A. INTRODUCTION

Noise pollution in an urban area comes from many sources. Some sources are activities essential to the health, safety, and welfare of the City's inhabitants, such as noise from emergency vehicle sirens, garbage collection operations, and construction and maintenance equipment. Other sources such as traffic, stem from the movement of people and goods, activities that are essential to the viability of the City as a place to live and do business. Although these and other noise producing activities are necessary to a city, the noise they produce is undesirable.

As described in detail in earlier chapters of this EIS, the security measures include the installation of attended security checkpoint booths, planters, bollards and hydraulically operated delta barriers to restrict the access of unauthorized vehicles from the roadways situated adjacent to the civic facilities located near One Police Plaza. The noise analysis presented below addresses the potential for significant increases in noise due to diverted traffic that has resulted from the action.

B. NOISE FUNDAMENTALS

Noise is defined as any unwanted sound, and sound is defined as any pressure variation that the human ear can detect. Human beings can detect a large range of sound pressures ranging from 20 to 20 million micropascals, but only those air pressure variations occurring within a particular set of frequencies are experienced as sound. Air pressure changes that occur between 20 and 20,000 times a second, stated as units of Hertz (Hz), are registered as sound. Human hearing is less sensitive to low frequencies (<250 Hz) than mid-frequencies (500-1,000 Hz). Humans are most sensitive to frequencies in the 1,000 to 5,000 Hz range. Since ambient noise contains many different frequencies all mixed together, measures of human response to noise assign more weight to frequencies in this range. This is known as the A-weighted sound level.

Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in decibels. The decibel is a relative measure on a logarithmic scale of the sound pressure with respect to a standardized reference quantity. Decibels on the A-weighted scale are termed "dBA." Because the scale is logarithmic, a relative increase of 10 decibels represents a sound pressure level that is 10 times higher. However, humans do not perceive a 10 dBA increase as 10 times louder; they perceive it as twice as loud. The following is typical of human response to relative changes in noise level:

- A 3 dBA change is the threshold of change detectable by the human ear
- A 5 dBA change is readily noticeable
- A 10 dBA increase is perceived as a doubling of noise level

Passenger Car Equivalents (PCEs) are the number of autos that would generate the same noise level as the observed vehicular mix of autos, medium trucks, and heavy trucks. PCEs are useful for comparing the effects of traffic noise on different roadways or for different future scenarios. The *CEQR Technical Manual* uses the following formulas for converting motor vehicles into passenger car equivalents:

- auto and light trucks = 1 passenger car
- medium trucks = 13 passenger cars
- heavy trucks = 47 passenger cars
- buses = 18 passenger cars

C. STANDARDS AND CRITERIA

Prior to the federal Noise Control Act of 1972, most states and municipalities regulated noise under general ordinances for creating a nuisance or disturbing the peace. In 1973, the EPA published a "Criteria Document" that established criteria for assessing the effects of noise on public health and welfare. In 1974, the EPA published the "Levels Document," which set recommended levels to protect public health and welfare. Based on the EPA reports, the Department of Housing and Urban Development published regulations establishing standards for HUD-assisted projects in 1979. These documents provided the basis for states and municipalities to promulgate more detailed statutes and regulations specifying quantitative limits.

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Protection Order-City Environmental Quality Review (CEPO-CEQR) noise standards for exterior noise levels. These standards are the basis for the Noise Exposure Guidelines shown in Table 10-1. The Guidelines classify noise exposure into four categories: Acceptable, Marginally Acceptable, Marginally Unacceptable, and Clearly Unacceptable. Exterior noise levels from motor vehicle sources are based on the L_{10}. Table 10-2 shows the required attenuation for residential uses within the last three categories. For example, an L_{10} may approach 80 dBA provided that buildings are constructed of materials that reduce exterior to interior noise levels by at least 35 dBA.

In determining potential impacts to a community from a proposed action, NYCDEP considers a significant impact to be:

- An increase of 3 dBA or more where the no action noise levels is an L_{eq} of 62 dBA or more; or

- An increase of up to 5 dBA where the no action noise L_{eq} is below 62 dBA, providing the total resulting L_{eq} is equal to or less than 65 dBA; or

- A noise level that exceeds the marginally acceptable levels, where the proposed action is a sensitive receptor (see Table 10-1). However, they are applicable only to mobile sources of noise; i.e., tire, wheels, and or engine noise from autos, trucks, rail cars, and aircraft. They are not intended to include emergency sirens on fire trucks and ambulances.

The New York City Noise Control Code defines sound-level standards for motor vehicles, compressors, and pavement breakers; requires that all exhausts be muffled; and prohibits all unnecessary noise adjacent to schools, hospital, or courts. That code further limits construction activities to weekdays between 7:00 am and 6:00pm.

Table 10-2
Required Attenuation Values To Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	**Marginally Unacceptable**		**Clearly Unacceptable**		
Noise level with proposed action	65<L10<70	70<L10<75	75<L10<80	80<L10<85	85<L10<90	90<L10<95
Attenuation	25 dB (A)	(I) 30dB (A)	(II) 35dB(A)	(I) 40dB (A)	(II) 45dB (A)	(III) 50dB(A)

Source: New York City Department of Environmental Protection

D. NOISE SCREENING ANALYSIS

Based on the discussion of standards and criteria, above, no noise level impacts would occur unless the project causes an increase in noise of at least 3 dBA. If noise levels are not likely to reach or exceed this threshold, then no noise impacts would occur. Therefore, a noise screening analysis was carried out to identify locations where project-generated traffic would have the potential to increase noise levels by 3 dBA or more. The traffic analysis included 40 intersections within the project area. Therefore, traffic volumes for No-Action and With-Action conditions at these 40 intersections were converted to PCEs and compared using logarithmic equations to determine the potential increases in noise level. The vehicular mix (relative proportions of autos, medium trucks, heavy trucks, and buses) was obtained from the traffic study. In calculating the PCEs for the With-Action conditions, the number of buses was assumed to be equal to the number of buses under No-Action conditions except for St. James Place, Worth Street, Centre Street, and Frankfort Street as buses travel along Park Row in the No-Action condition. Otherwise, the traffic increment for With-Action conditions included autos, medium trucks, and heavy trucks in the same relative proportions as for No-Action conditions. Table 10-3 shows the results of the noise level screening.

Table 10-1
NYC Noise Exposure Guidelines
For Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3]	Marginally Acceptable General External Exposure	Airport[3]	Marginally Unacceptable General External Exposure	Airport[3]	Clearly Unacceptable General External	Airport[3]
Outdoor area requiring serenity and quiet[2]		L_{10}<55 dBA	<---------- L_{dn} <60 dBA ---------->		<---------- 60 < L_{dn} <65 dBA ----------		<-- (i) 60< L_{dn} <70 dBA, (ii) 70 < L_{dn}		<---------- L_{dn} >75 dBA ----------
Hospital, nursing home		L_{10}<55 dBA		55 < L_{10} <65dBA		65<L_{10} <80dBA		L_{10}>80 dBA	
Residence, residential hotel or motel	7 AM to 11 PM	L_{10}<65 dBA		65 < L_{10} < 70dBA		70<L_{10}<80dBA		L_{10}>80 dBA	
	11PM to 7AM	L_{10}<55 dBA		55 < L_{10} <70dBA		70<L_{10}<80dBA		L_{10}<80 dBA	
School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out patient public health facility		Same as Residential Day (7AM-11PM		Same as Residential Day (7AM-11PM)		Same as Residential Day (7AM-11PM)		Same as Residential Day (7AM-11PM)	
Commercial or office		Same as Residential Day (7AM-11PM)		Same as Residential Day (7AM-11PM)		Same as Residential Day (7AM-11PM)		Same as Residential Day (7AM-11PM)	
Industrial, public areas only [4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Source: New York City Department of Environmental Protection (adopted by DEP for use in CEQR-1983.)
Notes:
(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more; (ii) CEPO-CEQR Noise Standards for train noise are similar to the above aircraft noise standards: the noise category for train noise is found by taking the L_{dn} value for such train noise to be an L^{y}_{dn} (L_{dn} contour) value.
1. Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by ANSI Standards; all values are for the worst hour in the time period.
2. Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions

of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old age homes.
3. One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.
4. External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standard apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

As shown in Table 10-3, future With-Action traffic volumes at some intersections would decrease or remain the same in comparison to No-Action conditions. Among the intersections that would experience an increase in noise levels, two locations are likely to exceed the 3 dBA threshold. They are:

- Mulberry Street @ Worth Street, increase of 4.1 dBA during peak AM period, and
- Baxter Street @ Worth Street, increase of 3.5 dBA during peak AM period

Based on this information, a noise monitoring program was recommended for sensitive receptors along Worth Street.

Table 10-3
Noise Screening Analysis

Intersection / Period		Traffic Volume			PCEs		Change in Noise Levels (dBA)
		No-Action	Project	Action	No-Action	Action	
Park Row @ St James Place @ Chatham Sq. @ Worth St @ Mott St	AM	1,211	241	1,452	5,305	6,019	0.5
Park Row @ St James Place @ Chatham Sq. @ Worth St @ Mott St	MID	1,278	115	1,393	4,267	4,546	0.3
Park Row @ St James Place @ Chatham Sq. @ Worth St @ Mott St	PM	1,375	113	1,488	3,800	3,989	0.2
Chatham Sq @ East Broadway	AM	1,192	-	1,192	5,222	5,222	0.0
Chatham Sq @ East Broadway	MID	1,329	17	1,346	4,437	4,478	0.0
Chatham Sq @ East Broadway	PM	1,411	-	1,411	3,899	3,899	0.0
Chatham Sq @ Catherine St @ Division St @ Bowery @ Dover St	AM	1,212	-	1,212	5,309	5,309	0.0
Chatham Sq @ Catherine St @ Division St @ Bowery @ Dover St	MID	1,348	-	1,348	4,501	4,501	0.0
Chatham Sq @ Catherine St @ Division St @ Bowery @ Dover St	PM	1,729	-	1,729	4,778	4,778	0.0
St. James Place @ James St	AM	424	347	771	1,795	3,378	2.7
St. James Place @ James St	MID	401	191	592	1,302	1,977	1.8
St. James Place @ James St	PM	396	236	632	1,036	1,747	2.3
St. James Place @ Madison St	AM	761	312	1,073	3,222	4,701	1.6
St. James Place @ Madison St	MID	686	191	877	2,227	2,928	1.2
St. James Place @ Madison St	PM	708	193	901	1,852	2,490	1.3
St. James Place @ Pearl St	AM	1,008	2	1,010	4,267	4,425	0.2
St. James Place @ Pearl St	MID	719	100	819	2,334	2,734	0.7
St. James Place @ Pearl St	PM	829	4	833	2,169	2,302	0.3
Pearl St @ Ave of the Finest @ RF Wagner Place	AM	1,915	181	2,096	8,107	9,182	0.5
Pearl St @ Ave of the Finest @ RF Wagner Place	MID	1,390	110	1,500	4,512	5,008	0.5
Pearl St @ Ave of the Finest @ RF Wagner Place	PM	1,689	(80)	1,609	4,419	4,446	0.0
Pearl St @ Frankfort St @ Dover St	AM	1,963	310	2,273	8,599	9,517	0.4
Pearl St @ Frankfort St @ Dover St	MID	1,535	84	1,619	5,125	5,329	0.2
Pearl St @ Frankfort St @ Dover St	PM	2,050	20	2,070	5,665	5,699	0.0
Gold St @ Frankfort St @ Rose St	AM	521	110	631	2,282	2,608	0.6

Gold St @ Frankfort St @ Rose St	MID	647	34	681	2,160	2,243	0.2
Gold St @ Frankfort St @ Rose St	PM	528	125	653	1,459	1,669	0.6
Park Row @ Pearl St	AM	894	(894)	-	3,916	1,269	0.0
Park Row @ Pearl St	MID	635	(635)	-	2,120	576	0.0
Park Row @ Pearl St	PM	830	(830)	-	2,294	901	0.0
Foley Sq @ Pearl St @ Centre St @ Reade St @ Lafayette St	AM	904	297	1,201	3,960	4,840	0.9
Foley Sq @ Pearl St @ Centre St @ Reade St @ Lafayette St	MID	802	176	978	2,678	3,106	0.6
Foley Sq @ Pearl St @ Centre St @ Reade St @ Lafayette St	PM	1,058	184	1,242	2,924	3,233	0.4
Centre St @ Chambers St	AM	1,773	297	2,070	7,767	8,646	0.5
Centre St @ Chambers St	MID	1,545	176	1,721	5,158	5,586	0.3
Centre St @ Chambers St	PM	2,067	184	2,251	5,712	6,021	0.2
Broadway @ Duane St	AM	981	-	981	4,298	4,298	0.0
Broadway @ Duane St	MID	968	-	968	3,232	3,232	0.0
Broadway @ Duane St	PM	868	-	868	2,399	2,399	0.0
Broadway @ Thomas St	AM	910	-	910	3,986	3,986	0.0
Broadway @ Thomas St	MID	859	-	859	2,868	2,868	0.0
Broadway @ Thomas St	PM	753	-	753	2,081	2,081	0.0
Broadway @ Worth St	AM	1,469	56	1,525	6,435	6,601	0.1
Broadway @ Worth St	MID	1,437	148	1,585	4,798	5,158	0.3
Broadway @ Worth St	PM	1,433	32	1,465	3,960	4,014	0.1
Lafayette St @ Worth St	AM	1,132	153	1,285	4,959	5,412	0.4
Lafayette St @ Worth St	MID	1,064	182	1,246	3,552	3,995	0.5
Lafayette St @ Worth St	PM	1,273	99	1,372	3,518	3,684	0.2
Foley Square @ Worth St@ Centre	AM	1,227	271	1,498	5,194	6,562	1.0
Foley Square @ Worth St@ Centre	MID	1,065	233	1,298	3,457	4,334	1.0
Foley Square @ Worth St@ Centre	PM	1,261	178	1,439	3,299	3,977	0.8
Baxter St @ Hogan Place	AM	27	-	27	114	118	0.1
Baxter St @ Hogan Place	MID	43	-	43	140	144	0.1
Baxter St @ Hogan Place	PM	67	-	67	175	185	0.2
Baxter St @ Worth St @ Worth St	**AM**	**352**	**444**	**796**	**1,542**	**3,487**	**3.5**
Baxter St @ Worth St @ Worth St	MID	441	327	768	1,472	2,564	2.4
Baxter St @ Worth St @ Worth St	PM	520	331	851	1,437	2,352	2.1
Mulberry St @ Worth St	**AM**	**352**	**546**	**898**	**1,542**	**3,934**	**4.1**
Mulberry St @ Worth St	MID	541	334	875	1,806	2,921	2.1
Mulberry St @ Worth St	PM	548	443	991	1,514	2,739	2.6
Barclay @ Broadway	AM	1,984	(13)	1,971	8,691	8,653	0.0
Barclay @ Broadway	MID	1,744	(99)	1,645	5,823	5,582	-0.2
Barclay @ Broadway	PM	1,675	(102)	1,573	4,629	4,458	-0.2
Barclay @ Church	AM	1,394	190	1,584	6,107	6,669	0.4
Barclay @ Church	MID	1,264	(59)	1,205	4,220	4,077	-0.2
Barclay @ Church	PM	947	51	998	2,617	2,703	0.1
Beekman @ Park Row	AM	1,301	(136)	1,165	5,699	5,297	-0.3
Beekman @ Park Row	MID	1,342	(99)	1,243	4,481	4,240	-0.2
Beekman @ Park Row	PM	1,320	(110)	1,210	3,648	3,463	-0.2
Broome @ Bowery	AM	2,187	-	2,187	9,581	9,581	0.0
Broome @ Bowery	MID	1,561	-	1,561	5,212	5,212	0.0
Broome @ Bowery	PM	1,883	-	1,883	5,204	5,204	0.0
Canal @ Bowery	AM	4,866	-	4,866	21,317	21,317	0.0
Canal @ Bowery	MID	3,495	-	3,495	11,669	11,669	0.0
Canal @ Bowery	PM	4,025	-	4,025	11,123	11,123	0.0
Canal @ Broadway	AM	3,415	-	3,415	14,960	14,960	0.0
Canal @ Broadway	MID	2,583	-	2,583	8,624	8,624	0.0
Canal @ Broadway	PM	2,547	-	2,547	7,039	7,039	0.0
Canal @ Centre	AM	2,660	-	2,660	11,653	11,653	0.0

Canal @ Centre	MID	2,068	-	2,068	6,904	6,904	0.0
Canal @ Centre	PM	2,363	-	2,363	6,530	6,530	0.0
Canal @ Lafayette	AM	2,665	-	2,665	11,675	11,675	0.0
Canal @ Lafayette	MID	2,015	-	2,015	6,727	6,727	0.0
Canal @ Lafayette	PM	2,180	-	2,180	6,024	6,024	0.0
Canal @ Mulberry	AM	2,252	-	2,252	9,865	9,865	0.0
Canal @ Mulberry	MID	1,990	-	1,990	6,644	6,644	0.0
Canal @ Mulberry	PM	2,139	-	2,139	5,911	5,911	0.0
Chambers @ Broadway	AM	2,011	-	2,011	8,810	8,810	0.0
Chambers @ Broadway	MID	1,791	-	1,791	5,980	5,980	0.0
Chambers @ Broadway	PM	1,824	14	1,838	5,041	5,064	0.0
Chambers @ Church	AM	2,171	120	2,291	9,511	9,866	0.2
Chambers @ Church	MID	1,894	-	1,894	6,323	6,323	0.0
Chambers @ Church	PM	2,161	-	2,161	5,972	5,972	0.0
Division @ Pike	AM	1,521	-	1,521	6,663	6,663	0.0
Division @ Pike	MID	1,425	-	1,425	4,758	4,758	0.0
Division @ Pike	PM	1,819	-	1,819	5,027	5,027	0.0
East Broadway @ Forsyth	AM	807	-	807	3,535	3,535	0.0
East Broadway @ Forsyth	MID	845	-	845	2,821	2,821	0.0
East Broadway @ Forsyth	PM	893	-	893	2,468	2,468	0.0
Frankfort @ Gold	AM	521	110	631	2,282	2,608	0.6
Frankfort @ Gold	MID	647	34	681	2,160	2,243	0.2
Frankfort @ Gold	PM	528	125	653	1,459	1,669	0.6
Frankfort @ Pearl	AM	1,963	310	2,273	8,599	9,517	0.4
Frankfort @ Pearl	MID	1,535	84	1,619	5,125	5,329	0.2
Frankfort @ Pearl	PM	2,050	20	2,070	5,665	5,699	0.0
Fulton @ Broadway	AM	1,219	80	1,299	5,340	5,577	0.2
Fulton @ Broadway	MID	1,043	-	1,003	3,482	3,385	-0.1
Fulton @ Broadway	PM	908	7	915	2,509	2,521	0.0
Fulton @ Church	AM	1,200	70	1,270	5,257	5,464	0.2
Fulton @ Church	MID	1,102	(75)	1,027	3,679	3,497	-0.2
Fulton @ Church	PM	791	40	831	2,186	2,523	0.1
Fulton @ Pearl	AM	1,105	69	1,174	4,841	5,045	0.2
Fulton @ Pearl	MID	1,247	(84)	1,163	4,163	3,959	-0.2
Fulton @ Pearl	PM	1,475	-	1,475	4,076	4,076	0.0
Bowery @ Grand	AM	2,291	-	2,291	10,036	10,036	0.0
Bowery @ Grand	MID	1,685	-	1,685	5,626	5,626	0.0
Bowery @ Grand	PM	1,962	-	1,962	5,422	5,422	0.0
Bowery @ Kenmare	AM	3,297	-	3,297	14,443	14,443	0.0
Bowery @ Kenmare	MID	2,815	-	2,815	9,398	9,398	0.0
Bowery @ Kenmare	PM	3,200	-	3,200	8,843	8,843	0.0
Spruce @ Park Row	AM	1,369	(236)	1,133	5,997	5,298	-0.5
Spruce @ Park Row	MID	1,194	(99)	1,095	3,986	3,746	-0.3
Spruce @ Park Row	PM	1,314	(120)	1,194	3,631	3,430	-0.2
Tryon Row @ Centre	AM	706	97	803	3,093	3,380	0.4
Tryon Row @ Centre	MID	650	34	684	2,170	2,253	0.2
Tryon Row @ Centre	PM	983	20	1,003	2,716	2,750	0.1
Vesey @ Broadway	AM	1,764	(133)	1,631	7,728	7,334	-0.2
Vesey @ Broadway	MID	1,534	(115)	1,419	5,122	4,842	-0.2
Vesey @ Broadway	PM	1,457	(103)	1,354	4,026	3,854	-0.2
Vesey @ Church	AM	1,217	70	1,287	5,331	5,539	0.2
Vesey @ Church	MID	1,102	(75)	1,027	3,679	3,497	-0.2
Vesey @ Church	PM	781	50	831	2,158	2,242	0.2
Worth @ Church	AM	1,791	116	1,907	7,846	8,189	0.2

Worth @ Church	MID	1,687	148	1,835	5,632	5,992	0.3
Worth @ Church	PM	1,756	32	1,788	4,853	4,906	0.0

Note: Numbers in bold type exceed the 3dBA screening threshold.
Source: Sandstone Environmental Associates, Inc., and Philip Habib & Associates, Inc.

E. NOISE MONITORING PROGRAM

Sensitive receptors are land uses such as schools, homes, hospitals, parks, etc., that would be sensitive to a noisy environment. Based on Table 10-3, noise monitoring was recommended for Worth Street during the peak AM period. Since the land uses on Worth Street are primarily commercial, the park area at Worth Street/Baxter Street was selected for noise level monitoring. Noise levels the intersection of St. James Place and Madison Street also were monitored during the peak AM period due to nearby residences and the St. James School. Figure 10-1 shows the noise monitoring locations. The following field procedures were observed:

- microphone mounted approximately 5 feet (1.5 meters) high and at least 4 feet (1.2 meters) from any reflecting surfaces
- wind screen used on microphone
- noise analyzer calibrated before and after each monitoring period
- battery checked before and after each monitoring period
- traffic counts taken concurrently
- field notes documented:
  - monitoring period,
  - site and roadway characteristics,
  - general weather data and time of day,
  - unusual occurrences (e.g., aircraft flyovers),
  - traffic counts and vehicle classifications,
  - relevant descriptions of monitored values (e.g., Leq).
- no monitoring during periods of precipitation, wet pavement, or snow or ice cover
- no monitoring during winds of 15 mph (24 kph) or more

Figure 10-1
Noise Monitoring Locations

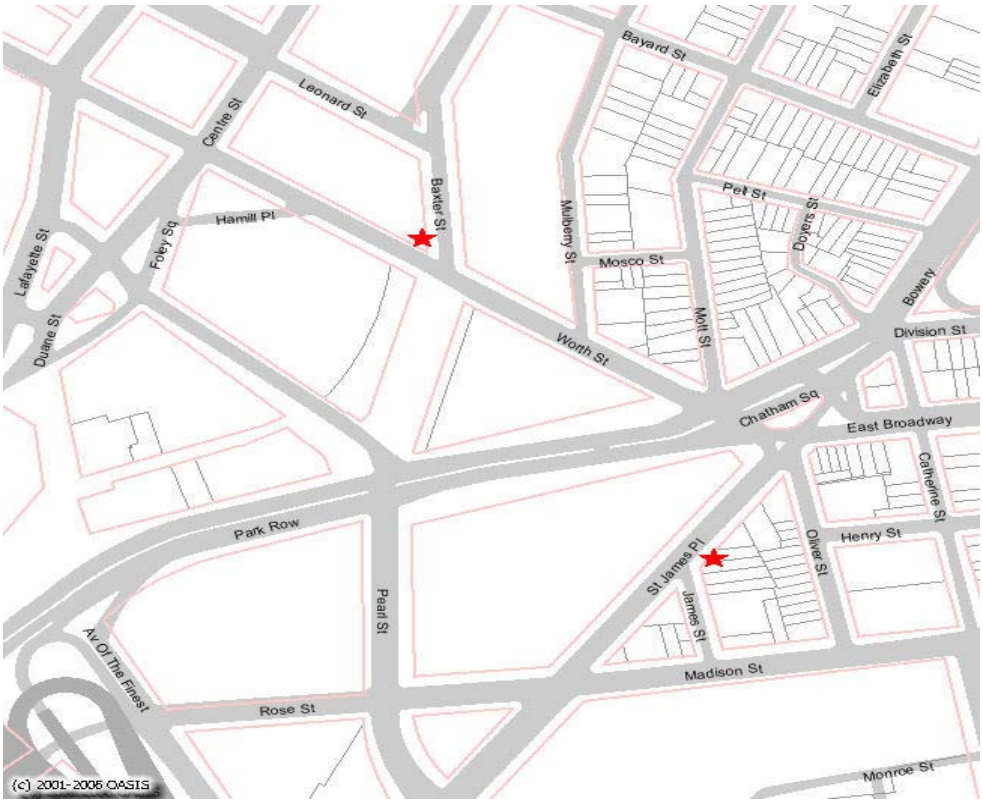

Table 10-4 shows the results of the noise monitoring, and Table 10-5 shows the traffic observed during the monitoring periods.

Table 10-4
Noise Monitoring Results (dBA)

Street	Date	Time of Day	Leq	L10	MinL	MaxL	L01	L90
Madison @ St. James Street	1/12/06	8:02-8:22 am	73.3	76.0	59.3	93.3	81.0	62.0
Worth @ Baxter Street	1/12/06	8:49-9:09 am	72.7	76.5	59.3	88.8	76.5	62.0

Source: Sandstone Environmental Associates, Inc.

Table 10-5
Traffic Observed during Noise Monitoring (1-hour equivalent)

Location	Date	Time of Day	Autos	Medium Trucks	Heavy Trucks	Buses	Total Vehicles	PCEs
Madison @ St. James Street	1/12/06	8:02-8:22 am	819	57	3	36	915	2,349
Worth @ Baxter Street	1/12/06	8:49-9:09 am	882	102	12	84	1,080	4,284

Source: Sandstone Environmental Associates, Inc.

F. NO-ACTION CONDITION

For analysis purposes, under the No-Action condition, it is assumed that the One Police Plaza Security Plan is not in place, that the roadways are open with the 1999 NYPD street closures and municipal garage closure in place, and that transportation services would continue as they were prior to September 11, 2001.

Table 10-6 shows the projected noise levels under No-Action conditions. The observed traffic and noise levels have been adjusted to reflect the traffic volumes and PCEs established for No-Action conditions. This was done by applying the logarithmic proportionality equation to the PCEs for the monitored traffic volumes. At both sites, the observed traffic volumes during the noise monitoring periods were higher than the traffic established for No-Action conditions. This is due in part to the fact that the Action has been implemented, and the monitored noise levels are more typical of With-Action conditions than No-Action conditions. Under No-Action conditions, the L_{10} noise levels would place both intersections in the Marginally Unacceptable I category. Because the projected

Leq noise levels exceed 62 dBA, an impact would occur if the action causes noise levels to increase by 3 dBA or more.

Table 10-6
No-Action Noise Levels (dBA) at Monitored Sites (Peak AM)

	Observed Conditions				No-Action Conditions				
	Monitored Noise		Observed Traffic		Projected Traffic		Noise	No-Action Values	
Location	Leq	L10	Volume	PCEs	Volume	PCEs	Increment	Leq	L10
St. James/Madison	73.3	76.0	1,083	4,323	761	3,222	-1.3	72.0	74.7
Baxter/Worth Street	72.7	76.5	918	2,388	352	1,542	-1.9	70.8	74.6

Source: Sandstone Environmental Associates, Inc., and Philip Habib & Associates, Inc.

G. WITH-ACTION CONDITION

Currently, roadways within the vicinity of One Police Plaza are closed due to security measures. As shown in Table 10-3, the traffic has been diverted to other traffic links, especially St. James Place and Worth Street. The diverted traffic on these two streets would include 18 additional buses during the peak AM period, 10 during the peak Midday period, and 15 during the peak PM period.

In comparison to No-Action conditions, traffic at the two intersections selected for monitoring and analysis would increase. Table 10-3 showed the projected noise levels at the monitored sites under With-Action conditions. Based on the information in the table, a potential noise level impact would occur at the intersection of Baxter Street and Worth Street, because the noise level is protected to increase by 3.5 dBA, and at Mulberry Street and Worth Street where the noise level would increase by 4.1 dBA. These increases would constitute an impact because they exceed 3.0dBA.

Table 10-7 shows the projected noise levels at the monitored intersections under With-Action conditions. The L_{10} noise levels at both intersections would place them in the Marginally Unacceptable II category. As was shown in Table 10-3, the location along Worth Street at Mulberry Street at Worth Street and Baxter Street at Worth Street would experience a noise level impact of 4.1 dBA and 3.5 dBA, respectively. Nearby sensitive receptors include a park, Chatham Towers, and several low-rise mixed use residential/commercial buildings. The potential noise impact occurs only during the peak AM hour. No impacts are projected during the peak midday and PM periods.

Table 10-7
With-Action Noise Levels (dBA) at Monitored Sites (Peak AM)

	No-Action Conditions				With-Action Conditions				
	Projected Traffic		No-Action Values		Projected Traffic		Noise	With-Action Values	
Location	Volume	PCEs	Leq	L10	Volume	PCEs	Increment	Leq	L10
St. James/Madison	761	3,222	72.0	74.7	1,073	4,701	1.6	73.6	76.4
BaxterWorth Street	352	1,542	70.8	74.6	796	3,487	3.5	74.3	78.1

Source: Sandstone Environmental Associates, Inc., and Philip Habib & Associates, Inc.

Another source of noise under the With-Action condition is the mechanical raising and lowering of hydrauclically operated barriers, particularly the barriers located at the north and south ends of Park Row. The barriers are raised and lowered sporadically throughout the 24-hour period, depending on the frequency of vehicles entering the security zone area. Although this creates additional noise in the area, the raising and lowering of barriers happens sporadically and the noise only lasts for a very short duration. In addition, the frequency that the barriers are raised and lowered during the evening and late night hours, when it would be most disturbing to residential uses, is far less than during the day.

H. CONSTRUCTION NOISE

No construction noise is associated with the action. All of the roadway barriers are in place, and none involved construction or demolition activities.

I. CONCLUSIONS

Project-generated increases in noise exceed the impact criterion of 3.0 dBA between two intersections during the peak AM period: 1) Worth Street at Baxter Street and 2) Worth Street at Mulberry Street. The projected noise level increases are 3.5 and 4.1 dBA respectively, at the two intersections under With-Action conditions. Rerouting the M103, M15, and B51 bus routes back onto Park Row has been proposed as a mitigation measure. Table 10-8 shows the increase in noise levels that would be anticipated with this proposed mitigation measure. This would reduce the level of impact by about 0.4 dBA, with resulting noise level increments of 3.1 on the sidewalk at Worth Street at Baxter Street and 3.7 on the sidewalk at Worth Street at Mulberry Street. While this mitigation measure would reduce the impacts along Worth Street slightly, it would not eliminate them.

Table 10-8
Mitigation Noise Levels (dBA) at Monitored Sites (Peak AM)

	No-Action Conditions				Mitigation Conditions				
	Projected Traffic		No-Action Values		Projected Traffic		Noise	With-Action Values	
Location	Volume	PCEs	Leq	L10	Volume	PCEs	Increment	Leq	L10
St. James/Madison	761	3,222	72.0	74.7	1,055	4,377	1.3	73.3	76.0
BaxterWorth Street	352	1,542	70.8	74.6	788	3,163	3.1	73.9	77.7

Source: Sandstone Environmental Associates, Inc., and Philip Habib & Associates, Inc.

No other method of mitigation is feasible. Due to the needs for pedestrian access and the distance between intersections, noise barriers would not be a feasible solution along these roadways. Project-diverted traffic in the midday and PM peak hours would not cause noise level impacts. Portions of Chatham Towers and other residential buildings at the intersections of Worth/Baxter Streets and Worth/Mulberry Streets, as well as Columbus Park, are affected by this increase in noise levels. Other than rerouting of traffic, no mitigation measures are feasible since the impacts occur outdoors, and noise barriers would not be considered practical or cost effective at these locations. Therefore, these impacts would remain unmitigated.