

103 Tremont, 230 Park Ave, 126 Maple Ave, and 511 Chestnut St.

Pleasantville NJ

HUD Noise Screening Analysis

The project does not involve new stationary noise sources and the effect of four single-family residences on mobile source noise generation is negligible. The project would generate noise temporarily during construction, but no significant construction noise impacts are anticipated because of the scale and type of construction involved.

The following sections assess the existing noise exposure of the project site for comparison to the HUD criterion for outdoor noise at residential building. The analysis is consistent with 24 CFR Part 51 and the HUD Noise Guidebook.

Airports

The Atlantic City International Airport is approximately five miles northwest of the proposed project location in Pleasantville. Based on the distance involved and the orientation of the Atlantic City International Airport runways, airport noise is not expected to be a major contributor to the noise environment at the project sites and further review is not warranted. While the U.S. Coast Guard Station in Atlantic City routinely handles helicopter traffic, the takeoff and landing approaches do not encroach into Pleasantville's airspace.¹

Railroads

The nearest railroad (freight) is located nearly 2,000 feet north of 511 Chestnut St. Given the large distance involved, railroad-related noise is unlikely to be a substantial contributor to overall noise levels at the site and further analysis of railroad noise at the site is not warranted.

Roadway Traffic

The project sites are located on minor residential streets for which no traffic data is readily available. Therefore, existing noise exposure was estimated based on the population density of the area and the known relationship between population density and Day-Night Average Sound Level (DNL). Away from major roadways, EPA has determined DNL can be estimated based on the following equation²:

$$\text{DNL} = 22 + 10\log(\text{people per square mile})$$

The 2010 U.S. Census blocks in the general vicinity of the four building sites were identified (see Figure 1). This study area included 29 census blocks and was approximately 0.261577 square miles in size. The study area had a 2010 population of 1,700. As a result, the population per square mile was 6,499. Based

¹ <http://www.pleasantville-nj.org/pdf/Pville%202008%20Master%20Plan%20Reexamination%20-%20APPROVED.pdf>

² U.S. Environmental Protection Agency. 1974. "Information on Levels of Environmental Noise to Protect Public Health and Welfare with an Adequate Margin of Safety."

on this population density, the estimated DNL was **60.1 dBA**. This is within the range of typical noise levels for suburban residential areas and below the 65 dBA DNL threshold for land use compatibility.



Figure 1: 2010 Census Blocks Used in Existing Noise Level Estimate

Sensitivity testing was conducted to confirm the generalized area wide DNL estimate was reasonable at each of the project sites using traffic data available from NJDOT. Table 1 summarizes the closest roadways to each site for which traffic counts are available. Counts are not available for Tremont Ave., Park Ave, Maple Ave. or Chestnut St. However, the available counts for larger roadways in the vicinity provide a way of testing that the population-based noise estimate is reasonable/conservative.

Traffic data sheets from NJDOT are attached to this document. Vehicle classification data was not available. Given the local nature of the majority of these roadways, it was assumed the traffic consisted of 95% autos, 4% medium trucks and 1% heavy trucks.

Figures 2 through 5 show the input and output from HUD’s “Site DNL Calculator” for the sensitivity analysis. The predicted noise levels are all 55 dBA or less, which is less than 60.1 dBA existing DNL calculated based on the EPA population density method. This confirms that the population-based method is a conservative (over predicting as opposed to under predicting noise levels) and the conclusion that 65 DNL is not exceeded under existing conditions is valid.

Table 1: Traffic Data Used in Noise Sensitivity Analysis

House Location	Closest Road with Traffic Data				2 nd Closest Road with Traffic Data			
	Road Name	Distance (ft)	ADT	Average Speed (MPH)	Road Name	Distance (ft)	ADT	Average Speed (MPH)
103 Tremont Ave.	Broad St.	150	1,773	30	S. Main St.	854	13,650	30
230 Park Ave	Doughty Road	400	986	30	U.S. 9	740	12,327	35
126 Maple Ave	Broad St.	120	1,773	30	S. Main St.	790	13,650	30
511 Chestnut St	S. Main St.	390	13,650	30	Broad St.	390	1,773	30

Mitigation

As discussed above, the noise screening analysis shows the 65 DNL criterion for acceptable noise would not be exceeded at the project sites. Therefore, no significant impacts would occur and no mitigation is required.

Figure 2: 103 Tremont Ave. Traffic Noise Sensitivity Analysis

Road # 1 Name:

Road #1			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="150"/>	<input type="text" value="150"/>	<input type="text" value="150"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="1684"/>	<input type="text" value="71"/>	<input type="text" value="18"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	<input type="text" value="48.0752"/>	<input type="text" value="34.3243"/>	<input type="text" value="48.7215"/>
Calculate Road #1 DNL	<input type="text" value="51.5046"/>	<input type="button" value="Reset"/>	

Road # 2 Name:

Road #2			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="854"/>	<input type="text" value="854"/>	<input type="text" value="854"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="12968"/>	<input type="text" value="546"/>	<input type="text" value="137"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	<input type="text" value="45.61"/>	<input type="text" value="31.8532"/>	<input type="text" value="46.2055"/>
Calculate Road #2 DNL	<input type="text" value="49.0139"/>	<input type="button" value="Reset"/>	

Airport Noise Level

Loud Impulse Sounds? Yes No

Combined DNL for all Road and Rail sources

Figure 3: 230 Park Ave Traffic Noise Sensitivity Analysis

Road # 1 Name:

Road #1			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="400"/>	<input type="text" value="400"/>	<input type="text" value="400"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="937"/>	<input type="text" value="39"/>	<input type="text" value="10"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	<input type="text" value="39.1396"/>	<input type="text" value="25.3328"/>	<input type="text" value="39.7795"/>
Calculate Road #1 DNL	<input type="text" value="42.5644"/>	<input type="button" value="Reset"/>	

Road # 2 Name:

Road #2			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="740"/>	<input type="text" value="740"/>	<input type="text" value="740"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="35"/>	<input type="text" value="35"/>	<input type="text" value="35"/>
Average Daily Trips (ADT)	<input type="text" value="11711"/>	<input type="text" value="493"/>	<input type="text" value="123"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	<input type="text" value="47.4395"/>	<input type="text" value="33.682"/>	<input type="text" value="46.672"/>
Calculate Road #2 DNL	<input type="text" value="50.1618"/>	<input type="button" value="Reset"/>	

Airport Noise Level

Loud Impulse Sounds? Yes No

Combined DNL for all Road and Rail sources

Figure 4: 126 Maple Ave. Traffic Noise Sensitivity Analysis

Road # 1 Name:

Road #1			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="120"/>	<input type="text" value="120"/>	<input type="text" value="120"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="1684"/>	<input type="text" value="71"/>	<input type="text" value="18"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	49.5288	35.778	50.175
<input type="button" value="Calculate Road #1 DNL"/>	<input type="text" value="52.9582"/>	<input type="button" value="Reset"/>	

Road # 2 Name:

Road #2			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="790"/>	<input type="text" value="790"/>	<input type="text" value="790"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="12968"/>	<input type="text" value="546"/>	<input type="text" value="137"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	46.1174	32.3606	46.714
<input type="button" value="Calculate Road #2 DNL"/>	<input type="text" value="49.5218"/>	<input type="button" value="Reset"/>	

Airport Noise Level

Loud Impulse Sounds? Yes No

Combined DNL for all Road and Rail sources

Figure 6: 511 Chestnut St. Traffic Noise Sensitivity Analysis

Road # 1 Name:

Road #1			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="390"/>	<input type="text" value="390"/>	<input type="text" value="390"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="1684"/>	<input type="text" value="71"/>	<input type="text" value="18"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	41.8506	28.0997	42.4965
<input type="button" value="Calculate Road #1 DNL"/>	45.2798	<input type="button" value="Reset"/>	

Road # 2 Name:

Road #2			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="390"/>	<input type="text" value="390"/>	<input type="text" value="390"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="30"/>	<input type="text" value="30"/>	<input type="text" value="30"/>
Average Daily Trips (ADT)	<input type="text" value="12968"/>	<input type="text" value="546"/>	<input type="text" value="137"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>
Vehicle DNL	50.7159	36.9591	51.3115
<input type="button" value="Calculate Road #2 DNL"/>	54.1198	<input type="button" value="Reset"/>	

Airport Noise Level

Loud Impulse Sounds? Yes No

Combined DNL for all Road and Rail sources