CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Noise Study Report
DRAFT

SR 417 (Seminole Expressway) Sanford Airport Connector
PROJECT DEVELOPMENT & ENVIRONMENT STUDY

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1.0 Project Information

1.1 Project Background and Description

The Project Development and Environment (PD&E) Study for the State Road 417 (Seminole Expressway) Sanford Airport Connector was initiated by the Central Florida Expressway Authority (CFX) in May 2024 to further develop and evaluate transportation alternatives to provide direct access from SR 417 to the Orlando Sanford International Airport (also known as SFB by their International Air Transport Association Airport Code). The goal of the project is to identify a recommended improvement to provide direct access from SR 417 to the airport and to help address roadway capacity needs associated with both current and anticipated future traffic growth in the area. This PD&E Study evaluates a new expressway connection from SR 417 to SFB and alternative mobility programs within the project corridor, including multimodal and intermodal facilities. **Figure 1** shows the general project location, and **Figure 2** shows the project study area. The study area has been expanded beyond the study area for the previously completed CFX Concept, Feasibility & Mobility (CF&M) Study for this project to include the area along East Lake Mary Boulevard to SR 417 for the evaluation of a new elevated expressway along East Lake Mary Boulevard from SR 417 to the airport.

The objective of the PD&E Study is to evaluate each mobility option based on engineering, traffic, economic, and environmental evaluations and to identify a Preferred Alternative. This study includes the evaluation of the physical, natural, social, and cultural environment, right-of-way (ROW) considerations, and cost estimates, as well as the following goals:

- Identify transportation mobility options
- Enhance direct access to the Orlando Sanford International Airport
- Enhance mobility for the area's growing population and economy
- Provide consistency with local plans and policies
- Promote regional connectivity
- Fulfill the recommendation of the Seminole Board of County Commissioners to re-evaluate this corridor

Figure 1: Project General Location

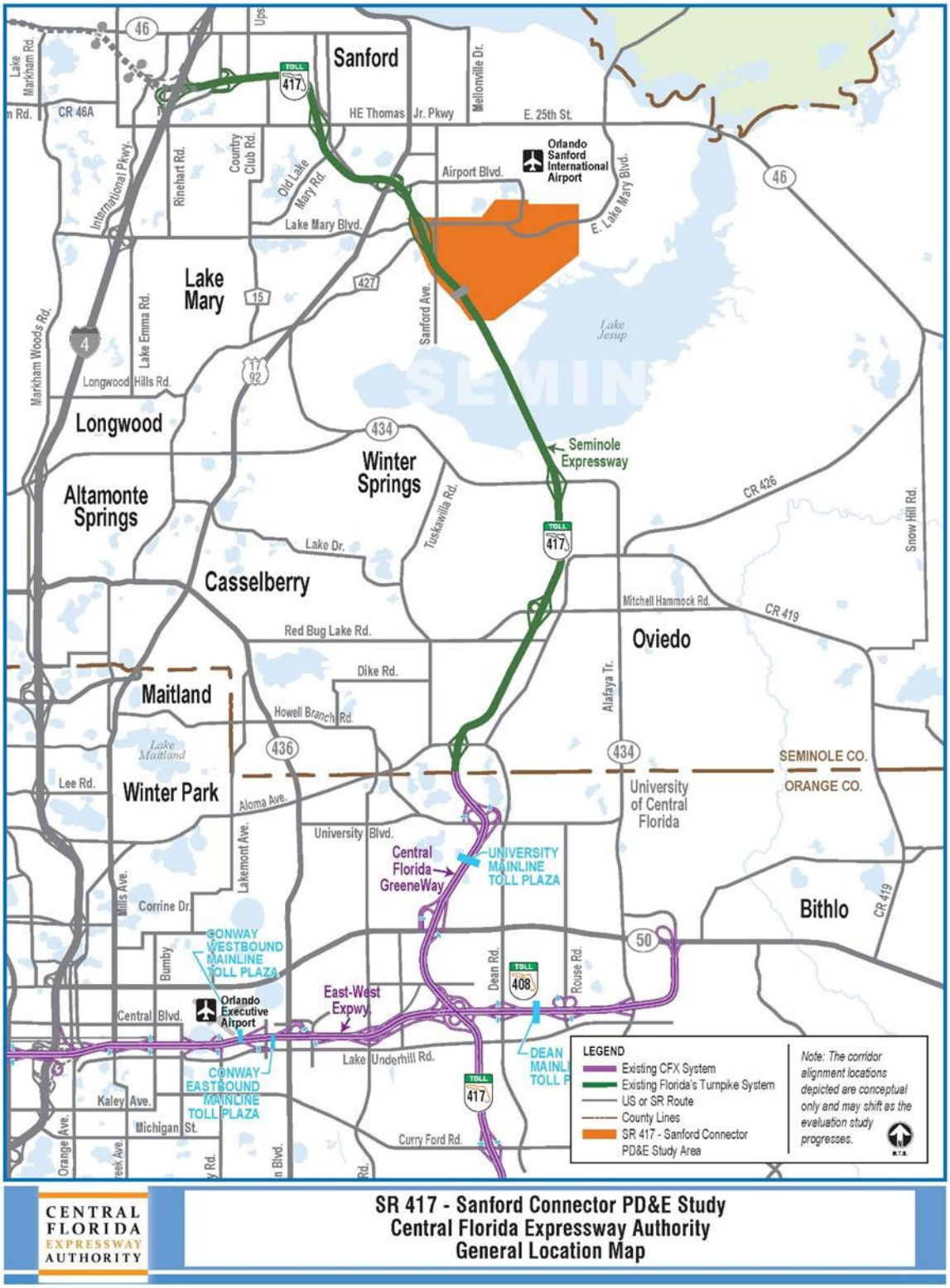
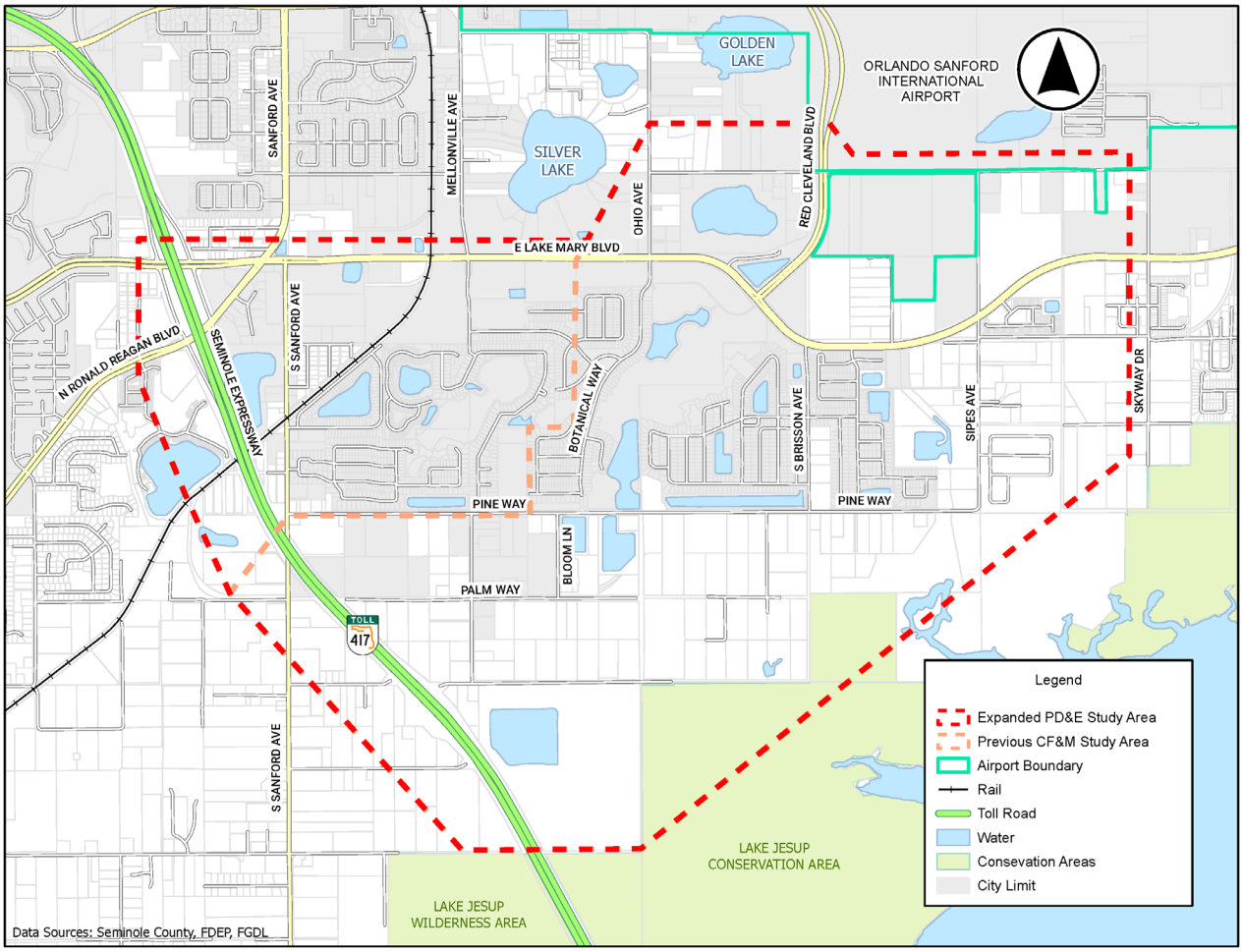


Figure 2: Project Study Area



1.2 Purpose and Need

The purpose of the proposed SR 417 (Seminole Expressway) Sanford Airport Connector is to provide a direct, limited access connection between SR 417 and SFB to provide better connectivity and accommodate future traffic growth in the area. The primary access to the airport is along East Lake Mary Boulevard via Red Cleveland Boulevard, which extends north from the airport entrance to the airport terminal. A proposed connector would provide a limited access connection directly to SFB from SR 417, thereby reducing the demand along East Lake Mary Boulevard and improving travel time for all users. The proposed improvements are to 1) enhance regional connectivity, 2) accommodate transportation demand, 3) provide needed capacity, 4) improve safety, 5) support modal connectivity and 6) serve social and economic growth.

1.2.1 Regional Connectivity

SFB is a designated Strategic Intermodal System (SIS) Strategic Growth Commercial Service Airport. SR 417 serves as a SIS Highway Corridor providing regional connectivity west of the airport and connects to two designated SIS Strategic Growth Highway Connectors: East Lake Mary Boulevard between SR 417 and Red Cleveland Boulevard and Red Cleveland Boulevard between East Lake Mary Boulevard and Airport Boulevard. Airport passengers using East Lake Mary Boulevard are intermixed with local, non-airport traffic. For example, northbound SR 417 traffic exiting the interchange at Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard, travel through three signalized intersections within 0.3 mile of the SR 417 northbound off-ramp, impeding traffic flow and increasing travel time for airport users. In addition to the designated SIS route, airport access to the passenger terminal is also provided via Airport Boulevard from SR 46/Sanford Avenue.

Results from traffic analyses conducted for the CF&M Study are summarized throughout this section and are presented in a memorandum titled SR 417 to Orlando Sanford International Airport Connector Concept Traffic Analysis Memorandum (CDM Smith 2023). A desktop travel time analysis was conducted to compare travel times between the existing route from SR 417 northbound to SFB via East Lake Mary Boulevard and the proposed connector to SFB. Both routes started on northbound SR 417 at the Lake Jesup mainline toll plaza and terminated at the SFB terminal building. The analysis found that the proposed connector could reduce the travel distance by 28% and reduce travel time to SFB by as much as 51% during the PM peak period. In addition, travel time savings are expected to be higher in future conditions when traffic demand is anticipated to increase, and congestion worsens at the SR 417 and Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange. A direct connection from SR 417 to SFB is expected to enhance regional connectivity by improving access to the airport, increasing mobility options, and providing enhanced system linkage between the SIS facilities.

1.2.2 Anticipated Transportation Demand

As part of the traffic analysis, an origin and destination evaluation was performed to identify travel patterns for trips originating from SR 417 south and north of the Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange to the SFB terminal, using data from StreetLight Data, Inc. Review of the one-way 2022 Average Annual Daily Traffic indicates that 5% of the trips from northbound SR 417 access the airport terminal through either Airport Boulevard (2%) and Red Cleveland Boulevard (3%), while 9% continue travel on East Lake Mary Boulevard, east of Red Cleveland Boulevard. Origin and destination data indicate that no trips from southbound SR 417 enter the airport terminal but that 3% of the trips continue on East Lake Mary Boulevard, east of Red Cleveland Boulevard. It is expected that 17% (or 4,400 vehicles per day one-way) of northbound and southbound SR 417 trips would potentially be diverted to the proposed connector if it was in place in year 2022. Based on the traffic analysis, the Annual Average Daily Traffic along SR 417, south of the Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange, is anticipated to increase from 61,150 in year 2022 to 118,100 by 2050 (93% increase). In addition, AADT at the SR 417 and Ronald Reagan Boulevard (CR 427) and East Lake Mary

Boulevard interchange ramps to/from the south is anticipated to increase from 17,750 to 33,100 by 2050 (87% increase). The analysis also indicates that the proposed connector could potentially divert as much as 51% (17,000 AADT) of traffic in year 2050 from the SR 417 and Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange ramps to/from the south, thereby reducing congestion and improving operations at the existing interchange.

The traffic analysis also indicates that AADT along East Lake Mary Boulevard, west of Red Cleveland Boulevard, is anticipated to increase from 23,800 to 36,500 by 2050 (53% increase). However, the analysis indicates that the proposed connector is anticipated to reduce traffic demand along this segment of East Lake Mary Boulevard, by as much as 46% (or 17,000 AADT) in 2050. East of Red Cleveland Boulevard, the AADT along East Lake Mary Boulevard is anticipated to increase from 23,000 in 2022 to 35,400 in 2050 (54% increase). The proposed connector is also anticipated to divert 3,800 trips from Airport Boulevard, east of Sanford Avenue, as well as 17,000 trips from Ronald Reagan Boulevard (CR 427), south of East Lake Mary Boulevard, in 2050.

As documented in the 2021 Airport Master Plan Update for SFB, the number of passengers in 2017 was 1,436,224. The plan also forecasts the number of passengers to nearly double to 2,747,325 by 2037, further indicating that traffic demand along East Lake Mary Boulevard and Red Cleveland Boulevard is likely to increase in future years. The plan also notes that the air freight tonnage through the airport in 2017 totaled 332 tons, with an expected increase to 1,671 tons by the year 2037 (WS Atkins, Inc. 2021).

The FDOT Florida Traffic Online website indicates that the 2021 Average Annual Daily Truck Traffic along Airport Boulevard is 274 or 6% of total traffic, and 2,860 or 13% along East Lake Mary Boulevard (FDOT n.d.). Based on the forecasted increase in air freight tonnage through the airport, it is anticipated that truck traffic will also increase.

1.2.3 Capacity

The existing traffic demand (2022) analysis shows that westbound East Lake Mary Boulevard (west of Red Cleveland Boulevard) experiences a Level of Service D Volume to Capacity ratio of 0.8 during the AM peak hour, which increases to 0.9 east of Red Cleveland Boulevard. The existing traffic operations analysis also indicates extended delays and long queues during peak periods at the SR 417 and Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange. The adjacent intersections at East Lake Mary Boulevard at Ronald Reagan Boulevard (CR 427) and Sanford Avenue (CR 425) also operate unacceptably and impact operations at the interchange. Congestion mostly occurs along the facilities approaching and within the interchange footprint, including the SR 417 northbound off-ramp, East Lake Mary Boulevard and Ronald Reagan Boulevard (CR 427). Providing additional capacity with a direct connection from SR 417 to the airport is anticipated to alleviate congestion at the existing interchange.

Review of the future 2050 No-Action analysis indicates that the Volume to LOS D Maximum Service Volumes ratio during the PM Peak Hours at SR 417 for the northbound exit ramp at the Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange is 1.0. The future 2050 Build analysis indicates that the proposed connector is expected to divert northbound traffic away from the interchange

and reduce the Volume to LOS D MSV ratio to 0.5 in 2050, and further indicates that the proposed connector could reduce traffic along the following arterial segments:

- East Lake Mary Boulevard, west of Red Cleveland Boulevard
- Airport Boulevard, east of Sanford Avenue
- CR 427, south of East Lake Mary Boulevard

The future 2050 No-Action analysis indicates the Volume to LOS D MSV ratios at these arterial segments are expected to be between 1.1 to 1.2. However, the future 2050 Build analysis indicates that the Volume to LOS D MSV ratios are expected to be reduced to between 0.6 and 0.9.

The future 2050 No-Action analysis indicates that the westbound through movements for the East Lake Mary Boulevard and Red Cleveland Boulevard intersection are expected to operate at LOS F during the AM peak period. However, the future 2050 Build indicates that the overall operations are expected to operate at an LOS E during the AM peak period. Because of the existing constrained capacity and expected increase in traffic volumes, additional capacity is anticipated to be needed for satisfactory traffic operations in future years.

1.2.4 Safety

Because of the three signalized intersections within 0.3 mile of the SR 417 northbound off-ramp, traffic at the SR 417 northbound off-ramp occasionally backs up onto the SR 417 mainline, impacting safety and operations along SR 417. The proposed connector would divert traffic from the SR 417 and Ronald Reagan Boulevard (CR 427) and East Lake Mary Boulevard interchange, thereby enhancing safety and operations at the interchange.

1.2.5 Modal Connectivity

The U.S. Department of Transportation Federal Aviation Administration National Plan of Integrated Airport Systems 2023-2027, published September 30, 2022, designates SFB as a Small Hub, Primary Commercial Service airport facility. Primary Commercial Service airports are publicly owned airports that receive scheduled air carrier service with 10,000 or more passenger boardings per year. Small Hub airports are defined as accounting for 0.05% and 0.25% of total U.S. passengers. The 2021 Airport Master Plan Update for SFB forecasts enplanements to increase 91% and air freight tonnage to increase 400% by the year 2037. The proposed connector is anticipated to support mobility to other modes of travel at SFB.

1.2.6 Social Demand

According to the University of Florida's Bureau of Economics and Business Research (BEBR) Florida Population:

2020 Census Summary, Seminole County's population grew from 422,718 in 2010 to 470,856 in 2020, or 11.4%. The BEBR data also showed that the city of Sanford experienced a 14% increase in population over the same period (BEBR 2021). Further, BEBR estimates that Seminole County's population is projected to grow approximately 21% by the year 2050 (BEBR 2022).

Land use in the area is primarily comprised of residential, agricultural, and undeveloped lands. However, a review of planned developments in the study area shows that the region is undergoing extensive land use changes, resulting in increased traffic generators. As of July 2023, the city of Sanford's Building Division Online Permitting Service noted there are 10 residential, commercial, and industrial planned developments in the study area (City of Sanford 2023). These planned developments account for 55% of the undeveloped lands in the study area, or 349 acres of 637 acres of undeveloped lands. Of the planned developments, five are residential developments, which are expected to create an additional 849 single-family houses and townhomes in the study area.

As a result, local traffic along East Lake Mary Boulevard and surrounding roadways is expected to increase. The proposed connector is expected to divert traffic from East Lake Mary Boulevard, providing local traffic with increased mobility to and from the existing and planned development in the area.

1.3 Build Alternative

The proposed Build Alternative is a new two-lane limited access facility within a proposed minimum 150-foot ROW. The mainline typical section includes 15-foot travel lanes, 4-foot outside shoulders, and a 32-foot grassed median. The mainline bridge typical section includes 15-foot travel lanes, 6.5-foot outside shoulders, and 7.5-foot inside shoulders. On the shoulders of all bridges and Mechanically-Stabilized-Earth (MSE) retaining walls, there are 3-foot single slope traffic railings. The Build Alternative includes new interchanges with the SR 417 and with East Lake Mary Boulevard. **Figures 3 and 4** illustrate the project's typical sections.

Figure 3: Sanford Airport Connector Mainlne Typical Section

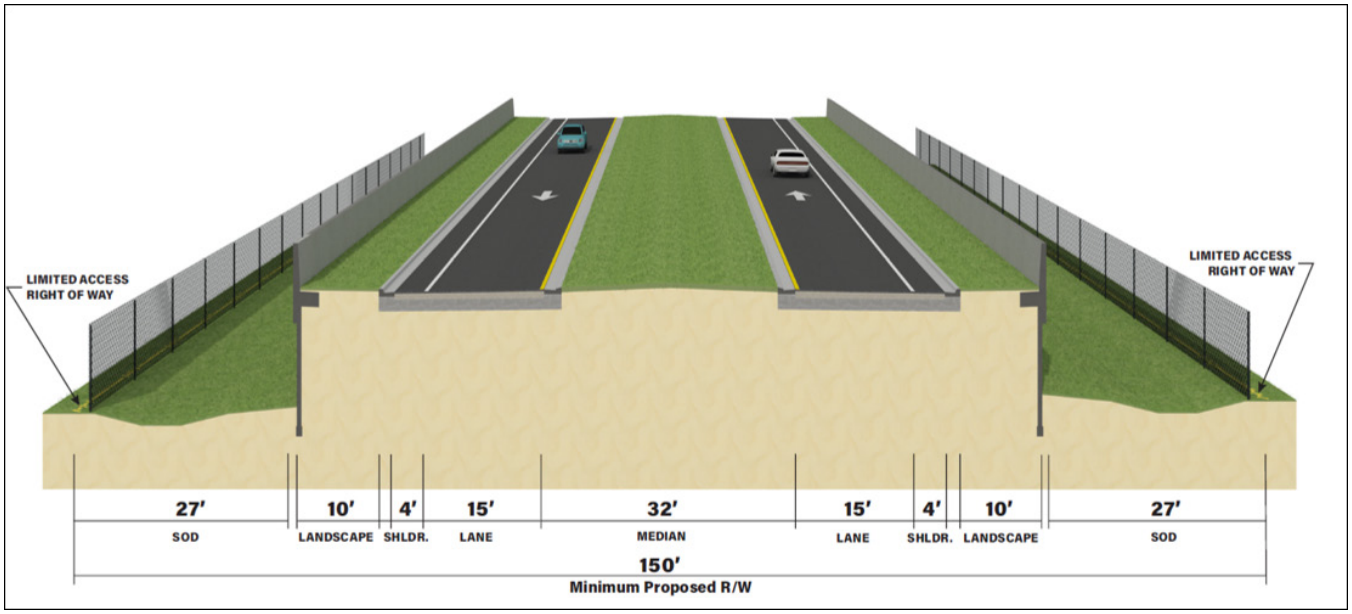
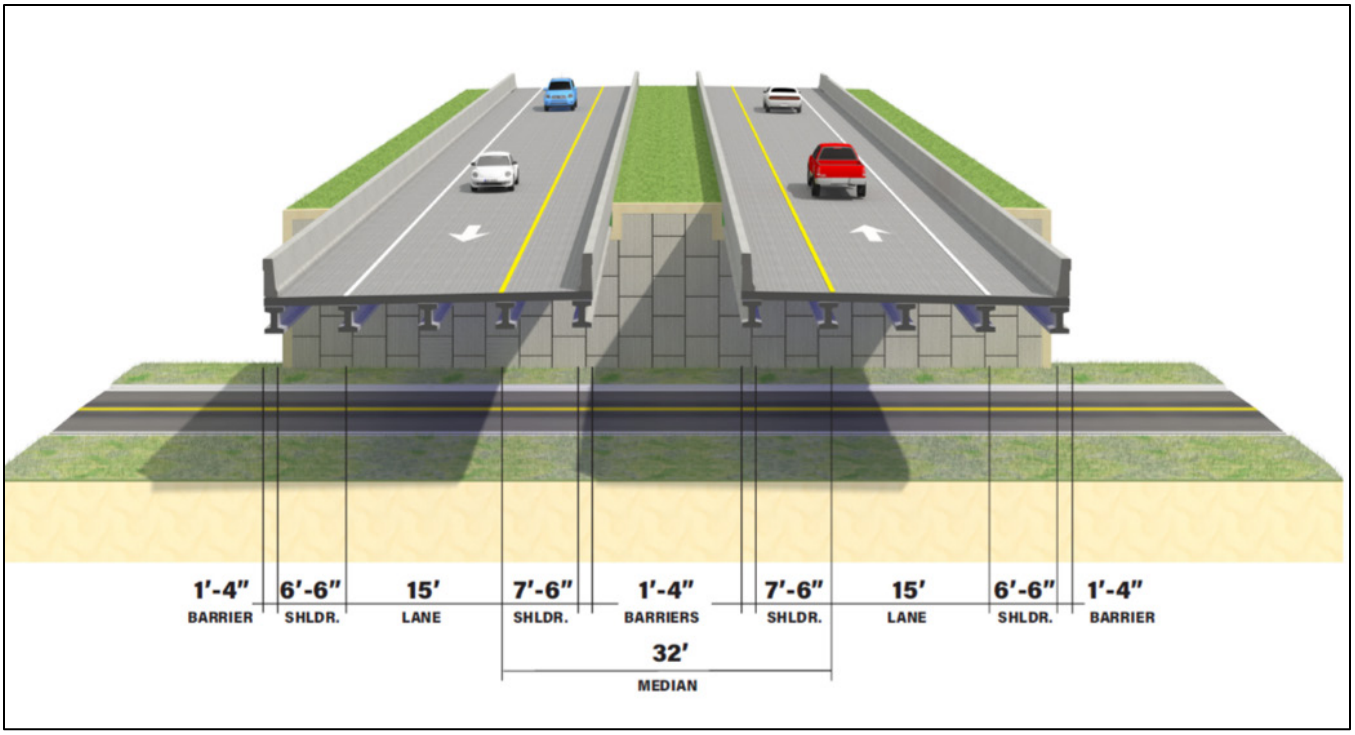


Figure 4: Sanford Airport Connector Bridge Typical Section



1.4 No-Build Alternative

Consistent with FDOT and CFX guidelines, this analysis also considers an alternative that assesses what would happen to the environment in the future if this proposed project was not built. This alternative, called the No-Build Alternative, consists of the existing roadways within the study area, programmed improvements to existing facilities such as the planned widening of SR 417/Seminole Expressway by Florida's Turnpike Enterprise, and routine maintenance improvements to the facilities. While the No-Build Alternative does not meet project needs, it provides a baseline condition to compare and measure the proposed project's effects.

2.0 Methodology

The traffic noise impact analysis conducted for this project is consistent with Title 23, Code of Federal Regulations (CFR), § 772, Part II, Chapter 18 of the FDOT Project Development and Environment Manual, and Chapter 335, Section 335.17, Florida Statutes. This assessment also adheres to current Federal Highway Administration (FHWA) traffic noise analysis guidelines contained in FHWA-HEP-10-025. The FHWA Traffic Noise Model (TNM) - version 2.5 was used to predict traffic noise levels for this project, following guidelines set forth in the FDOT Traffic Noise Modeling and Analysis Practitioners Handbook.

The analysis evaluated noise levels for the 2024 Existing Condition and the 2050 No-Build and Build Alternatives.

Noise receptor coordinates used in the TNM correlate to exterior areas where frequent human use may occur, usually at the edge of the residential structure closest to the project roadways, unless the analyst's professional judgment determines otherwise.

The project design files were used to determine the location of the Build Alternative for input into TNM. Vertical elevations for SR 417 were obtained from the project's profile and other engineering data. Vertical elevations for noise receptors and cross/side streets were obtained from the United States Geological Survey digital elevation models.

2.1 Noise Metrics

Sound levels for this analysis are expressed in decibels (dB) using an "A"-scale weighting expressed as dB(A). This scale most closely approximates the response characteristics of the human ear to typical traffic sound levels. All reported sound levels are hourly equivalent noise levels [Leq(h)]. The Leq(h) is defined as the equivalent steady-state sound level that, in a given hourly period, contains the same acoustic energy as the time-varying sound level for the same hourly period.

2.2 Traffic Data

Traffic noise is heavily dependent on traffic volume and speed, with the amount of noise generated by traffic increasing as the vehicle speed and number of vehicles increase. Characteristics contributing to the highest traffic noise levels were used to predict project noise levels. Worst-case noise conditions occur with the maximum traffic traveling at the posted speed and represent a LOS C operating condition. However, if the traffic analysis indicates the roadway will operate below LOS C, the project's demand peak-hour directional traffic volumes are used per Chapter 18 of the FDOT PD&E Manual. Traffic volumes and speeds used in the analysis are included in **Appendix A**.

2.3 Noise Abatement Criteria

Land use plays an important role in traffic noise analysis. To determine which land uses are "noise sensitive," this noise impact analysis used the FDOT Noise Abatement Criteria (NAC) shown in column three in **Table 1**. The FDOT has established noise levels for each activity category, at which noise abatement must be considered. In Florida, noise levels that meet or exceed FDOT NAC 66.0 dB(A) at Activity Category B and C land uses require noise abatement consideration. A 71.0 dB(A) noise level is required for an Activity Category E land use to be considered impacted by traffic noise. Another criterion for determining when project impacts warrant abatement consideration occurs when project noise levels are below the FDOT NAC but show a substantial increase (15.0 dB(A) or more) over existing levels. A substantial increase typically occurs in areas where traffic noise is a minor component of the existing noise environment but would become a major component after the project is constructed. This occurs more frequently with new alignment projects.

Table 1: Noise Abatement Criteria

Hourly A-Weighted Sound Level-decibels (dB(A))				Description of Activity Category
Activity Category	Activity Leq(h) [1]		Evaluation Location	
	FHWA	FDOT		
A	57.0	56.0	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67.0	66.0	Exterior	Residential.
C[2]	67.0	66.0	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public/nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52.0	51.0	Interior	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public/nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[2]	72.0	71.0	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	-	-	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-	-	-	Undeveloped lands that are not permitted.

(Based on Table 1 of 23 CFR Part 772)

[1] The Leq(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

[2] Includes undeveloped lands permitted for this activity category.

For comparison purposes, typical noise levels for common indoor and outdoor activities are provided in **Table 2**.

Table 2: Comparative Sound Levels

Common Outdoor Activity	dB(A)	Inside Activity
	--110--	Rock Band
Jet Flyover at 1,000 ft.		
	--100--	
Gas Lawn Mower at 3 ft.		
	--90--	
Diesel Truck at 50 ft. (at50 mph)		Food Blender at 3 ft.
	--80--	Garbage Disposal at 3 ft.
Busy Urban Area Daytime		
Gas Mower at 100 ft.	--70--	Vacuum Cleaner at 10 ft.
Commercial Area		Normal Speech at 3 ft.
Heavy Traffic at 300 ft.	--60--	
		Large Business Office
Quiet Urban Daytime	--50--	Dishwasher Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		
Quiet Rural Nighttime	--30--	Library
	--20--	Bedroom at Night
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
Source: *California Dept. of Transportation Technical Noise Supplement, Sep. 2013, Pg. 2-20*		

2.4 Noise Abatement Measures

When traffic noise impacts are identified as part of the traffic noise analysis, noise abatement must be considered. The potential abatement alternatives considered during the PD&E included traffic management, alternative roadway alignments, buffer zones, and noise barriers.

2.4.1 Traffic Management

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective as a noise mitigation option; however, these measures may also negate a project's ability to meet the facility's needs. Further reduction of the posted speed may reduce the capacity of the roadway to handle the forecasted motor vehicle demand. Therefore, further reducing traffic speeds or volumes is inconsistent with improving the roadway's ability to handle the forecasted volumes.

2.4.2 Alignment Modifications

Alignment modification involves orienting or siting the roadway at sufficient distances from noise sensitive sites to minimize traffic noise. Based on the noise contours developed for this project and shown in **Section 6** of this NSR, any alignment shift that would avoid traffic-related noise impacts of the proposed project would introduce noise impacts to other noise sensitive sites, and no net benefit would result. Therefore, alignment modifications are not considered a reasonable noise mitigation measure.

2.4.3 Buffer Zones and Land Use Controls

Noise buffer zones that separate the roadway and noise sensitive land uses can minimize or eliminate noise impacts to areas of future development. This measure requires local land use planning that has yet to be put in place within the project corridor. Because the noise impact analysis applies to existing land uses, buffer zones are not an applicable abatement measure. However, for any new development or redevelopment occurring in the future, local officials can use the noise contour information provided in **Section 6** of this NSR to establish buffer zones, thereby minimizing or avoiding noise impacts on future sensitive land uses.

2.4.4 Noise Barriers

The most common type of noise abatement measure is constructing a noise barrier. Due to the limited ROW and proposed typical sections, noise barriers are the only measure considered for this project. The following feasibility and reasonableness factors must be evaluated when considering noise barriers for abatement.

2.4.4.1 Feasibility Factors

The FDOT PD&E Manual stipulates that a noise barrier must meet acoustic and engineering criteria to be considered feasible, as summarized below:

- Acoustic feasibility: The barrier must provide a minimum of 5.0 dB(A) reduction in traffic noise for at least two impacted receptors. Consequently, noise barriers are not evaluated for isolated and single-impacted receptors.
- Engineering feasibility: The engineering review identifies whether other factors must be evaluated for the barrier to be considered feasible.

- Safety: If a noise barrier and safety conflict exists, safety must be the primary consideration. An example of such a conflict would be the loss of a safe sight distance (line of sight) at an intersection or driveway resulting from a noise barrier placement.
- Accessibility to adjacent properties: The noise barrier placement cannot block ingress and egress on non-limited access roadways. Other access issues to be considered include access to a local sidewalk or normal travel routes. Neither applies to noise barriers on limited-access roadways.
- Right-of-way needs: Does the noise barrier require additional land, access rights, or easements for construction and maintenance?
- Maintenance: Maintenance crews must have reasonable access to both sides of the barrier for personnel and equipment using standard practices.
- Drainage: Does the barrier impact existing or planned drainage?
- Utilities: Does the barrier impact existing utilities?

2.4.4.2 Reasonableness Factors

If a noise barrier meets the feasibility criteria, the following reasonableness factors must collectively be achieved for the noise abatement measure to be deemed reasonable.

- Acoustic reasonableness: The barrier must attain the FDOT noise reduction design goal (NRDG) of 7.0 dB(A) for at least one benefited receptor. (Note: to be considered "benefited," the receptor must receive a minimum of 5.0 dB(A) in traffic noise reduction from the barrier). Failure to achieve the NRDG results in the noise abatement measure being deemed not reasonable.
- Cost-effectiveness: Using the FDOT's current $40.00 per square foot statewide average, a cost of $64,000 per benefited receptor is the upper guideline for a cost-reasonable noise barrier.
- Benefited property owner and resident viewpoints: During project development, CFX solicits the opinion of benefited owners and residents regarding noise abatement. Affected owners and residents are given the opportunity to provide input regarding their desires to have the proposed noise abatement measure constructed. This process aims to obtain a response for or against the noise barrier from a majority of respondents to the survey. The noise barrier is not deemed reasonable if a majority consensus is not obtained in favor of the barrier.

Noise barriers associated with transportation projects do not block all sound from the roadway. Rather, they can *reduce* traffic noise by blocking the sound path between a traffic noise source and noise sensitive receptor. To effectively reduce traffic noise, a noise barrier must be relatively long, continuous (with no intermittent openings), and of sufficient height.

Within the project limits, noise barrier locations were evaluated as follows:

- Non-shoulder noise barriers located outside the clear recovery zone but within the ROW are initially considered at heights ranging from 8 feet to a maximum height of 22 feet in 2-foot increments.

- If a non-shoulder noise barrier cannot provide feasible and reasonable abatement to an impacted receptor, then a noise barrier is evaluated on the shoulder edge of pavement (EOP). When on a structure (e.g., bridge, MSE retaining wall), a shoulder noise barrier is limited to a maximum height of 8 feet. If on an embankment or ground mounted, a shoulder noise barrier is limited to a maximum height of 14 feet.

Using the evaluation methodology contained in the FDOT Traffic Noise Modeling and Analysis Practitioners' Handbook, noise barriers for each affected area are evaluated to determine the maximum number of impacted receptors that could provide at least a 5 dB(A) reduction in traffic-related noise. Specific conditions, such as overhead utilities, may constrain these noise barriers. As a result of the site-specific conditions, noise barriers may not provide a 5 dB(A) reduction in traffic-related noise to all impacted receptors.

At some locations, non-impacted receptors may benefit from noise barriers due to their proximity to impacted receptors. These receptors are included when determining the cost reasonableness of the noise barrier based on cost per benefited receptor. Since abatement consideration for non-impacted receptors is not required, noise barrier lengths or heights are not increased to benefit additional non-impacted receptors.

Due to design considerations, aesthetics, and other factors, CFX may propose noise barriers that exceed the cost reasonableness limits. Examples would be extending a noise barrier to maintain community continuity (i.e., avoid terminating a noise barrier in the middle of a row of homes) or considering a noise barrier for a residential area that predates the original construction of a roadway.

2.4.5 Nonresidential Barrier Analysis

The methodology used to evaluate noise barrier systems for special-use nonresidential sites differs from those used for residential locations. The standard procedure for determining the feasibility and reasonableness of a noise barrier for a special land use (SLU) site is documented in Methodology to Evaluate Traffic Noise at Special Land Uses (FDOT 2024). This SLU evaluation is a multi-step process.

- If an impacted SLU receptor is not adjacent to impacted residences or other impacted SLUs such that a single noise barrier would not be a practical form of abatement for all impacted properties, it is considered isolated. It must go through a Preliminary Screening analysis to determine if it has enough person-hour usage to equate to at least two residences to be found feasible for noise abatement. To meet the feasibility requirement, the isolated SLU must have at least 44,326 person-hours of use per year in the benefited area for a noise barrier to be found as a feasible form of noise abatement.
- A noise barrier is evaluated if the Preliminary Screening results indicate that a full analysis is warranted or if the impacted SLU is adjacent to other impacted SLUs or residences.
- Once it is determined that impacted SLUs benefit from the analyzed noise barrier, the FDOT SLU Worksheet is utilized to assess whether a noise barrier is a reasonable and feasible form of

abatement. The SLU Worksheet (and therefore cost reasonable calculation) includes all residences and SLUs that would receive a benefit from the noise barrier. This methodology allows the combined evaluation of NAC B, A, C, D, and E land uses for a single noise barrier system that would potentially benefit all land use types evaluated.

3.0 Traffic Noise Analysis

3.1 Model Verification

Existing noise levels are measured in the project corridor to confirm if traffic is the primary noise source. These field measurements are also required to verify the accuracy of the TNM before it can be used to predict noise levels. Because the project proposes a new road alignment, traffic noise is not prevalent in the project corridor until the proposed facility interchanges with an existing roadway. One location within the study corridor was selected as the validation site and is illustrated on **page C4** in **Appendix C**. This location along East Lake Mary Boulevard was selected for measurement because it presented a clear view of traffic conditions and is along a road to which the project will connect.

A series of three 10-minute measurements were taken on April 16, 2025, using an Extech Instruments Model 407780 Type 2 Integrating Sound Level Meter. The sound level meter, calibrated at 114.0 dB(A) with an Extech Instruments Model 407766 calibrator, was adjusted to the A-weighted frequency scale, which approximates the frequency sensitivity of the human ear. Traffic data, including vehicle volumes, speeds by type, and meteorological conditions, were recorded during each measurement session. The data collection effort also recorded the travel speed for each type of vehicle using a Bushnell Speedster handheld radar gun. No unusual noise occurred during the monitoring sessions, and the weather conditions were 74°-75° with 40% humidity under clear skies and moderate breezes out of the north (3 to 8 mph).

Validation of TNM occurs when the model-predicted noise levels are within three decibels of the field-measured levels. **Table 3** shows that TNM predicted within the 3.0-decibel acceptance range for each 10-minute session. Consequently, the model is valid for predicting noise levels for this project.

Table 3: TNM Validation Results Summary

Location	Validation Session Begin Time	Field Measured (dB(A))	TNM Predicted (dB(A))	Variance (dB(A))
VS-1	Session 1: 10:36 AM	64.6	65.8	1.2
	Session 2: 10:48 AM	64.9	65.9	1.0
	Session 3: 11:00 AM	67.5	67.8	0.3

3.2 Ambient Noise Conditions

Field measurements are required along a new alignment to determine the existing noise levels where traffic noise does not exist or is only a minor element in the overall noise environment. Measurements were taken at four locations after the validation measurement sessions concluded. Each ambient measurement location is representative of noise sensitive receptors adjacent to the proposed roadway alignment. At each measurement location, a minimum of 30 minutes of readings (3 repetitions of 10 minutes each) were taken with no unusual noise occurring during the monitoring sessions. **Table 4** identifies the ambient measurements that represent noise sensitive sites along the proposed roadway that are not adjacent to the SR 417/Seminole Expressway or East Lake Mary Boulevard. The average of each measurement will be used to represent the Existing and No-Build noise levels for nearby receptors that are included in this noise analysis.

Table 4: Ambient Field Measurements

Ambient Site & Appendix C Illustration	Session Begin Time	Field Measured (dB(A))	Wind Speed (mph)/ Direction	Temperature	Humidity
AS-1 Between 1355 & 1505 Pine Way **Appendix C page C3**	Session 1: 11:30 AM	48.2	2-3 mph/ N	76°	41%
	Session 2: 11:40 AM	55.3			
	Session 3: 11:51 AM	50.3			
	Avg. dB(A)	**51.3**			
AS-2: Concorde 2464 Shelton Lane **Appendix C page C3**	Session 1: 12:26 PM	49.5	3-7 mph/ N	78°	34%
	Session 2: 12:37 PM	50.1			
	Session 3: 12:48 PM	50.2			
	Avg. dB(A)	**49.9**			
AS-3: Kensington Reserve 2102 Swinstead Drive **Appendix C page C3**	Session 1: 1:25 PM	50.8	2-6 mph/ N	80°	29%
	Session 2: 1:36 PM	50.2			
	Session 3: 1:47 PM	48.8			
	Avg. dB(A)	**49.9**			
AS-4: Kensington Reserve Clipstone Place **Appendix C page C4**	Session 1: 2:00 PM	42.9	3-6 mph/ N	80°	29%
	Session 2: 2:11 PM	48.8			
	Session 3: 2:22 PM	46.1			
	Avg. dB(A)	**45.9**			

3.3 Noise Sensitive Receptors

Using **Table 1** as a guide, most noise sensitive land uses within the study corridor fall under NAC-B - Residential. The NAC-C land uses within the study corridor include neighborhood recreation facilities.

There are no NAC-E land uses within the study corridor. This project does not require analysis of NAC-A land uses. An analysis of interior noise levels (NAC-D) is not warranted as all NAC-C locations have areas of exterior use. A permit search was conducted on April 29, 2025, to identify any active building permits for noise sensitive land uses. The only area with active residential building permits is in the Concorde subdivision. These permitted homesites were included in the noise analysis. If a future noise sensitive land use receives a building permit before the project's Date of Public Knowledge (i.e., the date the Project Environmental Impact Report [PEIR] is approved), they will be assessed for traffic noise impacts during the project's final design phase of development.

Within the project limits, TNM receptor points representing residences are located in accordance with the FDOT PD&E Manual as follows:

- Residential receptor points are located in areas of frequent outdoor use or the corner of the residential building closest to the major traffic noise source.
- Where residences are clustered together, single receptor points are analyzed as representative of a group of residences with similar characteristics.
- Ground floor receptor points are assumed to be 5 feet above the ground elevation, and all receptors are assumed to be at ground level unless otherwise noted.
- Higher floor receptors are assumed to increase in elevation in 10-foot increments above the ground floor receptor.
- Nonresidential receptor points are located at the edge of the outdoor use area closest to the major traffic noise source.

The noise analysis divided the study corridor into Noise Study Areas (NSA) based on geographical dividers such as roads, large developments, or environmental areas. A group of receptors within the same activity category that are exposed to similar noise sources and levels, traffic volumes, traffic mix, speed, and topographic features are said to share a Common Noise Environment (CNE). Generally, A CNE involves a group of impacted receptors that would benefit from the same noise barrier or noise barrier system (i.e., overlapping/continuous noise barriers). There may be several CNEs within one NSA.

The alpha-numeric identification for each receptor point associated with a noise sensitive receptor is formulated as follows:

- The first two letters (i.e., SB [southbound], NB [northbound]) describe on which side of SR 417 or the Sanford Airport Connector the NSA is located (e.g., "NB" indicates the receptor is in an NSA on the northbound side of the mainline travel lanes).
- The number following the first two letters is a numeric sequencing number (e.g., SB2 is the 2nd NSA on the southbound side of the Sanford Airport Connector).

- The final three characters are the individual receptor numbers and are separated from the first string of characters with a dash (e.g., SB2-03 is the 3rd receptor in the 2nd NSA on the southbound side of the Sanford Airport Connector).

- The letters "SLU" follow the NSA identifier for nonresidential receptors and before the numerical SLU number (e.g., SB3-SLU3-1 is the first nonresidential receptor in NSA SB3).

3.4 Predicted Noise Levels and Abatement Analysis

Traffic noise levels were predicted for 160 noise receptors representing 207 NAC-B residences and two NAC-C special land use receptor points. All impacted receptors were evaluated to determine the feasibility and reasonableness of providing noise barriers to reduce traffic noise. The following sections discuss the noise analysis results for the 2024 Existing Condition, the 2050 No-Build Alternative, and the 2050 Build Alternative. The predicted noise level for each receptor is shown separately in **Appendix B**. The project aerials in **Appendix C** show the locations of all impacted and/or benefited receptors. Sites and communities not specifically identified in this report are outside the project limits or are located too great a distance from the roadway to be affected by the project; thus, they were not included in the study.

When discussing noise level increases, the general rule that applies to perception is:

- A 3 dB(A) increase is barely perceptible to most people.

- A 5 dB(A) increase is noticeable to most people.

- A 10 dB(A) increase is perceived as twice as loud and is considered a doubling of noise.

Only one residential noise receptor in NSA SB1 (adjacent to SR 417/Seminole Expressway) is currently affected by traffic noise. Under the No-Build Alternative, noise levels are predicted to meet or exceed the FDOT NAC at four residential receptors in proximity to the SR 417/Seminole Expressway. By comparison, predicted noise levels for the Build Alternative meet or exceed the NAC at one noise receptor adjacent to the SR 417/Seminole Expressway. Because the project is a new alignment, noise levels are predicted to increase an average of 7.7 dB(A) project-wide, with the greatest increase, 15.1 dB(A), occurring in NSA SB4. The criterion for a substantial noise increase is 15 dB(A) or higher. Consequently, the 15.1 dB(A) increase is considered a project impact.

3.4.1 Noise Study Area NB1

NSA NB1, shown on **pages C1 and C2** in the project aerials **Appendix C**, is located east of the Sanford Airport Connector and spans from SR 417/Seminole Expressway to Palm Way. Seven NAC-B receptor points representing seven residences, identified as NB1-01 through NB1-07, were evaluated for traffic noise impacts. One receptor, NB1-01, is within the proposed ROW and will be acquired as part of the project.

Four receptors in this NSA are located along the proposed Sanford Airport Connector but are not adjacent to an existing roadway that constitutes the primary noise source. For these receptors, the average ambient noise level measured at Ambient Site 1 (See **Table 4)** was used to represent the Existing and No-Build noise levels. Including the ambient measurement, the average existing noise level in NSA NB1 is 54.0 dB(A), with no residences exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 55.6 dB(A), with no residences meeting or exceeding the NAC. The Build Alternative's average noise level of 57.6 dB(A) is an increase of 4.9 dB(A) over existing/ambient conditions, with the greatest increase being 9.0 dB(A) at receptor NB1-04. The project noise levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA NB1.

3.4.2 Noise Study Area NB2

NSA NB2, shown on **pages C2 and C3** in the project aerials **Appendix C**, is located east of the Sanford Airport Connector and spans from Palm Way to Pine Way. Five NAC-B receptor points representing five residences, identified as NB2-01 through NB2-05, were evaluated for traffic noise impacts. Two receptors, NB2-03 and -04, are within the proposed ROW and will be acquired as part of the project.

All five receptors in this NSA are located along the proposed Sanford Airport Connector but are not adjacent to an existing roadway that constitutes the primary noise source. For these receptors, the average ambient noise level measured at Ambient Site 1 (See **Table 4)** was used to represent the Existing and No-Build noise levels. The 51.3 dB(A) ambient measurement is below the 66.0 dB(A) NAC criterion and represents both the Existing and No-Build conditions. The Build Alternative's average noise level of 59.2 dB(A) is an increase of 7.9 dB(A) over existing/ambient conditions, with the greatest increase being 10.9 dB(A) at receptor NB2-05. The project noise levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA NB2.

3.4.3 Noise Study Area NB3

NSA NB3, shown on **pages C3 and C4** in the project aerials **Appendix C**, is located east of the Sanford Airport Connector and spans from Pine Way to East Lake Mary Boulevard. Forty-eight NAC-B receptor points representing 77 residences (including 76 residences in Kensington Reserve) were evaluated for traffic noise impacts. There is also one NAC-C nonresidential special land use site (Kensington Reserve pool and playground area) that was evaluated for traffic noise impacts. The residential receptors are identified as NB3-01 through NB3-48, while NB3-SLU1.1 and NB3-SLU1.2 represent the nonresidential site.

Thirty-two receptors in this NSA are located along the proposed Sanford Airport Connector but are not adjacent to an existing roadway that constitutes the primary noise source. Depending on their proximity to East Lake Mary Boulevard, the average ambient noise levels measured at Ambient Sites 3 and 4 (See **Table 4)** were used to represent the Existing and No-Build noise levels for these receptors. Including the ambient measurement, the average noise level is 49.7 dB(A), with no residences exceeding the 66.0 dB(A)

NAC criterion. Predicted noise levels with the No-Build Alternative average 49.8 dB(A), with no residences meeting or exceeding the NAC. The Build Alternative's average noise level of 56.4 dB(A) is an increase of 6.7 dB(A) over existing/ambient conditions, with the greatest increase being 12.0 dB(A) at receptor NB3-10. The project noise levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA NB3.

3.4.4 Noise Study Area NB4

NSA NB4, shown on **pages C4 and C5** in the project aerials **Appendix C**, is located east of the Sanford Airport Connector and spans from East Lake Mary Boulevard to the project's end limits at South Patrol Road. There are currently no known noise sensitive sites within this NSA.

3.4.5 Noise Study Area SB1

NSA SB1, shown on **page C1** in the project aerials **Appendix C**, is located in the project study area west of SR 417/Seminole Expressway. Three NAC-B receptor points representing three residences, identified as SB1-01 through SB1-03, were evaluated for traffic noise impacts.

Currently, the average noise level is 64.9 dB(A), with one residence exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 67.9 dB(A), with all three residences meeting or exceeding the NAC due to the planned widening by Florida's Turnpike Enterprise. The Build Alternative's average noise level of 66.1 dB(A) is an increase of 1.3 dB(A) over existing conditions, with the greatest increase being 1.5 dB(A) at receptor SB1-03. While the project noise increases are not considered substantial, the predicted noise level at SB1-01 exceeds the NAC and requires abatement consideration.

3.4.5.1 Noise Abatement Evaluation NSA SB1

Impacted receptor SB1-01 is considered an "isolated impact." FDOT and CFX policy require two impacted receptors to receive a 5 dB(A) noise reduction for a noise barrier to be considered feasible. Consequently, a noise barrier is not considered a feasible abatement measure for an isolated impacted residence. Therefore, noise abatement for NSA SB1 is not considered feasible.

3.4.6 Noise Study Area SB2

NSA SB2, shown on **pages C1 and C2** in the project aerials **Appendix C**, is located west of the Sanford Airport Connector and spans from SR 417/Seminole Expressway to Palm Way. Six NAC-B receptor points representing six residences, identified as SB2-01 through SB2-06, were evaluated for traffic noise impacts. One receptor, SB2-01, is within the proposed ROW and will be acquired as part of the project.

Currently, the average noise level is 57.8 dB(A), with no residences exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 61.8 dB(A), with one receptor meeting or exceeding the NAC. The Build Alternative's average noise level of 61.4 dB(A) is an increase of 4.6 dB(A) over existing conditions, with the greatest increase being 6.5 dB(A) at receptor SB2-06. The project noise

levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA SB2.

3.4.7 Noise Study Area SB3

NSA SB3, shown on **pages C2 and C3** in the project aerials **Appendix C**, is located west of the Sanford Airport Connector and spans from Palm Way to Pine Way. Seven NAC-B receptor points representing seven residences, identified as SB3-01 through SB3-07, were evaluated for traffic noise impacts. One receptor, SB3-01, is within the proposed ROW and will be acquired as part of the project.

Three receptors in this NSA are located along the proposed Sanford Airport Connector but are not adjacent to an existing roadway that constitutes the primary noise source. For these receptors, the average ambient noise level measured at Ambient Site 1 (See **Table 4)** was used to represent the Existing and No-Build noise levels. Including the ambient measurement, the average existing noise level in NSA SB3 is 51.6 dB(A), with no residences exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 54.0 dB(A), with no residences meeting or exceeding the NAC. The Build Alternative's average noise level of 57.1 dB(A) is an increase of 5.3 dB(A) over existing/ambient conditions, with the greatest increase being 7.1 dB(A) at receptor SB3-02. The project noise levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA SB3.

3.4.8 Noise Study Area SB4

NSA SB4, shown on **pages C3 and C4** in the project aerials **Appendix C**, is located west of the Sanford Airport Connector and spans from Pine Way to East Lake Mary Boulevard. Seventy-eight NAC-B receptor points representing 96 residences in the Concorde subdivision were evaluated for traffic noise impacts. There is also one NAC-C nonresidential special land use site (neighborhood pool and playground area) that was evaluated for traffic noise impacts. The residential receptors are identified as SB4-01 through SB4-78, while SB4-SLU1.1 and SB4-SLU1.2 represent the nonresidential site.

Forty-four receptors in this NSA are located along the proposed Sanford Airport Connector but are not adjacent to an existing roadway that constitutes the primary noise source. Depending on their proximity to East Lake Mary Boulevard, the average ambient noise levels measured at Ambient Sites 3 and 4 (See **Table 4)** were used to represent the Existing and No-Build noise levels for these receptors. Including the ambient measurement, the average noise level is 48.6 dB(A), with no residences exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 49.0 dB(A), with no residences meeting or exceeding the NAC. The Build Alternative's average noise level of 57.7 dB(A) is an increase of 9.1 dB(A) over existing/ambient conditions, with the greatest increase being 15.1 dB(A) at receptor SB4-06. While the predicted noise levels do not meet or exceed the NAC, the project noise increase at receptor SB4-06 is considered substantial and requires abatement consideration.

3.4.8.1 Noise Abatement Evaluation NSA SB4

Impacted receptor SB4-06 is considered an "isolated impact." FDOT and CFX policy require two impacted receptors to receive a 5 dB(A) noise reduction for a noise barrier to be considered feasible. Consequently, a noise barrier is not considered a feasible abatement measure for an isolated impacted residence. Therefore, noise abatement for NSA SB4 is not considered feasible.

3.4.9 Noise Study Area SB5

NSA SB5, shown on **pages C4 and C5** in the project aerials **Appendix C**, is located west of the Sanford Airport Connector and spans from East Lake Mary Boulevard to the project's end limits at South Patrol Road. Four NAC-B receptor points representing four residences, identified as SB5-01 through SB5-04, were evaluated for traffic noise impacts.

Currently, the average existing noise level in NSA SB5 is 48.4 dB(A), with no residences exceeding the 66.0 dB(A) NAC criterion. Predicted noise levels with the No-Build Alternative average 49.3 dB(A), with no residences meeting or exceeding the NAC. The Build Alternative's average noise level of 55.3 dB(A) is an increase of 6.9 dB(A) over existing conditions, with the greatest increase being 9.9 dB(A) at receptor SB5-01. The project noise levels do not meet or exceed the NAC, nor are the project noise increases considered substantial. Thus, abatement consideration is not required for NSA SB5.

4.0 Conclusions

Noise levels for the 2024 existing condition and the 2050 No-Build and Build Alternatives were predicted for 160 receptor locations representing 207 residential and two nonresidential SLU sites. Project noise levels for one residence, SB1-01, are predicted to meet or exceed the FDOT NAC for the Design Year 2050 Build Alternative. The Build Alternative is also predicted to have a substantial noise increase at residential receptor SB4-06.

Both impacted receptors require consideration of abatement measures to mitigate the impacts. However, the impacted residences are considered "isolated," meaning that no other impacted receptors are near them. FDOT and CFX policy require two impacted receptors to receive a 5 dB(A) noise reduction for a noise barrier to be considered feasible. Consequently, a noise barrier is not considered a feasible abatement measure for an isolated impacted residence.

Based on the noise analyses performed to date, there are no feasible solutions available to mitigate the noise impacts at the two impacted receptors, SB1-01 and SB4-06.

5.0 Construction Noise and Vibration Impacts

Based on the existing land use within the limits of this project, the construction of the proposed roadway improvements will have temporary noise and vibration impacts. Construction noise sensitive sites include all sites detailed in **Section 3** of this report. Vibration-sensitive sites on the project include residences.

Trucks, compaction equipment, earth-moving equipment, pumps, and generators are sources of construction noise and vibration. During the construction phase of the proposed project, short-term noise and vibration may be generated by stationary and mobile construction equipment. The construction noise and vibration will be temporary at any location and controlled by adherence to the most recent edition of the FDOT *Standard Specifications for Road and Bridge Construction*.

6.0 Community Coordination

To promote compatibility between land development planning and the project roadways, the distance between the nearest edge of the roadway pavement and the point where the roadway-related noise is predicted to reach the NAC for each activity category was estimated. These estimates are referred to as noise contours and are shown in **Table 5**. These estimates provide the general distance at which the noise approaches or exceeds the NAC for each activity type.

A Public Hearing will be held for this project. Any comments received during the Public Hearing comment period about the PD&E Study in general, as well as those pertinent to the noise analysis, will be documented under separate cover.

Table 5: Project Noise Impact Contours

FDOT NAC Impact Distance		
Activity Category *1	**Corresponding FDOT Noise Abatement Criterion**	**Approximate Distance to Sanford Airport Connector***2
Category A	56 dB(A)	658 ft
Category B and C	66 dB(A)	30 ft
Category E	71 dB(A)	In ROW

*1 Activity Categories as defined in 23 CFR 772.

*2 Distance from proposed ROW; does not account for variation caused by topography, local roads, intervening structures, etc.

7.0 References

1. 23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise Federal Register, Vol. 75, No. 133, July 2010.
2. *Project Development and Environment Manual*; FDOT. July 31, 2024.
3. Section 335.17, *Florida Statutes. State Highway Construction; Means Of Noise Abatement.* 2024.
4. *Highway Traffic Noise: Analysis and Abatement Guidance, FHWA-HEP-10-025;* FHWA. December 2011.
5. *Traffic Noise Modeling and Analysis Practitioners Handbook*; FDOT. December 2018.
6. *Methodology to Evaluate Highway Traffic Noise at Special Land Uses;* FDOT. December 2024.
7. *Standard Specifications for Road and Bridge Construction*; FDOT.

Appendix A: Traffic Data

Noise Analysis Traffic Data - SR 417 to Sanford Airport Connector PD&E Study
2024 Existing Conditions

SR 417													
SR 417 Mainline Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. % T**	**Design Hr. % MT**	**Design Hr. % HT**	**Design Hr. % Buses**	**Design Hr. % Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
South of SR 434	4	71,550	58,200	3,505	3,120	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From SR 434 to CR 427/Lake Mary Boulevard	4	68,100	58,200	3,152	3,120	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From CR 427/Lake Mary Boulevard to Airport Boulevard/US 17-92	6	57,950	87,300	2,795	4,680	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
North of Airport Boulevard/US 17-92	4	55,000	58,200	2,713	3,120	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
SR 417 Ramps													
SR 417 Ramp	**Number of Lanes**	**One-Way AADT**	**One-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. % T**	**Design Hr. % MT**	**Design Hr. % HT**	**Design Hr. % Buses**	**Design Hr. % Motorcycles**	**K-factor**	**D-factor**	**Operational Speed (mph)**
SR 434													
Northbound off	1	5,900	11,800	641	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Southbound on	1	6,800	11,800	816	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Northbound on	1	4,550	12,100	545	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
Southbound off	1	4,700	12,100	548	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
CR 427/Lake Mary Boulevard													
Northbound off	1	10,100	12,400	1,025	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Southbound on	1	8,400	12,400	777	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Northbound on	1	4,950	12,600	521	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Southbound off	1	3,400	12,600	343	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Airport Boulevard/US 17-92													
Northbound off	2	3,750	24,300	368	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (diagonal)	1	3,550	12,200	323	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (loop)	1	2,000	11,800	182	1,410	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	25
Northbound on	1	1,950	11,600	165	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Southbound off	1	4,400	11,600	480	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Arterials													
Arterial Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. % T**	**Design Hr. % MT**	**Design Hr. % HT**	**Design Hr. % Buses**	**Design Hr. % Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
Lake Mary Boulevard													
West of Red Cleveland Boulevard	4	25,400	21,500	1,673	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
East of Red Cleveland Boulevard	4	24,550	21,500	1,753	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
West of SR 417	4	19,100	21,500	1,014	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	45
Red Cleveland Boulevard													
North of Lake Mary Boulevard	4	5,800	23,300	320	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.7%	40
Airport Boulevard													
East of Sanford Avenue	2	8,450	11,500	377	590	2.00%	1.27%	0.65%	0.07%	0.10%	9.0%	57.1%	35
CR 427													
South of Lake Mary Boulevard	4	28,800	23,600	1,575	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	40
West of SR 417	4	25,800	23,600	1,403	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	45

AADT: Annual Average Daily Traffic *MT: Medium Trucks* *HT: Heavy Trucks*

(1) Number of lanes were obtained from field observations and aerial maps.
(2) Traffic data was obtained from the PD&E Study traffic profiles.
(3) Peak hour demand and LOS C peak hour maximum service volumes are provided directionally.
(4) LOS C targets are based on the FDOT 2023 Quality/Level of Service Handbook tables, and adjusted for local conditions.
(5) LOS C AADT is estimated using K and D factors and the design hour peak direction LOS C maximum service volumes.
(6) Vehicle classification factors were obtained from Florida Traffic Online.
(7) Posted speed data was obtained by field observations.

Noise Analysis Traffic Data - SR 417 to Sanford Airport Connector PD&E Study
2050 No Build Conditions

SR 417													
SR 417 Mainline Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
South of SR 434	8	113,100	116,400	6,500	6,240	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From SR 434 to CR 427/Lake Mary Boulevard	8	111,200	116,400	5,950	6,240	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From CR 427/Lake Mary Boulevard to Airport Boulevard/US 17-92	6	95,900	87,300	5,030	4,680	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
North of Airport Boulevard/US 17-92	4	92,000	58,200	4,810	3,120	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
SR 417 Ramps													
SR 417 Ramp	**Number of Lanes**	**One-Way AADT**	**One-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Operational Speed (mph)**
SR 434													
Northbound off	1	9,200	11,800	1,130	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Southbound on	1	9,200	11,800	1,130	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Northbound on	1	8,250	12,100	990	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
Southbound off	1	8,250	12,100	990	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
CR 427/Lake Mary Boulevard													
Northbound off	2	16,350	24,800	1,920	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Southbound on	2	16,350	24,800	1,510	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Northbound on	1	8,700	12,600	1,000	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Southbound off	2	8,700	25,300	690	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Airport Boulevard/US 17-92													
Northbound off	2	5,400	24,300	580	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (diagonal)	1	5,200	12,200	530	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (loop)	1	2,900	11,800	300	1,410	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	25
Northbound on	1	2,950	11,600	270	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Southbound off	1	6,650	11,600	650	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Arterials													
Arterial Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
Lake Mary Boulevard													
West of Red Cleveland Boulevard	4	36,700	21,500	2,470	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
East of Red Cleveland Boulevard	4	35,500	21,500	2,580	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
West of SR 417	4	27,600	21,500	1,410	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	45
Red Cleveland Boulevard													
North of Lake Mary Boulevard	4	9,300	23,300	490	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.7%	40
Airport Boulevard													
East of Sanford Avenue	2	13,400	11,500	600	590	2.00%	1.27%	0.65%	0.07%	0.10%	9.0%	57.1%	35
CR 427													
South of Lake Mary Boulevard	4	42,700	23,600	2,570	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	40
West of SR 417	4	37,300	23,600	1,930	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	45

AADT: Annual Average Daily Traffic *MT: Medium Trucks* *HT: Heavy Trucks*

(1) Number of lanes for future No Build conditions include planned/programmed improvements where applicable.
(2) Traffic data was obtained from the PD&E Study traffic profiles.
(3) Peak hour demand and LOS C peak hour maximum service volumes are provided directionally.
(4) LOS C targets are based on the FDOT 2023 Quality/Level of Service Handbook tables, and adjusted for local conditions.
(5) LOS C AADT is estimated using K and D factors and the design hour peak direction LOS C maximum service volumes.
(6) Vehicle classification factors were obtained from Florida Traffic Online.
(7) Posted speed data was obtained by field observations.

Noise Analysis Traffic Data - SR 417 to Sanford Airport Connector PD&E Study
2050 Build Conditions

SR 417													
SR 417 Mainline Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
South of SR 434	8	114,000	116,400	6,570	6,240	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From SR 434 to Sanford Airport Connector	8	113,200	116,400	6,060	6,240	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From Sanford Airport Connector to CR 427/Lake Mary Boulevard	8	91,300	116,400	4,840	6,240	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
From CR 427/Lake Mary Boulevard to Airport Boulevard/US 17-92	6	92,900	87,300	4,840	4,680	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
North of Airport Boulevard/US 17-92	4	92,000	58,200	4,810	3,120	8.00%	3.09%	4.70%	0.21%	0.13%	10.5%	51.0%	70
SR 417 to Sanford Airport Connector													
SR 417 to Sanford Airport Connector Mainline Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
SR 417 to Lake Mary Boulevard	2	21,900	23,200	1,290	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	11.0%	56.9%	50
SR 417 Ramps													
SR 417 Ramp	**Number of Lanes**	**One-Way AADT**	**One-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Operational Speed (mph)**
SR 434													
Northbound off	1	9,200	11,800	1,130	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Southbound on	1	9,200	11,800	1,130	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.0%	61.5%	45
Northbound on	1	8,800	12,100	1,050	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
Southbound off	1	8,800	12,100	1,050	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.5%	62.9%	45
Sanford Airport Connector													
Northbound off	1	10,950	11,600	1,290	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	11.0%	56.9%	45
Southbound on	1	10,950	11,600	1,080	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	11.0%	56.9%	45
CR 427/Lake Mary Boulevard													
Northbound off	2	7,900	24,800	930	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Southbound on	2	7,900	24,800	730	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	57.2%	45
Northbound on	1	8,700	12,600	1,000	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Southbound off	2	8,700	25,300	690	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	9.7%	59.0%	45
Airport Boulevard/US 17-92													
Northbound off	2	4,200	24,300	390	2,900	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (diagonal)	1	4,000	12,200	410	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	45
Southbound on (loop)	1	2,300	11,800	230	1,410	8.00%	3.09%	4.70%	0.21%	0.13%	10.2%	58.5%	25
Northbound on	1	2,950	11,600	270	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Southbound off	1	6,650	11,600	650	1,450	8.00%	3.09%	4.70%	0.21%	0.13%	9.0%	69.2%	45
Arterials													
Arterial Segment	**Number of Lanes**	**Two-Way AADT**	**Two-Way LOS C AADT**	**Peak Hour Peak Direction**	**LOS C Peak Hour Peak Direction**	**Design Hr. %T**	**Design Hr. %MT**	**Design Hr. %HT**	**Design Hr. %Buses**	**Design Hr. %Motorcycles**	**K-factor**	**D-factor**	**Posted Speed (mph)**
Lake Mary Boulevard													
West of Red Cleveland Boulevard	4	19,800	21,500	1,690	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
East of Sanford Airport Connector	4	37,500	21,500	2,730	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	50
West of SR 417	4	27,600	21,500	1,410	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	61.5%	45
Red Cleveland Boulevard													
North of Sanford Airport Connector	4	12,300	23,300	620	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.7%	40
Airport Boulevard													
East of Sanford Avenue	2	10,400	11,500	460	590	2.00%	1.27%	0.65%	0.07%	0.10%	9.0%	57.1%	35
CR 427													
South of Lake Mary Boulevard	4	25,800	23,600	1,580	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	40
West of SR 417	4	37,300	23,600	1,930	1,190	5.00%	2.10%	2.83%	0.07%	0.23%	9.0%	56.0%	45

AADT: Annual Average Daily Traffic *MT: Medium Trucks* *HT: Heavy Trucks*

(1) Number of lanes were obtained from the PD&E Study concept.
(2) Traffic data was obtained from the PD&E Study traffic profiles.
(3) Peak hour demand and LOS C peak hour maximum service volumes are provided directionally.
(4) LOS C targets are based on the FDOT 2023 Quality/Level of Service Handbook tables, and adjusted for local conditions.
(5) LOS C AADT is estimated using K and D factors and the design hour peak direction LOS C maximum service volumes.
(6) Vehicle classification factors were obtained from Florida Traffic Online.
(7) Posted speed data was obtained by field observations.

Appendix B: Predicted Noise Levels

Predicted Noise Levels

Noise Study Area (NSA)	Receptor Name	No. of Units	FDOT NAC	FDOT Impact Criterion (dB(A))	2024 Existing LAeq1h (dB(A))	2050 No-Build LAeq1h (dB(A))	2050 Build LAeq1h (dB(A))	NAC Approach or Exceeded	Noise Level Change from Existing	Substantial Increase	Description
		XX.X* Ambient Field Measurement				XX.X Exceeds NAC			XX.X Substantial Increase		
NB1	NB1-01	1	B	66.0	62.2	65.4	IN ROW	N/A	N/A	N/A	Oakway Residence (in ROW)
NB1	NB1-02	1	B	66.0	55.4	59.3	59.1	No	3.7	No	Oakway Residence
NB1	NB1-03	1	B	66.0	55.5	59.4	58.2	No	2.7	No	Oakway Residence
NB1	NB1-04	1	B	66.0	51.3*	51.3*	60.3	No	9.0	No	Palm Way Residence
NB1	NB1-05	1	B	66.0	51.3*	51.3*	57.0	No	5.7	No	Palm Way Residence
NB1	NB1-06	1	B	66.0	51.3*	51.3*	56.0	No	4.7	No	Palm Way Residence
NB1	NB1-07	1	B	66.0	51.3*	51.3*	55.0	No	3.7	No	Palm Way Residence
NB2	NB2-01	1	B	66.0	51.3*	51.3*	58.7	No	7.4	No	Palm Way Residence
NB2	NB2-02	1	B	66.0	51.3*	51.3*	56.7	No	5.4	No	Palm Way Residence
NB2	NB2-03	1	B	66.0	51.3*	51.3*	IN ROW	N/A	N/A	N/A	Bloom Lane Residence (in ROW)
NB2	NB2-04	1	B	66.0	51.3*	51.3*	IN ROW	N/A	N/A	N/A	Pine Way Residence (in ROW)
NB2	NB2-05	1	B	66.0	51.3*	51.3*	62.2	No	10.9	No	Pine Way Residence
NB3	NB3-01	1	B	66.0	49.9*	49.9*	60.0	No	10.1	No	Pine Way Residence
NB3	NB3-02	1	B	66.0	49.9*	49.9*	56.7	No	6.8	No	Kensington Reserve Residence
NB3	NB3-03	1	B	66.0	49.9*	49.9*	56.8	No	6.9	No	Kensington Reserve Residence
NB3	NB3-04	1	B	66.0	49.9*	49.9*	55.7	No	5.8	No	Kensington Reserve Residence
NB3	NB3-05	1	B	66.0	49.9*	49.9*	57.7	No	7.8	No	Kensington Reserve Residence
NB3	NB3-06	1	B	66.0	49.9*	49.9*	59.5	No	9.6	No	Kensington Reserve Residence
NB3	NB3-07	1	B	66.0	49.9*	49.9*	60.9	No	11.0	No	Kensington Reserve Residence
NB3	NB3-08	1	B	66.0	49.9*	49.9*	61.7	No	11.8	No	Kensington Reserve Residence
NB3	NB3-09	8	B	66.0	49.9*	49.9*	61.7	No	11.8	No	Kensington Reserve Residence
NB3	NB3-10	1	B	66.0	49.9*	49.9*	61.9	No	12.0	No	Kensington Reserve Residence
NB3	NB3-11	7	B	66.0	49.9*	49.9*	56.9	No	7.0	No	Kensington Reserve Residence
NB3	NB3-12	7	B	66.0	45.9*	45.9*	54.0	No	8.1	No	Kensington Reserve Residence
NB3	NB3-13	9	B	66.0	45.9*	45.9*	52.5	No	6.6	No	Kensington Reserve Residence
NB3	NB3-14	3	B	66.0	45.9*	45.9*	51.9	No	7.4	No	Kensington Reserve Residence
NB3	NB3-15	1	B	66.0	45.9*	45.9*	61.2	No	11.3	No	Kensington Reserve Residence
NB3	NB3-16	1	B	66.0	45.9*	45.9*	58.6	No	8.7	No	Kensington Reserve Residence
NB3	NB3-17	1	B	66.0	45.9*	45.9*	56.3	No	10.4	No	Kensington Reserve Residence
NB3	NB3-18	1	B	66.0	45.9*	45.9*	55.3	No	9.4	No	Kensington Reserve Residence
NB3	NB3-19	1	B	66.0	45.9*	45.9*	54.5	No	8.6	No	Kensington Reserve Residence
NB3	NB3-20	1	B	66.0	45.9*	45.9*	53.7	No	7.8	No	Kensington Reserve Residence
NB3	NB3-21	1	B	66.0	45.9*	45.9*	53.7	No	7.8	No	Kensington Reserve Residence
NB3	NB3-22	1	B	66.0	45.9*	45.9*	53.2	No	7.3	No	Kensington Reserve Residence
NB3	NB3-23	1	B	66.0	45.9*	45.9*	52.7	No	6.8	No	Kensington Reserve Residence
NB3	NB3-24	1	B	66.0	45.9*	45.9*	52.2	No	6.3	No	Kensington Reserve Residence

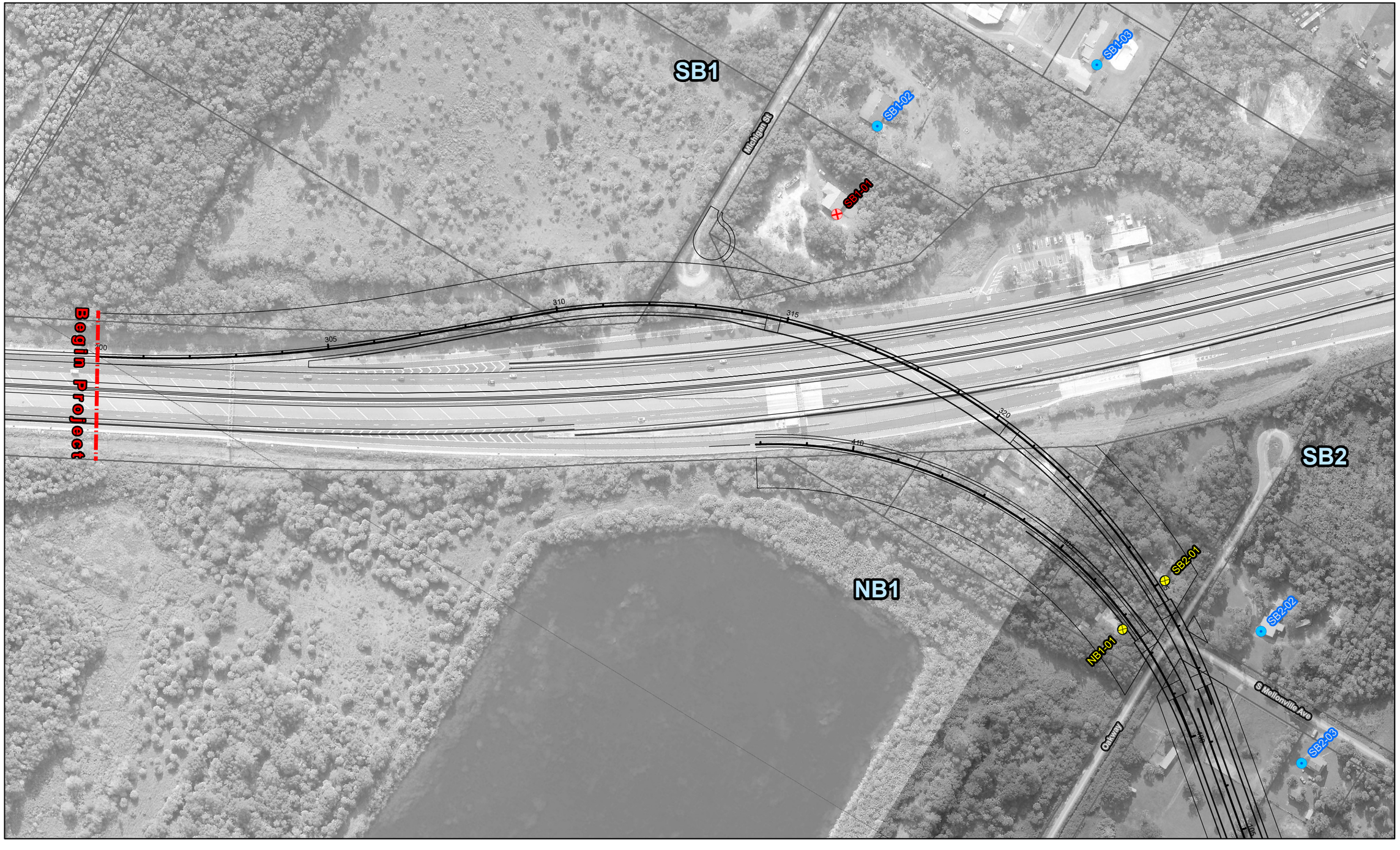
Noise Study Area (NSA)	Receptor Name	No. of Units	FDOT NAC	FDOT Impact Criterion (dB(A))	2024 Existing LAeq1h (dB(A))	2050 No-Build LAeq1h (dB(A))	2050 Build LAeq1h (dB(A))	NAC Approach or Exceeded	Noise Level Change from Existing	Substantial Increase	Description
		XX.X* Ambient Field Measurement				XX.X Exceeds NAC			XX.X Substantial Increase		
NB3	NB3-25	1	B	66.0	45.9*	45.9*	54.4	No	8.5	No	Kensington Reserve Residence
NB3	NB3-26	1	B	66.0	45.9*	45.9*	54.3	No	8.4	No	Kensington Reserve Residence
NB3	NB3-27	1	B	66.0	45.9*	45.9*	54.3	No	8.4	No	Kensington Reserve Residence
NB3	NB3-28	1	B	66.0	45.9*	45.9*	54.2	No	8.3	No	Kensington Reserve Residence
NB3	NB3-29	1	B	66.0	45.9*	45.9*	54.0	No	8.1	No	Kensington Reserve Residence
NB3	NB3-30	1	B	66.0	45.9*	45.9*	54.0	No	8.1	No	Kensington Reserve Residence
NB3	NB3-31	1	B	66.0	45.9*	45.9*	53.8	No	7.9	No	Kensington Reserve Residence
NB3	NB3-32	1	B	66.0	45.9*	45.9*	53.9	No	8.0	No	Kensington Reserve Residence
NB3	NB3-33	1	B	66.0	47.9	48.5	54.1	No	6.2	No	Kensington Reserve Residence
NB3	NB3-34	1	B	66.0	48.3	48.8	54.4	No	9.9	No	Kensington Reserve Residence
NB3	NB3-35	1	B	66.0	48.9	49.3	54.5	No	10.0	No	Kensington Reserve Residence
NB3	NB3-36	1	B	66.0	49.3	49.7	54.7	No	5.4	No	Kensington Reserve Residence
NB3	NB3-37	1	B	66.0	52.2	52.4	56.1	No	3.9	No	Kensington Reserve Residence
NB3	NB3-38	1	B	66.0	52.6	52.8	56.3	No	3.7	No	Kensington Reserve Residence
NB3	NB3-39	1	B	66.0	53.5	53.7	57.0	No	3.5	No	Kensington Reserve Residence
NB3	NB3-40	1	B	66.0	53.5	53.7	56.8	No	3.3	No	Kensington Reserve Residence
NB3	NB3-41	1	B	66.0	54.2	54.3	57.3	No	3.1	No	Kensington Reserve Residence
NB3	NB3-42	1	B	66.0	54.0	54.1	57.1	No	3.1	No	Kensington Reserve Residence
NB3	NB3-43	1	B	66.0	56.5	56.6	59.1	No	2.6	No	Kensington Reserve Residence
NB3	NB3-44	1	B	66.0	57.3	57.3	59.5	No	2.2	No	Kensington Reserve Residence
NB3	NB3-45	1	B	66.0	57.9	57.9	59.7	No	1.8	No	Kensington Reserve Residence
NB3	NB3-46	1	B	66.0	58.5	58.5	60.0	No	1.5	No	Kensington Reserve Residence
NB3	NB3-47	1	B	66.0	58.9	59.0	60.1	No	1.2	No	Kensington Reserve Residence
NB3	NB3-48	1	B	66.0	58.7	58.7	59.7	No	1.0	No	Kensington Reserve Residence
NB3	NB3-SLU1.1	1	C	66.0	50.5	50.9	55.7	No	5.2	No	Kensington Reserve Pool
NB3	NB3-SLU1.2	1	C	66.0	50.7	51.0	56.7	No	6.0	No	Kensington Reserve Playground
SB1	SB1-01	1	B	66.0	**66.7**	**70.3**	**67.9**	Yes	1.2	No	Michigan St. Residence
SB1	SB1-02	1	B	66.0	64.3	**67.3**	65.4	No	1.1	No	Michigan St. Residence
SB1	SB1-03	1	B	66.0	63.6	**66.2**	65.1	No	1.5	No	Michigan St. Residence
SB2	SB2-01	1	B	66.0	62.8	**66.6**	IN ROW	N/A	N/A	N/A	Oakway Residence (in ROW)
SB2	SB2-02	1	B	66.0	61.3	64.7	64.8	No	3.5	No	S. Mellonville Ave. Residence
SB2	SB2-03	1	B	66.0	58.2	62.7	63.3	No	5.1	No	S. Mellonville Ave. Residence
SB2	SB2-04	1	B	66.0	56.6	60.9	60.2	No	3.6	No	S. Mellonville Ave. Residence
SB2	SB2-05	1	B	66.0	54.2	58.5	58.4	No	4.2	No	Palm Way Residence
SB2	SB2-06	1	B	66.0	53.6	57.4	60.1	No	6.5	No	Palm Way Residence
SB3	SB3-01	1	B	66.0	50.2	53.7	IN ROW	N/A	N/A	N/A	Bloom Lane Residence (in ROW)
SB3	SB3-02	1	B	66.0	51.4	55.6	58.5	No	7.1	No	Palm Way Residence
SB3	SB3-03	1	B	66.0	53.1	57.4	57.5	No	4.4	No	S. Mellonville Ave. Residence

Noise Study Area (NSA)	Receptor Name	No. of Units	FDOT NAC	FDOT Impact Criterion (dB(A))	2024 Existing LAeq1h (dB(A))	2050 No-Build LAeq1h (dB(A))	2050 Build LAeq1h (dB(A))	NAC Approach or Exceeded	Noise Level Change from Existing	Substantial Increase	Description
		XX.X* Ambient Field Measurement				XX.X Exceeds NAC			XX.X Substantial Increase		
SB3	SB3-04B	1	B	66.0	52.4	57.2	58.0	No	5.6	No	Pine Way Residence - 2nd floor patio
SB3	SB3-05	1	B	66.0	51.3*	51.3*	55.2	No	3.9	No	Pine Way Residence
SB3	SB3-06	1	B	66.0	51.3*	51.3*	55.8	No	4.5	No	Pine Way Residence
SB3	SB3-07	1	B	66.0	51.3*	51.3*	57.7	No	6.4	No	Pine Way Residence
SB4	SB4-01	1	B	66.0	49.9*	49.9*	64.6	No	14.7	No	Concorde Residence
SB4	SB4-02	1	B	66.0	49.9*	49.9*	64.2	No	14.3	No	Concorde Residence
SB4	SB4-03	1	B	66.0	49.9*	49.9*	64.8	No	14.9	No	Concorde Residence
SB4	SB4-04	1	B	66.0	49.9*	49.9*	64.8	No	14.9	No	Concorde Residence
SB4	SB4-05	1	B	66.0	49.9*	49.9*	64.8	No	14.9	No	Concorde Residence
SB4	SB4-06	1	B	66.0	49.9*	49.9*	65.0	No	**15.1**	Yes	Concorde Residence
SB4	SB4-07	1	B	66.0	49.9*	49.9*	64.2	No	14.3	No	Concorde Residence
SB4	SB4-08	1	B	66.0	49.9*	49.9*	64.0	No	14.1	No	Concorde Residence
SB4	SB4-09	1	B	66.0	49.9*	49.9*	63.0	No	13.1	No	Concorde Residence
SB4	SB4-10	1	B	66.0	49.9*	49.9*	61.7	No	11.8	No	Concorde Residence
SB4	SB4-11	1	B	66.0	49.9*	49.9*	60.5	No	10.6	No	Concorde Residence
SB4	SB4-12	1	B	66.0	49.9*	49.9*	61.2	No	11.3	No	Concorde Residence
SB4	SB4-13	1	B	66.0	49.9*	49.9*	60.9	No	11.0	No	Concorde Residence
SB4	SB4-14	6	B	66.0	49.9*	49.9*	60.8	No	10.9	No	Concorde Residence
SB4	SB4-15	1	B	66.0	49.9*	49.9*	60.0	No	10.1	No	Concorde Residence
SB4	SB4-16	1	B	66.0	49.9*	49.9*	59.8	No	9.9	No	Concorde Residence
SB4	SB4-17	1	B	66.0	49.9*	49.9*	59.6	No	9.7	No	Concorde Residence
SB4	SB4-18	1	B	66.0	49.9*	49.9*	59.4	No	9.5	No	Concorde Residence
SB4	SB4-19	1	B	66.0	49.9*	49.9*	58.4	No	8.5	No	Concorde Residence
SB4	SB4-20	1	B	66.0	49.9*	49.9*	58.2	No	8.3	No	Concorde Residence
SB4	SB4-21	1	B	66.0	49.9*	49.9*	59.5	No	9.6	No	Concorde Residence
SB4	SB4-22	1	B	66.0	49.9*	49.9*	59.7	No	9.8	No	Concorde Residence
SB4	SB4-23	1	B	66.0	49.9*	49.9*	59.8	No	9.9	No	Concorde Residence
SB4	SB4-24	1	B	66.0	49.9*	49.9*	59.7	No	9.8	No	Concorde Residence
SB4	SB4-25	1	B	66.0	49.9*	49.9*	59.6	No	9.7	No	Concorde Residence
SB4	SB4-26	1	B	66.0	45.9*	45.9*	58.0	No	12.1	No	Concorde Residence
SB4	SB4-27	1	B	66.0	45.9*	45.9*	57.4	No	11.5	No	Concorde Residence
SB4	SB4-28	1	B	66.0	45.9*	45.9*	57.1	No	11.2	No	Concorde Residence
SB4	SB4-29	1	B	66.0	45.9*	45.9*	56.9	No	11.0	No	Concorde Residence
SB4	SB4-30	1	B	66.0	45.9*	45.9*	56.6	No	10.7	No	Concorde Residence
SB4	SB4-31	1	B	66.0	45.9*	45.9*	56.3	No	10.4	No	Concorde Residence
SB4	SB4-32	1	B	66.0	45.9*	45.9*	56.5	No	10.6	No	Concorde Residence
SB4	SB4-33	1	B	66.0	45.9*	45.9*	56.4	No	10.5	No	Concorde Residence
SB4	SB4-34	1	B	66.0	45.9	47.5	56.5	No	10.6	No	Concorde Residence
SB4	SB4-35	1	B	66.0	45.9	47.4	56.4	No	10.5	No	Concorde Residence

Noise Study Area (NSA)	Receptor Name	No. of Units	FDOT NAC	FDOT Impact Criterion (dB(A))	2024 Existing LAeq1h (dB(A))	2050 No-Build LAeq1h (dB(A))	2050 Build LAeq1h (dB(A))	NAC Approach or Exceeded	Noise Level Change from Existing	Substantial Increase	Description
		XX.X* Ambient Field Measurement				XX.X Exceeds NAC			XX.X Substantial Increase		
SB4	SB4-36	6	B	66.0	47.1	48.2	57.1	No	10.0	No	Concorde Residence
SB4	SB4-37	1	B	66.0	47.5	48.4	57.8	No	10.3	No	Concorde Residence
SB4	SB4-38	1	B	66.0	46.0	48.0	55.9	No	9.9	No	Concorde Residence
SB4	SB4-39	5	B	66.0	46.1	47.8	53.9	No	7.8	No	Concorde Residence
SB4	SB4-40	1	B	66.0	45.9	48.1	53.6	No	7.7	No	Concorde Residence
SB4	SB4-41	1	B	66.0	45.9	48.1	53.8	No	7.9	No	Concorde Residence
SB4	SB4-42	1	B	66.0	45.9	48.1	53.3	No	7.4	No	Concorde Residence
SB4	SB4-43	5	B	66.0	45.9	48.0	53.5	No	7.6	No	Concorde Residence
SB4	SB4-44	1	B	66.0	47.8	48.7	58.3	No	10.5	No	Concorde Residence
SB4	SB4-45	1	B	66.0	47.7	48.5	58.2	No	10.5	No	Concorde Residence
SB4	SB4-46	1	B	66.0	48.1	48.8	58.4	No	10.3	No	Concorde Residence
SB4	SB4-47	1	B	66.0	48.5	49.1	58.4	No	9.9	No	Concorde Residence
SB4	SB4-48	1	B	66.0	48.7	49.3	57.8	No	9.1	No	Concorde Residence
SB4	SB4-49	1	B	66.0	49.3	49.7	57.4	No	8.1	No	Concorde Residence
SB4	SB4-50	1	B	66.0	49.7	50.1	57.1	No	7.4	No	Concorde Residence
SB4	SB4-51	1	B	66.0	50.0	50.3	56.8	No	6.8	No	Concorde Residence
SB4	SB4-52	1	B	66.0	50.3	50.6	56.1	No	5.8	No	Concorde Residence
SB4	SB4-53	1	B	66.0	50.9	51.2	55.9	No	5.0	No	Concorde Residence
SB4	SB4-54	1	B	66.0	51.2	51.5	55.6	No	4.4	No	Concorde Residence
SB4	SB4-55	1	B	66.0	47.4	48.3	56.1	No	8.7	No	Concorde Residence
SB4	SB4-56	1	B	66.0	47.5	48.3	56.1	No	8.6	No	Concorde Residence
SB4	SB4-57	1	B	66.0	47.9	48.7	56.3	No	8.4	No	Concorde Residence
SB4	SB4-58	1	B	66.0	48.3	48.9	56.5	No	8.2	No	Concorde Residence
SB4	SB4-59	1	B	66.0	48.4	49.0	56.2	No	7.8	No	Concorde Residence
SB4	SB4-60	1	B	66.0	48.8	49.4	56.0	No	7.2	No	Concorde Residence
SB4	SB4-61	1	B	66.0	49.2	49.7	55.9	No	6.7	No	Concorde Residence
SB4	SB4-62	1	B	66.0	49.6	49.9	55.6	No	6.0	No	Concorde Residence
SB4	SB4-63	1	B	66.0	50.0	50.4	55.5	No	5.5	No	Concorde Residence
SB4	SB4-64	1	B	66.0	50.4	50.7	55.3	No	4.9	No	Concorde Residence
SB4	SB4-65	1	B	66.0	47.6	48.4	54.9	No	7.3	No	Concorde Residence
SB4	SB4-66	1	B	66.0	48.1	48.8	54.5	No	6.4	No	Concorde Residence
SB4	SB4-67	1	B	66.0	48.4	49.0	54.2	No	5.8	No	Concorde Residence
SB4	SB4-68	1	B	66.0	49.2	49.7	54.5	No	5.3	No	Concorde Residence
SB4	SB4-69	1	B	66.0	49.9*	49.9*	55.8	No	5.9	No	Concorde Residence
SB4	SB4-70	1	B	66.0	49.9*	49.9*	55.6	No	5.7	No	Concorde Residence
SB4	SB4-71	1	B	66.0	49.9*	49.9*	54.9	No	5.0	No	Concorde Residence
SB4	SB4-72	1	B	66.0	49.9*	49.9*	54.7	No	4.8	No	Concorde Residence
SB4	SB4-73	1	B	66.0	49.9*	49.9*	54.4	No	4.5	No	Concorde Residence
SB4	SB4-74	1	B	66.0	49.9*	49.9*	56.7	No	6.8	No	Concorde Residence

Noise Study Area (NSA)	Receptor Name	No. of Units	FDOT NAC	FDOT Impact Criterion (dB(A))	2024 Existing LAeq1h (dB(A))	2050 No-Build LAeq1h (dB(A))	2050 Build LAeq1h (dB(A))	NAC Approach or Exceeded	Noise Level Change from Existing	Substantial Increase	Description
		XX.X* Ambient Field Measurement				XX.X Exceeds NAC			XX.X Substantial Increase		
SB4	SB4-75	1	B	66.0	49.9*	49.9*	56.0	No	6.1	No	Concorde Residence
SB4	SB4-76	1	B	66.0	49.9*	49.9*	55.5	No	5.6	No	Concorde Residence
SB4	SB4-77	1	B	66.0	49.9*	49.9*	58.7	No	8.8	No	Concorde Residence
SB4	SB4-78	1	B	66.0	49.9*	49.9*	58.1	No	8.2	No	Concorde Residence
SB4	SB4-SLU1.1	1	C	66.0	45.9*	45.9*	51.5	No	5.6	No	Concorde Pool
SB4	SB4-SLU1.2	1	C	66.0	45.9*	45.9*	52.1	No	6.2	No	Concord Playground
SB5	SB5-01	1	B	66.0	49.7	51.1	59.6	No	9.9	No	Marquette Ave Residence
SB5	SB5-02	1	B	66.0	48.0	49.0	56.1	No	8.1	No	Marquette Ave Residence
SB5	SB5-03	1	B	66.0	47.4	48.1	53.0	No	5.6	No	Marquette Ave Residence
SB5	SB5-04	1	B	66.0	48.5	48.9	52.4	No	3.9	No	Marquette Ave Residence

Appendix C: Project Aerials



Receptor - Impacted
Receptor - Not Impacted
In Proposed ROW
Monitoring Site
Receptor Group
NSA Boundary

Receptor - Impacted
Receptor - Not Impacted
In Proposed ROW
Monitoring Site
Receptor Group
NSA Boundary

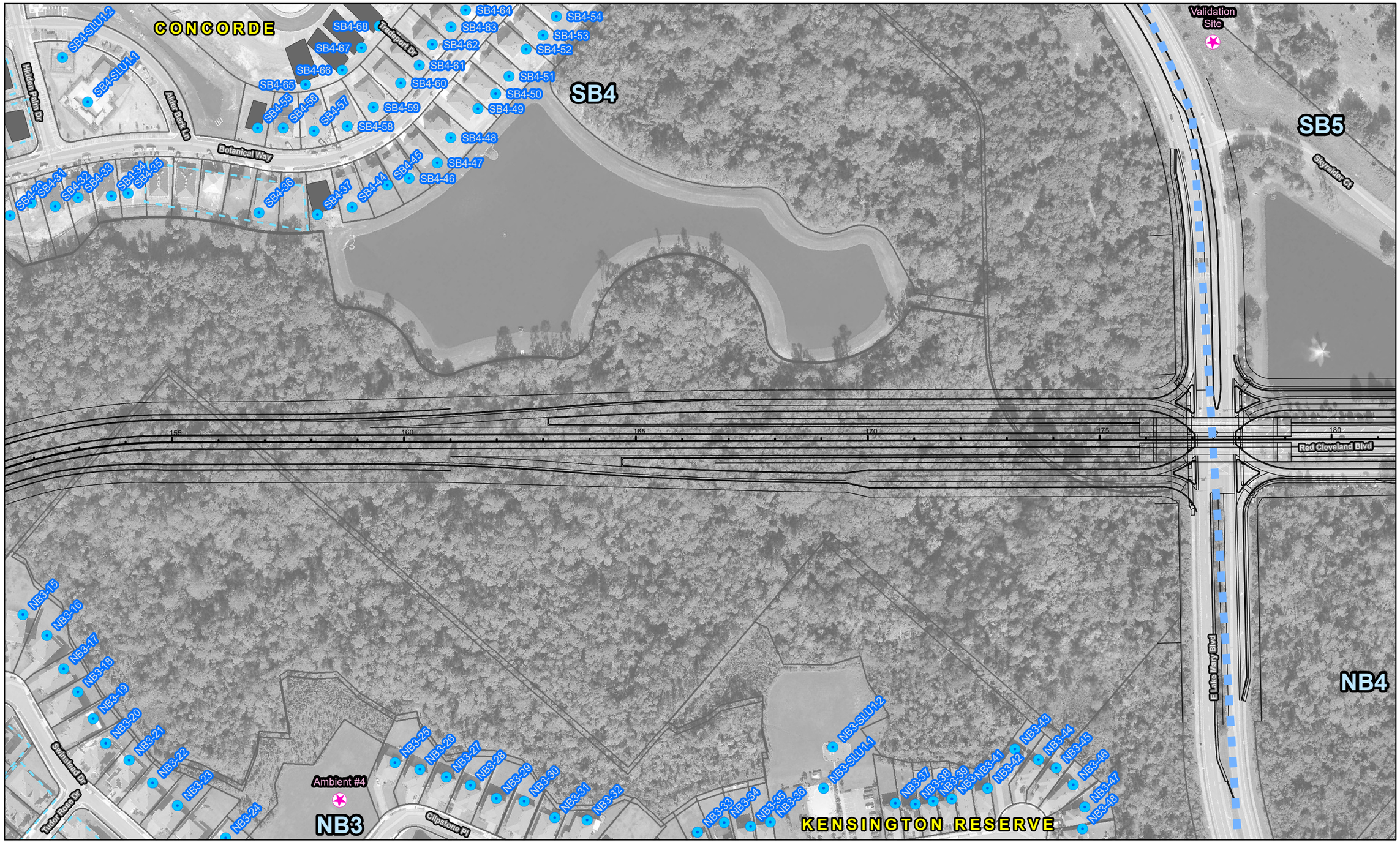
N E S W

0 200 Feet

Receptor - Impacted
Receptor - Not Impacted
In Proposed ROW
Monitoring Site
Receptor Group
NSA Boundary

N W E S

0 200 Feet



Receptor - Impacted

Receptor - Not Impacted

In Proposed ROW

Monitoring Site

Receptor Group

NSA Boundary

N W E S

0 200 Feet


SB5
NB4
SB5-04
SB5-03
SB5-02
SB5-01
Marquette Ave
END PROJECT
S Patrol Rd
Skyridge Ct
Little May Blvd
Red Cloverland Blvd
190
195
200
Receptor - Impacted
Receptor - Not Impacted
In Proposed ROW
Monitoring Site
Receptor Group
NSA Boundary
W
N
S
E
0
200 Feet