

257, 261, 263, 265, 267, 269, 271 Woodland Ave, East Orange NJ

HUD Noise Screening Analysis

The project does not involve new stationary noise sources and the effect of seven townhomes 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 buildings. The analysis is consistent with 24 CFR Part 51 and the HUD Noise Guidebook.

Airports

As shown in Figure 1, the closest airports to the project site are Newark Liberty International Airport (5.1 miles southeast) and Teterboro Airport (8.4 miles northeast). Noise contours for both airports were reviewed and the project site is located far outside the 60 DNL contour.¹ Given the presence of other major noise sources significantly closer to the project site (e.g. the Garden State Parkway), the contribution of airport noise to total noise at the project site would be negligible and therefore does not warrant further analysis.

¹ <http://www.boeing.com/commercial/noise/ewr2003contour.jpg>
<http://www.boeing.com/commercial/noise/teb2003contour.jpg>

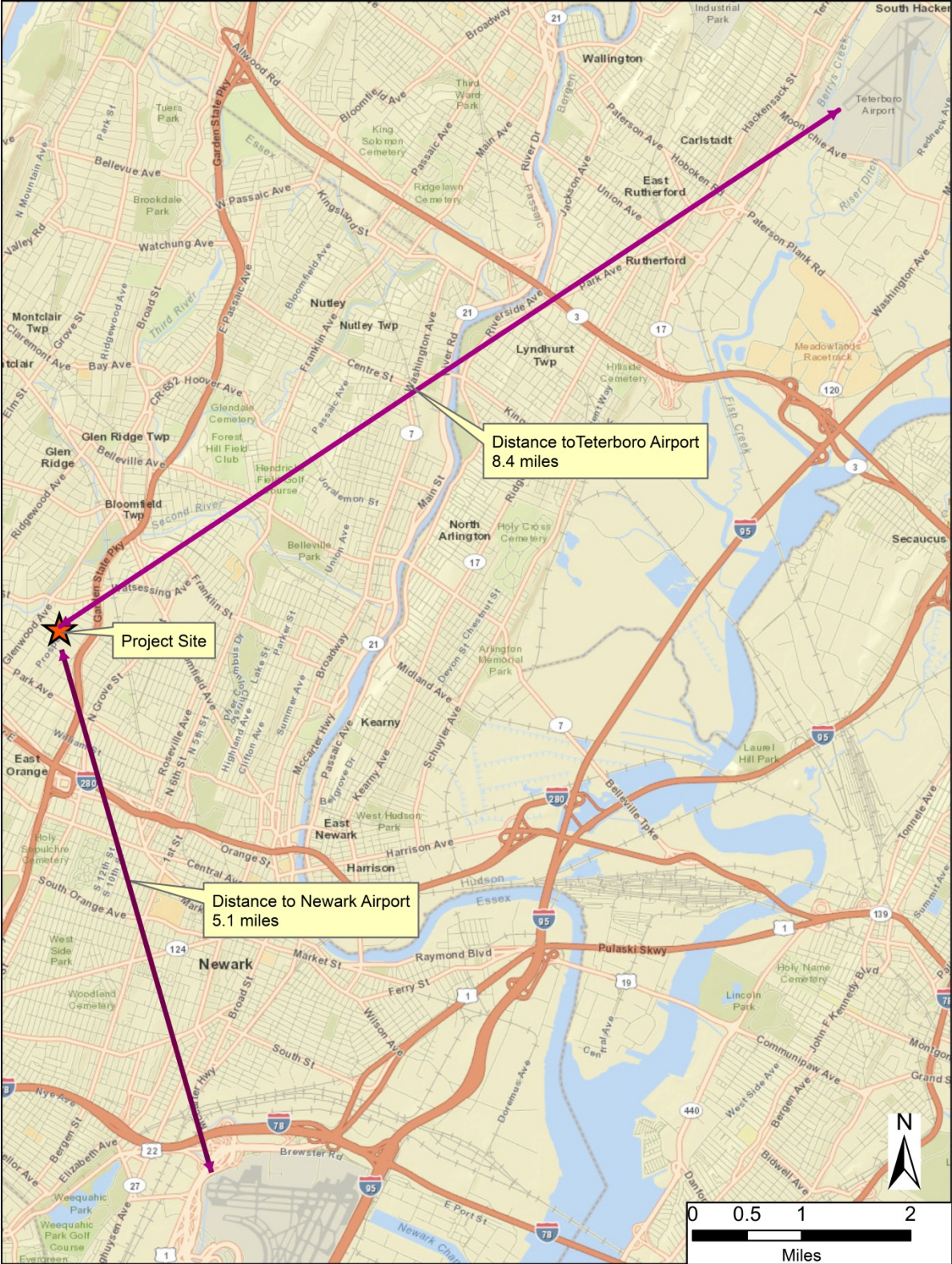


Figure 1: Distance to Airports

Railroads

The nearest railroad (NJTransit Montclair Boonton Line) is located 2,925 feet east of the project site (see Figure 2). The following inputs were developed for use in the HUD DNL calculator:

- **Average train speed- 25.7 mph.** Speed was calculated based on the NJTransit schedule showing a travel time of 7 minutes between the Newark Broad Street Station and Watsessing Station.² The two stations are approximately 3 miles apart.
- **Average train operations- 55 /day (both directions).** The average train operations was determined based on the Montclair Boonton Line schedule which shows the following service frequency:
 - Weekday to New York: 31 trains/day
 - Weekday from New York: 35 trains/day
 - Weekend and Holiday to New York: 15 trains/day
 - Weekend and Holiday from New York: 16/day.

The average train operations calculation assumed 252 weekdays and a total 113 weekend plus holiday days. The default night fraction of 15% was used for screening purposes.

- Train horn noise was included (horns may be used approaching station platform).
- It was assumed operations typically consist of one diesel locomotive and six rail cars per train.

The resulting railroad DNL estimate for the project site was 57.27 dBA, as shown in the figure below. This train-related noise was combined with roadway noise as discussed in the next section.

² <http://www.njtransit.com/pdf/rail/R0030.pdf>

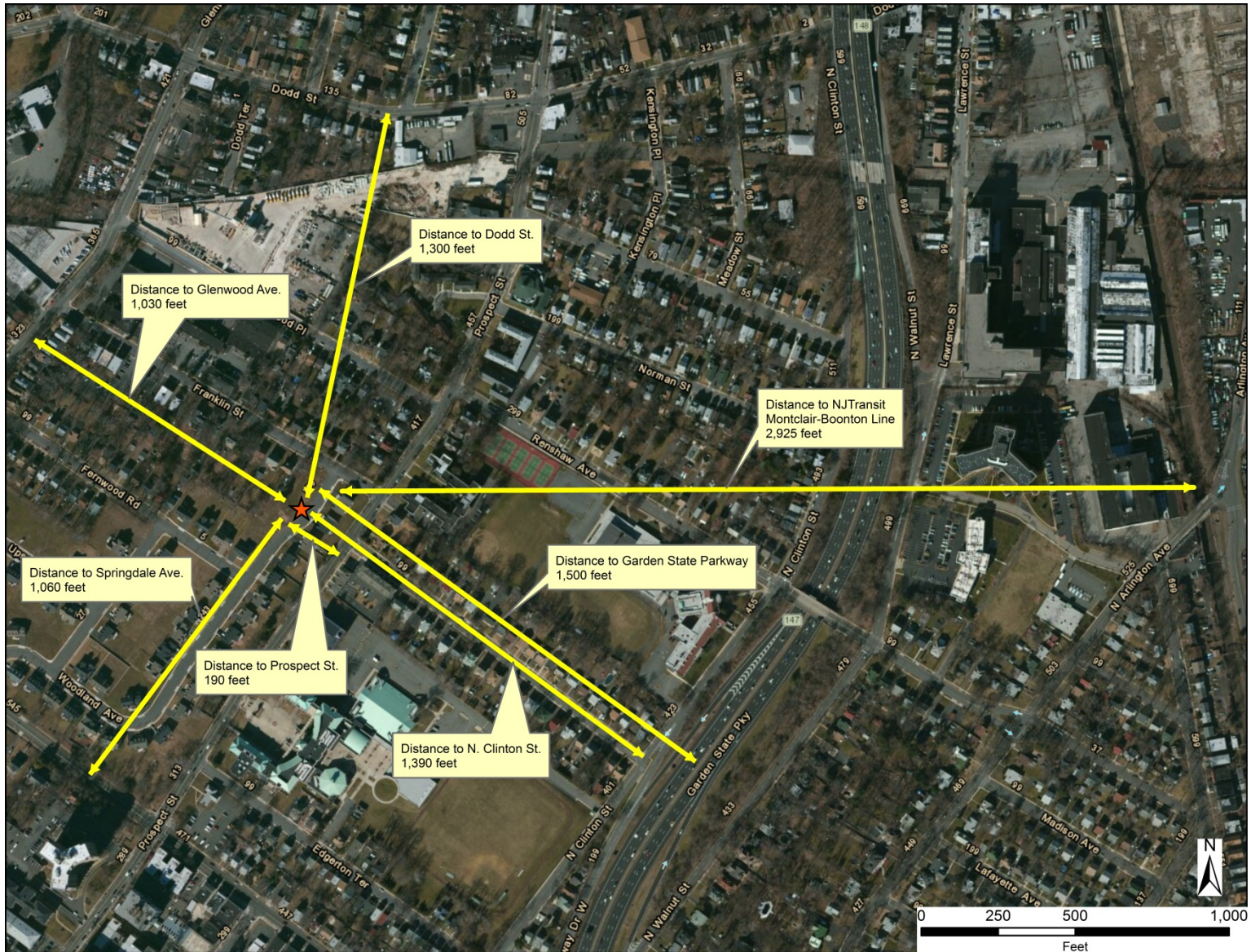


Figure 2: Distance to Roads and Railroads

Railroad #1 Track Identifier:

Rail # 1		
Train Type	Electric <input type="checkbox"/>	Diesel <input checked="" type="checkbox"/>
Effective Distance	<input type="text"/>	<input type="text" value="2925"/>
Average Train Speed	<input type="text"/>	<input type="text" value="26"/>
Engines per Train	<input type="text"/>	<input type="text" value="1"/>
Railway cars per Train	<input type="text"/>	<input type="text" value="6"/>
Average Train Operations (ATO)	<input type="text"/>	<input type="text" value="55"/>
Night Fraction of ATO	<input type="text"/>	<input type="text" value="15"/>
Railway whistles or horns?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
Bolted Tracks?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
Train DNL	<input type="text"/>	<input type="text" value="57.2727"/>
<input type="button" value="Calculate Rail #1 DNL"/>	<input type="text" value="57.2727"/>	<input type="button" value="Reset"/>

Roadway Traffic

Figure 2 and Table 1 summarize the location of the major roadways in the vicinity of the project site and available traffic data. The input and output from HUD’s “Site DNL Calculator” for the traffic noise analysis is also provided below. The combined roadway and railroad DNL is **63.5 dBA**, which is below the 65 DNL HUD threshold for “normally unacceptable” exterior noise.

Table 1: Traffic Data

Roadway	Effective Distance (feet)	AADT	Functional Class	Percent Auto	Percent Med Truck	Percent Heavy Truck
Garden State Parkway	1,500	201,150	Principal Arterial – Other Freeways and Expressways	100	0*	0*
Prospect St.	190	11,749	Minor Arterial	97.16	2.18	0.66
N. Clinton St.	1,390	7,453	Minor Arterial	97.16	2.18	0.66
Springdale Ave.	1,060	5,379	Minor Arterial	97.16	2.18	0.66
Glenwood Ave.	1,030	9,550	Minor Arterial	97.16	2.18	0.66
Dodd St.	1,300	7,352	Minor Arterial	97.16	2.18	0.66

Sources:

AADT from FHWA HMPS shapefile <http://www.fhwa.dot.gov/policyinformation/hpms/shapefiles.cfm>

Vehicle classification based on average by functional class for count region 1, see <http://www.state.nj.us/transportation/refdata/roadway/pdf/TravelActivityVehTypeByRegion.pdf>

*Trucks are not allowed on the Garden State Parkway north of interchange 105.

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.

Road # 1 Name:

Road #1			
Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input type="checkbox"/>	Heavy Trucks <input type="checkbox"/>
Effective Distance	<input type="text" value="1500"/>	<input type="text"/>	<input type="text"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="65"/>	<input type="text"/>	<input type="text"/>
Average Daily Trips (ADT)	<input type="text" value="201150"/>	<input type="text"/>	<input type="text"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text"/>	<input type="text"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Vehicle DNL	<input type="text" value="60.5628"/>	<input type="text"/>	<input type="text"/>
Calculate Road #1 DNL	<input type="text" value="60.5628"/>	<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="190"/>	<input type="text" value="190"/>	<input type="text" value="190"/>
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="11415"/>	<input type="text" value="256"/>	<input type="text" value="78"/>
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="54.8466"/>	<input type="text" value="38.3542"/>	<input type="text" value="53.55"/>
Calculate Road #2 DNL	<input type="text" value="57.228"/>	<input type="button" value="Reset"/>	

Road # 3 Name:

Road #3			
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="1390"/>	<input type="text" value="1390"/>	<input type="text" value="1390"/>
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="7241"/>	<input type="text" value="162"/>	<input type="text" value="49"/>
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	39.9059	23.403	38.568
Calculate Road #3 DNL	<input type="text" value="42.2707"/>	<input type="button" value="Reset"/>	

Road # 4 Name:

Road #4			
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="1060"/>	<input type="text" value="1060"/>	<input type="text" value="1060"/>
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="5226"/>	<input type="text" value="117"/>	<input type="text" value="36"/>
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	40.2552	23.7554	38.9945
Calculate Road #4 DNL	<input type="text" value="42.6509"/>	<input type="button" value="Reset"/>	

Road # 5 Name:

Road #5			
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="1030"/>	<input type="text" value="1030"/>	<input type="text" value="1030"/>
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="9279"/>	<input type="text" value="208"/>	<input type="text" value="63"/>
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	42.9356	26.4412	41.612
<input type="button" value="Calculate Road #5 DNL"/>	<input type="text" value="45.3062"/>	<input type="button" value="Reset"/>	

Road # 6 Name:

Road #6			
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="1300"/>	<input type="text" value="1300"/>	<input type="text" value="1300"/>
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="7143"/>	<input type="text" value="160"/>	<input type="text" value="49"/>
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	40.2828	23.7852	39.0045
<input type="button" value="Calculate Road #6 DNL"/>	<input type="text" value="42.6715"/>	<input type="button" value="Reset"/>	