IMPACTS

Methodology

The noise analysis considers construction, operational, and vibration sources. Construction noise levels are based on information obtained from the United States Environmental Protection Agency. The noise level during the construction period at each receptor location was calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. Operational noise levels were calculated based on information provided in the traffic study and stationary noise sources located on the project site. Vibration levels were estimated based on information provided by the FTA.[7]

Construction Impacts

Noise. Construction of the proposed project would result in temporary increases in ambient noise levels in the project area on an intermittent basis. The increase in noise would occur during the approximate 36-month construction schedule. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers.

Construction activities typically require the use of numerous noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in **Table 4.5-6**. The table shows noise levels at distances of 50 and 100 feet from the construction noise source.

TABLE 4.5-6: MAXIMUM NOISE LEVELS OF COMMON CONSTRUCTION MACHINES

	Noise Level (dBA)	
Noise Source	50 Feet /a/	100 Feet /a/
Front Loader	80	74
Trucks	89	83
Cranes (derrick)	88	82
Jackhammers	90	84
Generators	77	71
Back Hoe	84	78
Tractor	88	82
Scraper/Grader	87	81
Paver	87	81
Impact Pile Driving	101	95
Auger Drilling	77	71

/a/ Assumes a 6-dBA drop-off rate for noise generated by a "point source" and traveling over hard surfaces. Actual measured noise levels of the equipment listed in this table were taken at distances of ten and 30 feet from the noise source.
SOURCE: USEPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

The noise levels shown in **Table 4.5-7** take into account the likelihood that more than one piece of construction equipment would be in operation at the same time and lists the typical overall noise levels that would be expected for each phase of construction. **Table 4.5-8** presents the estimated noise levels at sensitive receptors during construction activity. Construction noise levels would exceed the significance

[7]Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.