In response to your inquiry about highway traffic noise along I-95, a review of current and former projects was conducted.

As part of the I-95 from International Golf Parkway to I-295 projects (Project IDs: 424026-4, 424026-5, & 422938-9), a traffic noise study was conducted to identify traffic noise impacts that would result from the project. Traffic noise studies are conducted in accordance with FDOT Project Development and Environmental (PD&E) manual, Part 2, Chapter 18, Florida Statute 335.17, and Code of Federal Regulations 23 CFR 772. These studies include the use of a specialized traffic noise model known as Traffic Noise Model (TNM, Version 2.5). Highway traffic noise at noise sensitive sites, including residences, was predicted for future year conditions with the construction of the project. Noise sensitive sites (referred to as receptors) were evaluated for impacts (i.e., noise levels at or above the FHWA's Noise Abatement Criteria [NAC] or substantial increases).

Noise abatement in the form of a noise barrier was evaluated for all impacted nose sensitive sites. A noise barrier works by absorbing, transmitting, reflecting or diffracting sound from a highway (**Figure 1**). A noise barrier must be both feasible and reasonable in order to be a viable noise abatement measure. The noise barrier must meet acoustic, financial, and engineering requirements.

The evaluation considers several factors, including elevation. Elevation plays a vital role in determining if traffic noise impacts are present. TNM requires specific information in order for the model to be analyzed. Factors such as elevations of the roadway, terrain changes, residences/structures, water bodies, etc. are applied to the model to ensure the most accurate representation of the project conditions.

During the evaluation, it was found that a noise barrier could not provide an acoustic reduction which meets regulations, specifically met the Noise Reduction Design Goal (NRDG). Furthermore, the noise barrier was found not to be cost reasonable according to regulations. Therefore, a noise barrier will not be planned for construction for this area. An excerpt from the most recent Noise Study Report Addendum (NSRA) is provided for your reference.

At this time, a traffic noise barrier is not proposed along this portion of the I-95 corridor. Noise barriers typically provide a benefit up to about 500 feet from the traffic noise source. After that distance, there is almost no perceptible difference in the noise levels with or without the wall.

I hope that these answers address your concerns with the rationale and the considerations that are undertaken for any project by FDOT. Let me know if I can be of further assistance.

Thank you,

Jared Sweat, M.S, CPM
District Noise Specialist/Project Manager
FDOT District 2 Planning & Environmental Management Office
jared.sweat@dot.state.fl.us
Direct Line: (386) 961-7462

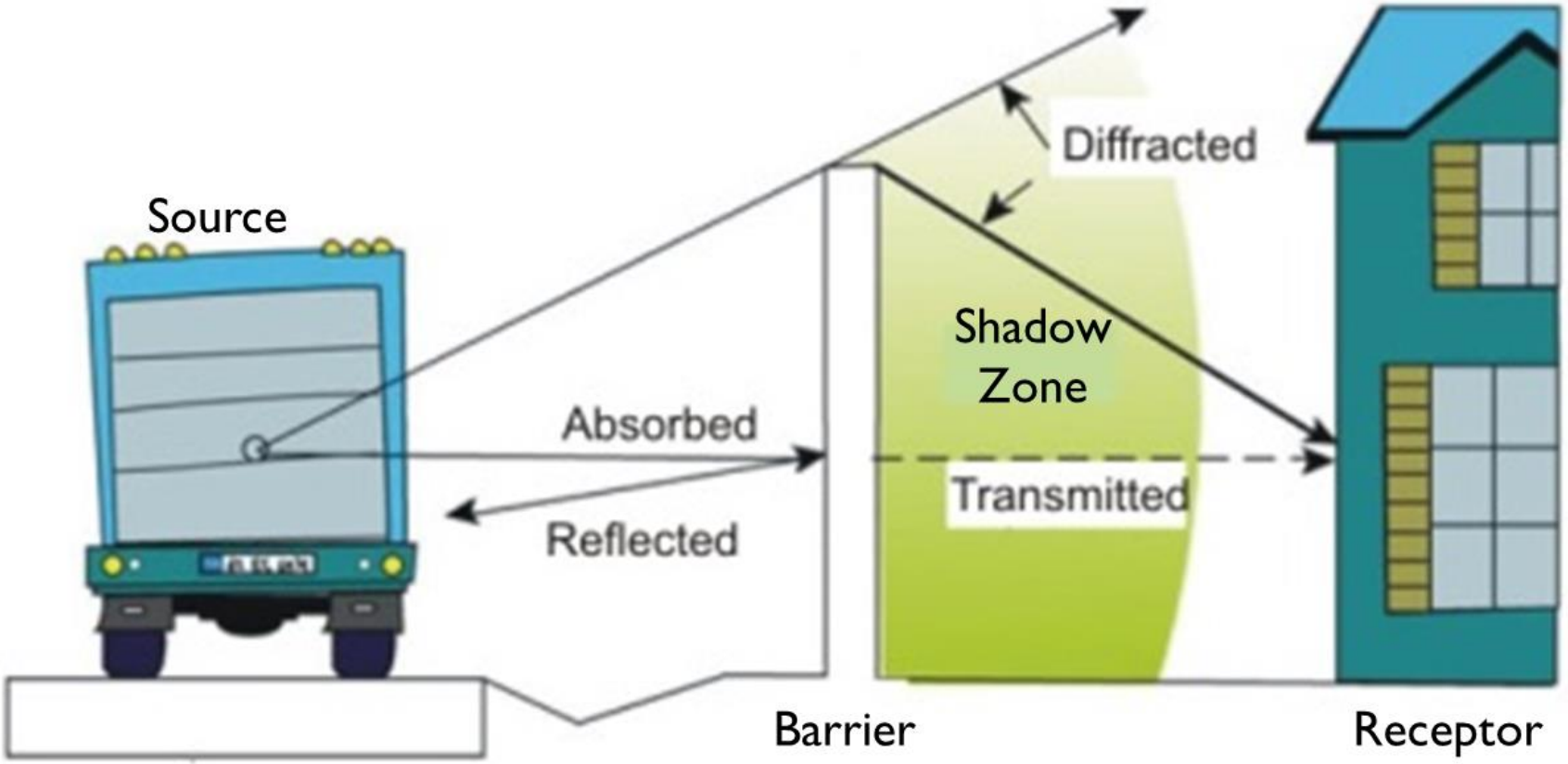

Figure 1: Example of a Noise Barrier

Noise Study Report Addendum

Florida Department of Transportation
District 2

I-95 (SR 9) Widening

from S. of International Golf Parkway to S. of SR 23/First Coast Expressway Interchange
and from North of SR 23/First Coast Expressway Interchange to Duval County Line
Financial Project ID Nos. 422938-9 and 424026-4

SR 23 (First Coast Expressway) at I-95 (SR 9) Interchange

Financial Project ID No. 422938-8

St. Johns County, Florida

December 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016, and executed by the Federal Highway Administration and FDOT.

Noise Study Report Addendum

Florida Department of Transportation
District 2

I-95 (SR 9) Widening

from S. of International Golf Parkway to S. of SR 23/First Coast Expressway Interchange and from North of SR 23/First Coast Expressway Interchange to Duval County Line
Financial Project ID Nos. 422938-9 and 424026-4

SR 23 (First Coast Expressway) at I-95 (SR 9) Interchange

Financial Project ID No. 422938-8

St. Johns County, Florida

December 2021

Prepared by:
Environmental Transportation Planning, LLC
Ponte Vedra Beach, FL

In Coordination With:
AECOM, Inc. – Tallahassee, FL
RS&H, Inc. – Jacksonville, FL

Wingfield Glen: This single-family neighborhood was also included in the PD&E Study. Of the 13 analyzed residences, all were impacted by the proposed project. The noise barrier evaluated for this neighborhood was determined to be reasonable and feasible and recommended for further consideration in the project's final design phase.

For this reevaluation, receptors 6-47 through 6-62 represent 23 residences in this neighborhood, as illustrated in Appendix D on page **D-13**. Currently, the average noise level for these receptors is 68.8 dB(A), with 15 residences experiencing traffic noise levels that meet or exceed the 66.0 dB(A) NAC. With the proposed I-95 widening, the overall traffic noise levels increase an average of 1.1 dB(A) with an average project-related noise level of 69.8 dB(A). The project impacts 19 houses with noise levels that meet or exceed the NAC. The noise barrier analysis to abate these impacts is summarized in **Section 3.1.6.2**.

Other Sites: The other noise-sensitive site in NSA 6 is the Starbucks outdoor patio located west of the I-95/CR 210 interchange. The PD&E Study determined there were no project impacts to this site.

Identified as receptor 6-63E on Appendix D page **D-14**, this receptor has an existing noise level of 66.4 dB(A) which is below the 71.0 dB(A) NAC for an Activity Category E land use. With the proposed I-95 widening, the traffic noise level is predicted to be 68.5 dB(A), increasing 2.1 decibels over existing conditions. Neither the increase nor the predicted project noise level constitutes a project noise impact.

The existing and Design Year Build noise levels discussed for this NSA are also summarized in a noise impact comparison matrix, provided as **Appendix C**.

3.1.6.1 Noise Abatement Consideration - Barrier A-3

Barrier A-3 was evaluated parallel to southbound I-95 and placed 10 feet inside the FDOT limited-access ROW to abate for impacts to the St. Johns Golf & Country Club residences and the impacted golf course. As shown in **Table 10**, at the maximum height of 22 feet, the barrier does not achieve the required 7.0 dB(A) NRDG. Consequently, the barrier is not considered reasonable, and no further evaluation is required. **Figure 6** illustrates the location of Barrier A-3.

Table 10: Noise Barrier A-3 Evaluation Summary

NSA 6: St. Johns Golf & Country Club													
Evaluated Barrier Options				**Number of Impacted Sites (Including Golf)**	**Number of Impacted Sites Within a Noise Reduction Range (Including Golf)**			**Number of Benefited Sites (Including Golf) *1**				**Total Estimated Cost *4**	**Cost per Benefited Receptor (*Without Golf*) *5**
Option	**Height (feet)**	**Length (feet)**	**Approx. Location (Roadway Stationing)**		**5-5.9 dB(A)**	**6-6.9 dB(A)**	**≥ 7.0 dB(A) *2**	**Impacted**	**Other *3**	**Total**	**Avg. Noise Reduction dB(A)**		
Max. Dimensions	22	2,563	1597+00 to 1622+00	5	2	3	0	5	1	5	5.7	$1,691,580	$338,316
*Barrier is not considered reasonable due to inability to achieve the FDOT Noise Reduction Design Goal.*2*													

*1 = Minimum of 5.0 dB(A) required to be considered benefited by noise barrier.

*2 = FDOT Noise Reduction Design Goal is 7.0 dB(A) at a minimum of 1 benefited receptor.

*3 = Refers to non-impacted noise-sensitive sites.

*4 = Based on FDOT Statewide average of $30 per square foot.

*5 = FDOT Reasonable Cost Guideline is $42,000.

Figure 6: Analyzed Barrier A-3