

# **Appendix F**

Noise Study Data

**Table F-1 – Common Sounds and Their Levels.**

*(Copied from Appendix C, Table D Programmatic Environmental Assessment – U.S. Virgin Islands Housing Actions dated December 2022)*

<b>Outdoor</b>	<b>Sound Level (dBA)</b>	<b>Indoor</b>
Motorcycle	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringling telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Notes:

dBA = A-weighted decibel.

Source: Volpe, John A., U.S. Department of Transportation, Federal Transit Administration. 2018 “Transit Noise and Vibration Impact Assessment Manual. September 2018.” Accessed June 2022:

[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123\\_0.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf)

**Table F-2: Estimating Existing Noise Exposure**

*(Copied from Appendix C, Table E Programmatic Environmental Assessment – U.S. Virgin Islands Housing Actions dated December 2022)*

Distance from Major Airports (Henry E. Rohlsen)(ft.) <sup>1,2</sup>	Distance from Interstate Highways (ft.) <sup>1,3</sup>	Distance from Other Roadways (ft.) <sup>1,4</sup>	Population Density (people/sq. mi.)	Day (L <sub>eq</sub> )	Evening (L <sub>eq</sub> )	Night (L <sub>eq</sub> )	L <sub>dn</sub>
1-200							75
200-300							70
300-600							65
600 - 900							60
	10-50			75	70	65	75
	50-100			70	65	60	70
	100-200			65	60	55	65
	200-400			60	55	50	60
	400-800			55	50	45	55
	800 and up			50	45	40	50
		10-50		70	65	60	70
		50-100		65	60	55	65
		100-200		60	55	50	60
		200-400		55	50	45	55
		400 and up		50	45	40	50
			1-100	35	30	25	35
			100-300	40	35	30	40
			300-1000	45	40	35	45
			1000-3000	50	45	40	50
			3000-10000	55	50	45	55
			10000-	60	55	50	60
			30000	65	60	55	65
			30000 and up				

Notes:

<sup>1</sup>Distances do not include shielding from intervening rows of buildings.

<sup>2</sup>This information is specific to Henry E. Rohlsen Airport, 2017 Noise Contours. GIS methods were used to evaluate sensitive receptors that are within or near the existing noise contours. The distance from major noise sources and associated L<sub>dn</sub> values presented here are for general reference only and based on the 2017 Noise Contour map. Source: LPA Group, 2017, “Henry E. Rohlsen Airport Environmental Assessment: 2017 Noise Contours Map.

<sup>3</sup>Roadways with 4 or more lanes that permit trucks, with traffic at 60 mph.

<sup>4</sup>Parkways with traffic at 55 mph, but without trucks, and city streets with the equivalent of 75 or more heavy trucks per hour and 300 or more medium trucks per hour at 30 mph.

Sources: Major Airports Data (LPA 2017); All Other Data (U.S. Department of Transportation, Federal Highway Administration, 2022, “Construction Noise Handbook”. Accessed June 2022:

[https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook09.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm).

**Table F-3: Tabular results from preliminary noise screening for St. Croix (PEA-specific data)**

*(Modified from Appendix C, Table F Programmatic Environmental Assessment – U.S. Virgin Islands Housing Actions dated December 2022)*

Name	Address	City	State	Zip code	Island	Road Type	Near Distance (feet)	Road Ldn	Population Density 2022	Population Density Ldn	Final Ldn
Saint Croix Educational Complex High School	Centerline Road	Christiansted	VI	00820	St. Croix	Other Hwy	714.20945779600	50	4884	55	50
Saint Croix Central High School	Centerline Road	Kingshill	VI	00850	St. Croix	Other Hwy	293.84696648300	55	7899	55	55
Claude O Markoe Elementary School	7175 Mars Hills	Frederiksted	VI	00840	St. Croix	Other Hwy	150.17572908900	60	4884	55	60
Eulalie Rivera Elementary School	Route 1 Grove Place	Frederiksted	VI	00840	St. Croix	Other Hwy	212.03367263100	55	4884	55	55
Lew Muckle Elementary School	317 Sion Farm	Christiansted	VI	00820	St. Croix	Other Hwy	334.90748533700	55	7899	55	55
Pearl B Larsen Elementary School	7 Estate Saint Peters	Christiansted	VI	00820	St. Croix	Other Hwy	186.32094984300	60	3966	55	60
Alfredo Andrews Elementary School	1 Estate Frdensborg	Kingshill	VI	00850	St. Croix	Other Hwy	254.23946550000	55	4884	55	55
Juanita Gardine Elementary School	Estate Richmond	Christiansted	VI	00820	St. Croix	Other Hwy	350.44890718100	55	2407	50	55
Ricardo Richards Elementary School	491 Estate Barren Spot	Kingshill	VI	00850	St. Croix	Mjr Hwy/Intr	505.87236529800	55	7899	55	55
John H Woodson Junior High School	Highway 73	Kingshill	VI	00850	St. Croix	Other Hwy	408.68826625700	50	4884	55	50

Source: ARCGIS-generated screening utilizing the following: U.S. Department of Transportation, Federal Highway Administration, 2022, “Construction Noise Handbook”. Accessed June 2022: [https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook09.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm).

**Table F-4: Tabular results from preliminary noise screening for St. John**

*(Modified from Appendix C, Table G Programmatic Environmental Assessment – U.S. Virgin Islands Housing Actions dated December 2022)*

Name	Address	City	State	Zip code	Island	Road Type	Near Distance (feet)	Road Ldn	Population Density 2022	Population Density Ldn	Final Ldn
Julius E Sprauve School	15-18 Estate Enighed	Saint John	VI	00830	St. John	Other Hwy	310.07627882900	55	2656	50	55

Source: ARCGIS-generated screening utilizing the following: U.S. Department of Transportation, Federal Highway Administration, 2022, "Construction Noise Handbook". Accessed June 2022: [https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook09.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm).

**Table F-5: Tabular results from preliminary noise screening for St. Thomas**

*(Modified from Appendix C, Table H Programmatic Environmental Assessment – U.S. Virgin Islands Housing Actions dated December 2022)*

Name	Address	City	State	Zip code	Island	Road Type	Near Distance (feet)	Road Ldn	Population Density 2022	Population Density Ldn	Final Ldn
Charlotte Amalie High School	8-9 Sugar Estate Road	Saint Thomas	VI	00802	St. Thomas	Mjr Hwy/Intr	490.29833223100	55	9862	55	55
Ivanna Eudora Kean High School	6501 Red Hook Plaza	Saint Thomas	VI	00802	St. Thomas	Other Hwy	147.79839097300	60	9862	55	60
Joseph Sibilly Elementary School	14 15 16 Estate Elizabeth	Saint Thomas	VI	00802	St. Thomas	Other Hwy	140.48427013900	60	9862	55	60
Lockhart Elementary School	41 Estate Thomas	Saint Thomas	VI	00802	St. Thomas	Mjr Hwy/Intr	628.04113434500	55	9862	55	55
Ulla F Muller Elementary School	101 Contant	Saint Thomas	VI	00802	St. Thomas	Other Hwy	314.70231240600	55	18137	60	55
Bertha C Boschulte Middle School	9-1 and 12A Bovoni Road	Saint Thomas	VI	00802	St. Thomas	Other Hwy	4539.68164410000	50	5310	55	55
Yvonne E Milliner - Bowsky Elementary School	15 Estate Mandahl	Saint Thomas	VI	00802	St. Thomas	Other Hwy	208.89536959000	55	9862	55	55
Jane E Tuitt Elementary School	19 Staabailand	Saint Thomas	VI	00802	St. Thomas	Other Hwy	805.70644322400	50	18137	60	50
Joseph Gomez Elementary School	Annas Retreat	Saint Thomas	VI	00801	St. Thomas	Other Hwy	353.05249520100	55	5310	55	55

Source: ARCGIS-generated screening utilizing the following: U.S. Department of Transportation, Federal Highway Administration, 2022, “Construction Noise Handbook”. Accessed June 2022: [https://www.fhwa.dot.gov/Environment/noise/construction\\_noise/handbook/handbook09.cfm](https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook09.cfm).

## **Document A – Noise Screening Procedure**

### **NOISE/Existing Noise Exposure - Screening Methodology**

Existing noise in the region needs to be quantified so it can be compared to action-specific noise to determine noise impact. In the absence of existing noise measurements, especially at locations known to be noise-sensitive, they must be estimated. The methodologies outlined in The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, 2018, were implemented to estimate existing noise exposure (FTA, 2018).

The source data evaluated includes existing published noise contours, major and minor roads, 2020 population density, and sensitive receptors.

The sensitive receptors were compared to the existing noise sources to determine:

- If sensitive receptors are within airport published noise contours (Y/N); if Y, Ldn = published noise contour. If N, roads and population were evaluated. There were no sensitive receptors located within the published contours for Henry E. Rohlsen, 2017.
- Proximity to major and minor roadways. Major roads for the USVI were those with GT 20,000 ADT which includes portions of 30 and 38 on St. Thomas (VIDPW, 2019) and portions of Hwy 66 on St. Croix since some are paved, 4-lane roads.
- 2020 population density.

The Ldn values from Appendix C, Table E were applied and further evaluated. If the sites proximity to major roads or airports were far enough away that ambient noise is dominated by local streets and community activities, then the estimate is based on population density. For this effort, if the proximity of the sensitive receptor was greater than a half-mile away from a major or minor road, then the relative population density Ldn value was used. The final noise levels were compared, and the lowest level is selected and associated with the final Ldn for the noise receiver (or sensitive receptor). (FTA, 2018. Step 5, Estimate Existing Noise Exposure). See: Transit Noise and Vibration Impact Assessment Manual (dot.gov)