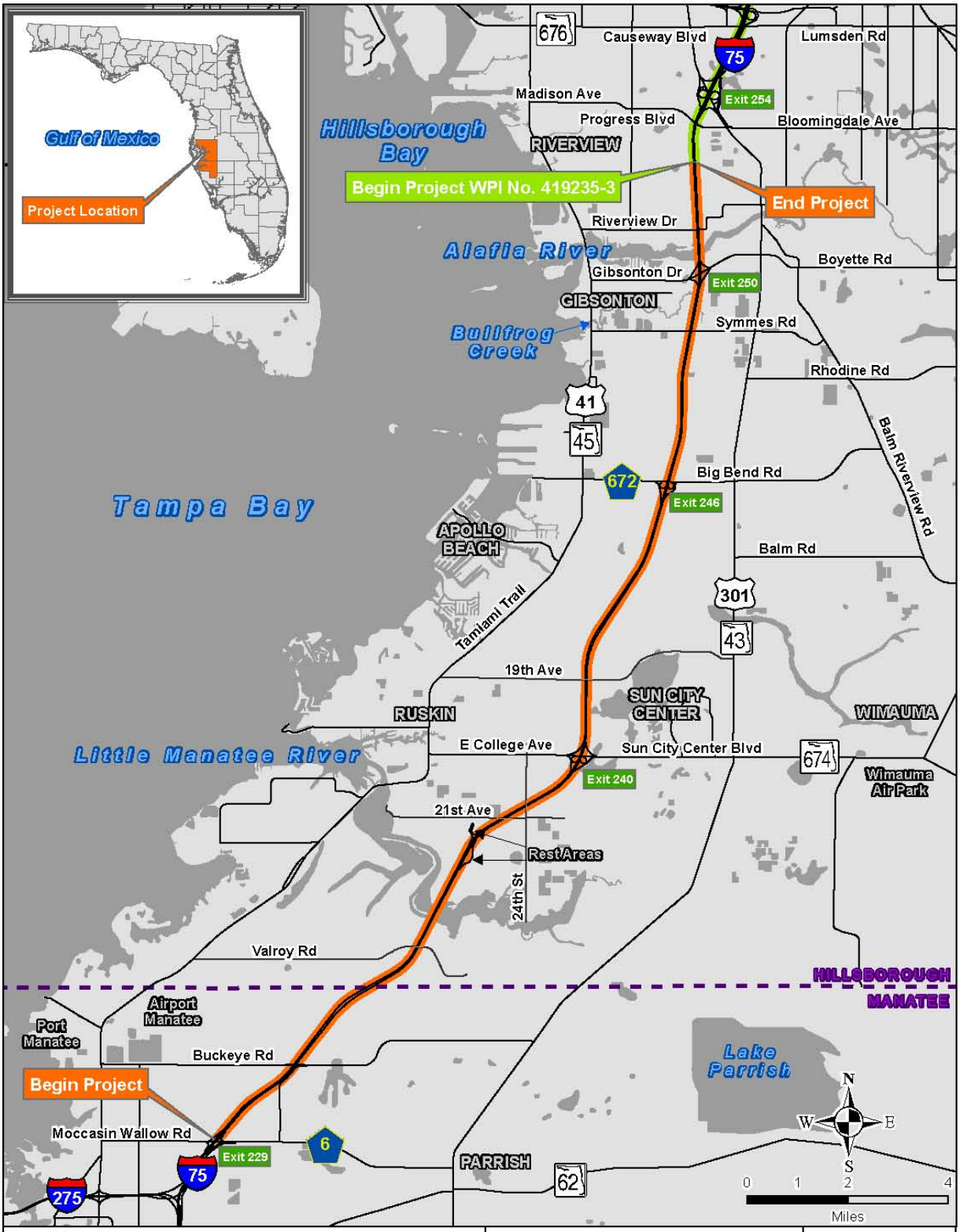
1.1 Project Description

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate improvements along 25 miles of Interstate 75 (I-75) (State Road (SR) 93A) from Moccasin Wallow Road in Manatee County to south of US 301 (SR 43) in Hillsborough County, Florida. The design year for the improvements is 2035. A project location map is shown in **Figure 1-1** along with a study area aerial map in **Figure 1-2**. The sections, townships and ranges where the project is located are summarized in **Table 1-1**.

Table 1-1 Sections, Townships, and Ranges

Sections	Townships	Ranges
Hillsborough County		
06,07,18,19,30,31	30 S	20 E
01,12,13,23,24,25,26,35	31 S	19 E
02,10,11,15,16,20,21,29,30,31,32	32 S	19 E
Manatee County		
01,02,10,11,15,16	33 S	18 E

The objective of this PD&E Study is to assist the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives. The social, physical, and natural environmental effects and costs of these improvements were identified. The alternatives were evaluated and compared based on a variety of parameters utilizing a matrix format. This process assists in identifying the alternative that will best balance the benefits with the impacts (such as environmental effects and costs).



I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to South of US 301

WPI Segment No.: 419235-2

Hillsborough and Manatee Counties

Project Location Map

Figure 1-1

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to South of US 301

WPI Segment No.: 419235-2

Hillsborough and Manatee Counties

Study Area Aerial Map

Figure 1-2
Sheet 1 of 2

I-75 (SR 93A) PD&E Study

Moccasin Wallow Road to South of US 301

WPI Segment No.: 419235-2

Hillsborough and Manatee Counties

Study Area Aerial Map

Figure 1-2

Sheet 2 of 2

The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), in order for this project to qualify for federal-aid funding of subsequent development phases (design, right-of-way (ROW) acquisition, and construction).

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM project #8001. An ETDM *Programming Screen Summary Report* was published on March 29, 2007, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources. Based on the ETAT comments, the FHWA has determined that this project qualifies as a Type 2 Categorical Exclusion (CE).

This PD&E Study is being conducted concurrently with the PD&E Study for the section of I-75 that extends from south of US 301 to north of Fletcher Avenue in Hillsborough County (WPI Segment No. 419235-3).

1.2 Existing Facility

Interstate 75 is a limited access (L.A.), 1,786-mile-long freeway that travels in a generally north/south direction from a southern terminus at SR 826 (Palmetto Expressway) in Hialeah, Florida, to a northern terminus in Sault Sainte Marie, Michigan, near the border with Canada.

In Florida, I-75 is included in the State Highway System (SHS), designated as SR 93A; the Florida Intrastate Highway System (FIHS); the Strategic Intermodal System (SIS); and the Federal Aid Interstate System. I-75 serves as a major evacuation route throughout the state.

Within the project limits, I-75 is classified as a "Rural (south of 21st Avenue SE) and Urban (north of 21st Avenue SE) Principal Arterial – Interstate". The roadway is generally six lanes south of Gibsonton Drive and eight lanes north of Gibsonton Drive. All travel lanes are 12-ft wide and 12-ft inside and outside shoulders are provided, including 10-ft paved. The median width is a minimum of 88-ft wide; several areas near

the south end of the project have a wider median where the roadway has been partially bifurcated. The existing typical sections are shown in **Figure 1-3**.

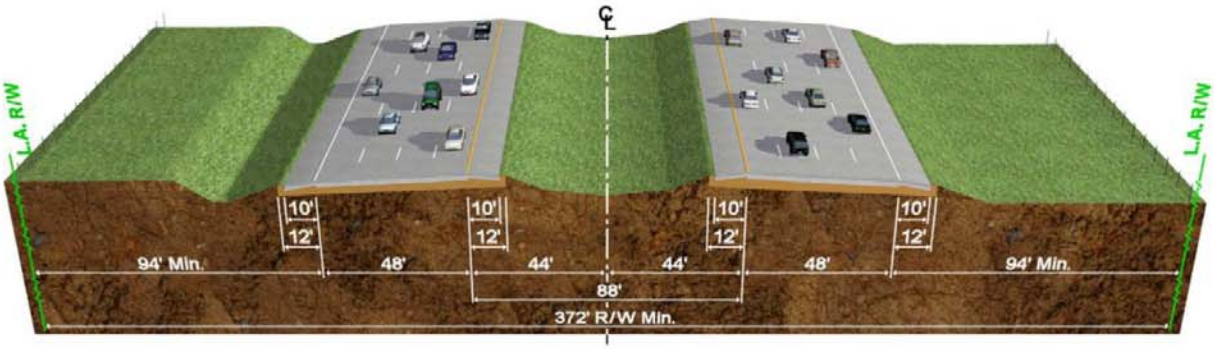
The existing L.A. ROW varies throughout the study limits; however, in most areas, the minimum ROW width is 348-ft. For a segment north of SR 674, the ROW on the west side narrows by as much as 46-ft just north of the interchange, yielding a total ROW of only 302-ft. Several areas near the south end have a ROW as wide as 556-ft, where the two roadways are partially bifurcated with a wider median.

There are three interchanges along I-75 within the project limits. They are located at SR 674 (East College Avenue/Sun City Center Boulevard), Big Bend Road (County Road [CR] 672), and Gibsonton Drive. Existing rest area facilities for northbound and southbound travelers are situated approximately 3-miles south of SR 674. The study area includes 22 bridge structures, including crossings over Curiosity Creek, the Little Manatee River, Bullfrog Creek and the Alafia River.

Interstate 75 has not had capacity improvements from Moccasin Wallow Road to south of US 301 since its original construction.

1.3 Project Purpose and Need

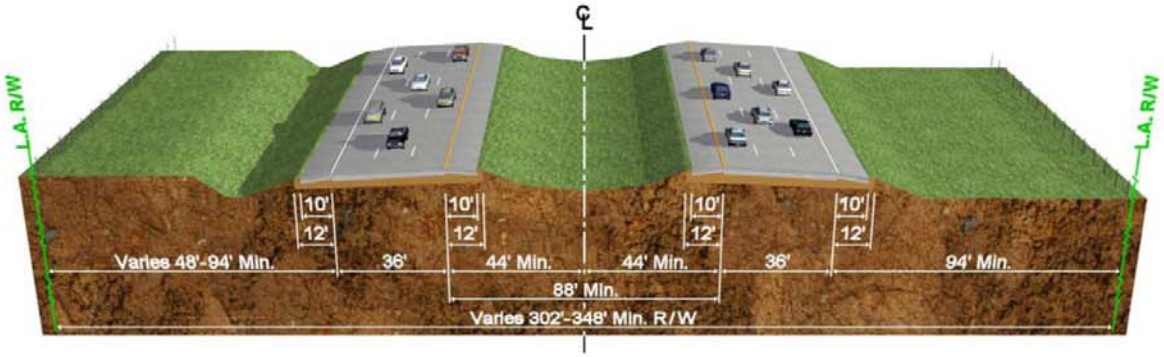
Interstate 75 is a vital link in the local and regional transportation network as well as a critical evacuation route as shown on the Florida Division of Emergency Management's evacuation route network. As a major north/south corridor, I-75 links the Tampa Bay region with the remainder of the state and the nation, supporting commerce, trade, and tourism. I-75 is part of the FIHS, a statewide transportation network that provides for the movement of goods and people at high speeds and high traffic volumes. The FIHS is comprised of interconnected limited and controlled access roadways, such as Florida's Turnpike, selected urban expressways, and major arterial highways. The FIHS is the Highway Component of the SIS, which is a statewide network of highways, railways, waterways, and transportation hubs that handle the bulk of Florida's passenger and freight traffic. As an SIS/FIHS facility and part of the regional roadway network, I-75 is



Typical Section #2

From Gibsonton Drive to South of US 301

Design Speed = 70 mph



Typical Section #1

From Moccasin Wallow Road to Gibsonton Drive

Design Speed = 70 mph

I-75 (SR 93A) PD&E Study *Moccasin Wallow Rd to US 301* WPI Segment No. 419235-2 Hillsborough and Manatee Counties	**Existing Roadway Typical Sections**	**Figure 1-3**

included in the 2025 Regional Long-Range Transportation Plan (LRTP) developed by the West Central Florida Metropolitan Planning Organization's (MPO) Chairs Coordinating Committee (CCC). Preserving the operational integrity and regional functionality of I-75 is critical to mobility, as it is a vital link in the transportation network that connects the Tampa Bay region to the remainder of the state and the nation.

A portion of the study corridor, from SR 674 to Big Bend Road, is included in the FIHS 2025 Cost Feasible Plan Update, dated August 2003. Due to the intense traffic growth and high levels of congestion, the remaining portions of the study corridor are proposed to be included in the latest update of the FIHS 2025 Cost Feasible Plan. This project is identified in the SIS Multimodal Unfunded Needs Plan (May 2006) and in the earlier SIS 2030 Highway Component Unfunded Needs Plan (April 2004). This project is consistent with the Transportation Element of the Hillsborough County Local Government Comprehensive Plan adopted in March 2001 and last amended in January 2005. It is also included in the Hillsborough County MPO's 2035 LRTP Needs Assessment adopted on December 9, 2009 indicating the need for managed lanes throughout the length of the project and a total of 10 lanes south of Gibsonton Drive and 12 lanes north of Gibsonton Drive. The Sarasota/Manatee MPO's 2030 Needs Assessment adopted November 28, 2005 indicates the need for the addition of two special use lanes (SULs) in each direction throughout the length of the project. This project is also consistent with other similar projects planned along the I-75 corridor throughout the state and provides continuity with these projects. This study is being conducted concurrently with the PD&E Study for the section of I-75 that extends from south of US 301 to north of Fletcher Avenue in Hillsborough County (WPI Segment No. 419235-3). Also, FDOT's District One is currently completing two PD&E Studies for the widening of two contiguous portions of I-75, which when combined extend from SR 681 in Sarasota County to Moccasin Wallow Road in Manatee County (WPI Segment Nos. 201277-1 and 201032-1). FDOT, District Seven, is currently designing capacity improvements to I-75 from Fowler Avenue in Hillsborough County to the Pasco/Hernando Line (WPI Segment Nos. 408459-2, 408459-3, 408459-4, 258736-2 and 41014-2) and from the Pasco/Hernando County Line north to the Sumter County Line (WPI Segment Nos. 411011-2 and 411012-2).

In 2007, the traffic volumes along I-75 in the study area ranged from 58,000 vehicles per day (vpd) north of Moccasin Wallow Road to 115,200 vpd north of Gibsonton Drive. These volumes included truck traffic that varied from 9.0 to 16.0 percent of the daily volumes. As a result of this high travel demand, several sections of I-75 already operate at congested conditions and levels of service (LOS) worse than the FIHS minimum LOS standard for both "urbanized areas" and "rural areas", which are LOS "D" and LOS "B", respectively. Without improvements, the operating conditions along I-75 and connecting roadways will continue to deteriorate, resulting in unacceptable LOS throughout the entire study corridor. Capacity improvements could also enhance travel safety by reducing congestion, thereby decreasing vehicle conflicts.

According to the crash records for the years 2003 through 2007, obtained from the FDOT's crash database, a total of 1,562 crashes were reported along I-75 within the project limits. The 1,562 crashes involved a total of 1,035 reported injuries and 34 fatalities. The total economic loss from these crashes is estimated to be approximately $60 million.

1.4 Report Purpose

This Noise Study Report (*NSR*) is one of several documents that will be prepared as part of this PD&E Study. This report documents the number and location of noise sensitive sites adjacent to the project corridor that have the potential to be affected by traffic noise with the proposed improvements and presents the results of a traffic noise analysis that identifies the sites that are likely to be affected by traffic noise. For these sites, noise abatement measures were considered. The results of an evaluation of the abatement measures and an evaluation of noise impact "contours" adjacent to the corridor are also presented and discussed.

Section 2 - IMPROVEMENT ALTERNATIVES

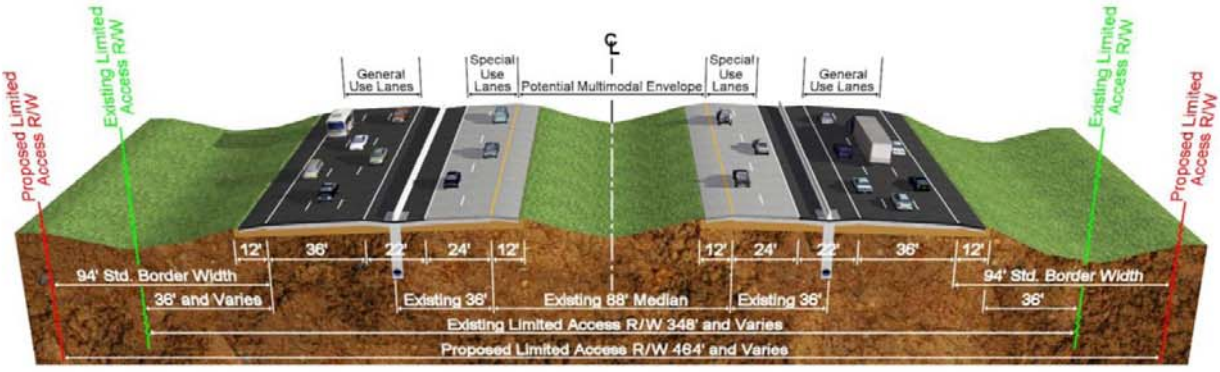
A detailed *Design Traffic Technical Memorandum (DTTM)* was prepared as part of this PD&E Study. The *DTTM* documented the existing travel conditions along I-75, presented forecasts of the design year travel demand along I-75 and the crossing corridors, and summarized LOS evaluations of several improvement alternatives for the mainline of I-75. This document concluded that the construction of two SULs in each direction would be the most advantageous alternative because it provides mobility options and preserves acceptable LOS for the regional travelers.

2.1 No-Build Alternative

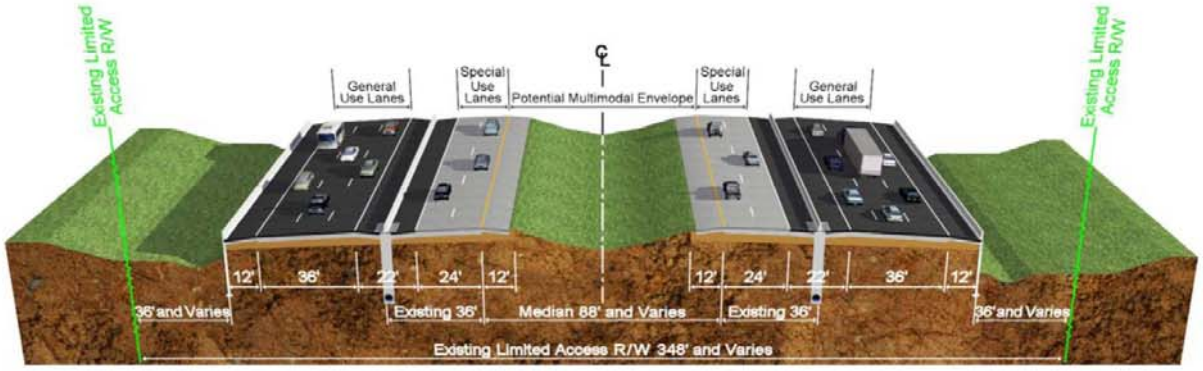
For the No-Build Alternative it was assumed that no capacity improvements, other than those already planned and funded, would be made to the I-75 corridor. The advantages to the No-Build Alternative include no new costs for design and construction, no effects to existing land uses and natural resources, and no disruption to the public during construction. However, the No-Build Alternative would not address the travelers' needs and would result in increased congestion and user costs. This option will remain under consideration as a viable alternative throughout the PD&E study process.

2.2 Mainline Build Alternatives

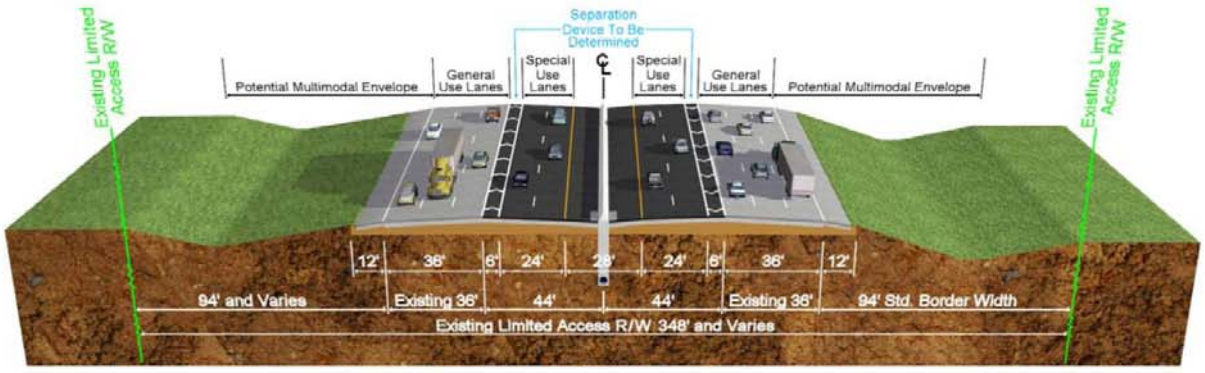
For the I-75 mainline, two Build Alternative alignments were developed and evaluated based on three alternate typical sections. The typical sections generally consist of 10 travel lanes with six general use lanes (GUL) (three in each direction) and four SULs (two in each direction). The main differences between the typical sections are the type of separation provided between the GULs and the SULs and whether widening takes place within the median or to the outside. Each mainline alternative considered is summarized below with the typical sections illustrated in **Figure 2-1**. A more detailed description of these alternatives can be found in the *Project Development Engineering Report (PDER)*.



Alternative 1A



Alternative 1B



Alternative 2

I-75 (SR 93A) PD&E Study ***Moccasin Wallow Rd to US 301*** WPI Segment No. 419235-2 Hillsborough and Manatee Counties	**Proposed Typical Sections**	**Figure 2-1**

The mainline alternative improvements could be constructed within the existing ROW. Additional ROW may be required, however, for stormwater management facilities, floodplain compensation sites and to maintain the standard border width under Alternative 1A.

2.2.1 Mainline Build Alternative 1

Mainline Alternative 1 consists of widening to the outside and maintaining a multimodal envelope within the existing median. This alternative preserves a multimodal envelope within the existing 88-ft median and widens to the outside in each direction to provide two SULs and three GULs separated by 10-ft shoulders and a 2-ft barrier. Two alternative typical sections were prepared and evaluated for this alternative.

Mainline Alternative 1 - Typical 1A (Alternative 1A)

The main objective for this alternative typical section was to maintain a standard border width of 94-ft, per FDOT *Plans Preparation Manual (PPM)* requirements. The exceptions to this guideline are at locations where it would be impractical to relocate major facilities such as the Hillsborough County's wastewater treatment plant near SR 674. In these instances, a design variation for border width would be required. This alternative has longitudinal ROW requirements along the entire corridor (up to 58-ft on both sides of I-75).

Mainline Alternative 1 – Typical 1B (Alternative 1B)

This alternative typical section is very similar to Alternative 1A except that its footprint is intended to be constructed within the existing L.A. ROW. As a result, the border width would be less than the required standard border width and would require a design variation. However, as a result of the elevation difference between the pavement and the side ditches, mechanically stabilized earth (MSE) walls or "retaining walls" would be required at the outside shoulders on both sides of I-75 for a significant portion of the corridor.

2.2.2 Mainline Build Alternative 2

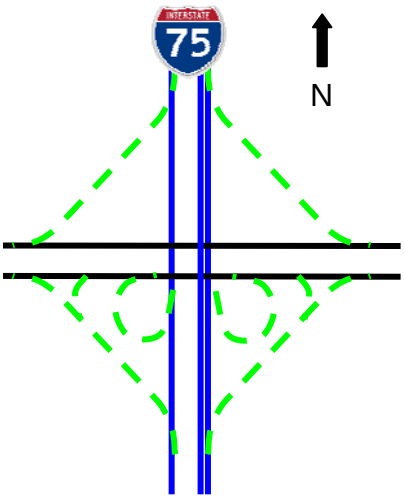
Mainline Alternative 2 was developed by widening towards the inside, thereby moving a potential multimodal envelope to the outside. This alternative is achieved within the existing L.A. ROW as it generally holds the existing roadway pavement as the six GULs. It includes a median barrier separating northbound and southbound traffic. It also includes two SULs and three GULs separated by a 6-ft buffer (painted or pylons) in each direction.

2.3 INTERCHANGE BUILD ALTERNATIVES

There are three interchanges along I-75 within the project limits located at SR 674, Big Bend Road and Gibsonton Drive. Three configuration changes were evaluated for the SR 674 and Big Bend Road interchanges while one option was evaluated for the Gibsonton Drive interchange. All interchange options considered work with either mainline alternative and also include operational improvements at the ramps terminal intersections. A general description of the configuration improvements evaluated for each interchange follows below.

2.3.1 SR 674 Interchange Improvement Alternatives

The SR 674 interchange is presently a combination diamond-partial cloverleaf configured interchange as depicted on the figure shown to the right with I-75 carried over SR 674. Three improvement options (Option A, Option B, and Option C) were evaluated at the SR 674 interchange. A brief description of each alternative is shown below:

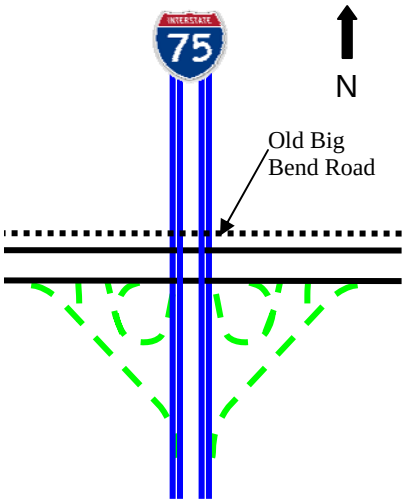


- Option A - Diverging Diamond Interchange (DDI) – This interchange option would eliminate the EB to NB and SB to EB loop ramps and modify the interchange to a DDI configuration.
- Option B- Single Point Urban (SPUI) – This interchange option would eliminate the EB to NB and SB to EB loop ramps and modify the interchange to a SPUI configuration

- Option C – Modify Existing Partial Cloverleaf (PARCLO) – This interchange option would not eliminate the existing loop ramps, but simply modify the SB exit ramps. The modifications consist of providing a single exit point from I-75 for the SB to WB and SB to EB off-ramps and provide a two lane SB to EB ramp.

2.3.2 Big Bend Road Interchange Improvement Alternatives

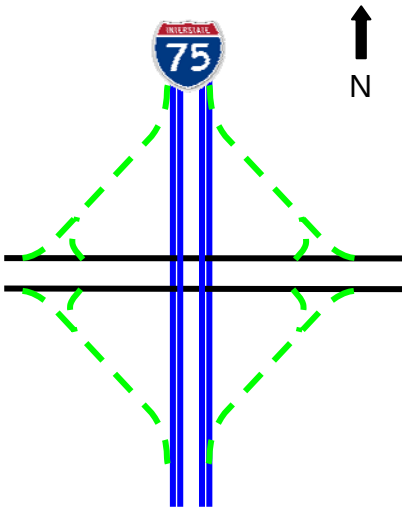
The Big Bend Road interchange is presently a half-cloverleaf configured interchange as depicted on the figure shown to the right with I-75 carried over Big Bend Road and Old Big Bend Road. Three improvement options (Option A, Option B, and Option C) were evaluated at the Big Bend Road interchange. A brief description of each alternative is shown below:



- Option A – Grade Separated option with Frontage Road open – This interchange option would retain the existing loop ramps and add a SB to WB off-ramp and a WB to NB on-ramp. This option would allow for Old Big Bend Road to remain open underneath I-75.
- Option B – At Grade option with Frontage Road closed – This interchange option would retain the existing loop ramps and add a SB to WB off-ramp and a WB to NB on-ramp. This option would require that the existing Old Big Bend Road to be closed while relocating Bullfrog Creek Road.
- Option C – Flyover option – This interchange option would remove the existing EB to NB loop ramp and replace it with a flyover ramp. This option would also add a SB to WB off-ramp along with a WB to NB on-ramp.

2.3.3 Gibsonton Drive Interchange Improvement Alternatives

The Gibsonton Drive interchange is presently a diamond configured interchange as depicted on the figure shown to the right with Gibsonton Drive carried over I-75. A single option (Option A) was considered for this interchange consisting of a partial cloverleaf design. This option would remove the existing NB to WB and SB to EB movements and replace them with loop ramps.



2.3.4 Possible New Interchanges

No new interchanges have been formally evaluated at this point under this PD&E Study, however; two separate analyses have been performed or are currently underway.

- Between SR 674 and Gibsonton Drive

  A planning level analysis was performed for a potential future interchange at three possible locations based on local agency requests. The purpose of this analysis was not to select a particular location, but to quantify the potential impacts and benefits of each location with respect to one another. The Hillsborough County Planning and Growth Management Department is continuing to investigate the various location options, in cooperation with local developers and the FDOT.

- Possible Port Manatee Connector Interchange

  A PD&E Study is currently being conducted by FDOT District One under FPID No.: 422724-1-22-01 to provide improved access to Port Manatee from I-75. There are five corridors being evaluated as a part of this study with the possibility of a new interchange being added along I-75 between the I-275 junction in Manatee County to Valroy Road in Hillsborough County.

2.4 Recommended Build Alternative

All options considered and discussed previously have been evaluated with regards to costs, operational factors and environmental impacts. Based on these evaluations, recommended build alternatives have been identified for the I-75 mainline along with each interchange within the corridor and are listed below:

- **I-75 Mainline – Alternative 2**
- **SR 674 Interchange – Option C**
- **Big Bend Road Interchange – Option A**
- **Gibsonton Drive – Option A**

The methodology for the selection of the recommended build alternative is discussed in detail *PDER*.

Section 3 - METHODOLOGY

3.1 Evaluation Process

This traffic noise analysis was prepared in accordance with Title 23 Code of Federal Regulations (CFR) Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. The evaluation used methodologies established by the FDOT and documented in the PD&E Manual, Part 2, Chapter 17 (April 18, 2007). The predicted noise levels presented in this report are expressed in decibels (dB) on the A-weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to traffic noise. All noise levels are reported as equivalent levels (L_{Aeq1h}), which is the equivalent steady-state sound level that contains the same acoustic energy as a time-varying sound level over a period of one-hour.

3.2 Noise Model

The prediction of existing and future traffic noise levels with and without the roadway improvements was performed using the FHWA's computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM-Version 2.5). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receivers taking the intervening ground's acoustical characteristics/topography and rows of buildings into account.

3.3 Model Assumptions

The following are details and assumptions used to develop the noise model for the I-75 PD&E Study.

- Motor vehicle travel speeds were assumed to be the posted speed limit for each segment of the roadway.

- All receiver heights were assumed to be 5-ft above ground level for all first floor units. Second floors (e.g., for townhomes) were assumed to be 10-ft above the first floor receivers.

- A concrete wall, approximately 6.5-ft in height, that surrounds the walk path at the Cypress Creek Assisted Living Residence (i.e., the exterior location evaluated in this *NSR*) was included in the analysis.

- An earthen berm, ranging in height from approximately 3 to 4-ft, located between the first row of residences and I-75 at the Lake St. Clair subdivision was included in the analysis.

- An earthen berm, approximately 4-ft, located between the first row of residences and I-75 at Covington Park was included in the analysis. Ponds between Covington Park and Lake St. Clair were also included in the analysis.

- Concrete walls, approximately 8-ft in height, located between the first row of residences and I-75, at East Bay Lakes and Lake St. Charles, were included in the analysis.

- The residences at Eagle Palms are two-story. Each building has three units. Two of the units have first floor porches and the third unit has a second floor balcony. All three locations were evaluated as noise sensitive sites.

3.4 Traffic Data

To simulate "worst case" noise conditions, LOS C traffic volumes were modeled for the mainline general use and express lanes, and for ramps and cross streets. The existing (2007), future no-build (2035), and future design year (2035) traffic data used in the analysis are presented in **Table 3-1**. The year 2035 is the design year for the proposed improvements to I-75.

Table 3-1 Mainline Traffic Data for Noise Analysis

Mainline Segment	Scenario(s)		Number of Lanes	LOS C ADT	K %	D %	Design Hour % Medium Trucks	Design Hour % Heavy Trucks	Design Hour % Buses	Design Hour % Motor-cycles	Speed (mph)
Moccasin Wallow Rd to Gibsonton Dr	Existing , No-Build		6	85,300	9.4	53	4.8	10.0	1.0	0.3	70
	Build	General Use Lanes	6	85,300	9.4	53	4.8	10.0	1.0	0.3	70
		Special Use Lanes	4	61,400	9.4	53	4.8	10.0	1.0	0.3	70
Gibsonton Dr to US 301	Existing, No-Build		8	115.300	9.4	53	3.6	9.0	1.0	0.3	70
	Build	General Use Lanes	8	115.300	9.4	53	3.6	9.0	1.0	0.3	70
		Special Use Lanes	4	61,400	9.4	53	3.6	9.0	1.0	0.3	70
Northbound Off Ramp - SR 674	Existing, No-Build, Build		1	15,319	9.4	100	4.8	10.0	1.0	0.3	50
Southbound On Ramp -SR 674	Existing, No-Build		1	7,819	9.4	100	4.8	10.0	1.0	0.3	50
	Build		1	20,213	9.4	100	4.8	10.0	1.0	0.3	50
Southbound On Ramp - Big Bend Road	Existing, No-Build		1	7,819	9.4	100	4.8	10.0	1.0	0.3	50
	Build		2 to 1	20,213	9.4	100	4.8	10.0	1.0	0.3	50
Southbound On Ramp - Gibsonton Dr	Existing, No-Build		1	7,819	9.4	100	4.8	10.0	1.0	0.3	50
	Build		2 to 1	21,170	9.4	100	4.8	10.0	1.0	0.3	50
Southbound Off Ramp - Gibsonton Dr	Existing, No-Build		1	15,319	9.4	100	3.6	9.0	1.0	0.3	50
	Build		1	20,213	9.4	100	3.6	9.0	1.0	0.3	50
Station No. 1242 to Project End	Build - Special Use Lanes		6	94,900	9.4	53	4.1	10.0	1.0	0.3	70

Source: Parsons Brinckerhoff, 2009.
LOS - Level-of-Service , ADT = Average Daily Traffic, K% = Peak-hour factor, D% = Directional factor

Section 4 - NOISE ANALYSIS

4.1 Noise Sensitive Sites

Noise sensitive sites are defined as any property where frequent human use occurs and where a lowered noise level would be of benefit. To evaluate traffic noise, the FHWA established Noise Abatement Criteria (NAC). As shown in **Table 4-1**, the criteria vary according to the properties' activity category.

Table 4-1 FHWA Noise Abatement Criteria

Activity Category	Description	L_{Aeq1h}
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)
B	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)
C	Developed lands, properties or activities not included in Categories A or B above.	72 (Exterior)
D	Undeveloped lands.	N/A
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.	52 (Interior)

Source: Code of Federal Regulations, Title 23, Part 772
L_{Aeq1h} - values that contain the same amount of acoustic energy as a time-varying A-weighted sound level over a period of one-hour.

When predicted traffic noise levels "approach" or exceed the NAC, or when predicted future noise levels increase substantially from existing levels, the FHWA requires that noise abatement measures be considered. The FDOT defines the word "approach" to mean within 1.0 dBA of the NAC and states that a substantial increase will occur if traffic noise levels are predicted to increase 15.0 dBA or more as a direct result of a transportation improvement project.

Within the project limits, 979 noise sensitive sites have the potential to be affected by traffic noise with the proposed improvements. The sites consist of 975 single-family (SF) residences, two common use pools in communities adjacent to the roadway, an assisted living facility (Cypress Creek Assisted Living Residence), and the recreational area of a school (Spoto High School). The 975 SF residences are isolated (i.e., not within established communities), located in small clusters (i.e., enclaves of residences that are not located within established communities), within subdivisions, and within

condominium complexes. **Table 4-2** identifies the general location of the noise sensitive sites along the study corridor (for the purpose of discussing the traffic noise analysis, the corridor was divided into segments based on the major interchanges within the study area). The locations of the noise sensitive sites/areas are also identified on project aerials in **Appendix A**.

Table 4-2 Noise Sensitive Sites/Areas

Roadway Segment	Noise Sensitive Site/Area	Number of Evaluated Sites	Site ID Numbers	Sheet No.(s)
Project Begin (Station 75, North of Moccasin Wallow Rd) to SR 674	River Bend	5	1-5	14-15
	Park Village	17	1-17	16
	Isolated/Enclaves of Residences	54	1-54	16-19
	Highgate	22	1-11	19
SR 674 to Big Bend Rd	Fairway Palms	14	1-7	23
	Cypress Creek Assisted Living Residence	1	1	23
	Cypress Creek Village	17	1-11	24
	Lake St. Clair	98	1-44	29-30
	Covington Park	97	1-62	30-31
Big Bend Rd to Gibsonton Dr	Isolated/Enclaves of Residences	107	1-107	36, 38-41
	Southwind	10	1-10	40
	East Bay Lakes	62	1-62	40-41
	Bullfrog Creek Estates	14	1-14	41
Gibsonton Dr to Project End (Station 1260, South of Progress Blvd)	Isolated/Enclaves of Residences	47	1-43	44-45
	Lake Fantasia	123	1-69	45-46
	Riverview Dr Estates	15	1-15	45-46
	Byars Riverview Acres	25	1-25	46
	Lake St. Charles	115	1-39	47-48
	Eagle Palms Condominiums	135	1-40	46-48
	Spoto High School (Recreational Area)	1	NA	48
Total		979	--	--

NA = Not applicable

All of the sites were evaluated as Activity Category "B" of the NAC. As such, exterior traffic noise levels were evaluated and noise abatement measures were considered if 1.) the traffic noise levels were predicted to be 66.0 dBA or more, or 2.) if traffic noise levels were predicted to increase 15.0 dBA or more from existing levels.

4.2 Measured Noise Levels

As previously stated, existing and future noise levels with and without the proposed improvements were modeled using the TNM. To verify the accuracy of the predictions, the computer model was validated using measured noise levels at locations adjacent to the project corridor. Traffic data including motor vehicle volumes, vehicle mix, vehicle speeds, and meteorological conditions were recorded during each measurement period.

The field measurements for I-75 were conducted in accordance with the FHWA's *Measurement of Highway-Related Noise*. The measurements were obtained using Larson Davis sound level meters (SLM) Model LxT and 831. The SLMs were calibrated before and after each monitoring period with a Larson Davis calibrator Model CAL200.

The recorded traffic data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could "re-create" the measured levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered within the accepted level of accuracy if the measured and predicted noise levels are within a tolerance standard of 3.0 dBA.

Table 4-3 presents the field measurements and the validation results for I-75. As shown, the ability of the model to predict noise levels within the FDOT limit of plus or minus 3.0 dBA for the project was confirmed. Documentation in support of the validation is provided in **Appendix B** of this *NSR*.

Table 4-3 Validation Data

Location[a]	Measurement Period	Modeled	Measured	Difference
Lake Fantasia	1	65.7	64.4	1.3
	2	66.8	64.3	2.5
	3	66.8	64.3	2.5
East Bay Lakes	1	57.6	55.4	2.2
	2	58.8	56.7	2.1
	3	57.4	55.0	2.4

[a] The locations of the field measurements are depicted on aerials in **Appendix A** of this *NSR*.

4.3 Results of the Noise Analysis

Table 4-4 summarizes the results of the traffic noise analysis for the proposed I-75 improvements. Results of the analysis for each noise sensitive site evaluated are provided in **Appendix C** of this *NSR*.

As shown, without the proposed improvements to I-75 (no-build), existing (2007) and future (2035) traffic noise levels are predicted to range from 57.5 to 77.3 dBA. Based on these results, existing and future no-build traffic noise levels are predicted to approach, meet, or exceed the NAC at 502 of the evaluated noise sensitive sites. As also shown, in the future (2035) with the proposed improvements (build), traffic noise levels are predicted to range from 60.4 to 79.6 dBA with traffic noise levels predicted to approach, meet, or exceed the NAC at 852 of the evaluated sites.

When compared to the existing condition, traffic noise levels are not predicted to increase more than 8.6 dBA with the proposed improvements. As such, none of the sites are predicted to experience a substantial increase (15.0 dBA or more) as a result of the project.

With the exception of Spoto High School, noise abatement measures were evaluated for the sites that are predicted to experience future traffic noise levels that approach, meet, or exceed the NAC with the proposed improvements. The results of the evaluation are provided in Section 5 of this *NSR*. The recreational fields at Spoto High School (the area that would be affected by traffic noise) are considered a special land use. The FDOT does not consider noise abatement for this type of land use because experience has shown that because of limited usage, the cost of the abatement would exceed the cost reasonable guideline.

Table 4-4 Summary of Predicted Traffic Noise Levels

Roadway Segment	Noise Sensitive Site/Area		Site ID No.	Sheet No.[a]	Predicted Range of Traffic Noise (L_{Aeq1h} expressed as dBA)		Maximum Increase with Build Alternative from Existing (dBA)	Number of Affected Noise Sensitive Sites With Build Alternative	Site ID of Affected Sites
					Existing/ No- Build	Build			
Project Begin (Sta. 75, North of Moccasin Wallow Rd) to SR 674	River Bend		1-5	14-15	59.8 - 63.3	63.9 - 67.2	4.6	2	4-5
	Park Village		1-17	16	57.8 - 64.9	62.8 - 70.4	7.2	12	1, 4, 5, 7-10, 12-16
	Isolated/Enclaves of Residences		1-54	16-19	59.1 - 75.7	65.4 - 79.1	7.1	52	2-31, 33-54
	Highgate		1-11	19	61.3 - 65.6	63.9 - 67.2	2.8	16	1-6, 9, 10,
SR 674 to Big Bend Rd	Fairway Palms		1-7	23	57.5 - 62.3	63.4 - 67.3	7.1	8	1-4
	Cypress Creek Assisted Living Residence		1	23	62.8	65.3	2.5	0	No Affected Sites
	Cypress Creek Village		1-11	24	61.2 - 64.1	62.8 - 66.0	2.0	3	2
	Lake St. Clair		1-44	29-30	60.7 - 76.2	65.2 - 79.4	6.2	96	1-41, 44
	Covington Park		1-62	30-31	58.8 - 73.0	64.4 - 76.7	7.0	89	2-8, 11-16, 18-27, 29-48, 50-58, 60, 61
Big Bend Rd to Gibsonton Dr	Noise Sensitive Area West of I-75 and South of Gibsonton Dr	Isolated/ Enclaves of Residences	4-19, 34-63, 83-87, 103-107	38-41	60.1 - 76.2	62.6 - 78.3	7.7	49	31-59, 62, 83-85, 103-105
		Southwind	1-10	40	62.5 - 66.8	65.4 - 69.4	3.1	8	1-6, 9, 10
		East Bay Lakes	1-62	40-41	57.5 - 75.5	60.4 - 79.6	7.4	46	2-25, 28-46, 59-61
		Bullfrog Creek Estates	1-14	41	57.9 - 70.7	63.2 - 74.1	6.1	10	3-8, 10-13
	Isolated/Enclaves of Residences		1-3, 20-33, 64-82, 88-102	36-40	59.4 - 71.6	62.9 - 74.9	6.9	38	1-3, 20-22, 24-29, 31-33, 64-77, 79, 80, 82, 88-93
Gibsonton Dr to Project End (Sta.1260, South of Progress Blvd)	Isolated/Enclaves of Residences		1-4	44	64.8 - 71.4	66.9 - 73.2	2.1	4	1-4
	Noise Sensitive Area West of I-75 and North of Alafia River	Isolated/ Enclaves of Residences	5-20	45	62.9 - 71.2	65.0 - 72.5	2.1	9	5-11, 13, 14
		Lake Fantasia	1-69	45-46	60.3 - 75.0	64.7 - 77.4	5.8	114	4-19, 22-25, 29-31, 33-69

Roadway Segment	Noise Sensitive Site/Area		Site ID No.	Sheet No.[a]	Predicted Range of Traffic Noise (L_{Aeq1h} expressed as dBA)		Maximum Increase with Build Alternative from Existing (dBA)	Number of Affected Noise Sensitive Sites With Build Alternative	Site ID of Affected Sites
					Existing/ No- Build	Build			
Gibsonton Dr to Project End (Sta.1260, South of Progress Blvd) - continued	Noise Sensitive Area East of I-75 and North of Alafia River	Isolated/ Enclaves of Residences	21-43	45	63.4 - 70.5	65.3 - 71.8	2.1	2.0	21-35, 37-39, 41, 42
		Riverview Dr Estates	1-15	45-46	64.7 - 70.6	67.4 - 72.2	2.7	15	1-15
		Byars Riverview Acres	1-25	46	61.5 - 77.3	67.2 - 79.2	5.7	25	1-25
		Lake St. Charles	1-39	47-48	61.7 - 72.6	65.3 - 75.7	4.5	110	1-14, 16-38
	Eagle Palms Condominiums		1-40	46-48	58.8 - 73.8	65.2 - 78.4	8.6	125	2-14, 16-29, 31-40
	Spoto High School (Recreation Area)		NA	48	59.8 - 74.0	68.6 -78.8	8.8	1	NA
Total								852	--

[a] See project aerials in **Appendix A** of this *NSR*.
NA = Not applicable

Section 5 - EVALUATION OF ABATEMENT ALTERNATIVES

The FDOT considers noise abatement alternatives (measures) when predicted traffic noise levels approach or exceed the NAC, or when levels increase substantially. The measures considered for I-75 were traffic management, alternative roadway alignments, buffer zones, and noise barriers. The following discusses the feasibility (e.g., amount of noise reduction, engineering considerations, etc.) and reasonableness (e.g., number of noise-sensitive sites benefited, absolute noise levels, cost, etc.) of the measures.

5.1 Traffic Management

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, these measures also negate a project's ability to accommodate forecast traffic volumes. For example, if the posted speed on I-75 were reduced, the capacity of the roadway to handle the forecasted motor vehicle demand would also be reduced. Therefore, reducing traffic speeds and/or traffic volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecasted volumes. As such, although feasible, traffic management measures are not considered a reasonable noise mitigation measure for the project.

5.2 Alternative Roadway Alignments

The proposed improvements to I-75 will generally follow the same alignment as the existing roadway to minimize the need for additional ROW within the project corridor. Maintaining the alignment within the existing ROW, where feasible, will minimize impacts to surrounding noise sensitive sites located both east and west of the roadway. Consequently, an alternative roadway alignment is not a reasonable noise abatement measure.

5.3 Noise Buffer Zones

Providing a buffer between a highway and future noise sensitive land uses is an abatement measure that can minimize/eliminate noise impacts in areas of future development. To encourage use of this abatement measure through local land use planning, noise contours have

been developed and are further discussed in Section 6 of this *NSR*. Providing buffer zones is not an applicable abatement measure for existing development.

5.4 Noise Barriers

Noise barriers have the potential to reduce traffic noise levels by blocking the sound path between the motor vehicles on the roadway (the source) and the noise sensitive sites adjacent to the roadway. In order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings), and sufficiently tall. Following FDOT procedures, the minimum requirements for a noise barrier to be considered both feasible and economically reasonable are:

- The barrier must provide at least a 5.0 dBA reduction in traffic noise. However, a design goal of 10.0 dBA or more is desired.
- The barrier should not cost more than $42,000 per benefited noise sensitive site (a benefited site is a site that receives at least a 5.0 dBA reduction in noise from a mitigation measure).

The current estimated cost to construct a noise barrier (materials and labor) is $30.00 per square foot ($ft^2$).

Feasibility factors related to noise barriers include: driver/pedestrian sight distance (safety), ingress and egress requirements to and from affected properties, ROW requirements including access rights and easements for construction and/or maintenance, impacts on existing/planned utilities, and drainage.

After considering the amount of reduction that may be provided and the cost reasonableness, additional factors must also be considered when evaluating a noise barrier as a potential noise abatement measure. These factors address both the feasibility of a barrier (given site-specific details, can a barrier actually be constructed) and the reasonableness of a barrier. Reasonable factors include:

- The relationship of the predicted future noise levels to the NAC (do the predicted levels approach the NAC or how much is the NAC exceeded);

- Land use stability (are the noise-sensitive land uses likely to remain for an indefinite period of time);
- Antiquity (the amount of development that has occurred before and after the initial construction of a roadway);
- The desires of the affected property owners to have a noise barrier adjacent to their property; and
- Aesthetics.

The TNM (Version 2.5) was used to evaluate the effectiveness of noise barriers to reduce traffic noise levels at the affected noise sensitive sites. Noise barriers were initially evaluated at a location 5-ft within the FDOT's ROW (ROW barriers). These barriers were evaluated at heights ranging from 8 to 22-ft. The length of each barrier was optimized to maintain at least a 5.0 dBA reduction at the maximum number of affected receivers while reducing excess barrier length at the ends of each barrier. Use of this methodology insures that the most efficient barrier with respect to height and length is identified for each evaluated area.

For those areas where the results of the analysis indicated that a ROW barrier could not provide the minimum required reduction in traffic noise or could provide the reduction but at a cost that exceeded the cost reasonable guideline, shoulder barriers (barriers closer to the roadway) or a combination of a ROW and shoulder barrier were also evaluated. Notably, the shoulder barriers and combination ROW/shoulder barriers were only considered where a crash tested structure (e.g., a guardrail or jersey barrier) would otherwise be provided as part of the roadway improvement.

Following FDOT's *Plans Preparation Manual (PPM)*, a manual that details geometric and other design criteria for FDOT projects, the height of roadway shoulder barriers was limited such that the evaluated barriers on bridges or wall structures were evaluated at a maximum of 8-ft and the shoulder barriers on embankment[1] were evaluated at a maximum of 14-ft. Due to the limitations on the length and height of shoulder barriers, shoulder barriers are not as effective in reducing

[1] Embankment is defined as the artificial slope made of dirt and/or other fill material that elevates a roadway prior to a bridge.

traffic noise levels as ROW barriers. Therefore, where shoulder barriers and combination ROW/shoulder barriers were evaluated, only the barrier or barrier system that provided the most insertion loss is discussed.

5.5 Noise Barrier Analysis

As previously stated, during the design year (2035) for the recommended build alternative, traffic noise levels are predicted to approach, meet, or exceed the NAC at 852 sites along the project corridor. The following discusses the feasibility and cost reasonableness of providing noise barriers as an abatement measure for the affected sites (sites where traffic noise levels are predicted to approach, meet, or exceed the NAC).

5.5.1 Barrier 1 - River Bend

The River Bend subdivision is located within Hillsborough County and the City of Ruskin, west of I-75, and south of 21st Avenue SE. Barrier 1, a ROW barrier, was evaluated for the two residences (Sites 4 and 5) within this subdivision that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the recommended build alternative are 66.0 and 67.2 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-1**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could not be achieved at either of the affected residences. As also shown, the barrier could provide both affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 18 to 22-ft. At these heights, the total estimated cost to construct a barrier ranges from $986,400 to $1,029,240 and the cost per benefited residence ranges from $493,200 to $514,620, costs that exceed the FDOT's cost reasonable guidelines Because the cost per benefited site exceeds the FDOT's cost reasonable guidelines, Barrier 1 is not considered a reasonable noise abatement measure.

Table 5-1 Noise Barrier Results, Barrier 1 - River Bend

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	2,566	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	2,566	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	2,566	0	0	0	0	0	0	<5	0	0	0	--	--	--
14	2,566	0	0	0	0	0	0	<5	0	0	0	--	--	--
16	2,566	0	0	0	0	0	0	<5	0	0	0	--	--	--
18	1,906	2	0	0	0	0	0	5.2	2	0	2	$1,029,240	$514,620	No
20	1,644	2	0	0	0	0	0	5.2	2	0	2	$986,400	$493,200	No
22	1,543	2	0	0	0	0	0	5.3	2	0	2	$1,018,380	$509,190	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-2 Noise Barrier Results, Barrier 2 – Park Village

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	1,987	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	1,987	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	1,987	0	0	0	0	0	0	<5	0	0	0	--	--	--
14	1,987	0	0	0	0	0	0	<5	0	0	0	--	--	--
16	1,987	0	0	0	0	0	0	<5	0	0	0	--	--	--
18	1,987	2	0	0	0	0	0	5.2	2	0	2	$1,072,980	$536,490	No
20	1,968	7	0	0	0	0	0	5.2	7	1	8	$1,180,800	$147,600	No
22	1,868	10	0	0	0	0	0	5.2	10	1	11	$1,232,880	$112,080	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

There is no indication that crash tested structures would otherwise be provided as part of the proposed roadway improvement in this area. Therefore, shoulder and/or combination ROW/shoulder barriers were not evaluated for the affected residences in River Bend.

5.5.2 Barrier 2 - Park Village

The Park Village subdivision is located within Hillsborough County and the City of Ruskin, west of I-75, and north of 21st Avenue SE. Barrier 2, a ROW barrier, was evaluated for the 12 residences (Sites 1, 4, 5, 7-10, and 12-16) within the subdivision predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the recommended build alternative ranges from 66.3 to 70.4 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-2**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could not be achieved at any of the affected residences. As also shown, the barrier could provide the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 18 to 22-ft. At these heights, the total estimated cost to construct a barrier ranges from $1,072,980 to $1,232,880 and the cost per benefited residence ranges from $112,080 to $536,490, costs that exceed the FDOT's cost reasonable guidelines. Although a feasible traffic noise abatement measure, the cost per benefited site exceeds the FDOT's cost reasonable guidelines, thus Barrier 2 is not considered a reasonable abatement measure.

Notably, two of the affected residences (Sites 8 and 12) would not be benefited by a ROW noise barrier regardless of height because the residences are already shielded from I-75 traffic noise by the embankment for the 21st Avenue SE bridge structure (an I-75 ROW barrier would not provide additional noise reduction).

There is no indication that crash tested structures would otherwise be provided as part of the proposed I-75 roadway improvement in this area. Therefore, shoulder and/or combination ROW/shoulder barriers were not evaluated for the affected residences in Park Village. Further, because providing a shoulder barrier on the 21st Avenue SE bridge (and on the embankment

leading up to the bridge) would not reduce traffic noise from motor vehicles on I-75, a shoulder barrier or a combination ROW/shoulder barrier on 21st Avenue SE were not evaluated.

5.5.3 Barrier 3 - Isolated/Enclaves of Residences Between 21st Avenue SE and SR 674

Between 21st Avenue SE and SR 674, there are 52 isolated and enclaves of residences that would be affected by the proposed improvements to I-75. To evaluate the potential for noise barriers to be considered feasible and reasonable to abate the predicted impacts at these residences, a group of these residences was evaluated as a "best case" scenario. The premise of this approach being that if a barrier provides at least the minimum required insertion loss at a cost at or below the cost reasonable guideline for the best case scenario, then additional analysis would be performed for the other residences. By comparison, if the analysis indicates that a barrier would not provide either the minimum required insertion loss or provide the reduction in traffic noise but the cost would be unreasonable, then no additional analysis would be performed and barriers would not be considered feasible and reasonable at any of the affected residences.

Barrier 3, a ROW barrier, was evaluated for seven affected residences (Sites 4-10) located in unincorporated Hillsborough County. The residences are located west of I-75 and south of 24th Street SE. These sites were selected as the "best case" scenario in this segment of the I-75 study corridor because the residences have the highest density (i.e., are closest together) and are closest to the roadway and potential barrier location. At these sites, the predicted traffic noise levels with the recommended build alternative ranges from 72.5 to 75.6 dBA, levels that exceed the NAC.

The results of the evaluation are provided in **Table 5-3**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could not be achieved at any of the affected residences. As also shown, the barrier could provide all of the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 16 to 22-ft. At these heights, the total estimated cost to construct a barrier ranges from $484,200 to $532,620 and the cost per benefited residence ranges from $69,171 to $76,089, costs that exceed the FDOT's cost reasonable guidelines. Although a feasible traffic noise abatement measure, the cost per

Table 5-3 Noise Barrier Results, Barrier 3 – Isolated/Enclaves of Residences Between 21st Avenue SE and SR 674

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	1,822	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	1,822	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	1,465	1	0	0	0	0	0	5.0	1	0	1	$527,400	$527,400	No
14	1,815	2	1	1	0	0	0	5.9	4	0	4	$762,300	$190,575	No
16	1,065	7	0	0	0	0	0	5.5	7	0	7	$511,200	$73,029	No
18	915	6	1	0	0	0	0	5.5	7	0	7	$494,100	$70,586	No
20	807	7	0	0	0	0	0	5.4	7	0	7	$484,200	$69,171	No
22	807	6	1	0	0	0	0	5.6	7	0	7	$532,620	$76,089	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

benefited site exceeds the FDOT's cost reasonable guidelines, thus Barrier 3 is not considered a reasonable abatement measure. Furthermore, the analysis of Barrier 3 as the "best case" scenario demonstrates that barriers would not be a feasible and reasonable abatement measure for other isolated residences or residences in small enclaves between 21st Avenue SE and SR 674.

There is no indication that crash tested structures would otherwise be provided as part of the proposed roadway improvement in this area. Therefore, shoulder and/or combination ROW/shoulder barriers were not evaluated for the affected isolated and enclaves of residences between 21st Avenue SE and SR 674.

5.5.4 Barriers 4A and 4B - Highgate

Highgate is located within an unincorporated area of Hillsborough County. The community is located east of I-75, and south of SR 674. Barrier 4A, a ROW barrier, was evaluated for the 16 residences (Sites 1-6, 9 and 10 which represent the 16 residences) within this condominium complex that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the build alternative are 66.0 to 67.2 dBA, levels that approach and exceed the NAC.

The results of the evaluation indicate that none of the affected residences would be benefited by a ROW barrier due to the distance of the residences from the roadway and the location of the barrier. As such, Barrier 4A is not considered a reasonable noise abatement measure.

Because the analysis indicates that a ROW noise barrier would not benefit the affected residences and the roadway plans indicate that it would be potentially possible to do so, a combination ROW/shoulder barrier (Barrier 4B) was evaluated for the 16 affected residences in Highgate. The results of the analysis indicate that a shoulder barrier 14-ft in height and 1,068-ft in length in combination with a ROW barrier 22-ft in height and 1,546-ft in length would provide six of the 16 affected residences a reduction in traffic noise between 5.0 and 5.9 dBA. Two residences, not impacted by the project, would also benefit from the barrier. The estimated total cost to construct the combination ROW/shoulder barrier is $1,468,920 and the cost per benefited residence is $146,892, a cost that exceeds the FDOT's cost reasonable guidelines. Because the

cost per benefited site exceeds the FDOT's cost reasonable guidelines, Barrier 4B is not considered a reasonable noise abatement measure.

5.5.5 Barrier 5 - Fairway Palms

Fairway Palms is located within an unincorporated area of Hillsborough County, east of I-75, and north of SR 674. Barrier 5, a ROW barrier, was evaluated for the eight residences (Sites 1-4 which represent two residences each) within this condominium complex that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the recommended build alternative range from 66.5 to 67.3 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-4**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could not be achieved at any of the affected residences. As also shown, the barrier could provide all of the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 18 to 22-ft. At these heights, the total estimated cost to construct a barrier ranges from $1,205,820 to $1,219,200 and the cost per benefited residence ranges from $100,485 to $121,920, costs that exceed the FDOT's cost reasonable guidelines. Because the cost per benefited site exceeds the FDOT's cost reasonable guidelines, Barrier 5 is not considered a reasonable noise abatement measure.

There is no indication that crash tested structures would otherwise be provided as part of the roadway improvement in this area. Therefore, shoulder and/or combination ROW/shoulder barriers were not evaluated for the affected residences in Fairway Palms

5.5.6 Barrier 6 - Cypress Creek Village

Cypress Creek Village subdivision is located within an unincorporated area of Hillsborough County, east of I-75, and north of SR 674. Barrier 6, a ROW barrier, was evaluated for three residences (Site 2 which represents the three residences) within the subdivision that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic

Table 5-4 Noise Barrier Results, Barrier 5 – Fairway Palms

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	3,559	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	3,559	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	2,833	2	0	0	0	0	0	5.0	2	0	2	$1,019,880	$509,940	No
14	2,633	4	0	0	0	0	0	5.1	4	0	4	$1,105,860	$276,465	No
16	2,333	6	0	0	0	0	0	5.1	6	0	6	$1,119,840	$186,640	No
18	2,233	8	0	0	0	0	0	5.7	8	4	12	$1,205,820	$100,485	No
20	2,032	8	0	0	0	0	0	5.2	8	2	10	$1,219,200	$121,920	No
22	1,844	8	0	0	0	0	0	5.3	8	2	10	$1,217,040	$121,704	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

noise level with the recommended build alternative is 66.0 dBA, a level that approaches the NAC.

The results of the evaluation are provided in **Table 5-5**. As shown, the desired goal of reducing predicted traffic noise levels 10 dBA or more could not be achieved at the affected residences. As also shown, the barrier could provide the affected residences with a reduction in traffic noise of at least 5 dBA at a height of 22 ft. At this height, the total estimated cost to construct a barrier is $1,519,320 and the cost per benefited residence is $506,440, a cost that exceeds the FDOT's cost reasonable guidelines. Because the cost per benefited site exceeds the FDOT's cost reasonable guidelines, Barrier 6 is not considered a reasonable noise abatement measure.

There is no indication that crash tested structures would otherwise be provided as part of the roadway improvement in this area. Therefore, shoulder and/or combination ROW/shoulder barriers were not evaluated for the affected residences in Cypress Creek Village.

5.5.7 Barrier 7 - Lake St. Clair[2]

Lake St. Clair subdivision is located in an unincorporated area of Hillsborough County. The community is located west of I-75 and south of Big Bend Road. Barrier 7, a ROW barrier, was evaluated for the 96 residences (Sites 1-41 and 44 which represent the 96 residences) within this community that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the recommended build alternative range from 66.0 to 79.4, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-6**. As shown, the results of the analysis indicate that predicted traffic noise levels may be reduced 10.0 dBA or more for two to 44 of the affected residences at barrier heights of 12 to 22-ft. As also shown, a barrier would provide 95 of the 96 affected residences with a reduction in traffic noise of at least 5.0 dBA at a height of 22-ft. At heights of 12 to 22-ft, the estimated cost to construct a barrier ranges from $1,820,880 to $3,569,280 and the cost per benefited residence ranges from $33,562 to $38,594, costs below

[2] See Sheets 29-30 in **Appendix A** of this *NSR*.

Table 5-5 Noise Barrier Results, Barrier 6 – Cypress Creek Village

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
14	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
16	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
18	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
20	3,765	0	0	0	0	0	0	<5	0	0	0	--	--	--
22	2,302	3	0	0	0	0	0	5.2	3	0	3	$1,519,320	$506,440	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-6 Noise Barrier Results, Barrier 7 – Lake St. Clair

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	5,308	2	1	0	0	0	0	5.5	3	0	3	$1,273,920	$424,640	No
10	5,608	6	12	3	2	0	0	6.9	23	0	23	$1,682,400	$73,148	No
12	5,058	4	12	21	7	2	2	7.4	48	0	48	$1,820,880	$37,935	Yes
14	5,054	5	4	9	16	17	4	8.0	55	0	55	$2,122,680	$38,594	Yes
16	5,258	14	6	4	7	16	21	8.3	68	0	68	$2,523,840	$37,115	Yes
18	5,258	23	8	7	2	7	37	8.7	84	0	84	$2,839,320	$33,801	Yes
20	5,258	27	8	9	4	3	42	8.9	93	1	94	$3,154,800	$33,562	Yes
22	5,408	7	23	14	5	2	44	9.3	95	1	96	$3,569,280	$37,180	Yes

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

the FDOT's cost reasonable guidelines.

Because the results of the analysis indicate that Barrier 7 would provide most of the affected residences with a reduction in traffic noise of at least 5.0 dBA at a cost below the cost reasonable guideline, the barrier was considered further. The additional barrier considerations are summarized in **Table 5-7**. Because the additional considerations did not indicate that there were any reasons not to do so, Barrier 7 will be evaluated further in the design phase of the I-75 project when more detailed engineering data is available.

5.5.8 Barrier 8 - Covington Park[3]

Covington Park subdivision is located in an unincorporated area of Hillsborough County, west of I-75 and south of Big Bend Road (just north of Lake St. Clair subdivision). Barrier 8, a ROW barrier, was evaluated for the 89 residences (Sites 2-8, 11-16, 18-27, 29-48, 50-58, 60, and 61 which represent the 89 residences) within this community that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the recommended build alternative range from 66.0 to 76.7 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-8**. As shown, the results of the analysis indicate that predicted traffic noise levels may be reduced 10.0 dBA or more for one to 34 of the affected residences at barrier heights of 16 to 22-ft. As also shown, a barrier would provide all 89 of the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 16 to 22-ft. The estimated cost to construct a barrier at these heights ranges from $1,540,140 to $2,177,340 and the cost per benefited residence ranges from $19,963 to $22,649, costs below the FDOT's cost reasonable guidelines. Because the results of the analysis indicate that Barrier 8 would provide the affected residences with a reduction in traffic noise of at least 5.0 dBA at a cost below the cost reasonable guidelines, a barrier was considered further. The additional considerations are summarized in **Table 5-9**. Because the additional considerations did not indicate that there were any reasons not to do so, Barrier 8 will be evaluated further in the design phase of the I-75 project when more detailed engineering data is available.

[3] See Sheets 30-31 in **Appendix A** of this *NSR*.

Table 5-7 Additional Considerations, Barrier 7 - Lake St. Clair

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 96 residences are predicted to experience traffic noise levels ranging from 66.0 to 79.4 dBA (levels that approach and exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height, traffic noise from I-75 may be reduced a minimum of 5 dBA at 48 to 95 of the affected residences (an average reduction in traffic noise ranging from 7.4 to 9.3 dBA).
3. Safety	The barrier would be located outside of the clear zone.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land	The noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At lengths that range from 5,054 ft to 5,408 ft and heights that range from 12 to 22 ft, the estimated cost to construct a barrier ranges from $1,820,880 to $3,569,280 and the cost per benefited receiver ranges from $33,562 to $38,594, costs below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

Table 5-8 Noise Barrier Results, Barrier 8 – Covington Park

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	4,523	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	4,523	0	0	0	0	0	0	<5	0	0	0	--	--	--
12	2,906	16	7	1	0	0	0	5.7	24	0	24	$1,046,160	$43,590	No
14	3,667	15	16	31	3	0	0	6.7	65	3	68	$1,540,140	$22,649	Yes
16	3,917	18	19	17	26	8	1	7.2	89	5	94	$1,880,160	$20,002	Yes
18	3,549	10	9	24	15	18	13	7.9	89	7	96	$1,916,460	$19,963	Yes
20	3,399	5	12	8	25	9	30	8.5	89	7	96	$2,039,400	$21,244	Yes
22	3,299	3	11	6	13	22	34	9.0	89	8	97	$2,177,340	$22,447	Yes

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-9 Additional Considerations, Barrier 8 - Covington Park

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 89 residences are predicted to experience traffic noise levels ranging from 66.0 to 76.7 dBA (levels that approach and exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height, traffic noise from I-75 may be reduced a minimum of 5 dBA at 65 to all 89 of the affected residences (an average reduction in traffic noise ranging from 6.7 to 9.0 dBA).
3. Safety	The barrier would be located outside of the clear zone.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land	The noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At lengths that range from 3,299 ft to 3,917 ft and heights that range from 14 to 22 ft, the estimated cost to construct a barrier ranges from $1,540,140 to $2,177,340 and the cost per benefited receiver ranges from $19,963 to $22,649, costs below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

5.5.9 Barriers 9A and 9B - Noise Sensitive Area West of I-75 and South of Gibsonton Drive[4]

West of I-75 and south of Gibsonton Drive is a noise sensitive area where 114 affected noise sensitive sites are located. The sites consist of:

- Isolated/enclaves of residences (Sites 31-59, 62, 83-85, and 103-105),
- Southwind subdivision (Sites 1-6, 9, and 10),
- East Bay Lakes subdivision (Sites 2-25, 28-46, and 59-61), and
- Bullfrog Creek subdivision (Sites 3-8 and 10-13).

Barrier 9, a ROW barrier, was evaluated for the affected residences. At these sites, the predicted traffic noise levels with the recommended build alternative range from 66.0 to 79.6 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-10**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could be achieved at two to 25 of the affected residences at barrier heights of 12 to 22-ft. As also shown, the barrier could provide from 39 to 85 of the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights ranging from 12 to 22-ft.

At barrier heights of 12 to 22-ft, the total estimated cost to construct a barrier ranges from $3,150,360 to $6,132,060 and the cost per benefited residence ranges from $62,227 to $81,676, costs that exceed the FDOT's cost reasonable guidelines. Although a feasible traffic noise abatement measure, the cost per benefited site exceeds the FDOT's cost reasonable guidelines, thus Barrier 9 is not considered a reasonable abatement measure.

[4] See Sheets 38-41 in **Appendix A** of this *NSR*.

Table 5-10 Noise Barrier Results, Barrier 9A – Noise Sensitive Area West of I-75 and South of Gibsonton Drive

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	10,384	0	1	1	1	0	0	7.6	3	0	3	$2,492,160	$830,720	No
10	8,102	6	2	0	1	2	0	6.5	11	0	11	$2,430,600	$220,964	No
12	8,751	16	14	3	3	1	2	6.5	39	0	39	$3,150,360	$80,778	No
14	8,751	8	9	17	4	3	4	7.5	45	0	45	$3,675,420	$81,676	No
16	9,004	19	6	11	16	5	8	7.6	65	1	66	$4,321,920	$65,484	No
18	8,825	7	20	10	15	9	11	8.0	72	2	74	$4,765,500	$64,399	No
20	8,608	9	10	20	9	11	17	8.3	76	7	83	$5,164,800	$62,227	No
22	9,291	10	9	13	18	10	25	8.5	85	10	95	$6,132,060	$64,548	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Because the analysis indicates that a ROW noise barrier would not be a reasonable noise abatement measure, a combination ROW/shoulder barrier (Barrier 9B) was evaluated for the affected residences in this noise sensitive area. The results of the analysis indicate that ROW barriers north and south of Symmes Road at lengths of 2,808 and 3,740, respectively and heights of 22 and 20-ft respectively, in combination with two barrier segments at lengths of 2,450 and 1,-87-ft and 14-ft in height on the elevated roadway sections at Symmes Road and Bullfrog Creek would provide 113 of the affected residences at least 5.0 dBA reduction in traffic noise. The estimated cost of the combination ROW/shoulder barrier is $5,582,820 or $41,354, a cost below the FDOT's cost reasonable guidelines.

Because the results of the analysis indicate that Barrier 9B would provide at least a 5.0 dBA reduction in traffic noise at a cost below the cost reasonable guidelines, a barrier was considered further. The additional considerations are summarized in **Table 5-11**. Because the additional considerations did not indicate that there were any reasons not to do so, Barrier 9B will be evaluated further in the design phase of the I-75 project when more detailed engineering data is available.

Notably, as shown on Sheets 39-40 in **Appendix A** of this report, the PD&E Phase traffic noise analysis indicates that it would not be necessary to overlap the ROW and shoulder barrier sections at two locations. Should the detailed analysis during the design phase indicate that barrier overlaps are necessary, there is a potential for this noise barrier not to be considered cost reasonable (because the cost per benefited receiver is close to the cost reasonable guideline).

Table 5-11 Additional Considerations, Barrier 9B - Noise Sensitive Area West of I-75 and South of Gibsonton Drive

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 114 residences are predicted to experience traffic noise levels ranging from 66.0 to 79.6 dBA (levels that approach and exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height, traffic noise from I-75 may be reduced a minimum of 5 dBA at 113 of the affected residences (an average reduction in traffic noise of 8.3 dBA).
3. Safety	The ROW barrier would be located outside of the clear zone and the shoulder barrier would be located behind a crash tested structure.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land	The ROW portion of the noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At a total ROW length of 6,548 and a total shoulder length of 3,537 ft and ROW heights of 20 and 22 ft and shoulder height of 14 ft, the estimated cost to construct a barrier is $5,582,820 and the cost per benefited receiver is $41,354, a cost below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

5.5.10 Barriers 10A and 10B - Isolated/Enclaves of Residences Between Big Bend Road and Gibsonton Drive

Between Big Bend Road and Gibsonton Drive, there are 38 isolated residences and residences in small enclaves that would be affected by the proposed improvements to I-75 (Sites 1-3, 20-22, 24-29, 31-33, 64-77, 79, 80, 82, and 88-93). To evaluate the potential for noise barriers to be considered feasible and reasonable to abate the predicted impacts at these residences, a group of residences in this segment of I-75 was evaluated as a "best case" scenario.

Notably, the selection of the group of residences for the "best case" analysis was made during the draft stages of the traffic noise analysis. At that time, 87 residences were identified as being either isolated or located in enclaves within this segment of the project corridor. For the final traffic noise analysis, 49 of 87 residences were re-evaluated as part of the noise sensitive area located west of I-75 and south of Gibsonton Drive (see Section 5.5.9 of this *NSR*).

Although the draft traffic noise analysis was not performed for any of the 38 residences currently identified as being isolated or located in enclaves, the analysis remains valid for these residences because the analysis was performed for the "best case" of all 87 noise sensitive sites. As such, the following discusses the "best case" analysis that was performed for 46 of the 87 affected residences (Sites 1-42, 45, and 49-51).

Barrier 10A, a ROW barrier, was evaluated for the isolated residences. These sites were selected as the "best case" scenario in this segment of the I-75 study corridor because the residences have the highest density (i.e., are closest together) and are closest to the roadway and potential barrier location. At these sites, the predicted traffic noise levels with the recommended build alternative ranges from 66.7 to 78.3 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-12**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could be achieved at two to 17 of the affected residences at barrier heights of 12 to 22-ft. As also shown, the barrier could provide from 33 to 41 of the affected residences with a reduction in traffic noise of at least 5.0 dBA at heights

Table 5-12 Noise Barrier Results, Barrier 10A – Isolated/Enclaves of Residences Between Big Bend Road and Gibsonton Drive

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	1,820	0	1	1	1	0	0	7.6	3	0	3	$436,800	$145,600	No
10	2,728	2	2	0	1	2	0	7.4	7	0	7	$818,400	$116,914	No
12	4,439	14	12	1	3	1	2	6.4	33	0	33	$1,598,040	$48,425	No
14	4,239	9	7	11	3	3	4	7.5	37	0	37	$1,780,380	$48,118	No
16	4,624	2	6	11	9	3	7	8.3	38	0	38	$2,219,520	$58,408	No
18	5,109	2	4	6	12	5	10	8.8	39	0	39	$2,758,860	$70,740	No
20	5,005	2	3	6	7	9	12	9.3	39	0	39	$3,003,000	$77,000	No
22	4,955	3	4	4	5	8	17	9.6	41	0	41	$3,270,300	$79,763	No

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

ranging from 12 to 22-ft. Notably, the results indicate that a noise barrier would not benefit all of the affected residences due to the distance of the residences from the roadway and the barrier location. At these heights, the total estimated cost to construct a barrier ranges from $1,598,040 to $3,270,300 and the cost per benefited residence ranges from $48,118 to $79,763, costs that exceed the FDOT's cost reasonable guidelines. Because the cost per benefited site exceeds the FDOT's cost reasonable guidelines, Barrier 10A is not considered a reasonable noise abatement measure.

Because the analysis indicates that a ROW noise barrier would not be a reasonable noise abatement measure, a combination ROW/shoulder barrier (Barrier 10B) was evaluated. The results of the analysis indicate that the 46 affected noise sensitive sites would be benefited by a ROW/shoulder barrier combination.

The results of the analysis indicate that a ROW barrier 3,740 ft in length and 20-ft in height in combination with a shoulder barrier 1,850-ft in length and 14-ft in height would provide 46 noise sensitive sites at least a 5.0 dBA reduction in traffic noise. The estimated cost of the combination ROW/shoulder barrier is $3,021,000 or $64,277 per benefited receiver, a cost above the FDOT's cost reasonable guidelines. Because the cost exceeds the FDOT guideline, Barrier 10B was not considered further.

5.5.11 Barrier 11 - Noise Sensitive Area West of I-75 and North of Alafia River[5]

West of I-75 and north of the Alafia River is a noise sensitive area consisting of the following:

- Isolated /enclaves of residences (Sites 5-11 and 13-14) and
- Lake Fantasia (Sites 4-19, 22-25, 29-31, and 33-69).

Barrier 11, a ROW barrier, was evaluated for the 123 residences within this community that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the build alternative range from 66.0 to 77.4 levels that approach, meet and exceed the NAC.

[5] See Sheets 45-46 in **Appendix A** of this *NSR*.

The results of the evaluation are provided in **Table 5-13**. As shown, predicted traffic noise levels may be reduced 10.0 dBA or more for 12 to 43 of the affected residences at barrier heights of 16 to 22-ft. Traffic noise may be reduced at least the minimum required 5.0 dBA at 20 to 90 of the affected residences at barrier heights from 10 to 22-ft. Notably, a noise barrier would not reduce traffic noise for some of the affected residences due to a limitation on the length of the barrier (Riverview Drive) and the distance of the residences from the roadway and the barrier location.

At heights of 10 to 22-ft, the estimated cost to construct a barrier ranges from $533,700 to $2,348,940 and the cost per benefited residence ranges from $20,022 to $26,685, costs below the FDOT's cost reasonable guidelines.

Because the results of the analysis indicate that Barrier 11 would provide the affected residences with a reduction in traffic noise of at least 5.0 dBA at a cost below the cost reasonable guidelines, a barrier was considered further. The additional considerations are summarized in **Table 5-14**. Because the additional considerations did not indicate that there were any reasons not to do so, Barrier 12 will be evaluated further in the design phase of the I-75 project when more detailed engineering data is available.

Notably, the results of the analysis also indicate that extending Barrier 11 any further south along the ROW would not benefit the affected residences south of Riverview Drive due to the elevation of the roadway which is greater than 22-ft, the maximum barrier height.

5.5.12 Barrier 12 - Noise Sensitive Area East Of I-75 and North of the Alafia River[6]

East of I-75 and north of the Alafia River is a noise sensitive area which has 350 affected noise sensitive sites. Notably, 180 of the affected sites are located beyond the study limits for the segment of I-75 evaluated in this report. These sites are located within the Village of Bloomingdale Condominiums. Within the study limits, the sites are located as follows:

[6] See Sheets 45-48 in **Appendix A** of this *NSR*.

Table 5-13 Noise Barrier Results, Barrier 11 – Noise Sensitive Area West of I-75 and North of the Alafia River

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	3,559	0	0	0	0	0	0	<5	0	0	0	--	--	--
10	1,779	15	5	0	0	0	0	5.5	20	0	20	$533,700	$26,685	Yes
12	2,169	14	5	19	1	0	0	6.7	39	0	39	$780,840	$20,022	Yes
14	2,569	9	11	8	10	15	0	7.3	53	0	53	$1,078,980	$20,358	Yes
16	2,869	14	7	12	7	13	12	7.7	65	0	65	$1,377,120	$21,186	Yes
18	2,669	8	8	6	12	7	25	8.3	66	0	66	$1,441,260	$21,837	Yes
20	3,469	9	8	12	5	19	25	8.5	78	0	78	$2,081,400	$26,685	Yes
22	3,559	15	8	7	11	6	43	8.3	90	0	90	$2,348,940	$26,099	Yes

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-14 Additional Considerations, Barrier 11 - Noise Sensitive Area West of I-75 and North of the Alafia River

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 123 residences are predicted to experience traffic noise levels ranging from 66.0 to 77.4 dBA (levels that approach, meet, and exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height, traffic noise from I-75 may be reduced a minimum of 5 dBA at 20 to 90 of the affected residences (an average reduction in traffic noise ranging from 5.5 to 8.5 dBA).
3. Safety	The barrier would be located outside of the clear zone.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land	The noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At lengths that range from 1,779 ft to 3,559 ft and heights that range from 10 to 22 ft, the estimated cost to construct a barrier ranges from $533,700 to $2,348,940 and the cost per benefited receiver ranges from $20,022 to $26,685, costs below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

- Isolated/enclaves of residences (Sites 21-35, 37-39, and 41-42),
- Riverview Drive Estates subdivision (Sites 1-15),
- Byars Riverview Estates (Sites 1-25), and
- Lake St. Charles subdivision (Sites 1-14 and 16-38).

Barrier 12, a ROW barrier, was evaluated for the affected residences. At these sites, the predicted traffic noise levels with the Recommended Build Alternative ranges from 66.0 to 80.7 dBA, levels that approach and exceed the NAC.

The results of the evaluation are provided in **Table 5-15**. As shown, the desired goal of reducing predicted traffic noise levels 10.0 dBA or more could be achieved at two to 148 of the affected residences at barrier heights of 12 to 22-ft. As also shown, the barrier could provide from 98 to 316 of the affected residences with a reduction in traffic noise of at least 5.0 dBA at these heights.

At barrier heights of 12 to 22-ft, the total estimated cost to construct a barrier ranges from $3,526,920 to $7,193,340 and the cost per benefited residence ranges from $17,715 to $35,989, costs below the FDOT's cost reasonable guidelines. Because the results of the analysis indicate that Barrier 12 would provide the affected residences with a reduction in traffic noise of at least 5.0 dBA at a cost below the cost reasonable guidelines, a barrier was considered further. The additional considerations are summarized in **Table 5-16**.

Notably, the results of the analysis also indicate that extending Barrier 12 any further south along the ROW would not benefit the affected residences south of Riverview Drive due to the elevation of the roadway which is greater than 22-ft, the maximum barrier height. Additionally, although it would appear that Barrier 12 would be constructed to abate traffic noise on the undeveloped properties between Byars Riverview Acres and Lake St. Charles, the extent of the barrier in this area is necessary to reduce traffic noise at the residences in both of these communities.

Table 5-15 Noise Barrier Results, Barrier 12 – Noise Sensitive Area East of I-75 and North of the Alafia River

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	1,182	4	1	0	0	0	0	5.7	5	0	5	$283,680	$56,736	No
10	9,366	24	0	5	2	0	0	6.3	31	0	31	$2,809,800	$90,639	No
12	9,797	61	11	5	16	3	2	6.5	98	0	98	$3,526,920	$35,989	Yes
14	9,797	65	73	10	19	15	13	7.0	195	9	204	$4,114,740	$20,170	Yes
16	11,293	93	72	47	34	21	28	7.4	295	11	306	$5,420,640	$17,715	Yes
18	11,198	10	40	90	94	29	49	8.4	312	15	327	$6,046,920	$18,492	Yes
20	10,899	10	23	50	71	71	90	9.1	315	15	330	$6,539,400	$19,816	Yes
22	10,899	5	18	33	64	48	148	9.8	316	15	331	$7,193,340	$21,732	Yes

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-16 Additional Considerations, Barrier 12 - Noise Sensitive Area East of I-75 and North of the Alafia River

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 350 residences are predicted to experience traffic noise levels ranging from 66.0 to 80.7 dBA (levels that approach, meet, and exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height (12 to 20 ft), traffic noise from I-75 may be reduced a minimum of 5 dBA at 98 to 316 of the affected residences (an average reduction in traffic noise ranging from 6.5 to 9.8 dBA).
3. Safety	The barrier would be located outside of the clear zone.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land)	The noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At lengths that range from 9,797 ft to 10,889 ft and heights that range from 12 to 22 ft, the estimated cost to construct a barrier ranges from $3,526,920 to $7,193,340 and the cost per benefited receiver ranges from $17,715 to $35,989, costs below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

5.5.13 Barrier 13 - Eagle Palms[7]

Eagle Palms is located in the City of Riverview, west of I-75 and north of the Alafia River. Barrier 13, a ROW barrier, was evaluated for the 125 residences (Sites 2-4, 16-29, and 31-40) within this community that are predicted to be affected by the proposed I-75 improvements. At the affected sites, the predicted traffic noise levels with the build alternative range from 67.2 to 78.4, levels that exceed the NAC.

The results of the evaluation are provided in **Table 5-17**. As shown, the results of the analysis indicate that predicted traffic noise levels may be reduced 10.0 dBA or more at 16 to 33 of the affected residences with barrier heights of 16 to 22-ft. At heights ranging from 10 to 22-ft, a noise barrier would provide at least the minimum required 5.0 dBA reduction in traffic noise at 40 to all 125 affected residences. At these heights the estimated cost to construct a barrier ranges from $754,500 to $1,436,820 and the cost per benefited residence ranges from $8,473 to $18,863, costs below the FDOT's cost reasonable guidelines.

Because the results of the analysis indicate that Barrier 13 would provide the affected residences with a reduction in traffic noise of at least 5.0 dBA at a cost below the cost reasonable guidelines, a barrier was considered further. The additional considerations are summarized in **Table 5-18**. Because the additional considerations did not indicate that there were any reasons not to do so, Barrier 13 will be evaluated further in the design phase of the I-75 project when more detailed engineering data is available.

5.6 Summary of Abatement Considerations

As previously stated, future traffic noise levels with the proposed improvements to I-75 are predicted to approach, meet, or exceed the NAC at 852 noise sensitive sites adjacent to the project corridor. Noise abatement measures were evaluated for each of the 852 sites. The measures were traffic management, alternative roadway alignments, buffer zones, and noise barriers.

[7] See Sheets 47-48 in **Appendix A** of this *NSR*.

Table 5-17 Noise Barrier Results, Barrier 13 - Eagle Palms

Barrier Height (ft)	Barrier Length (ft)[d]	Insertion Loss (IL-dBA) for Affected Noise Sensitive Sites						Avg IL of Affected/ Benefited	Number of Benefited Noise Sensitive Sites			Total Estimated Barrier Cost[b]	Cost Per Benefited Noise Sensitive Site	Cost Reasonable[c] (Yes/No)
		5.0 -5.9	6.0 - 6.9	7.0 -7.9	8.0 -8.9	9.0 -9.9	10.0 or >		Affected	Other[a]	Total			
8	2,515	4	0	0	0	0	0	5.2	4	0	4	$603,600	$150,900	No
10	2,515	28	12	0	0	0	0	5.5	40	0	40	$754,500	$18,863	Yes
12	2,377	32	4	4	12	0	0	6.2	52	0	52	$855,720	$16,456	Yes
14	2,377	40	24	12	0	16	0	6.6	92	4	96	$998,340	$10,399	Yes
16	2,277	26	38	34	11	0	16	7.0	125	4	129	$1,092,960	$8,473	Yes
18	2,277	10	32	30	26	11	16	7.8	125	4	129	$1,229,580	$9,532	Yes
20	2,177	8	32	28	20	19	18	8.1	125	4	129	$1,306,200	$10,126	Yes
22	2,177	8	24	26	24	10	33	8.4	125	4	129	$1,436,820	$11,138	Yes

[a] Other = Receivers not impacted by the project (traffic noise levels less than 66 dBA) but incidentally benefited by a noise barrier.
[b] Calculated at $30.00 per square foot.
[c] Barriers are considered cost reasonable if the cost per benefited receiver is less than $42,000.
[d] Barrier lengths are optimized at each height to benefit the maximum number of affected noise sensitive sites.

Table 5-18 Additional Considerations, Barrier 13 - Eagle Palms

Evaluation Criteria	Comment
1. Relationship of future levels to the abatement criteria	With the proposed improvements 125 residences are predicted to experience traffic noise levels ranging from 67.2 to 78.4 dBA (levels that exceed the abatement criteria).
2. Amount of noise reduction	Depending on barrier height, traffic noise from I-75 may be reduced a minimum of 5 dBA at 40 to all of the affected residences (an average reduction in traffic noise ranging from 5.5 to 8.4 dBA).
3. Safety	The barrier would be located outside of the clear zone.
4. Community desires	Community desires will be solicited as part of the ongoing public involvement process.
5. Accessibility	Since this is currently a limited access roadway, accessibility will not be affected by the construction of a noise barrier.
6. Land use stability	Land use in the area is residential. It is expected that this land use will remain in the future.
7. Local controls	Hillsborough County's planning and zoning departments do not have controls that restrict noise sensitive land uses adjacent to the corridor.
8. Views of local officials with jurisdiction	The views of local officials will be solicited as part of the ongoing public involvement process.
9. Antiquity	The residences were constructed prior to the date of public knowledge for the improvements to this segment of I-75.
10. Constructability	It is anticipated that the barrier could be constructed using routine construction methods. This criterion will be reviewed in greater detail during the design phase of the project.
11. Maintainability	There should be adequate right-of-way for maintenance purposes. This criterion will also be reviewed in greater detail during the design phase of the project.
12. Aesthetics	The aesthetics of the noise barrier would be determined by the District in consultation with the affected property owners during the design phase of the project.
13. ROW requirements (including access rights, easements for construction and/or maintenance, and additional land)	The noise barrier would be located within the FDOT's right-of-way line for the project and as close to the right-of-way line as possible (five ft or less).
14. Cost	At lengths that range from 2,177 ft to 2,515 ft and heights that range from 10 to 22 ft, the estimated cost to construct a barrier ranges from $754,500 to $1,436,820 and the cost per benefited receiver ranges from $8,473 to $18,863, costs below the FDOT's cost reasonable guidelines.
15. Utilities	It does not appear that the barrier would pose any conflicts with existing/planned utilities. This criterion will be reviewed in greater detail during the design phase of the project.
16. Drainage	It is not anticipated that the barrier would impede/restrict drainage in the area. This criterion will also be reviewed in greater detail during the design phase of the project.
17. Special land use considerations	None.
18. Other environmental considerations	None.

Based on the results of the analysis, traffic management and alternative roadway alignments would not be reasonable methods of reducing predicted traffic noise impacts at the affected sites. Further, providing a buffer between the highway and future noise sensitive land uses can be implemented as part of the local land use planning process, so this measure is not considered a reasonable method of abating future traffic noise for existing noise sensitive sites. Finally, the results of the analysis also indicate that construction of noise barriers is potentially both a feasible and reasonable abatement method to reduce predicted traffic noise levels at up to 551 of the 852 affected sites. There do not appear to be any other feasible and reasonable methods to reduce predicted traffic noise at the remaining 301 sites. Where noise barriers were determined not be feasible or unreasonable, the determination was based on either the inability of a barrier to provide the minimum required reduction in traffic noise or provide the minimum required reduction at a cost below the cost reasonable guideline.

The barriers determined to be a potentially feasible and reasonable abatement measure in connection with the proposed improvements to I-75 are listed in **Table 5-19.** A range of the estimated cost to construct the barriers for these affected and benefited communities/complexes is also provided.

The FDOT will make a final determination of the feasibility and reasonableness of constructing the above barriers during the design phase of the I-75 project. Notably, during the design phase, the length, height, and location of any of these noise barriers could change from what was evaluated in the current PD&E phase. Any of these changes could affect the final determination of whether a noise barrier remains a feasible and reasonable abatement measure. As such, at this time and for the communities identified above, FDOT is only committing to performing a Noise Study Report update during the final design phase of the I-75 project (i.e., the FDOT is not committing to construct any of the noise barriers). The general location of the barriers in **Table 5-19** are illustrated in **Figure 5-1**. The locations and potential extents of Barriers 7, 8, 9B, 11, 12, and 13 are illustrated on the project aerials in **Appendix A** of this *NSR*.

Table 5-19 Potentially Feasible and Reasonable Noise Barriers

Barrier No.	Noise Sensitive Area	Sheet No(s).[a]	Barrier			Number of Affected Sites	Number of Affected and Benefited Sites	Estimated Range of Barrier Cost
			Location [b]	Length (Range in ft)	Height (Range in ft)			
7	Lake St. Clair	29-31	ROW	5,054 - 5,408	12 - 22	96	48 - 95	$1,820,880 - $3,569,280
8	Covington Park	30-32	ROW	3,299 - 3,917	14 - 22	89	65-89	$1,540,140 - $2,177,340
9B	West of I-75 and South of Gibsonton Dr	38-41	2 ROW Segments/ 2 Shoulder Segments	ROW - 2,808 and 3,740 Shoulder - 2,450 and 1,087	ROW - 22 and 20 Shoulder - 14	114	113[d]	$5,582,820[d]
11	West of I-75 and North of the Alafia River	45-46	ROW	1,779 - 3,559	10 - 22	123	20-90	$533,700 - $2,348,940
12[c]	East of I-75 and North of the Alafia River	45-48	ROW	9,797 - 10,899	12 - 22	350	98 - 316	$3,526,920 - $7,193,340
13	Eagle Palms	47-48	ROW	2,177 - 2,515	10 - 22	37	40 - 125	$754,500 - $1,436,820
Total	--	--	--	32,368 -36,560 (Approximately 6 - 7 miles)	10 - 22	809	384 -828	$13,758,960 - $22,308,540

[a] See Appendix A of this NSR.
[b] When shoulder barriers are considered, only the most optimum barrier length/height is reported.
[c] Barrier 13 extends beyond the project limits for this segment of I-75. See the Noise Study Report for WPI Segment No. 419235-3 (I-75 from south of US 301 to north of Fletcher Avenue).

Figure 5-1 Potential Feasible and Reasonable Noise Barriers

Construction of the barriers listed above is also contingent on the following:

- Refined noise analysis using engineering details developed during the final design phase supports noise barriers as a feasible and cost reasonable abatement measure.

- All safety and engineering aspects of the barriers, as they relate to the roadway users and to the adjacent property owners, have been reviewed and approved.

- The property owners indicate a positive desire for a barrier (including type, height, length, and location).

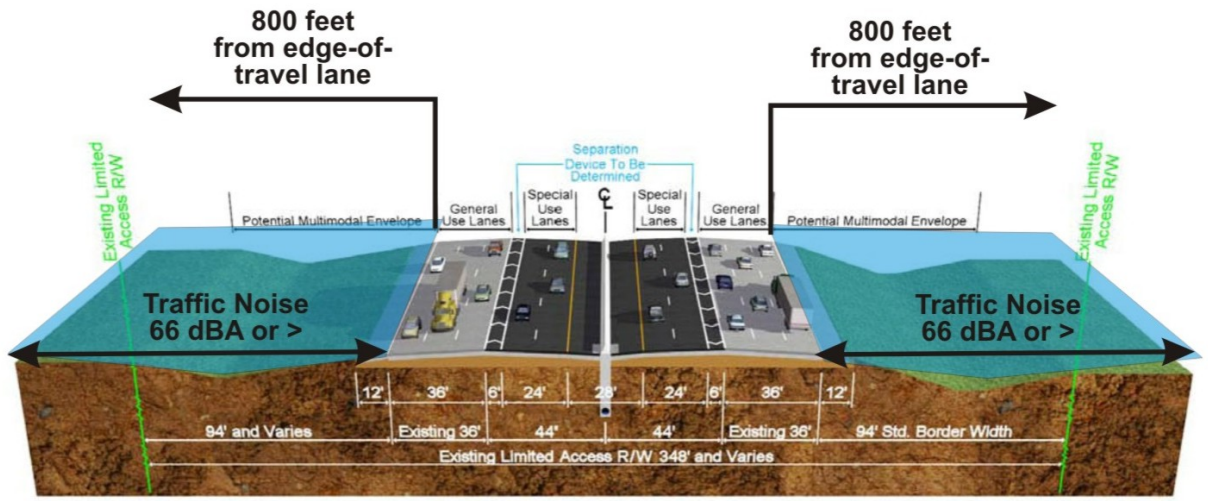
Section 6 - NOISE CONTOURS

Land uses such as residences, motels, schools, churches, recreation areas, and parks are considered incompatible with highway noise levels above 66.0 dBA. In order to reduce the possibility of additional noise related impacts, noise level contours were developed for the future improved roadway facility. Assuming that there are no intervening structures, these noise contours delineate the distance from the improved roadway's edge-of-travel lane where the 66.0 dBA (the NAC for Activity Category B) is expected to occur in the year 2035 with the proposed improvements to I-75.

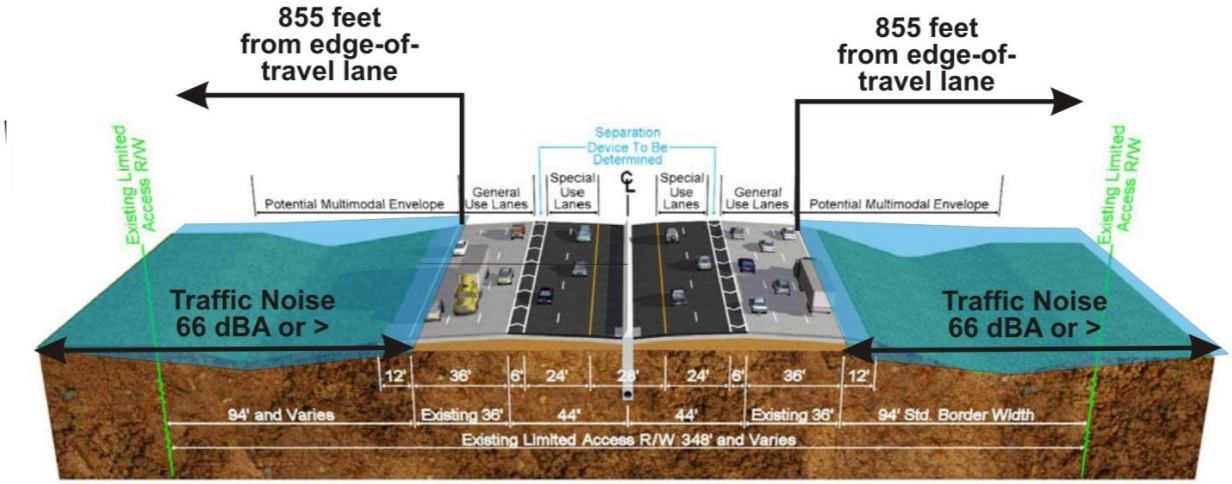
As shown in **Table 6-1**, within the project limits, the extent of the 66.0 dBA extends from 800 to 855-ft from the improved roadway's edge-of-travel lane. **Figure 6-1** illustrates the noise contours.

Table 6-1 Noise Contours

Roadway Segment	Distance to 66 dBA from Improved Roadway's Edge-of-Travel Lane (ft)
Project Begin (Station 75, north of Moccasin Wallow Road) to Gibsonton Drive	800
Gibsonton Drive to Project End (Station 1260, south of Progress Boulevard)	855
* Distances do not reflect any reduction in noise levels that would occur from existing structures (shielding) and should be used for planning purposes only.	



Project Begin (Station 75, north of Moccasin Wallow Rd) to Gibsonton Dr



Gibsonton Dr to Project End (Station 1260, south of Progress Blvd)

I-75 (SR 93A) PD&E Study *Moccasin Wallow Rd to US 301* WPI Segment No. 419235-2 Hillsborough and Manatee Counties	**Noise Contours**	**Figure 6-1**

Section 7 - CONSTRUCTION NOISE AND VIBRATION

Construction of roadway improvements will have a temporary impact on sensitive sites adjacent to the project corridor. Trucks, earth moving equipment, pumps, and generators are sources of construction noise and vibration. Construction noise and vibration impacts will be minimized by adherence to the FDOT's *Standard Specifications for Road and Bridge Construction*.

Section 8 – PUBLIC INVOLVEMENT

Two Alternatives Public Workshops were held for the I-75 project on June 15, 2009 at the United Methodist Church of Sun City Center located at 1210 Del Webb Boulevard West, in Sun City Center and on June 17, 2009 at the Florida State Fairgrounds located at 4800 US 301, in Tampa. The purpose of these workshops was to present the alternatives being considered and to provide the public with an opportunity to express their views. Copies of the traffic noise related handouts for the public workshop are provided in **Appendix D** of this *NSR*.

A public hearing is currently scheduled for May 6, 2010 at the Florida State Fairgrounds to inform the public of the results of the PD&E Study and to give the public the opportunity to express their views regarding the location, design, socioeconomic effects, and environmental impacts associated with the Recommended Build Alternative.

Section 9 - REFERENCES

Federal Highway Administration. February 2004. *Traffic Noise Model*, Version 2.5.

Federal Highway Administration. May 1996. *Measurement of Highway-Related Noise*. FHWA-PD-96-046.

Title 23 CFR, Part 772. June 16, 2009. Federal Highway Administration. U.S. Department of Transportation. *Procedures for Abatement of Highway Traffic Noise and Construction Noise.*

Florida Department of Transportation. April 18, 2007. *Project Development and Environment Manual*, Part 2, Chapter 17 – Noise.

Florida Department of Transportation. 2007. *Standard Specifications for Road and Bridge Construction*.

Florida Department of Transportation. 2009. Plans Preparation Manual, Volume 1, Chapter 32, Sound Barriers.

Florida Department of Transportation. July 22, 2009. *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations.*

APPENDIX A
Project Aerials

Insert Project Aerials Here

APPENDIX B
Validation Documentation

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Wayne Arner, Sarah Sloan, Paul Sanford, Corey Carter Date: 10-1-09
Date: 6/11/09
Time Study Started: 0909 Time Study Ended: 0945
Project Identification:
WPI Segment Number: 419235-2
Project Location: I-75 From Moccasin Wallow Road to US 301

Site Identification: Site 1 – Just N. of Lake Fantasia (Runs 1-3)

Weather Conditions:
Sky: Clear X Partly Cloudy ____ Cloudy ____ Other ____
Temperature 72.3F Wind Speed 1.2 mph Wind Direction S Humidity 72%
Equipment:
Sound Level Meter:
Type: Larson Davis 831 Serial Number(s): 1285
Did you check the battery? Yes X No ____
Calibration Readings: Start 113.9 End 114.0
Response Settings: Fast ____ Slow X
Weighting: A X Other ____
Calibrator:
Type: Larson Davis CAL200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	Northbound		Southbound	
	I-75		I-75	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	554-552-519	67-70-72	289-301-297	67-70-72
Medium Trucks	14-9-16	62-66-68	17-45-23	62-66-68
Heavy Trucks	16-30-33	61-64-65	49-47-47	61-64-65
Buses				
Motorcycles				
Duration	10 minutes x 3		10 minutes x 3	

RESULTS [dB(A)]

L_{EQ} 64.4-64.3-64.3 Lmax 73.3-72.2-70.1

Background Noise: ____
Major Sources: I-75
Unusual Events: ____

KB Environmental Sciences

NOISE MEASUREMENT DATA SHEET

Measurements Taken By: Wayne Arner, Sarah Sloan, Paul Sanford, Corey Carter Date: 10-1-09
Date: 6/11/09
Time Study Started: 1042 Time Study Ended: 1116
Project Identification:
WPI Segment Number: 419235-2
Project Location: I-75 From Moccasin Wallow Road to US 301

Site Identification: Site 2 – East Bay Lakes (Runs 1-3)
Second Row

Weather Conditions:
Sky: Clear X Partly Cloudy ____ Cloudy ____ Other ____
Temperature 88.6F Wind Speed 1.5 mph Wind Direction S Humidity 43%
Equipment:
Sound Level Meter:
Type: Larsin Davis LxT Serial Number(s): 1843
Did you check the battery? Yes X No ____
Calibration Readings: Start 114.1 End 114.0
Response Settings: Fast ____ Slow X
Weighting: A X Other ____
Calibrator:
Type: Larson Davis CAL200 Serial Number: 5592
Did you check the battery? Yes X No ____

TRAFFIC DATA

Roadway Identification	Northbound		Southbound	
	I-75		I-75	
Vehicle Type	Volume	Speed (mph)	Volume	Speed (mph)
Autos	376-352-368	66-68-69	291-299-282	66-68-66
Medium Trucks	16-10-11	64-64-62	18-21-19	64-64-62
Heavy Trucks	40-56-38	60-64-66	34-43-34	60-64-60
Buses				
Motorcycles				
Duration	10 minutes x 3		10 minutes x 3	

RESULTS [dB(A)]

L_{EQ} 55.4-56.7-55.0 Lmax 63.6-63.9-62.9

Background Noise:
Major Sources: I-75
Unusual Events:

KB Environmental Sciences

APPENDIX C
Predicted Traffic Noise Levels

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
River Bend	1	14	1	60.0	60.0	64.6	4.6	
	2	14	1	59.8	59.8	63.9	4.1	
	3	14	1	61.2	61.2	64.7	3.5	
	4	15	1	63.3	63.3	67.2	3.9	Yes
	5	15	1	63.0	63.0	66.0	3.0	Yes
Park Village	1	16	1	60.9	60.9	67.8	6.9	Yes
	2	16	1	58.9	58.9	65.4	6.5	
	3	16	1	57.8	57.8	64.2	6.4	
	4	16	1	61.6	61.6	68.2	6.6	Yes
	5	16	1	59.8	59.8	66.3	6.5	Yes
	6	16	1	58.4	58.4	65.1	6.7	
	7	16	1	62.0	62.0	68.0	6.0	Yes
	8	16	1	62.4	62.4	68.3	5.9	Yes
	9	16	1	61.6	61.6	67.9	6.3	Yes
	10	16	1	60.0	60.0	66.7	6.7	Yes
	11	16	1	58.9	58.9	65.9	7.0	
	12	16	1	64.9	64.9	70.4	5.5	Yes
	13	16	1	63.5	63.5	69.6	6.1	Yes
	14	16	1	62.8	62.8	69.3	6.5	Yes
	15	16	1	61.6	61.6	68.3	6.7	Yes
	16	16	1	59.9	59.9	66.9	7.0	Yes
	17	16	1	58.6	58.6	65.8	7.2	
Isolated/Enclaves of Residences - 21st Ave SE to SR 674	1	16	1	59.1	59.1	65.5	6.4	
	2	16	1	60.3	60.3	67.0	6.7	Yes
	3	16	1	61.0	61.0	67.9	6.9	Yes
	4	17	1	71.4	71.4	75.6	4.2	Yes
	5	17	1	69.4	69.4	74.4	5.0	Yes
	6	17	1	67.2	67.2	73.2	6.0	Yes
	7	17	1	67.3	67.3	72.5	5.2	Yes
	8	17	1	69.4	69.4	73.1	3.7	Yes
	9	17	1	69.9	69.9	73.1	3.2	Yes
	10	17	1	70.4	70.4	73.1	2.7	Yes
	11	17	1	71.4	71.4	76.1	4.7	Yes
	12	17	1	65.3	65.3	72.1	6.8	Yes
	13	17	1	68.0	68.0	74.1	6.1	Yes
	14	17	1	63.7	63.7	70.2	6.5	Yes
	15	17	1	61.5	61.5	68.4	6.9	Yes
	16	17	1	70.4	70.4	72.5	2.1	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Isolated/Enclaves of Residences - 21st Ave SE to SR 674 (continued)	17	17	1	66.3	66.3	72.1	5.8	Yes
	18	17	1	62.0	62.0	68.9	6.9	Yes
	19	17	1	62.2	62.2	69.2	7.0	Yes
	20	17	1	67.9	67.9	73.9	6.0	Yes
	21	18	1	67.9	67.9	74.0	6.1	Yes
	22	18	1	62.6	62.6	69.7	7.1	Yes
	23	18	1	61.4	61.4	68.5	7.1	Yes
	24	18	1	75.5	75.5	79.1	3.6	Yes
	25	18	1	71.5	71.5	76.3	4.8	Yes
	26	18	1	63.8	63.8	70.5	6.7	Yes
	27	18	1	60.2	60.2	66.5	6.3	Yes
	28	18	1	64.4	64.4	70.8	6.4	Yes
	29	18	1	69.0	69.0	74.4	5.4	Yes
	30	18	1	73.1	73.1	75.4	2.3	Yes
	31	18	1	69.7	69.7	72.7	3.0	Yes
	32	18	1	60.8	60.8	65.4	4.6	
	33	18	1	61.8	61.8	66.2	4.4	Yes
	34	18	1	75.7	75.7	79.0	3.3	Yes
	35	18	1	64.3	64.3	70.3	6.0	Yes
	36	18	1	65.4	65.4	68.8	3.4	Yes
	37	18	1	67.5	67.5	71.6	4.1	Yes
	38	18	1	67.0	67.0	71.0	4.0	Yes
	39	18	1	65.8	65.8	70.0	4.2	Yes
	40	18	1	63.1	63.1	67.8	4.7	Yes
	41	18	1	61.4	61.4	66.0	4.6	Yes
	42	19	1	66.5	66.5	72.2	5.7	Yes
	43	19	1	64.2	64.2	70.3	6.1	Yes
	44	19	1	68.6	68.6	73.6	5.0	Yes
	45	19	1	62.6	62.6	68.7	6.1	Yes
	46	19	1	62.9	62.9	68.5	5.6	Yes
	47	19	1	67.4	67.4	71.7	4.3	Yes
	48	19	1	68.3	68.3	72.4	4.1	Yes
	49	19	1	62.2	62.2	68.1	5.9	Yes
	50	19	1	71.2	71.2	75.6	4.4	Yes
	51	19	1	67.6	67.6	73.1	5.5	Yes
	52	19	1	64.4	64.4	70.4	6.0	Yes
	53	19	1	62.8	62.8	68.7	5.9	Yes
	54	19	1	71.3	71.3	75.7	4.4	Yes
Highgate	1	19	2	64.4	64.4	67.2	2.8	Yes
	2	19	2	64.7	64.7	67.1	2.4	Yes
	3	19	2	64.7	64.7	67.1	2.4	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Highgate (continued)	4	19	2	65.0	65.0	66.8	1.8	Yes
	5	19	2	65.6	65.6	66.7	1.1	Yes
	6	19	2	65.3	65.3	66.3	1.0	Yes
	7	19	2	63.0	63.0	65.1	2.1	
	8	19	2	61.3	61.3	63.9	2.6	
	9	19	2	63.9	63.9	66.2	2.3	Yes
	10	19	2	63.9	63.9	66.0	2.1	Yes
	11	19	2	62.8	62.8	65.4	2.6	
Fairway Palms	1	23	2	60.1	60.1	67.2	7.1	Yes
	2	23	2	60.8	60.8	67.3	6.5	Yes
	3	23	2	61.7	61.7	67.3	5.6	Yes
	4	23	2	62.3	62.3	66.5	4.2	Yes
	5	23	2	57.5	57.5	63.6	6.1	
	6	23	2	58.4	58.4	63.4	5.0	
	7	23	2	59.9	59.9	64.1	4.2	
Cypress Creek Assisted Living Residence	1	23	n/a	62.8	62.8	65.3	2.5	
Cypress Creek Village	1	24	1	63.5	63.5	64.8	1.3	
	2	24	3	64.1	64.1	66.0	1.9	Yes
	3	24	2	64.0	64.0	65.7	1.7	
	4	24	1	64.1	64.1	64.6	0.5	
	5	24	1	63.1	63.1	64.5	1.4	
	6	24	1	62.2	62.2	63.4	1.2	
	7	24	1	61.6	61.6	63.3	1.7	
	8	24	1	61.2	61.2	62.8	1.6	
	9	24	2	61.4	61.4	63.4	2.0	
	10	24	2	61.9	61.9	63.4	1.5	
	11	24	2	62.3	62.3	63.2	0.9	
Lake St. Clair	1	29	1	71.8	71.8	76.0	4.2	Yes
	2	29	1	76.2	76.2	79.4	3.2	Yes
	3	29	1	74.8	74.8	78.4	3.6	Yes
	4	29	1	74.6	74.6	78.2	3.6	Yes
	5	29	1	72.4	72.4	76.4	4.0	Yes
	6	29	1	73.8	73.8	77.5	3.7	Yes
	7	29	1	71.9	71.9	76.1	4.2	Yes
	8	29	1	71.1	71.1	75.5	4.4	Yes
	9	29	5	71.1	71.1	75.6	4.5	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Lake St. Clair (continued)	10	29	5	70.5	70.5	74.2	3.7	Yes
	11	30	5	71.2	71.2	75.5	4.3	Yes
	12	30	5	75.1	75.1	78.4	3.3	Yes
	13	30	5	73.4	73.4	77.5	4.1	Yes
	14	30	5	73.6	73.6	77.9	4.3	Yes
	15	30	5	71.6	71.6	76.6	5.0	Yes
	16	30	1	70.9	70.9	75.2	4.3	Yes
	17	30	1	69.4	69.4	73.2	3.8	Yes
	18	29	1	66.6	66.6	71.6	5.0	Yes
	19	29	1	69.8	69.8	74.4	4.6	Yes
	20	29	1	68.0	68.0	72.5	4.5	Yes
	21	29	1	67.0	67.0	71.3	4.3	Yes
	22	29	1	66.5	66.5	70.7	4.2	Yes
	23	29	5	66.0	66.0	69.7	3.7	Yes
	24	29	5	65.5	65.5	69.2	3.7	Yes
	25	30	5	65.1	65.1	68.2	3.1	Yes
	26	30	5	65.7	65.7	69.0	3.3	Yes
	27	30	5	65.6	65.6	68.9	3.3	Yes
	28	30	5	65.7	65.7	69.2	3.5	Yes
	29	30	3	65.7	65.7	69.2	3.5	Yes
	30	30	1	65.1	65.1	68.9	3.8	Yes
	31	30	1	65.4	65.4	69.6	4.2	Yes
	32	29	1	67.3	67.3	73.5	6.2	Yes
	33	29	1	66.7	66.7	71.5	4.8	Yes
	34	29	1	65.8	65.8	70.9	5.1	Yes
	35	29	1	65.1	65.1	70.0	4.9	Yes
	36	29	1	64.6	64.6	69.2	4.6	Yes
	37	29	1	64.1	64.1	68.6	4.5	Yes
	38	29	1	63.3	63.3	67.7	4.4	Yes
	39	29	1	62.7	62.7	66.9	4.2	Yes
	40	29	1	62.3	62.3	66.3	4.0	Yes
	41	29	1	62.3	62.3	66.2	3.9	Yes
	42	29	1	62.2	62.2	65.9	3.7	
	43	30	1	60.7	60.7	65.2	4.5	
	44	30	1	62.3	62.3	66.0	3.7	Yes
Covington Park	1	30	1	60.1	60.1	64.4	4.3	
	2	30	1	61.8	61.8	66.5	4.7	Yes
	3	30	1	63.6	63.6	68.3	4.7	Yes
	4	30	1	66.0	66.0	70.6	4.6	Yes
	5	30	1	67.0	67.0	71.9	4.9	Yes
	6	30	1	66.1	66.1	71.2	5.1	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Covington Park (continued)	7	30	1	63.6	63.6	68.9	5.3	Yes
	8	30	1	61.9	61.9	67.3	5.4	Yes
	9	30	1	60.4	60.4	65.9	5.5	
	10	31	1	60.2	60.2	65.5	5.3	
	11	31	1	61.2	61.2	66.5	5.3	Yes
	12	31	1	62.3	62.3	67.7	5.4	Yes
	13	31	1	63.4	63.4	68.9	5.5	Yes
	14	31	1	64.7	64.7	70.1	5.4	Yes
	15	31	1	66.4	66.4	71.6	5.2	Yes
	16	31	1	68.4	68.4	73.5	5.1	Yes
	17	31	1	59.9	59.9	65.8	5.9	
	18	31	1	60.9	60.9	66.8	5.9	Yes
	19	31	1	62.0	62.0	67.8	5.8	Yes
	20	31	1	63.8	63.8	69.4	5.6	Yes
	21	31	1	65.7	65.7	71.1	5.4	Yes
	22	31	1	67.7	67.7	73.0	5.3	Yes
	23	31	1	66.8	66.8	72.2	5.4	Yes
	24	31	1	65.4	65.4	71.1	5.7	Yes
	25	31	1	66.1	66.1	71.5	5.4	Yes
	26	31	1	69.1	69.1	73.9	4.8	Yes
	27	31	2	72.1	72.1	76.6	4.5	Yes
	28	31	1	60.3	60.3	65.8	5.5	
	29	31	1	60.5	60.5	66.1	5.6	Yes
	30	31	1	63.8	63.8	69.2	5.4	Yes
	31	31	1	65.1	65.1	70.4	5.3	Yes
	32	31	1	66.6	66.6	71.7	5.1	Yes
	33	31	1	68.2	68.2	73.3	5.1	Yes
	34	31	1	70.9	70.9	75.3	4.4	Yes
	35	31	1	73.0	73.0	76.7	3.7	Yes
	36	31	5	72.1	72.1	75.0	2.9	Yes
	37	31	5	71.3	71.3	75.2	3.9	Yes
	38	31	5	71.0	71.0	75.7	4.7	Yes
	39	31	5	71.8	71.8	76.6	4.8	Yes
	40	31	1	70.6	70.6	75.7	5.1	Yes
	41	31	1	70.5	70.5	75.7	5.2	Yes
	42	31	1	68.6	68.6	74.1	5.5	Yes
	43	31	1	63.8	63.8	69.6	5.8	Yes
	44	31	1	62.6	62.6	68.5	5.9	Yes
	45	31	1	63.0	63.0	69.4	6.4	Yes
	46	31	1	61.9	61.9	68.4	6.5	Yes
	47	31	1	60.8	60.8	67.4	6.6	Yes
	48	31	1	59.7	59.7	66.5	6.8	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Covington Park (continued)	49	31	1	58.8	58.8	65.8	7.0	
	50	31	5	66.8	66.8	71.0	4.2	Yes
	51	31	5	66.5	66.5	70.6	4.1	Yes
	52	31	5	66.7	66.7	71.2	4.5	Yes
	53	31	2	66.6	66.6	72.0	5.4	Yes
	54	31	2	64.7	64.7	70.3	5.6	Yes
	55	31	2	62.9	62.9	68.8	5.9	Yes
	56	31	2	61.6	61.6	67.8	6.2	Yes
	57	31	2	60.4	60.4	66.8	6.4	Yes
	58	31	2	59.4	59.4	66.0	6.6	Yes
	59	31	1	60.1	60.1	65.5	5.4	
	60	31	1	62.2	62.2	67.4	5.2	Yes
	61	31	1	61.0	61.0	66.4	5.4	Yes
	62	31	1	59.5	59.5	64.9	5.4	
Isolated/Enclaves of Residences - Big Bend Rd to Gibsonton Dr	1	36	1	61.9	61.9	67.6	5.7	Yes
	2	36	1	61.6	61.6	67.5	5.9	Yes
	3	36	1	61.6	61.6	67.5	5.9	Yes
	4	38	1	71.2	71.2	73.9	2.7	Yes
	5	38	1	70.7	70.7	73.3	2.6	Yes
	6	38	1	66.1	66.1	71.1	5.0	Yes
	7	38	1	62.5	62.5	69.2	6.7	Yes
	8	38	1	60.2	60.2	66.7	6.5	Yes
	9	38	1	60.2	60.2	66.7	6.5	Yes
	10	38	1	62.3	62.3	69.0	6.7	Yes
	11	38	1	65.7	65.7	71.1	5.4	Yes
	12	38	1	70.1	70.1	73.1	3.0	Yes
	13	38	1	69.6	69.6	73.0	3.4	Yes
	14	38	1	76.2	76.2	78.3	2.1	Yes
	15	38	1	66.6	66.6	71.7	5.1	Yes
	16	38	1	75.7	75.7	78.0	2.3	Yes
	17	38	1	75.5	75.5	77.8	2.3	Yes
	18	38	1	73.8	73.8	76.9	3.1	Yes
	19	38	1	64.4	64.4	71.5	7.1	Yes
	20	38	1	70.4	70.4	73.7	3.3	Yes
	21	38	1	67.6	67.6	71.3	3.7	Yes
	22	38	1	61.4	61.4	67.4	6.0	Yes
	23	38	1	59.7	59.7	65.5	5.8	
	24	38	1	71.1	71.1	74.4	3.3	Yes
	25	38	1	66.2	66.2	71.1	4.9	Yes
	26	38	1	61.7	61.7	67.7	6.0	Yes
	27	38	1	71.6	71.6	74.9	3.3	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Isolated/Enclaves of Residences - Big Bend Rd to Gibsonton Dr (continued)	28	38	1	69.2	69.2	72.9	3.7	Yes
	29	38	1	63.6	63.6	69.3	5.7	Yes
	30	38	1	59.4	59.4	65.7	6.3	
	31	38	1	70.5	70.5	74.3	3.8	Yes
	32	38	1	62.6	62.6	69.3	6.7	Yes
	33	38	1	65.9	65.9	72.1	6.2	Yes
	34	39	1	73.1	73.1	77.6	4.5	Yes
	35	39	1	72.2	72.2	77.0	4.8	Yes
	36	39	1	63.7	63.7	71.0	7.3	Yes
	37	39	1	69.7	69.7	75.4	5.7	Yes
	38	39	1	62.0	62.0	69.7	7.7	Yes
	39	39	1	70.2	70.2	75.9	5.7	Yes
	40	39	1	61.6	61.6	69.3	7.7	Yes
	41	39	1	72.3	72.3	77.2	4.9	Yes
	42	39	1	69.6	69.6	75.4	5.8	Yes
	43	39	1	68.4	68.4	74.5	6.1	Yes
	44	39	1	60.5	60.5	68.2	7.7	Yes
	45	39	1	68.2	68.2	74.3	6.1	Yes
	46	39	1	67.4	67.4	73.7	6.3	Yes
	47	39	1	66.2	66.2	72.7	6.5	Yes
	48	39	1	60.4	60.4	67.9	7.5	Yes
	49	39	1	60.1	60.1	67.5	7.4	Yes
	50	39	1	66.7	66.7	73.1	6.4	Yes
	51	39	1	65.4	65.4	72.1	6.7	Yes
	52	39	1	66.8	66.8	73.2	6.4	Yes
	53	39	1	66.1	66.1	72.5	6.4	Yes
	54	39	1	65.0	65.0	71.7	6.7	Yes
	55	39	1	65.5	65.5	71.0	5.5	Yes
	56	39	1	64.8	64.8	68.9	4.1	Yes
	57	39	1	64.5	64.5	67.8	3.3	Yes
	58	39	1	68.0	68.0	70.8	2.8	Yes
	59	39	1	64.1	64.1	66.8	2.7	Yes
	60	39	1	63.0	63.0	65.8	2.8	
	61	39	1	63.2	63.2	65.9	2.7	
	62	39	1	65.3	65.3	67.9	2.6	Yes
	63	39	1	63.2	63.2	65.8	2.6	
	64	39	1	63.5	63.5	70.4	6.9	Yes
	65	39	1	66.0	66.0	69.8	3.8	Yes
	66	39	1	63.9	63.9	67.9	4.0	Yes
	67	39	1	67.9	67.9	71.5	3.6	Yes
	68	39	1	66.3	66.3	70.1	3.8	Yes
	69	39	1	68.1	68.1	71.8	3.7	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Isolated/Enclaves of Residences - Big Bend Rd to Gibsonton Dr (continued)	70	39	1	66.2	66.2	70.2	4.0	Yes
	71	39	1	66.8	66.8	70.2	3.4	Yes
	72	39	1	67.4	67.4	70.6	3.2	Yes
	73	39	1	66.4	66.4	69.6	3.2	Yes
	74	39	1	65.3	65.3	68.7	3.4	Yes
	75	39	1	64.8	64.8	68.0	3.2	Yes
	76	39	1	67.4	67.4	70.4	3.0	Yes
	77	39	1	62.3	62.3	66.0	3.7	Yes
	78	39	1	62.5	62.5	65.8	3.3	
	79	39	1	66.9	66.9	69.5	2.6	Yes
	80	39	1	67.0	67.0	69.6	2.6	Yes
	81	39	1	62.6	62.6	65.8	3.2	
	82	39	1	63.8	63.8	66.7	2.9	Yes
	83	40	1	62.0	62.0	64.9	2.9	
	84	40	1	63.0	63.0	65.7	2.7	
	85	40	1	67.7	67.7	70.0	2.3	Yes
	86	40	1	69.6	69.6	71.8	2.2	Yes
	87	40	1	70.3	70.3	72.2	1.9	Yes
	88	40	1	63.4	63.4	66.2	2.8	Yes
	89	40	1	67.5	67.5	69.9	2.4	Yes
	90	40	1	68.0	68.0	70.1	2.1	Yes
	91	40	1	66.8	66.8	69.1	2.3	Yes
	92	40	1	64.3	64.3	66.9	2.6	Yes
	93	40	1	65.0	65.0	67.5	2.5	Yes
	94	40	1	61.4	61.4	64.3	2.9	
	95	40	1	61.9	61.9	64.4	2.5	
	96	40	1	62.1	62.1	64.6	2.5	
	97	40	1	61.0	61.0	63.6	2.6	
	98	40	1	60.9	60.9	63.5	2.6	
	99	40	1	60.2	60.2	62.9	2.7	
	100	40	1	61.0	61.0	63.9	2.9	
	101	40	1	62.3	62.3	65.1	2.8	
	102	40	1	60.8	60.8	63.9	3.1	
	103	41	1	65.2	65.2	67.2	2.0	Yes
	104	41	1	65.9	65.9	68.5	2.6	Yes
	105	41	1	63.4	63.4	66.0	2.6	Yes
	106	41	1	63.3	63.3	65.5	2.2	
	107	41	1	62.0	62.0	63.6	1.6	
Southwind	1	40	1	64.9	64.9	67.6	2.7	Yes
	2	40	1	64.4	64.4	67.2	2.8	Yes
	3	40	1	63.7	63.7	66.7	3.0	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Southwind (continued)	4	40	1	63.1	63.1	66.2	3.1	Yes
	5	40	1	66.2	66.2	68.8	2.6	Yes
	6	40	1	66.8	66.8	69.4	2.6	Yes
	7	40	1	62.5	62.5	65.4	2.9	
	8	40	1	63.1	63.1	65.9	2.8	
	9	40	1	63.7	63.7	66.6	2.9	Yes
	10	40	1	64.1	64.1	66.8	2.7	Yes
East Bay Lakes	1	40	1	60.8	60.8	65.3	4.5	
	2	40	1	61.6	61.6	66.2	4.6	Yes
	3	40	1	62.6	62.6	67.3	4.7	Yes
	4	40	1	63.8	63.8	68.5	4.7	Yes
	5	40	1	64.5	64.5	69.2	4.7	Yes
	6	40	1	65.3	65.3	70.0	4.7	Yes
	7	40	1	65.9	65.9	70.6	4.7	Yes
	8	40	1	66.9	66.9	71.5	4.6	Yes
	9	40	1	68.0	68.0	72.4	4.4	Yes
	10	40	1	69.6	69.6	73.9	4.3	Yes
	11	40	1	71.9	71.9	75.5	3.6	Yes
	12	40	1	69.0	69.0	72.1	3.1	Yes
	13	40	1	68.7	68.7	71.8	3.1	Yes
	14	40	1	68.1	68.1	71.3	3.2	Yes
	15	40	1	68.8	68.8	71.9	3.1	Yes
	16	40	1	68.0	68.0	71.1	3.1	Yes
	17	40	1	68.5	68.5	71.6	3.1	Yes
	18	40	1	68.1	68.1	71.1	3.0	Yes
	19	40	1	68.3	68.3	71.3	3.0	Yes
	20	40	1	69.4	69.4	72.0	2.6	Yes
	21	40	1	68.8	68.8	71.8	3.0	Yes
	22	40	1	66.6	66.6	69.9	3.3	Yes
	23	40	1	65.4	65.4	68.8	3.4	Yes
	24	40	1	64.6	64.6	67.9	3.3	Yes
	25	40	1	63.1	63.1	66.4	3.3	Yes
	26	40	1	61.7	61.7	64.8	3.1	
	27	40	1	62.5	62.5	65.4	2.9	
	28	40	1	63.6	63.6	66.4	2.8	Yes
	29	40	1	64.7	64.7	67.4	2.7	Yes
	30	40	1	65.0	65.0	67.9	2.9	Yes
	31	40	1	66.9	66.9	70.4	3.5	Yes
	32	41	1	67.9	67.9	71.7	3.8	Yes
	33	41	1	69.4	69.4	73.8	4.4	Yes
	34	41	1	71.0	71.0	75.6	4.6	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
East Bay Lakes (continued)	35	41	1	71.5	71.5	76.3	4.8	Yes
	36	41	1	71.5	71.5	76.5	5.0	Yes
	37	41	1	72.0	72.0	76.9	4.9	Yes
	38	41	1	70.7	70.7	76.1	5.4	Yes
	39 (pool)	41	1	75.5	75.5	79.6	4.1	Yes
	40	41	1	67.8	67.8	74.2	6.4	Yes
	41	41	1	65.0	65.0	71.8	6.8	Yes
	42	41	1	63.6	63.6	70.5	6.9	Yes
	43	41	1	62.2	62.2	69.3	7.1	Yes
	44	41	1	61.3	61.3	68.5	7.2	Yes
	45	41	1	60.0	60.0	67.3	7.3	Yes
	46	41	1	59.1	59.1	66.5	7.4	Yes
	47	40	1	59.1	59.1	61.9	2.8	
	48	40	1	61.6	61.6	64.5	2.9	
	49	40	1	62.1	62.1	64.9	2.8	
	50	40	1	62.1	62.1	64.9	2.8	
	51	40	1	61.9	61.9	64.7	2.8	
	52	40	1	60.4	60.4	63.2	2.8	
	53	40	1	58.2	58.2	61.0	2.8	
	54	41	1	57.5	57.5	60.4	2.9	
	55	41	1	58.8	58.8	61.9	3.1	
	56	41	1	59.9	59.9	64.1	4.2	
	57	41	1	60.3	60.3	64.7	4.4	
	58	41	1	61.0	61.0	65.9	4.9	
	59	41	1	62.9	62.9	68.9	6.0	Yes
	60	41	1	62.1	62.1	68.5	6.4	Yes
	61	41	1	60.1	60.1	66.6	6.5	Yes
	62	41	1	58.2	58.2	64.7	6.5	
Bullfrog Creek Estates	1	41	1	57.9	57.9	63.9	6.0	
	2	41	1	59.7	59.7	65.8	6.1	
	3	41	1	62.8	62.8	68.0	5.2	Yes
	4	41	1	70.7	70.7	74.1	3.4	Yes
	5	41	1	69.6	69.6	73.2	3.6	Yes
	6	41	1	68.5	68.5	71.8	3.3	Yes
	7	41	1	68.5	68.5	71.8	3.3	Yes
	8	41	1	68.4	68.4	70.1	1.7	Yes
	9	41	1	61.5	61.5	63.2	1.7	
	10	41	1	61.3	61.3	67.0	5.7	Yes
	11	41	1	64.0	64.0	69.6	5.6	Yes
	12	41	1	65.9	65.9	71.3	5.4	Yes
	13	41	1	63.4	63.4	67.5	4.1	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Bullfrog Creek Estates (continued)	14	41	1	60.0	60.0	64.4	4.4	
Isolated/Enclaves of Residences - Gibsonton Dr to End of Project	1	44	1	71.4	71.4	73.2	1.8	Yes
	2	44	1	67.9	67.9	69.8	1.9	Yes
	3	44	1	65.3	65.3	67.4	2.1	Yes
	4	44	1	64.8	64.8	66.9	2.1	Yes
	5	45	1	68.8	68.8	70.2	1.4	Yes
	6	45	1	69.8	69.8	71.3	1.5	Yes
	7	45	1	71.2	71.2	72.5	1.3	Yes
	8	45	1	70.4	70.4	71.8	1.4	Yes
	9	45	1	64.9	64.9	66.7	1.8	Yes
	10	45	1	64.6	64.6	66.5	1.9	Yes
	11	45	1	64.4	64.4	66.2	1.8	Yes
	12	45	1	63.7	63.7	65.6	1.9	
	13	45	1	64.3	64.3	66.2	1.9	Yes
	14	45	1	64.0	64.0	66.0	2.0	Yes
	15	45	2	63.6	63.6	65.7	2.1	
	16	45	2	63.5	63.5	65.6	2.1	
	17	45	2	63.4	63.4	65.5	2.1	
	18	45	1	63.3	63.3	65.3	2.0	
	19	45	2	63.2	63.2	65.2	2.0	
	20	45	1	62.9	62.9	65.0	2.1	
	21	45	1	66.4	66.4	68.3	1.9	Yes
	22	45	1	68.5	68.5	69.9	1.4	Yes
	23	45	1	67.6	67.6	69.3	1.7	Yes
	24	45	1	67.5	67.5	69.2	1.7	Yes
	25	45	1	67.5	67.5	69.1	1.6	Yes
	26	45	1	67.7	67.7	69.4	1.7	Yes
	27	45	1	70.2	70.2	71.8	1.6	Yes
	28	45	1	67.5	67.5	69.3	1.8	Yes
	29	45	1	67.3	67.3	69.0	1.7	Yes
	30	45	1	66.7	66.7	68.5	1.8	Yes
	31	45	1	66.8	66.8	68.5	1.7	Yes
	32	45	1	68.0	68.0	69.6	1.6	Yes
	33	45	1	69.5	69.5	71.0	1.5	Yes
	34	45	1	70.5	70.5	71.5	1.0	Yes
	35	45	1	64.2	64.2	66.0	1.8	Yes
	36	45	1	63.5	63.5	65.3	1.8	
	37	45	1	65.7	65.7	67.6	1.9	Yes
	38	45	1	65.4	65.4	67.3	1.9	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Isolated/Enclaves of Residences - Gibsonton Dr to End of Project (continued)	39	45	1	65.3	65.3	67.2	1.9	Yes
	40	45	1	63.4	63.4	65.5	2.1	
	41	45	1	64.6	64.6	66.5	1.9	Yes
	42	45	1	64.9	64.9	66.7	1.8	Yes
	43	45	1	63.6	63.6	65.6	2.0	
Lake Fantasia	1	45	1	62.6	62.6	64.7	2.1	
	2	45	1	63.2	63.2	65.3	2.1	
	3	45	1	63.7	63.7	65.8	2.1	
	4	45	1	64.4	64.4	66.4	2.0	Yes
	5	45	1	65.1	65.1	67.1	2.0	Yes
	6	45	1	65.8	65.8	67.7	1.9	Yes
	7	45	1	66.1	66.1	67.9	1.8	Yes
	8	45	1	67.1	67.1	69.0	1.9	Yes
	9	45	1	67.9	67.9	69.6	1.7	Yes
	10	45	1	68.3	68.3	70.0	1.7	Yes
	11	45	1	70.1	70.1	71.8	1.7	Yes
	12	45	1	70.7	70.7	72.4	1.7	Yes
	13	45	1	70.8	70.8	72.5	1.7	Yes
	14	45	1	71.2	71.2	72.8	1.6	Yes
	15	45	1	71.1	71.1	72.8	1.7	Yes
	16	45	1	71.0	71.0	72.8	1.8	Yes
	17	45	1	71.5	71.5	73.1	1.6	Yes
	18	45	1	71.3	71.3	73.1	1.8	Yes
	19	45	1	71.3	71.3	73.2	1.9	Yes
	20	45	1	62.5	62.5	64.7	2.2	
	21	45	1	63.3	63.3	65.5	2.2	
	22	45	1	64.0	64.0	66.2	2.2	Yes
	23	45	1	64.8	64.8	66.9	2.1	Yes
	24	45	1	65.3	65.3	67.4	2.1	Yes
	25	45	1	67.7	67.7	69.6	1.9	Yes
	26	45	1	62.6	62.6	64.9	2.3	
	27	45	1	63.1	63.1	65.4	2.3	
	28	45	1	63.6	63.6	65.9	2.3	
	29	45	1	64.5	64.5	66.7	2.2	Yes
	30	45	1	65.3	65.3	67.5	2.2	Yes
	31	45	1	66.3	66.3	68.5	2.2	Yes
	32	45	1	63.1	63.1	65.8	2.7	
	33	45	1	63.3	63.3	66.0	2.7	Yes
	34	45	1	64.0	64.0	66.6	2.6	Yes
	35	45	1	64.5	64.5	67.1	2.6	Yes
	36	45	1	65.2	65.2	67.8	2.6	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Lake Fantasia (continued)	37 (pool)	45	1	67.7	67.7	70.0	2.3	Yes
	38	69	1	69.4	69.4	71.7	2.3	Yes
	39	46	5	71.7	71.7	73.7	2.0	Yes
	40	46	5	72.0	72.0	74.3	2.3	Yes
	41	46	5	72.6	72.6	75.3	2.7	Yes
	42	46	5	74.7	74.7	77.4	2.7	Yes
	43	46	5	74.3	74.3	77.0	2.7	Yes
	44	46	5	74.5	74.5	77.1	2.6	Yes
	45	46	5	74.6	74.6	77.0	2.4	Yes
	46	46	1	74.3	74.3	76.7	2.4	Yes
	47	46	1	74.4	74.4	76.9	2.5	Yes
	48	46	1	75.0	75.0	77.3	2.3	Yes
	49	46	5	69.4	69.4	71.9	2.5	Yes
	50	46	5	69.4	69.4	72.2	2.8	Yes
	51	46	5	71.0	71.0	73.5	2.5	Yes
	52	46	5	71.1	71.1	74.4	3.3	Yes
	53	46	5	71.0	71.0	74.3	3.3	Yes
	54	46	5	71.0	71.0	74.2	3.2	Yes
	55	46	3	71.0	71.0	74.1	3.1	Yes
	56	46	1	70.8	70.8	74.1	3.3	Yes
	57	46	1	70.7	70.7	73.9	3.2	Yes
	58	46	1	69.8	69.8	73.0	3.2	Yes
	59	46	1	66.4	66.4	70.7	4.3	Yes
	60	46	1	66.1	66.1	70.3	4.2	Yes
	61	46	1	65.0	65.0	69.6	4.6	Yes
	62	46	1	63.6	63.6	68.6	5.0	Yes
	63	46	1	64.2	64.2	69.0	4.8	Yes
	64	46	1	62.9	62.9	68.1	5.2	Yes
	65	46	1	61.7	61.7	67.3	5.6	Yes
	66	46	1	62.6	62.6	67.9	5.3	Yes
	67	46	1	62.0	62.0	67.2	5.2	Yes
	68	46	1	60.3	60.3	66.1	5.8	Yes
	69	46	1	61.7	61.7	66.9	5.2	Yes
Riverview Dr Estates	1	45	1	70.6	70.6	72.2	1.6	Yes
	2	45	1	69.9	69.9	71.6	1.7	Yes
	3	45	1	68.2	68.2	70.2	2.0	Yes
	4	45	1	66.3	66.3	68.6	2.3	Yes
	5	45	1	65.4	65.4	67.7	2.3	Yes
	6	45	1	65.3	65.3	67.7	2.4	Yes
	7	45	1	65.5	65.5	67.8	2.3	Yes
	8	45	1	65.1	65.1	67.4	2.3	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Riverview Dr Estates (continued)	9	45	1	66.0	66.0	68.4	2.4	Yes
	10	45	1	65.6	65.6	68.1	2.5	Yes
	11	46	1	65.4	65.4	67.8	2.4	Yes
	12	46	1	65.3	65.3	67.8	2.5	Yes
	13	46	1	65.3	65.3	67.8	2.5	Yes
	14	46	1	65.2	65.2	67.8	2.6	Yes
	15	46	1	64.7	64.7	67.4	2.7	Yes
Byars Riverview Acres	1	46	1	77.3	77.3	79.2	1.9	Yes
	2	46	1	77.2	77.2	79.1	1.9	Yes
	3	46	1	76.6	76.6	78.6	2.0	Yes
	4	46	1	75.8	75.8	78.0	2.2	Yes
	5	46	1	75.8	75.8	77.9	2.1	Yes
	6	46	1	75.4	75.4	77.6	2.2	Yes
	7	46	1	75.3	75.3	77.5	2.2	Yes
	8	46	1	73.4	73.4	75.7	2.3	Yes
	9	46	1	71.9	71.9	75.0	3.1	Yes
	10	46	1	69.8	69.8	73.5	3.7	Yes
	11	46	1	70.1	70.1	73.8	3.7	Yes
	12	46	1	68.7	68.7	72.7	4.0	Yes
	13	46	1	68.0	68.0	72.1	4.1	Yes
	14	46	1	67.6	67.6	72.0	4.4	Yes
	15	46	1	66.8	66.8	70.4	3.6	Yes
	16	46	1	66.3	66.3	71.0	4.7	Yes
	17	46	1	66.5	66.5	71.1	4.6	Yes
	18	46	1	65.1	65.1	69.5	4.4	Yes
	19	46	1	64.6	64.6	69.6	5.0	Yes
	20	46	1	64.1	64.1	68.4	4.3	Yes
	21	46	1	63.3	63.3	68.3	5.0	Yes
	22	46	1	63.4	63.4	68.9	5.5	Yes
	23	46	1	61.9	61.9	67.4	5.5	Yes
	24	46	1	61.5	61.5	67.2	5.7	Yes
	25	46	1	63.9	63.9	69.1	5.2	Yes
Lake St. Charles	1	46	5	62.4	62.4	66.9	4.5	Yes
	2	47	2	71.6	71.6	73.9	2.3	Yes
	3	47	6	71.6	71.6	73.6	2.0	Yes
	4	47	10	71.4	71.4	73.4	2.0	Yes
	5	47	2	68.6	68.6	71.8	3.2	Yes
	6	47	4	67.7	67.7	70.1	2.4	Yes
	7	47	4	67.6	67.6	69.9	2.3	Yes
	8	47	4	67.6	67.6	70.0	2.4	Yes

I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Lake St. Charles (continued)	9	47	2	66.1	66.1	69.8	3.7	Yes
	10	47	4	65.3	65.3	68.1	2.8	Yes
	11	47	4	65.2	65.2	67.7	2.5	Yes
	12	47	1	65.6	65.6	68.1	2.5	Yes
	13	47	2	63.9	63.9	68.1	4.2	Yes
	14	47	4	63.3	63.3	66.4	3.1	Yes
	15	47	3	63.3	63.3	65.9	2.6	
	16	47	2	68.3	68.3	71.6	3.3	Yes
	17	47	2	70.8	70.8	74.1	3.3	Yes
	18	47	3	72.6	72.6	75.7	3.1	Yes
	19	47	1	69.3	69.3	72.7	3.4	Yes
	20	47	3	67.0	67.0	70.4	3.4	Yes
	21	47	3	65.3	65.3	68.6	3.3	Yes
	22	48	3	72.1	72.1	75.4	3.3	Yes
	23	48	2	70.4	70.4	73.9	3.5	Yes
	24	48	2	69.4	69.4	72.9	3.5	Yes
	25	48	2	68.6	68.6	72.1	3.5	Yes
	26	48	2	67.9	67.9	71.4	3.5	Yes
	27	48	2	66.7	66.7	70.3	3.6	Yes
	28	48	5	67.0	67.0	70.6	3.6	Yes
	29	48	5	67.4	67.4	71.1	3.7	Yes
	30	48	3	66.4	66.4	70.5	4.1	Yes
	31	48	2	68.4	68.4	71.8	3.4	Yes
	32	48	2	67.4	67.4	70.9	3.5	Yes
	33	48	2	66.5	66.5	70.1	3.6	Yes
	34	48	2	65.3	65.3	68.9	3.6	Yes
	35	48	2	64.0	64.0	67.7	3.7	Yes
	36	48	2	65.0	65.0	68.5	3.5	Yes
	37	48	2	64.0	64.0	67.5	3.5	Yes
	38	48	2	62.7	62.7	66.2	3.5	Yes
	39	48	2	61.7	61.7	65.3	3.6	
Eagle Palms	1	47	4	58.8	58.8	65.2	6.4	
	2	47	2	67.3	67.3	71.1	3.8	Yes
	3	47	4	62.3	62.3	69.2	6.9	Yes
	4	47	2	68.8	68.8	72.4	3.6	Yes
	5	47	4	66.1	66.1	72.8	6.7	Yes
	6	47	2	68.9	68.9	72.5	3.6	Yes
	7	47	4	67.7	67.7	74.0	6.3	Yes
	8	47	2	69.6	69.6	73.1	3.5	Yes
	9	47	4	69.2	69.2	75.3	6.1	Yes
	10	47	2	70.2	70.2	73.7	3.5	Yes

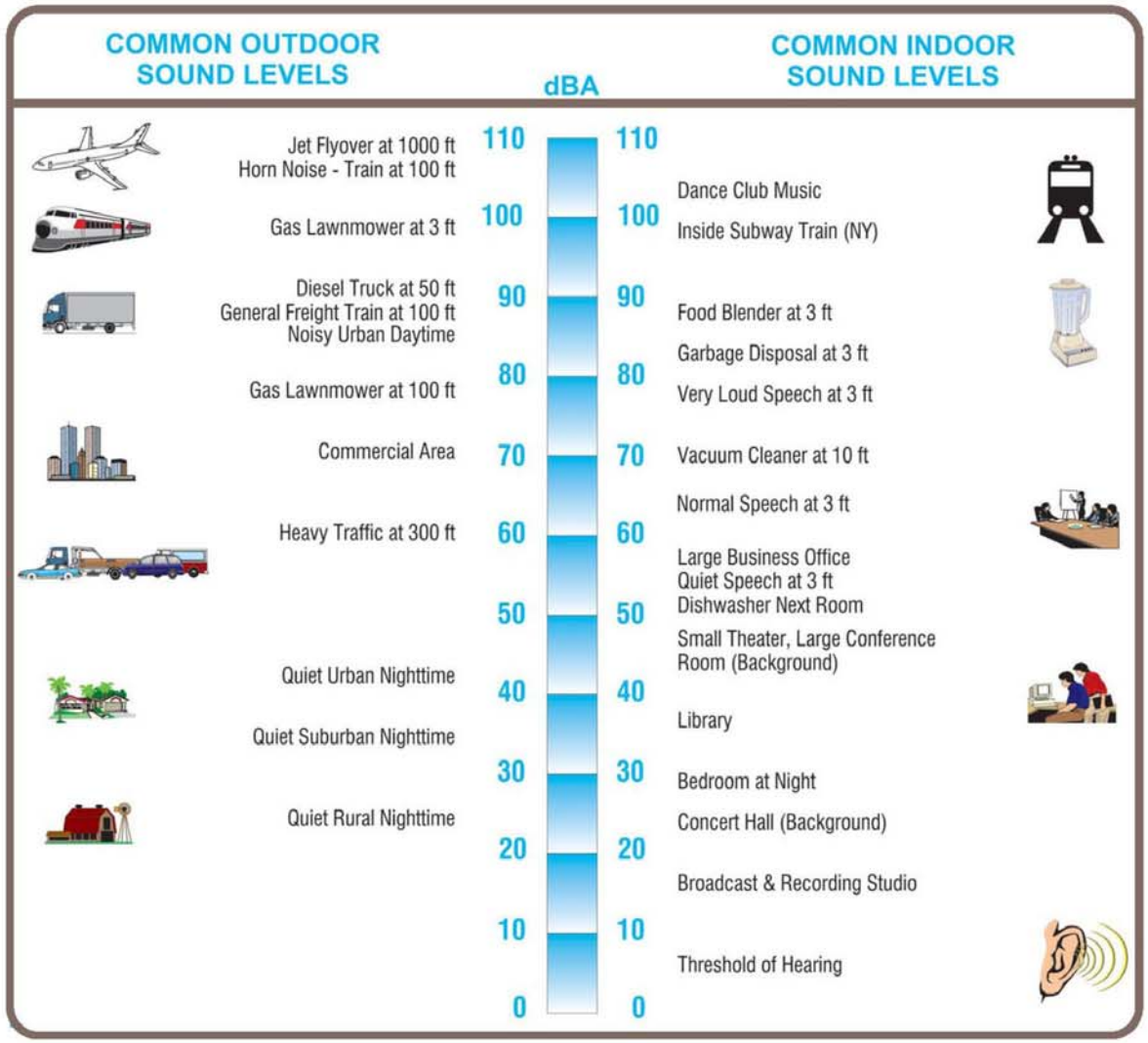
I-75 Hillsborough County from Moccasin Wallow Road to US 301

TNM Predicted Traffic Noise Levels

Location	ID (as shown on Aerials	Sheet No.[a]	No. of Dwelling Units	Existing	No-Build	Build	Increase from Existing	Approaches, Meets, or Exceeds NAC?
Eagle Palms (continued)	11	47	6	73.6	73.6	78.4	4.8	Yes
	12	47	3	73.2	73.2	76.6	3.4	Yes
	13	47	6	73.6	73.6	78.4	4.8	Yes
	14	47	3	73.4	73.4	76.8	3.4	Yes
	15	47	4	59.2	59.2	65.8	6.6	
	16	47	2	69.9	69.9	73.5	3.6	Yes
	17	47	4	60.6	60.6	67.2	6.6	Yes
	18	47	2	70.6	70.6	74.1	3.5	Yes
	19	47	4	61.9	61.9	68.1	6.2	Yes
	20	47	2	71.9	71.9	75.4	3.5	Yes
	21	47	10	61.9	61.9	67.4	5.5	Yes
	22	47	5	73.0	73.0	76.6	3.6	Yes
	23	47	4	61.9	61.9	67.8	5.9	Yes
	24	47	2	68.9	68.9	72.8	3.9	Yes
	25	47	4	62.0	62.0	68.5	6.5	Yes
	26	47	2	67.4	67.4	71.6	4.2	Yes
	27	47	4	60.8	60.8	67.9	7.1	Yes
	28	47	2	65.8	65.8	70.4	4.6	Yes
	29	47	4	61.4	61.4	68.2	6.8	Yes
	30	47	2	61.9	61.9	65.8	3.9	
	31	48	4	71.4	71.4	76.9	5.5	Yes
	32	48	2	73.8	73.8	77.3	3.5	Yes
	33	48	4	65.8	65.8	72.6	6.8	Yes
	34	48	2	72.1	72.1	75.7	3.6	Yes
	35	48	4	63.2	63.2	70.9	7.7	Yes
	36	48	2	69.8	69.8	73.8	4.0	Yes
	37	48	4	61.2	61.2	69.4	8.2	Yes
	38	48	2	68.0	68.0	72.3	4.3	Yes
	39	48	4	59.0	59.0	67.6	8.6	Yes
	40	48	2	66.4	66.4	71.0	4.6	Yes

[a] See project aerials in Appendix A of this NSR.

APPENDIX D
Public Involvement Information



TRAFFIC NOISE EVALUATION PROCESS

Traffic noise impact evaluations are performed using methodology approved by the Federal Highway Administration (FHWA). Roadway projects evaluated for traffic noise impacts include the following:

- Construction of a roadway on new location;
- Physical alteration of an existing roadway which significantly changes either horizontal or vertical alignment; or
- Physical alteration of an existing roadway that increases the number of through traffic lanes.

Key steps in the evaluation process include:

Step 1: Identification of Noise Sensitive Sites

Noise sensitive sites are defined as any property (owner occupied, rented or leased) where frequent human use occurs and where a lowered noise level would be of benefit. Typical noise sensitive sites include residences, schools, churches and recreational areas.

Step 2: Determination of Traffic Noise Impacts

Future traffic noise levels that may be attributed to the proposed project are determined and compared to the FHWA noise abatement criteria. For this project, noise sensitive sites predicted to experience noise levels that reach or exceed 66 dBA (decibels), or experience an increase of 15 dBA greater than existing noise levels, require abatement consideration.

Step 3: Consideration of Noise Abatement Measure

In Florida, noise abatement, or reduction measures usually consist of noise barriers. Barriers can be made of numerous materials, but normally, a concrete wall is constructed on public right-of-way between the proposed roadway improvements and the noise sensitive sites.

An evaluation of these noise reduction measures addresses the feasibility and reasonableness of providing noise abatement. To be considered feasible, the abatement measure must provide at least a 5 dBA reduction to an affected noise sensitive site. Engineering constraints are also reviewed for fatal flaws that will not allow an abatement measure to be implemented.

The evaluation of reasonableness is guided by the Department's responsibility to use prudent judgement when considering the expenditure of public funds. After determining the amount of noise reduction and cost, criteria such as desires of the community and public officials, land use stability, antiquity, predicted noise level increases, aesthetics, and number of benefited sites, are used when evaluating reasonableness.

Step 4: Commitments to Abatement Measures

Upon completion of the noise impact evaluation, the methodology and results are documented in the project's Noise Study Report. If an abatement measure is determined to be potentially feasible and reasonable, the Department makes a commitment to further evaluate the measure during the Design phase of the project.

TRAFFIC NOISE EVALUATION SCHEDULE

Traffic noise is addressed during three project phases: Project Development and Environment (PD&E), Design, and Construction. The following describes how noise is addressed during each of these phases.

PD&E Phase

The noise evaluation process is initiated during the PD&E phase and includes a preliminary analysis of the roadway alternatives developed for the project and presented at the Public Information Workshop. After the Public Information Workshop, a preferred Build Alternative is selected and a detailed noise analysis is performed on this alternative. This analysis includes an evaluation of noise abatement measures with results presented at the Public Hearing.

Design Phase

During the Design phase of a project, the detailed roadway plans are developed, right-of-way requirements are determined and the right-of-way acquisition process begins. When the roadway plans are approximately 60 percent complete, the engineering details are sufficient to allow for a detailed assessment of abatement measures determined to be potentially feasible and reasonable during the PD&E phase. Following public coordination, all feasible and reasonable measures are then incorporated in the final design plans.

Construction Phase

Feasible and reasonable abatement measures would be included as part of the construction project.

Noise Barriers