District Seven

Final

Preliminary Engineering Report

Tampa Interstate Study
Supplemental Environmental Impact Statement

I-275 from Howard Frankland Bridge to North of Dr. Martin Luther King, Jr. Boulevard and SR 60 from I-275 to just North of Cypress Street and I-4 from I-275 to East of 50th Street with New Alignment from I-4 South to the Existing Selmon Expressway and Improvements to the Selmon Expressway from the Kennedy Boulevard Overpass East to Maydell Drive

Hillsborough County, Florida

Work Program Item Segment Number: 258337-2

ETDM Number: N/A

Segments 1A and 2A

July 2020

This Preliminary Engineering Report contains engineering information that fulfills the purpose and need for:

Tampa Interstate Study - Supplemental Environmental Impact Statement

I-275 from Howard Frankland Bridge to
North of Dr. Martin Luther King, Jr. Boulevard and
SR 60 from I-275 to just North of Cypress Street
and
I-4 from I-275 to East of 50th Street with New Alignment from I-4 South to the Existing Selmon Expressway and Improvements to the Selmon Expressway from the Kennedy Boulevard Overpass East to Maydell Drive

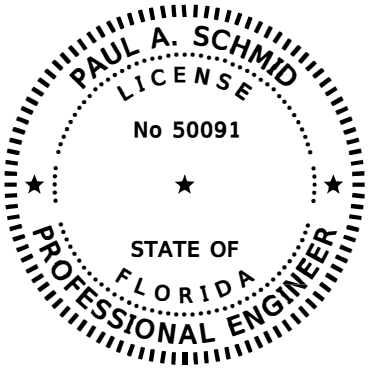
Hillsborough County, Florida

Work Program Item Segment Number 258337-2

Segments 1A & 2A

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with AECOM Technical Services, Inc., and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice for this project.



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Paul A Schmid 2020.07.17 12:36:11 -04'00'

ON THE DATE ADJACENT TO THE SEAL.

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Acronyms

3R	Resurfacing, Restoration, and Rehabilitation
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
APE	Area of Potential Effect
ASMR	Alternate Stormwater Management Report
BFE	Base Flood Elevation
CARS	Crash Analysis Reporting System
CBC	Concrete Box Culvert
CBD	Central Business District
CCTV	Closed Circuit Television
CDMS	Crash Data Management System
CF	Cost Feasible
CIP	Cast in Place
ConRAC	Consolidated Rental Car Facility
CRA	Community Redevelopment Area
CRC	Cultural Resources Committee
CSER	Contamination Screening Evaluation Report
D/B	Design-Build
dB(A)	A-weighted decibels
DDHV	Directional Design Hour Volume
DHT	Design Hour Truck
DHV	Design Hour Volume
DMS	Dynamic Message Signs
DTI	Downtown Interchange
EB	Eastbound
EIS	Environmental Impact Statement
EL	Express Lanes
ERP	Environmental Resource Permit
FDEP	Florida Department of Environmental Protection
FDM	FDOT Design Manual
FDOT	Florida Department of Transportation (also “Department”)
FEMA	Federal Emergency Management Agency
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPN	Financial Project Number
FS	Florida Statute
FT	Feet
FTI	Florida Traffic Information
GP	General Purpose
GULS	General Use Lanes

HFB	Howard Frankland Bridge
HART	Hillsborough Area Rapid Transit Authority
HOV	High Occupancy Vehicle
I	Interstate
ITS	Intelligent Transportation Systems
L/A	Limited Access
LDCA	Location and Design Concept Acceptance
LOS	Level of Service
LPA	Locally Preferred Alternative
LRE	Long Range Estimating
LRTP	Long Range Transportation Plan
LTPA	Long-Term Preferred Alternative
MAP-21	Moving Ahead for Progress in the 21st Century
MIS	Major Investment Study
MLK	Martin Luther King
MOA	Memorandum of Agreement
MOCF	Model Output Conversion Factor
MOE	Measure of Effectiveness
MOU	Memorandum of Understanding
mph	Miles per Hour
MPO	Metropolitan Planning Organization
MVDS	Microwave Vehicle Detection System
NAUR	Noise Analysis Update Report
NAVD 88	North American Vertical Datum of 1988
NB	Northbound
NBI	National Bridge Inspection
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NRE	Natural Resources Evaluation
NRHP	National Register of Historic Places
OFW	Outstanding Florida Waters
OTB	Old Tampa Bay
PD&E	Project Development and Environment
PER	Preliminary Engineering Report
PHF	Peak Hour Factor
PPM	Plans Preparation Manual
PSTA	Pinellas Suncoast Transit Authority
PTAR	Project Traffic Analysis Report
RCP	Reinforced Concrete Pipe
RFP	Request for Proposal
ROD	Record of Decision
ROW	Right of Way

S4	Signal Four analytics
SB	Southbound
SCE	Sociocultural Effects
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Officer
SHWT	Seasonal High-Water Table
SIMR	System Interchange Modification Report
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SMF	Stormwater Management Facilities
SR	State Road
SWFWMD	Southwest Florida Water Management District
TBARTA	Tampa Bay Area Regional Transit Authority
TBNext	Tampa Bay Next
TBRPM	Tampa Bay Regional Planning Model
TBX	Tampa Bay Express
TDM	Transportation Demand Management
TIA	Tampa International Airport
TIP	Transportation Improvement Program
TIS	Tampa Interstate Study
TNM	Traffic Noise Model
TSM	Transportation Systems Management
TSM&O	Transportation System Management and Operations
UAO	utility agencies/owners
UDG	Urban Design Guidelines
USDA	United States Department of Agriculture
USF	University of South Florida
VMT	Vehicle Miles Traveled or Vehicle Miles of Travel
VPD	Vehicles per Day
WB	Westbound
WBID	Water Body Identification
WRMC	Westshore Regional Multimodal Center
WPIS	Work Program Item Segment

1 PROJECT DESCRIPTION

The proposed Tampa Interstate Study (TIS) Supplemental Environmental Impact Statement (SEIS) Project is located in the City of Tampa in Hillsborough County, Florida. The TIS SEIS overall study area comprises approximately 11 miles of Interstate (I) 275 and I-4, an approximate 4.4-mile segment of the Selmon Expressway, and an approximate 0.8-mile segment of the I-4/Selmon Expressway Connector (previously known as the Crosstown Connector). The overall proposed improvements would involve the reconstruction/widening of I-275 from north of Howard Frankland Bridge (HFB) to North of State Road (SR) 574 (Dr. Martin Luther King (MLK) Jr. Boulevard), and I-4 from I-275 to east of 50th Street. The proposed improvements are located in the 1996 TIS Final EIS (FEIS) Segments 1A, 2A, 2B, 3A, 3B and 3C (**Figure 1-1**).

This Preliminary Engineering Report (PE Report or PER) only addresses TIS Segments 1A and 2A, which encompass I-275 from north of HFB to north of Rome Avenue. A separate PER is being prepared for TIS Segments 2B, 3A and 3B, and Segment 3C has already been constructed.

1.1 Commitments and Recommendations

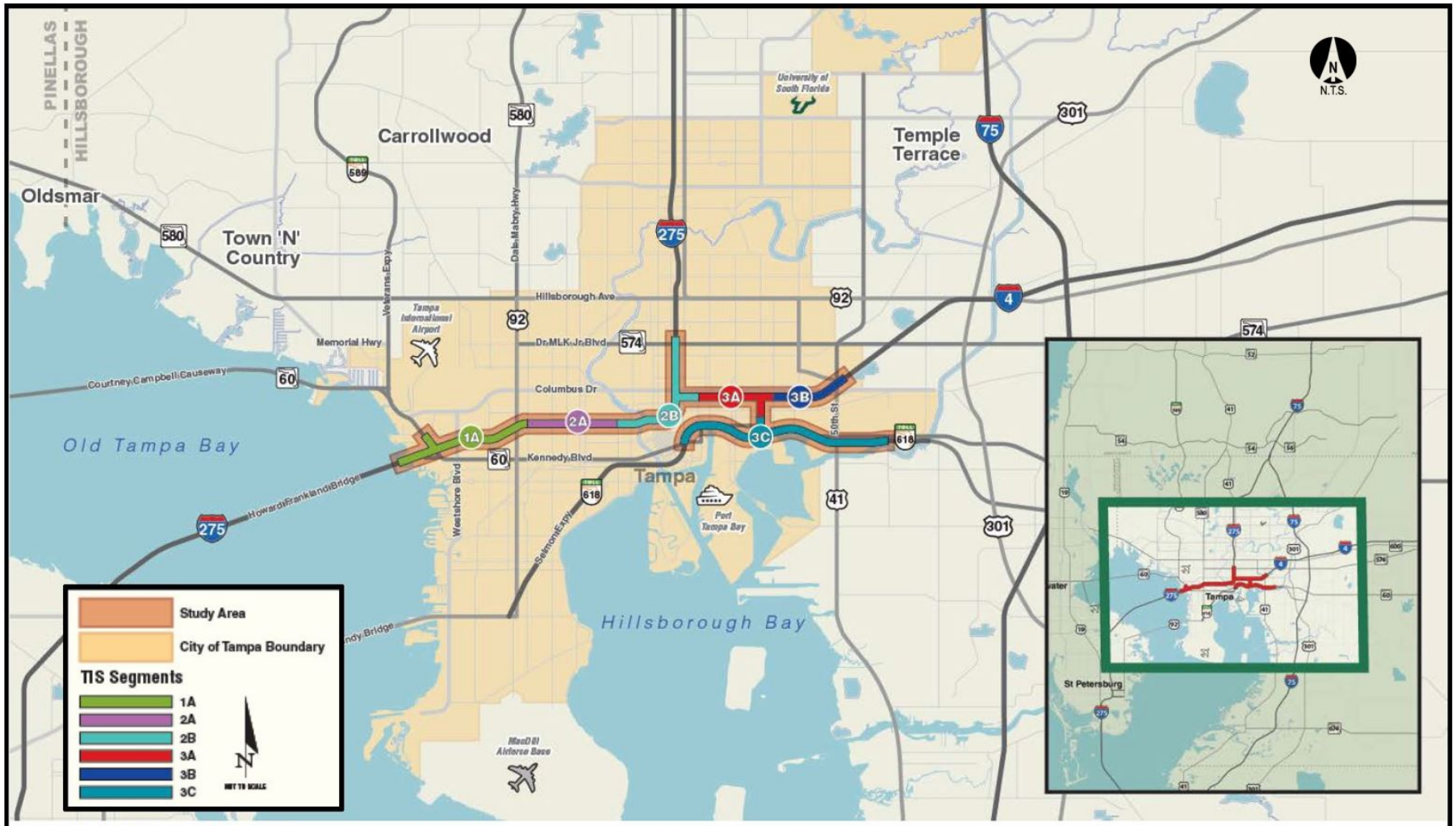
This section summarizes the Florida Department of Transportation's (FDOT's) commitments to minimize and mitigate impacts on the natural and built environment during the design, construction, and operation of the Preferred Alternative. The original 1996 TIS FEIS commitment is described in plain text followed by the status of each of these commitments in *italicized text*. A new 2020 SEIS commitment is included at the end of the section.

Commitments are listed in the categories of:

- Pedestrian and Bicycle Facilities
- Construction
- Noise Barriers
- Historic Resources
- Urban Design Guidelines
- Hillsborough Area Regional Transit (HART) Northern Transit Terminal
- Park and Recreational Facilities
- Tampa Heights Greenway
- Multi-Modal Terminal/Parking Garage
- High-Speed Rail

Pedestrian and Bicycle Facilities

1996 TIS FEIS Commitment: The planned interstate improvements include provisions for the future development of pedestrian and bicycle accommodations on cross streets beneath the interstate. FDOT is committed to developing new interstate overpasses, which ensure that all cross streets have sufficient room to accommodate bicycles and pedestrians during future local road improvement projects.



Note: Segment 3C has been constructed and is not included in this SEIS.

Source: Florida Department of Transportation. Tampa Interstate Study (TIS), Supplemental Environmental Impact Statement (SEIS). Project Segment Limits Map. March 7, 2018

Tampa Interstate Study SEIS I-275 from north of Howard Frankland Bridge to Rome Avenue WPI Segment No. 258337-2	**Tampa Interstate Study SEIS Overall Project Study Area**	**Figure 1-1**

Status: *To date, provisions at all cross streets have been made where bridge structures have been added or replaced. In TIS Segment 1A and 2A, the Preferred Alternative will reconstruct and add new bridges that accommodate pedestrian and bicycle facilities. In TIS Segments 2B and 3A, where many of the structures will be widened, sloped embankment at underpasses with constrained right-of-way (ROW) will be cut back, and vertical walls constructed to provide a wider and better connection to accommodate pedestrian and bicycle facilities.*

In TIS Segments 1A and 2A, a new HFB Shared Use Path will link to Reo Street/Cypress Point Park and FDOT will fill trail gaps within the West Tampa Greenway where existing FDOT ROW allow. In TIS Segments 2B and 3A, the trail located within the Tampa Heights Greenway will be extended within existing FDOT ROW, if feasible, south to Perry Harvey Sr. Park and north to Robles Park. Parallel trails, adjacent to I-4 and within existing FDOT ROW, connecting Tampa Heights Greenway to Ybor, East Tampa and the City of Tampa's Green Spine will be evaluated in final design. FDOT will continue to work closely with the City of Tampa on the interstate connections to local roadways; potential bicycle, pedestrian, and trail connections; interstate underpasses; and local streetscape and traffic calming.

Construction

1996 TIS FEIS Commitment: Activities will result in temporary air, noise, water quality, traffic flow, and visual impacts for those residents, businesses, and travelers within the immediate vicinity of the project. The impacts will be effectively controlled in accordance with FDOT's *Standard Specifications for Road and Bridge Construction*. FDOT committed to implementing six specific construction impact mitigation measures listed below in addition to FDOT's *Standard Specification for Road and Bridge Construction*.

1. The Contractor will use static rollers for compaction of embankment, subgrade, base, asphalt, etc.
2. Pile driving operations will be restricted to the hours of 7:00 a.m. to 9:00 p.m. to avoid interfering with any adjacent noise sensitive land uses or a different foundation design will be considered (i.e., drilled shaft).
3. Preformed pile holes will be required where they are in proximity to vibration sensitive land uses to minimize vibration transfer.
4. Back-up alarm noise from heavy equipment and trucks will be minimized by requiring the Contractor to operate in forward passes or a figure-eight pattern when dumping, spreading, or compacting materials.
5. Restriction of operating hours for lighting the construction areas will be determined and required of the Contractor prior to beginning construction activities requiring lighting.
6. Coordination with the local law enforcement agencies will be undertaken prior to commencing construction activities to ensure that construction-related impacts are minimized or adequately mitigated when work during non-daylight hours is required.

Status: *Since 1996, many of the above construction commitments have been incorporated as a standard part of FDOTs Standard Specifications for Road and Bridge Construction. Consequently, the 1996 commitment language will be replaced with language that goes beyond the standard specifications.*

FDOT will continue to implement the following the measures outlined in FDOT's Standard Specifications for Road and Bridge Construction.

1. *To avoid interfering with any adjacent noise sensitive land uses, pile driving operations will be restricted to the hours of 7 a.m. to 9 p.m. or a different foundation design will be considered, i.e. drilled shaft.*
2. *Back-up alarm noise from heavy equipment and trucks will be minimized in areas with noise sensitive land uses by requiring the Contractor to operate in forward passes or a figure-eight pattern when dumping, spreading or compacting materials.*

Noise Barriers

1996 TIS FEIS Commitment: Due to the high number of noise-sensitive sites identified and evaluated and in response to public comments received throughout the study, FDOT and the FHWA are committed to providing noise barriers as part of the project. FDOT is committed to providing noise barriers that meet both the acoustic and aesthetic goals of the project as identified in the TIS *Master Plan Report* and the TIS *Urban Design Guidelines* and the *Noise Study Report.* Specific noise abatement measures will be reevaluated during final design.

Status: *FDOT continues to be committed to provide noise barriers that meet both acoustic and aesthetic goals for the project and to reevaluate noise abatement measures during final design.*

FDOT will reconstruct noise barriers that would be altered in length or location as a result of the Preferred Alternative in locations similar to where they currently exist. FDOT will construct a visual barrier on the south side of I-275 between West Shore Boulevard and Lois Avenue and at the southern end of Church Street along the entrance ramp from Dale Mabry Highway. In addition, ROW barriers (not shoulder barriers) will be evaluated for feasibility of early construction phasing to buffer residential areas from construction activities.

Historic Resources

1996 TIS FEIS Commitment: A Section 106 Memorandum of Agreement (MOA) has been prepared to address mitigation measures for direct and indirect impacts to historic resources. The MOA includes FDOT commitments for the mitigation of impacts to historic structures within the Area of Potential Effect (APE) including the proposed moving and rehabilitation of certain historic structures and numerous design amenities defined in the *TIS Urban Design Guidelines*.

Status: *A CRAS Update (FDOT, 2018, j), CRAS Update Addendum (FDOT, 2020, e) and Section 106 Effects Analysis Report (FDOT, 2020, f) have been prepared for the SEIS and both SHPO and FHWA have concurred with their findings. Although the Preferred Alternative directly impacts five contributing resources within the Ybor City NHL District (TIS Segment 2B), these five contributing resources were impacted by the 1996 TIS FEIS Long-Term Preferred Alternative. In addition, the number of resources impacted has been significantly reduced with the Preferred Alternative. There are no new adverse effects that fall outside of the original 1996 analysis and that were not already being mitigated in the TIS FEIS Section 106 MOA. The Stipulations in the MOA continue to be implemented.*

Urban Design Guidelines

1996 TIS FEIS Commitment: FDOT developed the *TIS Urban Design Guidelines*, approved by FHWA in December 1994, to minimize indirect adverse visual and auditory impacts to land uses adjacent to the system and to users of the freeway. *The TIS Urban Design Guidelines* will serve as guidelines and mitigation measures for the Section 106 process by providing design standards for unique areas within the corridor including West Tampa, Ybor City, Seminole Heights, Tampa Heights, Downtown Tampa, and the Westshore area. In addition, the *TIS Urban Design Guidelines* specify mitigation measures for indirect adverse effects to historic properties and communities in the vicinity of the project. The *TIS Urban Design Guidelines* provide guidance on specific aesthetic design requirements for bridge structures; retaining walls and embankments; noise barriers; lighting, fencing, and sign supports; stormwater and surface water management areas; landscaping; public art; utilities; mounds and grading; and recreation facilities.

Status: *FDOT has implemented the TIS Urban Design Guidelines on all reconstruction projects to date and continues to be committed to implementing the TIS Urban Design Guidelines. In TIS Segment 1A and 2A, the Preferred Alternative will reconstruct and add new bridges that can accommodate all provisions within the TIS Urban Design Guidelines. FDOT will clear span over West Shore Boulevard, retain Lemon Street extension*

between West Shore Boulevard and Occident Street, provide openings under I-275 for Occident and Trask Streets, and provide a two-way extension of Reo Street to Kennedy Boulevard.

In TIS Segments 2B and 3A where many of the structures will be widened instead of reconstructed as part of the Preferred Alternative, sloped embankment at underpasses with constrained ROW will be cut back, and vertical walls constructed to provide a wider more open underpass area and better connection to accommodate pedestrian and bicycle facilities. In addition, during design, a feasibility analysis will be undertaken for additional east-west connection within FDOT ROW (remainder parcels) evaluating connections between Tampa Heights Greenway to Ybor, East Tampa, and the City of Tampa's Green Spine.

HART North Transit Terminal and Maintenance Facility on 21st

1996 TIS FEIS Commitment: In the 1996 TIS FEIS, FDOT committed to providing a new facility as part of the Selected Alternative.

Status: *This commitment has been completed and fulfilled. The North Transit Terminal has been relocated.*

Parks and Recreational Facilities

1996 TIS FEIS Commitment: The 1996 TIS FEIS Long-Term Preferred Alternative will involve the "use" of land from one City of Tampa Park requiring a Section 4(f) Evaluation, and FHWA determined that there was no feasible and prudent alternative to the use of a limited amount of land from Perry Harvey Sr. Park for public transportation purposes. Conceptual mitigation plans were prepared for the park, coordinated with the City of Tampa and presented to the community for input. Mitigation includes berms, landscape materials, a noise barrier, realignment of walkways and paths, replacement of the skateboard facility at a location to be designated by the City, and relocation of the Kid Mason Fendall Center into the Perry Harvey Sr. Park.

Status: *The Preferred Alternative will not impact the Perry Harvey Sr. Park.*

The SEIS Preferred Alternative will require a temporary occupancy of the northeastern corner of the Julian B. Lane Riverfront Park for the construction of a bridge that spans a 0.017-acre portion of the northeastern corner of the park. FDOT will comply with 23 CFR 774.13(d) to ensure that the temporary occupancy does not constitute a "use" of the resource as outlined in the City of Tampa letter dated May 12, 2020. FDOT is committed to:

1. *FDOT's use of the area is only necessary to construct the express lane exit to Ashley Drive. There will be no change in ownership of the park property.*
2. *The scope and nature of the temporary work is minor and aerial in nature; it includes placing a bridge superstructure over 0.017 acre of the northeastern corner of the 25-acre park. Temporary occupancy will occur during less than 50 percent of the project construction duration.*
3. *The temporary occupancy for construction activities will not interfere with any temporary or permanent activities, features, or attributes of the park.*
4. *The area will be returned to its existing or better condition. Any impacted landscape will be replanted/relocated within the vicinity per direction of the City of Tampa's Parks and Recreation Department. The bat house adjacent, adjacent to the construction area, will remain in place and be properly protected per coordination with City of Tampa's Park and Recreation Department.*
5. *Specific to the City's concern related to the living shoreline expressed in the February 27, 2019 letter, the westernmost pier located in the Hillsborough River will be constructed north of the City of Tampa/Southwest Florida Water Management District (SWFWMD) conservation easement and appropriate construction best management practices will be implemented to ensure any short term or long term impacts are avoided.*

Tampa Heights Greenway

1996 TIS FEIS Commitment: Incorporating existing open space into the proposed project will provide visual linkages to isolated pockets of open space along the corridor. Opportunities to link open space areas will be evaluated during the design phase of the project. FDOT is committed to developing the Tampa Heights Greenway located north of I-275 from the Ashley Street exit ramp to Columbus Drive. The proposed greenway includes both active and passive recreation facilities, bike paths, and pedestrian walkways providing links to Downtown Tampa and other recreation facilities.

Status: *The ultimate greenway plan, developed as a commitment, for the 1996 TIS FEIS will not be implemented because the Preferred Alternative will not impact the NRHP-listed Tampa Heights Historic District. The interim buffer space, referred to as the interim Tampa Heights Greenway will remain in place and the trail located within the greenway will be extended within existing ROW, if feasible, south to Perry Harvey, Sr. Park and north to Robles Park.*

Multi-Modal Terminal/Parking Garage

1996 TIS FEIS Commitment: The 1996 TIS FEIS Long-Term Preferred Alternative provides for the construction of a large downtown multi-modal terminal/HOV parking garage, transit connected, to accommodate buses and cars and provide commuters with convenient access to existing and future mass transit options. The structure will accommodate the future development of high-speed rail, electric streetcars, and people mover connections.

Status: *The 1996 TIS FEIS Long-Term Preferred Alternative consisted of the full reconstruction of the I-275/ I-4 interchange, which is no longer being considered as a part of the SEIS Preferred Alternative. The SEIS does not require additional ROW acquisition in the vicinity of the previously proposed multi-modal terminal/parking garage and does not identify nor provide for a transit corridor within the interstate footprint in Segment 2B, the I-275/I-4 Interchange. Therefore, this commitment is no longer applicable. However, the SEIS Preferred Alternative will not preclude future transit projects or a future downtown multi-modal terminal/parking garage in this location. Environmental impacts associated with the proposed multi-modal terminal/parking garage were evaluated by separate projects through the Federal Transit Administration's (FTA's) approved Finding of No Significant Impact (FONSI) for the Tampa Bay Intermodal Centers and the Federal Rail Administration's (FRA's) High-Speed Rail FEIS and approved ROD. FDOT will continue to partner with our local transit partners to site a multi-modal center in the downtown area through an ongoing FDOT-sponsored study, the Intermodal Center South Study: Downtown, Westshore and Pinellas Gateway.*

High Speed Rail (New)

On April 16, 2020, in response to the Draft SEIS, FRA acknowledged that currently there is no apparent conflict between the SEIS Preferred Alternative and the approved High Speed Rail FEIS. FDOT is committed to coordinating with the FRA on a future reevaluation of the FRA Florida High-Speed Rail FEIS to ensure both projects are viable.

1.2 Description of the Preferred Alternative

The limits of the Preferred Alternative are:

- Segment 1A – I-275 (SR 93) from north of the Howard Frankland Bridge to Lincoln Avenue; and SR 60 from south of I-275 to Cypress Street
- Segment 2A – I-275 (SR 93) from Lincoln Avenue to east of Rome Avenue

The typical section for I-275 consists of 3 – 4 general use lanes in both directions and 2 express lanes in both directions. The typical section for SR 60 consists of 3 general use lanes in both directions and 2 express lanes in both directions.

Access is provided at the following locations.

- Kennedy Boulevard / Reo Street: Half-interchange (south side) / general use and express lanes
- SR 60: Partial interchange / general use and express lanes
- West Shore Boulevard: Half-interchange (north side) / general use lanes
- Lois Avenue: Full interchange / general use lanes
- Dale Mabry Highway: Full interchange / general use lanes
- Himes Avenue: Half-interchange (north side) / general use lanes
- Himes Avenue: Half-interchange (south side) / express lanes
- Armenia Avenue: Half-interchange (south side) / general use lanes
- Howard Avenue: Half-interchange (north side) / general use lanes
- Slip-ramps provide access between general use and express lanes at multiple locations along I-275

A multi-use trail will be along the southbound side of I-275 from north of the Howard Frankland Bridge to Reo Street, at which point it will turn north along the west side of Reo Street, and will ultimately connect to the Cypress Point Park trail.

The Preferred Alternative Concept Plans are provided in **Appendix A.**

2 INTRODUCTION

2.1 Project Development and Environment Study Process

The FHWA and FDOT have initiated an environmental review process for the TIS in Tampa, Hillsborough County, Florida. The study is a supplement to the 1996 FEIS. FHWA issued the Records of Decision (ROD) in 1997 and 1999. FDOT and FHWA are conducting this study based on a proposed design change that includes new alternatives not previously considered, as well as modified alternatives presented in the 1996 TIS FEIS to accommodate tolled express lanes and other capacity and mobility improvement alternatives, some of which are being considered by FDOT in separate studies. FDOT, in coordination with FHWA, is preparing a SEIS in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. All work is being conducted in accordance with FDOT's *PD&E Manual* to ensure compliance with all state and federal requirements.

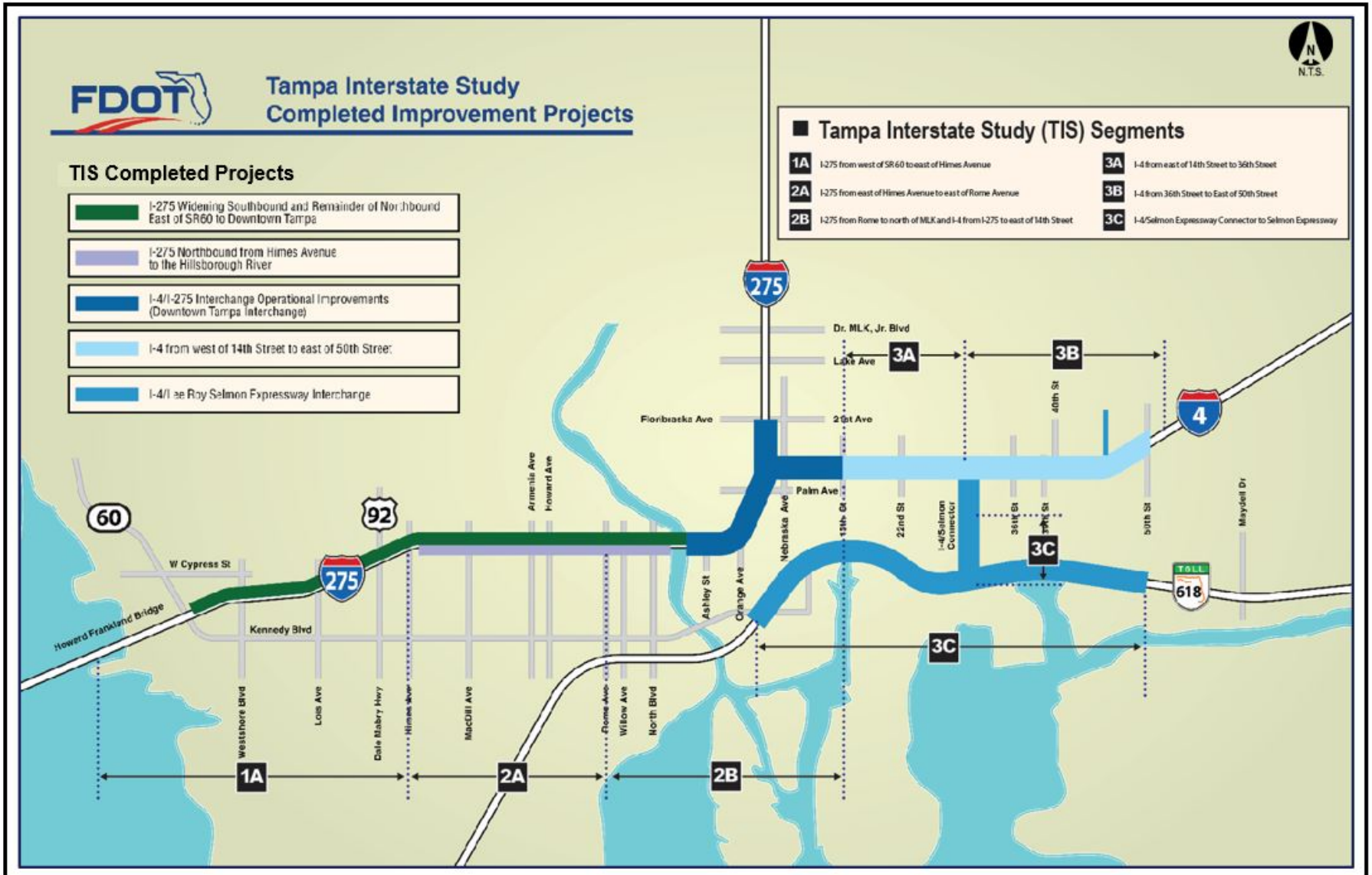
2.2 Project History and Background

The TIS Project has been under consideration since the early 1980s. These earlier planning and engineering studies are described in **Chapter 5** of this report.

Previous FHWA approved environmental documents have governed the development of all improvements to I-275 and I-4 providing a roadway system that will ultimately include general use lanes and separated express lanes in each direction, as well as accommodation for a future transit corridor. The intent of the FHWA and the FDOT is to ultimately construct the TIS LTPA (as it has been modified) as funding becomes available through the Hillsborough County Metropolitan Planning Organization (MPO). Since issuance of the 1997 and 1999 RODs, FDOT has taken several major steps to advance the Project to full implementation. The TIS Project has been reevaluated several times (see **Chapter 5**) to advance various elements of the project, many of which FDOT has already constructed, including portions of Segment 1A, Segment 2A, Segment 3A, Segment 3B, and Segment 3C. The following briefly describes the projects that FDOT has already constructed; the third one below is described in greater detail in **Chapter 4**. The limits of these projects are shown in **Figure 2-1**.

- **I-4/I-275 Interchange Operational Improvements (Downtown Tampa Interchange)** - Corridor Length: 2.7 miles, Construction Cost: $81 million, Start: October 2002 – Completion: December 2006. Capacity and safety improvements to the Downtown Tampa Interchange (DTI), which widened both interstates to four lanes in each direction. Improvements also included: extending the Ashley Street entrance ramp, providing a local auxiliary exit ramp system, improving weaving movements related to the I-275 southbound to I-4 eastbound flyover ramp, shoulder-mounted 8-foot noise walls near densely developed residential areas, landscaping within infield area and aesthetic treatments.

- **I-4 from West of 14th Street to East of 50th Street** – Corridor Length: 3.2 miles, Construction Cost: $185 million, Start: February 2004 – Completion: Fall 2007. Reconstruction of a 4-lane roadway into a 6-lane roadway (three lanes in each direction with auxiliary lanes) to tie into the Downtown Tampa Interchange improvement project completed in December 2006. Improvements also included: providing an increased median width reserved for future transportation needs, new bridges with improved height clearances, shoulder-mounted 8-foot noise walls near densely developed residential areas, aesthetic treatments, and improved lighting and drainage.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Tampa Interstate Study Completed Improvements Projects

Figure 2-1

- **I-275 Northbound from Himes Avenue to the Hillsborough River** – Corridor Length: 2 miles, Construction Cost: $109 million, Start: August 2007 – Completion: Spring 2010. Reconstruction of a 3-lane roadway into a 4-lane roadway primarily south of the existing alignment. Improvements also included: providing an increased median width reserved for future transportation needs, new bridges with improved height clearances, shoulder-mounted 8-foot noise walls near densely developed residential areas, aesthetic treatments, and improved lighting and drainage.

- **I-4/Lee Roy Selmon Expressway Interchange** – Corridor Length: 1 mile, Construction Cost: $425 million, Start: March 2010 – Completion: Spring 2014. Construction of a new north-south toll interchange, which connects I-4 with the Lee Roy Selmon Expressway (SR 618). The elevated roadway with an all-electronic toll collection system links these two, major east-west corridors, and provides "truck-only" lanes for direct access to the Port Tampa Bay to reduce heavy truck traffic from local roads in Ybor City. Aesthetic treatments were also included in this project.

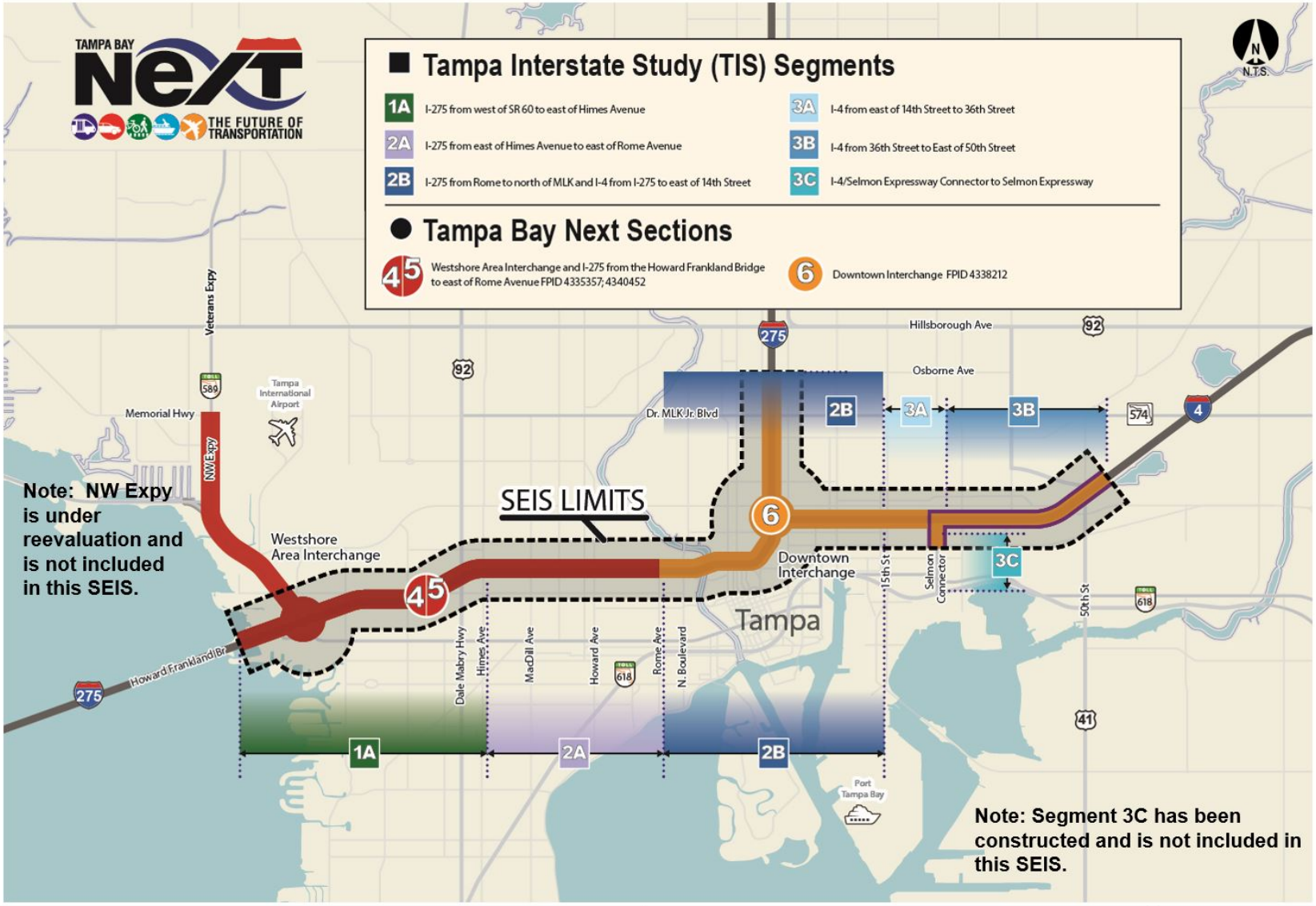
- **I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa** – Corridor length: 4.2 miles, Construction Cost: $217.3 million, Start: July 2012 – Completion: Fall 2016. Reconstruction and roadway widening. Improvements included: providing four through lanes in each direction, flattening the profile of the roadway at bridges over the crossroads, aesthetic treatments, improved interchanges, and increased median width for future improvements.

In 2011, FDOT released the *Florida Transportation Vision for the 21st Century*. The vision focused on innovative financing alternatives, advancing projects, and accommodating economic growth. While the 1996 TIS FEIS always included express lanes along the region's interstates, tolling was not a consideration at the time. As a result of the 2011 Vision, FDOT initiated a master plan study in 2012 to determine the feasibility of dynamically tolling the proposed express lanes on the interstate. FDOT's 2015 *Tampa Bay Express (TBX) Master Plan*, which included the TIS Project limits, established a system-wide framework for implementation of dynamically-tolled express lanes within the Tampa Bay Region. As part of the development of the *TBX Master Plan*, FDOT conducted extensive outreach, beginning with focus groups, to better understand public perceptions of the express lanes concept.

Due to funding constraints for the implementation of the ultimate capacity improvements envisioned in the *TBX Master Plan* for the Tampa Bay Region, FDOT identified a series of express lane projects in the five-year work program that could be advanced. FDOT could build each of these smaller-scale projects within a five-year window. FDOT considers these shorter-term improvements the "Starter Projects." The Hillsborough County MPO formally added the Starter Projects to the fiscally-constrained Transportation Improvement Program (TIP) in 2015. The Tampa Bay Regional Transit Authority (TBARTA) also included the Starter Projects in the *2015 Regional Transportation Master Plan Update*. Additional discussion on the development of alternatives is included in **Chapter 8**. The relationship between the TBX (presently designated as Tampa Bay Next (TBNext) project limits and the original TIS project segments is shown in **Figure 2-2**.

2.3 Purpose of Report

The purpose of this PER is to document all of the engineering-related aspects associated with the TIS SEIS work efforts, specifically for TIS Segments 1A and 2A (TBNext Sections 4 and 5). Separate reports are being prepared to document engineering elements, environmental effects, and public involvement efforts (see **Chapter 11** for list).



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Tampa Bay Next vs TIS Study Segments Limits

Figure 2-2

3 PURPOSE AND NEED FOR PROJECT

The information in this chapter is based on the 2017 Draft Purpose and Need document prepared as part of the SEIS. Refer to Chapter 1 of the *SEIS* document.

3.1 Project Purpose

As stated in the 1996 TIS FEIS, the purpose of the TIS proposed improvements was to upgrade the safety and efficiency of the existing I-275 and I-4 transportation corridors while improving access to the surrounding communities and the need to meet existing and projected traffic demands, provide for multimodal opportunities in the corridor, and improve the efficiency of this important regional and local transportation link.

The current SEIS Purpose and Need is consistent with the 1996 TIS FEIS Purpose and Need and expands upon the originally identified purpose and need to include congestion relief that improves accessibility, mobility, travel times, and system linkages and multimodal connections, while supporting regional economic development goals and enhancing quality of life for Tampa Bay residents and visitors.

3.2 Summary of Needs and Goals for the TIS SEIS Project

Goals were developed based on the transportation needs and issues that have been identified for the TIS SEIS Project. The goals were used to develop screening criteria to evaluate the alternatives being considered to address the transportation needs in the TIS SEIS Project study area as measured against the established Purpose and Need. The evaluation of alternatives is a key component of the environmental process and should contain sufficient information to distinguish between the costs and benefits of the alternatives and to understand the relationships among alternatives, including possible trade-offs. The evaluation of the transportation improvement alternatives for the TIS SEIS Project will draw on the information and analyses gathered for the TIS SEIS and input from stakeholders. It will provide the qualitative and quantitative material needed for decision making in a manner that will successfully build a consensus among those concerned with the selection and implementation of a Locally Preferred Alternative. The goals of the TIS SEIS Project are as follows:

- **Meet regional goals and objectives and demonstrate consistency with long range plans:** The *Strategic Intermodal System (SIS) Policy Plan, Imagine2040: Hillsborough Long Range Transportation Plan (LRTP)* (Hillsborough MPO), and *2015 Regional Transportation Master Plan Update* (TBARTA) identified improvements to I-4 and I-275 as critical to support projected population and employment growth.
- **Provide a vital link to the regional transportation network:** There exists a need to provide key connections to other recently improved, under construction, or planned highway improvements and to portions of Hillsborough County that are expected to continue to experience significant growth through the next 20 years. Without improvements to the primary interstate system, other freeways, expressways, and arterials as provided for in Hillsborough MPO's *Imagine 2040: LRTP* (2014) will fail to provide the necessary capacity to relieve congestion and system connectivity.
- **Provide a multimodal transportation corridor that complements the surrounding community from a transportation, economic, and social aspect:** Several multimodal transportation activities converge within the limits of the TIS SEIS Project study area. These transportation facilities include, or are planned to include, streetcar, bus rapid transit, express buses, local bus routes, park-and-ride lots, and rail transit. Sufficient capacity to accommodate existing and future transit demand is needed in the TIS SEIS Project study area.

- **Meet future travel demand generated by population and employment growth:** Population in Tampa Bay Region is projected to grow 48 percent by 2040, and employment is projected to increase by approximately 56 percent. This growth would result in a substantial increase in the traffic demand for the facility, with an increase in Vehicle Miles Traveled (VMT) projected at 44 percent by 2040. The proposed improvements are needed to improve freeway capacity in the TIS SEIS Project study area to accommodate the increasing travel demand.

- **Improve regional and interstate travel and mobility through the TIS SEIS Project study area by reducing travel times and duration of congestion:** Freeway Annual Average Daily Traffic (AADT) volumes are projected to increase by 66 percent throughout the TIS SEIS Project study area by 2040. At the major chokepoints in the TIS SEIS Project study area, the Downtown and Westshore interchanges, AADT is expected to increase by 109 percent and 61 percent, respectively. Regional travel times to Downtown are projected to increase from an average of 52 minutes to 62 minutes in 2040, a 19 percent increase. Regional travel times to Westshore are projected to increase from an average of 51 minutes to 61 minutes in 2040, a 20 percent increase. The duration of congestion could last more than two to three hours per day within the entire study area. Improvements are needed to move traffic more efficiently and provide travelers with a faster and more predictable trip.

- **Provide a safer, more efficient transportation system for the increased traffic volumes in the existing transportation corridor:** Future travel demand resulting from projected population and employment growth will create further need for improving the transportation system. Congestion in the study corridors is demonstrated by poor levels of service of the existing freeways, with most the corridors failing. Congestion levels are expected to increase, further deteriorating the levels of service for the future projected travel demand. Study of historic safety data also indicates that the project study area interstates experience crash rates that are well above the statewide average crash rate for similar facilities, demonstrating that there is a need to improve safety in the TIS SEIS Project study area.

- **Provide efficient and convenient access to economic activity centers in the TIS SEIS Project study area:** I-275, I-75, I-4, and SR 60 provide a vital regional link between several counties including Pasco, Polk, Pinellas, Hillsborough, and Manatee within the Tampa Bay area. The TIS SEIS project study area along I-275 and I-4 represents the spine of the transportation network for the City of Tampa and Hillsborough County and provides access to employment, residential neighborhoods, tourist and recreational destinations, and services. The location of the proposed improvements through the core downtown area of Tampa, Westshore Business District, and the surrounding key activity centers with areas of high concentration of employment and commercial developments demonstrates the need for accessibility and connectivity to key economic centers to keep and attract businesses and development and support the economic vitality of the region.

- **Allow for improved access to regional facilities and efficiently accommodate regional and interstate movement of people and goods:** I-275, I-75, I-4, and SR 60 also provide important connections to Port Tampa Bay and the Tampa International Airport (TIA). Port Tampa Bay is the largest port in the state of Florida and handled more than 37 million tons of cargo in 2016. The efficient movement of people and goods throughout the Tampa Bay Region relies on the integration of freight and transportation infrastructure, equipment, personnel, and information systems. These components must work together in order to sustain the regional economy. Therefore, the movement of goods by improving access and travel times, as it relates to economic development, is an important factor in the need for improvements in the TIS SEIS Project study area.

In summary, the purpose of and need for the proposed action in the TIS SEIS is to relieve congestion for a rapidly growing region in a manner that improves various aspects of the transportation system as outlined in the preceding sections of this discussion. These improvements are needed to meet future travel demand that will occur with projected population and employment growth, provide access to economic activity centers, enhance existing and future travel safety, address local arterial traffic congestion, provide system linkages and multimodal connections, while improving regional and interstate travel and mobility.

4 EXISTING CONDITIONS

4.1 Completed Projects within the Study Area

Several major interstate improvement projects have already been completed within the study area of Segments 1A and 2A (part of TBNext Sections 4 and 5), as mentioned in **Section 2.2**. Projects completed within this study area are summarized in **Figure 4-1**.

4.1.1 I-275 Northbound from Himes Avenue to the Hillsborough River (258398-1, 258399-1 and 258398-7)

This project was covered under the 1999 ROD for Segment 2A. For this project, FDOT built the northbound outer roadway lanes from Himes Avenue to the Hillsborough River. FHWA authorized construction in 2006 and FDOT completed construction in 2010. Throughout this corridor, noise barriers were constructed to not only provide a visible and auditory barrier to the interstate, but also fit the visual style of the community. Landscaping was added along the noise barriers in many areas to further improve the visual appeal. Two historic homes were relocated as part of this project. To supplement the multimodal centers, FDOT also left space for a future premium transit envelope throughout the median of the interstate.

Improvement highlights for this project included:

- Reconstructed general use lanes from 3-lanes to 4-lanes in the northbound direction.

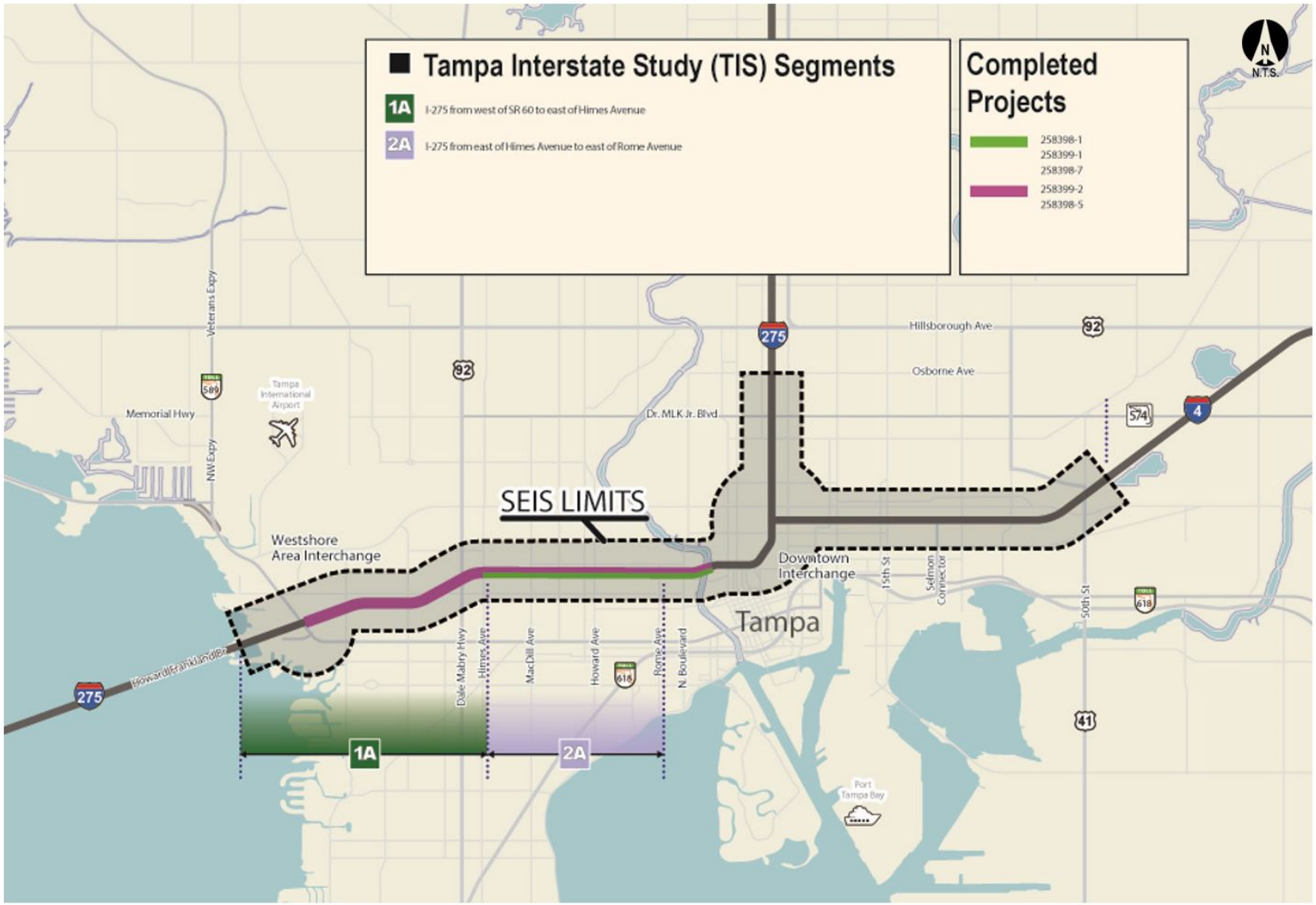
4.1.2 I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa (258398-5 and 258399-2)

The last TIS project that FDOT constructed is I-275 from SR 60 to the Hillsborough River. For this project, FDOT built the southbound outer roadway lanes that were shown in the Segment 2A and a portion of Segment 1A. FHWA authorized construction in 2009 and FDOT completed construction in 2016. In addition to applying the Urban Design Guidelines throughout the project, FDOT built a new trail adjacent to the interstate and preserved the wide median for future lanes and a transit envelope.

Improvement highlights for this project included:

- Reconstructed general use lanes from 3-lanes to 4-lanes in the northbound and southbound direction.

Design Variations and Exceptions for this segment are listed in **Table 4-1.**



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Completed Interstate Projects within Segments 1A and 2A

Figure 4-1

Table 4-1 Design Exceptions and Variations for I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa

Design Element	Sta	Sta	Align	Criteria Description	Dimension	Existing	Required	Proposed	Disposition	Variation or Exception	Date Entered	Notes
Stopping Sight Distance	PVI at 497+40.65 (West Shore Blvd.)		SB 275	Substandard stopping sight distance	Length	-	645'	431'	Less than AASHTO	Exception	29-Aug-05	Proposed design matches existing profile grade at bridge. Substandard conditions will be eliminated in ultimate design/construction
Stopping Sight Distance	20144+40.00	20157+62.05	SB 275	Substandard stopping sight	Dist.	440.6'	645'	441'	Less than Minimum	Exception	4-Jun-04	Mirrors the approved NB exception for same location
Structural Capacity	Bridge over Memorial Highway		SB 275	Structural capacity, existing deck slab overhang, and barrier		-		As-Is	Existing condition	Exception	6-Apr-06	Existing deck slab overhang and barriers are substandard
Structural Capacity	154+20.00	155+80.00	NB 275	Structural capacity, existing deck slab overhang, and barrier		-		As-Is	Existing condition	Exception		Existing deck slab overhang and barriers are substandard
Vertical Alignment & K Value	497+40.65 (West Shore Blvd.)		SB 275	Substandard K Value		K=86.2	K=151	K=86.2	Less than AASHTO	Exception	29-Aug-05	Substandard existing conditions will be eliminated in ultimate design/construction
Shoulder Width	20146+75.18	20163+35.60	SB 275	Substandard inside shoulder width	Width	2'	10' & 12'	2'	Less than Minimum	Exception	4-Jun-04	Inside shoulder widths varies along other bridges but are still substandard
Shoulder Width	20146+75.18	20163+35.60	SB 275	Substandard outside shoulder	Width	2'	10' & 12'	2' & 6'	Less than Minimum	Exception		Directed by RFP language
Shoulder Width	NB/SB I-275 Roadways		NB/SB 275	Substandard outside shoulder width	Width	-	12'/10' Paved	10' Paved	Less than FDOT minimum	Variation	29-Aug-05	No change to previous variation
Shoulder Width	Ramp P		RAMP P	Substandard inside shoulder width	Width	-	8'/4' Paved	6 ' Paved	Less than FDOT minimum	Variation	29-Aug-05	No change to previous variation
Shoulder Width	Ramp T		RAMP T	Substandard inside shoulder width	Width	-	8'/4' Paved	6 ' Paved	Less than FDOT minimum	Variation	29-Aug-05	widened the outside shoulder to 10' in multi-lane section
Shoulder Width	Ramp U		RAMP U	Substandard inside shoulder width	Width	-	8'/4' Paved	6 ' Paved	Less than FDOT minimum	Variation	29-Aug-05	No change to previous variation
Shoulder Width	Ramp V		RAMP V	Substandard inside shoulder width	Width	-	8'/4' Paved	6 ' Paved	Less than FDOT minimum	Variation	29-Aug-05	No change to previous variation
Shoulder Width	Ramp W		RAMP W	Substandard inside shoulder width	Width	-	8'/4' Paved	6 ' Paved	Less than FDOT minimum	Variation	29-Aug-05	No change to previous variation
Borders	All Alignments		All Alignments	Minimum border widths along C/D roadways and frontage roads	Width	-	94' & 12'	15' & 10'	Less than FDOT minimum	Variation	4-Feb-04	Border widths violated throughout project

Table 4-1 (Continued) Design Exceptions and Variations for I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa

Design Element	Sta	Sta	Align	Criteria Description	Dimension	Existing	Required	Proposed	Disposition	Variation or Exception	Date Entered	Notes
Cross Slope	NB/SB 275		NB/SB 275	Max no. of lanes sloped in same direction	#	-	3 lanes	4 lanes		Variation	29-Aug-05	No change to previous variation
Cross Slope	All Ramps		All Ramps	Shoulder cross slopes and grade breaks		-		Matches pavement cross slopes		Variation	29-Aug-05	No change to previous variation
Design Speed	NB/SB transition fr/ Himes to Hills. River		NB/SB 275	Substandard design speed in transition	Speed	50 mph	60 mph	50 mph	Less than FDOT minimum	Variation	4-Feb-04	Design speeds per FDOT-60 mph; District 7 Rdwy Engineer-65 mph
Vertical Clearance	Bridge over West Shore Blvd		SB 275	Substandard vertical clearance	Height	-	16'-0"	14'-2"	Less than FDOT minimum	Variation	29-Aug-05	Substandard conditions will be eliminated in ultimate design/construction; 16' clearance route available
Vertical Clearance	Bridge over North Blvd		SB 275	Substandard vertical clearance	Height	-	16'-0"	14'-7"	Less than FDOT minimum	Variation		Substandard conditions will be eliminated in ultimate design/construction; 16' clearance route available
Horizontal Clearance	Bridge Over Dale Mabry Highway		SB 275	Horizontal clearance from bridge piers and abutment	Dist.	-	16'	12.8'	Less than FDOT minimum	Variation		Wall W-15, Abutment at 37+94 to 39+16 off Ramp T
Horizontal Clearance	Bridge Over Himes Avenue		NB 275	Horizontal clearance from bridge piers and abutment	Dist.	5.3'	16'	5.3'	Less than FDOT minimum	Variation		Southeast quadrant at 28+86 (Rt) & Abutment (Existing)
Horizontal Clearance	Bridge Over Himes Avenue		SB 275	Horizontal clearance from bridge piers and abutment	Dist.	-	16'	4.7'	Less than FDOT minimum	Variation		Northeast quadrant at 31+09 (Rt) & Abutment
Horizontal Clearance	Bridge Over Armenia Avenue		SB 275	Horizontal clearance from bridgepiers and abutment	Dist.	12.2'	16'	12.2'	Less than FDOT minimum	Variation	4-Feb-04	Wall W5, Abutment Sta. 30085+94.29 (Existing)
Horizontal Clearance	Bridge Over Armenia Avenue		SB 275	Horizontal clearance from bridge piers and abutment	Dist.	7.2'	16'	7.2'	Less than FDOT minimum	Variation	4-Feb-04	Wall W6, Abutment Sta. 30087+31.83 (Existing)
Horizontal Clearance	Bridge Over Howard Avenue		SB 275	Horizontal clearance from bridge piers and abutment	Dist.	4.5'	16'	4.5'	Less than FDOT minimum	Variation	4-Feb-04	Wall W6, Abutment Sta. 30092+64.00 (Existing)
Horizontal Clearance	Bridge Over Howard Avenue		SB 275	Horizontal clearance from bridge piers and abutment	Dist.	4.5'	16'	4.5'	Less than FDOT minimum	Variation	4-Feb-04	Wall W7, Abutment Sta. 30094+01.50 (Existing)
Median Width	SR 60 to West Shore Blvd. & Hillsborough River bridge		NB/SB 275	Substandard median and shoulder widths	Width	20'	26'	20'	Less than FDOT minimum	Variation	4-Feb-04	No change to previous variation

Table 4-1 (Continued) Design Exceptions and Variations for I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa

Design Element	Sta	Sta	Align	Criteria Description	Dimension	Existing	Required	Proposed	Disposition	Variation or Exception	Date Entered	Notes
Horizontal Alignment	Curve CDSHIFT-1, PI Sta. 2049+47.66		CDSHIFT	Substandard horizontal curve	Length	-	975'	671.26'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	Curve ISBCD-7, PI Sta. 20146+71.16		ISBCD	Substandard horizontal curve	Length	-	750'	541.4'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	Curve ISBCD-8, PI Sta. 20157+71.71		ISBCD	Substandard horizontal curve	Length	-	750'	626.74'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	Curve RN-1, PI Sta. 996+25.43		RN	Substandard horizontal curve	Length	-	400'	386.21'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	Curve RN-2, PI Sta. 1000+15.64		RN	Substandard horizontal curve	Length	-	400'	394.24'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	Curve RX-1, PI Sta. 1536+17.58		RX	Substandard horizontal curve	Length	-	400'	282'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing
Horizontal Alignment	493+25.01	496+96.00	SB 275	Substandard horizontal curve length	Length	-	900'	370.99'	Less than FDOT minimum	Variation	5-Feb-04	SB-1 - Same curve as SB-2 w/o 12' shift. Compound with SB-3
Horizontal Alignment	496+96.00	500+50.62	SB 275	Substandard horizontal curve length	Length	-	900'	354.62'	Less than FDOT minimum	Variation	6-Feb-04	SB-2 - Same curve as SB-1 w/ 12' shift. Compound with SB-3
Horizontal Alignment	500+50.62	506+81.78	SB 275	Substandard horizontal curve	Length	-	900'	631.16'	Less than FDOT minimum	Variation	29-Aug-05	SB-3 - Compound with combined SB-1 & SB-2 curve
Horizontal Alignment	506+81.78	514+54.25	SB 275	Substandard horizontal curvelength	Length	-	900'	772.47'	Less than FDOT minimum	Variation	29-Aug-05	Indicative Design curve SB-4 improvement over RFPcurve by 167.72'
Horizontal Alignment	2+41.51	7+82.95	SB SHIFT	Substandard horizontal curve length	Length	-	750'	541.44'	Less than FDOT minimum	Variation		SB 275 Shift; Hillsborough River Bridge to North Boulevard; Widened bridge to exist alignment
Horizontal Alignment	12+58.80	16+11.18	SB SHIFT	Substandard horizontal curve length	Length	-	750'	352.38'	Less than FDOT minimum	Variation		Part of compound curve from existing alignment onto widened bridge alignment
Horizontal Alignment	16+11.18	21+35.07	SB SHIFT	Substandard horizontal curve length	Length	-	750'	523.89'	Less than FDOT minimum	Variation		Part of compound curve from existing alignment onto widened bridge alignment
Horizontal Alignment	298+29.16	301+06.63	NB 275	Substandard horizontal curve	Length	-	900'	277.47'	Less than FDOT minimum	Variation	29-Aug-05	Curve NB-1

Table 4-1 (Continued) Design Exceptions and Variations for I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa

Design Element	Sta	Sta	Align	Criteria Description	Dimension	Existing	Required	Proposed	Disposition	Variation or Exception	Date Entered	Notes
Horizontal Alignment	301+06.63	308+65.36	NB 275	Substandard horizontal curve	Length	-	900'	758.73'	Less than FDOT minimum	Variation	29-Aug-05	Curve NB-2
Horizontal Alignment	316+64.58	322+22.21	NB 275	Substandard horizontal curve	Length	-	900'	557.63'	Less than FDOT minimum	Variation	29-Aug-05	Curve NB-3
Horizontal Alignment	10+00.00	13+95.07	RAMP L	Substandard horizontal curve	Length	-	400'	395.07'	Less than FDOT minimum	Variation	29-Aug-05	Curve L-1
Horizontal Alignment	13+95.07	16+64.62	RAMP L	Substandard horizontal curve	Length	-	400'	269.56'	Less than FDOT minimum	Variation	29-Aug-05	Curve L-2
Horizontal Alignment	74+91.93	78+74.29	RAMP M	Substandard horizontal curve	Length	-	400'	382.36'	Less than FDOT minimum	Variation	29-Aug-05	Curve M-3
Horizontal Alignment	72+23.56	76+10.38	RAMP N	Substandard horizontal curve	Length	-	400'	386.82'	Less than FDOT minimum	Variation	29-Aug-05	Curve N_PB-4 (Indicative Design curve N-4)
Horizontal Alignment	53+16.56	56+98.73	RAMP R	Substandard horizontal curve	Length	-	400'	382.18'	Less than FDOT minimum	Variation	29-Aug-05	Curve R-1
Horizontal Alignment	58+44.16	61+39.13	RAMP R	Substandard horizontal curve	Length	-	400'	294.97'	Less than FDOT minimum	Variation	29-Aug-05	Curve R-2
Horizontal Alignment	67+93.66	70+71.81	RAMP R	Substandard horizontal curve	Length	-	400'	278.15'	Less than FDOT minimum	Variation	29-Aug-05	Curve R-3
Horizontal Alignment	15+96.27	18+25.07	RAMP S	Substandard horizontal curve	Length	-	400'	228.80'	Less than FDOT minimum	Variation	29-Aug-05	Curve S-1
Horizontal Alignment	19+71.05	22+39.15	RAMP T	Substandard horizontal curve	Length	-	400'	268.10'	Less than FDOT minimum	Variation	29-Aug-05	Curve T-2
Horizontal Alignment	50+00.00	51+97.40	RAMP U	Substandard horizontal curve	Length	-	400'	197.40'	Less than FDOT minimum	Variation	29-Aug-05	Curve U-1
Horizontal Alignment	54+55.18	58+49.98	RAMP U	Substandard horizontal curve	Length	-	400'	394.80'	Less than FDOT minimum	Variation	29-Aug-05	Curve U-2
Horizontal Alignment	61+68.14	64+68.14	RAMP U	Substandard horizontal curve	Length	-	400'	300'	Less than FDOT minimum	Variation	29-Aug-05	Curve U-3

Table 4-1 (Continued) Design Exceptions and Variations for I-275 Widening Southbound and Remainder of Northbound from east of SR 60 to Downtown Tampa

Design Element	Sta	Sta	Align	Criteria Description	Dimension	Existing	Required	Proposed	Disposition	Variation or Exception	Date Entered	Notes
Vertical Alignment	554+52.34	20024+06.62	SB 275	Substandard crest vertical curve length	Length	-	1800'	1180'	Less than FDOT minimum	Variation	29-Aug-05	Indicative Design sta 557+00 to 567+00
Vertical Alignment	20028+63.85	20041+05.85	SB 275	Substandard crest vertical curve length	Length	-	1800'	1242'	Less than FDOT minimum	Variation	29-Aug-05	Indicative Design sta 557+00 to 567+00
Vertical Alignment	363+70.00	373+70.00	NB 275	Substandard crest vertical curve length	Length	-	1800'	1000'	Less than FDOT minimum	Variation	29-Aug-05	Indicative Design sta 361+00 to 371+00 proposed L=1000'
Vertical Alignment	375+00.00	385+00.00	NB 275	Substandard crest vertical curve length	Length	-	1800'	1000'	Less than FDOT minimum	Variation	29-Aug-05	Existing; Eliminated with Ultimate Design
Vertical Alignment	20128+39.00	20132+89.00	SB 275	Crest vertical curve length	Length	-	K=136, VC=1800'	K=298, VC=450'	Less than FDOT minimum	Variation		Eliminated with Ultimate Design
Vertical Alignment	20132+89.00	20137+34.00	SB 275	Sag vertical curve length	Length	-	K=96, VC=800'	K=103, VC=445'	Less than FDOT minimum	Variation		Eliminated with Ultimate Design
Vertical Alignment	20141+40.00	20143+50.00	SB 275	K Value - Crest, vertical curve length	K value, length	K=134, VC=210'	K=245, VC=1800'	K=134, VC=210'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing; eliminated with Ultimate Design; Existing
Vertical Alignment	20143+50	20147+94	SB 275	K Value - Sag, vertical curve length	Length	K=90,VC=444'	K=136,VC=800'	K=90,VC=444'	Less than FDOT minimum	Variation	4-Feb-04	From RFP Docs - RFP Stationing; eliminated withUltimate Design; Existing

Source: FDOT

4.2 Existing Roadway Characteristics

FDOT Straight Line Diagram Inventory sheets are included in **Appendix B** which summarize many of the existing roadway characteristics.

4.2.1 Roadway Classification and Access Management

The existing interstate system through Tampa is classified as an urban principal arterial, and it also part of the state's SIS. The access management classification is Class 1 – Limited Access Facilities, based on FDOT's Rule 14-97, which sets forth an access control classification system and access management standards to implement the State Highway System Access Management Act of 1988 (Florida Statute [F.S.] 335.18).

4.2.2 Typical Sections and Posted/Design Speeds

The previously approved TIS typical sections are included in **Appendix C,** obtained from various as-built plan sets or design documentation. Posted speed limits are 55 miles per hour (mph) along the mainline of I-275. The design speeds on I-275 west of the Hillsborough River varies from 70 mph to 50 mph per the design plans.

4.2.3 Pedestrian and Bicycle Facilities

There are no provisions for pedestrians or bicyclists on the interstate system since they are currently prohibited by law. The existing interstate improvements included provisions for future development of pedestrian and bicycle accommodations parallel to the interstate and on cross streets beneath the interstate. In addition, a pedestrian path was constructed within the following limits shown on **Figure 4-2**.

- North side of I-275 southbound from Lois Avenue to Church Avenue, and
- South side of I-275 northbound from Hesperides Street to Lois Avenue

Adjacent surface streets include sidewalks and bike lanes. In addition, FDOT is looking for opportunities to connect gaps through West Tampa and the Westshore Business District, beyond to the Courtney Campbell Trail.

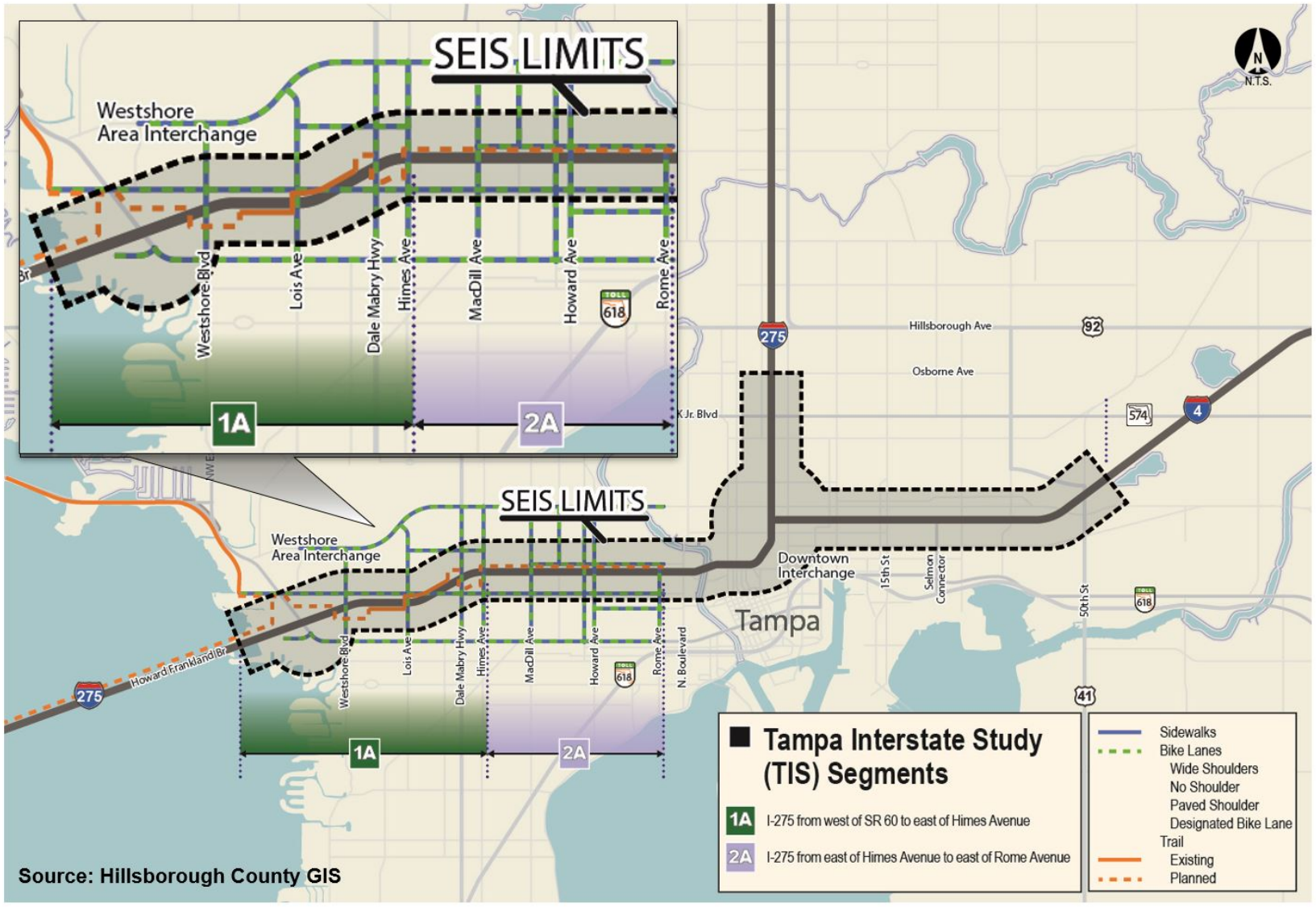
4.2.4 Right-of-Way

Existing ROW widths vary substantially throughout the study area, as depicted in **Figures 4-3a, 4-3b and 4-3c**. In general, between the HFB and Rome Avenue, the ROW varies from about 350 to 600 feet in width.

4.2.5 Horizontal Alignment

The existing horizontal alignment has a variety of curves through Segments 1A and 2A as summarized in **Table 4-2** and shown on **Figures 4-4a and 4-4b.** Table 4-2 also identifies locations where the FDOT minimum horizontal curve length of 900 feet is not enough. The existing alignment is bi-furcated throughout much of the study area, so there are multiple alignments for northbound I-275 and southbound I-275. There are multiple ramp connections, with horizontal alignments that have differing design speeds, throughout the length of the study. The mainline design speed varies between 50-70 mph, with most curves meeting the current FDOT Design Manual (FDM) (2018) design criteria for desirable length of curve. (Table 210.8.1).

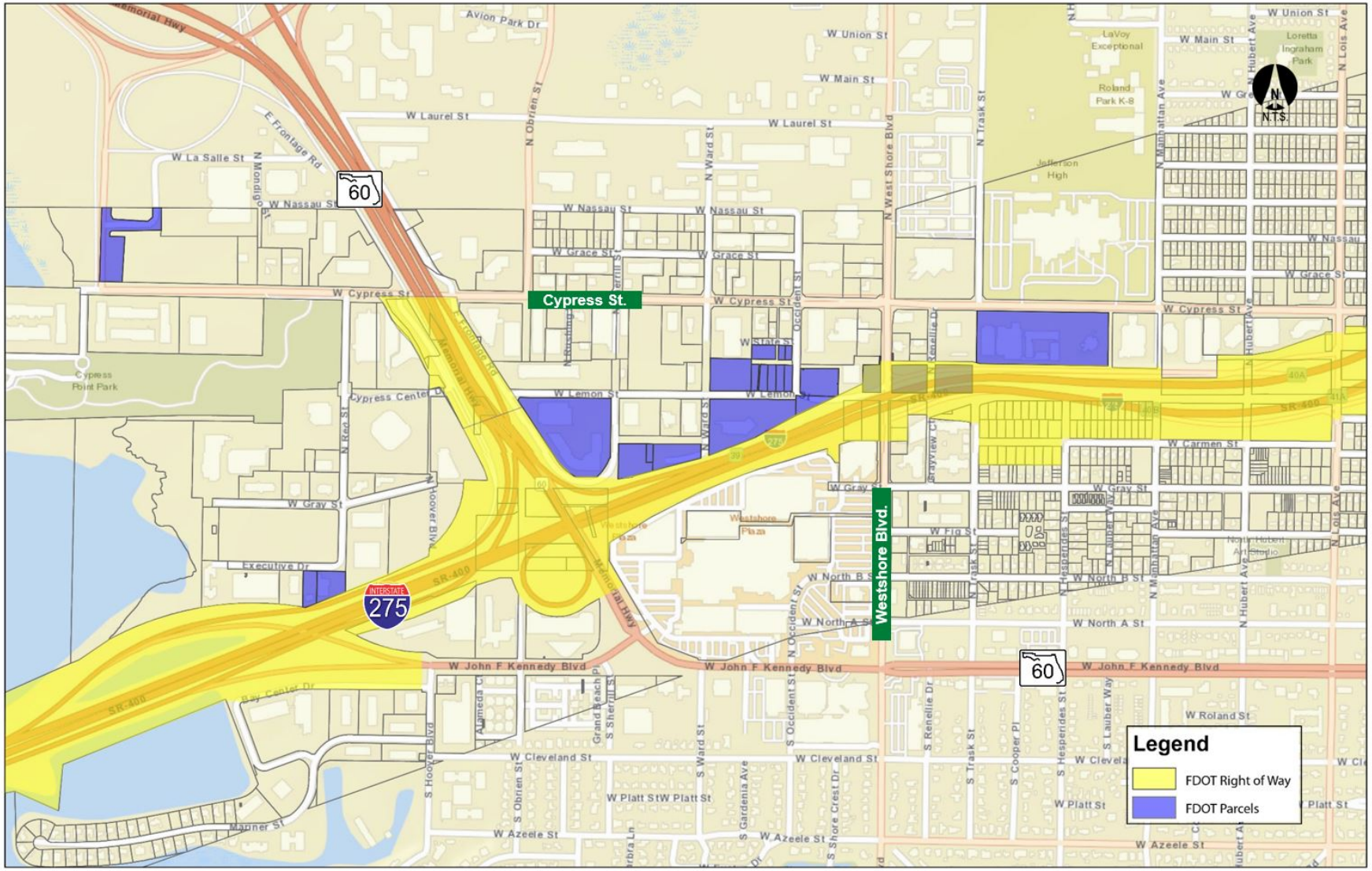
The sections of I-275 included in this study area were designed and constructed in two major projects excluding the I-275/SR 60 interchange. Design exceptions and variations for I-275 are described in **Table 4-1.**



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Pedestrian, Bike and Trails within Segments 1A and 2A

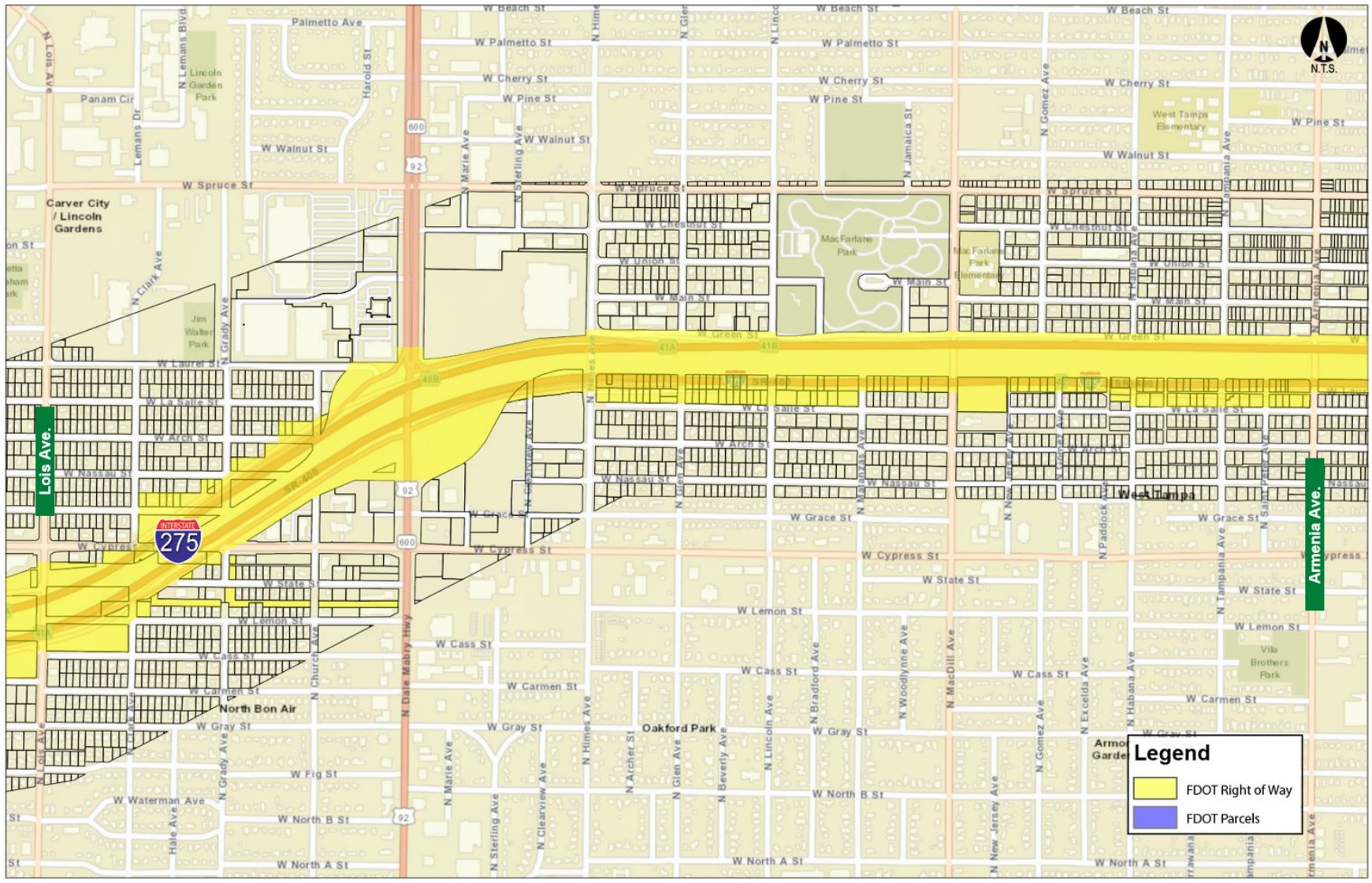
Figure 4-2



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Right of Way: Segments 1A and 2A
HFB to Lois Avenue

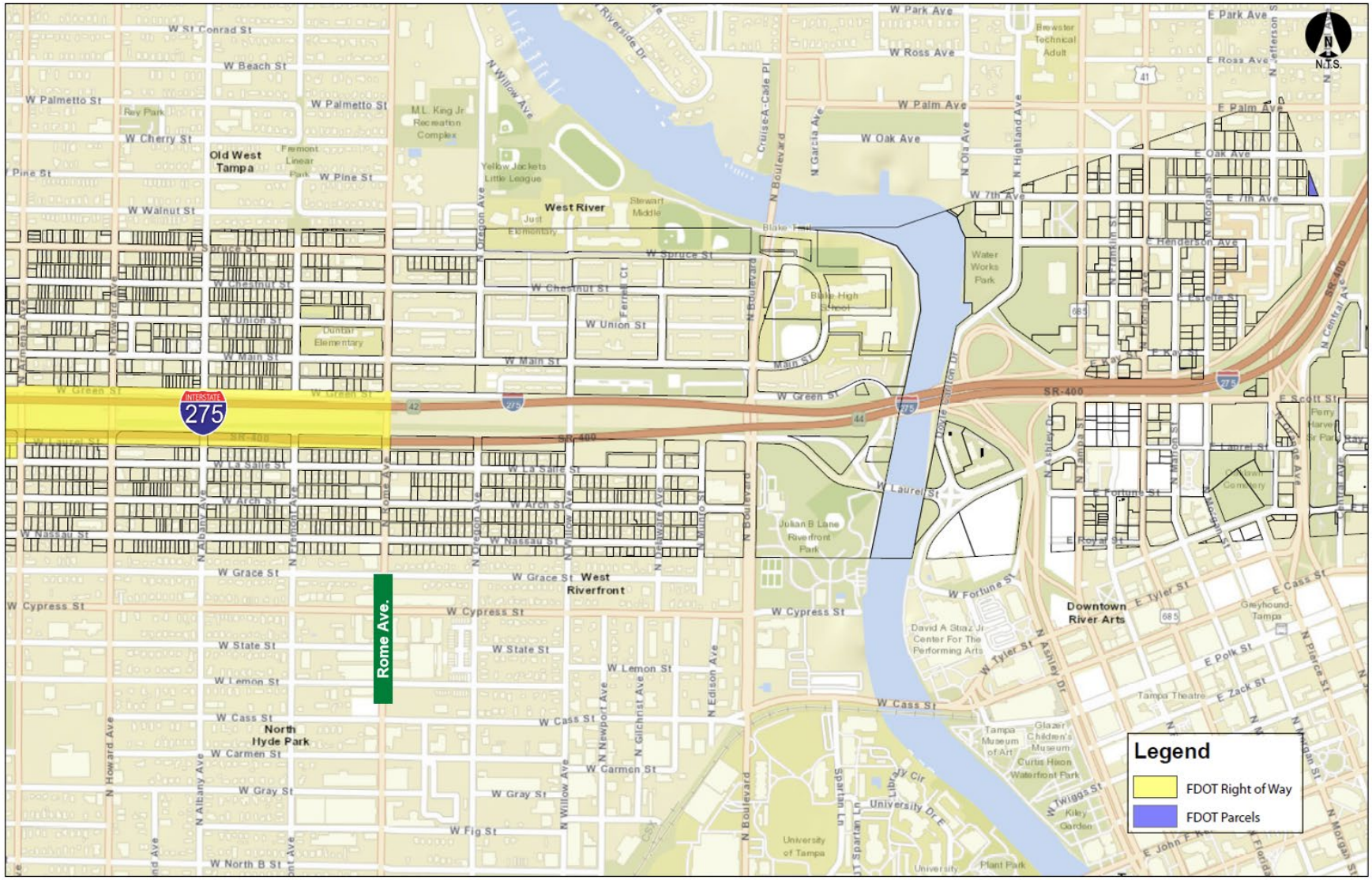
Figure 4-3a



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Right of Way: Segments 1A and 2A
Lois Avenue to Armenia Avenue

Figure 4-3b



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Right of Way: Segments 1A and 2A
Armenia Avenue to Rome Avenue

Figure 4-3c

Table 4-2 Existing Horizontal Alignment Curves

Roadway Name / Identifier	Roadway Segment & Data Source	Curve Number	PC Station	Direction	Mainline / Ramp	Horizontal Degree of Curvature	Deflection	Radius (ft)	Curve Length (ft)	e	Design Speed (mph)	Posted Speed (mph)	Meets FDM Criteria
I-275	**2A – 258398-1 and 258399-1**												
		ML-1	10013+44.92	NB	Mainline	1° 30' 00"	33° 46' 32" (RT)	3819.72	2251.70	0.054	70	55	Desirable
		ML-2	10040+74.27	NB	Mainline	0° 15' 00"	2° 50' 05" (LT)	22918.31	1133.88	NC	70	55	Minimum
		ML-3	10052+08.16	NB	Mainline	0° 15' 00"	4° 12' 00" (RT)	22918.31	1680.00	NC	70	55	Minimum
		ML-4	10068+88.16	NB	Mainline	0° 15' 00"	3° 23' 00" (LT)	22918.31	1353.33	NC	70	55	Minimum
		ML-5	10082+41.49	NB	Mainline	0° 08' 00"	3° 18' 42" (RT)	42971.83	2483.68	NC	70	55	Desirable
		ML-6	10107+25.17	NB	Mainline	0° 20' 00"	6° 26' 58" (LT)	17188.73	1934.85	NC	70	55	Minimum
		2AINBCD-2	30042+87.03	NB	CD Road	0° 14' 56"	2° 02' 15" (LT)	23012.31	818.31	NC	65		
		2AINBCD-3	30051+05.34	NB	CD Road	0° 15' 00"	4° 23' 03" (RT)	22918.31	1753.65	NC	65		
		2AINBCD-4	30068+58.98	NB	CD Road	0° 20' 00"	4° 03' 36" (LT)	17187.99	1217.94	NC	65		
		2AINBCD-5	30080+76.92	NB	CD Road	0° 08' 01"	3° 29' 07" (RT)	42865.83	2607.42	NC	65		
		2AINBCD-6	30106+84.34	NB	CD Road	0° 15' 00"	7° 08' 13" (LT)	22918.00	2854.70	NC	65		
		2AINBCD-7	30135+39.04	NB	CD Road	0° 30' 02"	3° 10' 11" (RT)	11447.05	633.25	RC	65		
		2AINBCD-8	30144+78.71	NB	CD Road	2° 58' 53"	10° 55' 07" (LT)	1921.86	366.24	0.055	50		
		2AINBCD-9	30153+64.45	NB	CD Road	1° 30' 17"	14° 23' 40" (RT)	3807.72	956.62	0.028	45		
		2ARY-1	1641+10.31	NB	Ramp	0° 29' 00"	2° 18' 36" (LT)	11854.00	477.91	NC	55		
		2ARY-2	1645+88.22	NB	Ramp	0° 14' 25"	3° 15' 01" (RT)	23856.83	1353.35	NC	55		
		2ARU-1	1468+58.98	NB	Ramp	0° 19' 59"	2° 08' 07" (LT)	17200.22	641.03	0.03	55		
		2ARU-2	1475+00.01	NB	Ramp	1° 06' 20"	8° 12' 16" (LT)	5183.05	742.18	0.028	55		
		2ARL-1	824+61.43	NB	Ramp	0° 30' 00"	6° 30' 43" (LT)	11459.03	1302.35	0.03	55		
		2ARL-2	837+63.78	NB	Ramp	1° 59' 59"	5° 28' 39" (RT)	2864.99	273.90	0.034	45		
		2ARM-1	2098+98.00	NB	Ramp	0° 15' 00"	1° 16' 08" (LT)	22918.31	507.58	NC	55		
		2ARM-2	2104+05.58	NB	Ramp	0° 15' 00"	1° 44' 09" (RT)	22918.31	694.38	0.03	55		
		2AIRB-1	2153+52.76	NB	Ramp	11° 40' 00"	45° 48' 21" (RT)	491.11	392.62	0.075	30		
		2AIRB-1L	2156+40.00, 24' LT	NB	Ramp	34° 27' 25"	12° 17' 40" (LT)	166.28	35.68	0.075	30		
		2AIRB-1R	2154+21.71, 7.24' RT	NB	Ramp	57° 17' 45"	10° 07' 38" (LT)	100.00	17.68	0.075	30		
		2AIRF-1	3155+42.03	NB	Ramp	1° 30' 00"	4° 21' 56" (RT)	3819.72	291.04	NC	30		
		2AIRF-2	3158+33.08	NB	Ramp	3° 00' 00"	6° 23' 46" (RT)	1909.86	213.20	NC	30		
		1K	691+26.26	NB	Line	18° 28' 57"	22° 52' 14" (RT)	310.00	123.74	0.070	50		
		2K	692+50.00	NB	Line	24° 54' 40"	24° 54' 49" (RT)	230.00	100.01	Varies	50		
		3K	697+72.29	NB	Line	18° 28' 57"	22° 52' 14" (RT)	230.00	90.57	Varies	50		
		1N	191+26.26	NB	Line	1° 30' 00"	9° 30' 20" (RT)	3819.72	633.71	0.018	50		
		NBSHIFT-1	101+00.00	NB	CD Road	0° 40' 00"	5° 30' 00" (RT)	8594.42	825.00	NC	55		
		NBSHIFT-2	113+92.81	NB	CD Road	0° 30' 00"	5° 12' 14" (LT)	11459.19	1040.77	NC	55		
I-275	**1A and 2A – 258398-5 and 258399-2**												
		SB-1	493+25.0I	SB	Mainline	0° 52' 29"	3° 14' 43" (RT)	6550.00	370.99	0.0270	60	55	Not Met
		SB-2	496+96.00	SB	Mainline	0° 52' 23"	3° 05' 47" (RT)	6562.00	354.62	0.0270	60	55	Not Met
		SB-3	500+50.62	SB	Mainline	2° 58' 52"	18° 48' 55" (RT)	1922.00	631.16	0.0770	60	55	Not Met
		SB-4	506+81.78	SB	Mainline	0° 15' 00"	1° 55' 56" (LT)	22906.00	772.47	NC	60	55	Not Met
		SB-6	521+61.63	SB	Mainline	2° 00' 00"	33° 53' 23" (LT)	2864.79	1694.49	0.0550	60	55	Minimum
		SB-7	20013+77.05	SB	Mainline	1° 30' 00"	17° 57' 30" (RT)	3819.72	1197.23	0.0430	60	55	Minimum

Table 4-2 (Continued) Existing Horizontal Alignment Curves

Roadway Name / Identifier	Roadway Segment & Data Source	Curve Number	PC Station	Direction	Mainline / Ramp	Horizontal Degree of Curvature	Deflection	Radius (ft)	Curve Length (ft)	e	Design Speed (mph)	Posted Speed (mph)	Meets FDM Criteria
		ISBCD-1	20025+74.28	SB	Mainline	1° 30' 00"	15° 49' 02" (RT)	3819.72	1054.47	0.0430	60	55	Minimum
		ISBCD-2	20041+29.69	SB	Mainline	0° 15' 04"	2° 54' 00" (LT)	22824.31	1155.24	NC	65	55	Minimum
		ISBCD-3	20052+84.93	SB	Mainline	0° 10' 00"	2° 40' 44" (RT)	34377.47	1607.32	NC	65	55	Minimum
		ISBCD-4	20096+43.97	SB	Mainline	0° 07' 59"	1° 30' 53" (RT)	43089.83	1139.12	NC	65	55	Minimum
		ISBCD-5	20 /07+83.09	SB	Mainline	0° 20' 08"	5° 31' 40" (LT)	17070.73	1646.91	NC	65	55	Minimum
		ISBCD-6	20124+30.00	SB	Mainline	0° 35' 00"	6° 49' 56" (RT)	9822.13	1171.26	NC	50	55	Minimum
		ISBCD-7	20143+98.63	SB	Mainline	3° 00' 00"	16° 14' 31" (LT)	1909.86	541.40	0.0550	50	55	Not Met
		ISBCD-8	20154+57.09	SB	Mainline	2° 00' 00"	12° 32' 06" (RT)	2864.79	626.74	0.0370	50	55	Not Met
		NB-1	298+29.16	NB	Mainline	0° 45' 00"	2° 04' 52" (RT)	7639.44	277.47	0.0270	60	55	Not Met
		NB-2	301+ 06.63	NB	Mainline	3° 00' 00"	22° 45' 42" (RT)	1909.86	758.73	0.0770	60	55	Not Met
		NB-3	316+64.58	NB	Mainline	1° 22' 50"	7° 41' 56" (LT)	4150 .00	557.63	0.0400	60	55	Not Met
		NB-4	322+22.21	NB	Mainline	2° 00' 00"	33° 39' 39" (LT)	2864.79	1683.04	0.0550	60	55	Minimum
		NB-5	356+70.94	NB	Mainline	1° 30' 00"	33° 46' 32" (RT)	3819.72	2251.70	0.0430	60	55	Desirable
		NB-6	383+80 .90	NB	Mainline	0° 14' 56"	2° 34' 02" (LT)	23012.31	1031.06	NC	60	55	Minimum
		2AINBCD-3	30051+05.34	NB	Mainline	0° 15' 00"	4° 23' 07" (RT)	22918.31	1754.06	NC	60	55	Minimum
		H _PB-1	50+00.00		Ramp H	11° 38' 33"	66° 24' 14" (LT)	492.13	570.36	0.0862	35		
		H _PB-2	61+40.85		Ramp H	1° 00' 00"	5° 07' 16" (LT)	5730.00	512.14	0.0300	60		
		RJ-1	622+64.00		Ramp J	1° 00' 00"	6° 45' 00" (LT)	5729.58	675.00	NC	55		
		RJ-2	629+39.00		Ramp J	0° 29' 00"	5° 39' 32" (RT)	11854.30	1170.78	NC	55		
		L-1	10+00.00		Ramp L	1° 00' 00"	3° 57' 02" (LT)	5729.58	395.07	NC	30		
		L-2	13+95.07		Ramp L	7° 00' 00"	18° 52' 09" (RT)	818.51	269.56	0.0770	40		
		L-3	16+64.62		Ramp L	3° 00' 00"	12° 03' 49" (RT)	1909.86	402.12	0.0770	50		
		M-1	65+05.51		Ramp M	1° 22' 50"	6° 43' 28" (LT)	4150.00	487.05	0.0400	60		
		M-2	69+92.56		Ramp M	3° 00' 00"	14° 58' 51" (LT)	1909.86	499.36	0.0400	40		
		M-3	74+91.93		Ramp M	1° 30' 00"	5° 44' 07" (LT)	3819.72	382.36	0.0210	40		
		PI-1	109+89.02		Ramp PI	3° 31' 33"	7° 26' 21" (RT)	1625.00	210.98	NC	30		
		LEMON-1	1+00.00		Lemon	14° 19' 26"	16° 17' 31" (LT)	400.00	113.74	NC	20		
		LEMON-2	2+13.74		Lemon	63° 39' 43"	54° 46' 20" (LT)	90.00	86.04				
		N_PB- 1	44+61.66		Ramp N	2° 43' 42"	20° 55' 50" (RT)	2100.00	767.15	0.0770	60		
		N_PB-2	52+28.81		Ramp N	0° 15' 06"	1° 37' 58" (LT)	22766 .00	648.77	NC	50		
		N _PB- 3	66+29 .99		Ramp N	3° 59' 58"	16° 27' 49" (LT)	1432.58	411.64	0.0510	40		
		N_PB-4	72+23.56		Ramp N	3° 59' 58"	15° 28' 15" (RT)	1432.58	386.82	0.0330	30		
		RN-1	994+32.31		Ramp N2	0° 29' 00"	1° 52' 00" (RT)	11854.30	386.21	NC	45		
		RN-2	998+18.52		Ramp N2	0° 15' 00"	0° 59' 08" (LT)	22918.31	394.24	NC	50		
		RN-3	1006+72.l0		Ramp N2	0° 29' 00"	2° 24' 20" (RT)	11854.30	497.69	NC	65		
		RN-4	1011+69.79		Ramp N2	0° 20' ll"	1° 47' 00" (LT)	17034.73	530.21				
		P_PB-1	9+88.74		Ramp P	76° 23' 40"	104° 46' 23" (LT)	75.00	137.15				
		P_PB-2	11+25.88		Ramp P	3° 30' 00"	15° 08' 57" (RT)	1637.00	432.83	NC	40		
		P-2	36+17.99		Ramp P	2° 00' 00"	10° 41' 40" (LT)	2864.79	534.72	0.0550	50		
		R-1	53+16.56		Ramp R	6° 00' 00"	22° 55' 50" (LT)	954.93	382.18	0.0460	30		
		R-2	58+44.16		Ramp R	2° 30' 00"	7° 22' 27" (RT)	2291.83	294.97	0.0340	40		
		R-3	67+93.66		Ramp R	0° 30' 00"	1° 23' 27" (LT)	11459.16	278.15	NC	50		

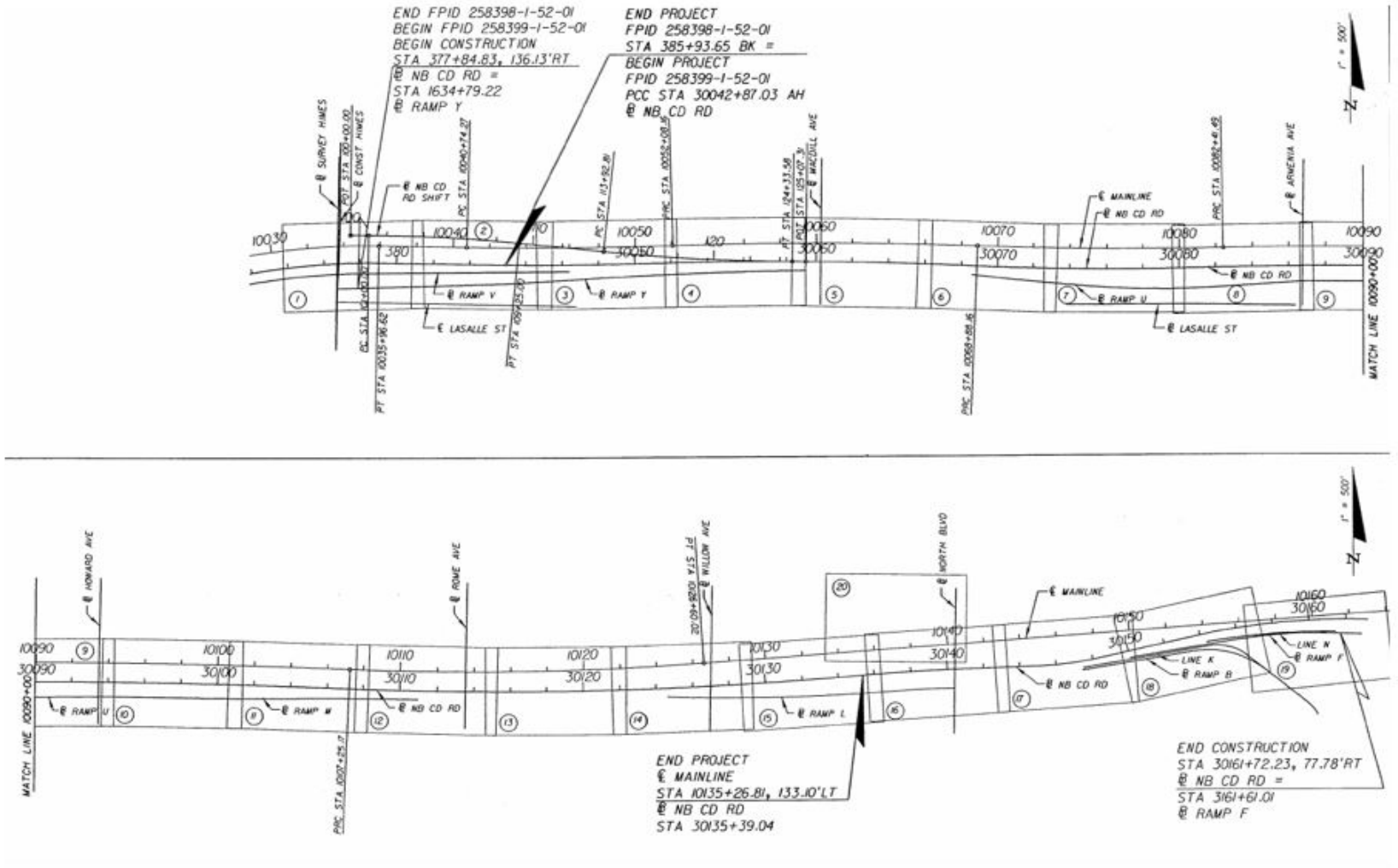
Table 4-2 (Continued) Existing Horizontal Alignment Curves

Roadway Name / Identifier	Roadway Segment & Data Source	Curve Number	PC Station	Direction	Mainline / Ramp	Horizontal Degree of Curvature	Deflection	Radius (ft)	Curve Length (ft)	e	Design Speed (mph)	Posted Speed (mph)	Meets FDM Criteria
		R-4	75+37.18		Ramp R	1° 30' 00"	14° 31' 50 " (RT)	3819.72	968.71	0.0430	60		
		S-1	15+96.27		Ramp S	0° 15' 00"	0° 34' 19" (RT)	22918.31	228.80	NC	40		
		S-2	25+36.95		Ramp S	2° 00' 00"	11° 36' 00" (RT)	2864.79	580.00	0.0280	40		
		S-3	31+16.95		Ramp S	1° 30' 00"	8° 56' 34" (RT)	3819.72	596.18'	0.0430	50		
		T-1	10+00.00		Ramp T	2° 00' 00"	19° 2 5' 16" (LT)	2864.79	971.05	0.0280	40		
		T-2	19+71.05		Ramp T	0° 30' 00"	1° 20' 26" (RT)	11459.16	268.10	NC	40		
		T-3	35+00.32		Ramp T	1° 30' 00"	7° 27' 49" (RT)	3819.72	497.57	NC	35		
		RT-I	1367+00.00		Ramp T2	0° 30' 00"	2° 07' 36" (LT)	11459.16	425.32	NC	65		
		RT-2	1371+2 5.32		Ramp T2	0° 15' 00"	2° 25' 05" (RT)	22918.31	967.22	NC	50		
		U-1	50+00.00		Ramp U	1° 00' 00"	1° 58' 26" (LT)	5729.58	197.40	0.0300	60		
		U-2	54+55.18		Ramp U	0° 30' 00"	1° 58' 26" (RT)	11459.16	394.80	NC	50		
		U-3	61+68.14		Ramp U	4° 00' 00"	12° 00' 00" (LT)	1432.39	300.00	0.0510	40		
		U-4	66+75.00		Ramp U	12° 00' 00"	49° 29' 01" (RT)	477.46	412.36	0.0200	30		
		V-1	10+00.00		Ramp V	2° 30' 00"	11° 15' 52" (RT)	2291.83	450.58	0.0210	30		
		V-2	14+50.58		Ramp V	1° 30' 00"	16° 35' 46" (RT)	3819.72	1106.40	0.0210	40		
		W-1	17+36.58		Ramp W	2° 00' 00"	17° 57' 59" (RT)	2864.79	898.32	0.0400	50		
		RX - I	1534+76.46		Ramp X	1° 59' 59"	5° 38' 21" (RT)	2865.19	282.00	NC	45		
		RX-2	1537+58.47		Ramp X	1° 00' 00"	4° 26' 40" (LT)	5729.58	444.44	NC	45		
		RX-3	1542+02.90		Ramp X	0° 29' 00"	2° 12' 33" (RT)	11854.30	457.10	NC	50		
		RX-4	1546+60.00		Ramp X	0° 15' 06"	1° 00' 24" (LT)	22764.31	400.00	NC	50		
		CDSHIFT-I	2046+11.98		CD Shift	0° 22' 30"	2° 31' 02" (LT)	15278 .87	671.26	NC	65		
		CDSHIFT-2	2052+83.24		CD Shift	0° 15' 00"	2° 28' 26" (RT)	22918.31	989.52	NC	65		
		FR-I	1741+30.27		Frontage Rd	0° 50' 00"	3° 30' 08" (RT)	6875.49	420.25	NC	45		
		FR- 2	1745+50.53		Frontage Rd	1° 00' 00"	6° 27' 44" (LT)	5729.58	646.21	NC	45		
		FR-3	1751+96.74		Frontage Rd	0° 35' 00"	3° 55' 48" (RT)	9822.13	673.71	NC	45		
		FR-6	1759+59.15		Frontage Rd	0° 45' 00"	3° 09' 54" (RT)	7639.44	422.02	NC	45		
		SBCD-8	21107+83 .09		Future Sb	0° 20' 08"	9° 06' 20" (LT)	17070.73	2712.89				
		LAUREL PB-1	13+60.46		Laurel	105° 07' 48"	68° 46' 56" (RT)	54.50	65.43				
		SBSHIFT-1	2+41.51		SB Shift	2° 59' 59"	16° 14' 31" (LT)	1910.00	541.44	0.0550	50		
		SBSHIFT-2	12+58.80		SB Shift	2° 00' 30"	7° 04' 38" (RT)	2852.79	352.38	0.0370	50		
		SBSHIFT - 3	16+11.18		SB Shift	1° 02' 30"	5° 27' 27" (RT)	5500.00	523.89	0.0370	50		
		C-1	152+29.81		Survey	1° 30' 00"	22° 46' 07" (RT)	3819.73	1517.90				
		C-2	182+65.69		Survey	2° 00' 00"	33° 47' 01" (LT)	2864.79	1689.18				
		C-3	220+84.24		Survey	2° 30' 01"	33° 00' 29" (RT)	2291.62	1320.20				
		CB2	233+64.94		Survey	2° 30' 01"	0° 59' 17" (RT)	2291.62	39.51				
		C - 22	274+55.27		Survey	0° 05' 00"	0° 30' 01" (RT)	68754.94	600.17				
		C-4	280+93.33		Survey	3° 00' 00"	13° 22' 34" (LT)	1909.86	445.87				
		C-6	290+58.69		Survey	1° 30' 00"	12° 32' 06" (RT)	3819.72	835.66				
		PATH_2- I	240+52.44		Path 2	57° 17' 45"	31° 35' 17" (LT)	100.00	55.13				
		PATH_2-2	241+07.57		Path 2	52° 05' 13"	63° 10' 35" (RT)	110.00	121.29				
		PATH_2-3	242+28.86		Path 2	57° 17' 45"	31° 35' 17" (LT)	100.00	55.13				
		PATH_2-4	244+23.99		Path 2	57° 17' 45"	22° 24' 32" (LT)	100.00	39.11				

Table 4-2 (Continued) Existing Horizontal Alignment Curves

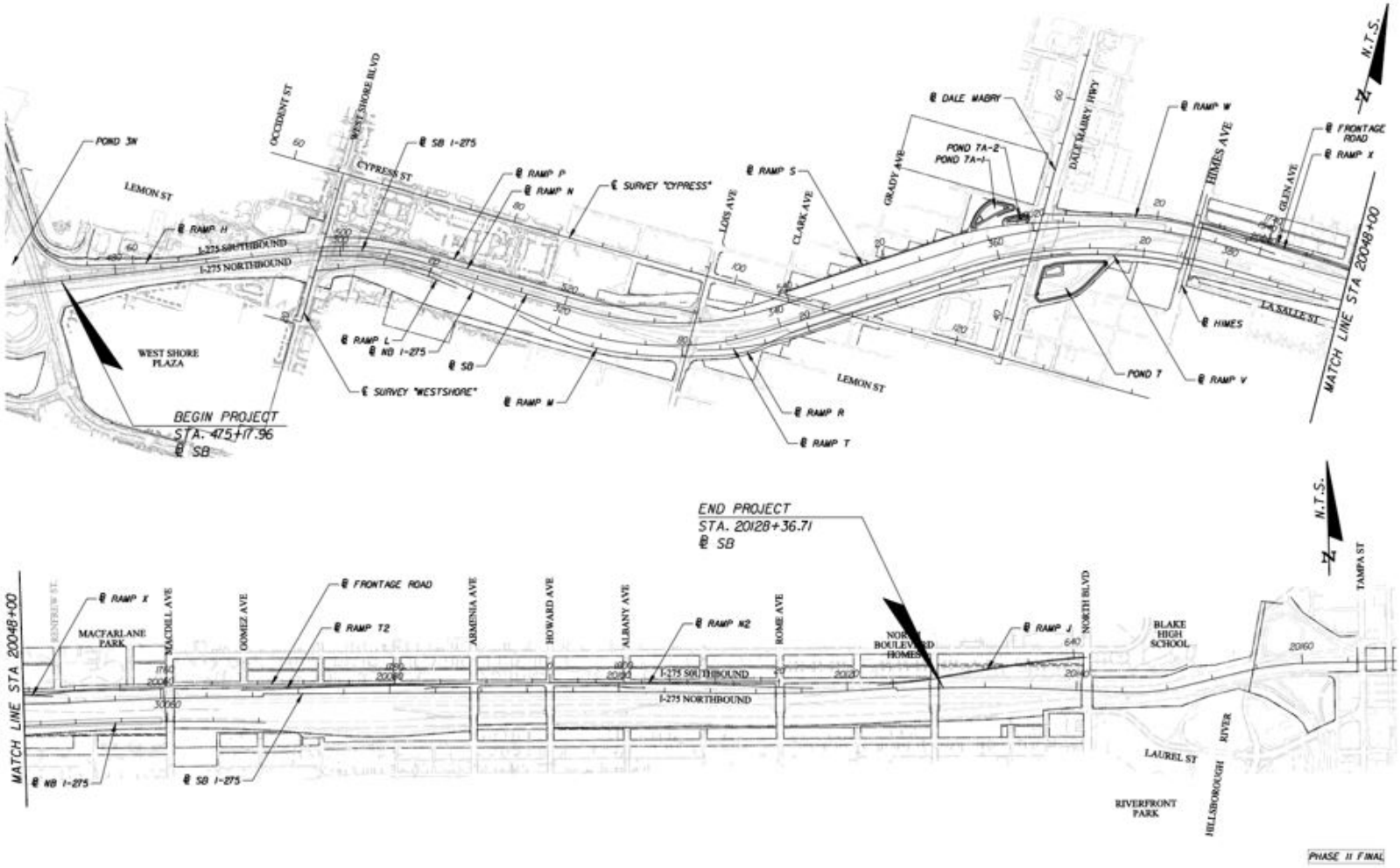
Roadway Name / Identifier	Roadway Segment & Data Source	Curve Number	PC Station	Direction	Mainline / Ramp	Horizontal Degree of Curvature	Deflection	Radius (ft)	Curve Length (ft)	e	Design Speed (mph)	Posted Speed (mph)	Meets FDM Criteria
		PATH_2-5	244+63.10		Path 2	52° 05' 13"	44° 52' 54" (RT)	110.00	86.17				
		PATH_2-6	245+49.27		Path 2	57° 17' 45"	22° 18' 48" (LT)	100.00	38.94				
		PATH_2-7	245+88.21		Path 2	0° 14' 59"	0° 15' 00" (RT)	22935.56	100.08				
		PATH_2-8	246+88.29		Path 2	0° 14' 59"	0° 09' 46" (RT)	22935.57	65.12				
		PATH_2-9	249+08.34		Path 2	57° 17' 45"	22° 23' 34" (LT)	100.00	39.08				
		PATH_2-10	249+47.42		Path 2	52° 05' 13"	44° 47' 07" (RT)	110.00	85.98				
		PATH_2-11	250+33.40		Path 2	57° 17' 45"	22° 23' 34" (LT)	100.00	39.08				
		PATH_2-12	254+12.88		Path 2	57° 17' 45"	19° 27' 44" (LT)	100.00	33.97				
		PATH_2-13	254+46.85		Path 2	52° 05' 13"	39° 55' 33" (RT)	110.00	76.65				
		PATH_2-14	255+23.50		Path 2	57° 17' 45"	18° 48' 09" (LT)	100.00	32.82				
		PATH_2-15	255+56.32		Path 2	1° 59' 17"	1° 17' 48" (RT)	2882.04	65.23				
		SPDET4-I	8001+13.13		Special Detour No. 4	13° 19' 29"	50° 20' 58" (RT)	430.00	377.87				
		SPDET4-2	8004+90.99		Special Detour No. 4	1° 30' 17"	1° 08' 33" (RT)	3807.72	75.92				
		SPDET5-I	9131+90.30		Special Detour No. 5	2° 21' 14"	11° 01' 58" (LT)	2434.00	468.69				
		SPDET5-2	9136+58.99		Special Detour No. 5	3° 06' 50"	11° 03' 36" (RT)	1839.99	355.18				
		SPOET6-I	4327+75.55		Special Detour No. 6	9° 10' 02"	20° 13' 56" (LT)	625.00	220.70				
		SPDET6-2	4329+96.25		Special Detour No. 6	9° 23' 34"	16° 06' 10" (RT)	610.00	171.44				
		SPDETB- 1	10+00.00		Special Detour No. 8	6° 59' 45"	42° 56' 00" (LT)	819.00	613.70				
		SPDETB-2	17+12.57		Special Detour No. 8	12° 00' 42"	27° 50' 01" (RT)	477.00	231.72				
		EX2ARS-I	95+65.13		Exars	38° 11' 50"	128° 46' 00" (LT)	150.00	337.11				
		PATH1	11+49.58		Path I	19° 05' 55"	10° 28' 37" (LT)	300.00	54.86				
		PATH2	12+72.96		Path I	19° 05' 55"	13° 11' 14" (LT)	300.00	69.05				
		PATH3	13+42.00		Path I	17° 54' 18"	13° 28' 34" (RT)	320.00	75 .27				
		PATH4	14+17.27		Path I	19° 05' 55"	21° 14' 58" (LT)	300.00	111.26				

Source: Design Projects: I-275 - 2A – 258398-1 and 258399-1 and I-275-- 1A and 2A – 258398-5 and 258399-2
Blank cells indicates that data was not available.



(Design Projects 258398-1, 258399-1 & 258398-7)

Tampa Interstate Study SEIS I-275 from north of Howard Frankland Bridge to Rome Avenue WPI Segment No. 258337-2	**Existing Horizontal Curve Locations** **Segment 2A**	**Figure 4-4a**



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Horizontal Curve Locations Segment 1A and 2A

Figure 4-4b

4.2.6 Vertical Alignment

For I-275 from the HFB to Rome Avenue, the existing vertical alignment was obtained from I-275 as-built plans and design build plans. The existing vertical alignment within the study area is summarized in **Table 4-3**. For a 60 mph interstate design speed, FDOT requires a minimum vertical curve length of 1,800 feet for crest vertical curves within an interchange and 1,000 feet for crest vertical curves outside an interchange. For a 60 mph design speed, FDOT requires a minimum vertical curve length of 800 feet for sag vertical curves regardless of location. The following table highlights the areas not meeting criteria on the mainline.

Table 4-3 I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin		End		Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
	Station	Elevation	Station	Elevation						
258398-5 and 258399-2										
Crest	474+25.00	27.41	478+15.00	20.65	390'	-0.467%	-3.000%	154	313	I-275 SB
PI	478+50.00	19.60								I-275 SB
PI	479+00.00	17.98								I-275 SB
PI	479+50.00	16.47								I-275 SB
PI	480+00.00	15.13								I-275 SB
PI	480+25.00	14.47								I-275 SB
PI	480+50.00	13.89								I-275 SB
PI	480+75.00	13.32								I-275 SB
PI	481+00.00	12.81								I-275 SB
PI	481+25.00	12.35								I-275 SB
PI	481+50.00	11.96								I-275 SB
PI	481+75.00	11.62								I-275 SB
PI	482+00.00	11.37								I-275 SB
PI	482+25.00	11.17								I-275 SB
PI	482+50.00	10.98								I-275 SB
PI	483+00.00	10.75								I-275 SB
PI	483+50.00	10.72								I-275 SB
PI	484+00.00	10.65								I-275 SB
PI	485+00.00	10.73								I-275 SB
PI	485+50.00	10.88								I-275 SB
PI	486+00.00	10.89								I-275 SB
PI	487+00.00	11.12								I-275 SB
PI	487+50.00	11.23								I-275 SB
PI	488+00.00	11.28								I-275 SB
PI	488+50.00	11.30								I-275 SB
PI	488+75.00	11.36								I-275 SB
PI	489+00.00	11.46								I-275 SB
PI	489+25.00	11.60								I-275 SB
PI	489+50.00	11.77								I-275 SB
PI	489+78.00	11.98								I-275 SB
PI	490+00.00	12.23								I-275 SB
PI	490+25.00	12.53								I-275 SB
PI	490+50.00	12.87								I-275 SB
PI	490+75.00	13.28								I-275 SB

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
SAG	490+99.00	13.68	492+95.00	18.38	196'	+1.677%	+3.120%	136	157	I-275 SB
PI	494+00.00	21.66								I-275 SB
PI	494+50.00	23.08								I-275 SB
PI	495+00.00	24.47								I-275 SB
	495+80.00	26.72								I-275 SB
	496+00.00	27.22								I-275 SB
	496+20.00	27.64								I-275 SB
	496+40.00	27.99								I-275 SB
	496+60.00	28.21								I-275 SB
CREST	496+96.00 12' Shift LT	28.52 BK 28.85 AH	499+64.00	27.62	268'	+1.098%	-2.016%	86	313	I-275 SB
SAG	505+19.40	16.42	513+20.60	16.95	801'	-2.016%	+2.150%	192	157	I-275 SB
CREST	521+32.00	34.40			2000'	+2.150%	-1.400%	563	313	I-275 SB over LOIS
CREST			20024+06.62	55.25	1180'		+0.350%	576	313	I-275 SB
CREST	20028+63.85	56.85	20041+05.85	46.60	1242'	+0.350%	-2.000%	528	313	I-275 SB over HIMES
SAG	20043+54.00	41.52	20051+54.00	43.88	800'	-2.000%	+2.561%	175	157	I-275 SB
PI	299+88.47	27.49								I-275 NB
SAG	303+22.00	20.82	316+22.00	18.62	1300'	-2.000%	+1.600%	361	157	I-275 NB
CREST	327+00.00	35.87	345+25.00	43.34	1800'	+1.600%	-0.770%	759	313	I-275 NB over LOIS
SAG	350+20.00	39.53	358+20.00	42.85	800'	-0.770%	+1.600%	338	157	I-275 NB
CREST	363+70.00	51.65	373+70.00	58.15	1000'	+1.600%	-0.300%	526	313	I-275 NB
CREST	375+00.00	57.76	385+00.00	48.76	1000'	-0.300%	-1.500%	833	313	I-275 NB
BEGIN CONCRETE WIDENING STA 390+36.62 EXISTING PROFILE GRADE LINE STATION EQUATION: Sta 394+11.96 BK – STA 30051+05.34 AH END PROFILE STA 30059+41.77										
PI	55+62.00	9.08								RAMP H
SAG	55+70.00	9.08	56+90.00	9.57	120'	-0.147%	+0.983%	106		RAMP H
CREST	57+00.00	9.67	59+30.00	10.00	230'	+0.983%	-0.700%	137		RAMP H
PI	59+43.88	9.90								RAMP H
PI	59+60.00	9.78								RAMP H
PI	59+80.00	9.63								RAMP H
PI	60+00.00	9.49								RAMP H
PI	60+20.00	9.37								RAMP H
PI	60+40.00	9.26								RAMP H
PI	10+40.52	9.30								RAMP L
SAG	10+60.00	9.18	11+90.00	11.11	130'	-0.623%	+3.610%	31		RAMP L
CREST	12+18.00	12.12	15+32.00	16.46	314'	+3.610%	-0.853%	70		RAMP L
PI	15+35.56	16.43								RAMP L
PI	59+36.73	16.56								RAMP N

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
CREST	60+78.00	18.96	64+78.00	19.96	400'	+1.700%	-1.200%	138		RAMP N
SAG	67+19.00	17.07	70+59.00	15.54	340'	-1.200%	+0.300%	227		RAMP N
PI	76+52.71	17.32								RAMP N
PI	9+88.74	11.07								RAMP P
PI	10+20.00	10.64								RAMP P
SAG	10+40.00	10.36	11+00.00	9.99	60'	-1.742%	+0.509%	27		RAMP P
PI	11+25.55	10.12								RAMP P
PI	11+40.00	10.26								RAMP P
PI	11+60.00	10.42								RAMP P
PI	11+80.00	10.73								RAMP P
PI	12+00.00	10.99								RAMP P
PI	13+00.00	11.96				+0.970%	+0.870%			RAMP P
CREST	13+86.00	12.71	17+36.00	13.53	350'	+0.870%	-0.400%	276		RAMP P
SAG	22+20.00	11.59	25+20.00	14.82	300'	-0.400%	+2.550%	102		RAMP P
CREST	32+10.00	32.41	35+10.00	35.72	300'	+2.550%	-0.348%	104		RAMP P
SAG	35+20.00	35.68	37+40.00	37.30	220'	-0.348%	+1.814%	102		RAMP P
PI	37+60.00	37.69								RAMP P
PI	37+80.00	38.06								RAMP P
PI	38+00.00	38.43								RAMP P
PI	38+20.00	38.79								RAMP P
PI	38+40.14	39.15								RAMP P
PI	50+40.32	16.76								RAMP R
SAG	50+45.00	16.69	51+35.00	16.27	90'	-1.528%	+0.605%	42		RAMP R
SAG	56+40.00	19.33	58+60.00	24.40	220'	+0.605%	+4.000%	65		RAMP R
CREST	61+76.50	37.06	66+31.50	40.79	455'	+4.000%	-2.357%	72		RAMP R over CYPRESS
SAG	66+32.00	40.78	67+88.00	38.36	156'	-2.357%	-0.750%	97		RAMP R
PI	67+93.66	38.32								RAMP R
PI	13+60.00	49.18								RAMP T
PI	13+80.00	49.36								RAMP T
PI	14+00.00	49.53								RAMP T
PI	14+20.00	49.70								RAMP T
PI	14+40.00	49.86								RAMP T
PI	14+58.28	50.00								RAMP T
CREST	16+20.00	51.06	19+80.00	50.06	360'	+0.658%	-1.217%	192		RAMP T over RAMP R
CREST	23+58.00	45.46	25+62.00	41.15	204'	-1.217%	-3.000%	115		RAMP T over CYPRESS
SAG	29+42.00	29.75	31+42.00	26.45	200'	-3.000%	-0.300%	74		RAMP T
CREST	33+25.00	25.91	34+75.00	25.20	150'	-0.300%	-0.639%	443		RAMP T
SAG	38+52.50	22.79	39+07.50	23.07	55'	-0.639%	+1.667%	24		RAMP T
PI	39+09.34	23.10								RAMP T
PI	11+03.36	22.88								RAMP V

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
SAG	11+07.13	22.78	11+57.13	22.47	50'	-2.762%	+1.510%	12		RAMP V
SAG	11+97.50	23.08	13+02.50	25.86	105'	+1.510%	+3.794%	46		RAMP V
CREST	19+22.00	49.37	22+62.00	55.28	340'	+3.794%	-0.314%	83		RAMP V
PI	22+66.21	55.27								RAMP V
PI	22+80.00	55.23								RAMP V
PI	23+20.00	55.06								RAMP V
PI	10+80.33	25.35								RAMP W
SAG	10+81.00	25.34	12+43.00	27.36	162'	-2.000%	+4.500%	25		RAMP W
CREST	17+54.00	50.36	22+54.00	60.36	500'	+4.500%	-0.500%	100		RAMP W over HIMES
PI	22+60.00	60.33								RAMP W
PI	22+80.00	60.20								RAMP W
PI	23+00.00	60.07								RAMP W
PI	23+20.00	59.93								RAMP W
PI	23+40.00	59.78								RAMP W
PI	23+60.00	59.63								RAMP W
PI	23+80.00	59.46								RAMP W
PI	24+00.00	59.28								RAMP W
PI	24+20.00	59.10								RAMP W
PI	24+40.00	58.91								RAMP W
PI	24+60.00	58.70								RAMP W
PI	24+80.00	58.49								RAMP W
PI	25+00.00	58.27								RAMP W
PI	25+20.00	58.05								RAMP W
PI	25+40.00	57.78								RAMP W
PI	25+60.00	57.40								RAMP W
PI	25+80.00	57.01								RAMP W
PI	25+95.59	56.70								RAMP W
PI	1537+40.00	35.00								RAMP X
PI	1537+60.00	35.19								RAMP X
PI	1537+80.00	35.37								RAMP X
PI	1538+00.00	35.53								RAMP X
PI	1538+20.00	35.68								RAMP X
PI	1538+40.00	35.81								RAMP X
PI	1538+60.00	35.92								RAMP X
PI	1538+80.00	36.03								RAMP X
PI	1539+00.00	36.13								RAMP X
PI	1539+20.00	36.23								RAMP X
PI	1539+40.00	36.33								RAMP X
PI	1539+57.03	36.42								RAMP X
SAG	1539+65.00	36.45	1541+00.00	37.63	135'	+0.409%	+1.333%	146		RAMP X
CREST	1541+00.00	37.63	1544+60.00	37.71	360'	+1.333%	-1.288%	137		RAMP X
PI	1544+80.00	37.47								RAMP X

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
PI	1545+00.00	37.25								RAMP X
PI	1545+20.00	37.06								RAMP X
PI	1545+40.00	36.89								RAMP X
PI	1545+60.00	36.74								RAMP X
PI	1545+80.00	36.62								RAMP X
PI	1546+00.00	36.53								RAMP X
SAG	30042+87.03	47.36	30051+54.42	48.01	867.39'	-1.500%	+1.650%	275		I-275 NB
CREST	30053+60.00	51.40	30065+60.00	52.60	1200'	+1.650%	-1.450%	387		I-275 NB over MACDILL
SAG	30068+90.82	47.80	30078+90.82	48.55	1000'	-1.450%	+1.600%	328		I-275 NB
CREST	30080+50.00	51.10	30098+50.00	48.40	1800'	+1.600%	-1.900%	514		I-275 NB over ARMENIA & HOWARD; SSD=827'
SAG	30100+34.56	44.89	30110+34.56	42.89	1000'	-1.900%	+1.500%	294		I-275 NB
CREST	30113+15.00	47.10	30125+15.00	47.40	1200'	+1.500%	-1.450%	407		I-275 NB over ROME; SSD=735'
SAG	30129+17.83	41.56	30137+17.83	39.16	800'	-1.450%	+0.850%	348		I-275 NB
PI	2147+36.57	37.47								RAMP B
PI	2152+10.00	46.06								RAMP B
PI	2152+20.00	46.13								RAMP B
PI	2152+40.00	46.25								RAMP B
PI	2152+60.00	46.32								RAMP B
PI	2152+80.00	46.32								RAMP B
PI	2153+00.00	46.20								RAMP B
PI	2153+20.00	46.01								RAMP B
PI	2153+40.97	45.76								RAMP B
PI	2153+60.00	45.54								RAMP B
PI	2153+80.00	45.26								RAMP B
PI	2154+00.00	44.86								RAMP B
PI	2154+20.00	44.34								RAMP B
PI	2154+40.00	43.86								RAMP B
PI	2154+60.00	43.26								RAMP B
PI	2154+80.00	42.57								RAMP B
PI	2155+00.00	41.75								RAMP B
PI	2155+10.70	41.35								RAMP B
PI	2155+20.00	41.01								RAMP B
PI	2155+40.00	40.28								RAMP B
CREST	2155+52.00	38.84	2156+52.00	35.27	100'	-3.584%	-5.553%	51		RAMP B
SAG	2157+20.00	31.49	2158+20.00	26.89	100'	-5.553%	-3.653%	53		RAMP B
PI	3150+04.37	42.50	Follows Existing Grade							RAMP F
PI	3158+11.00	32.04				-4.909%	-4.938%			RAMP F
SAG	3160+60.00	19.74	3161+60.00	16.03	100'	-4.938%	-2.500%	41		RAMP F

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
PI	824+61.43	46.94								RAMP L
PI	825+00.00	46.33								RAMP L
PI	825+04.99	46.25								RAMP L
PI	826+00.00	44.46								RAMP L
PI	826+05.03	44.36								RAMP L
PI	827+00.00	42.81								RAMP L
PI	827+23.25	42.44								RAMP L
PI	828+00.00	41.20								RAMP L
PI	828+11.98	41.00								RAMP L
PI	828+70.00	40.28								RAMP L
PI	829+00.00	39.83								RAMP L
PI	830+00.00	38.34								RAMP L
PI	830+80.00	37.35								RAMP L
PI	830+96.49	37.17								RAMP L
PI	831+00.00	37.13								RAMP L
PI	831+55.41	36.59								RAMP L
PI	832+00.00	36.02								RAMP L
CREST	832+55.94	35.27	838+01.97	17.86	546'	-1.950%	-4.427%	220		RAMP L
SAG	838+01.97	17.86	840+03.97	13.80	202'	-4.427%	+0.400%	42		RAMP L
PI	2093+48.00	29.59								RAMP M
PI	2093+68.00	29.31								RAMP M
SAG	2093+93.00	29.23	2095+93.00	31.23	200'	-0.300%	+2.298%	77		RAMP M
CREST	2096+60.00	32.77	2103+60.00	38.70	700'	+2.298%	-0.603%	241		RAMP M
PI	2103+80.00	38.58								RAMP M
PI	2104+00.00	38.46								RAMP M
PI	2105+00.00	38.10								RAMP M
PI	2106+00.00	38.07								RAMP M
PI	2107+00.00	38.37								RAMP M
PI	2107+58.10	38.70								RAMP M
PI	2108+00.00	39.00								RAMP M
PI	2109+00.00	39.93								RAMP M
PI	2110+00.00	41.18								RAMP M
PI	2110+99.97	42.68								RAMP M
PI	1468+58.98	47.55								RAMP U
PI	1469+00.00	46.85								RAMP U
PI	1470+00.00	45.38								RAMP U
PI	1470+30.21	44.99								RAMP U
PI	1471+00.00	44.21								RAMP U
PI	1472+00.00	43.34								RAMP U
PI	1472+80.00	42.87								RAMP U
PI	1473+00.00	42.78								RAMP U
PI	1473+02.92	42.77				-0.436%	-0.320%			RAMP U

Table 4-3 (Continued) I-275 North of HFB - Existing Vertical Alignment Data

Curve Type	Begin Station	End Elevation	Begin Station	End Elevation	Curve Length	Back Grade	Forward Grade	K Value	Req'd K	Cross Street Name
CREST	1478+85.00	40.91	1482+35.00	37.33	350'	-0.320%	-1.726%	249		RAMP U
SAG	1485+22.50	32.36	1486+57.50	31.44	135'	-1.726%	+0.356%	65		RAMP U
PI	1486+83.34	31.74				+1.161%	-1.227%			RAMP U
PI	1487+06.69	31.49								RAMP U
PI	1487+20.00	31.33								RAMP U
PI	1489+90.00	30.22								RAMP U
PI	1490+40.00	29.97								RAMP U
SAG	1491+85.00	29.38	1493+25.00	29.30	140'	-0.411%	+0.300%	197		RAMP U
PI	1493+53.18	29.59								RAMP U
PI	31+00.00	49.99								RAMP V - SPLINE
PI	32+00.00	48.64								RAMP V - SPLINE
PI	33+00.00	47.19								RAMP V - SPLINE
PI	33+11.15	47.04								RAMP V - SPLINE
PI	31+00.00	45.88								RAMP V - SPLINE
PI	35+00.00	44.91								RAMP V - SPLINE
PI	36+00.00	44.30								RAMP V - SPLINE
PI	36+64.01	44.09								RAMP V - SPLINE
SAG	1634+00.00	28.63	1634+75.00	28.86	75'	-0.754%	+1.366%	35		RAMP Y
CREST	1642+55.00	39.52	1646+05.00	42.44	350'	+1.366%	+0.300%	328		RAMP Y
PI	1646+75.25	42.65								RAMP Y
PI	1647+00.00	42.72								RAMP Y
PI	1647+20.00	42.78								RAMP Y
PI	1648+00.00	43.06								RAMP Y
PI	1649+00.00	43.72								RAMP Y
PI	1650+00.00	44.72								RAMP Y
PI	1651+00.00	46.05								RAMP Y
PI	1651+64.21	47.09								RAMP Y
PI	1652+00.00	47.69								RAMP Y
PI	1653+00.00	49.40								RAMP Y
PI	1654+00.00	51.09								RAMP Y
PI	1655+00.00	52.57								RAMP Y
PI	1656+00.00	53.81								RAMP Y
PI	1656+95.30	54.73								RAMP Y
PI	1657+00.00	54.76								RAMP Y
PI	1657+25.24	54.97								RAMP Y
PI	1658+00.00	55.17								RAMP Y
PI	1658+45.00	55.23								RAMP Y
PI	1659+00.00	55.22								RAMP Y
PI	1659+34.82	55.17								RAMP Y
PI	1659+41.57	55.19								RAMP Y

Source: 258399-1: As Built Plans, 258398-5 & 258399-2: Design Build Plans
Required K values based on Table 211.9.2 and 211.9.3 in FDOT's 2020 Design Manual.
Yellow highlighted cells do not meet current 60 mph design criteria for the mainline.
Blank cells indicates that data was not available.

4.2.7 Drainage and Floodplains

The following Environmental Resource Permits (ERPs) are on file with the Southwest Florida Water Management District (SWFWMD):

- **SWFWMD ERP #401034.000** – FDOT – I-275, 4th Street to Kennedy Boulevard (Issued 4/1/1986)

  The area of interest for this ERP is from the east abutment of the HFB to the west end of the SR 60/I-275 interchange. According to the original report, stormwater treatment was in grassed roadside swales. Subsequent permits that appear to overlap the original permit do not seem to call for alteration or modification or are unrelated to this segment of roadway. Based on field observations, it appears that the roadside treatment swales have been replaced by linear vegetated buffers (turf grass) as the result of later road widenings.

- **SWFWMD ERP #405619.001** – FDOT – I-275, Segment 2A, (4/16/2004)

  This ERP covers from Himes Avenue to the Hillsborough River. For this ERP the section of road was divided into 12 sub-basins. **Table 4-4a** is a summary of the sub-basins and related ponds:

Table 4-4a Existing Stormwater Management Facilities Permit 405619.001

Sub-basin No.	Pond Serving Sub-basin Area (ac)	Sub-basin Area (ac)	Ultimate Design Impervious Area (ac)	Permitted Required Treatment (ac-ft)	Provided Treatment (ac-ft)	Pond Area (Weir Crest) (ac)
1R	1RA	12.59	12.59	0.55	0.81	0.62
1L	5L	17.77	17.77	2.87	2.90	5.42
2R	2RA	12.03	12.03	0.53	1.23	0.71
2L	5L	15.92	15.92	2.87	2.90	5.42
3R	5RA	12.49	12.49	1.06	1.34	1.04
3L	5L	23.82	23.82	2.87	2.90	5.42
4R	5RA	4.18	4.18	1.06	1.34	0.69
4L	5L	4.62	4.62	2.87	2.90	5.42
5R	5RA	8.18	8.18	1.06	1.34	0.69
5L	5L	5.42	5.42	2.87	2.90	5.42
6R	N/A HILLS RIV	1.88	1.88	n/a	n/a	n/a
6L	N/A HILLS RIV	1.13	1.13	n/a	n/a	n/a

Source: Links SR 60/I-275 Memo, Permit Verification for I-275 from Howard Frankland Bridge to Hillsborough River Atkins, 2016

The following describes the basins/sub-basins and indicates that ERP #405619.001 is intended to cover construction of the ultimate roadway section:

Sub-Basin 1-Right (IR) - Himes Avenue to MacDill Avenue, south of the centerline Mainline
Sub-Basin 1-Left (IL) - Himes Avenue to Mac Dill Avenue, north of the centerline Mainline
Sub-Basin 2-Right (2R) - Mac Dill Avenue to Armenia Avenue, south of the centerline Mainline
Sub-Basin 2-Left (2L) - MacDill Avenue to Armenia Avenue, north of the centerline Mainline
Sub-Basin 3-Right (3R) - Armenia Avenue to Rome Avenue, south of the centerline Mainline
Sub-Basin 3-Left (3L) - Armenia Avenue to Rome Avenue, north of the centerline Mainline
Sub-Basin 4-Right (4R) - Rome Avenue to Willow Avenue, south of the centerline Mainline
Sub-Basin 4-Left (4L) - Rome Avenue to Willow Avenue, north of the centerline Mainline
Sub-Basin 5-Right (5R) - Willow Avenue to North Boulevard, south of the centerline Mainline
Sub-Basin 5-Left (5L) - Willow Avenue to North Boulevard, north of the centerline Mainline
Sub-Basin 6-Right (6R) - North Boulevard to the Hillsborough River bridges, south of the centerline Mainline
Sub-Basin 6-Left (6L) - North Boulevard to the Hillsborough River bridges, north of the centerline Mainline

Links SR 60/I-275 Memo, Permit Verification for I-275 from Howard Frankland Bridge to Hillsborough River, Atkins, 2016 reported the following:

> *The sub-basins listed above are determined by the proposed roadway profile. Limits shown above are approximate as the limits vary somewhat between roadway segments.*
>
> *The facilities are sized and permitted to treat the entire project area runoff, including the ultimate project construction.*

Subsequent SWFWMD permit modifications for this segment of road are:

- Revision 405619.002 (Issued 4/20/2005) I-275, Segment 2A and is a minor modification
- Revision 405619.003 (Issued 12/9/2008) I-275, Segment 2A and is a minor modification

In both of these revisions, it appears that the pond sizing has not changed from treating for the full right of way as impervious to accommodate the ultimate build-out.

- **SWFWMD ERP #402958.006** – FDOT – I-275, Segment 1A, Stage II (9/14/2005)

This ERP covers from West Shore Boulevard to Himes Avenue. For this permit the section of road was divided into four basins. **Table 4-4b** is a summary of the basins and related ponds:

Table 4-4b Existing Stormwater Management Facilities Permit 402958.006*

Basin & Pond No.	Project / Basin Area (ac)	Ultimate Design Impervious Area (ac)	Permitted Required Treatment (ac-ft)	Provided Treatment (ac-ft)	Pond Area (ac)
5W	45.40	45.40	3.80	3.80	3.33
5E	4.50	4.50	0.38	0.40	1.00
6	9.10	9.10	0.76	0.90	1.34
7	30.90	30.90	2.58	3.11	4.12
7A (7A-1) & (7A-2) **	4.77	4.77	0.40	0.40	1.04

* Source: Links SR 60/I-275 Memo, Permit Verification for I-275 from Howard Frankland Bridge to Hillsborough River Atkins, 2016
**Pond 7A was split into 7A-1 and 7A-2

The following describes the basins/sub-basins and indicates that the original permit was for impervious surface area of the entire right of way to accommodate the ultimate roadway section:

> **Basin 5** – Basin 5 is comprised of I-275 from West Shore Boulevard to Lois Avenue. It is separated into Basins 5W and 5E. Basin 5W drains to Pond 5W via three separate storm drain systems that collect the majority of Basin 5, including NB and SB I-275 and Ramps L, N, P, and a portion of M. Basin 5E drains to Pond 5E via a single storm drain system that collects the remaining portion of Ramp M as well as the Lois Avenue runoff and a portion of Ramp R.
>
> Ponds 5W and 5E were previously constructed under FPID 258398-4-52-01, including storm drain pipes that were plugged so that the proposed systems can tie directly in without the need to disturb the pond areas.
>
> The permit clearly indicates that Ponds 5W and 5E are designed to accommodate the ultimate condition by assuming the entire ROW as impervious.
>
> **Basin 6 -** Basin 6 is comprised of I-275 from Lois Ave. to Cypress St. Basin 6 drains to Pond 6 via a single storm drain system that collects northbound and southbound I-275, Ramp T, and the portion of Ramp R not draining to Pond 5E.

Pond 6 was previously constructed under FPID 258398-4-52-01, including storm drain pipes that were plugged so that the proposed systems can tie directly in without the need to disturb the pond area. The ultimate condition was clearly addressed in the previous project, including providing the ultimate treatment volume as well designing a storm drain system for the ultimate design. Several manhole structures are proposed along the inside of the northbound and southbound roadways that would eventually be converted to barrier wall inlets when the ultimate interstate is constructed. The pipes have been sized according to the ultimate condition, which assumes the entire ROW is impervious.

Basin 7 - Basin 7 is comprised of I-275 from Cypress Street to Himes Avenue. Basin 7 has now been divided into two sub-basins Basin 7 and Basin 7A. Basin 7 collects the area from all northbound lanes (including ultimate design), most of the southbound lanes (Ultimate Design), a small portion of Ramp S, Ramp V, Ramp W, and Ramp T. Basin 7A collects a portion of the southbound lanes (near the Ramp U entrance), a majority of Ramp U, and a majority of Ramp S. Pond 7A has since been divided into 7A-1 and 7A-2 and are interconnected and equalized.

The ultimate condition has been clearly designed for, including providing the ultimate treatment volume as well designing a storm drain system for the ultimate design. Several manhole structures are proposed along the inside of the northbound and southbound roadways that would eventually be converted to barrier wall inlets when the ultimate interstate is constructed. The pipes have been sized according to the ultimate condition, which assumes the entire ROW is impervious.

Subsequent SWFWMD permit modifications for this segment of road are:

- Revision 402958.012 (Issued 5/6/2010) which appears to include additional modeling for Basin 7 and associated Ponds 7 & 7A (7A-1/7A-2)
- Revision 402958.013 (Issued 6/8/2010) which appears to include construction plans for the buildout of Stage II of the roadway expansion.
- Revision 402958.017 (Issued 4/4/2018) 1-275, South of Kennedy to South of Lois Avenue.

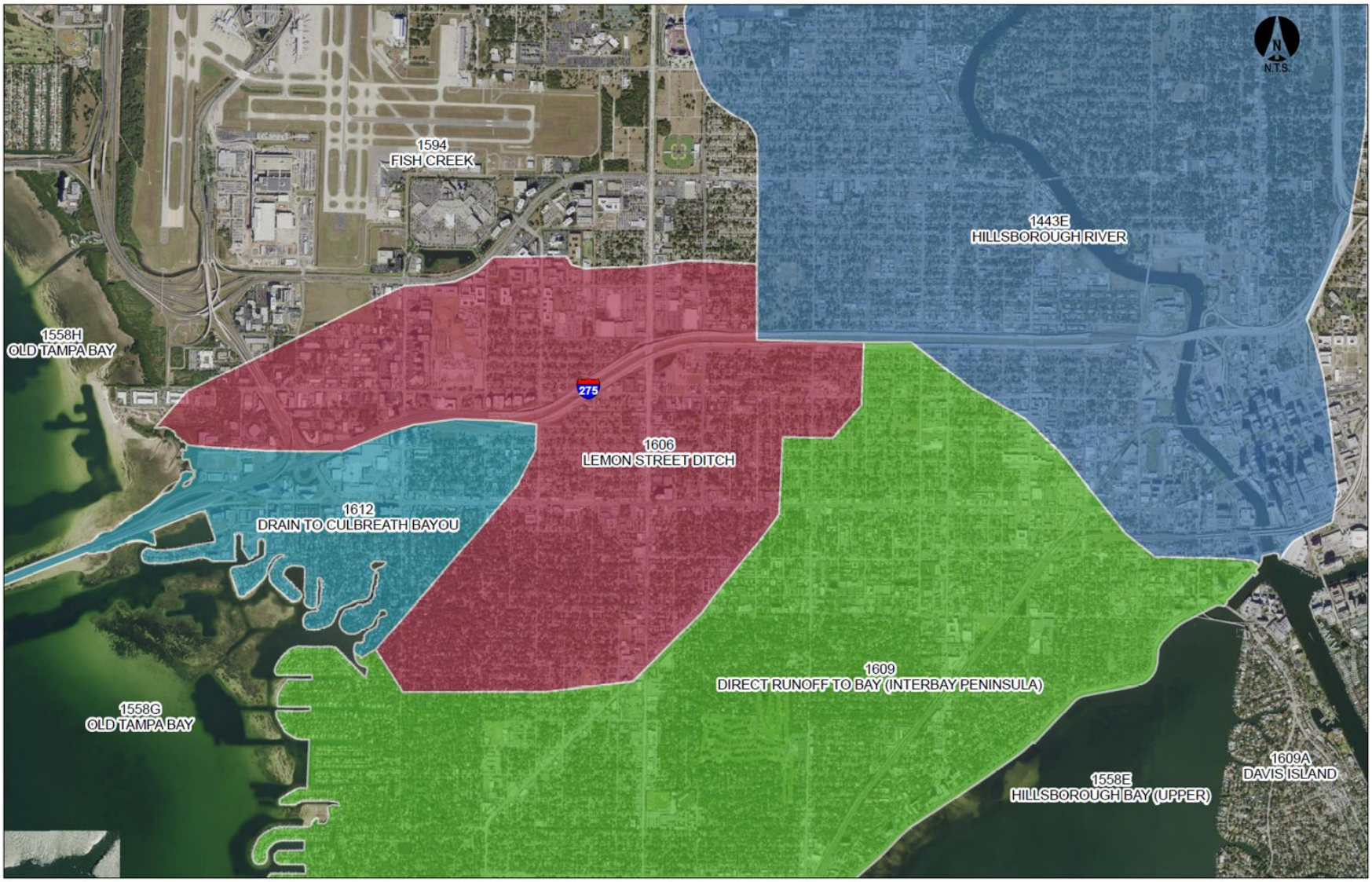
All three revisions appear to indicate that the pond sizing has not changed from treating for the full ROW as impervious to accommodate the ultimate build-out.

Watersheds

The TIS SEIS Project study area drains to two watersheds in Segments 1A and 2A – Old Tampa Bay (OTB) Watershed and the Hillsborough River Watershed. Within these watersheds the following Water Body Identifications (WBID) are shown on **Figure 4-5**.

- OTB Watershed
  - Drain to Culbreath Bayou WBID 1612
  - Lemon Street Ditch WBID 1606
- Hillsborough Bay Watershed
  - Hillsborough River WBID 1443E
  - Direct Runoff to Bay (Interbay Peninsula) WBID 1609

Neither watershed is impaired. The TIS SEIS Project study area does not discharge to an Outstanding Florida Water (OFW).



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

FDEP Waterbody IDs (WBID) Map

Figure 4-5

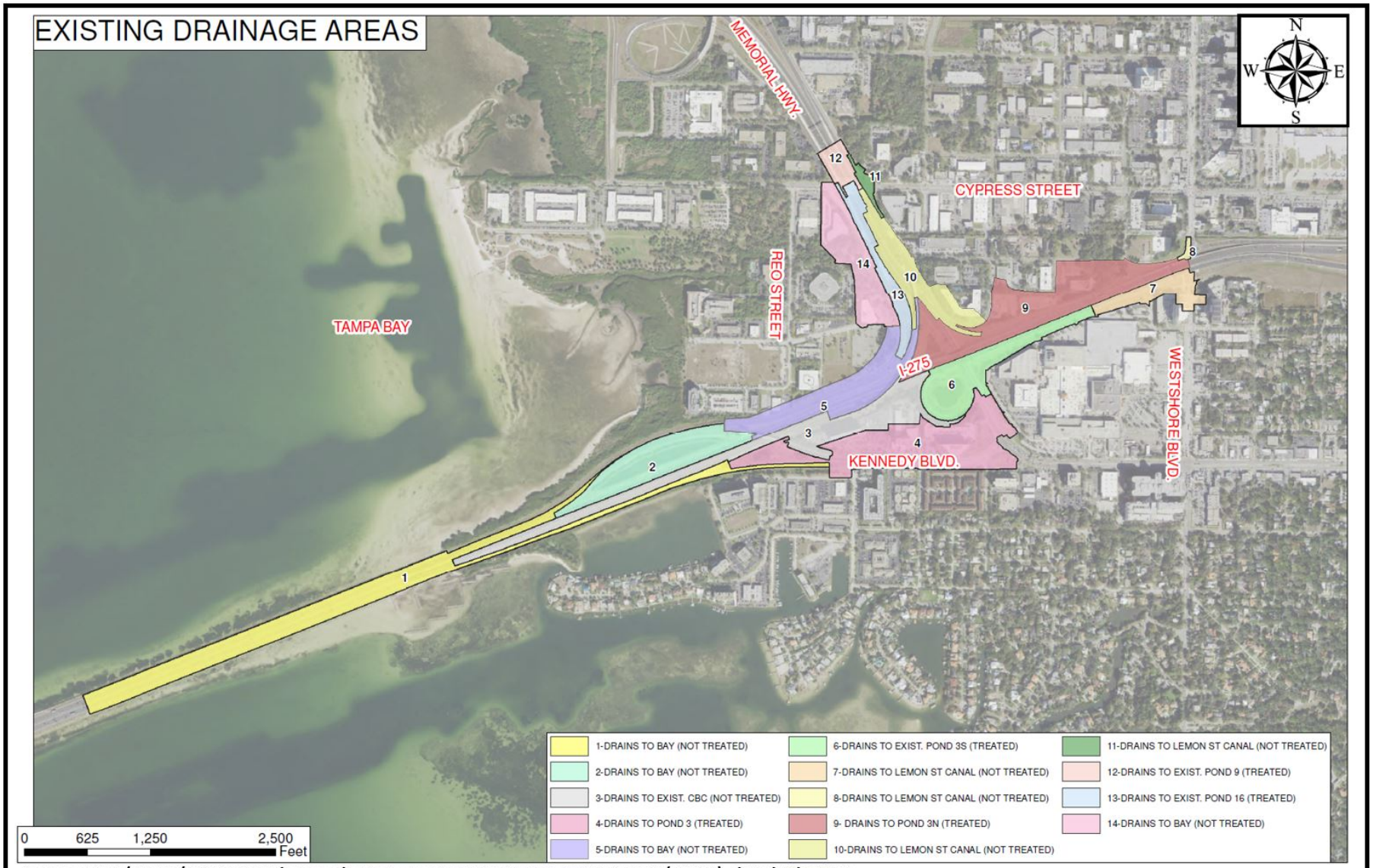
Existing Drainage Patterns

HFB to West Shore Boulevard

Existing runoff in the surrounding areas includes discharge into OTB via Lemon Street Canal on the north side of the interchange and an existing 10-foot x 6-foot concrete box culvert (CBC) on the south side of the interchange. Stormwater runoff from the existing I-275 / SR 60 roadway is collected by barrier wall inlets, shoulder gutter inlets, ditch bottom inlets and roadside ditches. Some portions of the existing runoff are directed to existing ponds for treatment and other areas are directly discharged to the outfalls. A summary of the existing stormwater management facilities (SMFs) is provided in **Tables 4-4 a and 4-4 b**.

The basins shown in **Figure 4-6** are summarized below:

- **Basin 1** is along the causeway on I-275. This basin drains to Tampa Bay and is not treated.
- **Basin 2** is adjacent to the southbound Kennedy Boulevard flyover. This basin drains to Tampa Bay and is not treated.
- **Basin 3** extends from approximately the beginning of the eastbound I-275 off ramp to Kennedy Boulevard and from Kennedy Boulevard to west of West Shore Boulevard. This basin drains to the existing CBC and is not treated.
- **Basin 4** encompasses the area in the southwest quadrant of I-275/SR 60 interchange. This basin drains to Pond 3 and is treated.
- **Basin 5** is in the northwest quadrant of the I-275/SR 60 interchange. This basin drains to Tampa Bay and is not treated.
- **Basin 6** includes the loop ramp and northbound lanes on I-275 from SR 60 to Occident Street. This basin drains to existing Pond 3S and is treated.
- **Basin 7** includes northbound lanes on I-275 from Occident Street to West Shore Boulevard. This basin drains to the Lemon Street Canal and is not treated.
- **Basin 8** is the northwest corner of I-275 with West Shore Boulevard. This basin drains to the Lemon Street Canal and is not treated.
- **Basin 9** span the southbound lanes on I-275 from SR 60 to West Shore Boulevard. This basin drains to existing Pond 3N and is treated.
- **Basin 10** includes the westbound lanes on SR 60 from I-275 to Cypress Street. This basin drains to the Lemon Street Canal and is not treated.
- **Basin 11** is a small area adjacent to westbound SR 60 and Cypress Street. This basin drains to the Lemon Street Canal and is not treated.
- **Basin 12** includes the eastbound/westbound lanes on SR 60 north of Cypress Street. This basin drains to existing Pond 9 and is treated.



Source: I-275 (SR 93 / SR 60 Interchange Alternate Stormwater Management Report (ASMR), dated July 2018

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I-275 from north of Howard Frankland Bridge to Rome Avenue
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Existing Drainage Basins
HFB to Westshore Boulevard

Figure 4-6

- **Basin 13** includes the eastbound lanes on SR 60 from I-275 to Cypress Street. This basin drains to existing Pond 16 and is treated.
- **Basin 14** is in the northwest quadrant of the I-275/SR 60 interchange along the frontage road. This basin drains to Tampa Bay and is not treated.

The Alternate Stormwater Management Report (ASMR) (FDOT, 2018) for I-275 from the HFB to West Shore Boulevard documented the use of existing SMF sites within the existing ROW and the use of remnant parcels to provide the presumptive treatment requirements and nutrient and phosphorus removal requirements.

West Shore Boulevard to East of Rome Avenue

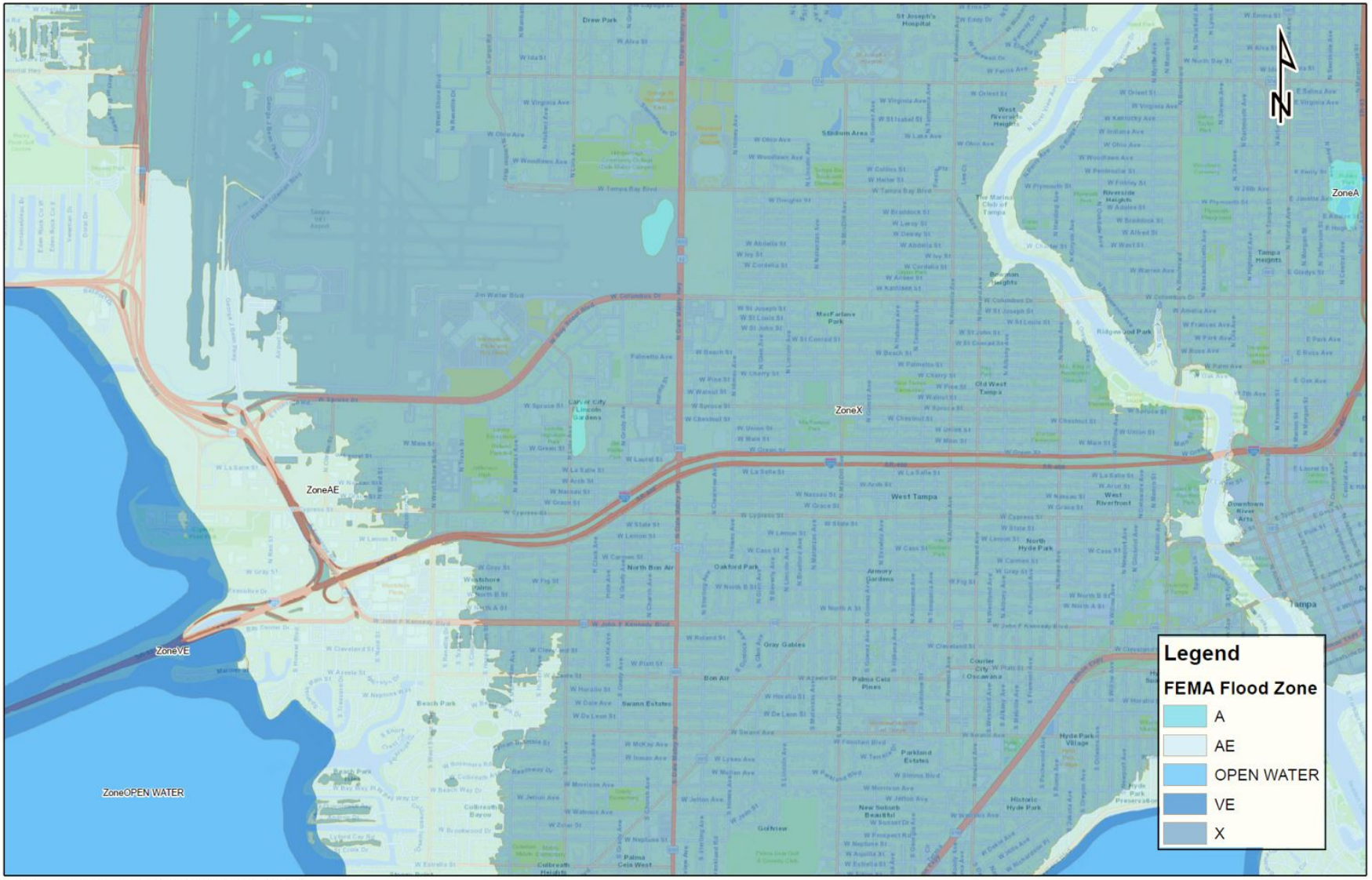
Drainage facilities from West Shore Boulevard to east of Rome Avenue were constructed under projects FPID 25839855201, 25839925201, and 25839825201. The drainage facilities were designed and permitted to accommodate the ultimate build-out of I-275.

Floodplains & Floodway

The following information is taken from the *Draft Location Hydraulics Report* (FDOT 2018). The Federal Emergency Management Agency (FEMA) completed the Flood Insurance Study (FIS) for Hillsborough County that became effective August 28, 2008. No changes to the FIS have been made since 2008 according to the local FEMA office.

Portions of the study area for the proposed improvements are located within the floodplain limits shown on the Flood Insurance Rate Map (FIRM) Community Panels 12057C0333H, 12057C0334H, 12057C0353H, and 12057C0354H, as compiled by FEMA. The east approach is in Zone VE with the base flood elevation (BFE) at 9 feet. Zone VE is a coastal flood zone with a velocity hazard (wave action). Zone AE is an area of 100-year flood, in which the BFE has been determined. The western end of Segment 1A also falls within Zone AE with a BFE of 9 feet. All elevations in the FIRM are in the North American Vertical Datum of 1988 (NAVD 88). Flood hazard factors were determined by FEMA.

The floodplain is primarily from storm surge from the Gulf of Mexico. Old Tampa Bay (OTB) is a tidal bay and is a class II estuary between Hillsborough and Pinellas counties. All of the floodplain encroachments would be minimal due to the proposed roadway alignment following the same general alignment as the existing facility. There are no floodways within the project limits. Seagrass in the vicinity has been mapped and impacts would be minimized. Existing floodplains are shown in **Figure 4-7**.



Source: Hillsborough County GIS, 2018

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

FEMA Floodplain Map

Figure 4-7

Cross Drains

Cross drains within the TIS SEIS Project study area were identified utilizing the FDOT's Straight Line Diagrams (SLDs). Refer to **Table 4-5** for a summary of cross drains on I-275.

Table 4-5 Summary of Existing Cross Drains

Cross Drain No.	Milepost	Size / Type
CD-03	2.680	1 - 24" x 109' CC
CD-04	2.680	1 - 4"x5" x 109' CC
CD-05	2.860	1 - 36" x 96' CC
CD-06	2.860	1 - 4"x10.5" x 96' CC
CD-07	3.036	1 - 36" x 157' CC
CD-08	3.036	1 - 4"x5" x 157' CC
CD-09	3.086	1 - 18" x 92' CC
CD-10	3.086	1 - 4" x 20" x 92' CC
CD-11	3.268	1 - 18" x 69' CBC
CD-12	3.268	1 - 4" x 4.5"x 69' CBC
CD-13	3.300	1 - 114" x 160' CC
CD-14	3.307	1 - 18" x 78' CC
CD-15	3.307	1 - 4" x 4.5" x 78' CC
CD-16	3.352	1 - 18" x 78' CC
CD-17	3.352	1 - 4" x 4" x 78' CC
CD-18	3.443	1 - 24" x 79' CC
CD-19	3.443	1 - 4" x 4" x 79' CC
CD-20	3.486	1 - 18" x 84' CC
CD-21	3.486	1 - 4" x 5.5" x 84' CC
CD-22	3.525	1 - 18" x 79' CC
CD-23	3.525	1 - 4" x 6.5" x 79' CC
CD-24	3.598	1 - 18" x 65' CC
CD-25	3.598	1 - 4.5" x 5.5" x 65' CC
CD-26	3.658	1 - 30" x 148' CC
CD-27	3.674	1 - 30" x 100' CC
CD-28	3.756	1 - 18" x 97' CC
CD-29	3.756	1 - 3" x 9" x 97' CC
CD-30	3.954	1 - 18" x 80' CC
CD-31	3.977	1 - 60" x 257' CC
CD-32	5.501	1 - 15" x 77' CC
CD-33	0.453	2 - 6' x 10' x 490' CBC

Source: SLD for I-275 (5/31/2017), SLD for SR 60 (11/18/2015)
RCP=Reinforced Concrete Pipe CBC= Concrete Box Culvert

Floodplains Risk Assessment

Replacement drainage structures for this project are limited to hydraulically equivalent structures. The limitations to the hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of design, existing development, cost feasibility, or practicability. An alternative encroachment location is not considered in this category since it defeats the project purpose or is economically unfeasible. The proposed structure will be hydraulically equivalent to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased adverse environmental impacts. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant, (FDOT, Location Hydraulics Technical Memorandum, 2018)

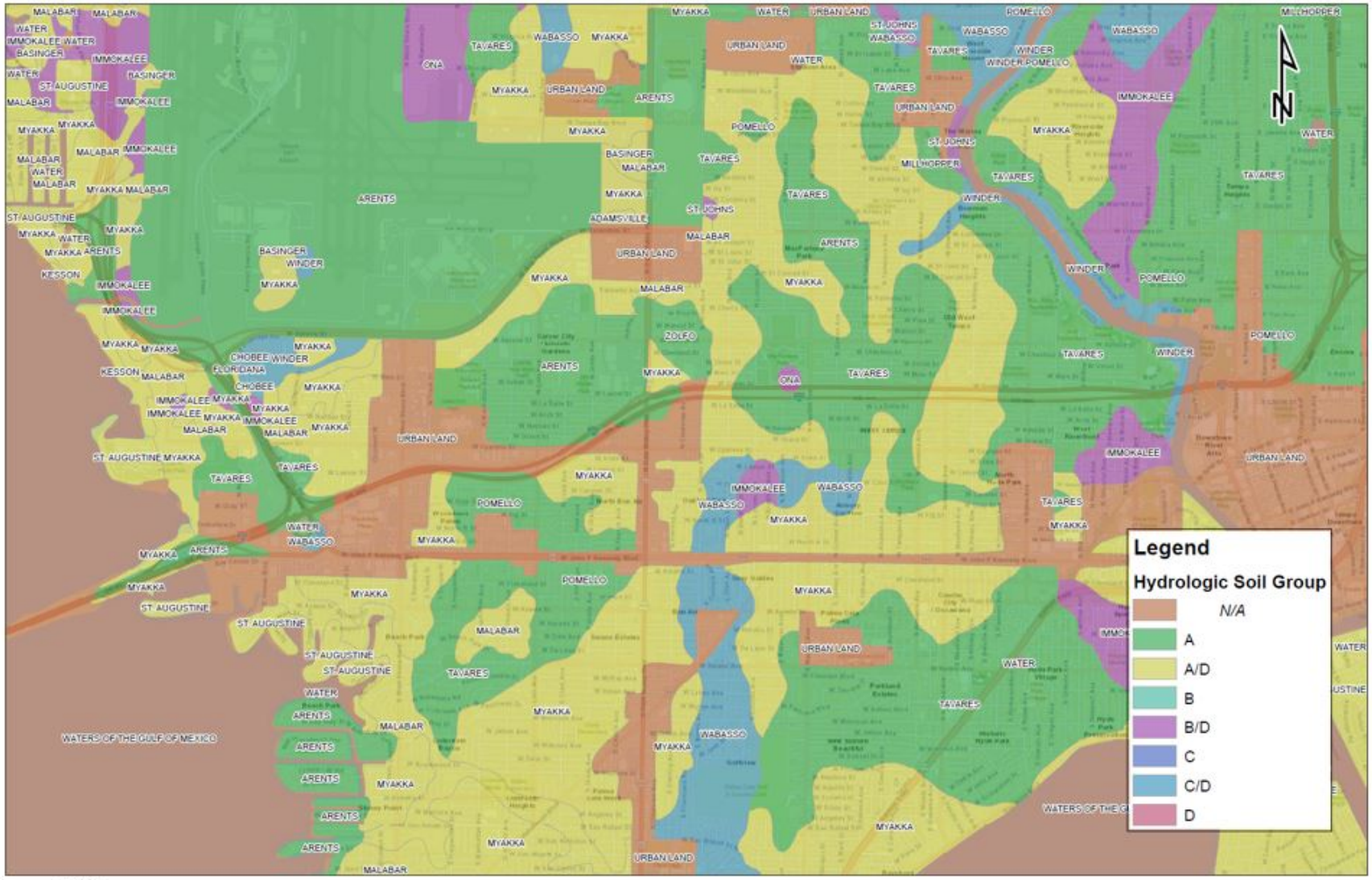
4.2.8 Geotechnical Data

The Soil Survey of Hillsborough County prepared by Natural Resources Conservation Service (NRCS), obtained from the United States Department of Agriculture (USDA) website indicates several soil types within the TIS SEIS Project study area and contributing drainage areas. The soil information is summarized in **Table 4-6** and shown in **Figure 4-8**.

Table 4-6 NRCS Soils Information

Unit Name	Unit Symbol	Drainage Class	Depth to SHWT (inches)	Hydrologic Soil Group
Arents, nearly level	4	Somewhat Poorly Drained	18-36	A
Pomello-Urban land complex, 0 to 5 percent slopes	42	Moderately Well Drained	24-42	A
Tavares-Urban land complex, 0 to 5 percent slopes	55	Moderately Well Drained	42-72	A
Zolfo fine sand, 0 to 2 percent slopes	61	Somewhat Poorly Drained	18-42	A/D
Myakka fine sand, 0 to 2 percent slopes	29	Poorly Drained	6-18	A/D
Myakka-Urban Land complex	32	Poorly Drained	6-18	A/D
St. Augustine fine sand	44	Somewhat Poorly Drained	18-36	A/D
St. Augustine-Urban land complex	45	Somewhat Poorly Drained	18-36	A/D
Malabar fine sand, 0 to 2 percent slopes	27	Poorly Drained	3-18	A/D
Ona, Urban land complex	34	Poorly Drained	6-18	B/D
Urban Land, 0 to 2 percent slopes	56			N/A

SOURCE: USDA, 2018



Source: USDA

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
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Hydrologic Soil Group and NRCS Soil Survey Map

Figure 4-8

4.2.9 Crash Data and Safety Analysis

The following crash data information was obtained from the TIS SEIS Project Traffic Analysis Report (PTAR), November 2019. Please note that the PTAR summarized the crash data by the TBNext Sections. For the purpose of this report, that results were reported by the corresponding TIS segments.

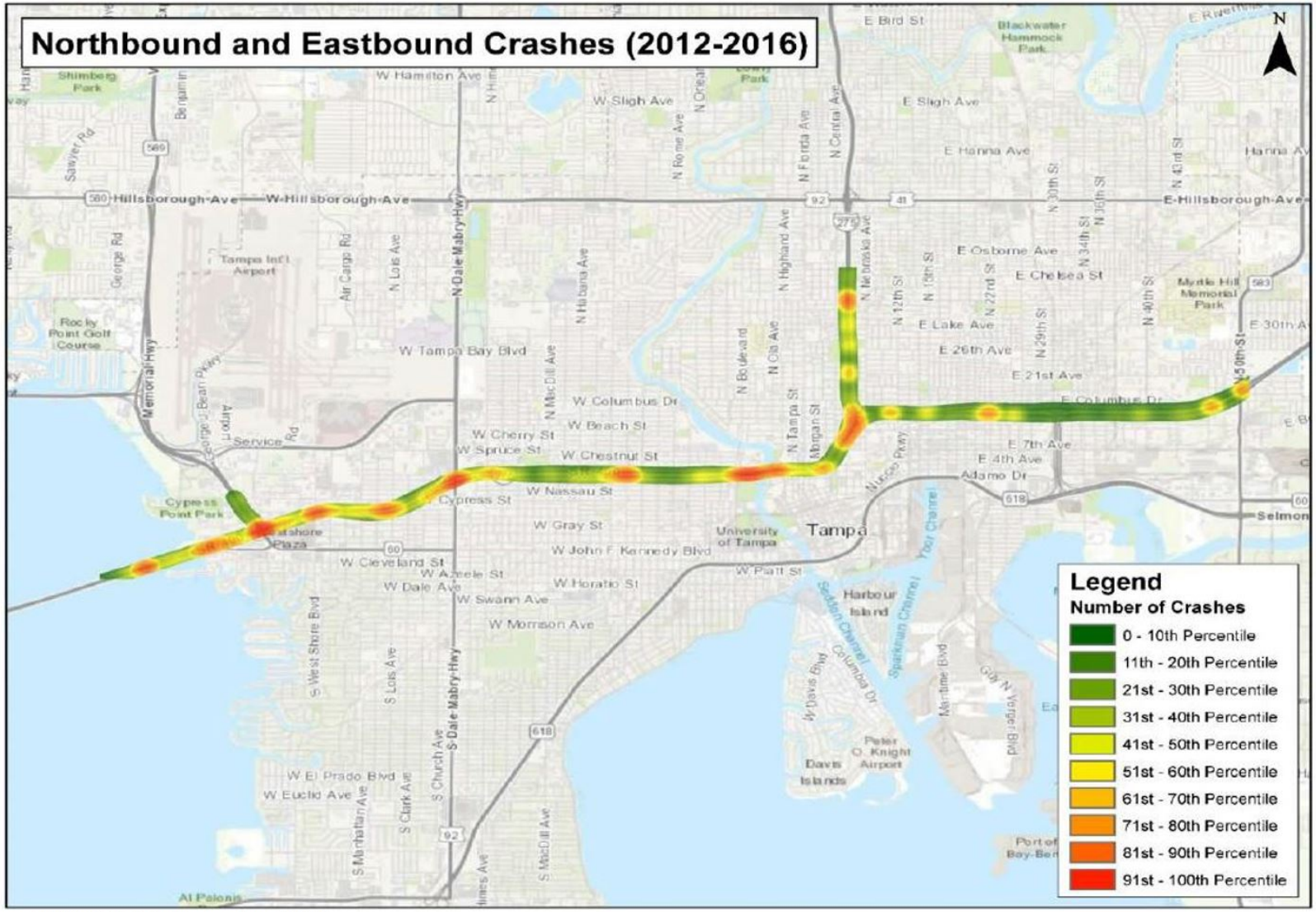
Crash data were collected and analyzed for the I-275, SR 60, and I-4 corridors within TIS Segments 1A, 2A, 2B, 3A and 3B (TBNext Sections 4, 5, and 6 limits). Historical crash data were obtained from the Crash Data Management System (CDMS), Crash Analysis Reporting System (CARS), and Signal Four analytics (S4) databases between January 1, 2012 and December 31, 2016. The crash data were used to determine areas of potential safety concerns and identify crash patterns and possible mitigation strategies. The data obtained from these three databases were compared against each other and the duplicates were removed. The data were combined and then filtered to remove alcohol and drug related crashes, as well as distracted driver crashes and crashes involving animals. **Figures 4-9a and 4-9b** shows "heat maps" indicating concentration of crashes for the northbound/eastbound and southbound/westbound directions. In the northbound/eastbound directions, areas of high crash concentration occur around interchange areas, specifically at SR 60, West Shore Boulevard, Dale Mabry Highway, Downtown, and I-4. This high number of crashes is most likely due to the effects of on and off ramps that result in lane changes, high speed differentials between the ramp and the freeway, and potential queuing requiring sudden, unexpected breaking. In the southbound/westbound directions, high crash locations occur as vehicles enter the I-275/I-4 interchange area. This area experiences high congestion, excessive queuing, and sudden stops, which all contribute to the high number of rear end crashes in TIS Segments 1A and 2A (TBNext Sections 4 and 5).

TIS Segment 1A (TBNext Section 4-1).

There were a total of 1857 crashes throughout the 3.20-mile segment of Segment 1A. Of these crashes, 1607 occurred on I-275 and 250 occurred on SR 60. The primary crash type experienced on both roadways was rear-end crashes, followed by sideswipes. Run off the road and hitting a fixed object also account for a higher percentage of crashes. The speed limit traveling northbound on I-275 decreases from 65 mph to 55 mph as drivers encounter the SR 60/Kennedy Boulevard off ramp (Ramp Number 10270129). This ramp experiences queuing onto northbound I-275 and may be a contributing factor to the high number of rear end crashes in this section. In the southbound direction, there is a short weaving distance between the Lois Avenue on ramp and the SR 60 off-ramp that may account for the sideswipe type crashes in this segment. Vehicles coming from Lois Avenue that are destined for southbound I-275 need to perform a lane change maneuver in approximately 2,000 feet. That lane then merges approximately 1,500 feet south of the SR 60 off-ramp, causing another lane change maneuver. **Table 4-7** shows the crashes that occurred in Segment 1A by year and type.

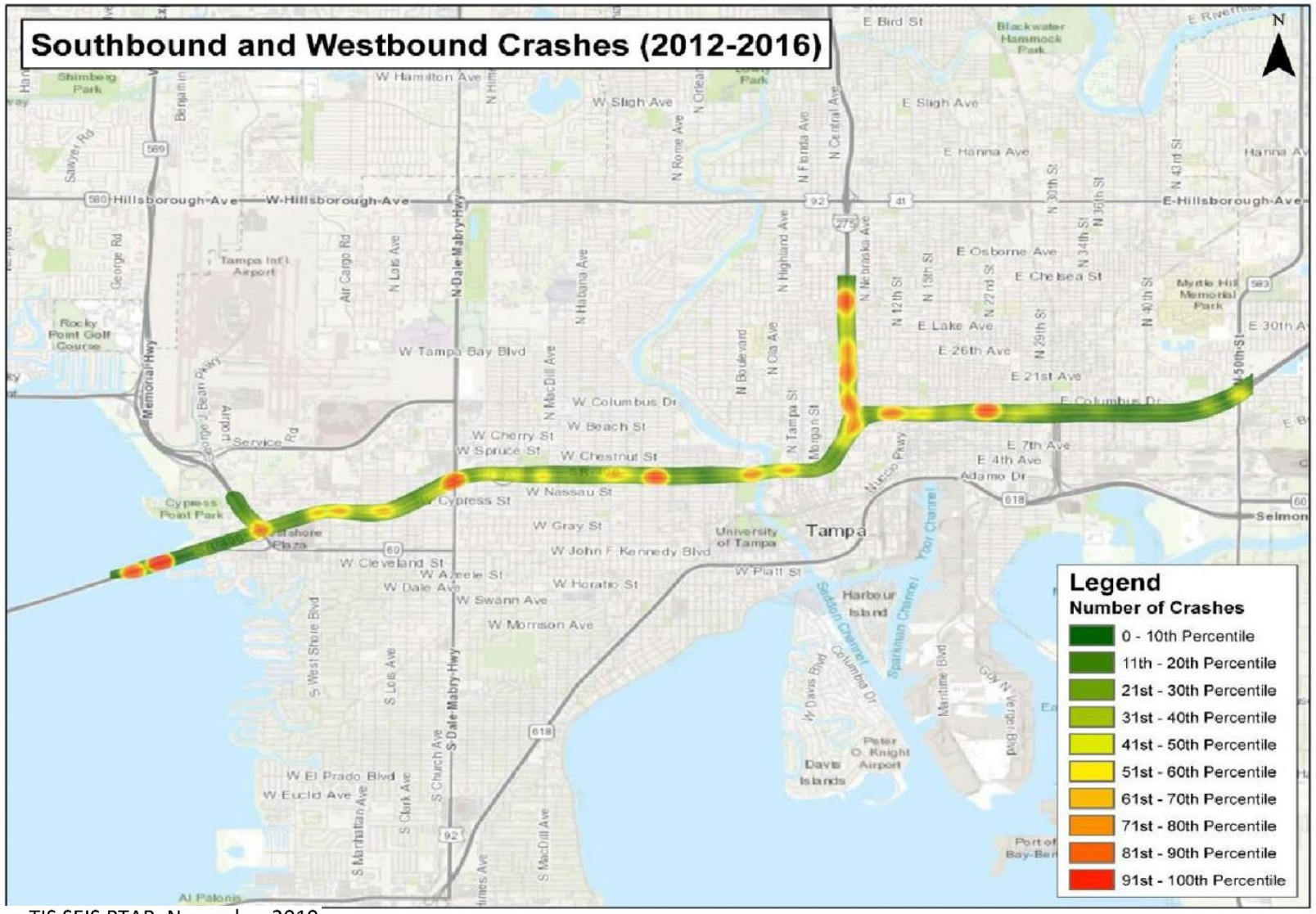
Two fatal crashes occurred within Segment 1A, one of which was the result of a vehicle running off the road during the day under dry roadway conditions; there were no reported contributing causes. The other fatal crash involved a pedestrian that occurred between 4:30 and 5:00 AM under dry roadway conditions. **Table 4-8** shows the crash severity by year for the portions of I-275 and SR 60 within this segment.

Table 4-9 shows crashes by year and condition of the roadway. Approximately 83 percent of the crashes within Segment 1A occurred while the roadway was dry, while 17 percent of crashes occurred under wet roadway conditions. **Table 4-10** shows crashes by year and lighting conditions. Crashes occurring at night account for 18 percent of all crashes in Segment 1A; 17 percent of total crashes occurred at night under lighted conditions.



Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS I-275 from north of Howard Frankland Bridge to Rome Avenue WPI Segment No. 258337-2	**Northbound and Eastbound Crashes Heat Map**	**Figure 4-9a**



Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS I-275 from north of Howard Frankland Bridge to Rome Avenue WPI Segment No. 258337-2	**Southbound and Westbound Crashes Heat Map**	**Figure 4-9b**

Table 4-7 Segment 1A Crashes by Year and Type

Roadway	Crash Type	2012	2013	2014	2015	2016	Total Crashes
I-275	Angle	1	2	1	0	0	4
	Head On	0	3	3	1	3	10
	Hit Fixed Object	15	10	17	12	13	67
	Hit Non-Fixed Object	0	0	3	0	5	8
	Off Road	23	21	16	17	15	92
	Other	8	14	15	10	6	53
	Pedestrian	1	0	0	0	1	2
	Rear End	138	162	235	287	276	1098
	Rollover	0	2	5	1	2	10
	Sideswipe	27	40	55	57	64	243
	Single Vehicle	6	2	2	1	1	12
	Unknown	1	2	2	1	2	8
	Roadway Total	220	258	354	387	389	1607
SR 60	Angle	0	0	3	1	1	5
	Head On	0	2	0	1	0	3
	Hit Fixed Object	2	6	8	4	4	24
	Hit Non-Fixed Object	0	1	1	0	0	2
	Left Turn	0	0	1	0	0	1
	Off Road	4	1	7	2	1	15
	Other	3	2	6	1	0	12
	Pedestrian	0	0	0	0	0	0
	Rear End	15	29	37	34	32	147
	Rollover	0	0	2	0	0	2
	Sideswipe	3	3	11	8	5	30
	Single Vehicle	1	1	1	3	0	6
	Unknown	0	0	3	0	0	3
	Roadway Total	28	45	80	54	43	250
Total Crashes		248	303	434	441	431	1857

Source: TIS SEIS PTAR, November 2019

Table 4-8 Segment 1A Crashes by Year and Severity

Roadway	Crash Severity	2012	2013	2014	2015	2016	Total Crashes
I-275	Fatality	1	0	0	1	0	2
	Incapacitating Injury	12	7	5	4	8	36
	Non-Incapacitating Injury	21	19	25	23	17	105
	Possible Injury	45	47	57	82	85	316
	Property Damage Only	141	185	267	277	278	1148
SR 60	Fatality	0	0	0	0	0	0
	Incapacitating Injury	1	1	2	1	0	5
	Non-Incapacitating Injury	3	2	6	7	7	25
	Possible Injury	5	7	15	7	7	41
	Property Damage Only	19	35	57	39	29	179
Total Crashes		248	303	434	441	431	1857

Source: TIS SEIS PTAR, November 2019

Table 4-9 Segment 1A Crashes by Roadway Condition and Year

Years	Dry	Wet	Unknown	Total Crashes
2012	200	48	0	248
2013	249	53	1	303
2014	317	117	0	434
2015	374	67	0	441
2016	393	38	0	431
Total Crashes	1533	323	1	1857

Source: TIS SEIS PTAR, November 2019

Table 4-10 Segment 1A Crashes by Lighting Condition and Year

Years	Night			Day			Unknown	Total Crashes
	Dark-Lighted	Dark-Not Lighted	Dark-Unknown Lighting	Dawn	Daylight	Dusk		
2012	54	2	0	4	176	11	1	248
2013	53	2	2	10	230	6	0	303
2014	81	7	1	8	305	32	0	434
2015	67	6	0	12	344	12	0	441
2016	58	3	1	9	339	21	0	431
Total Crashes	313	20	4	43	1394	82	1	1857

Source: TIS SEIS PTAR, November 2019

Table 4-11 is a statistical crash analysis for the portions of I-275 and SR 60 within Segment 1A, which are urban interstate segments, which has an average statistical crash rate of 0.924 crashes per million vehicle miles. The historic AADT was obtained from Florida Transportation Information (FTI) traffic counts; the count station used for I-275 is 102020, while the count station used for SR 60 is 105143. Both segments of I-275 and SR 60 experience more crashes than the statistical average for similar roadway facilities in the state of Florida. The economic loss was also calculated for these two segments based on crash costs per severity type. The total crash cost of both roadway segments over the five-year period is approximately $154,315,700.

Table 4-11 Statistical Crash Analysis for Segment 1A

Statistic	I-275	SR 60
AADT	159900	131000
Length of Segment (Miles)	2.637	0.56
Number of Reported Crashes	1607	250
FDOT Statistical Crash Rate Per Million Vehicle Miles*	0.924	0.924
Actual Crash Rate Per Million Vehicle Miles	2.088	1.867
Total Economic Loss (in Thousand Dollars)	$135,216.40	$19,099.30

**5 Year Crash Rate Average for Interstates in Urban Segments from the Statewide Average Crash Rates Between 2012 and 2016*
Source: TIS SEIS PTAR, November 2019

TIS Segment 2A (TBNext Section 5)

There were a total of 1890 crashes throughout the 2.90-mile segment of Segment 2A. The primary crash type experienced on I-275 is rear-end crashes, followed by sideswipes. Hitting a fixed object and run off the road also account for a higher percentage of crashes. Portions of this section were under construction during the years defined by the historic crash analysis, which may have caused detours and new traffic patterns to emerge. The original geometry of I-275 included several short weaving segments that may contribute to the high number of rear end and sideswipe crashes. **Table 4-12** shows the crashes that occurred in Segment 2A by year and type.

Table 4-12 Segment 2A Crashes by Year and Type

Roadway	Crash Type	2012	2013	2014	2015	2016	Total Crashes
I-275	Angle	4	7	11	7	7	36
	Head On	0	4	1	4	1	10
	Hit Fixed Object	24	11	21	18	17	91
	Hit Non-Fixed Object	1	1	1	1	5	9
	Left Turn	3	3	1	1	5	13
	Off Road	17	12	10	15	13	67
	Other	5	10	12	9	6	42
	Pedestrian	1	0	1	0	0	2
	Rear End	214	276	290	278	208	1266
	Right Turn	0	0	2	0	1	3
	Rollover	0	1	1	1	0	3
	Sideswipe	48	60	75	67	72	322
	Single Vehicle	1	3	4	4	6	18
	Unknown	2	3	2	0	1	8
Roadway Total		320	391	432	405	342	1890

Source: TIS SEIS PTAR, November 2019

One fatal crash occurred within Segment 2A which involved a motorcycle that changed lanes and was rear ended by a motor vehicle. This crash occurred during the day in clear weather with no reported contributing causes. **Table 4-13** shows the crash severity by year.

Table 4-13 Segment 2A Crashes by Year and Severity

Roadway	Crash Severity	2012	2013	2014	2015	2016	Total Crashes
I-275	Fatality	1	0	0	0	0	1
	Incapacitating Injury	11	10	9	5	6	41
	Non-Incapacitating Injury	21	24	33	28	21	127
	Possible Injury	63	65	77	65	66	336
	Property Damage Only	224	292	313	307	249	1385
Total Crashes		320	391	432	405	342	1890

Source: TIS SEIS PTAR, November 2019

Table 4-14 shows crashes by year and condition of the roadway. Approximately 86 percent of the crashes within Segment 2A occurred while the roadway was dry, while 14 percent of crashes occurred under wet roadway conditions. **Table 4-15** shows crashes by year and lighting conditions. Crashes occurring at night account for 20 percent of all crashes in Segment 2A; 19 percent of all crashes occurred at night under lighted conditions.

Table 4-14 Segment 2A Crashes by Roadway Condition and Year

Years	Dry	Wet	Unknown	Total Crashes
2012	274	46	0	320
2013	344	47	0	391
2014	371	61	0	432
2015	346	59	0	405
2016	295	46	1	342
Total Crashes	1630	259	1	1890

Source: TIS SEIS PTAR, November 2019

Table 4-15 Segment 2A Crashes by Lighting Condition and Year

Years	Night			Day			Unknown	Total Crashes
	Dark-Lighted	Dark-Not Lighted	Dark-Unknown Lighting	Dawn	Daylight	Dusk		
2012	73	1	0	5	235	6	0	320
2013	75	5	0	4	298	9	0	391
2014	85	3	0	8	310	26	0	432
2015	59	2	0	17	307	20	0	405
2016	65	5	1	3	244	23	1	342
Total Crashes	357	16	1	37	1394	84	1	1890

Source: TIS SEIS PTAR, November 2019

Table 4-16 is a statistical crash analysis of the portion of I-275 within Segment 2A, which is an urban interstate segment, which has an average statistical crash rate of 0.924 crashes per million vehicle miles. The historic AADT was obtained from FTI traffic counts; the count station used for this section is 102018. This portion of I-275 experiences more crashes than the statistical average for similar roadway facilities in the State of Florida. The economic loss was also calculated for this segment based on crash costs per severity type. The total crash cost of this roadway section over the five-year period is approximately $140,991,000.

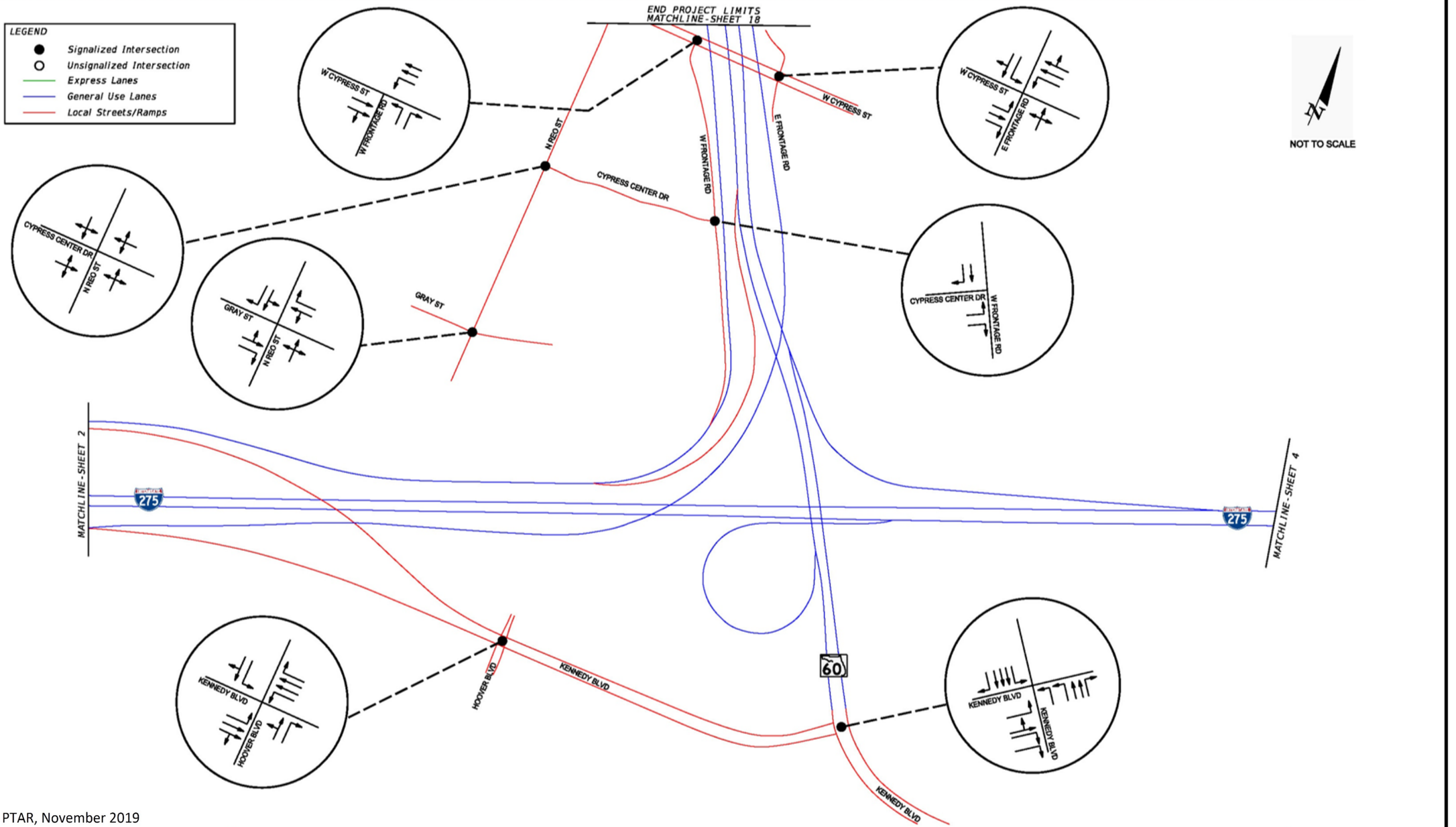
Table 4-16 Statistical Crash Analysis for Segment 2A

Statistic	I-275
AADT	183200
Length of Segment (Miles)	2.903
Number of Reported Crashes	1890
FDOT Statistical Crash Rate Per Million Vehicle Miles*	0.924
Actual Crash Rate Per Million Vehicle Miles	1.947
Total Economic Loss (Thousand Dollars)	$140,991.00

**5 Year Crash Rate Average for Interstates in Urban Segments from the Statewide Average Crash Rates Between 2012 and 2016*
Source: TIS SEIS PTAR, November 2019

4.2.10 Intersections and Signalization

Existing geometry for intersections at the interchange ramp termini are shown in **Figure 4-10 a through 4-10d**. The majority of these intersections are signalized, as shown in the figures.

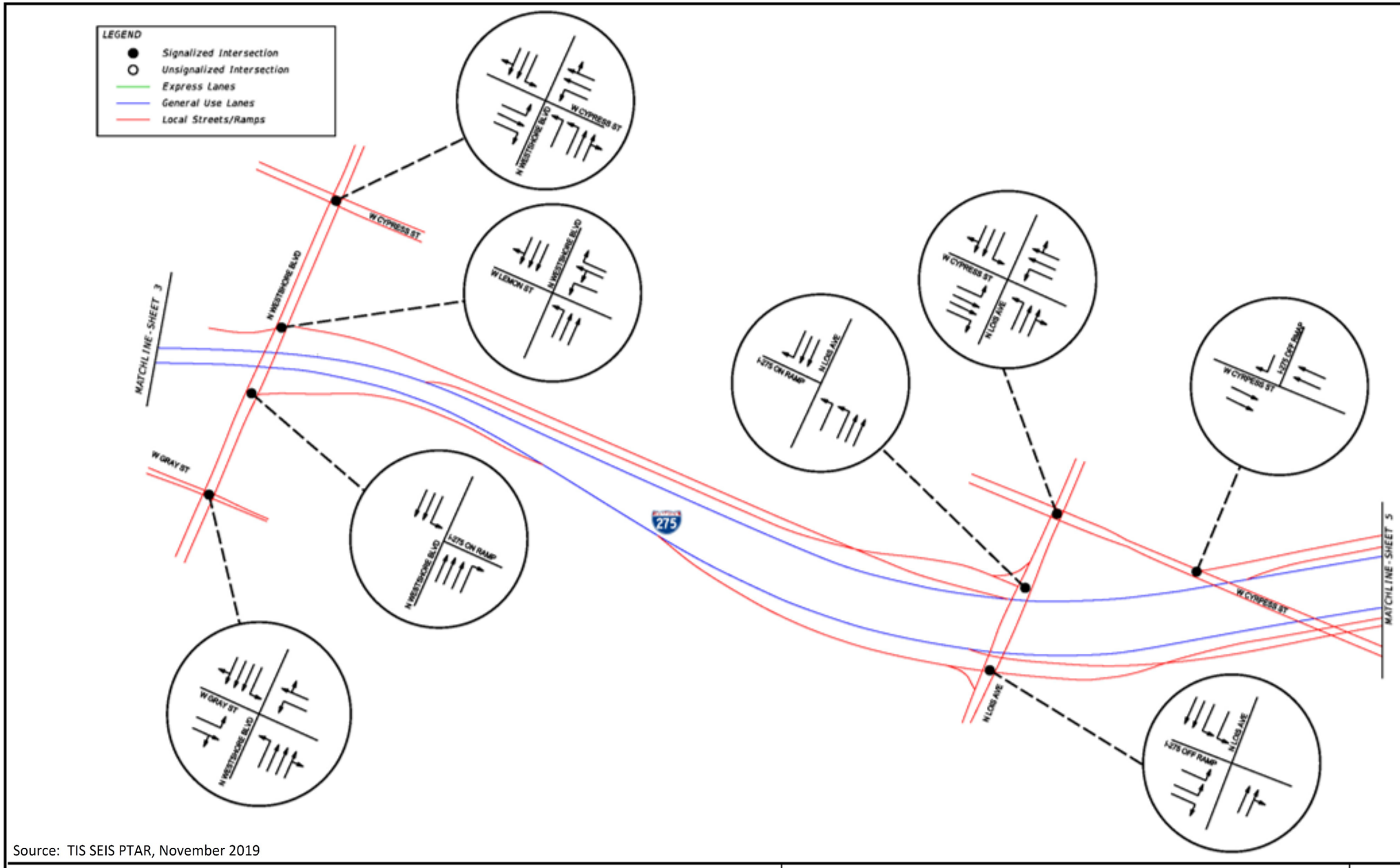


Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Intersection Geometry at I-275 Interchange (SR 60)

Figure 4-10a

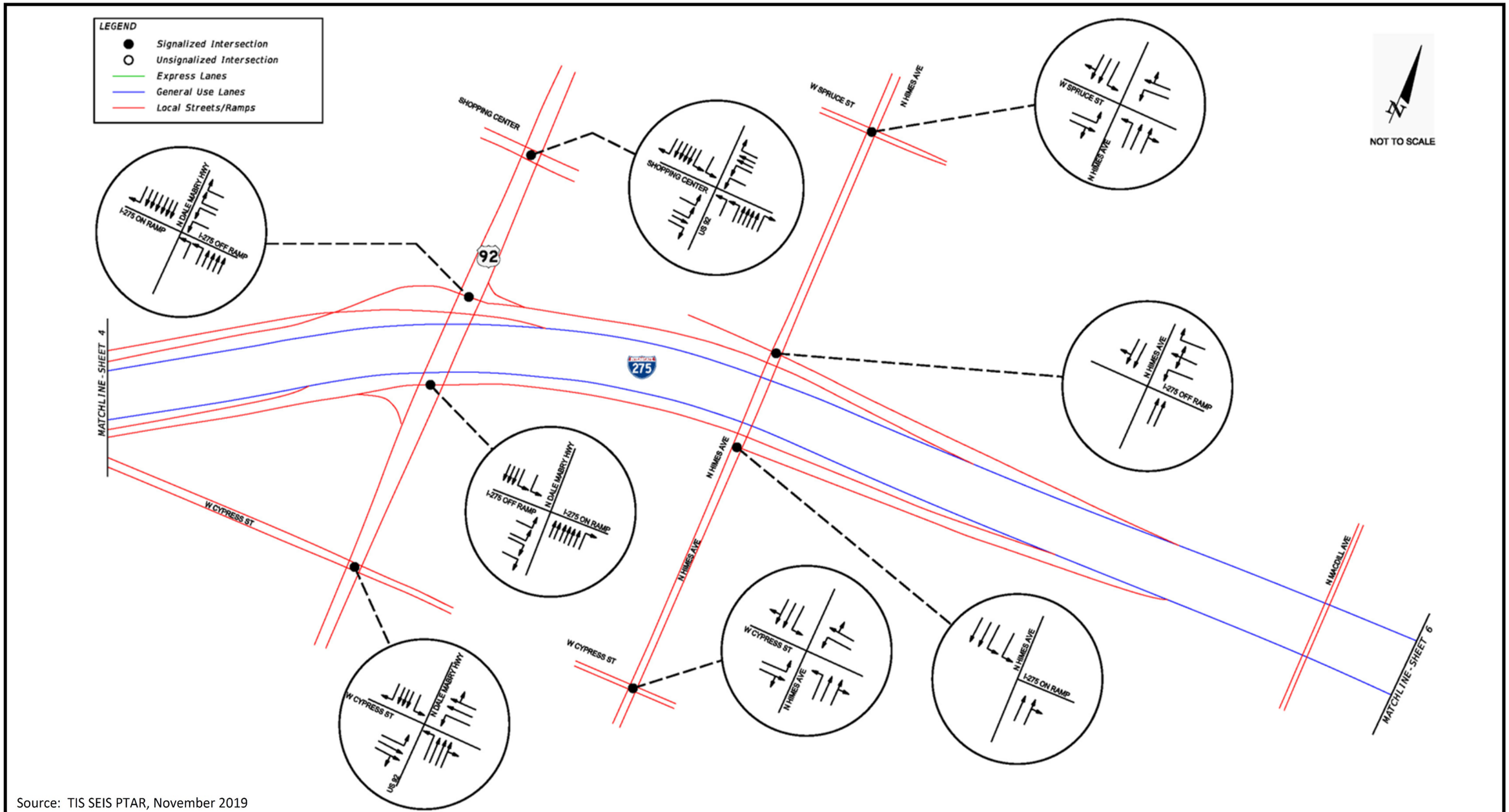


Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Intersection Geometry at I-275 Interchanges (Westshore Boulevard & Lois Avenue)

Figure 4-10b

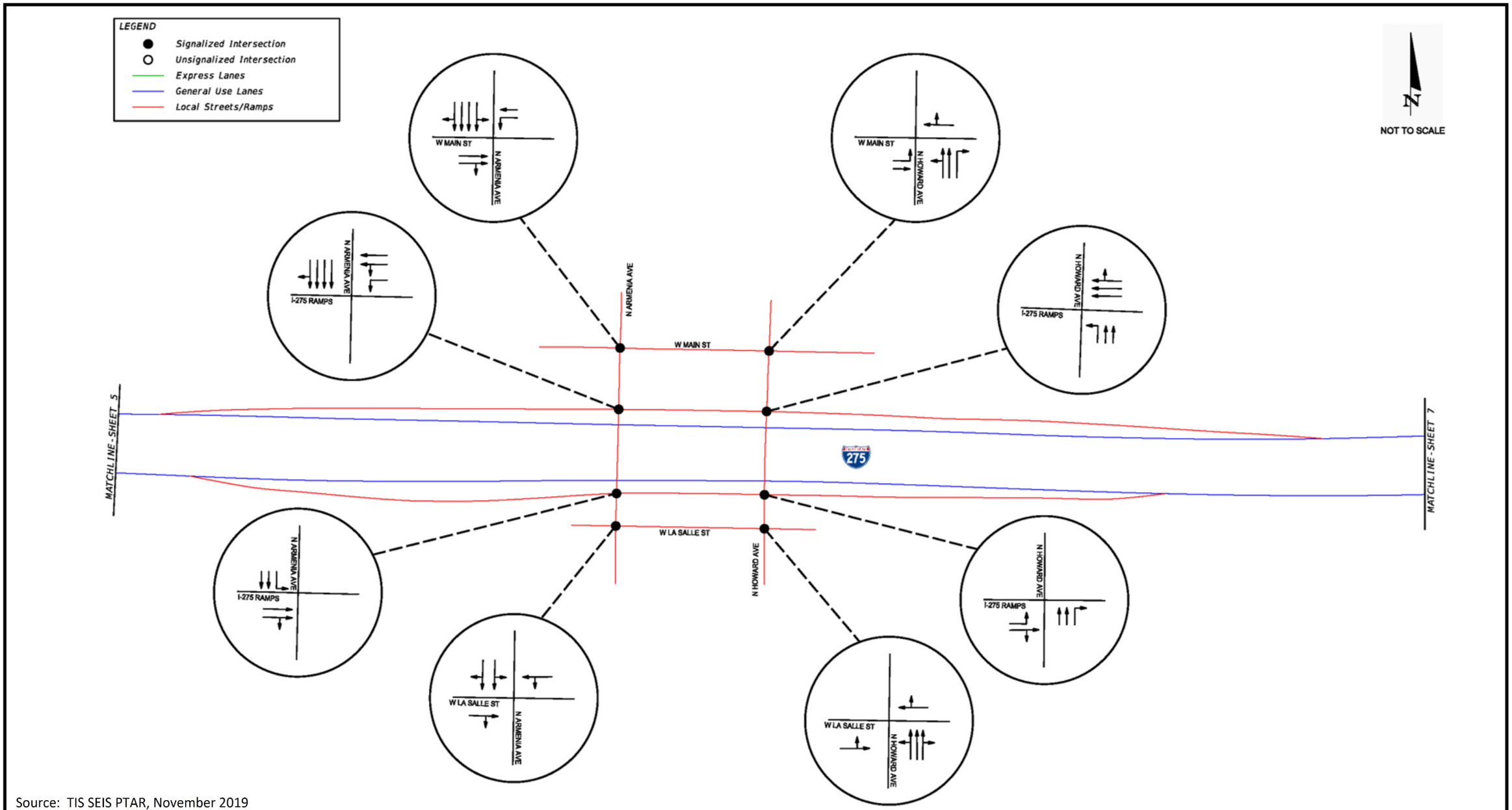


Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Intersection Geometry at I-275 Interchanges (Dale Mabry Highway & Himes Avenue)

Figure 4-10c



Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Intersection Geometry at I-275 Interchanges (Armenia Avenue & Howard Avenue)

Figure 4-10d

4.2.11 Lighting

The entire interstate system within the study limits for Segments 1A and 2A is lighted with modern high-pressure sodium lighting luminaires and poles.

4.2.12 Utilities, ITS and Railroads

Existing utilities within the study area are listed in **Table 4-17**. Thirteen utility agencies/owners (UAO) were identified within the study area through a Sunshine 811 design ticket, followed by coordination with individual UAOs. Coordination with UAOs is ongoing throughout the project development process.

Table 4-17 Existing Utilities in the Study Area

Utility Name/Owner	Original Contact	Phone Numbers	Facility
Fiberlight, LLC	Tim Green	813-877-7183	Underground Communications
Time Warner	James McVeigh	813-316-7763	Underground Communications
AT&T Communications	Bill Mercer	813-766-9571	Underground Communications
Verizon Florida, Inc.	Mike Hall	813-627-8343	Underground Communications
Hillsborough County – Traffic Service Unit	George Aubel	813-744-5670	Underground Communications and Power
Level 3 Communications	Jon Ray	813-349-1434	Underground Communications
MCI	Nathan Whitfield	813-262-1909	Underground Communications
TECO Peoples Gas - Tampa	Luis Castellano	813-275-3743	Gas
City of Tampa - Water	Janice Davis	813-274-7096	Potable Water
City of Tampa - Wastewater	Dallas Pryor	813-274-8936	Sanitary Sewer
TECO – Distribution and Transmission	Arlene Brown	813-275-3428	Underground and Overhead Electric
Bright House Networks	Barry Beatty	813-684-6100 x32163	Underground Communications
XO Communications	Gary Walker	813-301-4026	Underground Communications

Intelligent Transportation Systems (ITS) – The existing ITS infrastructure includes 4 Closed Circuit Television (CCTV) cameras, 3 Dynamic Message Signs (DMS), 15 Microwave Vehicle Detection Systems (MVDS), fiber optic cable backbone, conduit, fiber pull boxes, fiber splice vaults, electrical pull boxes, electrical wire, cabinets and transmission equipment. The field elements are managed and controlled from the Tampa Bay SunGuide®Center.

Railroads - No railroads are located within the Segments 1A and 2A limits.

4.2.13 Pavement Conditions

A pavement condition survey was conducted by the FDOT that will address the pavement for cracking and ride quality. Ratings run from 0 to 10, and any rating of 6.0 or less is considered deficient pavement. **Table 4-18** summarized the pavement conditions and there are no deficient conditions noted within the study area limits.

Table 4-18 Pavement Condition Survey Results

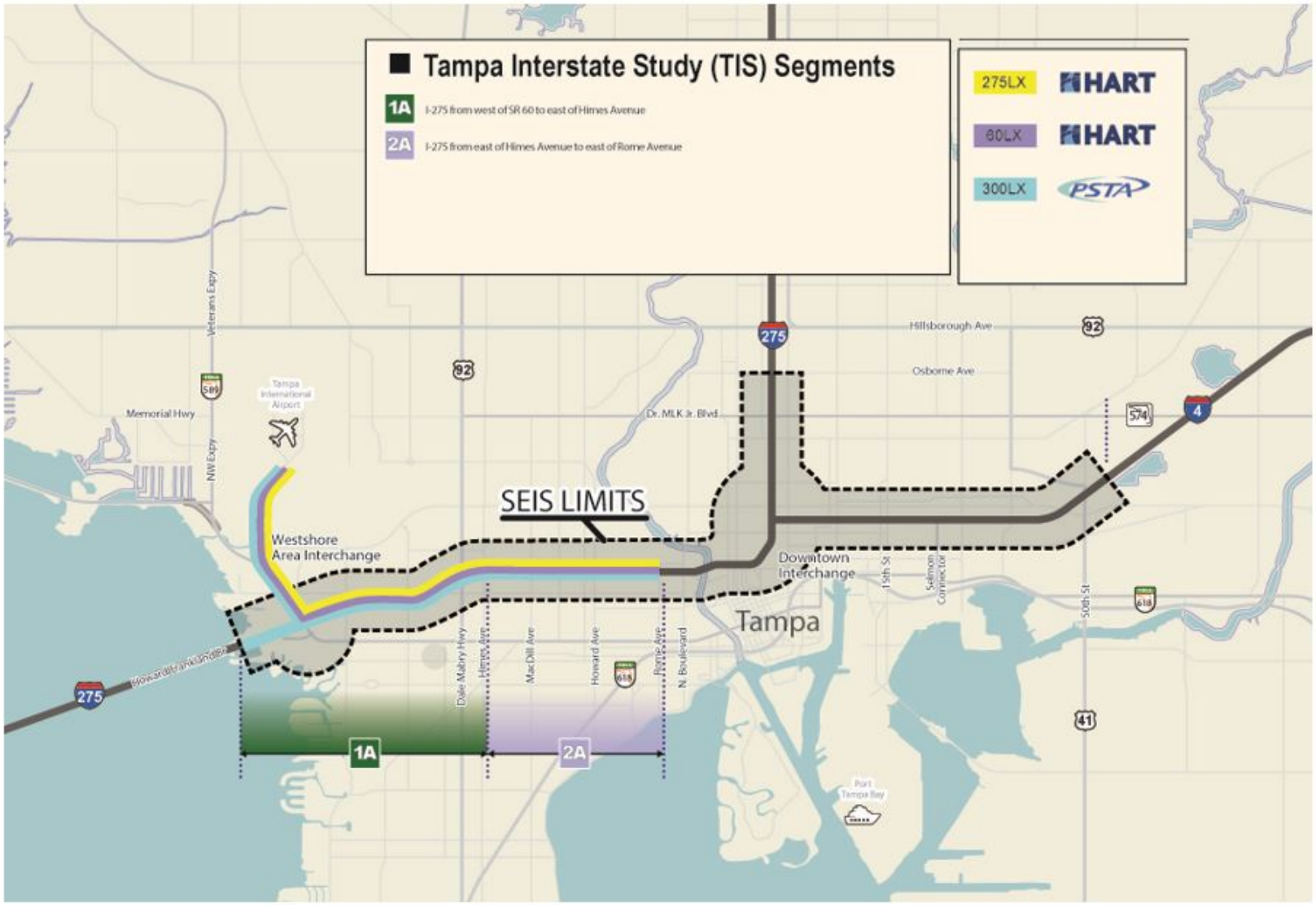
	Begin Limits*	End Limits*	Side	Condition Category	Ratings	Year 2024 Projection	Year Const./Rehab.
I-275	MP 1.013 (S of SR 60 Exit Ramp)	MP 2.137 (N of SR 60 Interchange Bridge)	Right	Cracking	10.0	--	2017
				Ride	8.6	--	
	MP 2.137 (N of SR 60 Interchange Bridge)	MP 3.070 (S of Lois Avenue NB Exit Ramp)	Right	Cracking	10.0	--	2017
				Ride	8.6	--	
	MP 3.190 (S of Lois Avenue Bridge)	MP 6.030 (N of Rome Avenue Bridge)	Right	Cracking	9.4	--	
				Ride	8.6	--	
	MP 1.013 (S of SR 60 Entrance Ramp)	MP 3.050 (S of Lois Avenue SB Exit Ramp)	Left	Cracking	10.0	--	2017
				Ride	8.3	--	
	MP 3.050 (S of Lois Avenue SB Exit Ramp)	MP 6.180 (N of Rome Avenue Bridge)	Left	Cracking	9.4	--	2017
				Ride	8.7	--	
SR 60	MP 0.115 (E of I-275 Bridge)	MP 1.698 (W of TIA Interchange)	Right	Cracking	10.0	10.0	2011
				Ride	8.2	7.6	
	MP 0.115 (E of I-275 Bridge)	MP 1.698 (W of TIA Interchange)	Left	Cracking	10.0	10.0	2011
				Ride	7.9	7.5	

Source: FDOT All System Pavement Condition Forecast, extracted on 02/27/2019.

** General description of limits is based on review of SLD.*

4.2.14 Multimodal Facilities

Several transit activities converge within the limits of the TIS SEIS Project study area. These transit facilities include, or are planned to include, streetcar, bus rapid transit, express buses, local bus routes, park-and-ride lots, and rail transit. Both the Hillsborough Area Regional Transit Authority (HART) and Pinellas Suncoast Transit Authority (PSTA) operate express transit routes that travel along I-275 between SR 60 and Dr. MLK, Jr. Boulevard in the TIS SEIS Project study area (**Figure 4-11**).



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Express Bus Routes within Segments 1A and 2A

Figure 4-11

There are several transit planning studies that have been completed or are currently underway in the region that overlap the TIS SEIS Project study area. The Hillsborough MPO's *Imagine 2040: LRTP* identifies transit emphasis corridors, which include I-4 and I-275, that are major arterials designed and built to give public transit an advantage over the single- occupant vehicle. These transit emphasis corridors will be designed with features to attract transit riders, including exclusive on- and off-ramps for buses and carpools, and park-and-ride lots.

The Hillsborough MPO's *Imagine 2040: LRTP* and the City of Tampa's *Invision Tampa Master Plan* (2015) call for the TECO Line Streetcar system to be modernized and extended north through the downtown core and west to Westshore along the I-275 corridor. In addition, the Tampa International Airport (TIA), FDOT, and TBARTA are working together to evaluate the automated guideway connection from TIA's Consolidated Rental Car Facility (ConRAC), to the proposed Westshore Intermodal Center, 1.3 miles away.

The *Express Bus in Tampa Bay Express Lanes* study, conducted by FDOT and the Hillsborough County MPO (2015), recommends express bus service operating on tolled express lanes and general use lanes from Howard Bridge to I-275/I-4 interchange, with proposed stops in Westshore and Downtown Tampa. TBARTA has included express bus in their list of regional priority projects in their *2015 Regional Transportation Master Plan Update*.

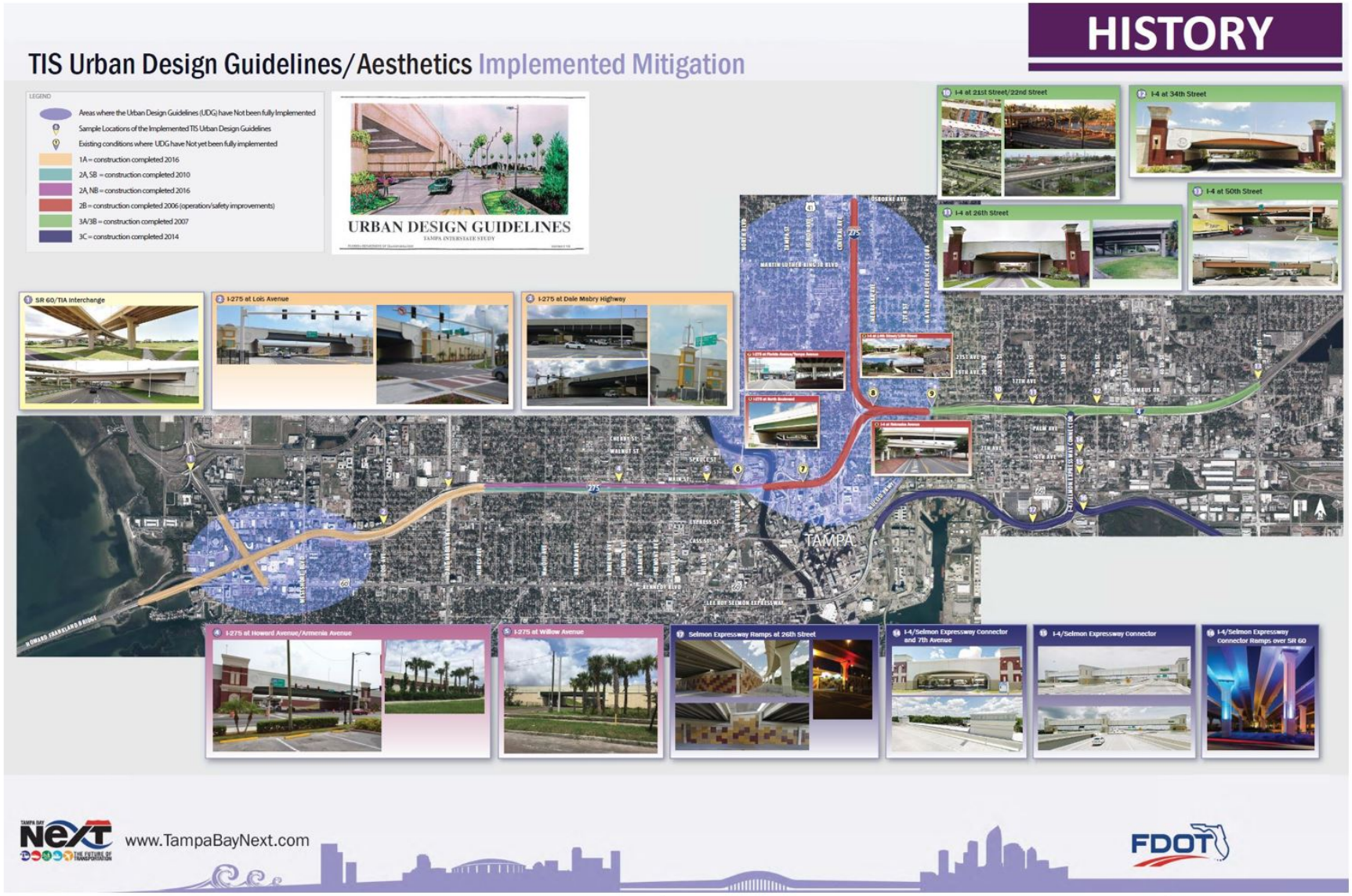
FDOT and HART are also evaluating transit studies previously conducted as part of a Regional Transit Feasibility Plan to identify the transit projects that have the greatest potential to be funded and implemented, make the best use of today's technology, and that serve the region while supporting growth. The study team is looking for complementary mobility options, which include bus rapid transit, light rail, and streetcar, to connect the region. The study has identified the top five performing connections for premium transit, most of which lead to or go through the TIS SEIS Project study area. For the regional transit vision to be successful, any of these top performing connections must be part of a complete network of regional transit services.

I-275 within the study area provides a limited access connection to Tampa International Airport (TIA), which had 16.6 million annual passengers in 2017, six airside terminals, 7,500 employees onsite and more than 81,000 jobs in the community. The 2012 TIA Airport Master Plan – 2016 Addendum outlines three phases of expansion. I-275 also provides important access to numerous freight activity centers located in Hillsborough County. The freight transportation system is a critical component of the regional economy that encompasses the trucking industry, maritime shippers and supportive trades, air cargo providers, freight rail carriers, intermodal terminals, warehousing facilities, and distribution centers. Truck traffic currently ranges from four to six percent of the traffic in the TIS SEIS Project study area.

4.2.15 Aesthetic Features

A set of Urban Design Guidelines (UDG) was developed in 1994 and approved by FHWA in February 1995. These guidelines were included as part of a multi-party Memorandum of Understanding (MOU) approved in 1996 as mitigation for adverse impacts from the original Tampa interstate construction through the neighborhoods located in Tampa, including Westshore Interchange Area. The Urban Design Guidelines were developed as a part of the original TIS in collaboration with the local community. FDOT applies these guidelines to each section of the interstate to achieve a consistent look throughout the downtown Tampa area, in terms of aesthetic treatments and landscaping that match the character of the adjacent community. These guidelines were intended to minimize secondary impacts to land uses adjacent to the system as well as users to the interstate.

The Guidelines address the following 13 design elements: bridge structures, retaining walls and embankments, noise walls, lighting, fencing, sign supports, stormwater management areas, landscaping, pavement and streetscape, opportunities for public art, utilities, mounds and grading, recreation areas and architectural elements. Aesthetic treatments are yet to be fulfilled for Westshore Interchange Area, as shown in **Figure 4-12**.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

TIS Urban Design Guidelines Aesthetics Implementation

Figure 4-12

4.3 Existing Structures

There are 32 existing bridge structures located within the study area, as shown in **Figure 4-13** and summarized in **Table 4-19**. Bridge structure types include conventional bridge with beams or girders, slab bridge, and bridge culvert.

Condition and Year of Construction – The existing bridges were built between 1958 and 2016 with 25 of the 32 bridges reconstructed between 2008 and 2016, as indicated in the table. The sufficiency ratings range from 61 to 100 with most rating in the 80's and 90's. None of the existing bridges are classified as "structurally deficient" by the National Bridge Inspection (NBI) program. Two (2) of the bridges are classified as "functionally obsolete" by NBI primarily due to inadequate shoulder widths.

Historical Significance – None of the existing bridges on I-275 or SR 60 within the study area are known to have any historical significance.

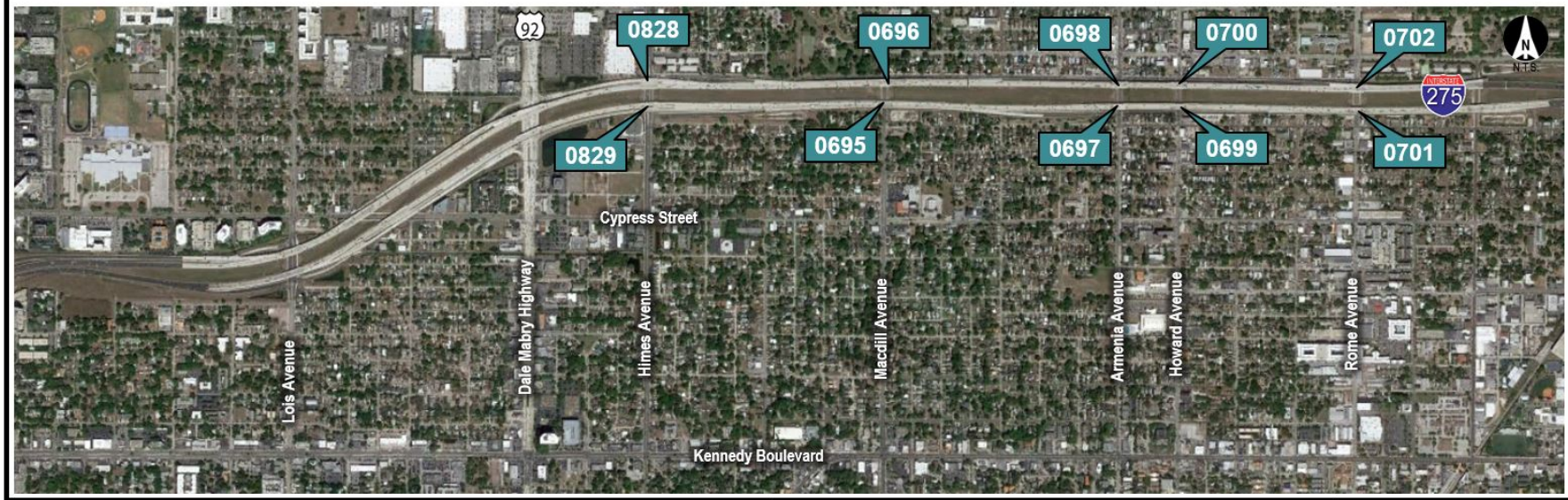
Horizontal and Vertical Alignment and Clearances – Existing bridge typical sections vary from 29 feet to 161 feet wide (including barriers) and carry between 1 to 9 lanes. Vertical clearances of the existing bridges are summarized in **Table 4-19**. The existing clearances range from 14.2 feet to over 20.1 feet. Any clearance less than 16.5 feet is considered substandard. The 2020 FDOT Design Manual requires 16.5 feet vertical clearance for new structures or 16 feet for construction affecting existing bridges. For Resurfacing, Restoration and Rehabilitation (3R) projects, a minimum 14.5 feet clearance is required over collector and arterial roadways and 16 feet is required over limited access facilities.

Span Arrangement – Existing bridges consist of both single span and multi-span configurations.

Channel Data – The only bridges over water are the ones over the Lemon Street Ditch, which crosses SR 60 north of I-275. This ditch is not navigable.

Geotechnical Information – Boring logs and other geotechnical data for specific bridges are available in the bridge plans on file. In addition, general soils data for the study area are summarized in **Chapter 4.2.8**.

Security Issues – No security-related issues have been identified to date. All of the existing bridges are easily accessible by the public.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Bridge Numbers and Locations Key Sheet

Figure 4-13

Table 4-19 Existing Bridges in the Study Area

Description	Direction	Begin Milepoint	End Milepoint	Bridge Number	Year Built	No of Spans	Bridge Length	Vertical Clearance
I-275 (10190000)								
Kennedy Blvd Entrance Flyover to I-275 SB over I-275 NB/SB (10270004)	SB	0.131	0.202	100087	1958	5	375'	15.1'
I-275 NB to SR 60 WB Flyover over I-275 NB/SB (10190009)	NB	0.309	0.398	100295	1976	4	470'	16.2'
I-275 NB/SB over SR 60	NB/SB	2.137	2.169	100115	1962	4	169'	15.0'
I-275 NB/SB over West Shore Blvd	NB/SB	2.605	2.641	100117	1962	4	190'	14.2'
I-275 SB Exit to West Shore Blvd over ramp (10190015)	SB	0.035	0.089	100816	2013	1	285'	17.0'
I-275 NB over Lois Ave	NB	3.244	3.271	100818	2014	1	143'	16.4'
I-275 SB over Lois Ave	SB	3.262	3.290	100817	2014	1	148'	19.8'
I-275 NB Exit to Dale Mabry Hwy over ramp (10190020)	NB	0.040	0.088	100819	2014	1	253'	19.6'
I-275 SB over Cypress St	SB	3.426	3.467	100820	2014	2	217'	16.5'
I-275 NB over Cypress St	NB	3.489	3.528	100821	2015	2	206'	16.9'
Lois Ave Entrance to I-275 NB over Cypress St (10190018)	NB	0.248	0.286	100822	2014	2	201'	17.0'
I-275 NB Exit to Dale Mabry Hwy over Cypress St (10190020)	NB	0.168	0.202	100823	2014	2	180'	17.4'
I-275 SB Exit to Cypress St over ramp (10190019)	SB	0.000	0.060	100824	2013	3	315'	17.9'
I-275 SB over Dale Mabry Hwy	SB	3.845	3.887	100825	2014	2	222'	19.2'
I-275 NB over Dale Mabry Hwy	NB	3.827	3.870	100826	2016	2	227'	16.4'
I-275 SB over Himes Ave	SB	4.101	4.125	100828	2014	1	127'	17.0'
I-275 NB over Himes Ave	NB	4.092	4.123	100829	2013	1	164'	18.3'
I-275 SB over MacDill Ave	SB	4.605	4.625	100696	2014	1	106'	18.7'
I-275 NB over MacDill Ave	NB	4.605	4.625	100695	2009	1	106'	17.8'
I-275 SB over Armenia Ave	SB	5.101	5.129	100698	2014	1	148'	16.7'
I-275 NB over Armenia Ave	NB	5.101	5.129	100697	2008	1	148'	17.2'
I-275 SB over Howard Ave	SB	5.229	5.256	100700	2014	1	143'	18.0'
I-275 NB over Howard Ave	NB	5.229	5.256	100699	2008	1	143'	17.7'
I-275 SB over Rome Ave	SB	5.610	5.636	100702	2014	1	137'	18.5'
I-275 NB over Rome Ave	NB	5.610	5.636	100701	2009	1	137'	18.8'

Source: NBI Reports.

Functionally obsolete bridge

Table 4-19 (Continued) Existing Bridges in the Study Area

Description	Direction	Begin Milepoint	End Milepoint	Bridge Number	Year Built	No of Spans	Bridge Length	Vertical Clearance
SR 60 (10270003)								
I-275 NB to SR 60 WB Flyover over SR 60 EB/WB (10190009)	EB/WB	0.502	0.580	100296	1976	5	412’	15.8’
I-275 NB to SR 60 WB Flyover over Lemon St Ditch (10190009)	WB	0.662	0.677	100709	2009	1	79’	N/A
Airport Exit to I-275 SB over Lemon St Ditch (10270113)	EB	0.635	0.650	100710	2008	1	79’	N/A
SR 60 EB/WB over Lemon St Ditch – Bridge Culvert	EB/WB	0.654	0.659	100294	1976	2	25’	N/A
I-275 NB to SR 60 WB Flyover (10190009)	WB	0.761	0.790	100706	2009	1	153’	18.5’
SR 60 EB/WB over Cypress St	EB/WB	0.546	0.567	100297	1976	3	111’	15.3’
Airport Exit to I-275 SB over Cypress St (10270113)	EB	0.526	0.555	100707	2008	1	153’	20.1’

Source: NBI Reports.

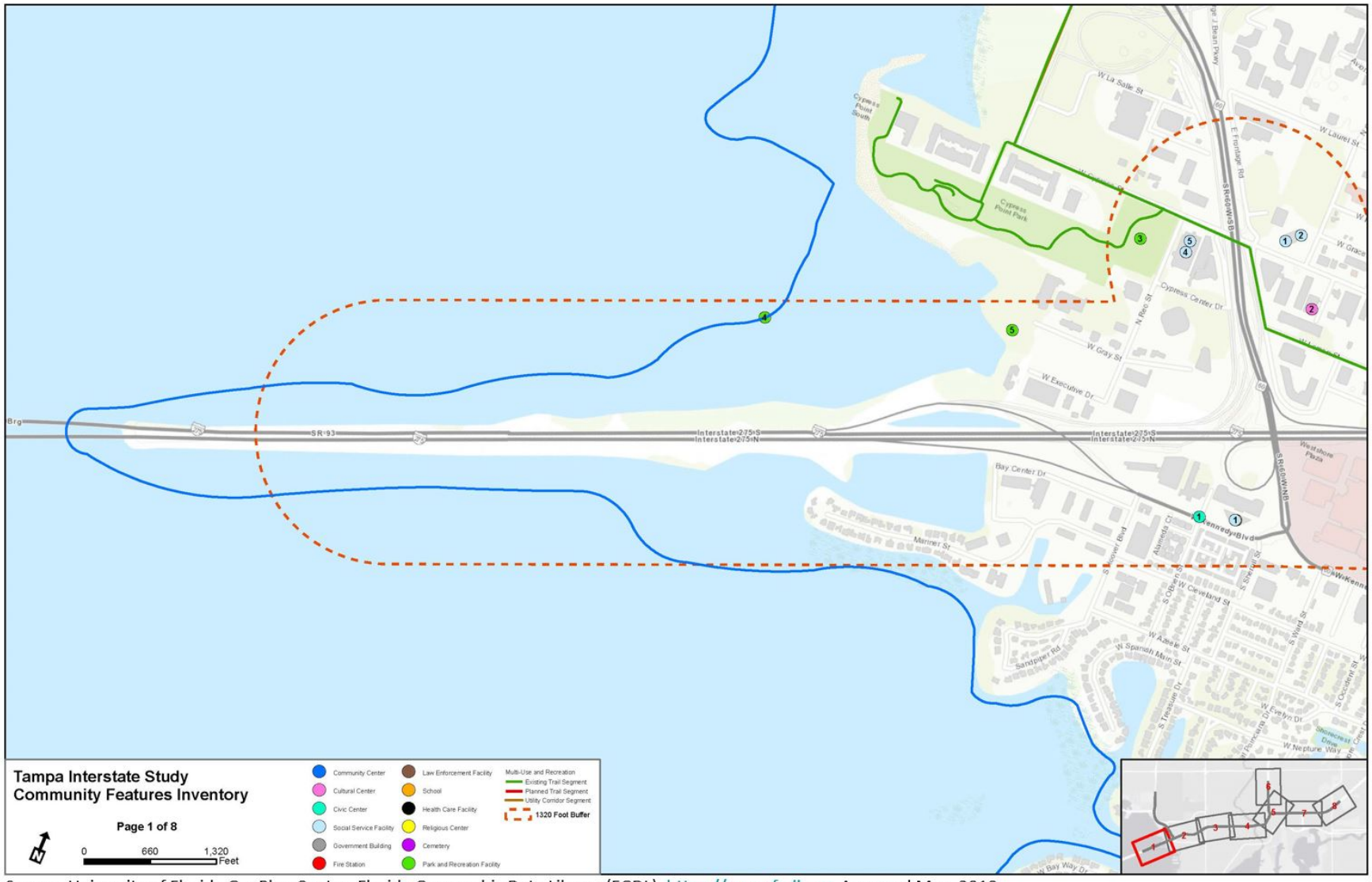
Functionally obsolete bridge

4.4 Environmental Characteristics

Existing environmental characteristics are documented or in the process of being documented in the following reports. The status of the reports are provided below:

- Natural Resource Evaluation Report (completed and concurred with by USFWS and NMFS)
- Cultural Resource Assessment Survey Update Report (completed and concurred with by FHWA and SHPO)
- Section 106 Case Study Report (1st draft currently under development)
- Contamination Screening Evaluation Report (completed)
- Sociocultural Effects Evaluation Report (2nd draft currently under review)
- Conceptual Stage Relocation Plan (will be available after Public Hearing)
- Noise Study Report Contour Study (completed)
- Noise Study Report (will be available at Public Hearing)
- Air Quality Report (currently under development)
- Section 4(f) Parks and Recreational Resources Update Technical Memorandum (currently under review by FHWA)

An Existing Community Features Inventory included in the SCE Report is shown **Figures 4-14a through 4-14d**.

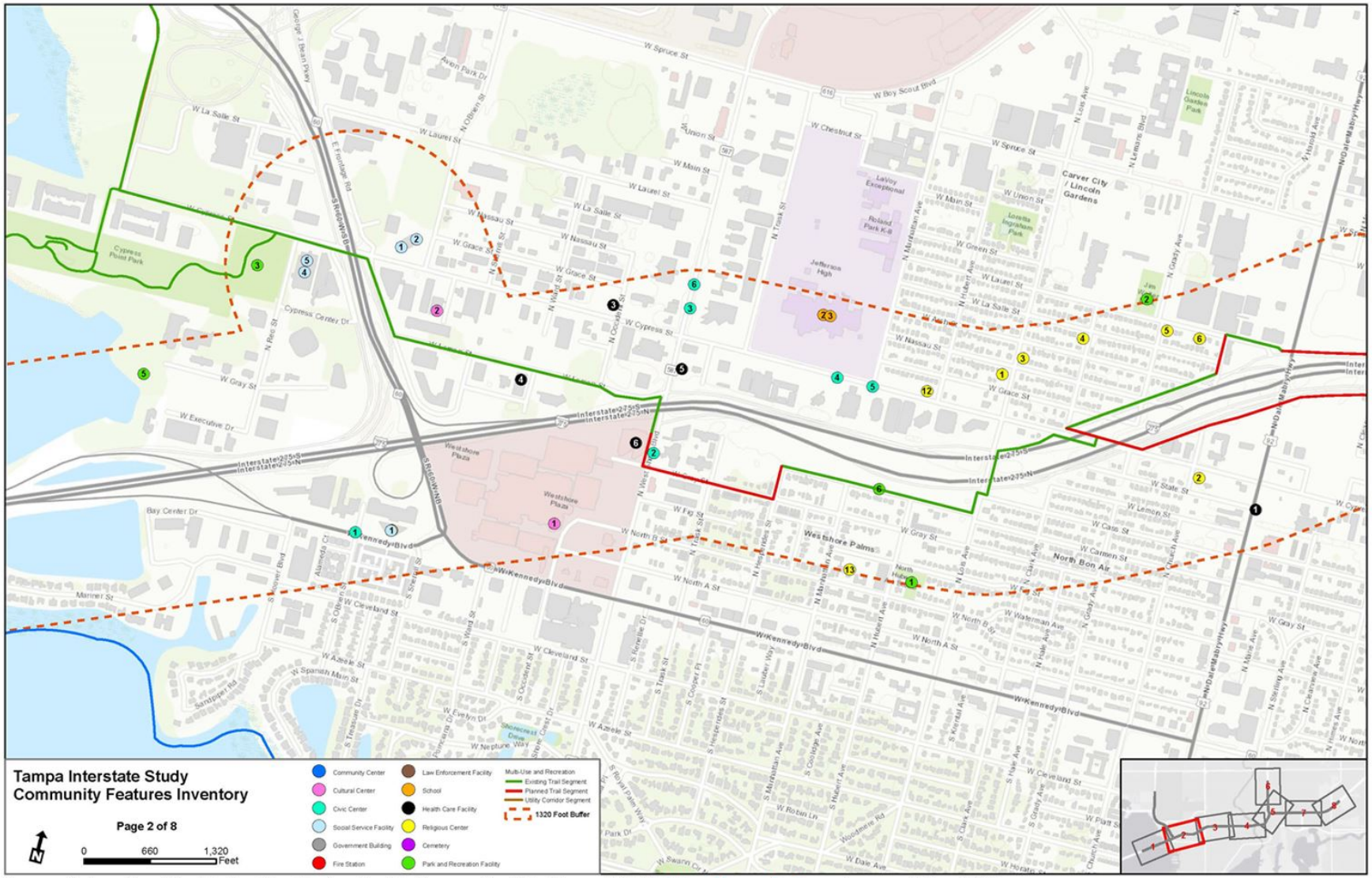


Source: University of Florida GeoPlan Center. Florida Geographic Data Library (FGDL). https://www.fgdl.org. Accessed May, 2018

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Community Features Inventory

Figure 4-14a

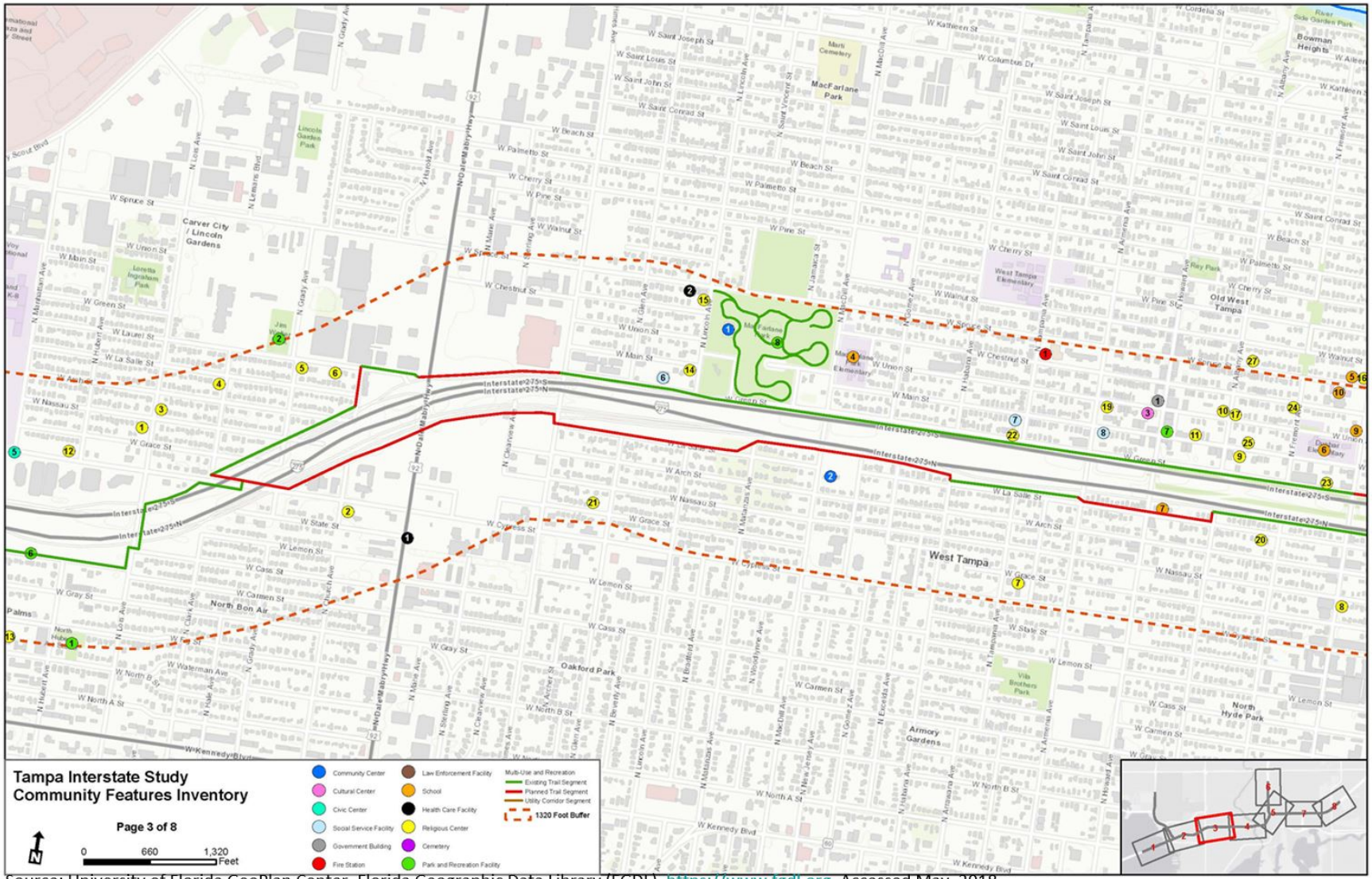


Source: University of Florida GeoPlan Center. Florida Geographic Data Library (FGDL). https://www.fgdl.org. Accessed May, 2018

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Community Features Inventory

Figure 4-14b

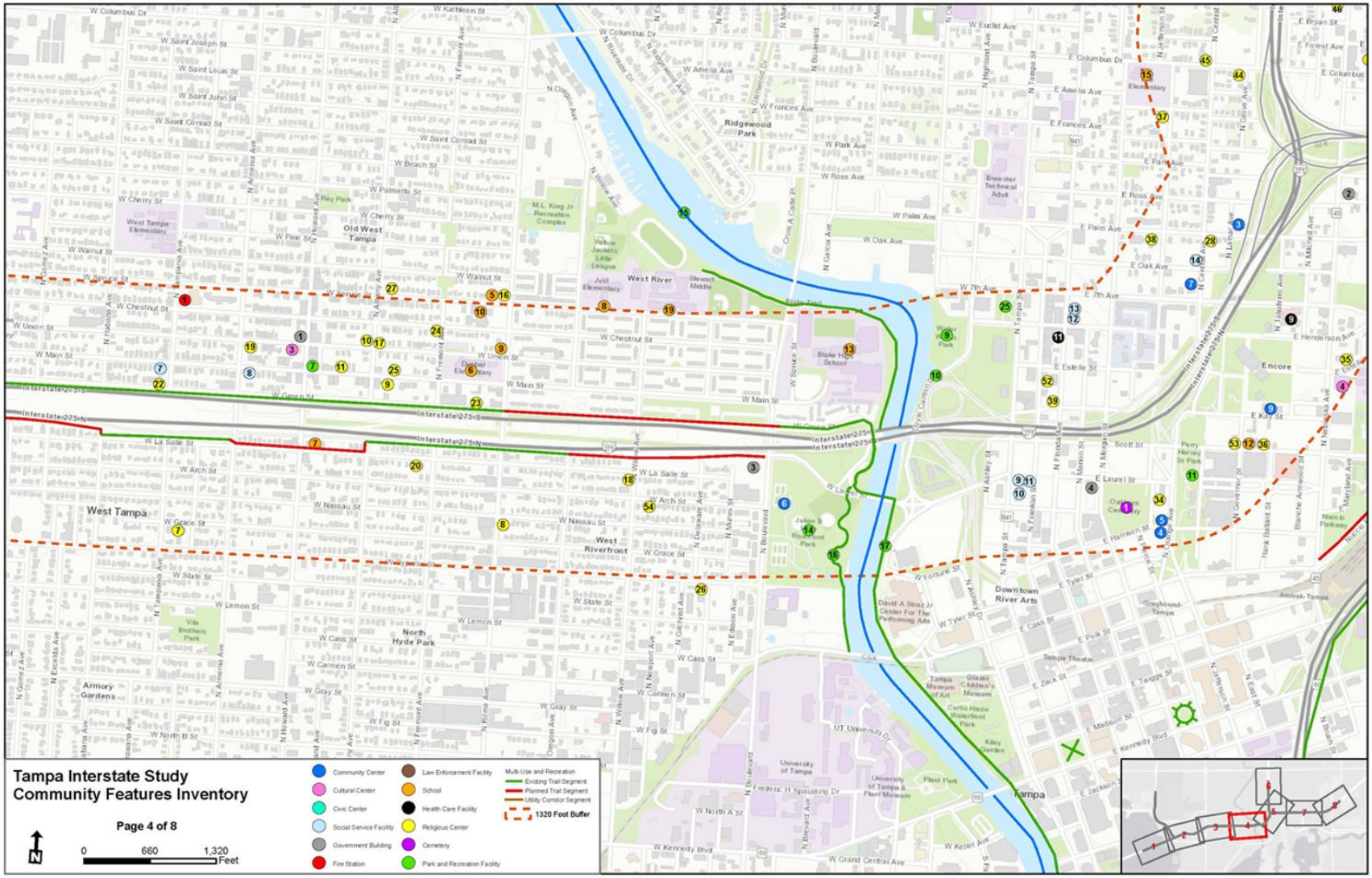


Source: University of Florida GeoPlan Center. Florida Geographic Data Library (FGDL). https://www.fgdl.org. Accessed May, 2018

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Community Features Inventory

Figure 4-14c



Source: University of Florida GeoPlan Center. Florida Geographic Data Library (FGDL). https://www.fgdl.org. Accessed May, 2018

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Existing Community Features Inventory

Figure 4-14d

5 PLANNING PHASE/CORRIDOR ANALYSIS

Early Efforts-The TIS Master Plan

The TIS Project has been under consideration for many years. The Tampa interstate system is the cornerstone of the Tampa Bay Region's surface transportation system, and improvements to the system have been a priority to the State since the 1980's. The proposed improvements to the interstate system are found in the Hillsborough MPO *2035* LRTP (2009) and the *Imagine 2040: Hillsborough Long Range Transportation Plan* (2014). An overall timeline with TIS-related milestones is in **Figure 5-1**.

Figure 5-1 Tampa Interstate Study Milestones

In 1983, FDOT began to identify potential improvements to the Tampa interstate system, which was constructed in the early 1960's. These improvements included potential short-term safety solutions and design changes, and long-term high-occupancy vehicle (HOV) related improvements to accommodate growing traffic volumes and congestion. The 1983 study considered all transportation needs within the TIS study area, including concurrent highway, rail, and/or transit improvements.

Using the 1983 study as a documented base, FDOT began Phase I of the TIS in 1987. The purpose of the Phase I study was to produce a Master Plan to identify alternatives and make recommendations regarding the preferred type and location of multi-lane improvements, potential HOV facilities, transit facilities, traffic

management techniques, and traffic surveillance and control systems. Based on the work performed, FDOT published the *TIS Master Plan Report* in 1989. The Hillsborough County MPO adopted the Tampa Interstate Master Plan Concept into the 2010 LRTP in November 1989.

As part of the Master Plan development, in order to effectively analyze a potentially overwhelming number of alternatives, FDOT used a Tiered Analysis to screen the alternatives and "window down" the vast array of competing designs to the few viable alternatives. Tier 1 used key factors to evaluate the alternatives and eliminate "fatally flawed" concepts. Tier 2 provided a more detailed analysis to quantify and rank the impacts of each of the remaining alternatives. Tier 3 included preparing geometric layouts of all the remaining alternatives and evaluating more stringent standards and detailed analysis. The tiered analysis yielded 30 White Papers, 11 technical reports, 6 Technical Memos and 3 Concept Reports. The tiered analysis evaluated no build, Transportation System Management (TSM) and potentially hundreds of build alternatives. A table summarizing the tiered analysis in included in **Table 5-1.**

The master plan recommended a 4-roadway system with express lanes separated from the general use lanes and an HOV/Transitway in the median. Recommended improvements from the Master Plan are included in **Table 5-2,** and **Figure 5-2** shows a general TIS Master Plan typical section applicable to many areas.

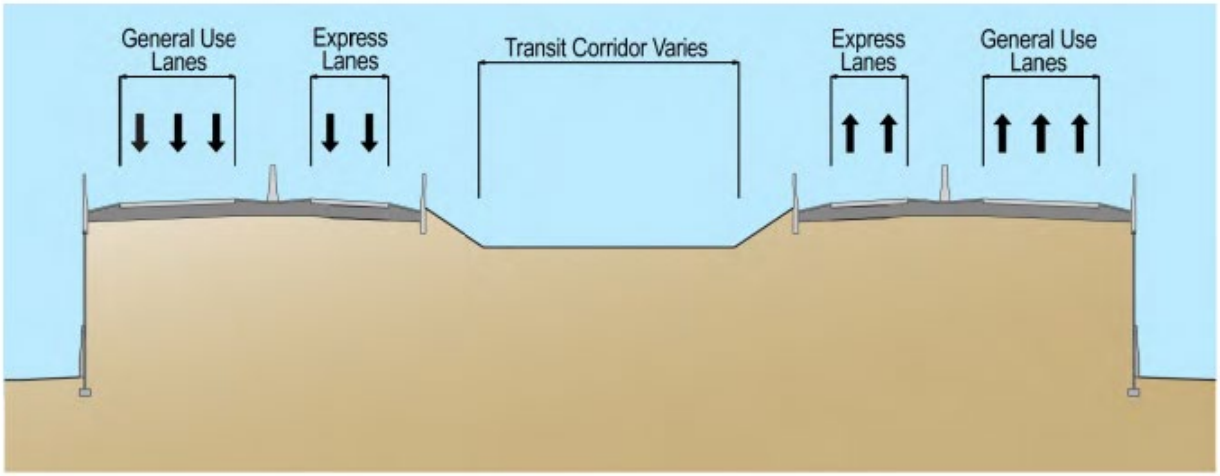
Table 5-1 Tampa Interstate Master Plan Recommendations

TIS Segment	Limits	Length (miles)	Recommended Improvements
1A	I-275 from Howard Frankland Bridge to Himes Ave.	3.8	4-roadway system with express lanes separated from general use lanes; HOV/transitway; wide median for rail platform near Trask Street
2A	I-275 from Himes Ave. to Rome Ave.	1.6	4-roadway system with express lanes separated from general use lanes; HOV/transitway
2B	I-275 from Rome Ave. to Martin Luther King Jr. Blvd. and I-4 from I-275 to 14th St.	3.9	4-roadway system with express lanes separated from general use lanes; HOV/transitway
3A & 3B	I-4 from 14th St. to 50th St.	3.3	4-roadway system with express lanes separated from general use lanes; HOV/transitway; New Interchange at 14th/15th St. with frontage roads to 21st/22nd; new I-4/Selmon Expressway Connector near 30th St. corridor

Source: FDOT 2017

Table 5-2 Summary of TIS Tiered Alternatives Analysis

Alternative Description	Tier 1 Alternatives November 1988	Tier 2 Alternatives February 1989	Tier 3 Viable Alternatives March 1989	Tampa Interstate Study Master Plan November 1989
Westshore - Segment 1A - I-275 Howard Frankland Bridge to E of Himes Ave				
4 Roadway System - 50:1 FAA flight path	Six alternatives with various connector ramp and interchange configurations	Two additional alternatives with HOV/ Transitways having different access ramps and interchanges	Adds HOV/Transitway lanes with HOV priority ramps to/ from Trask St east side and adds interchanges and frontage roads east of Himes	Express lanes and separated local access freeway lanes; HOV/ Transitway lanes within interstate alignment with priority ramps to/from Trask St, direct connection to Northwest Expressway (Veterans Expressway), from Kennedy Blvd and Memorial Hwy and adds interchange to/from Himes Ave with new Sherrill St extension under I-275 and new Lemon St Connector to Westshore Blvd
2 Roadway System - 62.5:1 HCAA flight path	Two alternatives	Transitions to 4-lanes at Lois with HOV/ Transitway lanes from Howard Frankland Bridge east	Two alternatives with HOV lanes beginning at Howard Frankland Bridge with one alternative elevated, no frontage roads east of Himes	Dropped
West Tampa - Segment 2A - I-275 E of Himes to E of Rome Ave				
4 Roadway System with HOV lanes and connector ramps	Three alternatives involving different ramps and frontage roads	Three new alternatives add interchange ramps and transitions to 6-lanes at different locations	Three additional alternatives of which two transition to 2-lanes near MacDill and HOV/ Transitway lanes that are both within I-275 alignment and elevated	Express lanes and separated local access freeway lanes; HOV/ Transitway lanes within interstate alignment new interchange at Himes; split interchange ramps at Howard and Armenia; frontage roads maintained on north side frontage between Himes and Rome Ave; alignment shift to avoid MacFarlane Park
2 Roadway System	One alternative with split interchange at Howard/ Armenia and no frontage roads between Himes and North Blvd	Carried forward	One additional alternative with elevated HOV/ Transitway lanes; split Howard/Armenia interchange and new ramps to/from east of Himes Ave	Dropped
Central Business District - Segment 2B - I-275 East of Rome Ave to North of Buffalo Ave (MLK Blvd)				
2 Roadway System with HOV/ Transitways within I-275 alignment	Not identified this Tier	Not identified this Tier	Adds 2-lane configurations that transition to 4-lanes at North Blvd and back to 2-lanes at Buffalo Ave (MLK Blvd)	Keeps Tier 3 features and at-grade interstate alignment of HOV/Transitway lanes and relocated planned Marion St Transit Parkway North Terminal to south of Scott St
4 Roadway System HOV lanes in middle	Three alternatives involving different ramps and frontage roads	Two additional alternatives that explore interchanges to/from downtown at Ashley/Tampa and Jefferson/Orange streets	Two additional alternatives that explore interchanges and access ramps	Dropped
6 Roadway System no HOV lanes	One alternative without HOV lanes and simplified connections at junction with I-275/I-4	Carried forward	Carried forward	Dropped
Ybor City - Segment 3A and 3B - I-4 E of 14th to E of 50th St				
4 Roadway System Crosstown Connector (I-4/ Selmon Expressway Connector) HOV lanes in middle	Six different alignments to limit right of way and variations on ramp connectors and braided ramps	Two additional variations exploring split interchanges at Columbus/50th St with and without transitions to 2-lanes at 50th and keeping HOV/Transitways within interstate alignment	HOV lanes in interstate alignment; transitions from 4-lanes to 2-lanes at 50th St, adds split interchange at 14th/15th Sts and full interchange at Crosstown Connector (I-4/Selmon Expressway Connector), split interchange at Columbus Dr/50th St and removes I-4 ramps at 21st/22nd and 40th St	Keeps Tier 3 features and adds new directional freeway-to-freeway interchange with Crosstown Expressway Connector (I-4/Selmon Expressway Connector) on I-4 at 30th St
4 Roadway System Split HOV lanes Express lanes on outside	Two alternatives with braided ramps and split HOV lanes west of Crosstown Connector (I-4/Selmon Expressway Connector)	Carried forward	Carried forward	Dropped
4 Roadway System Diamond interchange Access changes	Two alternatives involving changes in access to/from Columbus Drive and 50th St	Carried forward	Carried forward	Dropped



Source: TIS FEIS, 1997.

Figure 5-2 TIS Master Plan Typical Section

EIS, FEIS and Section 4(f) Evaluation

Following completion of the *TIS Master Plan Report*, FHWA, in cooperation with FDOT, began the preparation of an Environmental Impact Statement (EIS) and the supporting documentation necessary for state and federal approvals and subsequent funding of the *TIS Master Plan Report* concepts. The EIS evaluated impacts associated with a Selected Alternative, a LTPA, and a No-Action Alternative, addressed agency and citizen concerns, and identified ways to minimize impacts.

FHWA-FL-EIS-95-03-F
Federal Highway Administration
Region 4

ADMINISTRATIVE ACTION
FINAL
ENVIRONMENTAL IMPACT STATEMENT
SECTION 4(f) EVALUATION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
FLORIDA DEPARTMENT OF TRANSPORTATION

Work Program Number: 7140004
State Project Number: 99007-1402
Federal Aid Project Number: IR-9999(43)
Hillsborough County, Florida

The project consists of approximately 24.1 km (15 miles) of multi-lane improvements to I-275 from the Howard Frankland Bridge / Kennedy Boulevard ramps and just north of Cypress Street on Memorial Highway (S.R. 60) north to Dr. Martin Luther King, Jr. Boulevard and I-4 from I-275 (including interchange) to east of 50th Street (U.S. 41); a multi-lane controlled access facility (Crosstown Connector) on new alignment from I-4 south to the existing Tampa South Crosstown Expressway; and improvements to approximately 7.08 km (4.4 miles) of the Tampa South Crosstown Expressway from the Kennedy Boulevard overpass east to Maydell Drive, Hillsborough County.

SUBMITTED PURSUANT TO 42 U.S.C. 4332 (2)(c) AND 49 U.S.C. 303

11/20/96
Date

Regional Administrator
Federal Highway Administration

For additional information contact:

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or

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Supervisory Transportation Engineer
Federal Highway Administration
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Room 2015
Tallahassee, FL 32301

Telephone: (904) 942-9538

FHWA approved the EIS in November 1996, issued the ROD for the 1996 TIS FEIS in 1997, and an amended ROD in June 1999.

The first ROD signed in 1997 covered the cost reasonable sections of the TIS, while acknowledging the need for a future ROD to cover the additional areas in the preferred long term alternative not covered in that first document. The 1997 ROD covered TIS Segments 3A, 3B, and 3C, as well as portions of 1A and operational improvements to 2B. Concepts plans for the long term preferred alternative is provided in **Appendix D**.

In 1999, FHWA signed the second ROD adding TIS Segment 2A and previous gaps in 1A.

The 1997 and 1999 RODs are the documents that have governed the development of all improvements to I-275 and I-4 providing a roadway system that includes general use lanes and separated express lanes in each direction, as well as a future transit corridor.

Reevaluations

The intent of the FHWA and the FDOT is to ultimately construct the Long-Term Preferred Alternative as projects are identified in the Hillsborough County MPO LRTP and as funding becomes available. Since issuance of the 1997 and 1999 RODs, FDOT has taken several major steps to advance the Project to full implementation. The TIS Project has been reevaluated several times to advance various elements of the project, many of which FDOT has already constructed including portions of Segment 1A, Segment 2A, Segment 3A, Segment 3B, and Segment 3C. Previous TIS reevaluations are listed in **Table 5-3**. A summary of previous *design change* reevaluations is included in **Figure 5-3**. All of the earlier TIS-related documents are available for downloading on the project's website: http://tampainterstatestudy.com/project-documents/.

The TBX Master Plan

In January 2015, FDOT published the *Tampa Bay Express Draft Master Plan* report. The purpose of this plan was to evaluate the use of express lanes within interstate corridors in the Tampa Bay Region to achieve two primary objectives: provide drivers with a new mobility choice and improve regional mobility by reducing congestion on the Tampa Bay Region interstate system.

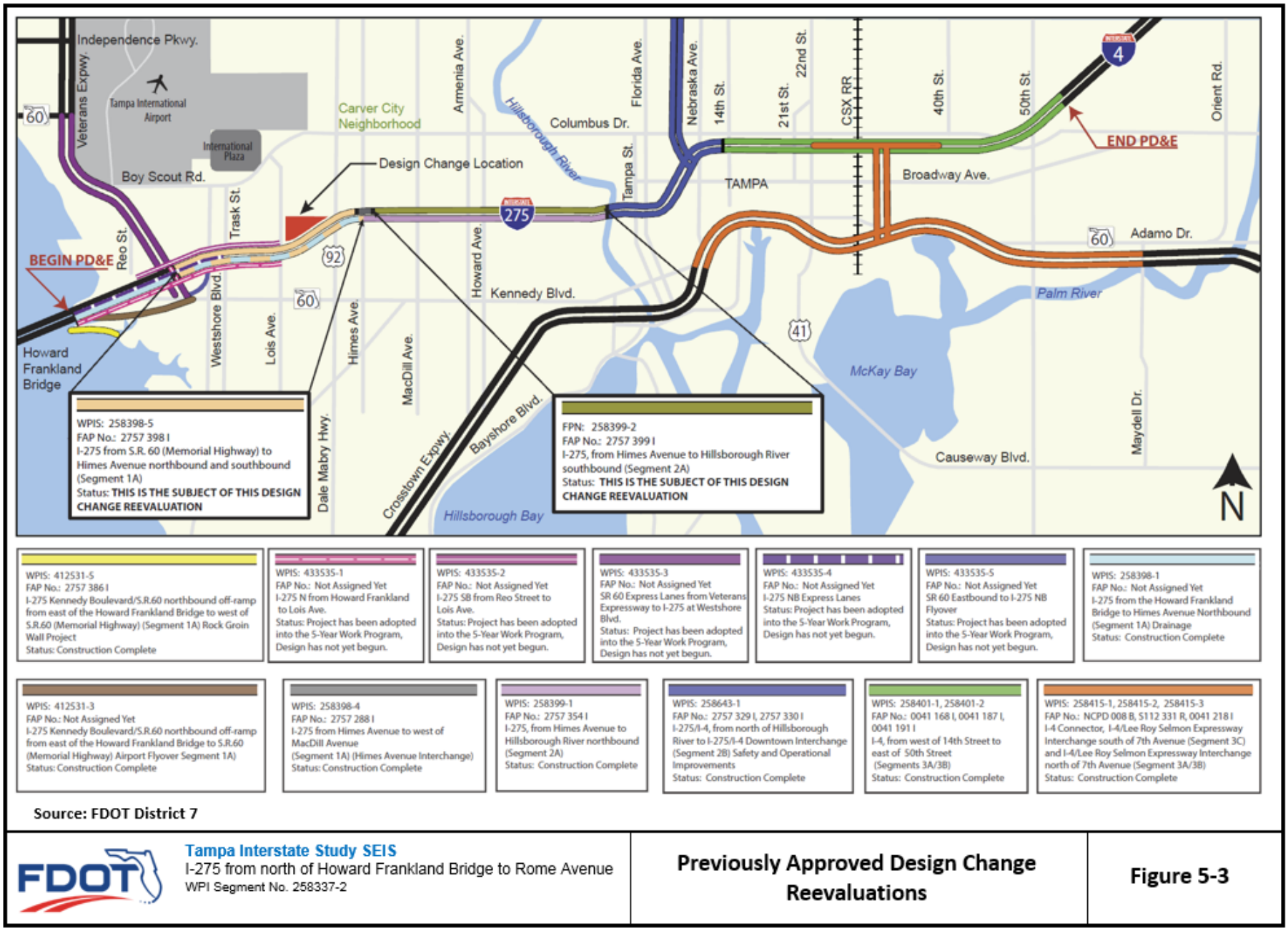
According to the report, multiple statewide and regional transportation plans and studies had identified the need for interstate system improvements. Solutions identified included express lanes that are managed in response to changing conditions using accessibility, vehicle eligibility, and dynamic pricing. The TIS FEIS Approved Alternative provided for a roadway system that included general use lanes, separated express lanes, and a dedicated transit envelope.

Eighteen segments of I-275, I-4, and I-75 were analyzed by comparing 2012 traffic volumes with 2040 traffic projections developed from the regional traffic model. Seven of the 18 segments required two additional interstate lanes immediately in order to provide an acceptable FDOT Level of Service (LOS) of D. Four of these seven segments were already operating at LOS F, the worst level for mobility from a driver's perspective:

- I-275 from the HFB into Tampa
- I-275 north of Tampa
- I-4 from Tampa to the Polk County Parkway, and
- I-75 north of U.S. Highway 301 (US 301)

Table 5-3 Previous TIS Reevaluations

FPN #	Project Limits and Reevaluation Purpose	Date
258399-1	I-275 from Himes Ave to the Hillsborough River – ROW Reeval	5-Jan-00
258401-1	I-4 from W of 14th St. to E of 50th St. – ROW Reeval	5-Jan-00
258402-1	I-4 from W of 14th St. to E of 50th St. – ROW Reeval	5-Jan-00
258643-1	I-275/I-4 from N of Hillsborough River to Downtown – ROW Reeval	5-Jan-00
258643-1	I-275/I-4 from N of Hillsborough River to Downtown – Construction Reeval	26-Jun-01
258401-1	I-4 Eastbound from 14th Street to east of 50th Street – Construction Reeval	26-Jun-01
258402-1	I-4 Westbound from 14th Street to east of 50th Street – ROW Reeval	26-Jun-01
258398-1	I-275 from HFB to Himes Ave. – ROW Reeval	11-Jun-02
258399-1	I-275 from Himes Ave to the Hillsborough River – ROW Reeval	11-Jun-02
258401-1	I-4 Eastbound from 14th St. to E of 50th St. – Construction Reeval	11-Jun-02
258401-1	I-4 Eastbound from 14th St. to E of 50th St. – Construction Reeval	16-Jan-03
258398 1	I-275 from HFB to Himes Ave – Construction Reeval	24-Jan-06
258398 2	I-275 from Himes Ave to Hillsborough River – Construction Reeval	24-Jan-06
258399 1	I-275 from Himes Ave to Hillsborough River – Construction Reeval (For Drainage)	24-Jan-06
412531-3	I-275 NB Exit Ramp to SR 60 - – Construction Reeval	13-Nov-08
258415-1	I-4 Connector from Lee Roy Selmon Expressway to 7th Avenue – Construction Reeval	13-Nov-08
258415-2	I-4 Connector from 7th Avenue to I-4 – Construction Reeval	13-Nov-08
258415-3	I-4 Connector (Z-Movement) – Construction Reeval	13-Nov-08
258398-5	I-275 from SR 60 to Himes Avenue (Segment 2A) – Construction Reeval	19-Nov-09
258399-2	I-275 from Himes Ave to Hillsborough River (Segment 1A) – Construction Reeval	19-Nov-09
258398-5	I-275 from SR 60 to Himes Avenue (Segment 2A) – Design Change (For Noise Walla)	17-Oct-13
258399-2	I-275 from Himes Avenue to Hillsborough River (Segment 1A) – Design Change (For Removal of Noise Walls)	20-Feb-15



Source: FDOT District 7

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

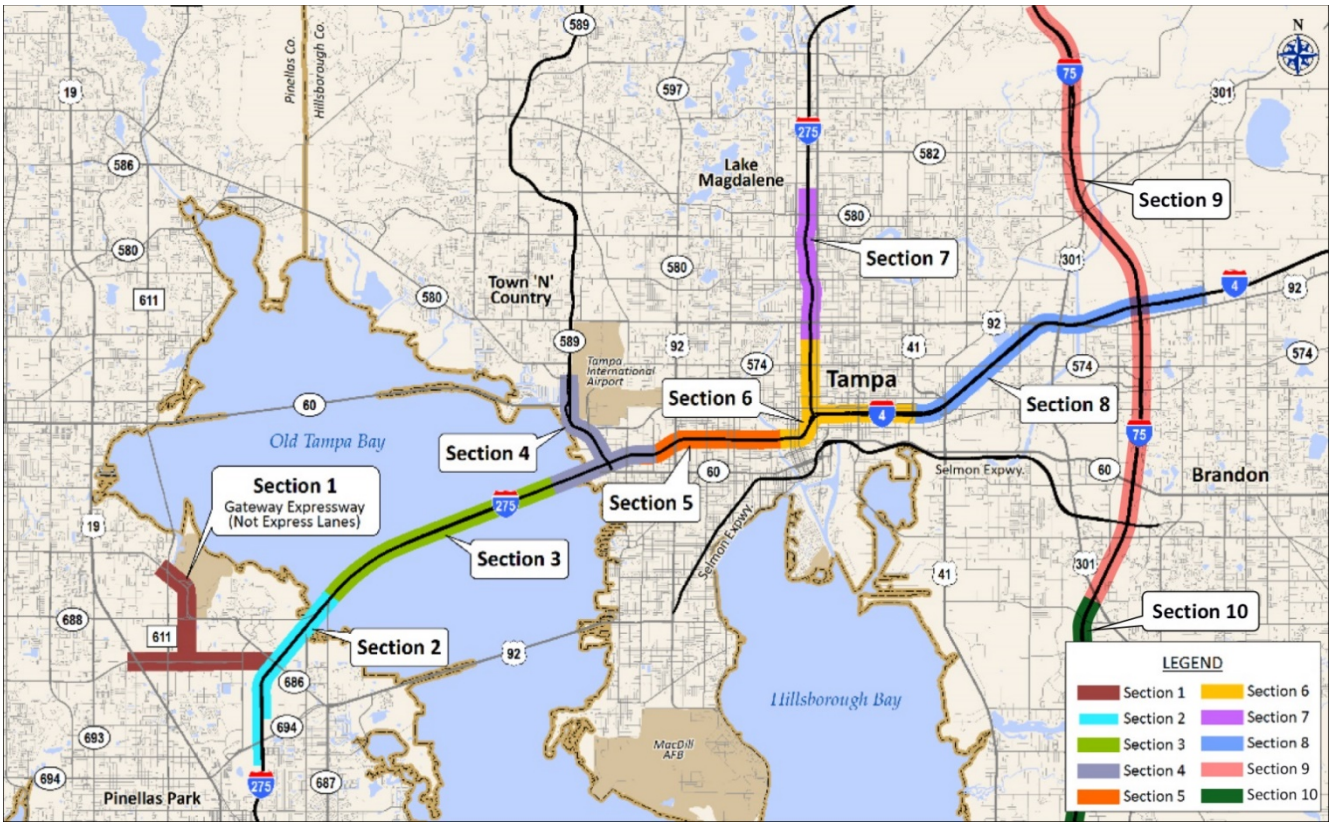
Previously Approved Design Change Reevaluations

Figure 5-3

Based on the needs assessment, the limits for the TBX Master Plan were defined as: I-275 from south of Gandy Boulevard to Bearss Avenue; I-4 from the I-4/I-275 junction to Polk Parkway; and I-75 from south of State Road 674 (SR 674) to Bruce B. Downs Boulevard. Within the I-275, I-4, and I-75 corridors, nine TBX segments were identified based on the needs assessment as potential express lane projects, as listed below and shown in **Figure 5-4**.

- Gateway
- I-275 from Gandy Boulevard to HFB
- HFB
- I-275 from HFB to West Shore Boulevard
- I-275 from West Shore Boulevard to DTI
- I-275/I-4 DTI
- I-275 from DTI to Bearss Avenue
- I-4 from Selmon Expressway Connector to Polk Parkway
- I-75 from US 301 to Bruce B. Downs Boulevard

For each of the candidate projects, the Master Plan included typical sections, stakeholders, access points, challenges, details on the project environment, and cost estimates.



Source: FDOT Tampa Bay Express Planning Level Traffic and Revenue Study, February 2017; modified 3/26/19.

Figure 5-4 TBX Projects Map

The TBX Master Plan Projects were subdivided into seven Starter Projects, or projects that could have been implemented in the next 3-5 years, with more consideration given to those projects that are within the previously approved TIS study limits. There were five Starter Projects within the limits of the TBX Master Plan for the I-275 corridor and one each within the limits of the I-4 and I-75 corridors. The report provided details on the typical section, interchanges, express lane access points, and forecast traffic for each Starter Project as well as a preliminary cost estimate. For the TBX Master Plan segments, the planned express lane projects were separated into Starter (or Interim) and Master Plan (or Ultimate) projects. The Starter Projects included these five segments of I-275 and one segment each of I-4 and I-75. The master plan also included an extensive, comprehensive public involvement program.

Supplemental EIS (SEIS)

After coordinating with the FHWA, a *Notice of Intent* (NOI) was published on January 17, 2017, to prepare a *Supplemental Environmental Impact Statement/Section 4(f) Evaluation,* which would evaluate new significant environmental impacts since the November 1996 approval of the TIS FEIS/Section 4(f) Evaluation. According to the NOI, the FDOT planned to evaluate changes in environmental impacts, new information and circumstances relevant to the proposed project and changes to preliminary engineering identified since FEIS approval. A SEIS was to be prepared because FHWA determined that the changes result in significant impacts to the human and natural environment that were not evaluated in the FEIS. The SEIS was expected to examine:

- New impacts to the human, natural and physical environment.
- Adding overpasses at several locations along I–275 to improve local street access under I–275 to better connect the communities of Tampa Heights and VM Ybor.
- Tolling the Express Lanes of the Project's improvements along I–275 and I–4.
- Changes in express lane access to local streets in the Tampa downtown area, to the I–4/Selmon Expressway Connector, and various locations from the general use lanes on I–275 and I–4.

The NOI stated that alternatives under consideration include: (1) Taking no further action; (2) the improvements shown in the Long Term Preferred Alternative (LTPA) in the approved FEIS, and (3) alteration of the LTPA to collect tolls for the express lanes, add more connectivity between the express lanes and the general use lanes, add express lane access to the local street network in downtown Tampa, and alter lane configuration slightly for improved future traffic operations. The NOI also listed opportunities for public input and public availability of documents.

As part of the SEIS process, FDOT has been managing a series of independently facilitated "Community Working Groups" that consist of residents, business organizations and local agencies throughout the region. The purpose was to start a broader conversation about regional transportation and open a two-way dialogue with the community. Ongoing public involvement activities will be documented in the project's *Comments and Coordination Report*.

6 DESIGN CONTROLS AND CRITERIA

Design criteria for the LPA will follow the latest edition of the FDOT Design Manual (FDM). The FDM includes criteria for express lanes which will be utilized for this project. In general, reconstruction areas will utilize a 60 – 70 mph design speed wherever feasible. All design elements not meeting FDM and AASHTO requirements will require a design variation or exception.

Design Exceptions are required when proposed design elements are below both the Department's governing criteria and AASHTO's new construction criteria for the Controlling Design Elements. The 10 Controlling Design Elements for high speed (Design Speed ≥ 50 mph) roadways are:

1. Design Speed
2. Lane Width
3. Shoulder Width
4. Horizontal Curve Radius
5. Superelevation Rate
6. Stopping Sight Distance
7. Maximum Grade
8. Cross Slope
9. Vertical Clearance
10. Design Loading Structural Capacity

Design Variations are required when proposed design elements are below the Department's criteria and where a Design Exception is not required.

General interstate design criteria applicable to the proposed improvements are included in **Table 6-1**, based on the 2020 FDM.

Table 6-1 General Interstate Design Criteria

DESIGN ELEMENT	DESIGN CRITERIA	REFERENCE
General Controls		
Functional Classification	Urban Principal Arterial Interstate	FDOT Straight Line Diagram
Posted Speed	Varies	N/A
Design Speed	50 – 70 mph; 60 mph minimum for SIS	FDM 201.4.1
Design Vehicle	WB-62FL	FDM 201.5.2
Design Period	20 yrs	
Number of Through Lanes	Varies by Location	
Cross Section Data		
Lane Widths	12 FT (Travel and Aux. Lane) 15 FT (One Lane Ramp) 24 FT (Two Lane Ramp)	FDM Section 211.2 FDM Section 211.2.1
Median Width	26 FT with Barrier	FDM Table 211.3.1
Inside Shoulder Width w/o Shoulder Gutter	12 FT (10 FT Paved) 3-Lane Travel Lanes 12 Ft (12 FT Paved) 2-Lane Express Lanes 6 FT (2 FT Paved) 1 Lane Ramp 8 FT (4 FT Paved) 2 Lane Ramp 8 FT (4 FT Paved) Aux Lane	FDM Table 211.4.1
Outside Shoulder Width w/o Shoulder Gutter	12 FT (10 FT Paved) 3-Lane Travel Lanes 12 Ft (12 FT Paved) 2-Lane Express Lanes 6 FT (4 FT Paved) 1-Lane Ramp 12 FT (10 FT Paved) 2-Lane Ramp 12 FT (10 FT Paved) Aux Lane	FDM Table 211.4.1
Outside Shoulder Width with Shoulder Gutter	15.5 FT (8 FT Paved) 3-Lane Travel Lanes 13.5 Ft (10 FT Paved) 2-Lane Express Lanes 11.5 FT (4 FT Paved) 1-Lane Ramp 15.5 FT (8 FT Paved) 2-Lane Ramp 15.5 FT (8 FT Paved) Aux Lane	FDM Table 211.4.1
Shoulder Width- Bridge (inside & outside)	10 FT	FDM Figure 260.1.1
Clear Zone	36 FT (Travel Lane and Multi Lane Ramp) 24 FT (Aux. Lane and One Lane Ramp)	FDM Table 215.2.1
Border Width - Limited Access Facilities	94 FT Min.	FDM Section 211.6
Cross Slopes (travel lanes)	0.02 FT/FT (Inside Lanes) 0.03 FT/FT (Outside Lane)	FDM Figure 211.2.1
Cross Slopes (shoulders)	0.05 FT/FT (Median) 0.06 FT/FT (Outside)	FDM Section 211.4.2
Front Slope	1:6	FDM Table 215.2.3
Back Slope	1:4 or 1:3 with a Std. Trapezoidal Ditch and 1:6 Front Slope	FDM Table 215.2.3
Maximum Algebraic Difference in Cross Slope at Turning Roadway Terminal	5.0%	FDM Table 211.2.2
Limit of Friction Course on Paved Shoulder	8 IN	FDM Section 211.4.3

Table 6-1 (Continued) General Interstate Design Criteria

DESIGN ELEMENT	DESIGN CRITERIA	REFERENCE
Max change in cross slope between adjacent through lanes	0.04	FDM Section 211.2.2
Vertical Geometry		
Minimum Lengths of Crest Vertical Curves	1000 FT, 1800 FT within interchange	FDM Table 211.9.3
Minimum Lengths of Sag Vertical Curves	800 FT	FDM Table 211.9.3
Minimum "K" Value (Crest) New Construction	506 (70 mph) 313 (60 mph)	FDM Table 211.9.2
Minimum "K" Value (Sag) New Construction	206 (70 mph) 157 (60 mph)	FDM Table 211.9.2
Stopping Sight Distance	820 FT (2% grade or less) 70 mph 780 FT (3% upgrade) 70 mph 861 FT (3% downgrade) 70 mph 645 FT (2% grade or less) 60 mph 613 FT (3% upgrade) 60 mph 673 FT (3% downgrade) 60 mph	FDM Table 211.10.1
Mainline Clearance for Base Above Base Clearance Water Elevation	3 FT	FDM Section 210.10.3 (2)
Ramp Clearance for Base Above Base Clearance Water Elevation	2 FT	FDM Section 210.10.3 (2)(a)
Maximum Profile Grades	3% (Flat) 4% (Rolling)	FDM Table 211.9.1
Maximum Change in Grade Without a Vertical Curve	0.2% (70 mph) 0.4% (60 mph)	FDM Table 210.10.2
Vertical Clearance for Bridges	16'-6" (New Construction)	FDM Table 260.6.1
Horizontal Geometry		
Maximum Deflection Without Curve (DMS)	0° 45' 00"	FDM Section 211.7.1
Length of Horizontal Curves	2100 FT (70 mph); 1800 FT (60 mph) 1050 FT (70 mph); 900 FT (60 mph) min	FDM Table 211.7.1
Maximum Curvature of Horizontal Curves (using Normal Cross Slope)	0° 15' 00"	FDM Table 210.9.1
Superelevation Transition	80% tangent, 20% curve	FDM Section 210.9.1
Superelevation Transition Rate	1:200 (3-Lanes in one direction) 1:190 (≥ 4-Lanes in one direction) 0.5% Longitudinal Slope (Min)	FDM Table 210.9.3 FDM Section 210.9.1
e (max)	0.10	FDM Section 211.8
Desirable Radius of Curve (N.C.)	22,918 FT	FDM Table 210.9.1

Table 6-1 (Continued) General Interstate Design Criteria

DESIGN ELEMENT	DESIGN CRITERIA	REFERENCE
Minimum Radius of Curve (R.C.)	11,459 FT	FDM Table 210.9.1
Horizontal Clearance for Traffic Control Signs	Per Design Standards	FDM Table 215.2.2
Horizontal Clearance for Light Poles	20 FT (Min) from the travel lane (Overhead Lighting) 14 FT (Min) from an Aux lane (Overhead Lighting) Located outside the CZ unless shielded (High Mast Lighting)	FDM Table 215.2.2
Horizontal Clearance for Aboveground Fixed Utilities	Located outside of the clear zone and as close to the ROW as possible	FDM Table 215.2.2 and FDM Section 215.2.8
Horizontal Clearance to Traffic Infraction Detectors, Signal Poles and Controller Cabinets for Signals	Located outside of the clear zone	FDM Table 215.2.2
Horizontal Clearance to Trees	Located outside of the clear zone	FDM Table 215.2.2
Horizontal Clearance to Bridge Piers and Abutments	Located outside of the clear zone	FDM Table 215.2.2
Horizontal Clearance to Railroad Grade Crossing Traffic Control Device	Per Design Standards	FDM Table 215.2.2
Horizontal Clearance to Canal and Drop-off Hazards	60 FT (canal-from travel lane) 36 FT (drop off-from travel lane unless shielded)	FDM Section 215.3
Horizontal Clearance to Other Roadside Obstacles	Located outside of the clear zone	FDM Table 215.2.2
Horizontal Clearance for ITS Poles and Related Items	Located outside of the clear zone	FDM Table 215.2.2

Legend: FDM=FDOT Design Manual (2020)

7 TRAFFIC DATA

The information in this chapter has been extracted from the Project Traffic Analysis Report (PTAR) prepared for the TIS SEIS, dated November 2019.

7.1 Existing Traffic Volumes and Traffic Characteristics

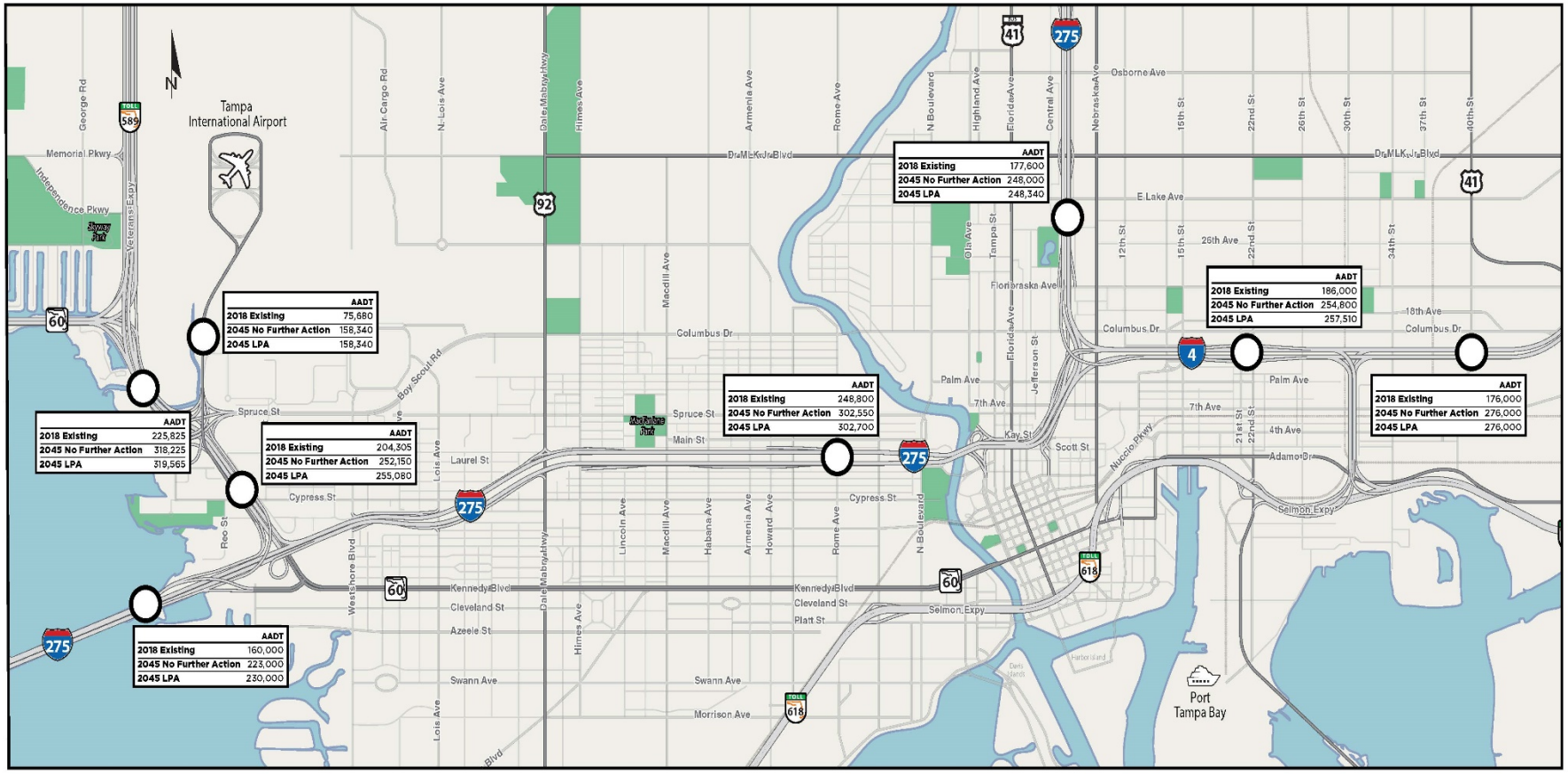
The existing year 2018 volumes were developed using the following:

- Obtained traffic volume information from I-275 Operational Improvements "Punch Through" project
- Expanded the project study from Himes Avenue with the above project to cover the entire TIS SEIS study area limits and obtained new traffic counts
- Applied the seasonal and axle correction factors to the recent counts and developed peak hour and daily volumes
- Developed AM and PM peak hour and daily annual average daily traffic (AADT) volumes for Existing Year (2018) conditions and balanced them across the study area, and
- Developed traffic volume diagrams and utilized the volumes for existing conditions calibration

The factors developed for this study are summarized in the TIS SEIS PTAR, November 2019. Please refer to this document for the assumption and methodology used to develop these factors.

The 2018 Existing Demand Directional Design Hourly Volumes (DDHVs) for the study area are shown in **Appendix E**. A simplified existing mainline AADT figure is included in **Figure 7-1**.

Annual Average Daily Traffic (AADT)



LPA = Locally Preferred Alternative Recommended to the Federal Highway Administration (FHWA)
Annual Average Daily Traffic (AADT) is the total volume of vehicle traffic for a year divided by 365
AADT is greater for the the LPA as it provides greater capacity on the interstate
The 2045 volumes are based on the regional travel model that takes into account the future development patterns that are adopted by the Cities, Counties, and Metropolitan Planning Organization

Source: TIS SEIS PTAR, November 2019

WPI SEGMENT NUMBER 258337-2 FEBRUARY 202

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Year 2018 and Future No-Build AADTs

Figure 7-1

7.2 Existing Traffic Conditions

The study area that was adopted for microsimulation modeling is comprised of 18 interchanges and 69 signalized intersections. The study limits were extended to incorporate the adjacent signalized intersections along the arterial on each side of the interchange ramp terminals. The existing conditions simulation models yielded the following results:

- Travelers experience heavier congestion during the PM peak hour compared to the AM peak hour
- I-275 northbound experiences higher delays compared to I-275 southbound during both AM and PM peak hours
- I-275 northbound, south of SR 60, was observed to be a critical bottleneck segment for both AM and PM peak hours, leading to higher delays due to high exiting traffic volumes to SR 60 off-ramp and due to vehicle slowdowns on SR 60 northbound off-ramp curve. In addition, heavy congestion is experienced during the PM peak hour along I-275 northbound, north of SR 60, primarily due to the downstream congestion. The traffic queues from I-275 and I-4 merge extend beyond West Shore Boulevard interchange.
- Overall, traffic delays for the I-4 westbound segment were higher than the I-4 eastbound segment during both the AM and PM peak hours. In the I-4 westbound segment, average traffic flow speeds were slower during the AM peak hour than during the PM peak hour.
- Critical bottleneck leading to congestion was experienced on the I-4 westbound segment from the Selmon Expressway Connector to the I-4 off-ramp to I-275 southbound caused by high exiting traffic volumes and vehicle slowdown on the off-ramp curve.

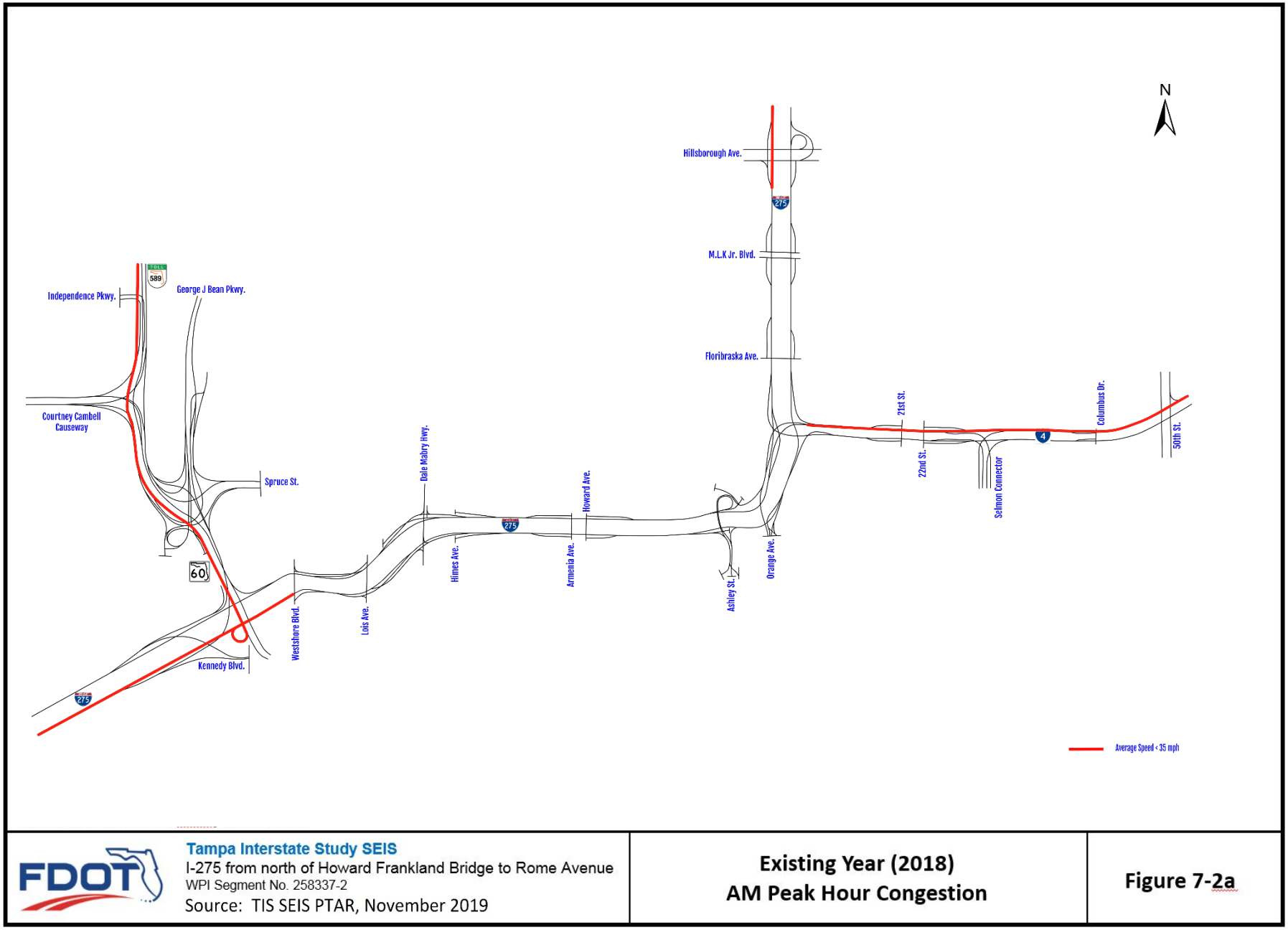
Existing areas of congestion (2018) are illustrated in **Figure 7-2 a and b.**

7.3 Assumptions and Methodology for Future Traffic Projections

The proposed improvements would involve the reconstruction/widening of I-275 from north (east) of the HFB to north of SR 574 MLK Jr. Boulevard, and I-4 from I-275 to east of 50th Street As part of the Build Alternative, four design options are being evaluated along with the No Further Action Alternative. Please note the breakdown of the following alternatives by TIS SEIS segments:

Segments 1A and 2A	Segments 2B, 3A, and 3B
No Further Action Alternative	No Further Action Alternative
Build Alternative	Build Alternatives A, B, C, D, and E

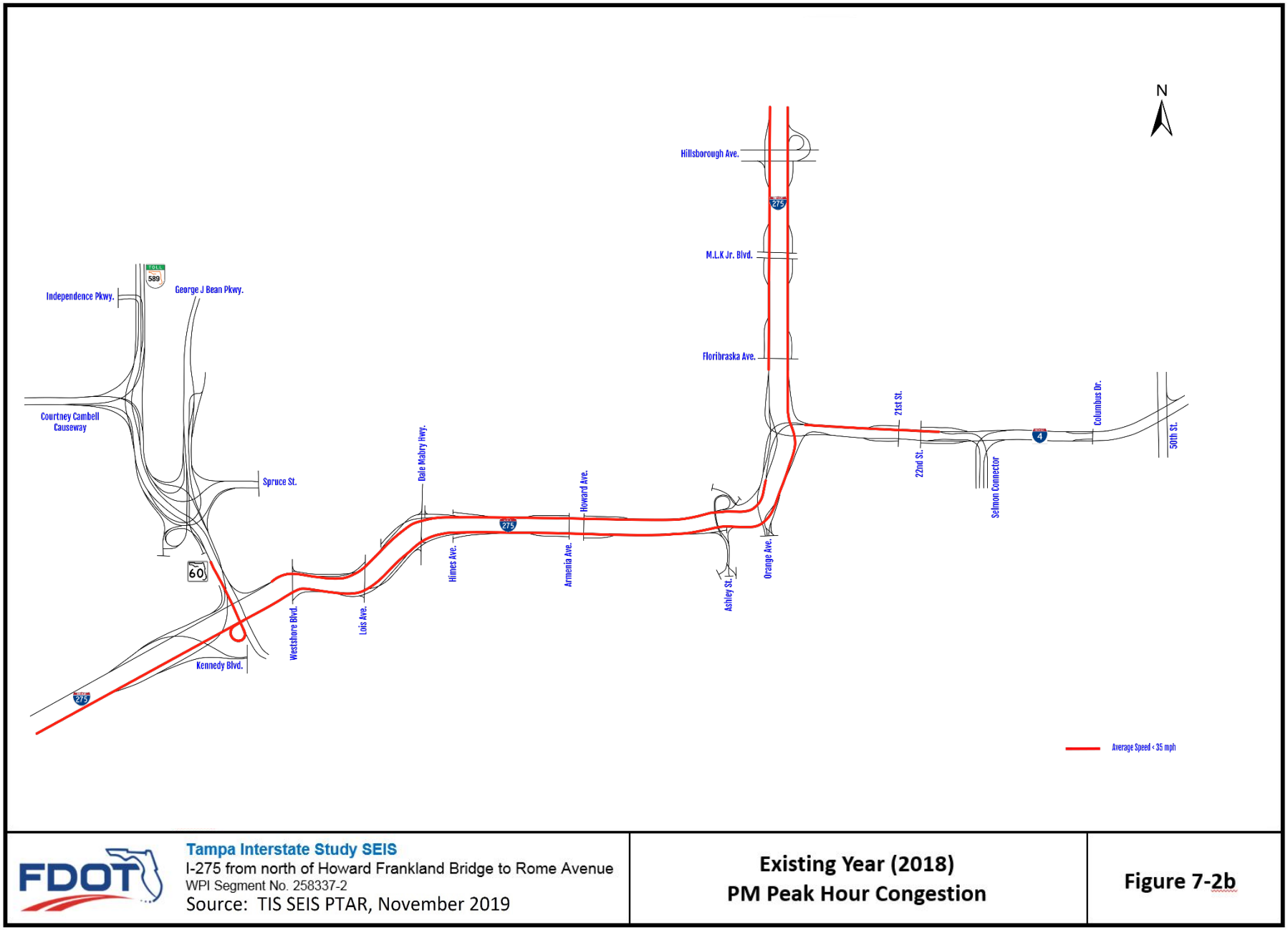
Year 2040 cost-feasible (CF) model socio-economic data was extrapolated to the 2045 design year to develop the 2045 No Further Action and Build models and was adjusted to include development that is currently under construction and not accounted for in the socio-economic data. The Build Alternative model includes all the projects proposed with the TIS Segments. For more detailed information regarding the traffic forecasting using the models for the No Further Action Alternative and Build Alternatives please refer to the TIS SEIS PTAR.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2
Source: TIS SEIS PTAR, November 2019

Existing Year (2018)
AM Peak Hour Congestion

Figure 7-2a



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2
Source: TIS SEIS PTAR, November 2019

Existing Year (2018)
PM Peak Hour Congestion

Figure 7-2b

7.4 Future Traffic Projections

Appendix E includes the year 2045 Design year DDHVs for the No Further Action, Build Alternative Design Options A, B, C, D, and E. A simplified summary of the Year 2045 mainline AADTs is included in **Figure 7-1**.

7.5 Design Year (2045) Traffic Measures of Effectiveness

The calibrated CORSIM model was used to analyze the No Further Action and Build Alternative Design Options. The model-simulated traffic volumes and traffic MOEs were reviewed for the No Further Action and Build alternatives. The results presented below are for the Design Year (2045) only; results for the Opening Year (2025) are available in the PTAR.

The CORSIM models were run ten times using different random seed numbers to account for potential variations between model runs. The results of the simulation were averaged out to ensure that the differences in the results were related to the geometric configuration of the network and control strategies, rather than the randomness of the simulation itself. Overall, multiple runs of the simulation prevent biases in the results due to the stochastic nature of the software. The results of the traffic simulation were used to estimate the traffic operational conditions at the freeway segments within the study area for the year 2045 Design Year traffic conditions. **Table 7-1** and **Table 7-2** provide the 2045 Design Year summary matrix for the No Further Action and Build alternatives during the AM and PM peak hours. The CORSIM-estimated freeway traffic throughput, speeds, and densities for the No Further Action and Build alternatives are included in **Appendix E**.

The CORSIM model results were used to evaluate the study intersections performance for No Further Action and all four design options of Build Alternative. Signal timing plans were optimized using Synchro 10 for future year evaluation. It should be noted that the intersection evaluation from CORSIM may not provide an accurate representation of the demand traffic and accounts for bottlenecks that may be present in each of the alternatives. The CORSIM intersection and approach performance results presented in **Appendix E** were used to draw comparison between No Further Action and Build Design Option scenarios for the 2045 Design Year.

The following freeway MOEs were compared for the 2045 Build Alternative and 2045 No Further Action Alternative at the end of peak hours:

- Average Speed (mph)
- Total Travel Delay (hours)
- Travel Delay per Vehicle-Mile (min/veh/mi)

Table 7-3 provides a summary of the 2045 Design Year MOEs for the No Further Action Alternative and the Design Options (A, B, C, D, and E) of the Build Alternative. **Figures 7-3** through **7-5** provide the peak hour average speed, total travel delay, and travel delay per vehicle-mile for the No Further Action and Build alternatives. The results of the CORSIM simulation analysis showed significant improvements to the overall system MOEs during AM and PM peak hours due to the Build Alternative Design options compared to the No Further Action Alternative, as shown in **Table 7-3**.

Table 7-1 2045 Alternatives Operations Summary Matrix – AM Peak Hour

Segment	No Further Action	Build Option A	Build Option B	Build Option C	Build Option D	Build Option E
I-275 Between Howard Frankland Bridge & Himes Avenue Interchange	Northbound: • On average, 48 percent of the demand is processed. • Heavy congestion was observed. • Heavy congestion on Express Lanes. Southbound • On average, 54 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 91 percent of the demand is processed. • Moderate congestion between SR 60 and Lois Ave. • Heavy congestion between Lois Ave and Himes Ave. • No significant congestion on Express Lanes. Southbound • On average, 68 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 91 percent of the demand is processed. • Moderate congestion between SR 60 and Lois Ave. • Heavy congestion between Lois Ave. and Himes Ave. • No significant congestion on Express Lanes. Southbound • On average, 65 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 90 percent of the demand is processed. • Moderate congestion South of Dale Mabry Hwy. • Heavy congestion North of Dale Mabry Hwy. • No significant congestion on Express Lanes. Southbound • On average, 63 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 87 percent of the demand is processed. • Moderate congestion South of Dale Mabry Hwy. • Heavy congestion North of Dale Mabry Hwy. • Moderate congestion near SR 60 on Express Lanes. Southbound • On average, 63 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 74 percent of the demand is processed. • Moderate congestion south of Lois. • Heavy congestion between Lois and Himes. • Moderate congestion on Express Lanes near slip ramp near SR 60. Southbound • On average, 68 percent of the demand is processed. • No significant congestion was observed. • No Significant Congestion on Express Lanes.
I-275 Between Himes Avenue & North Boulevard Interchanges	Northbound: • On average, 70 percent of the demand is processed. • Heavy congestion was observed. Southbound • On average, 57 percent of the demand is processed. • Moderate congestion near North Blvd.	Northbound: • On average, 87 percent of the demand is processed. • Moderate congestion South of Armenia Ave and near North Blvd. • No significant congestion on Express Lanes. Southbound • On average, 74 percent of the demand is processed. • Moderate congestion between North Blvd. and Howard Ave. • No significant congestion on Express Lanes.	Northbound: • On average, 87 percent of the demand is processed. • Moderate congestion South of Armenia Ave, and North of Howard Ave. • No significant congestion on Express Lanes. Southbound • On average, 69 percent of the demand is processed. • Moderate congestion between North Blvd. and Howard Ave. • No significant congestion on Express Lanes.	Northbound: • On average, 87 percent of the demand is processed. • Heavy congestion near Himes Ave. • Moderate congestion North of Armenia Ave. • No significant congestion on Express Lanes. Southbound • On average, 68 percent of the demand is processed. • Moderate congestion near Armenia Ave. • No significant congestion on Express Lanes.	Northbound: • On average, 85 percent of the demand is processed. • Heavy congestion between Himes Ave. and Armenia Ave. • Moderate congestion North of Armenia Ave. • No significant congestion on Express Lanes. Southbound • On average, 69 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 74 percent of the demand is processed. • Heavy congestion was observed. • No Significant Congestion on Express Lanes. Southbound • On average, 78 percent of the demand is processed. • No significant congestion was observed. • No Significant Congestion on Express Lanes.

Source: TIS SEIS PTAR, November 2019
Notes: Heavy congestion: Speeds < 25 mph
Moderate congestion: Speeds – 25-50 mph
No significant congestion: Speeds > 50 mph

Table 7-2 2045 Alternatives Operations Summary Matrix – PM Peak Hour

Segment	No Further Action	Build Option A	Build Option B	Build Option C	Build Option D	Build Option E
I-275 Between Howard Frankland Bridge & Himes Avenue Interchange	Northbound: • On average, 36 percent of the demand is processed. • Heavy congestion was observed. • Heavy congestion on Express Lanes. Southbound • On average, 53 percent of the demand is processed. • Moderate congestion between Lois Ave. and SR 60. • No significant congestion on Express Lanes.	Northbound: • On average, 93 percent of the demand is processed. • Moderate congestion North of SR 60. • No significant congestion on Express Lanes. Southbound • On average, 69 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 94 percent of the demand is processed. • Moderate to Heavy congestion South of Lois Ave. • Moderate congestion North of Dale Mabry Hwy. • No significant congestion on Express Lanes. Southbound • On average, 68 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 85 percent of the demand is processed. • Moderate to Heavy congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 65 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 85 percent of the demand is processed. • Moderate to heavy congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 64 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 83 percent of the demand is processed. • Moderate congestion south of Lois. • Heavy congestion between Lois and Himes. • No Significant Congestion on Express Lanes. Southbound • On average, 63 percent of the demand is processed. • No significant congestion was observed. • No Significant Congestion on Express Lanes.
I-275 Between Himes Avenue & North Boulevard Interchanges	Northbound: • On average, 53 percent of the demand is processed. • Heavy congestion was observed. Southbound • On average, 47 percent of the demand is processed. • Moderate congestion North of Howard Ave.	Northbound: • On average, 88 percent of the demand is processed. • Moderate congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 73 percent of the demand is processed. • Moderate congestion South of Armenia Ave. and North of Howard Ave. • No significant congestion on Express Lanes.	Northbound: • On average, 89 percent of the demand is processed. • Moderate congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 72 percent of the demand is processed. • Moderate congestion near North Blvd. • No significant congestion on Express Lanes.	Northbound: • On average, 78 percent of the demand is processed. • Heavy congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 73 percent of the demand is processed. • Moderate congestion near Howard Ave. • No significant congestion on Express Lanes.	Northbound: • On average, 77 percent of the demand is processed. • Heavy congestion was observed. • No significant congestion on Express Lanes. Southbound • On average, 69 percent of the demand is processed. • No significant congestion was observed. • No significant congestion on Express Lanes.	Northbound: • On average, 75 percent of the demand is processed. • Heavy congestion was observed. • No Significant Congestion on Express Lanes. Southbound • On average, 73 percent of the demand is processed. • No significant congestion was observed. • No Significant Congestion on Express Lanes.

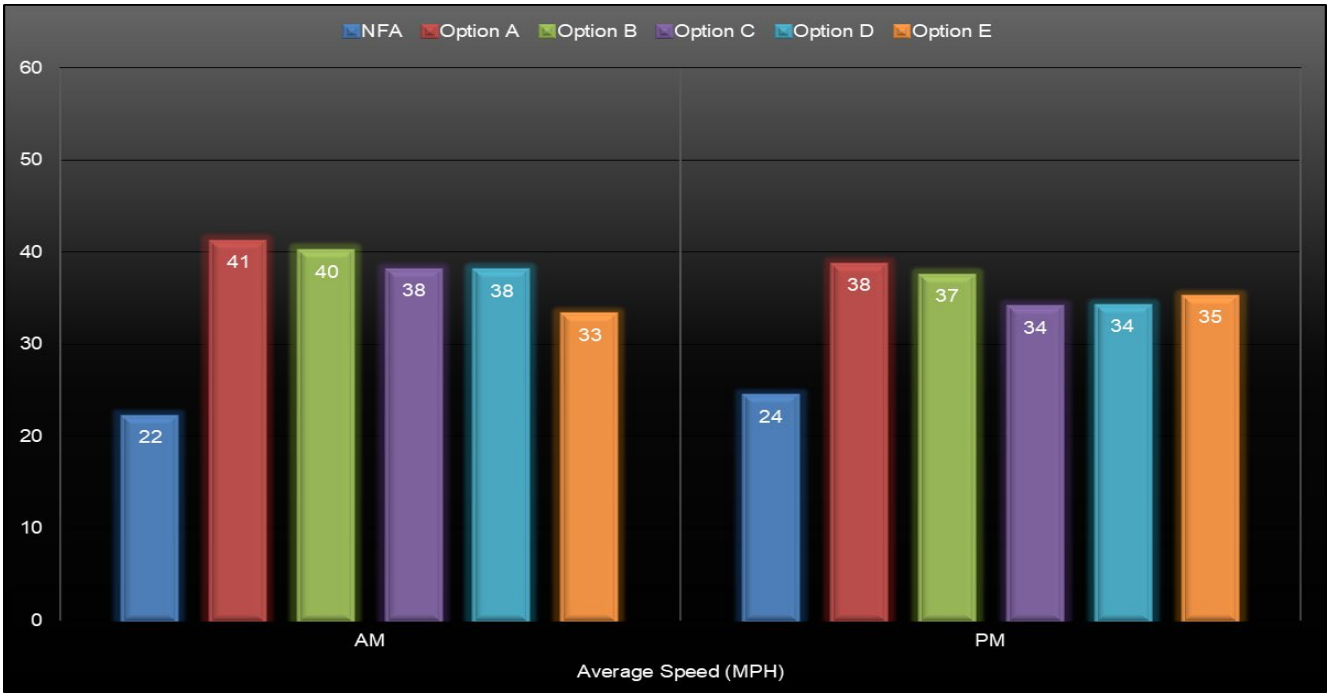
Source: TIS SEIS PTAR, November 2019
Notes: Heavy congestion: Speeds < 25 mph
Moderate congestion: Speeds – 25-50 mph
No significant congestion: Speeds > 50 mph

Table 7-3 2045 Design Year MOE - Build Alternative Design Options vs. No Further Action

MOEs	Time Period (Peak Hour)	NFA	Option A	Option B	Option C	Option D	Option E
Average Speed (MPH)	AM	33	49	49	50	50	42
	PM	25	45	46	40	39	42
Total Travel Delay (Hours)	AM	5,099	1,494	1,521	1,231	1,183	2,987
	PM	6,758	2,235	2,012	3,434	3,597	2,742
Delay per Vehicle-Mile (min/veh/mi)	AM	0.8	0.2	0.2	0.2	0.2	0.4
	PM	1.3	0.3	0.3	0.5	0.5	0.4

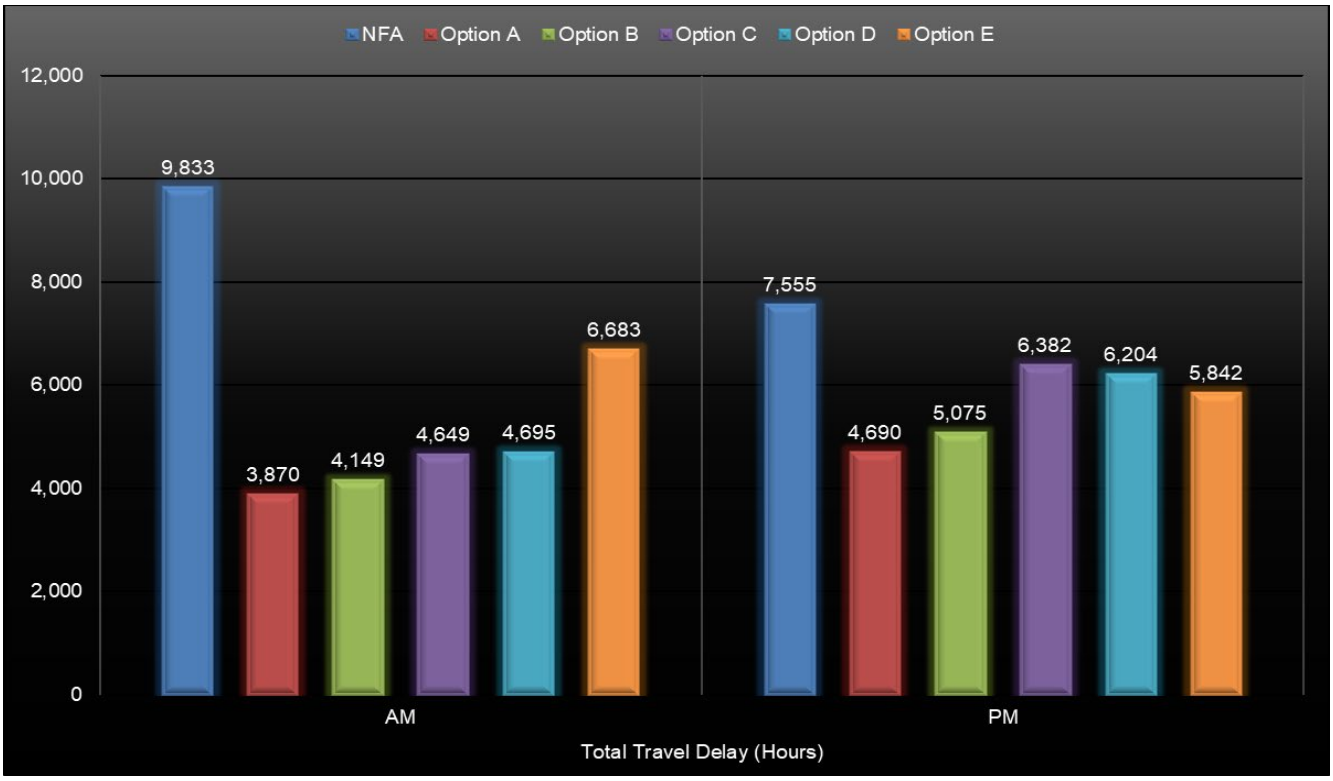
Source: TIS SEIS PTAR, November 2019

Figure 7-3 Average Peak Hour Speed Summary for 2045 Design Year



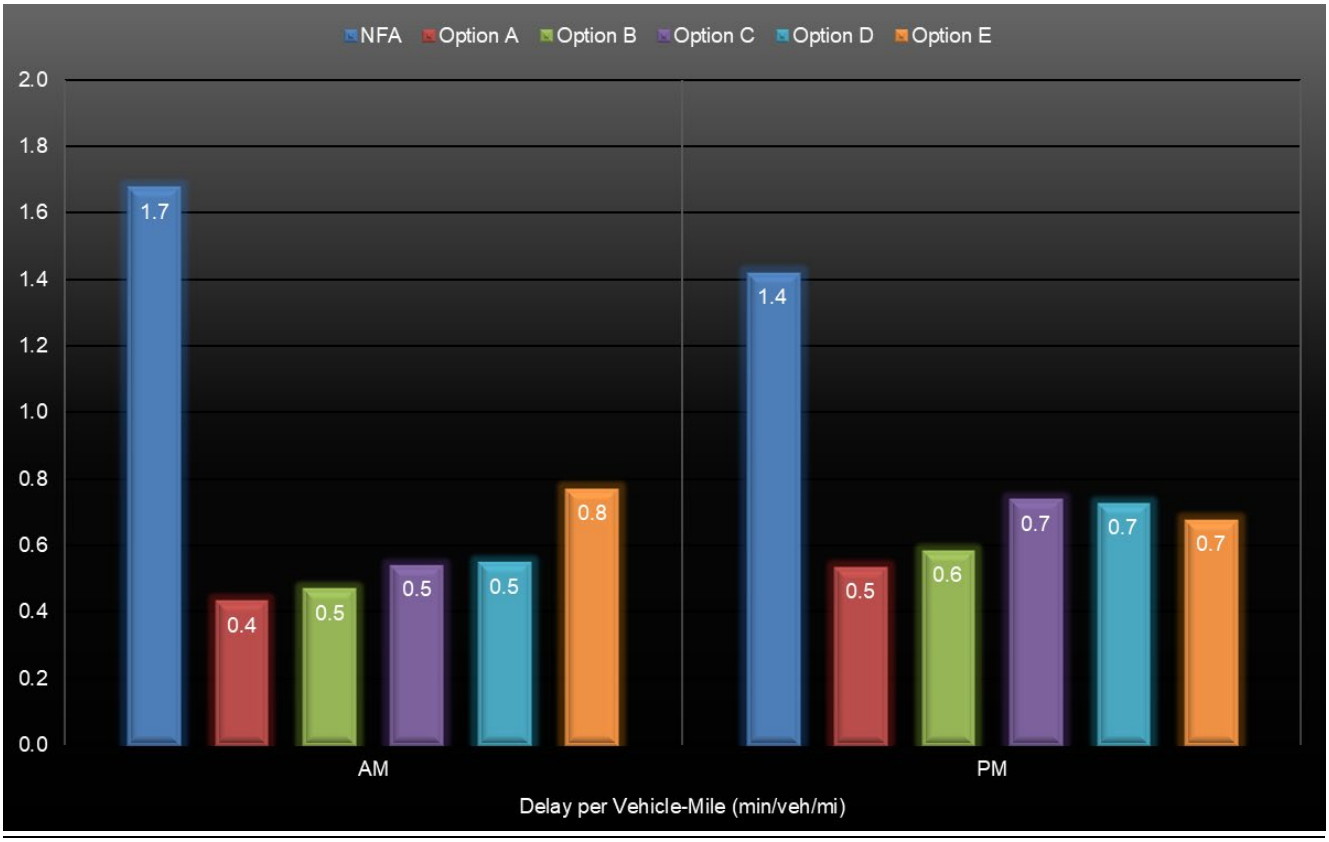
Source: TIS SEIS PTAR, November 2019

Figure 7-4 Total Peak Hour Travel Delay Summary for 2045 Design Year



Source: TIS SEIS PTAR, November 2019

Figure 7-5 Peak Hour Delay per Vehicle-Mile Summary for 2045 Design Year



Source: TIS SEIS PTAR, November 2019

7.5.1 Peak Period Benefits Comparison (Value of Time)

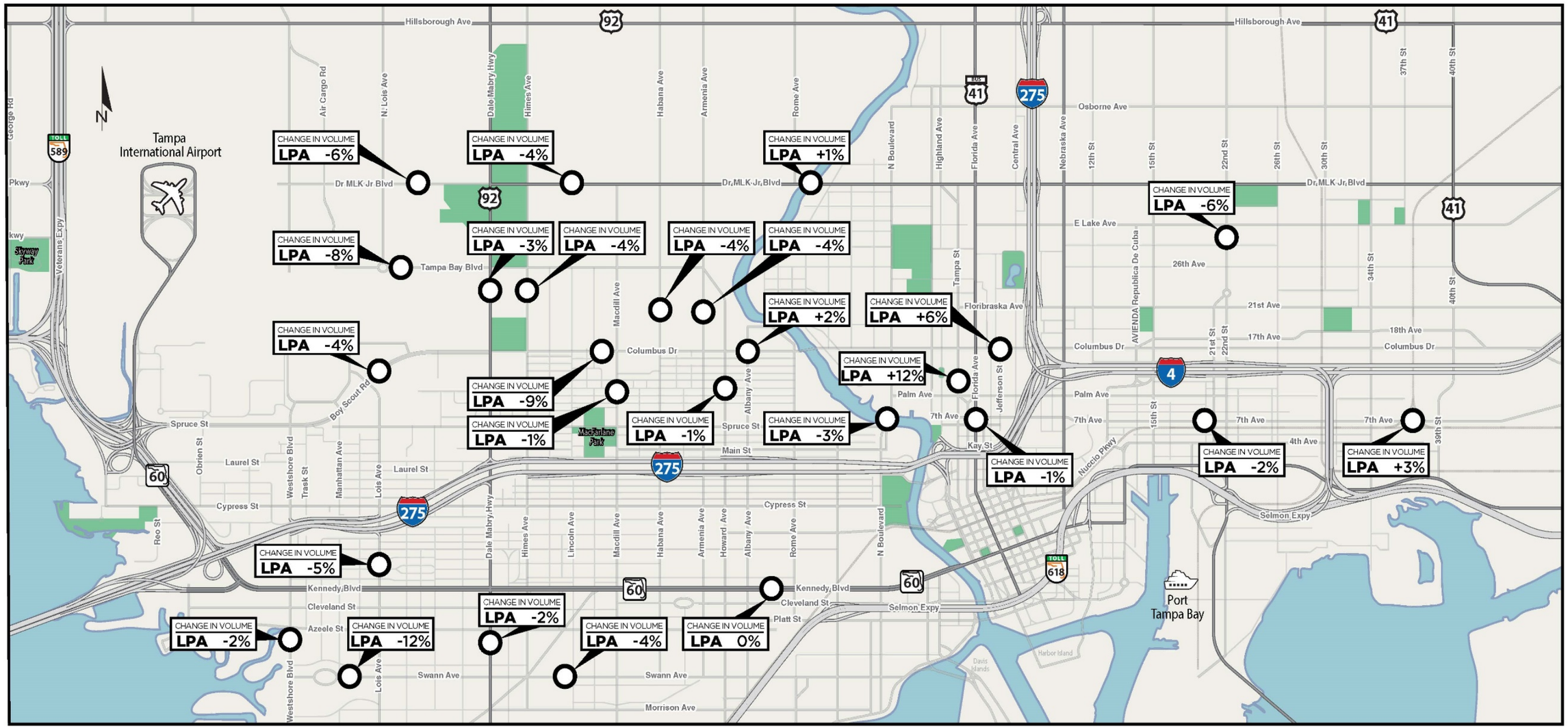
In addition to the benefits seen during the AM and PM peak hours, each of the Design Options of the Build Alternative would provide a significant reduction in delay during the 4-hour AM peak period and 4-hour PM peak period by the 2045 design year. Note that the delay reduction would be much more by the 2025 Opening year for either of the Design No Further Action. The annual savings calculated are based on the value of delay time of $17.81 per person (Ellis 2017). https://static.tti.tamu.edu/tti.tamu.edu/documents/TTI-2017-10.pdf

7.5.2 Impacts on Local Roadways

Figure 7-6 displays a comparison of the traffic impacts to the local roadway system based on the proposed alternative. The reduction in daily traffic on the local road system range from one percent to 29 percent.

At a local level, the proposed improvements would provide a substantial benefit to the walk/bike network and traffic circulation in the Westshore Business District by reconnecting Reo Street, Occident Street, and Trask Street beneath the interstate. Reconnecting these streets would relieve traffic bottlenecks on West Shore Boulevard and improve access and connectivity. The proposed improvements would also include lighting improvements, other minor enhancements to existing underpasses, and enhance bike/pedestrian connectivity between underpasses.

Changes in Daily Traffic Volume on Arterial Roadways with Locally Preferred Alternative Improvements



LPA = Locally Preferred Alternative Recommended to the Federal Highway Administration (FHWA)
Changes in daily traffic volumes at critical locations are compared to the No Further Action scenario
Negative volumes represent reductions in projected daily traffic. Positive volumes represent increases in project daily traffic.

Source: TIS SEIS PTAR, November 2019

Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Traffic Volume Reduction on Local Roadway

Figure 7-6

8 ALTERNATIVES ANALYSIS

The alternatives that will be evaluated in the TIS SEIS are described below.

8.1 No Further Action Alternative

Portions of the Selected Alternative in the 1996 TIS FEIS have been constructed, so the No Further Action Alternative that was evaluated in previous studies is no longer applicable. In addition, portions of the outer roadways approved under RODs in Segment 1A are included in the No Further Action Alternative. Therefore, a new No Further Action Alternative will be evaluated for comparison to the Build Alternative.

8.2 Transportation System Management and Operations (TSM&O)

Transportation Systems Management and Operations (TSM&O) strategies are defined in the 2012 legislation "Moving Ahead for Progress in the 21st Century" (MAP-21) as "integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system."

TSM&O strategies can be applied at various levels (e.g., regional, corridor, and project levels) and address multiple modes (e.g., highway, transit, multimodal). They can be integrated into capacity, preservation, and safety projects. Many TSM&O strategies enable transportation agencies to provide better customer service in the near-term without incurring the high costs and time to implement major infrastructure projects.

Transportation Demand Management (TDM), a subset of TSM&O strategies, is defined as "a set of specific strategies that promote increased efficiency of the transportation systems and resources by promoting and providing a range of local or regional travel-related choices to influence individual travel behavior by mode, time, frequency, trip length, cost, or route." FDOT has a policy to ensure that TDM strategies are considered in all studies, plans, programs, functional areas, and in employee benefit programs. The Hillsborough County MPO's Imagine 2040: LRTP includes TDM strategy objectives to reduce VMT, including improvements to bus service, rapid transit, bicycle/pedestrian improvements, and managed lanes, as well as promoting programs such as carpooling, telecommuting, and flexible work hours. The Hillsborough County MPO *FY 2018/2019–FY 2022/2023 TIP* includes funding for vanpools, multi-use trails, and enhancements to pedestrian facilities in the TIS SEIS Project study area.

In addition to the transit initiatives described in **Chapter 4.2.14**, there are several TDM strategies currently being implemented or planned in the TIS SEIS Project study area. They are described below:

- Bike/Walk Tampa Bay is a regional coalition of citizens, advocates, professionals and allied organizations created to make walking and bicycling the preferred modes of transportation in the Tampa Bay region. It includes a certification program for companies that demonstrate commitment to promoting and supporting cycling; a vanpool program for commuters; as well as bicycle and pedestrian safety classes.

- As part of the TBNext program, FDOT has identified Hillsborough, Pasco, and Pinellas counties as top priorities for improving bicycle and pedestrian safety. In the TIS SEIS Project study area, FDOT is working with the City of Tampa to develop multimodal solutions along SR 60/Kennedy Boulevard and Jackson Street to construct a dedicated cycle track and provide on-street parking. In Ybor City, FDOT has reconstructed 21st and 22nd Streets to include on-street parking, continuous bike lanes, wide sidewalks, and other amenities.

- HART provides park-n-ride lots and commuter express service for commuters traveling to Downtown Tampa and MacDill Air Force Base.

- TBARTA offers several commuter services in Hillsborough, Pinellas, Pasco, Hernando, and Citrus counties, including carpools, vanpools, bike buddy, telework, and emergency ride home.

While the programs described above help to alleviate congestion, they cannot fully address the transportation needs in the TIS SEIS Project study area. Additional improvements are needed in the TIS SEIS Project study area that complement and connect to existing and planned transportation demand management services that can accommodate the growing demands on the transportation system.

8.3 1996 TIS FEIS Long-Term Preferred Alternative (Non-Tolled) with Reevaluations

Proposed improvements of the 1996 TIS FEIS Long-term Preferred Alternative (LTPA) consist of a four-roadway system (general use lanes that provide local access and non-tolled express lanes in each direction of travel) on I-275 throughout the study limits and the preservation of a HOV/Transitway corridor within the interstate alignment. Proposed interchange improvements included:

- A fully directional interchange for the I-275 connection to the SR 60/Veterans Expressway (SR 589);
- Modifications to the existing West Shore Boulevard, Lois Avenue, and Dale Mabry Highway interchanges;
- Split interchange ramps remaining at Howard and Armenia Avenues;
- A new west bank CBD interchange with ramps to and from the west on I-275 at North Boulevard;
- A fully directional interchange for the I-4/I-275 connection;
- Removal of the existing ramps to and from the north at Floribraska Avenue;
- A full interchange at Dr. MLK, Jr. Boulevard;
- Reconfiguration of the split interchange at Columbus Drive and 50th Street;
- Removal of the interchange ramps at 40th Street;
- A new directional freeway-to-freeway interchange with the proposed I-4/Selmon Expressway Connector on I-4 near 31st Street; and
- A new Ybor City/east side CBD split interchange on I-4 at 14th and 15th Streets (with extension of the ramps at 14th and 15th Streets as parallel frontage roads to 21st and 22nd Streets to replace the existing access from I-4 to 21st and 22nd Streets).

Other new non-interstate improvements included the following:

- The removal of the 19th Street overpass and the maintenance of the 26th Street overpass;
- The extension of Sherrill Street from Memorial Highway (SR 60) and Kennedy Boulevard under I-275 to Cypress Street;
- The extension of Trask Street under I-275;
- A Lemon Street Connector to West Shore Boulevard from Occident Street;
- Park-n-ride lots to provide access to HOV lanes located at the Florida State Fairgrounds, Yukon Street, Sinclair Hills Road, and SR 56;
- Overpass width to accommodate pedestrian and bicycle facilities on cross streets; and

- A multi-modal terminal/parking garage at the norther end of the Marion Street.

The TIS FEIS LTPA has been reevaluated numerous times throughout the past 20 years as the various segments of interstate have been constructed. Therefore, this alternative consists of the original impacts, as updated by the approved reevaluations.

8.4 Build Alternatives

8.4.1 Development of Build Alternatives

Previous alternatives developed as part of TBX program are described near the end of **Chapter 5**. In mid-2017, the FDOT completed a preliminary screening on five alternatives that were to be evaluated in the SEIS. The FDOT presented the results publicly in October 2017 to the community working groups and in two public workshops. A Tier 1 screening determined whether or not the proposed alternatives met the project's Purpose and Need. Alternatives evaluated included:

- No Further Action Alternative
- 1996 TIS FEIS LTPA (Non-tolled)
- A Beltway Alternative
- A Boulevard Alternative, and
- A Tolled Express Lane Alternative

As a result of the Tier 1 screening, the Beltway and Boulevard alternatives were recommended to be removed from further study. Both alternatives extend far beyond the limits of the TIS SEIS Project Study Area; the Hillsborough County MPO will evaluate them as part of the planning evaluation of the next LRTP study area update.

The remaining alternatives were recommended to be carried forward into the SEIS evaluation process. In November 2017, the FDOT published a memo entitled *Preliminary Alternatives Screening Evaluation Technical Memo* which documented the results of the Tier 1 screening; the full memo is included in **Appendix F** of this report. FHWA concurred with the findings of the memo and the alternatives to be dropped from further consideration in this SEIS on March 15, 2018.

A Tier 2 analysis is being conducted to evaluate the remaining viable alternatives in greater detail in terms of environmental impacts and costs. The Tier 2 analysis will include a review of all the design variations and refinements to the viable alternatives. This analysis will be documented in this PER and in the TIS SEIS. The second Tier evaluation will eventually result in the identification of a Preferred Alternative and a ROD after a public hearing.

8.4.2 2018 Express Lane Alternative (Tolled)

Improvements identified for the segments that will be evaluated in the TIS SEIS include major components of the 1996 TIS FEIS LTPA. There are areas where the design has changed in alignment and configuration. The TIS segments that will be evaluated in the SEIS and the design differences from the 1996 TIS FEIS LTPA are described below. **Figure 1-1** shows the TIS segments. Segments 1A and 2A listed below are within the TIS SEIS Project study area for this report. **Table 8-1** documents the lanes changes of the proposed improvements in relation to the 1996 TIS FEIS.

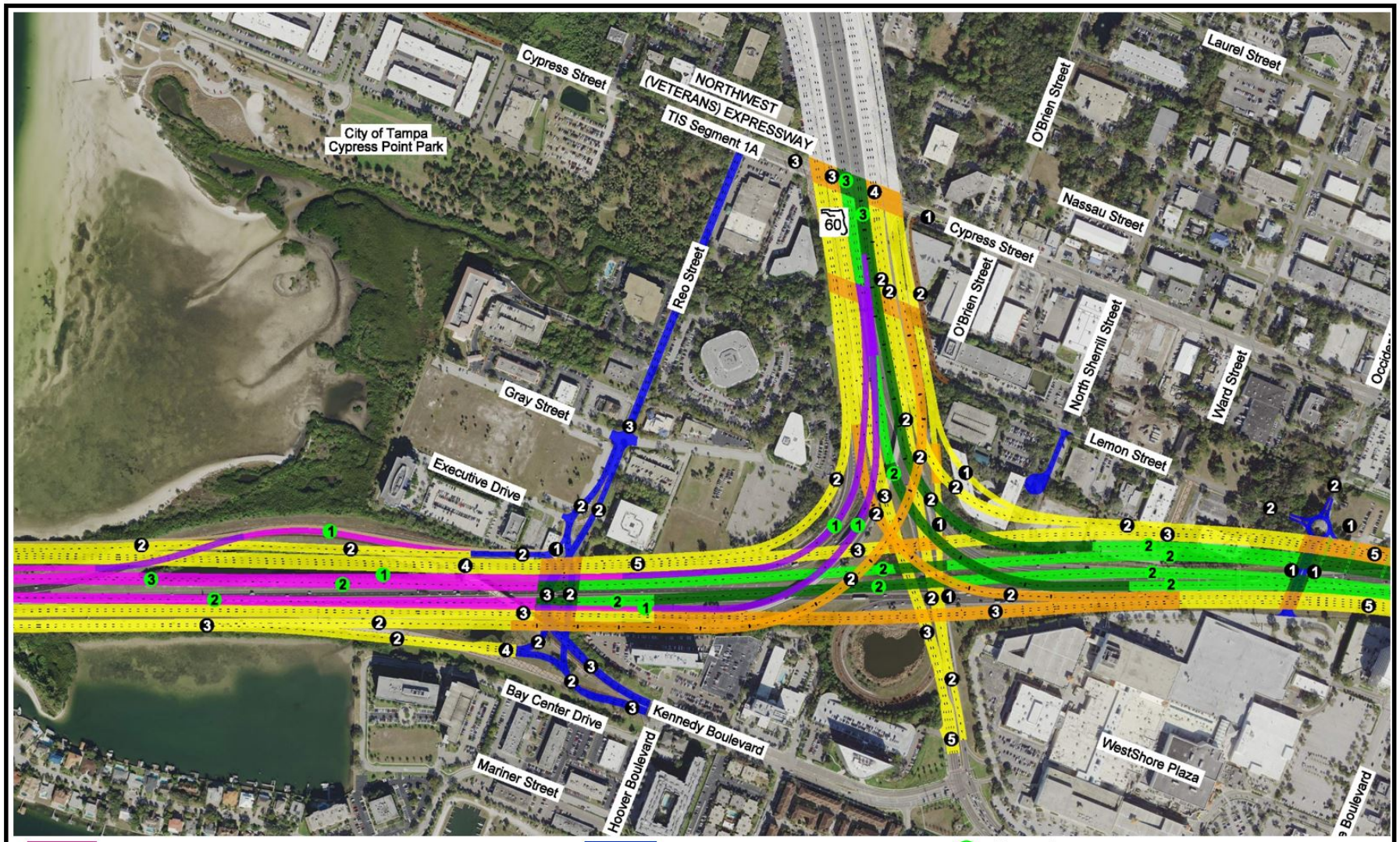
Table 8-1 Lane Changes for Segments 1A and 2A

Location	Roadway Designation	Direction	TIS FEIS # of Lanes	TIS SEIS # of Lanes	Comment
HFB to Kennedy Blvd Exit / Entrance					
I-275	General Use Lanes	SB	4	4	
I-275	Express Lanes	SB	2	2	FEIS - No Tolled Express / SEIS – Tolled Express Lanes
I-275	Express Lanes	NB	2	2	FEIS - No Tolled Express / SEIS – Tolled Express Lanes
I-275	Genneral Lanes	NB	4	5	1 Additional Lane
Kennedy Blvd Exit / Entrance to SR 60					
I-275	General Use Lanes	SB	2	3	1 Additional Lane
I-275	Express Lanes	SB	2	2	
I-275	Express Lanes	NB	2	2	
I-275	Genneral Lanes	NB	2	3	1 Additional Lane
I-275 NB to SR 60 WB	General Use Lane Ramp	NB to WB	1	2	1 Additional Lane
I-275 NB to SR 60 WB	Express Lane Ramp	NB to WB	0	1	New Movement
SR 60 EB to I-275 SB	General Use Lane Ramp	EB to SB	1	2	1 Additional Lane
SR 60 EB to I-275 SB	Express Lane Ramp	EB to SB	0	1	New Movement
SR 60 EB to I-275 NB	General Use Lane Ramp	EB to NB	2	2	
SR 60 EB to I-275 NB	Express Lane Ramp	EB to NB	2	2	
I-275 SB to SR 60 WB	General Use Lane Ramp	SB to WB	2	2	Has a 2/1 split to accommodate general use access into TIA
I-275 SB to SR 60 WB	Express Lane Ramp	SB to WB	2	2	
SR 60 to Lois Avenue					
I-275	General Use Lanes	SB	3	4	1 Additional Lane
I-275	Express Lanes	SB	3	2	Reduction of 1 Lane
I-275	Express Lanes	NB	3	2	Reduction of 1 Lane
I-275	Genneral Lanes	NB	3	4	1 Additional Lane
Lois Avenue to Himes Avenue					
I-275	General Use Lanes	SB	3	4	1 Additional Lane
I-275	Express Lanes	SB	3	3-2-3	Accommodates new ELS Interchange at Himes Avenue
I-275	Express Lanes	NB	3	3-2-3	Accommodates new ELS Interchange at Himes Avenue
I-275	Genneral Lanes	NB	3	4	1 Additional Lane
Himes Avenue to Rome Avenue					
I-275	General Use Lanes	SB	4/5	4	TIS FEIS: Slip Ramp from SB GULS to SB ELS Removed
I-275	Express Lanes	SB	2/3	2/3	TIS SEIS: New Slip Ramp from SB ELS to SB GULS
I-275	Express Lanes	NB	2/3	2/3	TIS FEIS: Slip Ramp from NB ELS to NB GULS Removed
I-275	Genneral Lanes	NB	4/5	4	TIS SEIS: New Slip Ramp from NB GULS to NB ELS

TIS Segment 1A – I-275 from Howard Frankland Bridge/Kennedy Boulevard ramps to just north of Cypress Street on Memorial Highway (SR 60) to north of Himes Avenue: The general use lanes (outer roadways) in this segment were included in the 1996 TIS FEIS and approved in the 1997 ROD. The design changes would involve:

- The use of tolled and express lanes and access changes between general and express lanes;
- The expansion of I-275 from HFB to south of SR 60 to accommodate express lanes along I-275;
- Express lane connections to and from the HFB and SR 60, including a express lane connection into TIA; and
- Local street changes, including:
    - Relocation of Lemon Street,
    - The extension of Occident Street,
    - Modified Trask Street ramp connections,
    - Replacement of the Executive Drive to southbound I-275 ramp connection, and
    - Elimination of the extension of Sherrill Street with a revised I-275/Kennedy Boulevard interchange that would provide a connection between Kennedy Boulevard, Reo Street, and I-275.

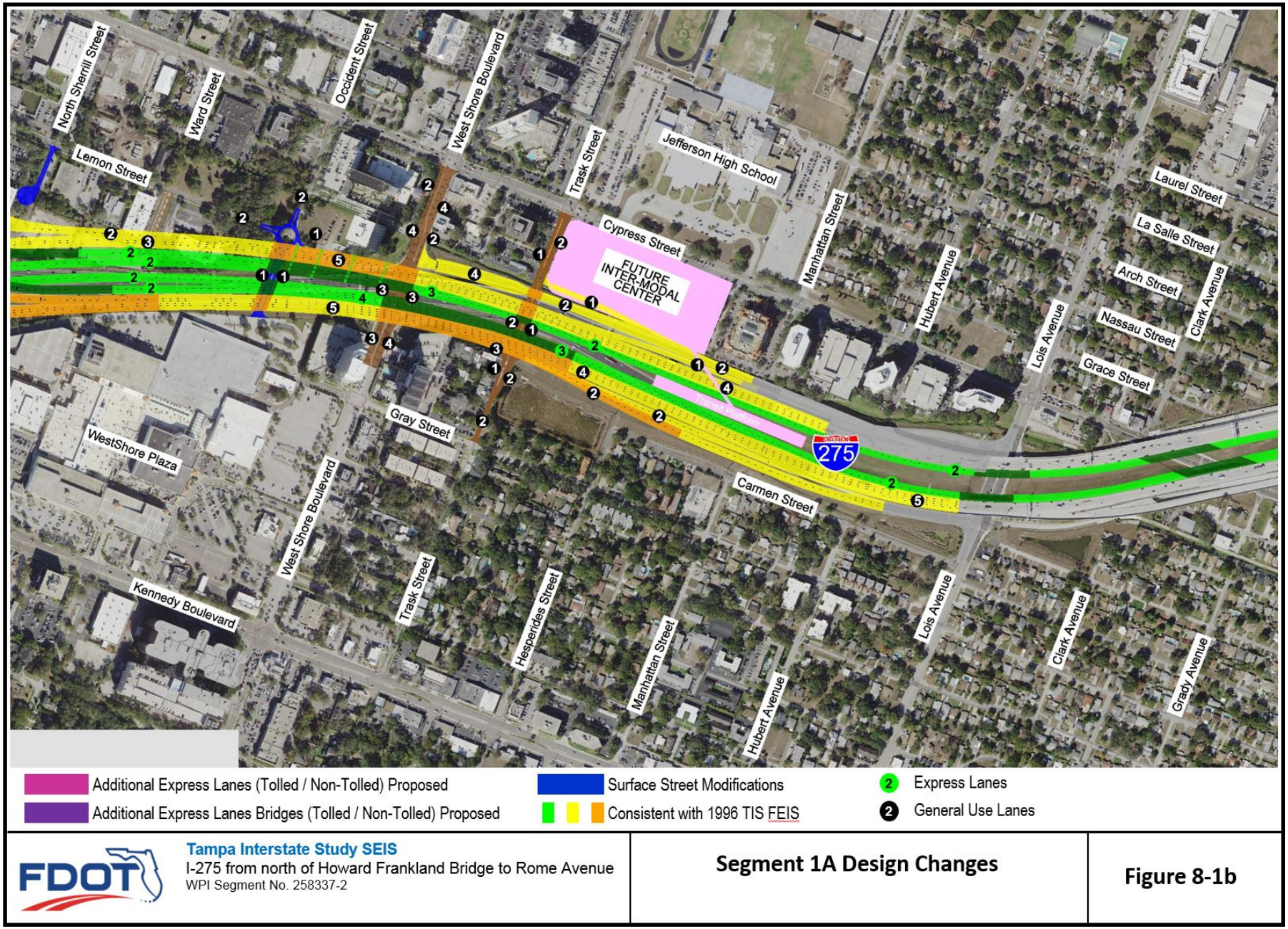
Additional ROW would be needed to accommodate express lanes near the SR 60 interchange south to and from I-275, a new toll ramp into TIA, the addition of general use lanes west of West Shore Boulevard, and expansion of the corridor for future transit use west of SR 60. No acquisitions would occur in historic districts. **Figure 8-1 a, b and c** illustrates the design changes for Segment 1A to improve operations for this segment. **Figure 8-2** illustrates the concept plan of the new I-275 Kennedy Boulevard/Reo Street interchange.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Segment 1A Design Changes

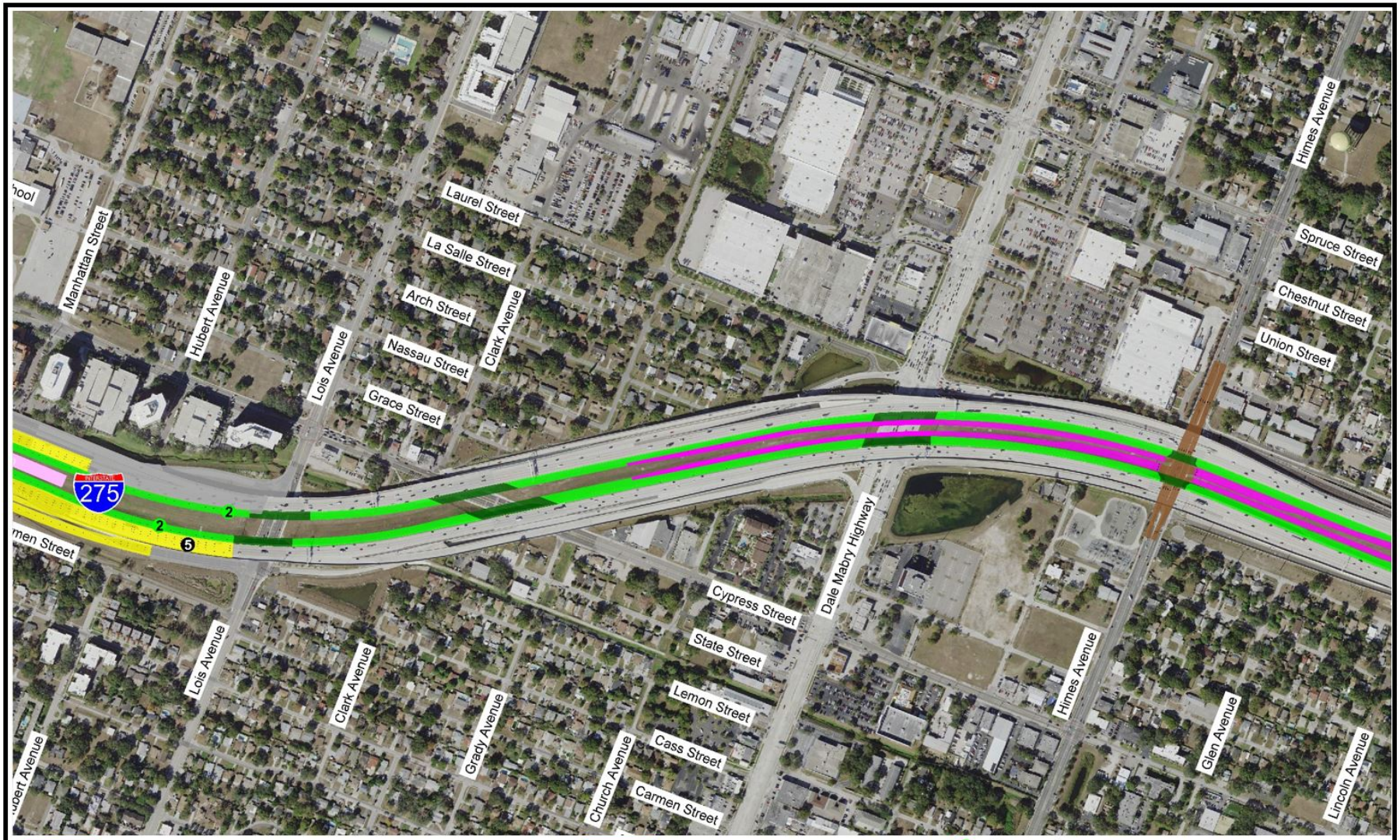
Figure 8-1a



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Segment 1A Design Changes

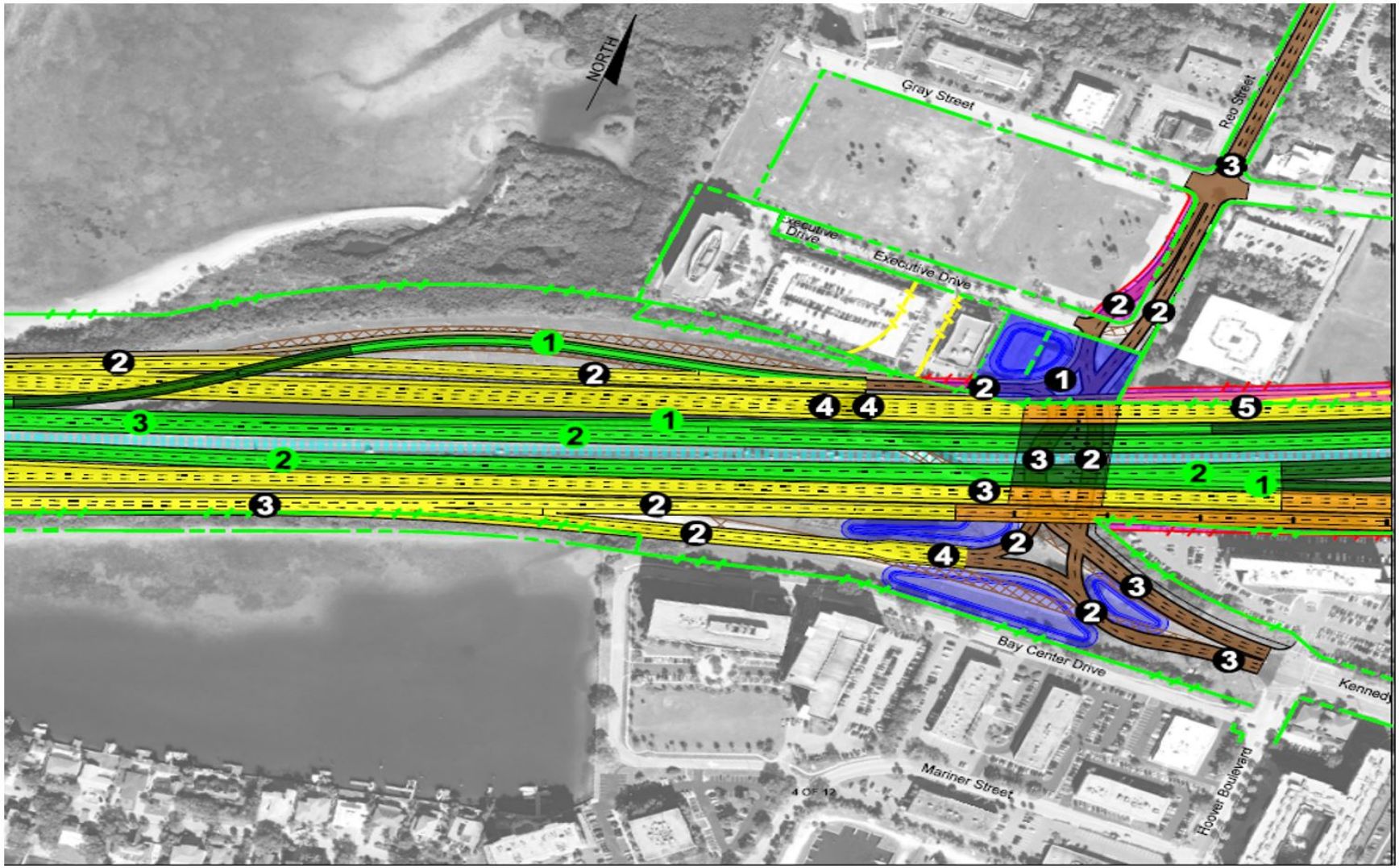
Figure 8-1b



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Segment 1A Design Changes

Figure 8-1c



Tampa Interstate Study SEIS I-275 from north of Howard Frankland Bridge to Rome Avenue WPI Segment No. 258337-2	**I-275 at Kennedy Boulevard Revised Interchange - Concept Plans**	**Figure 8-2**

Segment 2A – I-275 from North of Himes Avenue to North of Rome Avenue: The general use and express lanes in this section were included in the 1996 TIS FEIS and approved in the 1997 and 1999 RODs. The outer roadway (general use lanes) has already been constructed with I-275 improvements. The work in this section includes adding tolled express lanes in the median. Himes Avenue would be a full express lanes interchange with direct express lane ramps constructed within the I-275 median area, tying into Himes Avenue between the northbound I-275 bridges only. Left turns from northbound and southbound Himes Avenue to the express lane ramps would be prohibited. Construction would include the widening of the I-275 bridges over Himes Avenue, toward the median, with pavement widening, median modifications and sidewalk construction along Himes Avenue. These interchange modifications would not require additional ROW and the existing northbound I-275 general use on-ramp and the existing southbound I-275 general use off-ramp to remain in place. Previously, FDOT considered three potential design options in Segment 2A. All three of these Options were evaluated and eliminated from further consideration in this project.

- **Option A - Express Lane Interchange South Side at Himes Avenue and North Side at MacDill Avenue:** Option A would provide a split express lane interchange with entrance and exit express lane ramp connections on the south (west) side of Himes Avenue and the north (east) entrance and exit express lane ramp connections being provided for at MacDill Avenue. Direct express lane ramps would be constructed within the I-275 median area and tie into the local streets between the northbound and southbound I-275 bridges. This option would not require additional ROW.

- **Option B - Full Express Lanes Interchange at Himes Avenue:** Option B would provide a full express lane interchange at Himes Avenue. Like Option A, this option would have direct express lane ramps constructed within the I-275 median area and tie into the local street between the northbound and southbound I-275 bridges. Option B would require the reconstruction of the I-275 bridges over Himes Avenue and widening along Himes Avenue. The widening along Himes Avenue would require additional ROW along the east side from north of Cypress Avenue to north of Spruce Street.

- **Option C - Express Lanes Interchange South Side at MacDill Avenue and North Side at Himes Avenue (via fly-over ramps):** Option C would provide a split express lane interchange with the south (west) connections at MacDill Avenue and the north (east) connections at Himes Avenue. This option would have direct express lane ramps constructed within the I-275 median area to the south (west) and north (east) sides of MacDill Avenue with ramps that tie to MacDill Avenue between the northbound and southbound I-275 bridges. The express lane ramp connections to Himes Avenue would be to the north (east) side of Himes Avenue and connect outside of the I-275 mainline via fly-over ramps. The southbound I-275 direct express lane ramp connection to Himes Avenue would result in an interruption of Green Street through traffic between Himes Avenue and MacDill Avenue. The traffic interruption on Green Street would require a change in access for abutting properties and may result in additional ROW to provide access to undeveloped parcels along Green Street. Option C would also require additional ROW along the south side of I-275 near Matanzas Avenue and have some impact on the existing stormwater pond.

FDOT conducted field visits, concept development, preliminary traffic, planning-level constructability, and environmental review to further evaluate the design options. The following bullets highlight the technical considerations of each design option.

- **Option A**
  - No ROW would be required
  - No access changes to local streets
  - Existing traffic operations on MacDill Avenue is complex due to proximity to schools, park, and community center
  - Potential increase in traffic on Himes Avenue and MacDill Avenue

- **Option B**
  - No direct access to MacDill Avenue
  - Proximity to potential future and existing transit station
  - Consistent with redevelopment and commercial land uses
  - Requires widening Himes (could impact approximately 14 parcels)
  - Complex reconstruction of I-275
  - Longer construction duration
  - Potential vibration and noise impacts
- **Option C**
  - Minor right of way impacts
  - Disconnects Green Street at MacFarlane Park
  - Potential visual impacts of flyover
  - Potential vibration and noise impacts
  - Existing traffic operations on MacDill Avenue is complex due to proximity to schools, park, and community center
  - Potential increase in traffic on Himes Avenue and MacDill Avenue
  - School circulation and pedestrian concerns

FDOT introduced the design options at the Westshore/West Tampa Community Working Group on October 5, 2017. Then presented more detail at the TIS SEIS Public Workshops on October 9 and 10, 2017. These options were also vetted further at the West Tampa Community Redevelopment Area (CRA) meeting on January 23, 2018. In addition, several of the neighborhoods in West Tampa, including MacFarlane Park, Old West Tampa, Armory Gardens, and North Hyde Park, invited FDOT to a combined neighborhood association meeting on January 24, 2018. In follow-up to the combined neighborhood meeting, FDOT organized a neighborhood safety walk-through on March 21, 2018. Representatives from FDOT, the West Tampa neighborhoods, West Tampa CRA, City of Tampa, and the Hillsborough County MPO observed and noted the existing traffic concerns along MacDill Avenue, Green Street, and Main Street.

The following comments summarize the feedback from those meetings:

- Options A and C: Concerned about construction vibration, noise, and visual impacts along MacDill Avenue
- Option A and C: Concerned about traffic increases on MacDill Avenue, especially around schools, park, ball parks, and community center
- Option A: Fits with West Tampa Community Redevelopment Area (CRA) vision for Main St. businesses
- Option B: Better proximity to the Westshore Business District and commercial development
- All Options: Preference for walkability and better bike/pedestrian amenities
- These neighborhoods were impacted by the original construction and were not expecting additional ROW/environmental impacts

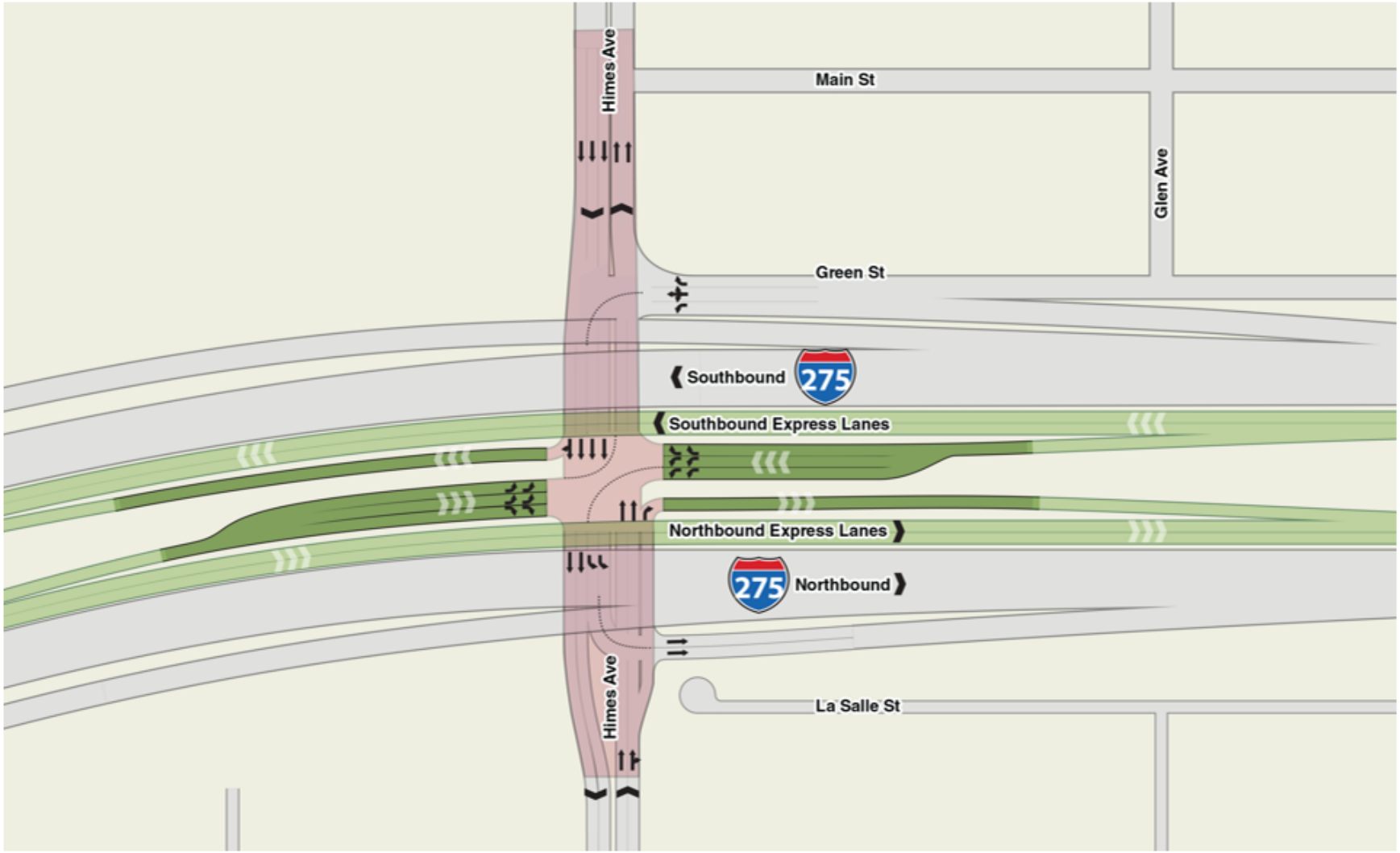
FDOT recommended removing Design Options A and C from further consideration in the TIS SEIS and documented it in a memo to FHWA on April 17, 2018. Options A and C would not provide direct access to the Westshore Business District. These options would channel express lane commuters likely heading to the business district through the West Tampa neighborhoods. There are two schools, a church, a park, ball parks, and a community center all within a couple of blocks of MacDill Avenue. Traffic congestion, speeding, sidewalk gaps, and bicycle/pedestrian conflicts are already an issue in this area and these options might complicate the existing condition.

Option B, which included the full express lanes interchange at Himes Avenue, was carried forward in the design by refining the concept to maximize the efficiency from a geometric and operational perspective. Revised Option B would be a restricted access and would not require ROW. Revised Option B will be carried into the SEIS for further evaluation. **Figure 8-3** illustrates the concept plans for the new express lanes interchange at Himes Avenue.

FDOT continues to meet with the City of Tampa to get feedback on the conceptual plans, including these design options. The City of Tampa prefers Option B due to the proximity to the Westshore Business District and planned commercial redevelopment.

8.5 Comparative Alternatives Evaluation and Evaluation Matrix

The alternatives documented in **Chapter 8.4** and in the conceptual plans will continue to be evaluated based on ROW/Relocation, costs, constructions costs, and avoidance/minimization of environmental impacts. **Table 8-2** presents the evaluation summary between the 1996 TIS LTPA, the No Further Action Alternative, and the 2018 Express Lane Alternative for Segments 1A and 2A.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

I-275 at Himes Avenue New Express Lanes Interchange - Option B Concept Plans

Figure 8-3

Table 8-2 Preliminary Alternatives Evaluation Matrix

TIS Section			1A I-275 from HFB to East of Himes Avenue			2A I-275 from East of Himes Avenue to Rome Avenue		
Alternatives and Design Options			**1996 TIS LTPA (Non-Tolled) (Includes Reevaluation)**	**No Further Action (Includes outer roadway approved under 1997 ROD)**	**2018 Express Lane Alternative (Tolled)**	**1996 TIS LTPA Alternative (Non-Tolled) (Includes Reevaluation)**	**No Further Action (Includes outer roadway approved under 1997 ROD)**	**2018 Express Lane Alternative (Tolled)**
Improves System Capacity	Delay Time (AM and PM)	General Use Lanes	N/A	698.39	180.97	N/A	289.34	54.09
		Express Lanes	N/A	24.69	6.98	N/A	NA	1.52
		Projected GUL/EL	N/A	28.30	25.90	N/A	NA	35.70
	Average Travel Speed (AM and PM)	General Use Lanes	N/A	16.61	35.54	N/A	22.12	46.52
		Express Lanes	N/A	54.42	56.15	N/A	NA	57.91
		Projected GUL/EL	N/A	0.31	0.63	N/A	NA	0.80
Accommodates Transit Operation	Provides Express Bus/BRT Opportunities		Yes	Yes	Yes	Yes	Yes	Yes
	Maintains Transit Corridor		Yes	Yes	Yes	Yes	Yes	Yes
	Supports Connections to Existing and Planned Services (e.g. streetcar, circulator, multimodal)		Yes	Yes	Yes	Yes	Yes	Yes
Neighborhood Connections	Improves Existing Connections		Yes	Yes	Yes	Yes	No	No
	Provides New Connections		Yes	Yes	Yes	No	No	No
Cultural Resources	Historic	Historic Buildings within the Footprint (Potential Direct Effect)	4	0	0	9	Yes	Yes
		Historic Properties Adjacent to the Footprint (Potential Indirect Adverse Effect: Visual)	N/A	0	0	N/A	Yes	Yes
	Archeological Sites*	Sites Impacted	5	2	2	5	Yes	Yes
Parks	Number		No Effect	0	0	No Effect	0	0
Community Resources	Number			0	0		0	0
Natural Resources	Wetlands	Acres	0.0	0.0	20.35	No Effect	0.0	0.0
	Floodplains	Acres		0.0	Minimal	N/A	None	None
	Surface Waters	Acres		0.0	14.34	No Effect	0.0	0.0
	Threatened & Endangered Species	Probability of Effect (Low/Med/High)	Low	Low	Low	Low	Low	Low
Physical Resources	Noise Sensitive Sites within #### feet		N/A	2	2	N/A	45	45
	Contamination Sites	Number of Sites Rated High or Medium	9	0	14	10	0	11
R/W Impacts	Number of Parcels Impacted/Already Purchased/ Remaining to Purchase		N/A	41/26/15	41/26/15	N/A	321/321/0	321/321/0
	Remaining Business Relocations		N/A	21	21	N/A	0	0
	Remaining Residential Relocations		N/A	0	0	N/A	0	0
Estimated Capital Cost ($ millions)	Design		$ 0.00	$ 0.00	$ 51.20	$ 0.00	$ 0.00	$ 4.40
	Right-of-Way		$ 45.29	$ 80.70	$ 80.70	$ 20.35	$ 0.00	$ 0.00
	Construction		$ 286.17	TBD	$ 732.00	$ 111.57	$ 0.00	$ 63.00
	Construction Engineering & Inspection		$ 51.51	TBD	$ 47.00	$ 20.08	$ 0.00	$ 4.00
	Total		$382.97	TBD	$ 910.90	$152.00	$0.00	$ 71.40

Source: TIS Cost from Table 8.6 in the Preliminary Engineering Report 03/1997 & Draft Interstate Evaluation Matrix 04/24/19 (HNTB)

8.6 Locally Preferred Alternative

The LPA selection process involves numerous considerations. It is important to understand the rationale and factors considered in selecting the LPA. In determining the LPA, local preference through both the public involvement process and meetings with stakeholders and local officials were considered.

Throughout the TIS Draft SEIS process there was overwhelming support for minimizing the necessary ROW to complete the project, minimize cultural and historical resource impacts, and provide for enhanced safety and operational characteristics of the interstate (see the results of an Hillsborough MPO survey conducted in 2019 regarding the project at http://www.tampabaynext.com/interstatemodernization/environmental/seis/). Additionally, there was a desire to replace, where necessary, aging structures, which were reaching the end of their design life.

8.6.1 Basis for the Recommended Locally Preferred Alternative

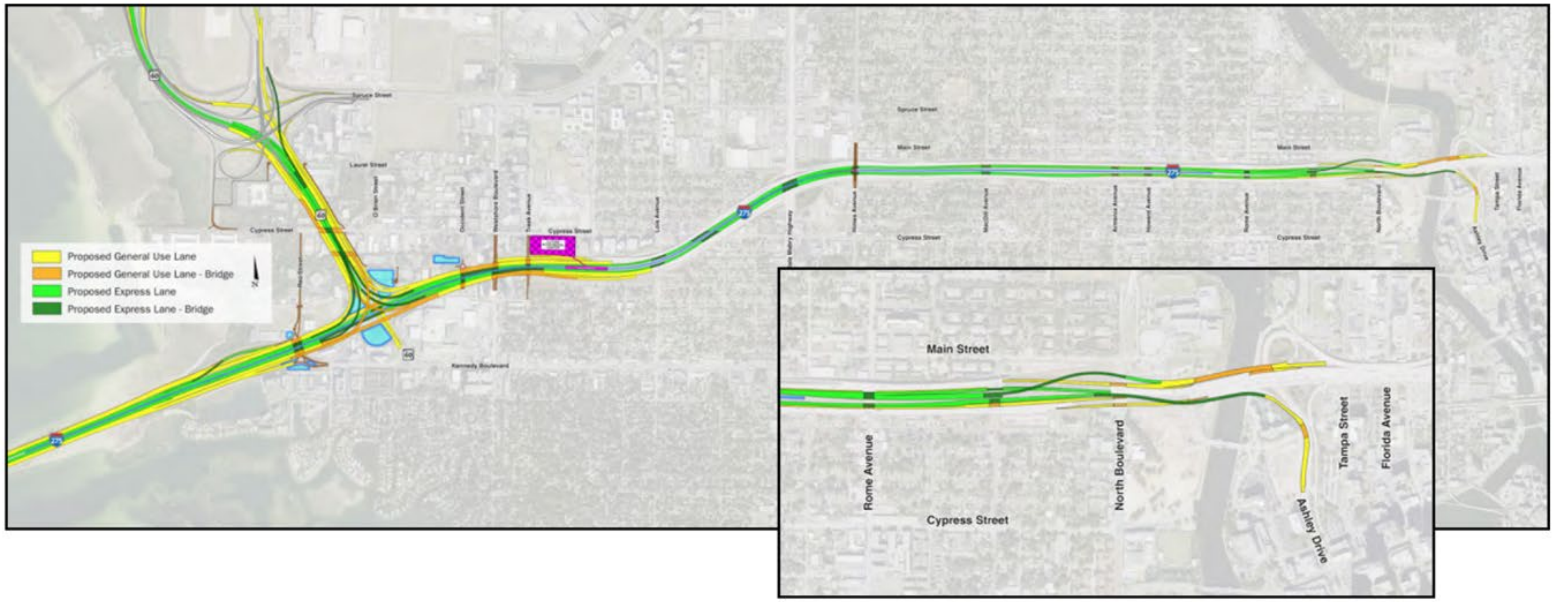
The Alternatives Public Workshops were held on May 21 and 23, 2019 to receive input on the Westshore and Downtown Alternatives, including Design Options A, B, C and D, with the intent to soon after, recommend one of the Options to carry forward as the recommended LPA. Many factors, including comments and concerns related to the potential impacts to the Perry Harvey Sr Park that were expressed and the continuous comments from the public to minimize ROW impacts to downtown neighborhoods and to provide safety improvements in the downtown interchange area led FDOT to develop new Design Option E (Operational and Safety Improvements). This option, in combination with the Westshore Interchange and Express Lanes from the HFB to Ashley Drive, is being recommended as the LPA, which is described below. The evaluation matrix is provided as **Table 8-3.**

In TIS Segments 1A and 2A, the Westshore Area Interchange's outdated design has generated weaving and merging issues, as well as drivers experiencing limited sight distances due to sharp curves. Many areas around the interchange experience congestion due to insufficient capacity along the corridor.

The full reconstruction of the Westshore Area Interchange (I-275/SR 60), shown on **Figure 8-4,** would include the addition of tolled express lanes and would accommodate future transit. The proposed express lane improvements would provide direct connections from I-275 to the Veteran's Expressway, Independence Parkway, Courtney Campbell Causeway, TIA, and Himes Avenue (see **Figure 8-5**).

At a local level, the proposed improvements would provide a substantial benefit to the walk/bike network and traffic circulation in the Westshore Business District by reconnecting Reo Street, Occident Street, and Trask Street beneath the interstate. Reconnecting these streets would relieve traffic bottlenecks on West Shore Boulevard and improve access and connectivity. The proposed improvements would also include lighting improvements, other minor enhancements to existing underpasses, and enhance bike/pedestrian connectivity between underpasses.

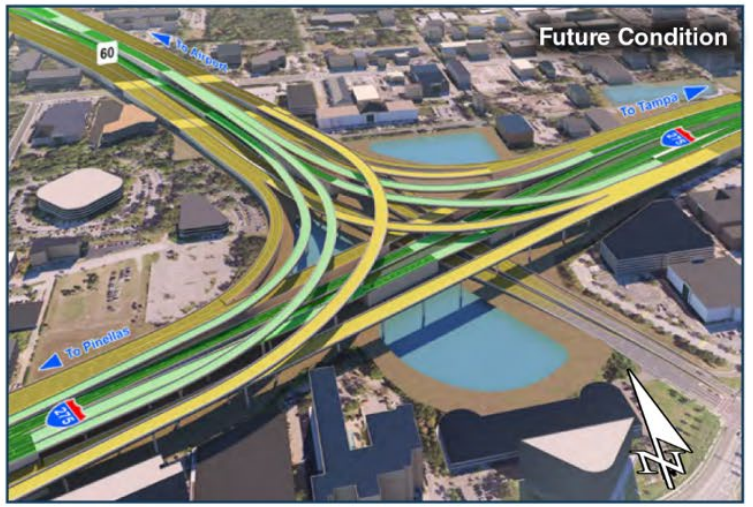
The 4.5 mile I-275 corridor between the Westshore Area Interchange and the downtown interchange was reconstructed in 2012-2016, and the median was widened to accommodate a transit corridor and future express lanes. The improvements in this corridor may be constructed along with improvements to the Westshore Area Interchange. The construction of the Westshore Area Interchange is anticipated to cost approximately $1.4 billion. The project is currently in the tentative work program.



Legend

- Proposed General Use Lane
- Proposed General Use Lane - Bridge
- Removal of Existing Ramp
- Non-FDOT owned parcels impacted

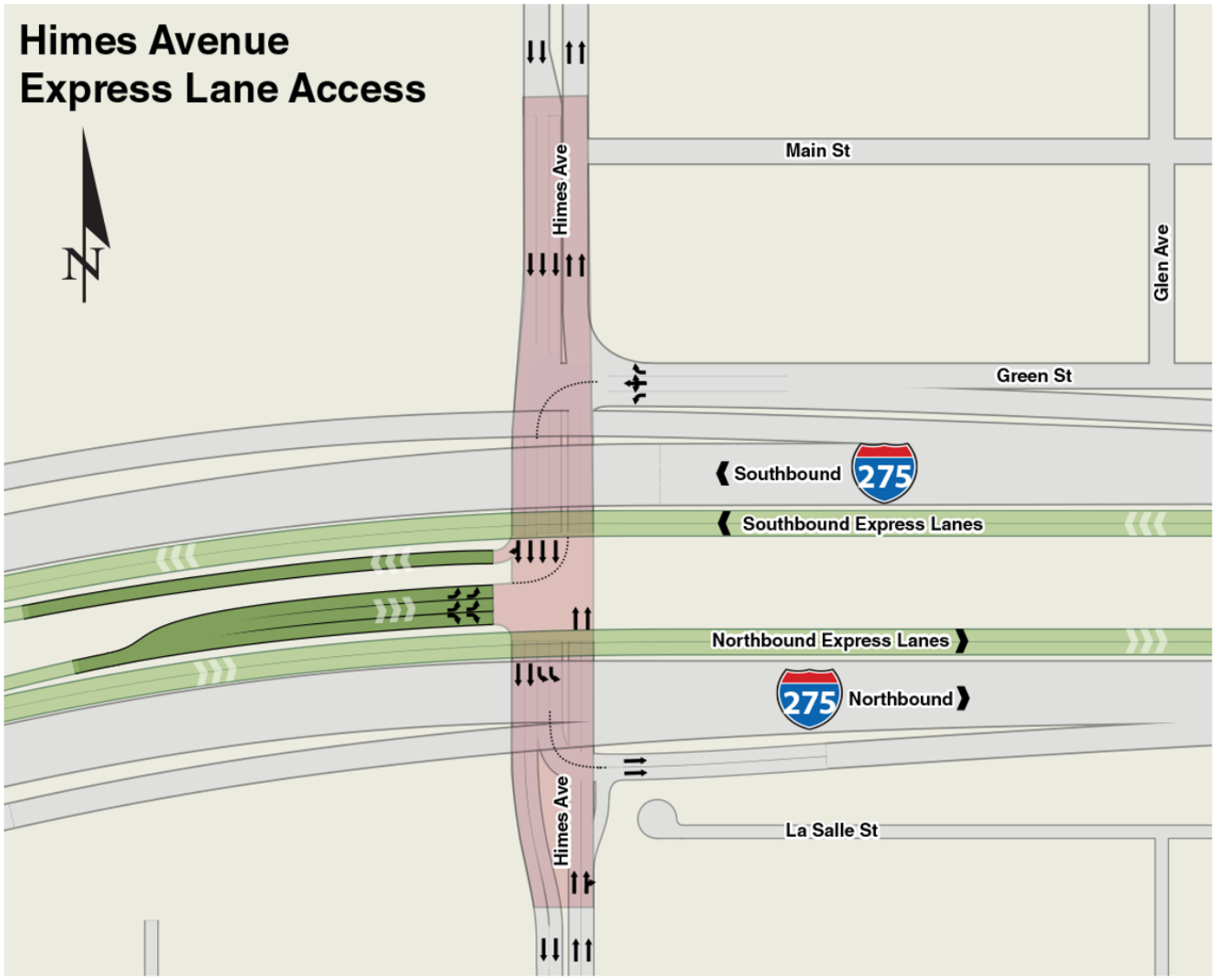
Concepts are preliminary and subject to change
8/13/2019



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Propose LPA Improvements in TIS Segments 1A and 2A - Westshore

Figure 8-4



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

I-275 at Himes Avenue Interchange
Recommended LPA
Proposed Express Lane Access

Figure 8-5

Table 8-3 Recommended Locally Preferred Alternatives Evaluation Matrix

TIS Segment	TIS Segment 1A		TIS Segment 2A	
Alternative	No Further Action	Locally Preferred Alternative	No Further Action	Locally Preferred Alternative
Accommodates Transit Operation				
Provides Express Bus/BRT Opportunities	Yes	Yes	Yes	Yes
Maintains Transit Corridor	Yes	Yes	Yes	Yes
Supports Connections to Existing and Planned Services	Yes	Yes	Yes	Yes
Neighborhood Connections				
Improves Existing Connections	Yes	Yes	No	No
Provides New Connections	Yes	Yes	No	No
Cultural Resources				
Historic Buildings within the Footprint (Potential Direct Effect)	0	0	0	0
Historic Properties Adjacent to the Footprint (Potential Indirect Adverse Visual Effect)	0	0	0	0
Archaeological Sites (Number Impacted)	2	2	0	0
Parks and Recreational Areas				
Resources Potentially Directly Impacted	0	0	0	0
Community Resources Directly Impacted				
Number	0	0	0	0
Natural Resources				
Wetlands/Seagrasses (acres)	0	20.35	0	0
Floodplains (Potential for Encroachment)	None	Minimal	None	None
Surface Waters (acres)	0	14.34	0	0
Threatened & Endangered Species (Probability of Effect - Low/Med/High)	Low	Low	Low	Low
Physical Resources				
Number of Impacted Receptors and Properties	9	9	0	0
Contamination Sites (Number Rated High or Medium Risk)	0	14	0	11
Right-of-Way Impacts				
Number of Parcels Impacted/ Already Purchased/Remaining to Purchase	41/26/15	41/26/15	321/321/0	321/321/0
Business Relocations	21	21	0	0
Residential Relocations	0	0	0	0

9 PUBLIC INVOLVEMENT/PROJECT COORDINATION

9.1 Open Houses/Library Tours and Charrettes

Beginning in 2016, 16 Tampa Bay Express Open Houses and Library Tours were held to inform the public about the program which was to modernize Tampa Bay's transportation infrastructure. There were also eight charrettes held with neighborhood representatives and the general public in 2016 to help with informing the nearby communities. These charrettes were conducted by the Florida Center for Community Design and Research at the University of South Florida (USF). The purpose of these charrettes was to inform the public of the transportation issues that could be solved by improving safety and mobility through innovation, collaboration, and community engagement. The dates of these events are included in the *Comments and Coordination Repor*t.

In May 2017, the FDOT District Seven launched TBNext and committed to a new approach to transportation planning. The TBNext program encouraged communication in a two-way dialogue, listening to the community, and collaborating with partner agencies as part of the planning process.

9.2 Small Group Meetings/Community Working Groups

FDOT participated in a series of small group meetings with neighborhood groups located near the project area. The small group meetings were held with neighborhood associations, business groups, public interest groups, and other concerned people who were interested in the proposed transportation improvements. These meetings were organized by the interested party or group. The content included a PowerPoint presentation and question/answer period. Some included display boards and round table discussions. Comments were documented and are part of the official study record. Since 2017, 31 Small Group Meetings were held within the TIS SEIS project limits. Program wide there were an additional 53 Small Group meetings held with neighborhoods and business organizations outside of the project limits. These presentations included information about the TIS SEIS. The event dates and summaries of these meetings are included in the *Comments and Coordination Report*.

A matrix of comments received at the small group meetings is included in the *Comments and Coordination Report* (FDOT. 2019, j) available on the project website: www.tampainterstatestudy.com.

Sixteen Community Working Group meetings have been held since 2017. These Community Working Group meetings were held to help inform the communities about the PD&E Study process which would help better determine a future alternative for the downtown Tampa interstate system. Many of these meetings included interactive and collaborative exchange of information sessions. The *Comments and Coordination Report* lists the dates and civic groups involved as well as the materials presented and input received.

9.3 Metropolitan Planning Organization (MPO)/Local Governments

As part of the continuous engagement, ongoing updates were provided on a regular basis to the Hillsborough MPO and the City of Tampa Community Redevelopment Agency (CRA). Regular updates were provided to the board and committees of each agencies.

In Hillsborough County, FDOT provided ongoing TB Next Program and TIS SEIS Project presentations and updates to the Hillsborough MPO Board to various agency committees including the Citizens Advisory Committee, Technical Advisory Committee, Livable Roadways Committee and Bicycle and Pedestrian Committee. In addition, FDOT staff were present at each monthly board and committee meeting to answer questions that may arise. In addition, FDOT staff hold monthly calls with MPO staff and TIS SEIS Project updates are often included in the discussion.

In June 2016, the Hillsborough County Metropolitan Organization voted to continue the proposed TBX project by keeping it in its Transportation Improvement Program. The vote came after an eight-hour public hearing, where an estimated 500 people attended at the county center chambers and another floor to voice comment about the project.

In late 2016, FDOT Secretary Jim Boxold publicly announced that it was time to "hit the reset button" on the Tampa Bay Express Project. He stated "we have had some challenges with getting that project to a point where the local communities that are affected are pleased with where it is, and so we have the benefit of some time before we're ready to move forward with that project." He further stated that "we probably have 2-3 years before that project is what we call 'production ready,' ready to turn dirt, and so we're going to bring in additional staff or different staff to manage that project, and work more intensively with the local communities." At that time, FDOT was expected to take two years to research and respond to community feedback and have a revised plan ready by the end of 2019.

FDOT also participated in three special briefings hosted by the Hillsborough MPO that focused on the TIS SEIS Project. These meetings were publicly noticed, and attendees included the public and members of MPO Board and committees. The focus areas for these special briefing meetings are listed below:

- # 1 Social and Community Impacts
- # 2 Natural Environment
- # 3 Traffic and Safety

FDOT and the City of Tampa staff have been coordinating throughout the study, especially in regard to the build alternatives and potential connections to the local street network. In addition to 10 quarterly meetings with a cross section of City departments, including transportation, smart mobility, planning, CRA Management, and parks and recreation, FDOT has also engaged the transportation, CRA, and parks and recreation staff in nearly 20 technical meetings throughout the study.

The City of Tampa Community Redevelopment Area Board requested that FDOT provide quarterly updates on the TIS SEIS project. FDOT provided seven updates on the TIS SEIS Project to the City of Tampa CRA Board and 33 Project updates to individual CRAs and CRA committees including the East Tampa Revitalization Partnership, West Tampa CRA, Ybor City Development Corporation, Channel District CRA, and Downtown CRA.

9.4 Other Coordination/Citizens Transportation Academy

The Tampa Interstate Study project website, www.tampainterstatestudy.com, was created early in the TIS SEIS study. The website provides study information and is used by the public to access project maps, reports and other documents. The public can also submit comments and questions using an online submittal form. The

website also includes the FDOT District 7 phone number (813) 975-6000 that members of the public can use to contact the study team.

In addition, a website was developed for the TB Next program, www.tampabaynext.com, which includes information about the TIS SEIS Study and links to the project documents. The public can submit comments and questions or request a meeting or presentation using the online form. A specific email address (tampabaynext@dot.state.fl.us) and phone number ((813) 975-NEXT (6398)) were created so members of the public can contact the program team.

A Citizens Transportation Academy free webinar series was held in September thru November 2017 to help educate the public about how transportation is planned and funded in their community. This webinar series was a direct response to the questions and comments heard at the Community Working Groups and public outreach events. Six webinars were conducted and information from these is included on the website www.tampabaynext.com at http://www.tampabaynext.com/citizenstransportationacademy/.

Several Community Engagements presentations were held to help inform the communities and groups about the SEIS process for the downtown including 83 community events, 20 community working groups/open houses and over 76 other group presentations. These events are listed in the *Comments and Coordination Report*.

9.5 Workshops and Presentations

An initial series of TIS SEIS public workshops took place in October 2017 and May 2019. The workshops also included information about the Design Change Reevaluation for improvements to SR 60/Memorial Highway from north of Cypress Street to Memorial Highway, a portion of the Northwest Hillsborough Expressway (NWE) now known as the Veterans Expressway. The meetings were held to involve the public in the preparation of the SEIS for the TIS, and the Design Change Reevaluation for the NWE.

In October 2017, two workshops were held on two separate dates at two different locations in the TIS SEIS study area to maximize public participation. The materials presented at each meeting were identical. The purpose of these meetings was to provide information to residents, local public officials, and interested persons and organizations relative to the study history, SEIS process, design concepts and provide information about the significant public outreach and engagement and how to be involved in the process. A Spanish translator was present at these meetings to accommodate the needs of the local Spanish-speaking population.

A separate Historic Resources Meeting was held in conjunction with the workshops at the same locations in a separate room. The purpose of this meeting was to provide information to residents, local public officials, and interested persons and organizations relative to the process and schedule for identifying and evaluating historic resources, determining significant historic properties, and eventually evaluating potential impacts to significant historic properties.

Some 232 individuals attended the October 2017 workshop meetings, in total, and 81 public written comments were submitted during the meeting or following. Both meetings were held in an informal open house format. There was no formal presentation. During the meeting, representatives of the FDOT were available to discuss the process, answer questions, and receive comments specific to these studies. A workshop scrapbook is included in the project files and is available on the project website: www.tampainterstatestudy.com.

The most common subjects of these comments were:

- Support from the business community and commuters for capacity improvements along the interstate and new local street connections at Trask, Occident and Reo Streets in the Westshore area;
- Limited opposition to the express lanes concept;
- Concern regarding construction and rights-of-way impacts to properties;

- Strong support for including mass transit options with an emphasis on rail, although questions remain about the feasibility of the transit envelope concept and practicality of regional rail;
- Support for traffic management opportunities to ease congestion;
- Preserve communities.

A second series of public workshop meetings were held in May 2019. Two workshop meetings were held on two separate dates at two different locations in the TIS SEIS study area to maximize public participation. The materials presented at each meeting were identical. The purpose of these meetings was for the study team to present the status of the TIS SEIS to the public and to give members of the public an opportunity to ask questions, discuss the study, and to provide comments to the study team regarding the location, conceptual design and social, environmental and economic effects of the proposed improvements. In addition, FDOT presented 3D fly-through videos and before-after photo renderings for the build alternatives. A Spanish translator was present at these workshop meetings to accommodate the needs of the local Spanish-speaking population. A workshop scrapbook is available on the project website.

Approximately 213 individuals attended the May 2019 meetings and 79 comments were received during or following these meetings. The main subjects of these comments were:

- Opposition to any additional road construction, with many supporting the “no build” option
- Support for increasing mass transit options
- Continuing concerns about how construction and right-of-way needs will impact properties
- There was moderate interest in additional sound and visual barriers

Comments received at the TIS SEIS workshops were documented and provided to the study team. Workshops were noticed per the FDOT PD&E Manual (FDOT. 2019, c) requirements. Documents displayed at the public workshops were posted on the TIS SEIS Project website at www.tampainterstatestudy.com. More detailed descriptions of all the comments received from both the 2017 and 2019 workshop meetings can be found in *Comments and Coordination Report* located on the TIS SEIS Project website.

9.6 Coordination with Minority, Low-Income, and Limited English Proficient Populations

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, defines environmental justice as the fair treatment and meaningful involvement of all people – regardless of race, ethnicity, income, or education level – in transportation decision-making. Environmental justice programs promote the protection of human health and the environment, empowerment via public participation, and the dissemination of relevant information to inform and educate affected communities. Environmental justice outreach activities for this Project were done in accordance with Executive Order 12898; United States Department of Transportation (USDOT) Updated Final Order on Environmental Justice, 5610.2(a) (USDOT. 2012); and FHWA EJ Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (FHWA. 2012).

The strategies FDOT used to build and sustain meaningful participation for all stakeholders include the following to achieve the goals of the Executive Order as it applies to the Project. A list of outreach activities targeted to EJ communities including the locations of the small group meetings that FDOT held can be found in *Comments and Coordination Report* located on the TIS SEIS Project website.

- Coordinated with area organizations that represent the interests of environmental justice populations of concern;
- Distributed project information via minority publications, faith organizations, schools, social and community organizations;
- Translated materials and provided Spanish speakers at workshops and Community Working Groups to ensure suitable communication;
- Provided accessible formats to ensure appropriate communication media for the disabled and those with limited access to electronic media;
- Hosted Community Working Groups and Small Group Meetings in minority communities;
- Participated in community outreach events in minority communities;
- Participated in community leader led Listening and Learning Tours in minority communities;
- Coordinated with Collective Empowerment Group of Tampa Bay, Tampa Coalition of Clergy, Pastors on Patrol;
- Established a project office in Ybor City where individuals interested in the project can visit to receive information, ask questions or provide comments; and
- Provided quarterly updates to the City of Tampa CRA Board of Directors and ongoing updates to individual CRA Community Advisory Committees.

9.7 Public Hearing

Two sessions of the public hearing for the TIS SEIS were held on two separate dates at two different locations in the TIS SEIS study area to maximize public participation. The hearing provided information on the Locally Preferred Alternative for the Westshore Area Interchange (I-275/SR 60) and Downtown Tampa Interchange (I-275/I-4) and areas in between. The materials presented at each session were identical. The purpose of the public hearing was to provide information to residents, local public officials, and interested persons and organizations relative to the Draft SEIS document including the study history, SEIS process, design concepts, and the Locally Preferred Alternative. A Spanish translator was present to accommodate the needs of the Spanish-speaking population.

A total of 143 individuals attended the public hearing, and 117 people submitted comments during the public hearing comment period. Both sessions were held in two parts with an informal open house format for the first hour followed by a formal presentation during which oral comments were received. Court reporters were available to receive oral comments throughout each hearing session. During the hearing, representatives of the FDOT were available to discuss the SEIS process, answer questions, and receive comments specific to the TIS SEIS. The public hearing scrapbook is located in the project files and is available on the project website: www.tampainterstatestudy.com.

The public hearing sessions took place at the following locations:

TIS SEIS Public Hearing Session #1	TIS SEIS Public Hearing Session #2
February 25, 2020 Hillsborough Community College Dale Mabry Campus – Student Services Building 4001 W Tampa Bay Boulevard, Tampa, FL 33614 5:00 p.m. – 7:30 p.m. 78 attendees 6 written comments 4 oral comments	February 27, 2020 Port Tampa Bay Cruise Terminal #6 1331 McKay Street Tampa, FL 33602 5:00 p.m. – 7:30 p.m. 65 attendees 5 written comments 18 oral comments
* Additional 91 comments were received via mail or emailed to the department.	

The most common subjects of the comments received were:

- Transit
- Traffic on Local Streets
- Safety
- Congestion
- Bicycle and Pedestrian Safety and Improvements

All comments received from the public can be found in the *Comments and Coordination Report, Appendix C.*

10 DESIGN DETAILS OF PREFERRED ALTERNATIVE

The conceptual design of the Recommended Locally Preferred Alternative (presented at the project public hearing held on February 25 and 27, 2020) was refined based on coordination with the City of Tampa, public comments received on the Draft Supplemental Environmental Impact Statement during the comment period for the public hearing, and as revealed through the Supplemental Interchange Modification Report (SIMR) process. The conceptual design refinements include widening of Reo Street, re-alignment of Lemon Street, and modified Downtown Tampa connections. The specific refinements, along with corresponding exhibits, are presented below. The Recommended Locally Preferred Alternative, as modified by the conceptual refinements, is identified now as the Preferred Alternative.

Reo Street Widening – Reo Street is proposed to be widened from Executive Drive to Cypress Street to accommodate a revised typical section. The proposed typical section includes two southbound lanes, a two-way left turn lane, and a single northbound lane. The second southbound lane will provide traffic capacity to the adjacent commercial properties, the new southbound I-275 entrance ramp and the thru-connection to W. Kennedy Boulevard. The two-way left turn lane will provide left-turn access to adjacent commercial properties on both sides of Reo Street without contributing to congestion in the through lanes. A southbound Reo Street right turn lane to Executive Drive and the southbound I-275 entrance ramp is added. Widening on Cypress Street at the intersection with Reo Street will accommodate an additional left turn lane from westbound Cypress Street to southbound Reo Street and a single right turn lane from eastbound Cypress Street to southbound Reo Street. Additionally, a shared use path is proposed along the west side of Reo Street providing connectivity from the proposed shared-use path across the Howard Frankland Bridge to Cypress Point Park. The roadway widening and shared-use path create impacts to four additional and one previously identified commercial properties, including some parking impacts. However, the widening does not impact Cypress Point Park. The City of Tampa will acquire the four additional right of way takings north of Gray Street. As a separate project, the City of Tampa will extend the existing trail within the Cypress Point Park to connect to the shared use path improvements included in the SEIS. The conceptual design refinements are illustrated in **Figure 10-1**.

Lemon Street Re-alignment – The proposed concept design included within the draft SEIS has southbound I-275 on bridge structure over Lemon Street between Occident Street and West Shore Boulevard. A hydroplaning analysis on I-275 in this area determined that traffic within the express lanes would be prone to hydroplaning due to all general use and express lanes sloping toward the median. In order to mitigate this safety concern, Lemon Street is proposed to be shifted to the north side of I-275 so that I-275 between Occident Street and West Shore Boulevard can be constructed on roadway embankment and retaining wall. This allows for longitudinal trench drain to be positioned within the buffer between the general use lanes and the express lanes, thereby capturing the stormwater runoff from the general use roadway before it enters the express lanes which mitigates the hydroplaning issue. The proposed re-alignment of Lemon Street to the north side of I-275 impacts the adjacent commercial property. It is anticipated that the commercial property access from Lemon Street will need to be reconfigured or possibly relocated to Occident Street. FDOT owns the vacant parcel to the west of this commercial property which could be used to mitigate the impacts. The conceptual design refinements are illustrated in **Figure 10-2**.

Downtown Tampa Connections – FDOT agreed to work with the City of Tampa to achieve their mission of enhancing the street grid in Downtown Tampa and improving the safe movement of pedestrians and bicyclists, particularly near ramp connections. As such, the following changes in ramp connections are proposed as part of the Preferred Alternative:

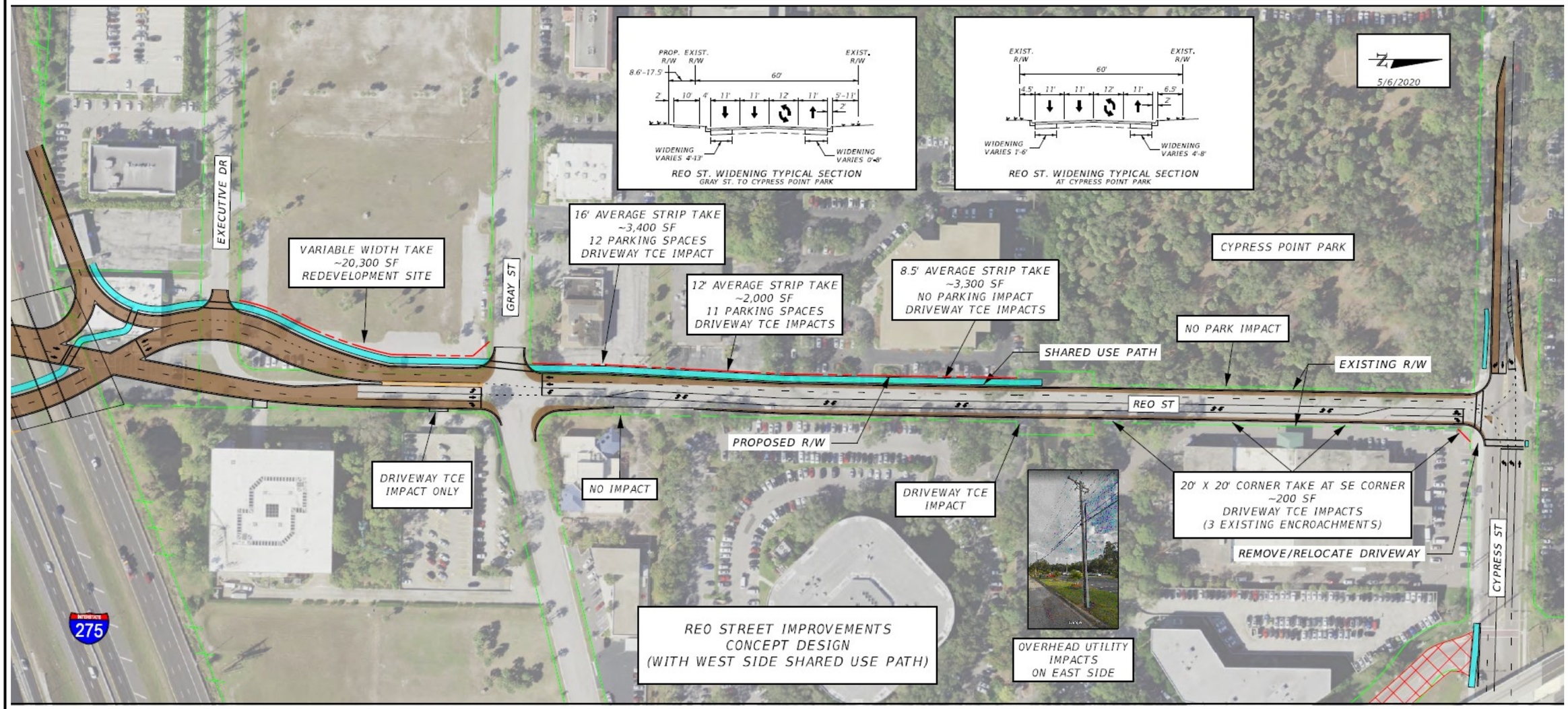
- Northbound I-275 general use traffic will exit exclusively to Tampa Street without direct connection to Ashley Drive. This will require the ramp bridge to be widened to two lanes with the ramp terminus at Tampa Street to provide two eastbound lanes to Scott Street and triple right turns to Tampa Street.
- To facilitate the northbound general use ramp improvements described above, the ramp bridge from Ashley Drive to northbound I-275 will need to be reconstructed.
- The northbound express lane ramp connection to Ashley Drive will tie into the existing ramp pavement, eliminating the need to widen the ramp bridge over Laurel Street.

The following local street improvements are also proposed as part of the Preferred Alternative:

- A new intersection of Ashley Drive at Fortune Street will be created, and Fortune Street will be connected to the Harrison Street/Tampa Street intersection completing this street grid connection.
- The northbound Ashley Drive bridge/grade separation over the southbound ramp will be removed.
- Through a reversing S-curve, Laurel Street will be connected to Fortune Street completing this street grid connection.
- A northbound Ashley Drive connection to Laurel Street/Fortune Street S-curve will be made.
- Minor widening of Scott Street is anticipated.

The Downtown Tampa Connections conceptual design refinements are located entirely outside the limits of Segments 1A and 2A and are not addressed further in this document. Additional information for the Downtown Tampa Connections is included in the Final Preliminary Engineering Report for the Tampa Interstate Study Supplemental Environmental Impact Study – Segments 2B, 3A, and 3B.

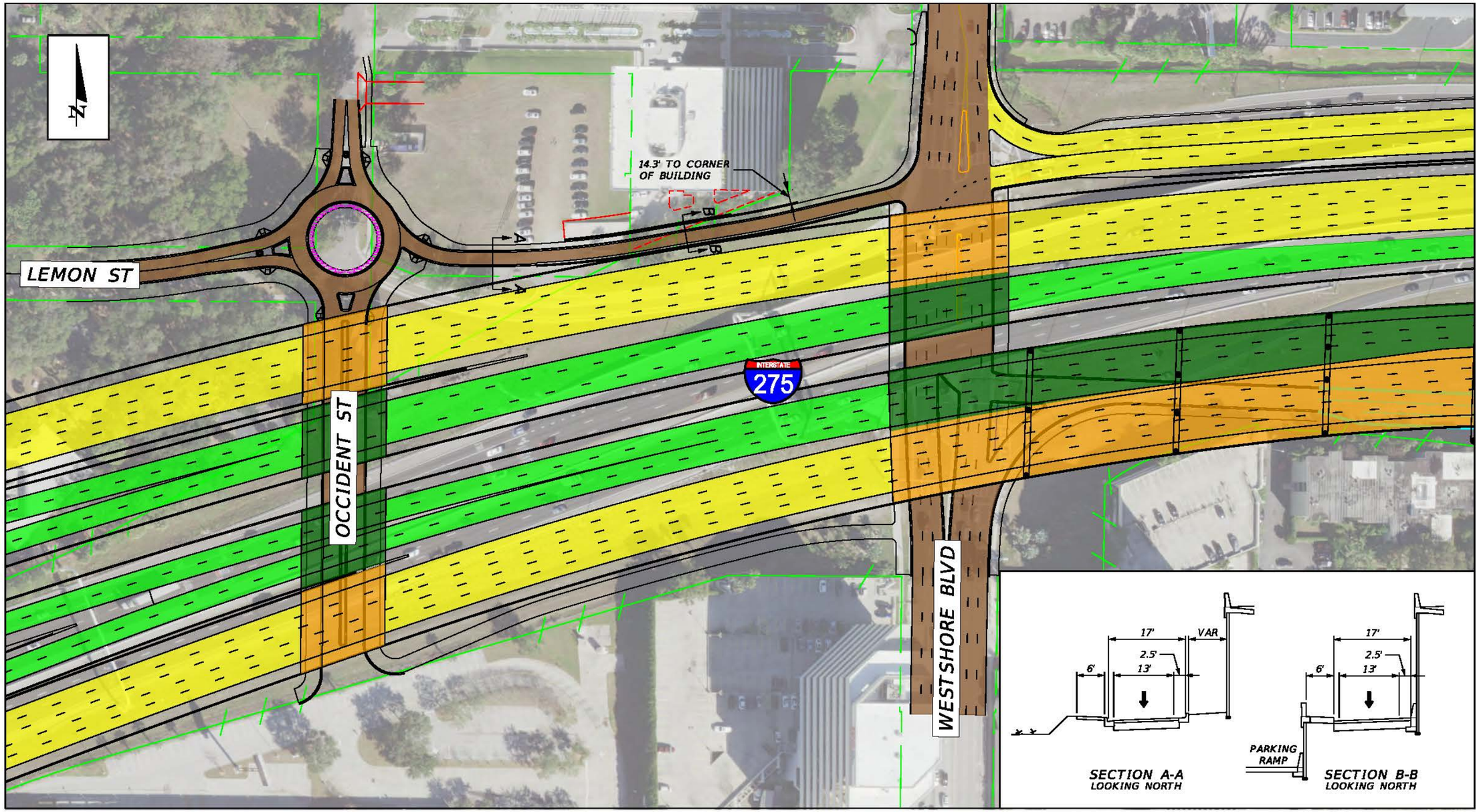
No additional residential or business relocations are anticipated as a result of these conceptual design refinements; however, four more parcels are affected at the Reo Street Widening. Overall, anticipated impacts of the Preferred Alternative remain consistent with those of the Recommended Locally Preferred Alternative.



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Conceptual Design Refinements – Reo Street

Figure 10-1



Tampa Interstate Study SEIS
I-275 from north of Howard Frankland Bridge to Rome Avenue
WPI Segment No. 258337-2

Conceptual Design Refinements – Lemon Street

Figure 10-2

10.1 Design Traffic Volumes

Design Traffic Volumes are provided in Section 7 and Appendix E of this report. The traffic data source is the TIS SEIS Project Traffic Analysis Report, dated November 2019.

10.2 Typical Sections and Design Speed

The typical sections include general use lanes and express lanes. Express lanes are separated from the general use lanes by use of either traffic barriers or flexible express lane markers. The I-275 mainline design speed varies from 60 to 70 mph. The ramp design speeds vary from 35 to 50 mph.

10.3 Intersection Concepts and Signal Analysis

The following intersections will be reconstructed or modified:

- I-275 ramps at Reo Street/Kennedy Boulevard – Diverging Diamond (reconstructed)
- I-275 ramps at West Shore Boulevard – Conventional (reconstructed)
- I-275 ramps at Lois Avenue – Conventional (reconstructed)
- I-275 ramps at Himes Avenue – Conventional (modified)

10.4 Horizontal and Vertical Alignment

The horizontal and vertical alignments are based on interstate highway design criteria. The alignments maximize the use of the existing right of way and minimize impacts due to acquisitions of proposed right of way.

10.5 ROW Needs and Relocations

The ROW needs have been prepared for Segment 1A of the TIS SEIS, these are provided in **Appendix G**. Additionally, preliminary ROW cost estimates are provided in **Appendix G**.

The ROW needs for Segment 2A were already acquired to accommodate the ultimate build-out of I-275.

10.6 Cost Estimates

A cost estimate for the Preferred Alternative was updated in 2020. The total cost in 2020 dollars for the Preferred Alternative, based on the FDOT's the Long Range Estimating (LRE) system cost estimates system is summarized in **Table 10.1.** The LRE reports for the Preferred Alternative are provided in **Appendix H.**

Table 10-1 Preferred Alternative Estimated Project Cost

Component	Cost
Construction	$896,000,000
Right of Way	$174,000,000
Design	$63,000,000
Construction Engineering and Inspection	$67,000,000
Total	$1,200,000,000

10.7 Recycling and Salvageable Materials

During construction of the project, recycling of reusable materials will occur to the greatest extent possible. Where possible, pavement material removed from the existing roadway can be recycled for use in the new pavement. This will help to reduce the volume of the materials that need to be hauled away and disposed of from the project and to reduce the cost of purchasing materials suitable for pavement construction. Other materials such as signs, drainage concrete pipes, etc., will also be salvaged and reused for regular maintenance operations if they are deemed to be in good condition. Concrete from existing bridges can be reused as rip rap and roadway base material, etc.

10.8 User Benefits (Safety, etc.)

Implementation of the recommended Preferred Alternative is expected to:

- Reduce the number of crashes and the associated economic loss. Please refer to Chapter 4.2.9 to review the existing crash conditions and economic loss that will be improved by the implementation of the Preferred Alternative.
- Improve efficiency of the transportation system by increasing average speed and reducing the total delay. Please refer to Chapter 7.5, to review the improvement of MOE with the implementation of a Build Alternative.
- Improve the roadway conditions for an evacuation during a disaster.
- Improve access to businesses, residential, and activity centers located in the Tampa Bay Region. Please refer to Chapter 7.5.2, to review the impact on the local roadways with the implementation of a Build Alternative.
- Improve long distance and interstate truck freight movements which are frequently delayed because of congestion in the TIS SEIS Project study area.
- Provide a multimodal transportation corridor that complements the surrounding community from a transportation, economic, and social aspect.

10.9 Multimodal Considerations

The proposed Westshore Regional Multimodal Center (WRMC), particularly one offering regional and intercity services, can become a major gateway to the Westshore Business District area. In addition, it creates the first impression of the surrounding community to arriving passengers. Historically, major multimodal transportation centers have been signature civic buildings and public spaces that celebrate arrival, the city, and mobility.

The WRMC will be a central hub for public and private local and regional transportation services, including: rail, buses, taxis, hotel shuttles, bicyclists and pedestrians. Plans for the multimodal center may include a park-and-ride facility, bus layover zone, auto drop-off and pick-up facilities, operations control center, operator lounges, police substation, convenience store (as a part of a WRMC joint development effort), public restrooms, and a customer service center that could provide information about local and regional public and private transportation services and to purchase transit passes. Economic and Community Development

I-275 provides vital regional links, via I-75 and I-4, between the counties they serve: Pasco, Polk, Pinellas, Hillsborough, and Manatee. The TIS SEIS Project study area along I-275 and I-4 represents the spine of the transportation network for the City of Tampa and Hillsborough County and provides access to employment, residential neighborhoods, tourist and recreational destinations, and services. Maintaining access to key business, residential, and activity centers, such as Downtown Tampa and the Westshore District, and improving freeway capacity that will provide reliable travel times along the TIS SEIS Project corridors is crucial to economic development and vitality in the Tampa Bay regions.

10.10 Temporary Traffic Control Plan

The temporary traffic control plan will include provisions to maintain the existing number of lanes throughout the construction duration, with limited lane closures during off-peak traffic periods. Temporary lanes will be utilized at various locations throughout the project limits.

10.11 Bicycle/Pedestrian Facilities

Bicycle/pedestrian facilities are restricted on a limited access facility. At a local level, the proposed improvements would provide a substantial benefit to the walk/bike network and in the Westshore Business District by reconnecting Reo Street, Occident Street, and Trask Street beneath the interstate. The proposed improvements would also include lighting improvements, other minor enhancements to existing underpasses, and enhance bike/pedestrian connectivity between underpasses. Additionally, as shown on Figure 4-2, there are several multi-use trail segments that are planned, within the SEIS limits.

10.12 Utility and Railroad Impacts

Existing utilities are present throughout the project limits; but are concentrated primarily at the local road crossings. Conflicts with existing utilities that cannot be avoided will be addressed through coordination with the utility owners to adjust or relocate the utilities. There are no existing rail facilities within the project limits.

10.13 Value Engineering Results

A Value Engineering Study has not been performed as of this date.

10.14 Drainage and Stormwater Management

This ASMR identified Stormwater Management Facility (SMF) locations that are hydraulically feasible and environmentally permittable based on the best available information. Potential SMF locations 3,5,8,10,11,12, and 14 were analyzed and evaluated for using areas meeting the following criteria. SMF locations 1,2,4,6,7,9, and 13 were removed during the potential SMF location process.

- within existing right of way
- within remnant parcels impacted by the roadway alignment
- within existing parcels owned by the Florida Department of Transportation

Maps and a detailed comparison matrix for the following proposed SMF locations are provided in **Appendix I.**

Direct Discharge – to Old Tampa Bay (OTB) area is west of Basin 5, Basin 8, and Basin 10 will not be treated in a SMF.

Basin 3 – extends from approximately the beginning of the eastbound I-275 off ramp to Kennedy Boulevard and from Kennedy Boulevard to west of West Shore Boulevard. All runoff will be conveyed via a stormwater system and be collected by existing SMF 3 in conjunction with new SMF 3 cells that will discharge directly to OTB. The roadway design will provide wall and a bridge span to max out the allowed space.

Basin 5 – includes runoff from the westbound express lane ramp from Reo Street/Kennedy Boulevard to I-275 that will be conveyed via stormwater system and roadside ditches. The roadway adjacent to SMF 5 will be a curb & gutter section. The runoff will be collected by SMF 5 and discharge directly to OTB.

Basin 8 – includes the southbound lanes from north of Cypress Street on SR 60 traveling south to west on I-275 1400 feet west of Reo Street. All runoff will be conveyed via stormwater system and be collected by SMF 8. Wall will be provided to maximize the pond area. SMF 8 will discharge to a roadside ditch and discharge to OTB.

Basin 10 – includes eastbound lanes that will extend from west of SR 60 to West Shore Boulevard. All runoff will be conveyed via a stormwater system and be collected by existing regraded SMF 10. SMF 10 will discharge to the 10-foot x 6-foot existing CBC and discharge to OTB.

The presumptive treatment requirements will be 1 inch over the new impervious for wet detention and a half of an inch for dry retention. An area of direct discharge into OTB from west of Basin 5, Basin 8, and Basin 10 to the begin project limits will not meet the requirements of presumptive treatment and nutrient removal due to the limited area on the causeway for SMF locations. Available compensatory credits from each basin will be used to offset this shortfall. Old Tampa Bay Water Quality Improvement Project (SWFWMD Permit No. 4300920) will be used to compensate for any additional shortfalls in both nutrient credits. The comparison of the presumptive treatment requirements is shown in **Tables 10-2** and **10-3** for the proposed basins. The nutrient and phosphorus removal requirements comparison is shown in **Table 10-4**.

Table 10-2 Treatment and Compensatory Comparison – Credits Available

	Outfall	Treatment and Compensatory Comparison					
		Total Impervious Collected (ac)	Required Impervious area for Treatment(ac)	Treatment Volume Required (ac-ft)	Impervious Area Treated (ac)	Treatment Volume Provided (ac-ft)	Compensatory Credit Area Available (ac)
SMF 3 (Wet)	OTB	20.36	14.72	1.23	15.60	1.30	0.88
SMF 5 (Wet)	OTB	2.30	0.72	0.06	2.30	0.19	1.58
SMF 8 (Dry)	OTB	21.01	14.17	0.59	21.01	0.88	6.84
SMF 10 (Wet)	CBC	19.50	16.44	1.37	19.50	1.63	3.06
SMF 11 (Wet)	Existing CBC/Lemon Street Canal	0.33	-0.33	-0.03	0.33	0.03	0.33
SMF 12 (Dry)	Existing CBC/Lemon Street Canal	19.65	11.76	0.49	19.65	0.82	7.89
SMF 14 (Wet)	Existing CBC/Lemon Street Canal	2.50	1.62	0.14	2.50	0.21	0.88
Total Compensatory Credits Available:							**21.46**

Source: I-275 (SR 93) / SR 60 Interchange Draft Alternate Stormwater Management Report (ASMR), July 2018

Table 10-3 Treatment and Compensatory Comparison – Credits Required

	Outfall	Compensatory Comparison					
		Total Impervious Collected (ac)	Required Impervious area for Treatment(ac)	Treatment Volume Required (ac-ft)	Impervious Area Treated (ac)	Treatment Volume Provided (ac-ft)	Compensatory Credit Area Available (ac)
Direct Discharge	OTB	44.09	21.61	1.80	N/A	N/A	21.61
Total Additional Compensatory Credits Required:							**21.46**

Source: I-275 (SR 93) / SR 60 Interchange Draft Alternate Stormwater Management Report (ASMR), July 2018

Table 10-4 Nitrogen Comparisons

	Pond Type	Nitrogen		
		Pre Loading (kg/yr)	Post Discharge (kg/yr)	Net Benefit (kg/yr)
Direct Discharge	N/A	107.94	278.87	-170.93
SMF 3	WET	116.72	76.12	40.60
SMF 5	WET	9.06	6.99	2.07
SMF 8	DRY	74.06	63.07	10.99
SMF 10	WET	75.74	60.97	14.77
SMF 11	WET	5.41	0.73	4.68
SMF 12	DRY	91.98	58.14	33.84
SMF 14	WET	7.35	5.50	1.85
			TOTAL:	**-62.13**

Source: I-275 (SR 93) / SR 60 Interchange Draft Alternate Stormwater Management Report (ASMR), July 2018

Credits are needed from Old Tampa Bay Water Quality Improvement Project SWFWMD (Permit No. 4300920) to compensate for the Nitrogen shortfall of 62.13 (kg/yr).

10.15 Structures

Bridge structures are required for I-275 over local roads, and for ramps over I-275 and other ramps. Bridge superstructures will be determined based on location and span length and may be concrete or steel.

10.16 Special Features - ITS

Existing ITS facilities are present throughout the project limits. Modification or reconstruction of the existing ITS facilities will be required to accommodate the Preferred Alternative. Additionally, tolling facilities will be added for toll collection on the express lanes, including the addition of toll lane signing in advance of the express lanes entry locations.

10.17 Access Management

Access to the I-275 general-use lanes and express lanes will be provided at the following locations:

- Reo Street/Kennedy Boulevard – General use and express lanes
- SR 60 – General use and express lanes

- West Shore Boulevard – General use lanes
- Lois Avenue – General use lanes
- Dale Mabry Highway – General use lanes
- Himes Avenue – General use and express lanes
- Armenia/Howard Avenues – General use lanes

Additionally, slip ramps will be located in multiple locations to allow access between the general use and express lanes on the I-275 mainline.

10.18 Design Variations and Exceptions

The following table identifies the preliminary design variations and exceptions for the proposed improvements.

Table 10-5 Preliminary Design Variations and Exceptions

Variation	Location		Description	Reason
Median Width	1	Connection to the HFB	Median width is less than 26'	To facilitate proper connection of the NB I-275 lanes to the HFB
Shoulder Width	1	NB I-275 GP East of Trask St	10' Outside shoulder; Less than 12'	R/W constraints
	2	NB I-275 EL connection to HFB	Inside shoulder width is less than 12'	To facilitate proper connection to the HFB
	3	SB I-275 GP East of Trask St	10' Outside shoulder; Less than 12'	R/W constraints
	4	SB I-275 EL connection to HFB	Inside and outside shoulder widths are less than 12'	To facilitate proper connection to the HFB
	5	SB I-275 EL between NB SR 60 Off-Ramp and SB SR 60 On-Ramp	10' Outside shoulder; Less than 12'	R/W constraints
	6	3G2E6N Ramp within the SR 60 Interchange	Outside shoulder width is 8'; Less than 12'	Outside and inside shoulder widths were flipped for SSD purposes
	7	1M2E6N Ramp within the SR 60 Interchange	6' Outside and Inside shoulders; Less than 12'	Standard shoulder widths for a 1-lane ramp before EL criteria was developed
	8	9M6S2E various locations	Outside and Inside shoulders are less than 12'	Horizontal constraints
	9	SB I-275 GP On-Ramp from Reo St	10' Outside shoulder; Less than 12'	Profile constraints
	10	SB I-275 Off-Ramp to West Shore Blvd	10' Outside and 6' Inside shoulder; Less than 12' and 8'	Tie to existing condition

Variation	Location		Description	Reason
	11	SB I-275 EL On-Ramp from Reo St	6' Outside and Inside shoulders; Less than 12'	Standard shoulder widths for a 1-lane ramp before EL criteria was developed
	12	9M6S2W Ramp	6' Outside and Inside shoulders; Less than 12'	Standard shoulder widths for a 1-lane ramp before EL criteria was developed
	13	1M2W6N Ramp	8' Inside shoulder; Less than 12'	Standard shoulder width for a 2-lane ramp before EL criteria was developed
	14	3C6NAP merge with 3C2WAP	6' Outside and Inside shoulders; Less than 12'	R/W constraints
Shoulder Reduction	1	9M6S2W over 9G6S	Reduces proposed shoulder widths on roadways below	Straddle pier
Border Width	1	NB I-275 approaching Reo St	L/A ROW and ROW concurrently exist; L/A is encroached upon	Horizontal constraints
	2	3G2E6N next to Lincoln Center	L/A ROW is encroached upon; Proposed ROW is expected	Horizontal constraints
	3	NB I-275 near Lincoln Center	L/A ROW and ROW concurrently exist; L/A is encroached upon	Horizontal constraints
	4	NB I-275 next to Westshore Plaza	5' minimum border width; Less than 10'	Horizontal constraints
	5	NB I-275 next to Embassy Suites and Westshore Apartments	L/A ROW is encroached upon; Proposed ROW is expected	Horizontal constraints
	6	Lois Ave Off-Ramp	1' minimum border width; Less than 10'	Horizontal constraints
	7	SB I-275 at Reo St	L/A ROW is encroached upon; Proposed ROW is expected	Horizontal constraints
	8	SB I-275 at Ward St	L/A ROW is encroached upon; Proposed ROW is expected	Horizontal constraints
	9	SB I-275 at Amscot	1' minimum border width; Less than 10'	Horizontal constraints
	10	Trask Off-Ramp	3' and 5' pinch points; Less than 10'	Horizontal constraints
	11	NB SR 60 along proposed Frontage Rd	Existing ROW is encroached upon; Proposed ROW is expected	Horizontal constraints

Variation	Location		Description	Reason
	12	SB SR 60 multiple locations	Existing ROW is encroached upon; Proposed ROW is expected	Horizontal constraints
Base Clearance	1	I-275, SR 60, 3G2E6N and Reo St On-Ramp to SB I-275	Minimum clearance to Base Clearance Water Elevation cannot be achieved	Profile constraints
K-Value for Vertical Curve	1	3C2WAP	40; Less than 49 31; Less than 47	Geometric constraints
	2	9G6S	125; Less than 136	Geometric constraints
	3	9G6S2E	93; Less than 96	Geometric constraints
	4	1M2E6N	49; Less than 64 47; Less than 70	Geometric constraints
Minimum Length of Vertical Curve	1	1M2E6N	694'; Less than 1,000'	Geometric constraints
	2	NB I-275 GP	1,353'; Less than 1,800' 306'; Less than 1,000' (tie to existing)	Geometric constraints
	3	NB I-275 ML	945'; Less than 1,000' (tie to existing)	Geometric constraints
	4	SB I-275 ML	1,000'; Less than 1,800'	Geometric constraints
	5	3G6N	300'; Less than 1,000' 300'; Less than 800' 240'; Less than 800' 952'; Less than 1,000'	Geometric constraints
	6	9G6S	All less than 800' and 1,000'	Geometric constraints
	7	9G6S2E	600'; Less than 1,000'	Geometric constraints
Horizontal Curve Length	1	1M2E6N	153'; Less than 750'	Ramp peel-off in the middle of a curve
	2	3G2EAP	367'; Less than 750'	Geometric constraints
	3	3G6N	329'; Less than 750' 616'; Less than 750' 548'; Less than 750'	Geometric constraints
	4	9G6S	740' @ STA 1104+00; Less than 750' 605' @ STA 1122+00; Less than 750'	Geometric constraints
	5	Trask Off-Ramp	384'; Less than 400'	Geometric constraints
Compound Curve Ratio (1.5:1, 2:1)	1	NB I-275 GP	11,459/4,501 (2.55:1) 4,321/2,876.8 (1.502:1)	Geometric constraints
	2	NB I-275 ML	8,409/4,890 (1.72:1)	Geometric constraints
	3	9G6S2W	1,170/597 (1.96:1)	Geometric constraints

Variation	Location		Description	Reason
	4	9M6S2W	3,289/588 (5.6:1)	Geometric constraints
Gore to Gore Spacing	1	Trask St On Ramp to Dale Mabry Off-Ramp	775'; 1 lane change required	Geometric constraints
	2	Reo St GP On-Ramp to EL Ingress	3,600'; 3 lanes changes required + 1,500'; <4,500'	Geometric constraints
	3	NB SR60 Off-Ramp from SB I-275 to NB TIA Off-Ramp	363'; Less than 800'	Geometric constraints
	4	NB I-275 EL/SB I-275 EL to TIA EL Off-Ramp	1,375'; 2 lane changes required; Less than 2,000'	Geometric constraints
	5	SB SR60 EL/ SB TIA Ramp to NB and SB I-275 EL Split	1,208' Less than 2,000' for weaving	Geometric constraints

Source: Data provided by Arcadis

10.19 Potential Construction Segments and Phasing

Generally, the project will be constructed as multiple construction segments. Transitions to match the existing roadway on I-275 near the Hillsborough River will be necessary until additional improvements are made to the downtown interchange.

10.20 Work Program Schedule

Below is a list of work program milestones:

- Request for Proposal Development Begin – Fiscal Year 2020
- Advertise Design-Build – Fiscal Year 2023
- Execute Design-Build Contract – Fiscal Year 2024
- Construction NTP – Fiscal Year 2024

11 LIST OF TECHNICAL REPORTS

The technical reports generated for Segments 1A and 2A as part of the SEIS process, include:

- Preliminary Engineering Report
- Alternate Stormwater Management Report
- Conceptual Stage Relocation Plan
- Contamination Screening Evaluation Report
- Location Hydraulics Technical Memorandum
- Natural Resources Evaluation
- Water Quality Impact Evaluation

Additional reports generated specifically for Segments 2B, 3A, and 3B, include:

- Preliminary Engineering Report – Segments 2B, 3A, and 3B
- Air Quality Technical Memorandum – Segments 2B, 3A, and 3B
- Conceptual Stage Relocation Plan – Segments 2B, 3A, and 3B
- Contamination Screening Evaluation Report – Segments 2B, 3A, and 3B
- Location Hydraulics Report – Segments 2B, 3A, and 3B
- Natural Resources Evaluation Report – Segments 2B, 3A, and 3B
- Pond Siting Report – Segments 2B, 3A, and 3B
- Section 106 Case Study Report – Segments 2B, 3A, and 3B

Additional reports generated for the overall SEIS study area, include:

- Final Supplemental Environmental Impact Statement/Record of Decision/Section 4(f) Use Determination
- Draft Supplemental Environmental Impact Statement and Section 4(f) Evaluation
- Comments and Coordination Report
- Cultural Resource Assessment Survey Update
- Cultural Resource Assessment Survey Update Addendum
- Economic and Fiscal Impact Analysis Report
- Noise Study Report
- Noise Contour Study
- Project Traffic Analysis Report
- Sociocultural Effects Evaluation Report
- Alternatives Public Workshops Scrapbook (workshops held on 05/21/19 and 05/23/19)
- Public Hearing Scrapbook (hearing sessions held on 02/25/20 and 02/27/20)
- Public Workshops Scrapbook – Tampa Interstate Study Historic Resources Meeting (meetings held on 10/09/17 and 10/10/17)

List of Appendices