

APPENDIX B

**Tremley Point Connector Road Mobile Source Noise Impact
Assessment**

NEW JERSEY TURNPIKE AUTHORITY

TREMLEY POINT CONNECTOR ROAD

**MOBILE SOURCE
NOISE IMPACT ASSESSMENT**

MAY 2003

Prepared by:

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A **KEYSPAN** BUSINESS SOLUTION

67A Mountain Boulevard Extension
Warren, New Jersey 07059

**NEW JERSEY TURNPIKE AUTHORITY
TREMLEY POINT CONNECTOR ROAD**

**MOBILE SOURCE
NOISE IMPACT ASSESSMENT**

CONTENTS

<u>Section</u>	<u>Page No.</u>
1.0 INTRODUCTION	1-1
1.1 Purpose.....	1-1
1.2 Scope.....	1-2
1.3 Noise Descriptors.....	1-2
1.3.1 Environmental Noise	1-2
1.3.2 EPA Criteria Leq.....	1-3
1.3.3 Statistical Descriptors	1-4
1.4 Noise Standards and Criteria	1-4
1.4.1 NJTA Noise Policy	1-5
1.4.2 FHWA Noise Abatement Criteria.....	1-5
1.4.3 Middlesex County and Union County	1-6
1.4.4 New Jersey Noise Standards	1-6
1.4.5 HUD Criteria.....	1-7
2.0 PROJECT DESCRIPTION.....	2-1
3.0 NOISE MONITORING	3-1
3.1 Noise Monitoring Equipment	3-1
3.2 Noise Monitoring Methodology	3-2
3.3 Noise Monitoring Locations	3-3
3.4 Noise Monitoring Results	3-4
4.0 TRAFFIC VOLUMES.....	4-1
4.1 Field Traffic Count	4-1
4.2 Hourly Traffic Volumes.....	4-1
5.0 NOISE MODELING	5-1
5.1 FHWA Traffic Noise Model	5-1
5.2 Model Verification.....	5-1
5.3 Noise Modeling Scenarios	5-2

5.4	Noise Modeling Input	5-2
5.4.1	Roadway Segments and Terrain	5-2
5.4.2	Noise Modeling Receptors.....	5-3
5.5	Noise Modeling Results.....	5-3
6.0	SUMMARY AND CONCLUSIONS	6-1
7.0	REFERENCES	7-1

APPENDICES

Appendix A	Noise Monitoring Data Sheets
Appendix B	Traffic Data
Appendix C	Model Verification Results
Appendix D	Noise Modeling Input Files
Appendix E	Noise Modeling Output Files

FIGURES

Figure 2-1	Site Location Map
Figure 3-1	Noise Monitoring Locations (NM3, NM4)
Figure 3-2	Noise Monitoring Location (NM6)
Figure 5-1	Noise Modeling Receptor Locations (Existing)
Figure 5-2	Noise Modeling Receptor Locations (Project Build)

TABLES

Table 1-1	FHWA Noise Abatement Criteria
Table 1-2	Noise Sensitivity Criteria, Decibel Changes and Loudness
Table 3-1	Noise Monitoring Locations
Table 3-2	Noise Monitoring Results
Table 4-1	Existing Traffic Volumes
Table 4-2	Project Build Traffic Volumes
Table 5-1	Noise Modeling Results - Sensitive Receptors

SECTION 1.0

INTRODUCTION

**NEW JERSEY TURNPIKE AUTHORITY
TREMLEY POINT CONNECTOR ROAD**

**MOBILE SOURCE
NOISE IMPACT ASSESSMENT**

1.0 INTRODUCTION

The planned Tremley Point Connector Road would provide a direct access from Tremley Point in Linden to Interchange 12 of the New Jersey Turnpike in Carteret, New Jersey. Currently, the only means of vehicular access to Carteret from Linden is via Roosevelt Avenue to Rahway, travel along Routes 1 & 9 to Linden and then travel through a residential area of Linden to the industrial section of Tremley Point. The planned Tremley Point Connector Road, which links Tremley Point Road and Industrial Road connecting to Interchange 12, will address the significant truck traffic that currently travels through the residential section of Linden. The proposed improvements to Interchange 12 are an independent action that has independent utility and would need to be constructed prior the proposed Tremley Point Connector Road.

1.1 Purpose

This Mobile Source Noise Impact Assessment presents an assessment of noise concerns due to traffic associated with the preferred alternative considered for the planned Tremley Point Connector Road Project (Project). This assessment includes measurement of existing noise in the vicinity of the planned Project, identification of traffic scenarios (noise sources), and modeling noise due to existing traffic as well as future traffic.

Paulus, Sokolowski and Sartor, LLC (PS&S) prepared this noise impact assessment and performed noise monitoring of existing conditions and modeling of noise from traffic associated with Existing and Project Build scenarios of the Project. This noise impact assessment was prepared in accordance with generally accepted noise assessment procedures and other guidance as presented in Section 1.3.

1.2 Scope

Preparation of this noise impact assessment involved reviewing existing noise conditions in the vicinity of the planned Project, identifying noise from traffic associated with the Project, and assessing the significance of any potential noise impacts from the projected noise from traffic related to the Project.

The activities performed as part of this assessment included:

- Identifying potential noise sensitive receptors in the vicinity of the Tremley Point Connector Road Project site;
- Measuring existing (background) noise levels;
- Identifying existing noise sources in the vicinity of the Project site;
- Predicting noise levels with the most current Federal Highway Administration (FHWA) Traffic Noise Model (TNM2.0) due to existing traffic as well as noise levels expected from project-related traffic; and,
- Compiling, reviewing and comparing results to applicable noise impact assessment criteria and standards.

This mobile source noise impact assessment of the Tremley Point Connector Road Project is based on available information on existing traffic (2002) and future alternative traffic scenarios obtained from the Alternative Analysis Summary Final Report prepared by Edwards & Kelcey, Inc. (December 17, 2002) for the preferred alternative.

1.3 Noise Descriptors

1.3.1 Environmental Noise

Noise is commonly defined as unwanted sound, where sound is comprised of pressure waves that move or propagate through the air or other media. Factors that affect how noise is perceived by the human ear include the amplitude or loudness, the

frequency, and the duration of the sound, as well as the location of the receiver relative to the source of sound. Sound energy (noise) dissipates with distance from the source. Sound levels can also be dissipated by ground and atmospheric absorption and can often be significantly reduced by barriers that block the line of sight between the source and the receiver.

The standard sound measurement unit is the decibel (dB). Sound weighted to correspond to the range of human hearing is referred to as the A-scale (dBA). One of the most commonly used noise descriptions for outdoor time varying noise is the L-equivalent (Leq) which is the equivalent steady state sound that contains the same acoustic energy as the time-varying noise level over the same time period.

Noise associated with motor vehicles stems from a variety of sources. For cars the rolling of tires on pavement is the predominant noise source, while most noise from trucks is from exhaust and engine noise. Additionally, vehicle noise is generated by brakes, loose body components, and faulty exhaust systems.

Although the human ear can detect changes in sound as small as 1 dBA, a 3 dBA change in noise level is considered to be the smallest detectable change over an extended period of time. A change of 10 dBA is perceived by most people to be a doubling or halving of the sound level.

1.3.2 EPA Criteria Leq

The equivalent sound level (Leq) is defined as the value of a steady-state sound which has the same A-weighted sound energy as that contained in the time-varying sound. The Leq is a single value of sound level for a desired duration, which includes all of the time-varying sound energy in the measurement period in units of A-weighted decibels (dBA). The United States Environmental Protection Agency (USEPA) has chosen Leq as the best environmental noise descriptor for several

reasons, but primarily because it correlates reasonably well with the effects of noise on people, even for wide variations on environmental sound levels and time patterns. Also, it is easily measurable with available equipment.

The USEPA has identified an Leq of 70 dBA as protecting against damage to hearing, and an Leq (for steady noise) of 60 dBA that allows 95 percent sentence intelligibility at a distance of 6.6 feet (2 meters) (USEPA 1974).

1.3.3 Statistical Descriptors

The L10, L70, and L90 are statistical descriptors of the Leq, and represent the sound (decibel) level above which the noise is 10, 70, and 90 percent of the time, respectively. The L10 level (exceeded only 10 percent of the time) is defined as the intrusive level. The L90 level (exceeded 90 percent of the time) is defined as the ambient level. These statistical descriptors are also referred to as the Ln where the value of "n" is defined by the user.

Measurements of the residual or background sound level are useful in characterizing the type of community noise. Comparisons of data have shown that the L90 closely approximates the residual or ambient sound level. The residual sound level is the minimum sound level reading in the absence of identifiable or intermittent local sources. It is not the absolute minimum level during a specific observation period, but is the minimum reading that is reached and repeated during measurement (Bolt, Beranek, and Newman, Inc. 1978).

1.4 Noise Standards and Criteria

A review of various noise requirements, standards, criteria, and guidance applicable to noise associated Projects was performed. Generally, the FHWA criteria are applicable to traffic noise while other state and local standards apply to commercial/industrial operations that

generate noise. Relevant noise requirements, standards, criteria, and guidance are summarized below.

1.4.1 NJTA Noise Policy

The NJTA has established a written policy for the construction of sound barriers that outlines the conditions for which a sound barrier will be constructed at the NJTA's expense. This policy outlines two (2) scenarios under which NJTA will construct sound barriers at its own expense: As a part of a new roadway construction or widening and on a priority basis as part of a retrofit program. However, in all cases, the noise level criterion for NJTA action is the exceedance of 67 dBA at the exterior of homes immediately adjacent to the NJTA right-of-way, as projected for the peak noise design hour from turnpike traffic. Additional criteria involves expected barrier effectiveness, cost per dwelling, maximum height, and construction feasibility.

1.4.2 FHWA Noise Abatement Criteria

The FHWA has established noise abatement criteria for motor vehicle noise on roadways (23 CFR 772). These requirements are intended to apply to highway projects. However, these criteria can also be used as guidance for assessing traffic noise on local roads too. These criteria are presented in Table 1-1 and represent maximum desirable noise levels for various land uses and associated human activities for use in assessing noise levels from roadway traffic. An exterior Leq of 67 dBA is the Noise Abatement Criterion typically used to evaluate noise levels along highways (Table 1-1, Activity Category B) applicable to residential areas. The FHWA Noise Abatement Criterion for areas not considered sensitive receptors, such as manufacturing zones, is an Leq of 72 dBA (Table 1-1, Activity Category C).

FHWA also provides noise sensitivity criteria to evaluate the significance of any

noise impacts which are presented in Table 1-2. Generally, a three dBA or smaller change in noise level would be barely perceptible to most listeners, whereas a ten dBA change is normally perceived as a doubling (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels; thus, a three-dBA increase is commonly used as the threshold for determining noise impact significance.

1.4.3 Middlesex County and Union County

The Counties of Middlesex and Union both enforce the New Jersey Noise Regulations, which require that sound from any industrial or commercial operation measured at any residential property line must not exceed a continuous sound level of 65 dBA during the daytime (7:00 am to 10:00 pm) or a level of 50 dBA during the nighttime (10:00 pm to 7:00 am). The noise regulations also limit continuous sound from any industrial or commercial operation measured at any other commercial property line to 65 dBA (Ord. 89-38). Carteret, New Jersey does have a noise ordinance (Ord. 92-21) in effect which sets the same noise level limits as stated above.

1.4.4 New Jersey Noise Standards

The State of New Jersey noise standards require that sound from any industrial or commercial operation measured at any residential property line must not exceed a continuous sound level of 65 dBA during the daytime (7:00 am to 10:00 pm) or a level of 50 dBA during the nighttime (10:00 pm to 7:00 am). New Jersey noise standards also limit continuous sound from any industrial or commercial operation measured at any other commercial property line to 65 dBA (N.J.A.C. 7:29, 2000). Noise associated with the use of public roadways is exempt from the requirements and standards of the current noise regulations pursuant to N.J.A.C. 7:29-1.4.

Octave band sound levels have been specified by the State of New Jersey, which limit the sound intensity at residential and commercial property boundary lines. The State standard also includes both daytime and nighttime octave band sound level limits (N.J.A.C. 7:29-1.2, May 2000). An octave band sound level limit requires a noise analysis of sound levels at various frequencies. Sound signals can be electronically separated into frequency bands, such as octave bands, each of which covers a 2 to 1 range of frequencies. For example, the effective band for the 1,000 Hz octave band center frequency extends from 707 to 1,414 Hz.

1.4.5 HUD Criteria

The Department of Housing and Urban Development (HUD) has issued environmental noise standards ranking the suitability of sites for new housing construction in terms of environmental noise. HUD has determined that sites with a total outdoor day/night equivalent sound level (Ldn) of 65 dBA and below are acceptable (HUD 1979).

**Table 1-1
FHWA Noise Abatement Criteria (dBA)**

Activity Category	Threshold of Noise Interference		Noise Abatement Criteria		Description of Activity Category
	L10	Leq	L10	Leq	
A (Exterior)	48	45	60	57	Tracts of land for which serenity and quiet are of extraordinary significance and which serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B (Exterior)	58	55	70	67	Picnic areas, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C (Exterior)	63	60	75	72	Developed lands, properties or activities not included in Categories A or B above.
D	--	--	--	--	For requirements on undeveloped lands see paragraphs 11a and c of Federal Aid Highway Program Manual Volume 7, Chapter 7, Section 3.
E (Interior)	43	40	55	52	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA Report "A Field Review of the Highway Traffic Noise Impact Identification and Mitigation Decision Making Processes",
Federal Aid Highway Program Manual, Volume 7, Chapter 7, Section 3 - August 4, 1982.

**Table 1-2
Noise Sensitivity Criteria
Decibel Changes and Loudness**

Change (dBA)	Relative Loudness
0	Reference
3	Barely perceptible change
5	Readily perceptible change
10	Half or twice as loud
20	1/4 or four times as loud
30	1/8 or eight times as loud

Source: FHWA Highway Traffic Noise Analysis and Abatement - Policy and Guidance, June 1995

SECTION 2.0

PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

The planned Tremley Point Connector Road development project would provide direct access from the NJ Turnpike Interchange 12 in Carteret to the Tremley Point area of Linden in Union County.

The Tremley Point Connector Road development project consists of the construction of a new elevated roadway/bridge between Industrial Road in Carteret, Middlesex County, traversing over the Rahway River and terminating at Tremley Point Road in Linden. The planned Tremley Point Connector Road would extend approximately one mile from beginning to end.

The planned Tremley Point Connector Road development project is located within the Borough of Carteret, Middlesex County and traverses over the Rahway River to the City of Linden, Union County. Two new intersections would be developed where none currently exist at each terminus for the Tremley Point Connector Road at the intersection with Tremley Point Road and at the intersection with Industrial Road. The new signalized intersections would allow for an acceptable level of service for traffic using the Tremley Point Connector Road.

The immediate area of the Tremley Point Connector Road at Industrial Road in Carteret is a combination of Interchange 12, industrial, commercial, and residential properties. To the north of the interchange is a railroad line and landfill area. To the west is the New Jersey Turnpike and to the east is an extensive bulk storage petroleum facility managed by BP/Amoco. To the south is a Holiday Inn, commercial, and residential properties.

The immediate area of the Tremley Point Connector Road at Tremley Point Road in Linden is predominantly petroleum bulk storage facilities owned and operated by a combination of Citgo, Tosco, Cytec, Tremley Point Industries, and the E.F.C. Land Development, Inc. The project site is shown in Figure 2-1.

The proposed Tremley Point Connector Road will provide a direct link between Carteret and Linden where none currently exists. The Tremley Point area of Linden has only one means of vehicular access, Tremley Point Road. Tremley Point Road crosses over the Turnpike and is then

called Wood Avenue east of the Turnpike. Wood Avenue is a 25-mile per hour access way through predominantly residential areas of Linden. Currently, industrial truck traffic to and from Tremley Point has to travel through the residential section of Linden to gain access to major highways such as Routes 1 & 9 and the Turnpike. The Tremley Point Connector Road would intercept a majority of the truck and vehicle traffic from Tremley Point and provide a direct access to the Turnpike at Interchange 12. The New Jersey Turnpike, traveled by approximately 560,000 vehicles per weekday, is one of two major north-south transportation arteries in New Jersey; the New Jersey Parkway being the other major road network. The exception for the Turnpike is that it serves all classes of vehicles (the parkway excludes trucks for a major portion of its network) and is a key link in the ground transportation network connecting the Eastern Seaboard that serves heavy volumes of automobiles, trucks, and buses. The Turnpike's Interchange 12 is located in north-central New Jersey in the Town of Carteret, Middlesex County.

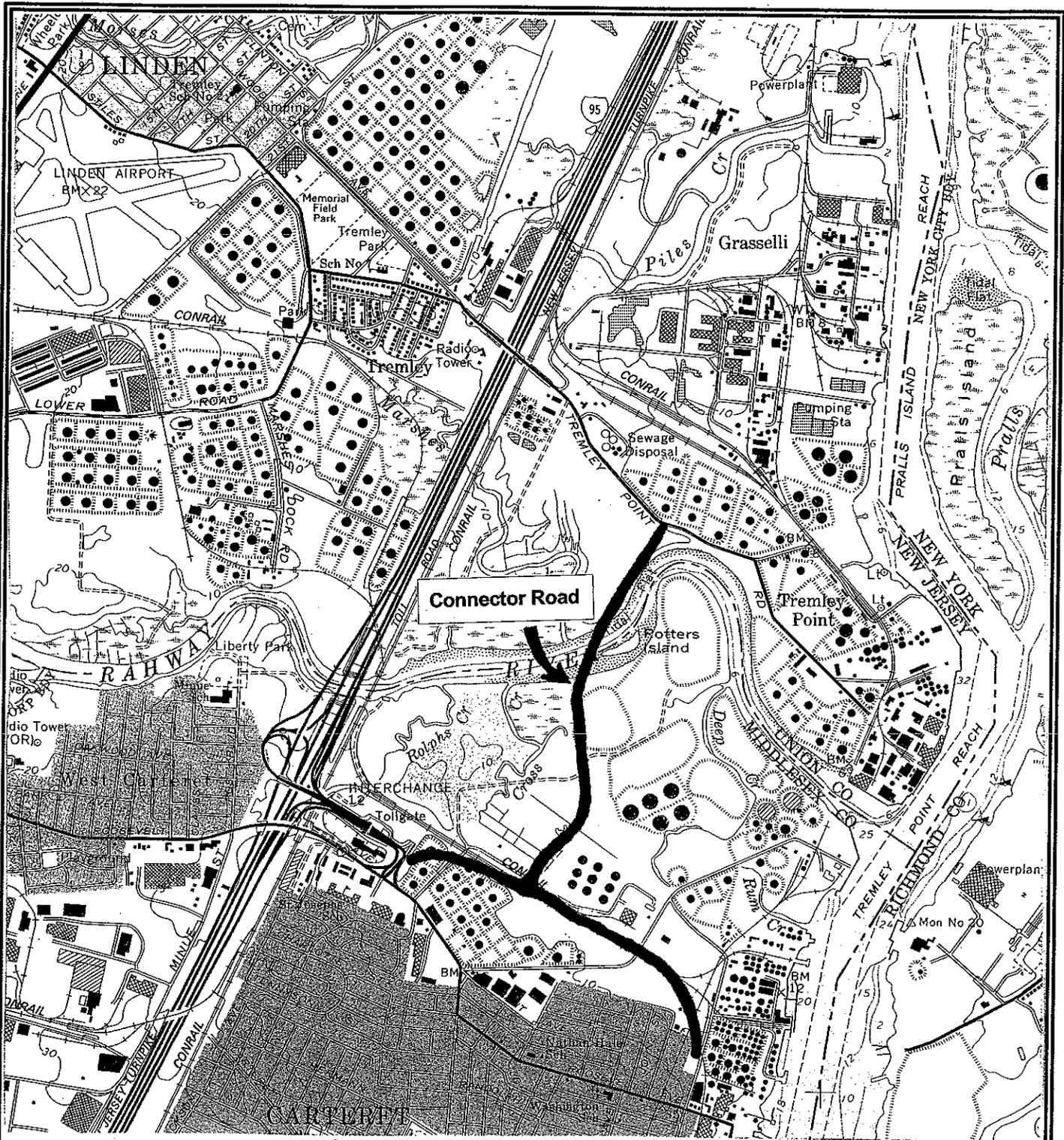
The planned Tremley Point Connector Road will provide a direct access from Tremley Point in Linden to Interchange 12 in Carteret. Currently, the only means of vehicular access to Carteret from Linden is via Roosevelt Avenue to Rahway, travel of Routes 1 & 9 to Linden and then travel through a residential area of Linden to the industrial section of Tremley Point. The planned Tremley Point Connector Road links Tremley Point Road and Industrial Road to Interchange 12 and will divert the significant truck traffic that currently travels through residential areas of Linden. The proposed improvements to Interchange 12 are an independent action that has independent utility and would need to be constructed prior the planned Tremley Point Connector Road.

Using the Industrial Road connections to the interchange for the Tremley Point Connector Road traffic avoids adding traffic to commercial and residential areas of Carteret. The Tremley Point Connector Road will also intercept traffic from Tremley Point Road that is currently destined for Routes 1&9 via the only vehicular route from Tremley Point and directs the traffic to the immediate vicinity of the western end of Industrial Road, providing direct access to and from Interchange 12.

The immediate benefit of the Tremley Point Connector Road will be the diversion of heavy truck traffic from the local roads in Linden. The Interchange 12 improvements are being designed and located in such a manner so as to facilitate potential future connection to the Tremley Point Connector Road. Improvements to the interchange will be an increase in the level of service at the interchange and on the adjoining roadways that lead to the interchange. Anticipated future traffic in the area is composed of two components: background growth and traffic that would be generated by new and planned developments in the region.

The preferred Tremley Point Connector Road location, designated as Alternate 6, intersects Industrial Road at a point approximately 850 feet east of the North/South intersection with Roosevelt Avenue. The alignment proceeds east through the BP/Amoco site and between the embankments for the Slayton and the Kinder Morgan Tracts. The alignment then bends to the left (Northeast) with a 1,000-foot radius to avoid the lagoon of the former American Cyanamid site and crosses the Rahway River on a skewed alignment with a 2,000-foot radius to the right and a bridge length of approximately 750 feet. The alignment continues on a tangent for approximately 1,650 feet where it ties radially to the existing curve on Tremley Point Road.

The horizontal and vertical geometry for this Tremley Point Connector Road was based on the criteria outlined for urban arterials from the 2001 AASHTO Manual entitled "A Policy on Geometric Design of Highways and Streets". The alignment satisfies a design speed of 50 MPH with curve radii varying from a minimum of 1,000 feet to a maximum of 2,250 feet. A maximum superelevation rate of 4% will be utilized for the horizontal curvature with superelevation transition rates based on 2% per second for the design speed. Vertical grades vary from a minimum of 0.5% to a maximum of 3% with minimum vertical curve lengths based on three times the design speed.



SOURCE:
 USGS TOPOGRAPHIC MAP
 7.5 MINUTE SERIES
 ARTHUR KILL NY-NJ
 QUADRANGLE

SITE LOCATION MAP

NEW JERSEY TURNPIKE AUTHORITY - TREMLEY POINT CONNECTOR ROAD

PAULUS SOKOLOWSKI & SARTOR, LLC

consulting engineers and environmental planners

A Keyspan Business Solution

Absecon (Atlantic County) and Warren (Somerset County), NJ

Drn By: ES

Scale: 1" = 2,000'

Proj. No. 2595.001.14

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Date: January 7th, 2002

Fig No. 2-1

SECTION 3.0

NOISE MONITORING

3.0 NOISE MONITORING

A study of existing noise associated with traffic in the Project area was performed to characterize the existing ambient sound environment in the vicinity of the Project site for use in assessing potential noise impacts associated with the projected traffic flow related to the Project. Noise monitoring was performed by PS&S in the Linden and Carteret, New Jersey areas on June 4, June 11, and June 21, 2002. Manual and automatic traffic volume counts were recorded on local roadways in the Project area by AmerCom during the period of 4/8/02 through 4/14/02. Noise monitoring was performed to identify current environmental noise conditions in the vicinity of the proposed Project and for verification of the noise model.

3.1 Noise Monitoring Equipment

A sound level meter is the conventional instrument used to measure instantaneous sound pressure levels in decibels (dB) of sound energy. The sound level meter contains a microphone, amplifier, frequency rating networks and digital display indicators. Additional capabilities available in many sound level meters enable computations of equivalent sound level (L_{eq}), and statistical distributions of sound levels (such as L_{10} and L_{90}).

A Brüel and Kjær (B&K) Modular Precision Sound Level Meter Type 2231 was used to measure and analyze noise levels for this noise study. A B&K Microphone Type 4189 was used in conjunction with the B&K 2231.

The B&K 2231 is a general purpose, Type 1 sound level meter. It conforms to the American National Standards Institute, Inc. (ANSI) Standard Specification for sound meters (S1.4-1983) and the International Electrotechnical Commission Standard (IEC 804 and relevant sections of IEC 651) for sound level meters. The B&K 2231 can be hand-held or tripod mounted and is battery operated. It can also be used to perform a wide range of measurements, take several measurements simultaneously, and provide for print out data, if desired. The B&K 2231 can measure sound levels ranging from 24 to 113 decibels A-

weighted (dBA) and octave bands ranging from 20 Hertz (Hz) to above 11,000 Hz. Measured data can be stored in the instrument memory, which has battery backup, to maintain data integrity. The B&K 2231 can also be used with optional modules to enhance the basic functions of the meter. Additionally, the B&K 2231 can also be used in conjunction with a B&K 1625 Octave Band Filter, to perform octave band measurements.

Calibration of the B&K 2231 was performed using the B&K 4230 which allows calibration of the sound level meter in accordance with ANSI (S1.40-1984) and IEC (942-1988, Class 2) Standards. The calibrator is hand-held and battery operated. Calibration checks of the B&K 2231 were performed prior to noise monitoring and during monitoring.

3.2 Noise Monitoring Methodology

There is a number of noise monitoring methodologies available for performing baseline noise studies. Most consist of various data acquisition and analysis procedures, and also include a high degree of subjectivity (Greenberg, et al. 1979). The approach utilized for this noise impact assessment follows appropriate general guidelines and recommended practices for noise measurement studies.

The methodology and procedures utilized during the noise monitoring conform to USEPA and New Jersey procedures for noise determination (N.J.A.C. 7:29B-1.1 et seq.). The measurement procedure utilized an A-weighted frequency response which simulates the response of the human ear to sound levels and has been given prominence as a means for estimating annoyance caused by noise, for estimating the magnitude of noise-induced hearing damage, in hearing conservation criteria, for speech interference measurements, and in procedures for estimating community reaction to general wide band noise (Clayton, et al. 1978, Cheremisinoff, et al. 1977). A-weighting is the accepted frequency response for evaluating subjective and physiological effects of sound.

In accordance with New Jersey guidelines and procedures, the sound level meter was set on a tripod approximately three (3) to four (4) feet above the ground. The microphone was

positioned to obtain representative noise measurements by remaining away from obstructions, large reflecting surfaces and other noise sources not representative of the area. Calibration of the sound level meter was performed periodically and the recorded data was examined for unusual or potentially erroneous readings.

During noise measurement periods, observations of roadway noise sources, identifiable noises (e.g., air traffic) and temperature/wind speed readings were recorded in the field notes. Noise measurements were collected for 15 to 20 minutes per sampling event at each noise monitoring location during similar time frames that traffic volume counts were recorded by AmerCom. Ten second integrated noise values were recorded during the noise monitoring periods and were used to compute Leq values for each 15 to 20 minute monitoring period. Atmospheric conditions such as rainfall, high humidity (greater than 90 percent), and high wind (greater than around 12 to 15 miles per hour) were avoided during field monitoring because of their adverse effect on noise measurements. Precautions were taken to prevent data from being unduly influenced by extraneous noise sources, the most common of which are wind and wind-induced noises. A wind screen was utilized to cover the microphone during noise monitoring to minimize potential wind effects.

3.3 Noise Monitoring Locations

Portions of the Project area are zoned residential and some are zoned industrial. The Project area contains fair amounts of commercial traffic (i.e., trucks and buses) on the local roadways. The New Jersey Turnpike is audible from some local streets. The area contains several motels and some residential receptors which may be considered sensitive to noise impacts. Additional noise sources in the area include air traffic and commercial operations.

Noise monitoring was performed at six locations in the vicinity of the Project site. Locations were selected based on proximity to locations where AmerCom personnel recorded traffic volume counts, as well as locations of potentially sensitive receptors. Table 3-1 provides a list of these noise monitoring locations. Figure 3-1 and Figure 3-2 show the noise monitoring locations on a Hagstrom county map.

3.4 Noise Monitoring Results

This report includes noise monitoring results for NM-3, NM-4 and NM-6. NM-3 and NM-4 are of most concern related to the proposed Tremley Point Connector Road. Noise levels at NM-6 would be expected to be reduced by the diversion of truck traffic from Wood Avenue to the Tremley Point Connector Road and Industrial Road. Noise monitoring results for NM-1, NM-2 and NM-5 are included in the Mobile Source Noise Impact Assessment for the Interchange 12 Improvements (PS&S 2002). NM-1 was used in the noise model verification analysis (Appendix C).

The noise monitoring results are summarized in Table 3-2. The table provides the Leq noise levels in dBA for each sampling period (15 to 20 minutes) for each noise monitoring location.

The noise monitoring data collected for this project is presented in Appendix A. A data sheet for each noise monitoring location contains a listing of ten second integrated records of sound pressure level readings for L_{10} , L_{70} , L_{90} and Leq noise descriptors. Comments are also provided which make note of observations of extraneous or exceptionally loud noises occurring during the monitoring.

TABLE 3-1
Noise Monitoring Locations

Location Number	Description of Location
NM-3	The park located where Grant Avenue meets Roosevelt Ave.
NM-4a & NM-4b	The open lots on the northern side of Beverly Street.
NM-6	Memorial Park located on Wood Avenue, Linden.
Note: NM-4a was moved half a block up Beverly Street to NM-4b on June 11 (the second day of monitoring) because construction equipment was obstructing the original site.	

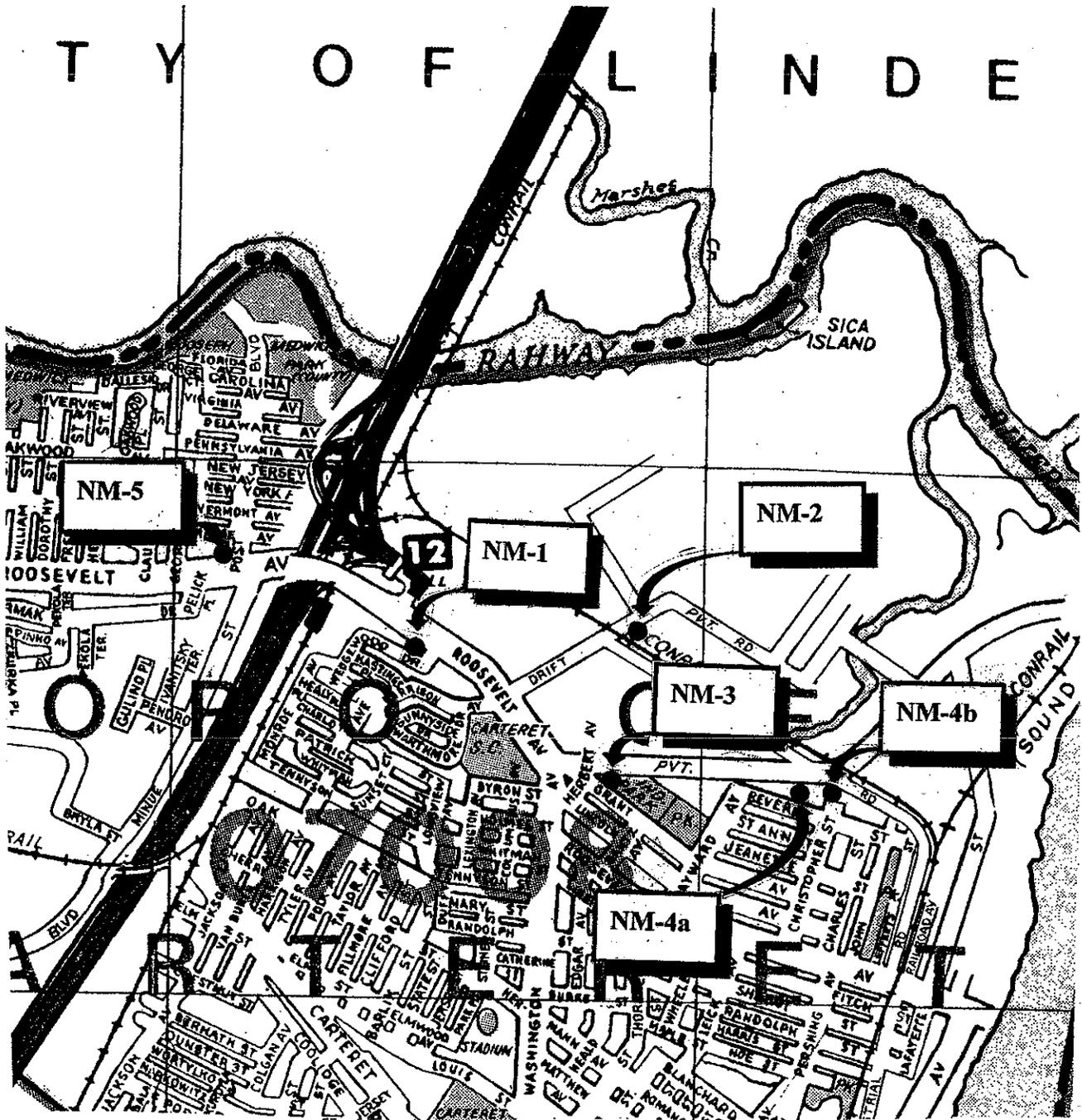
**TABLE 3-2
Noise Monitoring Results (a)**

Noise Monitoring Location	Monitoring Time Period	Noise Level Leq (b) (dBA)
NM3	8:12 – 8:29	66.5
	17:04 – 17:21	64.9
NM4	9:14 – 9:34	55.7
	16:03 – 16:19	56.3
NM6	10:00 – 10:19	71.6
	15:05 – 15:23	72.7

Notes:

(a) Noise monitoring was performed on June 4th, June 11th & June 21st, 2002
Noise results are Leq values over the 15 to 20-minute monitoring period

T Y O F L I N D E



SOURCE:
SECTION OF HAGSTROM MAP
MIDDLESEX COUNTY

NOISE MONITORING LOCATIONS (NM-3, NM-4) NEW JERSEY TURNPIKE AUTHORITY - TREMLEY POINT CONNECTOR ROAD BOROUGH OF CARTERET, MIDDLESEX COUNTY, NEW JERSEY

PAULUS SOKOLOWSKI & SARTOR, LLC

consulting engineers and environmental planners

A Keyspan Business Solution

Absecon (Atlantic County) and Warren (Somerset County), NJ

Drn By: ES

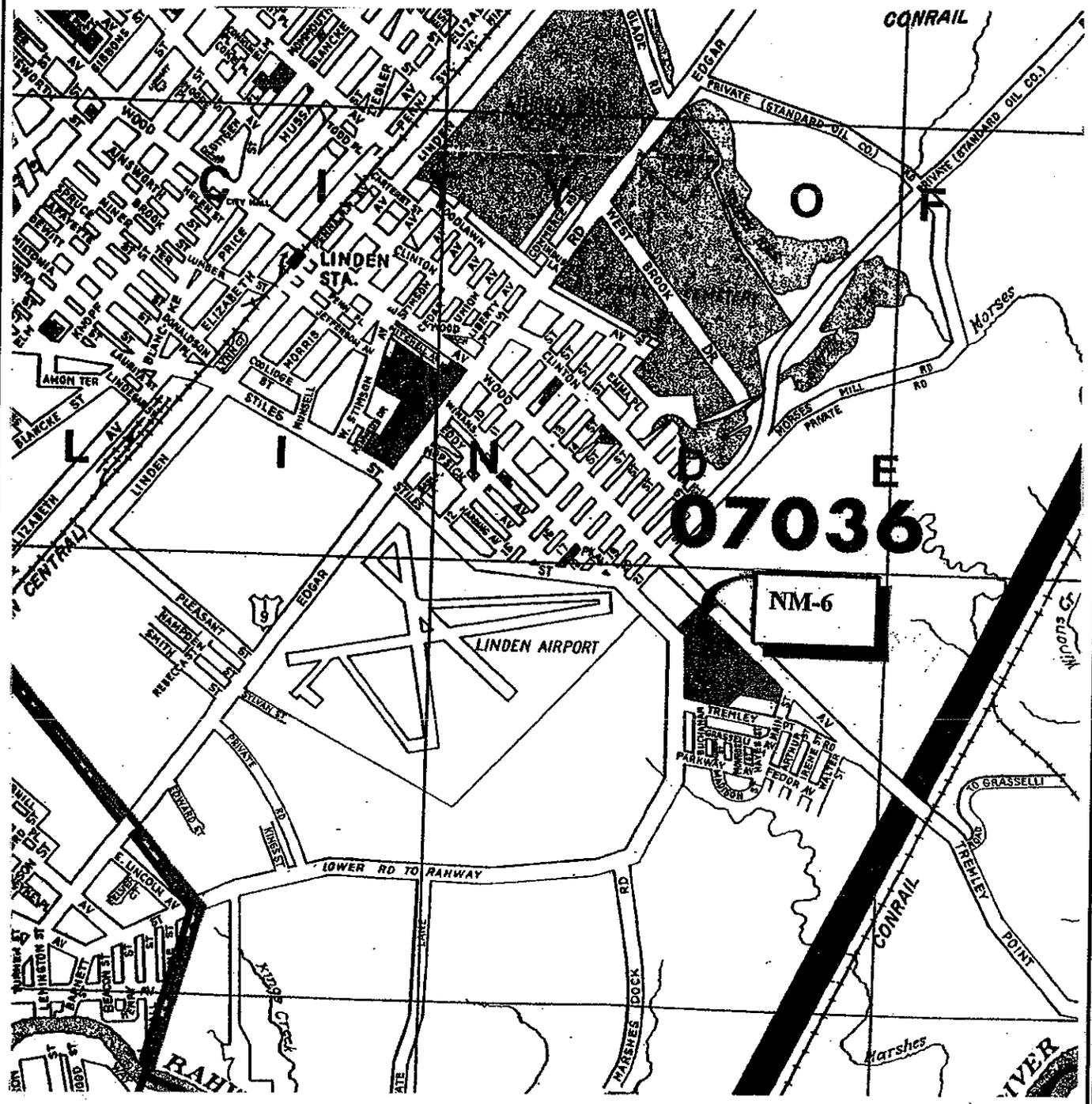
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Date: JANUARY 13, 2003

Fig No. 3-1



NOTES:
SECTION OF HAGSTROM MAP
UNION COUNTY

NOISE MONITORING LOCATION (NM-6) NEW JERSEY TURNPIKE AUTHORITY - TREMLEY POINT CONNECTOR ROAD LINDEN, UNION COUNTY, NEW JERSEY		
PAULUS SOKOLOWSKI & SARTOR, LLC consulting engineers and environmental planners A Keyspan Business Solution Absecon (Atlantic County) and Warren (Somerset County), NJ		
Drn By: ES	Scale: N/A	Proj. No. 2595-001-14
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SECTION 4.0

TRAFFIC VOLUMES

4.0 TRAFFIC VOLUMES

Traffic volume data for the project area was provided by the NJTA traffic engineer for the project, Edwards & Kelcey. These data are presented in Appendix B and include manual traffic counts, existing hourly traffic volumes and projections of project build hourly traffic volumes.

4.1 Field Traffic Count

AmerCom Corp. (AmerCom) performed field traffic counts in the project area during the period of April 8 through April 14, 2002. The traffic data was collected for three categories: cars, medium trucks and heavy trucks.

4.2 Hourly Traffic Volumes

Hourly traffic volumes for the project area during peak AM and peak PM traffic periods for the existing and project build scenarios were generated by the NJTA traffic engineer. The traffic volumes were reported in numbers of autos and trucks. The trucks were then separated into medium and heavy trucks using percentages based on the manual traffic count data. Presented in Table 4-1 are the hourly traffic volumes for the project area for the existing scenario. Table 4-2 presents the hourly traffic volumes for the project area for the project build scenario. These data were used as input to the TNM model to generate estimates of sound levels at selected receptors in the project area.

TABLE 4-1
New Jersey Turnpike Authority
Tremley Point Connector Road
Existing Traffic Volumes (a)

Roadway Segment (b)	Description	Existing Traffic Volumes Vehicles per Hour					
		AM Peak			PM Peak		
		Autos	Med. Trucks	Heavy Trucks	Autos	Med. Trucks	Heavy Trucks
1-5	Industrial Road Westbound	125	0	105	252	0	29
7-11	Industrial Road Eastbound	183	0	44	164	0	60
13-14	Drift Way Northbound	252	0	53	147	0	68
16-17	Drift Way Southbound	117	0	126	308	0	44
19	Roosevelt Ave. Eastbound from ramps	678	0	92	894	0	83
21-24	Roosevelt Ave. Eastbound	475	0	41	813	0	23
26-28	Roosevelt Ave. Westbound	879	0	29	564	0	15
30	Roosevelt Ave. Westbound to ramps	996	0	154	838	0	51

Notes:

- (a) Existing traffic volumes were provided in Edwards & Kelcey "NJTA Interchange 12 Improvements, Alternatives Analysis Summary" Final Report, December 17, 2002
- (b) Point/segment numbers listed in Appendix D, Existing Scenario Roadway Input File

TABLE 4-2
New Jersey Turnpike Authority
Tremley Point Connector Road
Project Build Traffic Volumes (a)

Roadway Segment (b)	Description	Project Build Traffic Volumes Vehicles per Hour					
		AM Peak			PM Peak		
		Autos	Med. Trucks	Heavy Trucks	Autos	Med. Trucks	Heavy Trucks
1-4	Industrial Road Westbound Approach	402	0	146	794	0	77
8-11	Industrial Road Eastbound Departure	700	0	117	520	0	101
32-33	Industrial Road Eastbound Approach	2237	0	392	626	0	402
35-36	Industrial Road Westbound Departure	402	0	421	2052	0	314
38-39	Turnpike Toll Plaza Ramp Eastbound	1401	0	363	392	0	383
41-42	Turnpike Toll Plaza Ramp Westbound	408	0	397	1392	0	289
44-45	Industrial Road Northbound	1000	0	29	325	0	19
47-48	Industrial Road Southbound	158	0	24	751	0	25
50	Roosevelt Ave. Eastbound from ramps	1548	0	66	1157	0	34
52	Roosevelt Ave. Westbound to ramps	1047	0	51	1447	0	31
54-57	Roosevelt Ave. Westbound	962	0	28	820	0	14
59-65	Roosevelt Ave. Eastbound	691	0	39	986	0	23
74-78	Tremley Point Connector Road Northbound	1541	0	214	249	0	245
80-84	Tremley Point Connector Road Southbound	228	0	212	1202	0	172

Notes:

- (a) Project design traffic volumes were provided in Edwards & Kelcey "NJTA Interchange 12 Improvements, Alternatives Analysis Summary" Final Report, December 17, 2002
- (b) Point/segment numbers listed in Appendix D, Project Build Scenario Roadway Input File

SECTION 5.0

NOISE MODELING

5.0 NOISE MODELING

Noise modeling was performed in the vicinity of the Project for the preferred Connector 6 to assess potential noise impacts resulting from the proposed Tremley Point Connector Road Project.

5.1 FHWA Traffic Noise Model

The FHWA Traffic Noise Model (TNM) Model Version 2.0 is a computerized noise model used to predict noise levels from traffic that may include a variety of vehicle types. The TNM Model utilizes data on vehicle volumes, speeds, and the physical characteristics of the roadway and the surrounding environment to estimate noise levels associated with traffic. Roadway gradients, traffic flow controls (e.g., stop signs, signalized intersections, etc.), barriers (reflective or absorptive), ground cover, and terrain features which affect noise levels as they vary over distance can also be used by the TNM model to estimate noise impacts. Roadways may intersect or coincide geometrically. The alignment of a roadway is defined by a connected series of straight line segments oriented on a Cartesian coordinate system.

5.2 Model Verification

Model verification is a procedure whereby the model user takes actual traffic count data and inputs this data into the model to generate results for comparison to noise measurement data collected during a similar time frame. Under optimal circumstances the noise modeling results should correlate well with the noise measurement data. If the model results do not correlate well with the noise measurement data, then the user has the option of “calibrating” the model with adjustment factors. According to FHWA policy, adjustment factors should only be used to account for propagation effects not calculated by the TNM model (e.g., atmospheric effects) and then, only after sufficient field measurements have been made to verify the adjustment. No adjustments are made for differences of less than 3 dBA.

Verification modeling was performed to validate the model for the project area and roadway configurations. Model input used for this validation study included traffic volume data from the corresponding 15-minute manual traffic counts collected by AmerCom. Details of the

traffic volume data are discussed in Section 4.1. Details on the model verification results are presented in Appendix C.

5.3 Noise Modeling Scenarios

Noise modeling was performed using the TNM Model for predicting noise from traffic in the project area for the following four traffic scenarios:

- Existing Peak Hour AM Traffic
- Existing Peak Hour PM Traffic
- Project Build Peak Hour AM Traffic
- Project Build Peak Hour PM Traffic

5.4 Noise Modeling Input

Input into the program included receptor and roadway geometry, posted speed limits, and traffic volumes for existing, and future traffic scenarios. Traffic volumes used in the TNM model were obtained from traffic data provided by the NJTA Traffic Engineer and are discussed in detail in Section 4.2. Input files for model parameters and modeling scenarios are provided in Appendix D.

5.4.1 Roadway Segments and Terrain

The TNM model input for roadway segments include X and Y coordinates as well as ground elevation at each point (start/end) of a roadway segment. These coordinates were obtained from plan sheets of the project area prepared by Edwards & Kelcey (Edward & Kelcey, October 2002). A precision to within plus or minus six feet in accordance with the TNM model user's guide was observed when selecting roadway segments for input. Because the area is relatively flat, an elevation of zero was used for all roadway segments and receptors. A printout of roadway inputs is provided in Appendix D.

5.4.2 Noise Modeling Receptors

Receptors which are considered potentially sensitive to noise include residences, schools, hospitals, and recreational facilities (USEPA 1974). The area in the vicinity of the Project site is a mix of industrial and commercial facilities, and residences. Local residences located near the Project site (Beverly Street) and near the roadways expected to carry Project related traffic are considered potentially sensitive receptors. Noise modeling was performed at four receptor locations within the Project area including two noise monitoring locations. The locations of each receptor are presented in Figure 5-1 and Figure 5.2.

5.5 Noise Modeling Results

Noise modeling results are summarized in Table 5-1 for the Existing and Project Build traffic scenarios. Output files for modeling scenarios are provided in Appendix E.

Review of the results presented in Table 5-1 indicate that the modeled receptors have expected noise levels that are less than the NJTA criteria of 67 dBA for both the existing and Project Build scenarios with the exception of NM-3 during the Project Build scenario (AM and PM) which were predicted to be 67.7 and 67.0, respectively. The predicted results at NM-3 were the highest modeled noise levels identified in the study and can be partially attributed to the traffic traveling on Roosevelt Avenue. Receptors R1, R2, and NM-4 were predicted by the Model to have an increase in noise level of slightly more than 3 dBA (ranging from 4.2 to 5.7 dBA) with the Project Build scenario over the Existing scenario. A change of 3 dBA is considered to be barely perceptible, while a change of 5 dBA is considered to be readily perceptible.

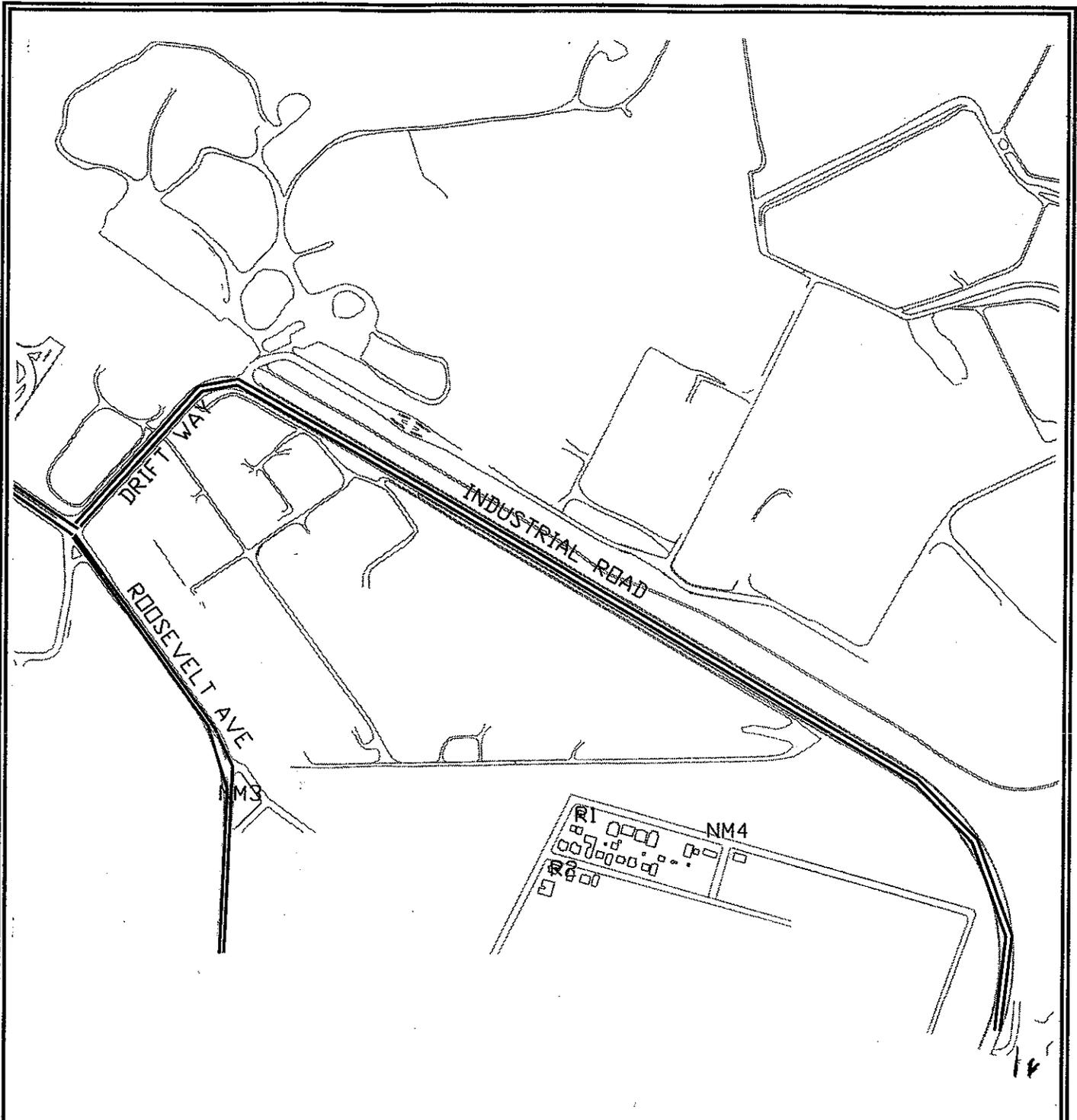
The modeled results reflect vehicle speeds of 30 mph for all vehicle classifications (50 mph on the Tremley Point Connector Road and on Industrial Road). Noise levels increase with increasing vehicle speed.

**TABLE 5-1
Noise Modeling Results – Sensitive Receptors (a)**

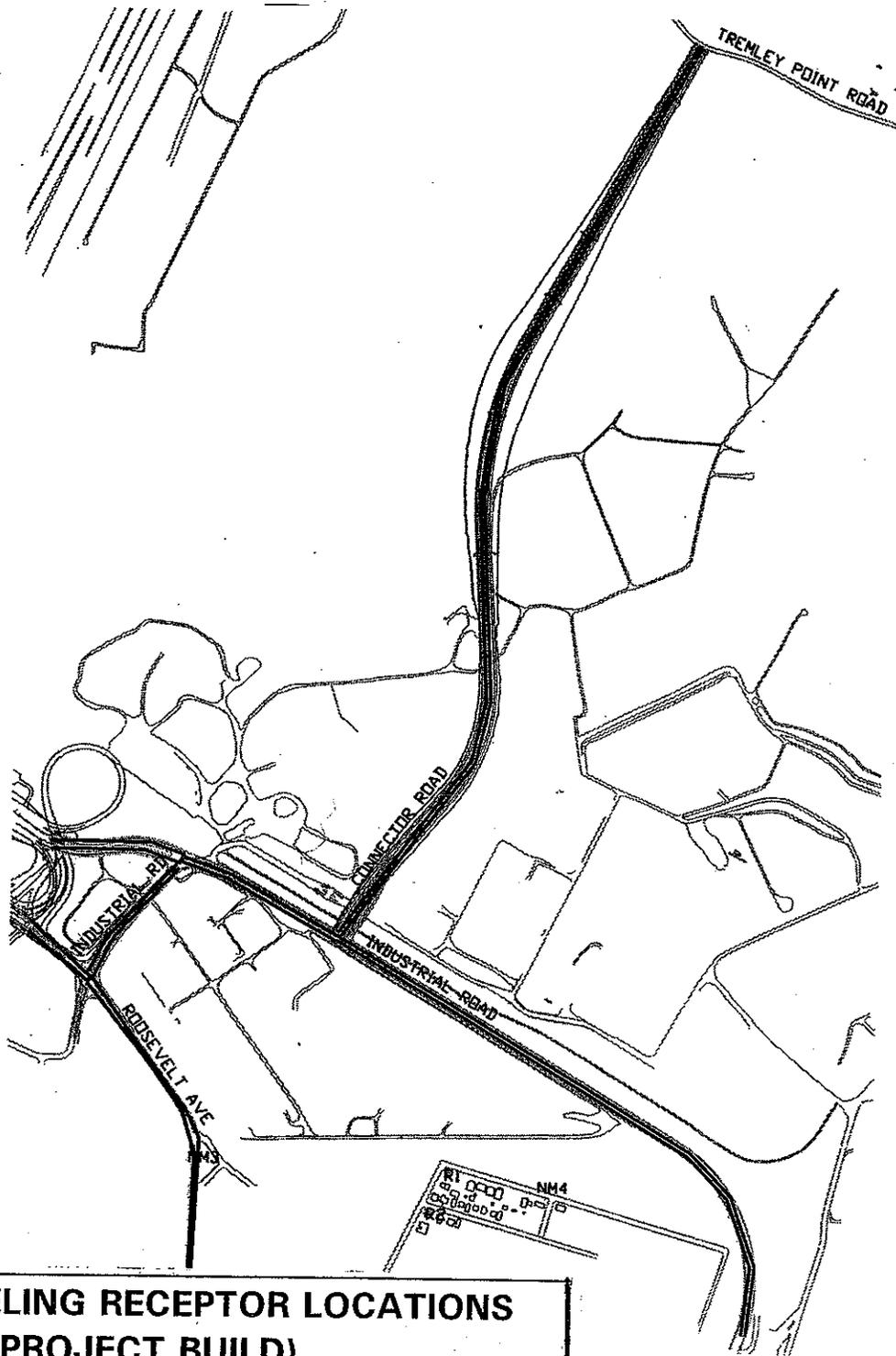
ID	Receptor Description	Peak Traffic Hour	Predicted Leq Noise Levels (dBA)		
			Existing	Project Build	Difference (b)
R1	Beverly St. west corner	AM	59.0	63.9	+4.9
		PM	57.6	63.3	+5.7
R2	1 block south of R1	AM	57.5	62.4	+4.9
		PM	56.1	61.8	+5.7
NM3	Park at Grant Ave and Roosevelt Ave (c)	AM	66.6	67.7	+1.1
		PM	65.3	67.0	+1.7
NM4	Open lots on northern side of Beverly St (d)	AM	60.7	64.9	+4.2
		PM	59.3	64.1	+4.8

Notes:

- (a) Predicted maximum noise levels due to traffic are based on peak AM hour and peak PM hour traffic volumes.
- (b) Plus sign denotes modeled Project Build noise levels are greater than modeled existing levels, and a negative sign denotes modeled Project Build noise levels are less than modeled existing noise levels.
- (c) Noise monitoring site NM-3
- (d) Noise monitoring sites NM-4a and NM-4b



NOISE MODELING RECEPTOR LOCATIONS (EXISTING) NEW JERSEY TURNPIKE AUTHORITY - TREMLEY POINT CONNECTOR ROAD BOROUGH OF CARTERET, MIDDLESEX COUNTY, NEW JERSEY		
PAULUS SOKOLOWSKI & SARTOR, LLC consulting engineers and environmental planners A Keyspan Business Solution Absecon (Atlantic County) and Warren (Somerset County), NJ		
Dwn By: ES	Scale: 1" = 600'	Proj. No. 2595-001-14
Ck'd By: SC	Date: JANUARY 8, 2003	Fig No. 5-1



**NOISE MODELING RECEPTOR LOCATIONS
(PROJECT BUILD)**

**NEW JERSEY TURNPIKE AUTHORITY - TREMLEY POINT CONNECTOR ROAD
BOROUGH OF CARTERET, MIDDLESEX COUNTY, NEW JERSEY**

PAULUS SOKOLOWSKI & SARTOR, LLC

consulting engineers and environmental planners
A Keyspan Business Solution
Absecon (Atlantic County) and Warren (Somerset County), NJ

Drn By: ES	Scale: 1" = 1,000'	Proj. No. 2595-001-14
Ck'd By: SC	Date: JANUARY 8, 2003	Fig No. 5-2

SECTION 6.0

SUMMARY AND CONCLUSIONS

6.0 SUMMARY AND CONCLUSIONS

A noise impact assessment was performed of noise from traffic associated with the proposed Tremley Point Connector Road based on noise monitoring, traffic counts, Project traffic projections, the identification and characterization of noise sources, the projection of noise levels from traffic associated with the Project to nearby receptors, and the comparison of results to applicable noise standards and criteria. The conclusions are as follows:

- The noise levels estimated for the Existing scenario ranged from 56.1 to 66.6 dBA and were less than 67 dBA.
- The noise levels predicted for the Project Build scenario ranged from 61.8 to 67.7 dBA.
- The predicted noise levels for the Project Build scenario were less than 67.0 dBA with the exception of the receptors at NM3 during the AM and PM peak traffic hours, which were 67.7 and 67.0, respectively. The higher noise levels estimated at the NM3 location for both the existing and Project Build scenarios can be attributed to traffic traveling on Roosevelt Avenue.
- The differences between the estimated noise levels for the existing scenario and the predicted noise levels for the Project Build scenario at the closest residential receptors (Beverly Street – west corner) ranged from 4.2 to 5.7 dBA. A change of 3 dBA is considered to be barely perceptible, while a change of 5 dBA is considered to be readily perceptible.

SECTION 7.0

REFERENCES

7.0 REFERENCES

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NM-3 Park at Grant and Roosevelt Avenues

APPENDIX A

NOISE MONITORING DATA SHEETS

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
779	8	12	7	72.3	68.3	66.8	69.8	
780	8	12	17	66.8	63.8	62.3	65.1	
781	8	12	27	63.8	57.3	57.3	60.7	
782	8	12	37	59.8	57.3	56.3	58.3	
783	8	12	47	64.8	61.8	60.8	62.9	
784	8	12	57	70.3	62.8	61.8	66.7	Truck pass - 70.5
785	8	13	7	63.8	62.3	61.8	62.7	
786	8	13	17	62.3	55.3	55.3	58.7	
787	8	13	27	66.3	63.3	60.3	64.3	No traffic - 55.2-hear auto shop
788	8	13	37	65.3	61.8	60.8	63.2	across street (light buzzing sound)
789	8	13	47	62.8	58.3	56.8	59.8	
790	8	13	57	65.3	62.3	61.3	63.5	
791	8	14	7	59.8	56.8	54.3	57.9	
792	8	14	17	65.8	64.3	59.3	64.7	Bang from facility - 59.9
793	8	14	27	72.3	66.3	64.8	69.5	
794	8	14	37	75.3	73.3	72.8	74.1	Plane - 75.7
795	8	14	47	74.3	69.3	68.3	71.5	
796	8	14	57	70.3	68.8	68.8	69.6	
797	8	15	7	67.8	66.8	65.3	66.7	Traffic on road - 70.3
798	8	15	17	65.3	62.8	61.3	64.1	
799	8	15	27	75.8	63.3	59.8	70.2	
800	8	15	37	71.3	67.3	64.3	69.5	Bus - 76.9
801	8	15	47	70.8	63.8	63.3	67.5	Bus - 70.1
802	8	15	57	65.8	61.8	60.3	63.7	
803	8	16	7	69.8	65.8	64.8	67	
804	8	16	17	66.8	63.3	62.3	64.9	Regular traffic (mod. free flow) - 66.6
805	8	16	27	66.3	64.8	64.8	65.4	
806	8	16	37	67.3	62.3	60.3	64.8	
807	8	16	47	69.3	64.3	63.3	66.4	
808	8	16	57	64.3	59.3	56.8	62.1	
809	8	17	7	65.8	56.3	54.8	61.7	No traffic - 55.9
810	8	17	17	64.8	58.3	57.3	61.3	
811	8	17	27	66.8	65.8	64.8	66.1	
812	8	17	37	66.8	63.8	61.8	64.9	
813	8	17	47	61.8	59.3	58.8	60.4	
814	8	17	57	65.8	61.3	59.3	63	Free flow traffic - 66
815	8	18	7	63.8	59.8	59.3	61.4	
816	8	18	17	65.3	59.3	58.3	62	
817	8	18	27	63.8	60.3	58.8	61.5	
818	8	18	37	62.8	57.3	55.8	59.4	Quiet - no traffic - 56.1
819	8	18	47	68.8	66.3	64.8	67	
820	8	18	57	69.8	64.8	63.3	68.1	
821	8	19	7	72.8	68.8	67.3	70.5	Truck on side road - 72.6

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
822	8	19	17	77.8	73.3	71.3	75.1	
823	8	19	27	75.8	65.8	64.8	71.9	Truck on side road - 78
824	8	19	37	71.3	66.3	65.3	68.9	
825	8	19	47	65.3	60.3	59.8	62.1	
826	8	19	57	60.3	56.3	55.3	57.8	
827	8	20	7	54.8	53.8	53.8	54.3	
828	8	20	17	55.8	54.8	53.8	55.1	
829	8	20	27	63.8	59.3	56.3	61	Quiet - 55
830	8	20	37	64.3	62.8	59.8	62.8	Single car - 63
831	8	20	47	66.8	65.3	64.8	65.8	
832	8	20	57	65.8	64.8	63.8	64.9	Free flow traffic - 65.8
833	8	21	7	64.3	60.8	60.3	62.4	
834	8	21	17	65.8	62.3	61.3	63.8	
835	8	21	27	72.3	69.8	67.8	70.3	
836	8	21	37	68.3	63.8	63.3	65.2	Truck on road - 71.3, 72.6
837	8	21	47	64.8	61.8	60.8	63	
838	8	21	57	65.3	64.3	63.8	64.8	
839	8	22	7	65.3	63.8	63.3	64	Traffic - 65.3
840	8	22	17	63.3	62.3	61.8	62.6	
841	8	22	27	65.8	63.3	62.3	64.1	
842	8	22	37	64.8	62.3	61.3	62.8	
843	8	22	47	68.3	65.8	64.8	66.6	
844	8	22	57	70.3	67.8	67.3	68.7	Bus (small) on road - 68.5
845	8	23	7	68.3	64.3	63.3	65.7	
846	8	23	17	68.8	64.8	63.8	66.9	Free flow traffic - 68.8
847	8	23	27	66.8	61.3	60.3	63.8	
848	8	23	37	63.8	58.3	57.3	60.7	
849	8	23	47	66.3	63.8	63.3	65	
850	8	23	57	64.3	57.8	57.3	60.7	
851	8	24	7	66.3	64.3	64.3	65.3	
852	8	24	17	67.3	65.3	63.8	66.1	Free flow traffic - 66.7
853	8	24	27	75.3	67.3	65.3	71.6	Truck - 75.8
854	8	24	37	65.3	59.8	58.8	62.6	
855	8	24	47	66.8	63.8	63.3	65.4	
856	8	24	57	68.8	63.8	63.3	66.1	
857	8	25	7	69.3	66.3	64.8	67.5	
858	8	25	17	72.3	67.8	67.8	69.7	Truck - 72.9
859	8	25	27	69.8	68.3	67.8	68.9	
860	8	25	37	69.8	64.3	63.8	67.5	Plane & traffic - 70.4
861	8	25	47	61.3	57.8	57.3	59.1	
862	8	25	57	65.3	57.8	56.8	62.8	
863	8	26	7	71.8	67.3	64.3	69	
864	8	26	17	66.8	65.3	64.3	65.5	Bus on side - 72.3

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
865	8	26	27	69.3	65.8	64.8	67	
866	8	26	37	64.3	59.8	58.8	62	
867	8	26	47	64.8	64.3	63.3	64.4	
868	8	26	57	66.8	64.8	63.3	65.3	
869	8	27	7	66.3	64.3	63.8	65	Free flow traffic - 65.4
870	8	27	17	73.3	67.3	64.8	70.5	
871	8	27	27	66.8	60.3	59.8	63.5	
872	8	27	37	60.8	58.3	58.3	59.2	
873	8	27	47	67.8	65.3	63.8	66.1	
874	8	27	57	67.3	64.8	64.3	65.8	
875	8	28	7	69.8	66.3	65.8	67.6	
876	8	28	17	66.8	65.8	65.3	65.8	
877	8	28	27	67.8	65.3	64.8	66.2	
878	8	28	37	70.3	65.3	63.8	68.4	
879	8	28	47	70.3	67.8	67.8	68.6	Truck from facility - 70.5
880	8	28	57	68.3	65.3	63.3	66.1	Truck from facility - 70.3
881	8	29	7	63.3	59.3	57.8	61.5	
882	8	29	17	63.8	56.8	56.3	60.2	Quiet - 56.2
883	8	29	27	70.8	67.3	66.3	68.5	
17 Minute 20 Second Ln				68.9	64.8	63.7	66.5	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
468	17	4	45	62.8	58.3	56.3	60.2	
469	17	4	55	61.8	55.3	54.8	58.4	
470	17	5	5	59.3	55.8	54.8	57.3	
471	17	5	15	63.3	58.8	57.8	60.8	
472	17	5	25	70.3	64.3	62.8	66.8	car - 65 db
473	17	5	35	70.3	65.3	62.3	66.9	truck - 72.1 db
474	17	5	45	63.8	62.8	62.3	63.2	car - 64 db
475	17	5	55	67.8	66.3	65.3	66.8	
476	17	6	5	68.3	66.3	64.8	67.1	cars accelerating - 67 db
477	17	6	15	72.8	67.3	66.3	69.7	
478	17	6	25	69.3	65.3	63.3	67.3	truck from Amoco site - 73.5 db
479	17	6	35	70.3	62.8	60.3	67.2	
480	17	6	45	64.8	58.8	57.8	61.1	quiet w/ lawn mower - 58.2 db
481	17	6	55	65.8	61.3	60.3	63.7	
482	17	7	5	65.3	64.3	62.3	64.4	
483	17	7	15	64.8	62.8	62.3	63.7	cars - 65.5 db
484	17	7	25	69.3	63.3	62.8	66	
485	17	7	35	63.3	57.3	55.3	60.3	quiet - 58.8 db
486	17	7	45	65.3	60.8	58.8	62.9	
487	17	7	55	66.3	62.3	61.8	63.9	cars - 66.6 db
488	17	8	5	69.8	62.3	61.3	66.3	car speeding - 70.0 db
489	17	8	15	69.3	67.3	66.3	67.9	
490	17	8	25	67.3	66.8	65.8	66.8	
491	17	8	35	69.3	65.8	65.8	67.2	
492	17	8	45	68.3	66.8	65.8	67.2	
493	17	8	55	74.8	66.8	65.3	71.3	truck from Amoco site - 76.4 db
494	17	9	5	69.8	63.3	60.3	66.5	
495	17	9	15	62.3	55.3	53.3	59.2	
496	17	9	25	64.3	53.8	53.3	58.7	quiet - 54.1 db
497	17	9	35	63.8	59.8	58.3	61.4	free flow car - 65.9 db
498	17	9	45	63.8	59.3	59.3	60.7	
499	17	9	55	64.8	63.8	62.8	63.9	
500	17	10	5	66.3	61.3	58.8	63.2	
501	17	10	15	66.8	60.8	58.3	63.5	car - 67 db
502	17	10	25	63.8	62.3	59.8	62.4	
503	17	10	35	61.3	58.8	58.3	59.5	
504	17	10	45	63.3	61.3	59.3	62	
505	17	10	55	64.3	59.3	58.8	62.2	light traffic - 62 db to 63 db
506	17	11	5	65.3	63.8	62.8	64.3	
507	17	11	15	61.8	58.3	57.8	59.7	
508	17	11	25	64.3	59.8	58.8	61.2	car alarm - 61.8 db
509	17	11	35	61.3	57.8	57.3	59.4	
510	17	11	45	63.8	58.3	58.3	61.2	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
511	17	11	55	64.8	61.3	60.3	62.4	
512	17	12	5	62.8	60.8	60.3	61.4	
513	17	12	15	64.8	61.8	60.8	63.2	
514	17	12	25	65.8	62.8	62.3	64.2	
515	17	12	35	71.8	66.8	65.3	68.9	
516	17	12	45	65.3	63.8	62.8	64.2	
517	17	12	55	62.3	59.3	58.3	60.7	plane - 64.5 db
518	17	13	5	61.8	58.8	57.8	59.7	
519	17	13	15	60.3	56.3	55.3	58.4	
520	17	13	25	64.3	55.8	55.3	60.4	no traffic - 55.4 db
521	17	13	35	65.8	63.8	62.8	64.7	steady traffic - 63 db to 65 db
522	17	13	45	69.3	65.8	65.3	66.8	
523	17	13	55	66.3	63.3	62.8	64.3	steady traffic - 63 db to 65 db
524	17	14	5	64.8	63.3	62.8	63.9	
525	17	14	15	65.3	59.3	57.8	62.2	
526	17	14	25	66.8	62.3	61.3	63.9	
527	17	14	35	64.8	60.3	60.3	62.3	cars driving down side street-66.8 db
528	17	14	45	66.3	63.3	62.3	64.4	
529	17	14	55	64.3	61.3	60.8	62.4	
530	17	15	5	71.8	65.3	62.8	68.7	car moving
531	17	15	15	65.8	63.8	62.8	64.7	air brakes - 72.3 db
532	17	15	25	68.3	65.3	63.8	66.7	car on side street - 68.1 db
533	17	15	35	62.3	56.3	55.8	58.8	
534	17	15	45	59.3	56.8	55.8	57.8	quiet
535	17	15	55	62.8	61.8	60.8	62	
536	17	16	5	62.8	60.8	59.8	61.5	plane - 63.5 db
537	17	16	15	69.3	61.8	60.8	64.8	cars moving
538	17	16	25	64.3	57.3	56.8	60.5	
539	17	16	35	64.3	60.8	58.8	62.1	
540	17	16	45	66.8	61.3	60.8	63.9	
541	17	16	55	63.8	61.3	60.3	62.4	car - 67 db
542	17	17	5	65.3	59.3	58.8	62	
543	17	17	15	62.8	61.8	59.8	62	cars moving - 63 db to 65 db
544	17	17	25	68.3	62.3	58.8	65.2	
545	17	17	35	68.8	67.3	66.3	67.6	truck turning - 73.5 db
546	17	17	45	73.3	70.3	69.8	71.7	truck turning - 73.5 db
547	17	17	55	71.3	64.3	62.8	67.4	truck turning - 73.5 db
548	17	18	5	64.3	62.3	62.3	63.3	
549	17	18	15	79.3	68.8	67.8	74.7	
550	17	18	25	66.8	59.3	58.8	62.9	blazer w/ hitch - 81.8 db
551	17	18	35	63.3	61.3	60.3	62	plane w/ no traffic - 63.1 db
552	17	18	45	64.3	60.3	58.8	62	
553	17	18	55	64.3	63.3	61.3	63.3	traffic - 63.7 db

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-3

Location: The park located where Grant Avenue meets Roosevelt Avenue.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS	
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)		
554	17	19	5	64.8	60.3	59.8	62.3	traffic - 65 db to 66 db quiet - 57.8 db car accelerating - 68.3 db	
555	17	19	15	65.8	64.3	63.3	64.7		
556	17	19	25	64.8	58.8	57.8	61.4		
557	17	19	35	61.3	59.3	58.8	59.9		
558	17	19	45	62.8	59.8	59.3	61		
559	17	19	55	57.8	56.8	55.8	57		
560	17	20	5	66.3	61.8	56.3	63.9		
561	17	20	15	65.3	63.3	60.3	63.8		
562	17	20	25	66.3	60.3	59.3	63.3		
563	17	20	35	66.3	62.8	62.8	64.4		
564	17	20	45	64.8	61.8	61.3	63.2		
565	17	20	55	67.8	62.3	62.3	64.8		
566	17	21	5	65.8	63.8	62.3	64.4		
16 Minute 20 Second Ln				67.5	62.9	61.8	64.9		

Comments: Steady traffic. Lawnmower operating across street in the distance.

✓
NM-4 Open Lots North Side of Beverly Street

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-4b

Location: The open lots on the northern side of Beverly Street.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1002	9	14	46	51.8	50.8	50.3	50.9	Start - quiet
1003	9	14	56	51.8	50.8	50.8	51.3	
1004	9	15	6	51.3	50.8	50.3	50.8	Quiet - near crickets, birds - 51.1
1005	9	15	16	51.8	51.3	51.3	51.4	
1006	9	15	26	53.3	51.8	51.8	52.3	
1007	9	15	36	53.3	52.8	52.3	52.8	
1008	9	15	46	55.3	52.3	51.8	53.5	
1009	9	15	56	53.3	52.3	52.3	52.7	Trash truck on Charles St. - 55.6
1010	9	16	6	53.8	52.8	52.3	53.1	
1011	9	16	16	54.8	53.3	52.8	53.5	
1012	9	16	26	52.8	51.3	50.8	51.8	Truck on Ind. - 54.1
1013	9	16	36	51.3	50.3	50.3	50.6	Trash truck - 54.1
1014	9	16	46	50.8	50.3	49.8	50.4	
1015	9	16	56	52.8	51.8	50.8	52	
1016	9	17	6	53.8	53.8	53.3	53.7	
1017	9	17	16	53.8	52.3	51.8	52.8	3 trucks on Ind. - 54.2
1018	9	17	26	52.3	51.3	50.8	51.5	
1019	9	17	36	50.3	49.3	48.8	49.7	
1020	9	17	46	50.3	48.8	48.3	49.5	Quiet, birds, crickets - 49.8
1021	9	17	56	55.8	50.8	50.3	52.5	
1022	9	18	6	61.8	56.3	54.3	58.6	
1023	9	18	15	67.3	64.3	61.8	65.2	
1024	9	18	26	68.3	61.8	58.3	65.1	Plane - 68.8
1025	9	18	36	60.3	55.8	53.8	58.1	
1026	9	18	46	54.3	52.3	51.3	53	
1027	9	18	56	51.8	49.3	49.3	50.3	
1028	9	19	6	49.3	48.3	48.3	48.5	
1029	9	19	16	48.8	47.8	47.8	48.3	
1030	9	19	26	48.8	48.8	48.3	48.6	
1031	9	19	36	50.8	49.3	48.8	49.8	
1032	9	19	46	52.8	50.3	50.3	51.5	
1033	9	19	56	53.8	52.8	52.3	53.2	Truck on Ind. Hwy - 53.9
1034	9	20	6	54.8	52.3	50.8	52.8	not much traffic on Ind. Hwy
1035	9	20	16	51.3	50.3	49.8	50.3	
1036	9	20	26	53.8	51.3	50.8	52.1	
1037	9	20	36	52.8	50.8	50.3	51.2	
1038	9	20	46	53.3	51.3	50.3	52	
1039	9	20	56	55.8	53.3	52.3	54.4	
1040	9	21	6	58.3	57.3	56.8	57.7	
1041	9	21	16	58.8	55.3	54.3	56.6	Plane - 59.2
1042	9	21	26	53.3	52.3	51.8	52.5	
1043	9	21	36	54.8	52.8	52.3	53.7	Truck Ind. - 55.2
1044	9	21	46	54.8	53.3	53.3	53.7	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-4b

Location: The open lots on the northern side of Beverly Street.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1045	9	: 21	: 56	57.3	54.3	53.8	55.4	
1046	9	: 22	: 6	55.8	53.3	52.8	53.9	Plane - 59.2
1047	9	: 22	: 16	57.3	53.8	53.3	55.2	
1048	9	: 22	: 26	54.8	52.3	52.3	53.3	Car drove by - 57.7
1049	9	: 22	: 36	54.3	53.3	52.8	53.5	
1050	9	: 22	: 46	55.8	54.3	53.8	54.7	Trucks Ind. - 55
1051	9	: 22	: 56	54.8	53.3	52.8	54	Back up beeps
1052	9	: 23	: 6	55.3	51.8	51.3	52.8	
1053	9	: 23	: 16	55.3	52.8	52.3	53.8	Cars drove by - 55.6
1054	9	: 23	: 26	55.3	50.8	50.3	52.2	
1055	9	: 23	: 36	52.3	51.3	51.3	51.6	
1056	9	: 23	: 46	52.3	51.3	50.8	51.5	Truck Ind. - 52.2
1057	9	: 23	: 56	50.3	50.3	50.3	50.3	
1058	9	: 24	: 6	54.8	52.3	51.3	53.2	
1059	9	: 24	: 16	53.3	52.8	52.3	52.9	Truck Ind. - 53.5
1060	9	: 24	: 26	53.8	51.8	50.8	52.7	
1061	9	: 24	: 36	50.8	50.3	49.8	50.3	
1062	9	: 24	: 46	51.3	50.8	50.8	51.1	Back up beeps 1/2 way down block
1063	9	: 24	: 56	51.3	50.3	50.3	50.6	
1064	9	: 25	: 6	53.3	50.3	50.3	51.3	
1065	9	: 25	: 16	52.8	50.8	50.8	51.5	
1066	9	: 25	: 26	54.3	51.3	50.8	52.5	
1067	9	: 25	: 36	54.8	52.3	51.3	53.3	
1068	9	: 25	: 46	54.8	51.8	51.8	53	
1069	9	: 25	: 56	54.8	51.8	51.3	53.3	
1070	9	: 26	: 6	57.3	54.3	53.3	55.5	
1071	9	: 26	: 16	56.3	54.3	53.3	55	
1072	9	: 26	: 26	59.8	55.8	54.3	57.7	
1073	9	: 26	: 36	64.3	61.8	60.8	62.7	
1074	9	: 26	: 46	64.3	61.8	60.8	62.5	Plane - 64.4
1075	9	: 26	: 56	59.3	56.8	56.3	57.7	
1076	9	: 27	: 6	55.8	54.8	54.3	55	
1077	9	: 27	: 16	54.3	53.8	53.3	53.8	Trucks - Ind. - 55.1
1078	9	: 27	: 26	53.3	52.3	51.8	52.4	
1079	9	: 27	: 36	52.8	51.3	51.3	51.8	
1080	9	: 27	: 46	52.3	50.8	50.3	51.2	
1081	9	: 27	: 56	56.3	51.8	51.3	53.4	
1082	9	: 28	: 6	54.8	52.3	51.3	53.3	Banging from construction - 57.9
1083	9	: 28	: 16	61.8	56.8	53.8	58.8	
1084	9	: 28	: 26	63.8	60.8	58.8	62	
1085	9	: 28	: 36	64.8	62.8	62.3	63.7	Plane - 64.8
1086	9	: 28	: 46	61.3	59.3	57.8	59.7	
1087	9	: 28	: 56	57.3	53.8	53.3	55.4	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-4b

Location: The open lots on the northern side of Beverly Street.

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1088	9	29	6	54.8	52.8	51.8	53.6	
1089	9	29	16	53.8	51.3	50.8	52.4	Banging/hammering - 57.7
1090	9	29	26	51.8	50.3	49.8	50.6	
1091	9	29	36	52.3	50.8	50.3	51.3	Quiet; hum from construct. site-50.9
1092	9	29	46	53.8	52.8	52.3	53	
1093	9	29	56	53.3	52.3	51.3	52.4	
1094	9	30	6	53.8	52.8	52.3	53.1	
1095	9	30	16	54.3	52.8	52.8	53.2	Banging from construction - 55.1
1096	9	30	26	56.8	55.3	53.8	55.4	
1097	9	30	36	55.3	53.8	53.3	54.4	
1098	9	30	46	56.8	55.3	54.3	55.7	
1099	9	30	56	56.8	54.8	54.3	55.5	Trucks on Ind. - 55.5
1100	9	31	6	55.3	52.8	52.3	53.7	
1101	9	31	16	54.8	53.3	52.3	53.5	
1102	9	31	26	53.8	52.3	51.8	52.9	
1103	9	31	36	57.8	56.3	52.8	56.7	
1104	9	31	46	63.3	60.8	58.8	61.4	
1105	9	31	56	63.8	61.8	60.8	62.5	Plane - 64.3
1106	9	32	6	59.3	54.8	53.8	57.1	
1107	9	32	16	55.8	53.8	53.3	54.2	
1108	9	32	26	58.3	54.8	53.8	56.1	Dog bark - 57.1
1109	9	32	36	56.8	51.8	50.8	53.9	
1110	9	32	46	53.3	51.8	51.3	52.4	Banging construction - 53.4
1111	9	32	56	52.3	50.8	50.8	51.3	
1112	9	33	6	55.8	52.3	51.8	53.3	
1113	9	33	16	62.3	58.3	55.8	59.6	
1114	9	33	26	56.8	53.8	53.8	55.1	Banging construction - 64.1
1115	9	33	36	55.8	54.3	53.8	55	Trucks Ind. - 55
1116	9	33	46	57.3	54.8	53.8	55.8	
1117	9	33	56	53.8	51.3	51.3	52.5	
1118	9	34	6	52.3	50.8	49.8	51.3	
1119	9	34	16	50.3	49.3	48.8	49.5	
1120	9	34	26	49.3	48.8	48.3	48.9	Quiet - 49.4
1121	9	34	36	50.8	48.8	48.8	49.5	
19 Minute 50 Second Ln				57.4	54.7	53.6	55.7	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-4a

Location: The open lots on the northern side of Beverly Street.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
257	16	3	50	58.3	49.8	48.8	54.1	
258	16	4	0	53.3	49.8	49.3	51.1	
259	16	4	10	55.8	54.3	53.8	54.7	
260	16	4	20	53.3	51.8	50.3	52.3	
261	16	4	30	60.3	53.3	52.8	56.1	
262	16	4	39	70.8	62.8	60.3	67.7	truck starting - 71.4 db
263	16	4	50	61.3	55.3	54.3	58	
264	16	5	0	56.3	53.3	52.8	54.6	car starting - 57 db
265	16	5	10	57.8	53.8	53.3	55.7	
266	16	5	20	57.3	53.8	53.3	55.1	
267	16	5	30	69.3	61.3	53.8	65.3	
268	16	5	40	68.3	58.3	56.8	64.1	truck on street - 69.9 db
269	16	5	50	56.3	53.8	52.8	54.9	
270	16	6	0	52.8	51.3	51.3	52	
271	16	6	10	53.8	51.3	50.8	51.8	
272	16	6	20	50.8	50.3	49.8	50.3	quiet - 50.4 db
273	16	6	30	49.8	49.3	49.3	49.5	
274	16	6	40	50.3	49.3	49.3	49.8	
275	16	6	50	49.3	49.3	48.8	49.2	
276	16	7	0	49.3	48.8	48.3	48.8	
277	16	7	10	49.3	48.3	47.8	48.6	
278	16	7	20	56.8	53.3	49.8	54.4	
279	16	7	30	53.3	49.8	49.3	50.9	car on street - 57.3 db
280	16	7	40	50.3	48.8	48.8	49.5	
281	16	7	50	49.8	48.8	48.8	49.1	truck on Ind. Hwy.(no effect)- 49.1 db
282	16	8	0	49.8	48.3	47.8	48.6	
283	16	8	10	51.8	47.8	47.8	49.3	
284	16	8	20	52.8	48.8	48.3	50.2	
285	16	8	30	50.3	49.3	48.8	49.7	car on street - 52.9 db
286	16	8	40	51.3	50.3	49.3	50.4	
287	16	8	50	52.8	51.3	51.3	52	
288	16	9	0	56.8	51.8	51.3	53.4	dog barking - 53.1 db
289	16	9	10	59.3	53.8	52.3	56.8	
290	16	9	20	53.3	51.8	51.3	52.4	
291	16	9	30	56.3	51.3	50.8	53.4	
292	16	9	40	58.8	56.3	54.3	56.8	
293	16	9	50	55.3	52.8	52.3	53.5	
294	16	10	0	55.3	53.8	53.3	54.2	
295	16	10	10	52.3	50.3	49.8	51.4	
296	16	10	20	54.8	50.8	50.3	52.5	truck on Ind. Hwy - 55.1 db
297	16	10	30	51.3	50.3	50.3	50.7	
298	16	10	40	52.3	49.3	49.3	50.4	
299	16	10	50	50.3	49.3	48.8	49.4	

**NEW JERSEY TURNPIKE - INTERCHANGE 12
NOISE MONITORING**

Monitoring Site: NM-4a

Location: The open lots on the northern side of Beverly Street.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
300	16	: 11	: 0	54.3	51.3	50.8	52.3	
301	16	: 11	: 10	54.8	51.3	50.3	52.6	
302	16	: 11	: 20	51.8	50.3	49.3	50.5	
303	16	: 11	: 30	51.8	50.3	50.3	50.8	
304	16	: 11	: 40	53.3	51.8	50.8	52.5	
305	16	: 11	: 50	50.8	49.8	49.8	50.2	truck from Ind. Hwy - 53.3 db
306	16	: 12	: 0	56.3	48.3	48.3	52.2	
307	16	: 12	: 10	52.3	50.8	50.3	51.3	
308	16	: 12	: 20	57.3	53.3	52.8	54.8	
309	16	: 12	: 30	65.3	59.8	58.8	62.2	Plane - 70.4 db
310	16	: 12	: 40	69.3	65.3	64.3	66.9	Plane - 70.4 db
311	16	: 12	: 50	68.3	65.3	63.8	66.7	Plane - 70.4 db
312	16	: 13	: 0	63.3	57.8	56.3	60.5	
313	16	: 13	: 10	56.8	54.3	53.3	55	
314	16	: 13	: 20	57.3	53.8	51.8	54.6	music from ice cream man is heard
315	16	: 13	: 30	56.8	53.3	50.8	54.4	motorcycle and truck heard
316	16	: 13	: 40	58.3	52.3	51.8	55.2	
317	16	: 13	: 50	52.3	51.3	51.3	51.7	
318	16	: 14	: 0	51.3	50.8	50.3	51	
319	16	: 14	: 10	54.8	51.3	50.3	52.6	
320	16	: 14	: 20	52.8	49.8	48.8	51.2	
321	16	: 14	: 30	55.3	50.3	49.8	52.8	
322	16	: 14	: 40	55.8	50.3	50.3	52.5	ice cream music fading
323	16	: 14	: 50	54.3	51.3	50.3	52.8	
324	16	: 15	: 0	52.3	49.8	49.3	50.5	
325	16	: 15	: 10	53.8	51.8	50.8	52.2	
326	16	: 15	: 20	52.8	50.3	49.8	51.1	truck on Ind. Hwy - 54.1 db
327	16	: 15	: 30	52.3	49.8	49.3	50.8	
328	16	: 15	: 40	50.8	49.8	49.8	50.2	
329	16	: 15	: 50	53.8	50.3	49.8	51.5	
330	16	: 16	: 0	53.3	51.3	50.8	52.1	quiet - 50.1 db
331	16	: 16	: 10	53.3	51.3	51.3	52.1	
332	16	: 16	: 20	57.8	52.8	51.3	54.4	plane in distance - 53.9 db
333	16	: 16	: 30	55.8	51.8	50.8	53.6	plane - 59.7 db
334	16	: 16	: 40	52.3	50.3	49.3	50.9	
335	16	: 16	: 50	52.3	49.8	49.3	50.3	
336	16	: 17	: 0	50.3	49.3	49.3	49.7	
337	16	: 17	: 10	51.3	50.8	50.8	50.8	
338	16	: 17	: 20	56.3	52.8	52.3	54.3	
339	16	: 17	: 30	54.3	53.3	52.8	53.4	car on street - 56.5 db
340	16	: 17	: 40	52.8	51.3	50.8	52	
341	16	: 17	: 50	55.8	51.8	51.3	53.5	car on street - 56.3 db
342	16	: 18	: 0	51.8	50.3	49.3	50.6	
343	16	: 18	: 10	51.3	50.3	49.3	50.3	
344	16	: 18	: 20	50.3	47.8	47.3	48.6	quiet - 49.6 db

**NEW JERSEY TURNPIKE - INTERCHANGE 12
NOISE MONITORING**

Monitoring Site: NM-4a

Location: The open lots on the northern side of Beverly Street.

Time of Day: Afternoon

Date: June 4, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOURL	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
345	16	: 18	: 30	52.3	47.3	46.8	50	music from ice cream man - 52.2 db
346	16	: 18	: 40	51.8	48.8	47.8	50	
347	16	: 18	: 50	50.8	48.3	48.3	49.7	
348	16	: 19	: 0	53.8	51.3	50.8	52.1	
349	16	: 19	: 10	56.8	52.8	52.3	54.7	
350	16	: 19	: 20	56.8	54.3	53.8	55.4	
15.5 Minute Ln				58.9	54.2	52.9	56.3	

Comments: Quiet - minimal traffic on Industrial Highway or on residential street.

NM-6 Memorial Park Located on Wood Avenue

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1123	10	0	11	61.3	56.3	55.8	58.4	
1124	10	0	21	72.8	64.3	60.3	69.6	
1125	10	0	31	71.3	62.8	59.3	67.8	Truck electric - 73.1
1126	10	0	41	56.3	52.8	51.8	54.4	
1127	10	0	51	52.8	51.8	51.8	52.1	
1128	10	1	1	53.3	52.3	52.3	52.6	Quiet - 52.8
1129	10	1	11	53.3	52.3	51.8	52.5	
1130	10	1	21	72.3	57.8	55.3	67.8	
1131	10	1	31	65.8	60.8	59.8	62.7	Truck - 72.4
1132	10	1	41	58.3	56.3	53.8	56.9	
1133	10	1	51	58.3	53.8	53.3	55.5	Fire alarm in distance - 58.6
1134	10	2	1	65.8	61.3	58.8	63.3	Brake truck small - 67.6
1135	10	2	11	69.3	60.8	58.8	65.1	
1136	10	2	21	76.8	65.8	63.8	72.9	Truck - 76.9
1137	10	2	31	65.8	55.3	53.8	60.8	
1138	10	2	41	64.3	54.3	53.3	60.1	
1139	10	2	51	58.3	52.3	52.3	55	Car - 64.9, lawn mower in back - 56
1140	10	3	1	56.8	53.3	52.3	54.8	
1141	10	3	11	65.3	61.3	58.8	62.4	
1142	10	3	21	69.3	63.8	62.3	66.1	Cars - 69.8
1143	10	3	31	63.8	58.8	56.8	60.8	
1144	10	3	41	57.3	56.3	56.3	56.8	Plane & mower - 60.6
1145	10	3	51	62.8	56.3	55.8	59.2	Mower & alarm - 57.3
1146	10	4	1	74.8	64.8	60.3	70.7	Truck - 1146
1147	10	4	11	60.8	55.8	53.3	57.9	
1148	10	4	21	61.8	54.3	53.3	58.3	
1149	10	4	31	56.3	53.8	53.3	54.6	Car - 62.2
1150	10	4	41	59.3	55.3	55.3	57.1	
1151	10	4	51	68.3	61.3	60.3	64.8	
1152	10	5	1	66.8	61.3	60.3	63.6	Plane & truck - 68.5
1153	10	5	11	61.3	58.3	57.3	59.7	Plane only - 61.4
1154	10	5	21	58.8	57.3	56.3	57.9	
1155	10	5	31	62.3	60.3	58.8	61.1	
1156	10	5	41	72.8	65.8	63.3	69.5	Cars - 62.3, truck - 72.8
1157	10	5	51	67.3	62.3	61.8	64.5	
1158	10	6	1	72.8	70.3	69.3	71	
1159	10	6	11	69.8	62.3	59.8	66.2	Plane - 73.7
1160	10	6	21	67.3	61.8	60.8	64.7	
1161	10	6	31	71.8	63.8	63.3	69.2	
1162	10	6	41	68.3	60.8	60.3	64	Truck - 71.7
1163	10	6	51	62.8	54.3	53.8	58.5	
1164	10	7	1	58.8	53.3	53.3	56.3	
1165	10	7	11	68.3	57.8	55.8	64.2	Fed Ex Truck - 68.6

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Morning

Date: June 11, 2002



RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1166	10	7	21	66.3	57.8	57.3	62.1	Car - 66.7
1167	10	7	31	64.8	58.3	56.8	61.8	
1168	10	7	41	62.3	57.8	57.3	59.6	
1169	10	7	51	58.3	55.8	55.3	56.4	
1170	10	8	1	66.8	58.8	56.3	63.2	Truck other side of park - 58.4
1171	10	8	11	64.8	62.3	61.8	63.2	Trucks pull into Fire Dept. - 60 - 62.5
1172	10	8	21	65.3	60.8	59.3	62.7	Trucks pull into Fire Dept. - 60 - 62.5
1173	10	8	31	60.8	57.3	56.8	58.8	Trucks pull into Fire Dept. - 60 - 62.5
1174	10	8	41	63.3	59.3	58.8	60.3	Trucks pull into Fire Dept. - 60 - 62.5
1175	10	8	51	64.8	59.8	59.3	62.6	
1176	10	9	1	65.8	63.8	63.3	64.4	
1177	10	9	11	75.3	67.8	65.3	71.6	Cars - 66
1178	10	9	21	71.3	63.3	62.3	67.1	
1179	10	9	31	76.3	65.3	63.3	71.2	Truck (cement) - 75.6
1180	10	9	41	71.3	64.3	62.3	68.2	
1181	10	9	51	63.8	58.3	55.8	61	Truck (tanker) 76.5
1182	10	10	1	59.3	55.3	55.3	56.8	
1183	10	10	11	72.3	62.3	58.8	68.1	
1184	10	10	21	56.3	54.3	54.3	55	Truck - 71.4
1185	10	10	31	54.8	53.8	53.3	54.2	
1186	10	10	41	55.8	54.3	53.3	54.9	Quiet mower - 54.5
1187	10	10	51	70.3	59.8	56.8	65.5	
1188	10	11	1	72.3	63.8	60.3	69.1	
1189	10	11	11	75.8	63.8	61.3	71.4	Trucks - 72.6
1190	10	11	21	69.8	57.3	55.3	64.7	
1191	10	11	31	62.8	56.3	54.8	60	Truck - 76.0
1192	10	11	41	61.8	56.3	55.8	59	
1193	10	11	51	64.3	59.8	58.8	61.4	Cars - 61.6, 62, 63
1194	10	12	1	75.3	71.3	66.3	72.6	
1195	10	12	11	74.8	71.3	69.8	72.6	
1196	10	12	21	68.8	64.3	63.8	66	Trucks - 75.3, 75.2 (trailer)
1197	10	12	31	75.8	70.3	67.3	72.8	
1198	10	12	41	65.8	56.8	55.8	61.6	Trucks - 76.3
1199	10	12	51	56.8	55.3	54.8	55.5	
1200	10	13	1	62.3	59.3	57.3	60.3	
1201	10	13	11	63.8	60.8	59.3	61.6	
1202	10	13	21	60.3	56.3	55.3	58.1	
1203	10	13	31	65.8	55.3	55.3	62	Plane - 62.3
1204	10	13	41	66.8	60.8	59.3	64.2	
1205	10	13	51	73.3	62.8	59.8	68.9	Cars - 65
1206	10	14	1	63.8	56.8	55.8	60.1	Truck - 73.7
1207	10	14	11	57.8	56.3	55.3	56.9	
1208	10	14	21	63.8	60.8	59.8	61.7	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Morning

Date: June 11, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
1209	10	14	31	69.8	68.3	66.8	68.6	Helicopter/by plane - 62
1210	10	14	41	71.8	65.8	65.3	68.1	
1211	10	14	51	70.3	62.3	59.8	66.5	Can't see - 70.1
1212	10	15	1	57.3	54.8	54.8	55.9	
1213	10	15	11	55.8	54.8	54.3	55.1	
1214	10	15	21	55.8	54.8	54.3	55.1	
1215	10	15	31	53.8	52.8	52.3	53.1	
1216	10	15	41	67.3	55.8	54.3	62.1	Quiet - 52.5
1217	10	15	51	68.3	64.8	60.3	66	
1218	10	16	1	74.3	58.3	57.8	68.3	Car - 68.7
1219	10	16	11	74.3	58.3	58.3	68.5	Tanker - 76.2
1220	10	16	21	56.8	55.3	55.3	55.7	
1221	10	16	31	60.8	56.3	55.8	58.2	
1222	10	16	41	64.8	57.3	55.8	60.7	
1223	10	16	51	53.8	52.3	51.8	52.9	
1224	10	17	1	63.8	55.8	53.8	60	
1225	10	17	11	76.3	59.3	57.8	71.1	
1226	10	17	21	67.8	56.3	55.3	63.4	
1227	10	17	31	54.8	53.8	53.3	53.9	Horn truck - 78.8
1228	10	17	41	63.3	56.8	56.3	60.2	
1229	10	17	51	56.8	55.8	55.8	56.1	Cars - 63.4
1230	10	18	1	69.8	59.3	57.8	64.5	
1231	10	18	11	74.8	73.3	72.3	73.7	
1232	10	18	21	70.8	68.8	68.8	69.6	
1233	10	18	31	74.8	69.8	69.3	71.9	Tankers - 75
1234	10	18	41	73.3	71.8	71.3	72.2	Tankers - 75.1
1235	10	18	51	77.3	74.3	71.8	75.6	
1236	10	19	1	72.3	60.8	58.3	67.7	Street cleaner, wind, breeze - 72.4
1237	10	19	11	62.3	58.3	57.8	60.1	Trucks - 77.1
1238	10	19	21	66.3	61.8	59.3	63.5	
19 Minute 10 Second Ln				69.4	63.3	61.7	66.1	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Afternoon

Date: June 21, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
4	15	5	33	70.3	63.3	62.3	66.5	
5	15	5	43	71.3	63.3	61.3	66.6	
6	15	5	53	64.8	61.3	58.8	62.6	Plane
7	15	6	3	61.8	55.3	54.8	58.4	
8	15	6	13	59.8	57.8	55.8	58.2	Car 60.0
9	15	6	23	64.8	56.3	55.8	60.4	
10	15	6	33	72.3	61.3	57.3	68.4	Truck 72.8
11	15	6	43	54.8	53.3	52.3	53.5	
12	15	6	53	52.8	52.3	51.8	52.4	Quiet 52.5
13	15	7	3	63.8	55.8	53.8	60.9	Cars 63.8, 64.6, 65.7
14	15	7	13	65.3	63.3	60.8	63.7	Cars 63.8, 64.6, 65.7
15	15	7	23	66.8	63.3	61.3	64.8	
16	15	7	33	63.3	57.8	56.8	60.7	
17	15	7	43	72.3	65.3	63.3	68.5	Bus 69.2
18	15	7	53	76.8	65.8	60.8	72.5	Truck 77.5
19	15	8	3	78.3	62.8	59.3	73.1	
20	15	8	13	69.3	62.3	60.8	65.8	Truck 79.0
21	15	8	23	69.3	61.3	59.8	64.8	Car 65.4
22	15	8	33	67.3	61.3	59.3	64.5	Cars 65.1, 65.6
23	15	8	43	65.3	59.8	58.8	62.1	
24	15	8	53	59.8	53.8	52.8	56.1	Fast Car 65,7
25	15	9	3	51.8	50.3	50.3	50.7	
26	15	9	13	50.8	50.3	49.8	50.3	
27	15	9	23	50.8	49.8	49.8	50.2	
28	15	9	33	52.8	51.3	50.3	51.8	Plane 64.5, 65.0, 62.2 only
29	15	9	43	57.3	53.3	52.8	54.7	
30	15	9	53	62.8	59.3	57.3	61	Plane - 64.5, 65.0, 62.2
31	15	10	3	64.8	61.8	60.8	63	Plane - 64.5, 65.0, 62.2
32	15	10	13	59.8	54.3	54.3	56.7	Plane - 64.5, 65.0, 62.2
33	15	10	23	68.3	61.3	57.8	64.4	
34	15	10	33	71.3	63.8	62.8	67.9	Cars & truck 65.8, 68.4, 71.5
35	15	10	43	64.3	59.3	59.3	61.7	Car - 65
36	15	10	53	56.3	52.8	52.8	54.1	
37	15	11	3	52.3	51.8	51.3	51.9	
38	15	11	13	53.8	51.8	51.3	52.4	
39	15	11	23	63.3	55.8	53.3	59.3	Car 63.6
40	15	11	33	54.8	53.3	52.8	53.8	
41	15	11	43	70.3	57.3	54.3	64.8	Car start 63.6
42	15	11	53	72.3	62.3	58.3	68.1	Truck 72.5
43	15	12	3	58.8	54.3	53.8	56.3	
44	15	12	13	63.8	58.3	57.3	61	Car - 63.7
45	15	12	23	75.3	65.3	63.3	70.8	truck - 76
46	15	12	33	63.8	60.3	58.3	61.6	
47	15	12	43	58.8	54.3	53.8	55.9	Cars 60.7
48	15	12	53	65.3	58.3	56.3	61.8	Cars 65.5, 62.3

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Afternoon

Date: June 21, 2002

RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
49	15	: 13	: 3	61.8	58.3	56.3	59.7	
50	15	: 13	: 13	60.8	53.3	52.3	57	
51	15	: 13	: 23	65.3	55.8	53.8	60.9	
52	15	: 13	: 33	53.8	51.8	51.3	52.5	Cars 65.8
53	15	: 13	: 43	51.8	51.3	50.8	51.2	
54	15	: 13	: 53	52.3	51.8	51.3	51.8	
55	15	: 14	: 3	52.3	51.8	51.3	51.8	Quiet (hear rumble in distance) - 52, 51.5
56	15	: 14	: 13	52.8	50.8	50.8	51.6	hear some noise from road on other
57	15	: 14	: 23	64.3	54.3	53.8	59.4	side of park
58	15	: 14	: 33	72.8	66.8	64.8	69.6	Trucks 73.2, 75.1, 72.9
59	15	: 14	: 43	75.8	71.8	69.8	73.1	Trucks 73.2, 75.1, 72.9
60	15	: 14	: 53	69.8	62.3	60.3	65.8	Trucks 73.2, 75.1, 72.9
61	15	: 15	: 3	63.3	58.8	58.3	60.4	
62	15	: 15	: 13	63.8	62.3	59.8	62.5	Air brake other road 60.4
63	15	: 15	: 23	65.3	62.3	60.3	63.3	
64	15	: 15	: 33	69.3	65.8	64.3	67.4	Plane & cars 68.2, 65.3
65	15	: 15	: 43	68.8	64.3	61.8	66.1	Plane & cars 68.2, 65.3
66	15	: 15	: 53	59.8	55.3	54.3	56.8	Plane & cars 68.2, 65.3
67	15	: 16	: 3	55.3	53.3	52.8	54.1	
68	15	: 16	: 13	63.8	57.3	56.8	60	Car 60.9
69	15	: 16	: 23	65.8	61.3	59.8	63.5	
70	15	: 16	: 33	70.8	66.8	64.8	68.4	Trucks 70.2
71	15	: 16	: 43	82.8	71.8	69.8	78.6	Dumptruck 83.4
72	15	: 16	: 53	63.8	57.8	56.3	60.8	
73	15	: 17	: 3	58.8	55.3	54.3	57	
74	15	: 17	: 13	67.3	62.8	57.8	64.5	Car 60.9
75	15	: 17	: 23	73.8	60.3	58.8	69.1	Truck 74.2
76	15	: 17	: 33	63.3	58.8	58.3	60.7	
77	15	: 17	: 43	57.3	54.3	54.3	55.3	
78	15	: 17	: 53	74.8	54.3	53.8	68.2	Bang in distance - 57.8
79	15	: 18	: 3	74.3	60.3	57.8	68.6	Truck 77.2
80	15	: 18	: 13	65.3	60.3	59.3	62.1	
81	15	: 18	: 23	64.3	61.3	60.8	62.1	
82	15	: 18	: 33	73.3	66.3	63.8	70.2	
83	15	: 18	: 43	69.8	64.3	63.3	66.7	Plane & truck 73.7
84	15	: 18	: 53	65.8	58.8	57.8	62.2	
85	15	: 19	: 3	62.8	59.3	57.8	61	Car 66.3
86	15	: 19	: 13	61.3	58.3	57.3	59.4	
87	15	: 19	: 23	60.3	55.3	53.3	57.3	Plane 60.9
88	15	: 19	: 33	55.8	52.3	51.8	53.5	
89	15	: 19	: 43	60.3	53.3	52.8	57.1	
90	15	: 19	: 53	67.3	61.3	60.8	64.7	Van 67.6
91	15	: 20	: 3	71.8	65.3	63.3	67.8	
92	15	: 20	: 13	66.3	58.8	57.8	62.7	
93	15	: 20	: 23	62.3	60.3	58.8	61.1	

NOISE DATA

NEW JERSEY TURNPIKE - INTERCHANGE 12 NOISE MONITORING

Monitoring Site: NM-6

Location: Memorial Park located on Wood Avenue, Linden

Time of Day: Afternoon

Date: June 21, 2002

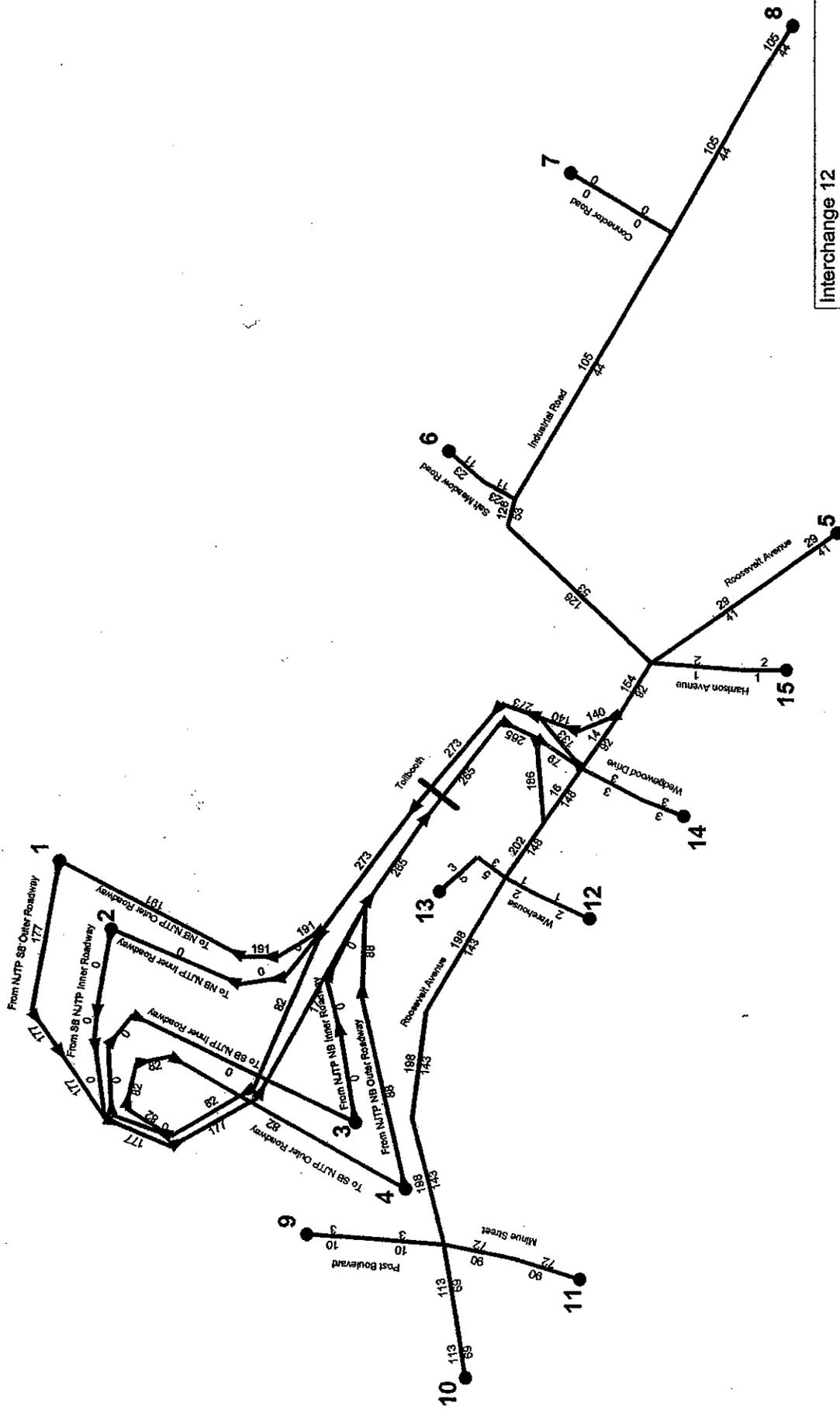
RECORD #	TIME			NOISE L10	NOISE L70	NOISE L90	NOISE Leq	COMMENTS
	HOUR	MIN	SEC	(dBA)	(dBA)	(dBA)	(dBA)	
94	15	20	33	77.8	69.3	66.3	74.4	
95	15	20	43	77.3	59.3	57.3	71.3	Trucks 75.9, 79.2
96	15	20	53	62.8	55.8	55.3	59.1	Car 63.4
97	15	21	3	57.3	53.8	53.3	55.7	
98	15	21	13	65.3	60.3	58.3	62.2	Cars 62.2
99	15	21	23	71.3	58.8	57.8	65.9	
100	15	21	33	75.3	67.3	65.3	71.3	Truck 73.3
101	15	21	43	74.8	71.8	69.8	72.8	Truck 76.3, 74.3, 79.1
102	15	21	53	78.3	62.3	59.8	73.2	Truck 76.3, 74.3, 79.1
103	15	22	3	56.8	55.3	55.3	55.8	
104	15	22	13	62.8	58.8	57.8	60.7	
105	15	22	23	58.3	51.8	51.3	54.6	
106	15	22	33	60.3	52.3	51.8	56.7	
107	15	22	43	65.8	57.3	53.3	61.9	
108	15	22	53	51.3	50.3	50.3	50.7	
109	15	23	3	63.3	54.3	51.3	58.8	
110	15	23	13	63.8	57.3	55.3	60.2	Cars 64, 64.3
111	15	23	23	63.8	53.3	52.3	59.2	
17 Minute 50 Second Ln				70	61.9	59.9	66.1	

APPENDIX B

TRAFFIC DATA

APPENDIX B

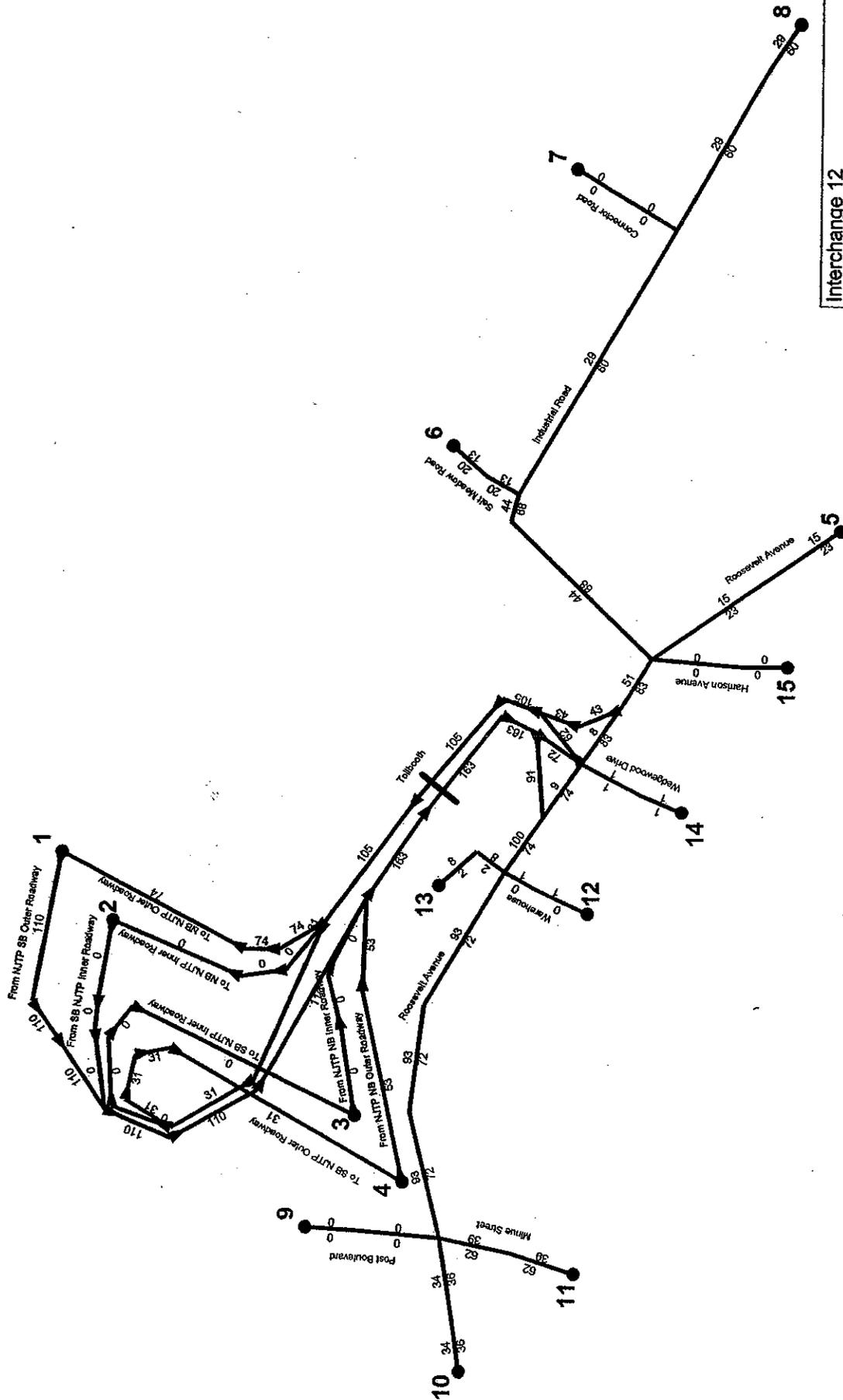
EXISTING TRAFFIC



Interchange 12
 Existing Network
 AM Peak Hour Existing Volumes
 Trucks



Figure 7



Interchange 12
 Existing Network
 PM Peak Hour Existing Volumes
 Trucks



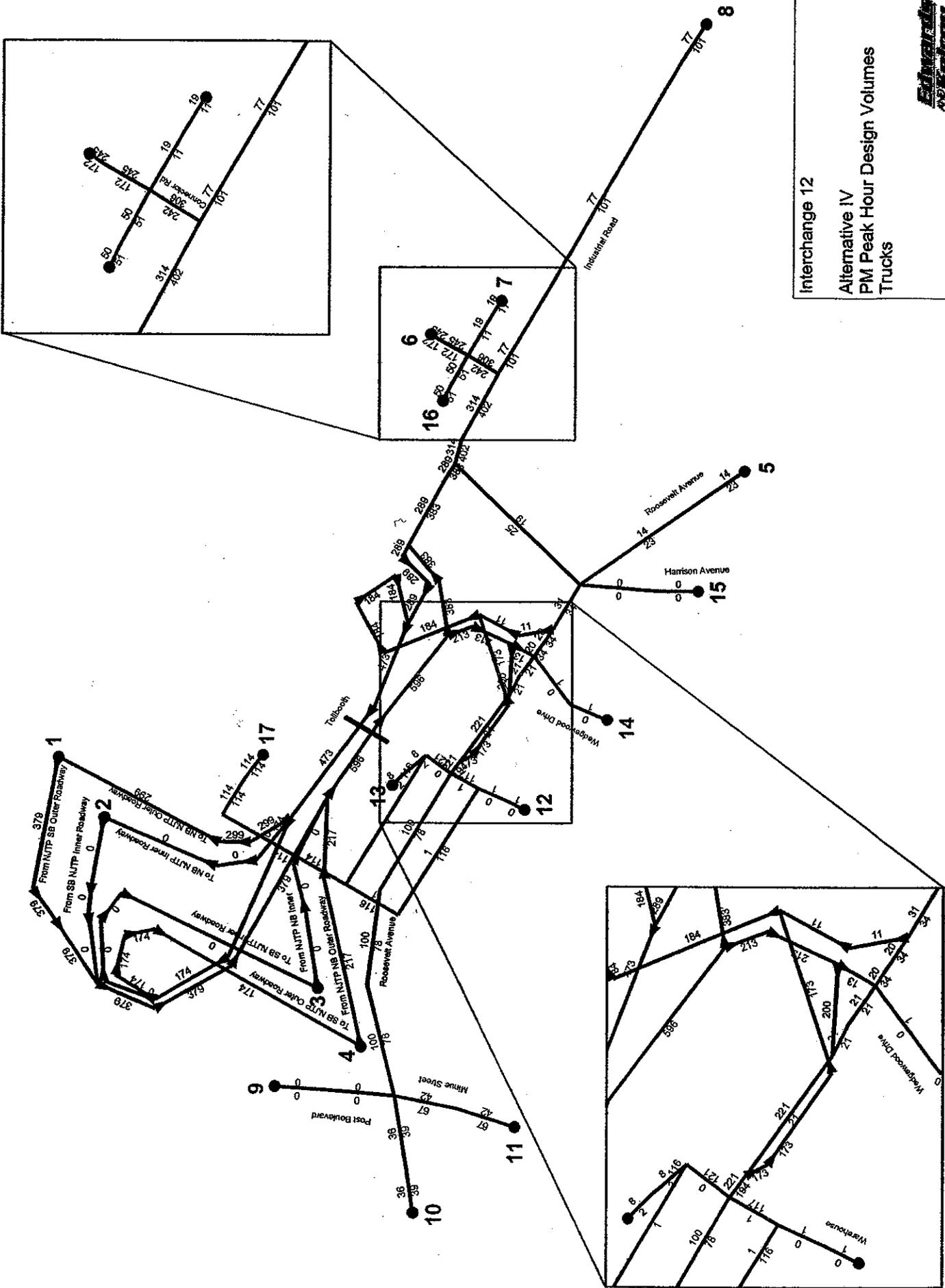
Figure 10

APPENDIX B

PROJECT BUILD TRAFFIC



Interchange 12
Alternative IV
PM Peak Hour Design Volumes
Trucks



APPENDIX C

MODEL VERIFICATION RESULTS

Appendix C - Model Verification Results

The noise modeling results of the verification analysis are presented in Table C-1 where they are compared with measured noise levels collected during the noise monitoring study. The results include AM and PM noise levels for the NM-1 receptor/monitoring location.

As presented in Table C-1, the results of the noise model verification analysis indicate the following:

- The modeled scenario of the verification analysis for the AM were within 3 dBA of the measured noise data, which is considered acceptable.
- The modeled scenario of the verification analysis for the PM is slightly higher than 3 dBA. This is attributable to the different time variation between the noise monitoring and the traffic counts.
- The verification results indicate that the model is over-predicting the expected noise impact.

The TNM model has been validated for use in this area and can be expected to reasonably estimate noise levels in the area due to traffic and the roadway configurations there.

Noise monitoring data, traffic data, and TNM input and output files for the verification analysis are included in the Interchange 12 Improvements Mobile Source Noise Impact Assessment (PS&S 2002).

TABLE C-1**Noise Results – Verification Analysis**

Period	Receptor NM-1 – Leq Noise Level (dBA)		
	Modeled	Measured	Difference (a)
AM	72.6	69.7	+2.9
PM	72.9	67.2	+5.7

Notes:

(a) Plus sign denotes modeled level greater than measured level.

APPENDIX D

NOISE MODELING INPUT FILES

APPENDIX D

NOISE RECEPTOR INPUT FILE

INPUT: RECEIVERS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

INPUT: RECEIVERS

PROJECT/CONTRACT: NJTP Int 12 Connector Rd
RUN: Industrial Rd AM Existing

Receiver

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft	ft	dBA	dBA		dB	
R1	14	1	569,608.4	639,108.4	0.00	4.92	0.00	66	10.0	8.0	Y
R2	15	1	569,560.1	638,854.3	0.00	4.92	0.00	66	10.0	8.0	Y
NM4	21	1	570,229.2	638,992.7	0.00	4.92	0.00	66	10.0	8.0	Y
NM3	26	1	568,296.0	639,097.3	0.00	4.92	0.00	66	10.0	8.0	Y
R1 Beverly St corner											
R2 1 block back											
NM4 Noise monitoring site: Beverly St north											
NM3 Noise monitoring site: park											

APPENDIX D

EXISTING SCENARIO ROADWAY INPUT FILE

INPUT: ROADWAYS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

INPUT: ROADWAYS

PROJECT/CONTRACT:
RUN: NJTP Int 12 Connector Rd
Industrial Rd AM Existing

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with the approval of FHWA

Roadway Name	Width ft	Points Name	No.	Coordinates (pavement)			Flow Control			Segment Pvmt Type	On Struct?	
				X ft	Y ft	Z ft	Control Device	Speed Constraint mph	Percent Vehicles Affected %			
Industrial Rd WB	24.0	WB1	1	571,357.1	638,201.0	0.00				Average		
		WB2	2	571,400.4	638,594.6	0.00				Average		
		WB3	3	571,255.4	638,992.4	0.00				Average		
		WB4	4	571,014.9	639,237.7	0.00				Average		
		WB5	5	568,978.6	640,443.8	0.00				Average		
		WB6	6	568,228.9	640,877.9	0.00				Average		
Industrial Rd EB	24.0	EB1	7	568,224.5	640,852.7	0.00				Average		
		EB2	8	568,966.6	640,423.0	0.00				Average		
		EB3	9	571,000.0	639,218.7	0.00				Average		
		EB4	10	571,234.6	638,979.2	0.00				Average		
		EB5	11	571,375.9	638,591.6	0.00				Average		
		EB6	12	571,333.2	638,203.6	0.00				Average		
Drift Way NB	24.0	DWNB1	13	567,588.2	640,263.8	0.00	Signal	0.00	50	Average		
		DWNB2	14	568,080.6	640,826.1	0.00				Average		
		DWNB3	15	568,224.5	640,852.7	0.00				Average		
Drift Way SB	24.0	DWSB1	16	568,228.9	640,877.9	0.00				Average		
		DWSB2	17	568,068.0	640,848.1	0.00				Average		
		DWSB3	18	567,568.1	640,277.3	0.00				Average		
Roosevelt Ave EB from ramps	33.0	RAEB1	19	567,244.0	640,442.0	0.00				Average		
		RAEB2	20	567,557.7	640,229.0	0.00				Average		
Roosevelt Av EB	12.0	RAEB3	21	567,558.2	640,220.6	0.00	Signal	0.00	50	Average		
		RAEB4	22	568,117.3	639,440.7	0.00				Average		
		RAEB5	23	568,199.8	639,178.3	0.00				Average		
		RAEB6	24	568,199.6	639,178.8	0.00				Average		
		RAEB7	25	568,173.8	638,500.0	0.00				Average		

INPUT: ROADWAYS

NJTP Int 12 Connector Rd

		12.0	RAWB1	26	568,191.0	638,500.0	0.00		Average
Roosevelt Av WB			RAWB2	27	568,220.4	639,271.8	0.00		Average
			RAWB3	28	568,147.4	639,429.1	0.00		Average
			RAWB4	29	567,566.4	640,229.8	0.00		
Roosevelt Ave WB to ramps	22.0		RAWB5	30	567,579.6	640,253.9	0.00	Signal	0.00
			RAWB6	31	567,266.1	640,464.6	0.00	50	Average

APPENDIX D

EXISTING SCENARIO TRAFFIC INPUT FILE – AM

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

	RAEB4	22	475	30	0	0	41	30	0	0	0	0
	RAEB5	23	475	30	0	0	41	30	0	0	0	0
	RAEB6	24	475	30	0	0	41	30	0	0	0	0
	RAEB7	25										
Roosevelt Av WB	RAWB1	26	879	30	0	0	29	30	0	0	0	0
	RAWB2	27	879	30	0	0	29	30	0	0	0	0
	RAWB3	28	879	30	0	0	29	30	0	0	0	0
	RAWB4	29										
Roosevelt Ave WB to ramps	RAWB5	30	996	30	0	0	154	30	0	0	0	0
	RAWB6	31										

APPENDIX D

EXISTING SCENARIO TRAFFIC INPUT FILE – PM

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT:
RUN:

NJTP Int 12 Connector Rd
Industrial Rd PM Existing

Roadway		Points														
Name	No.	Autos			MTrucks			HTrucks			Buses			Motorcycles		
		V	S	mph	V	S	mph	V	S	mph	V	S	mph	V	S	mph
Industrial Rd WB	1	252	50	0	0	29	50	0	0	0	0	0	0	0	0	0
	2	252	50	0	0	29	50	0	0	0	0	0	0	0	0	0
	3	252	50	0	0	29	50	0	0	0	0	0	0	0	0	0
	4	252	50	0	0	29	50	0	0	0	0	0	0	0	0	0
	5	252	50	0	0	29	50	0	0	0	0	0	0	0	0	0
	6															
Industrial Rd EB	7	164	50	0	0	60	50	0	0	0	0	0	0	0	0	0
	8	164	50	0	0	60	50	0	0	0	0	0	0	0	0	0
	9	164	50	0	0	60	50	0	0	0	0	0	0	0	0	0
	10	164	50	0	0	60	50	0	0	0	0	0	0	0	0	0
	11	164	50	0	0	60	50	0	0	0	0	0	0	0	0	0
	12															
Drift Way NB	13	147	30	0	0	68	30	0	0	0	0	0	0	0	0	0
	14	147	30	0	0	68	30	0	0	0	0	0	0	0	0	0
	15															
Drift Way SB	16	308	30	0	0	44	30	0	0	0	0	0	0	0	0	0
	17	308	30	0	0	44	30	0	0	0	0	0	0	0	0	0
	18															
Roosevelt Ave EB from ramps	19	894	30	0	0	83	30	0	0	0	0	0	0	0	0	0
	20															
Roosevelt Av EB	21	813	30	0	0	23	30	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

	RAEB4	22	813	30	0	0	23	30	0	0	0
	RAEB5	23	813	30	0	0	23	30	0	0	0
	RAEB6	24	813	30	0	0	23	30	0	0	0
	RAEB7	25									
Roosevelt Av WB	RAWB1	26	564	30	0	0	15	30	0	0	0
	RAWB2	27	564	30	0	0	15	30	0	0	0
	RAWB3	28	564	30	0	0	15	30	0	0	0
	RAWB4	29									
Roosevelt Ave WB to ramps	RAWB5	30	838	30	0	0	51	30	0	0	0
	RAWB6	31									

APPENDIX D

PROJECT BUILD SCENARIO ROADWAY INPUT FILE

INPUT: ROADWAYS

PS&S LLC
STC

13 January 2003
TNM 2.0

NJTP Int 12 Connector Rd

INPUT: ROADWAYS
PROJECT/CONTRACT:
RUN:

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with the approval of FHWA

NJTP Int 12 Connector Rd
Connector Rd 5 Build Design AM

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
	ft			X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
				ft	ft	ft		mph	%		
Industrial Rd WB Approach	24.0	WB1	1	571,357.1	638,201.0	0.00				Average	
		WB2	2	571,400.4	638,594.6	0.00				Average	
		WB3	3	571,255.4	638,992.4	0.00				Average	
		WB4	4	571,014.9	639,237.7	0.00				Average	
		WB5	5	568,978.6	640,443.8	0.00				Average	
Industrial Rd EB Depart	24.0	EB4	8	568,966.6	640,423.0	0.00	Signal	0.00	50	Average	
		EB5	9	571,000.0	639,218.7	0.00				Average	
		EB6	10	571,234.6	638,979.2	0.00				Average	
		EB7	11	571,375.9	638,591.6	0.00				Average	
		EB8	12	571,333.2	638,203.6	0.00				Average	
		EB1	32	568,095.2	640,862.8	0.00	Signal	0.00	50	Average	
		EB2	33	568,359.3	640,767.7	0.00				Average	
		EB3	34	568,962.7	640,418.3	0.00				Average	
Industrial Rd WB Depart	24.0	WB6	35	568,105.4	640,891.0	0.00	Signal	0.00	50	Average	
		WB7	36	568,372.0	640,795.0	0.00				Average	
		WB8	37	568,977.8	640,444.2	0.00				Average	
		REB1	38	567,368.7	640,929.9	0.00				Average	
Ramp EB	24.0	REB2	39	567,881.9	640,929.0	0.00				Average	
		REB3	40	568,090.9	640,853.7	0.00				Average	
		RWB1	41	568,109.6	640,905.7	0.00	Signal	0.00	50	Average	
Ramp WB	24.0	RWB2	42	567,920.0	640,974.0	0.00				Average	
		RWB3	43	567,368.8	640,975.1	0.00				Average	
		IRNB1	44	567,618.3	640,193.2	0.00	Signal	0.00	50	Average	
Industrial Rd NB	24.0	IRNB2	45	567,730.6	640,426.4	0.00				Average	
		IRNB3	46	568,080.6	640,826.1	0.00				Average	

INPUT: ROADWAYS

NJTP Int 12 Connector Rd

Industrial Rd SB	24.0	IRSB1	47	568,068.0	640,848.1	0.00	Signal	0.00	50	Average
		IRSB2	48	567,680.4	640,405.6	0.00				Average
		IRSB3	49	567,590.7	640,219.2	0.00				
Roosevelt Ave EB from ramps	36.0	RAEB1	50	567,250.4	640,448.6	0.00				Average
		RAEB2	51	567,590.6	640,160.6	0.00				
Roosevelt Ave WB to ramps	24.0	RAWB6	52	567,612.4	640,181.0	0.00	Signal	0.00	50	Average
		RAWB7	53	567,287.3	640,486.2	0.00				
Roosevelt Ave WB	12.0	RAWB1	54	568,191.0	638,500.0	0.00				Average
		RAWB2	55	568,220.4	639,271.8	0.00				Average
		RAWB3	56	568,147.4	639,429.1	0.00				Average
		RAWB4	57	567,879.2	639,798.7	0.00				Average
		RAWB5	58	567,613.3	640,180.6	0.00				
Roosevelt Ave EB	12.0	RAEB3	59	567,584.4	640,153.2	0.00	Signal	0.00	50	Average
		RAEB4	60	567,901.6	639,741.5	0.00				Average
		RAEB5	62	568,117.3	639,440.7	0.00				Average
		RAEB6	63	568,199.8	639,178.3	0.00				Average
		RAEB7	65	568,199.6	639,178.8	0.00				Average
		RAEB8	64	568,173.8	638,500.0	0.00				
Connector Rd NB	24.0	CRNB1	74	568,993.9	640,449.4	0.00	Signal	0.00	100	Average
		CRNB2	75	569,735.3	641,464.7	0.00				Average
		CRNB3	76	569,815.5	641,818.9	0.00				Average
		CRNB4	77	569,751.6	643,000.0	0.00				Average
		CRNB5	78	569,850.6	643,648.3	0.00				Average
		CRNB6	79	570,934.7	645,585.9	0.00				
Connector Rd SB	24.0	CRSB1	80	570,913.8	645,597.6	0.00				Average
		CRSB2	81	569,827.5	643,656.2	0.00				Average
		CRSB3	82	569,727.4	643,001.2	0.00				Average
		CRSB4	83	569,791.4	641,821.0	0.00				Average
		CRSB5	84	569,713.0	641,474.8	0.00				Average
		CRSB6	85	568,974.6	640,463.6	0.00				

APPENDIX D

PROJECT BUILD SCENARIO TRAFFIC INPUT FILE – AM

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT:
RUN:

NJTP Int 12 Connector Rd
Connector Rd 5 Build Design AM

Roadway Name	Points Name	No.	Segment											
			Autos		MTrucks		HTTrucks		Buses		Motorcycles			
			V	S	V	S	V	S	V	S	V	S		
	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph		
Industrial Rd WB Approach	WB1	1	402	50	0	0	146	50	0	0	0	0	0	
	WB2	2	402	50	0	0	146	50	0	0	0	0	0	
	WB3	3	402	50	0	0	146	50	0	0	0	0	0	
	WB4	4	402	50	0	0	146	50	0	0	0	0	0	
	WB5	5												
Industrial Rd EB Depart	EB4	8	700	50	0	0	117	50	0	0	0	0	0	
	EB5	9	700	50	0	0	117	50	0	0	0	0	0	
	EB6	10	700	50	0	0	117	50	0	0	0	0	0	
	EB7	11	700	50	0	0	117	50	0	0	0	0	0	
	EB8	12												
Industrial Rd EB Approach	EB1	32	2237	30	0	0	392	30	0	0	0	0	0	
	EB2	33	2237	30	0	0	392	30	0	0	0	0	0	
	EB3	34												
Industrial Rd WB Depart	WB6	35	402	30	0	0	421	30	0	0	0	0	0	
	WB7	36	402	30	0	0	421	30	0	0	0	0	0	
	WB8	37												
	Ramp EB	REB1	38	1401	30	0	363	30	0	0	0	0	0	
	REB2	39	1401	30	0	363	30	0	0	0	0	0		
	REB3	40												
Ramp WB	RWB1	41	408	30	0	0	397	30	0	0	0	0	0	
	RWB2	42	408	30	0	0	397	30	0	0	0	0	0	

APPENDIX D

PROJECT BUILD SCENARIO TRAFFIC INPUT FILE – PM

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT:
RUN: NJTP Int 12 Connector Rd
Connector Rd 5 Build Design PM

Roadway Name	Points	No.	Segment	Autos			MTrucks			HTrucks			Buses			Motorcycles		
				V	S	mph	V	S	mph	V	S	mph	V	S	mph	V	S	mph
				veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr	veh/hr
Industrial Rd WB Approach	WB1	1		794	50	0	0	0	77	50	0	0	0	0	0	0	0	
	WB2	2		794	50	0	0	0	77	50	0	0	0	0	0	0	0	
	WB3	3		794	50	0	0	0	77	50	0	0	0	0	0	0	0	
	WB4	4		794	50	0	0	0	77	50	0	0	0	0	0	0	0	
	WB5	5																
Industrial Rd EB Depart	EB4	8		520	50	0	0	0	101	50	0	0	0	0	0	0	0	
	EB5	9		520	50	0	0	0	101	50	0	0	0	0	0	0	0	
	EB6	10		520	50	0	0	0	101	50	0	0	0	0	0	0	0	
	EB7	11		520	50	0	0	0	101	50	0	0	0	0	0	0	0	
	EB8	12																
Industrial Rd EB Approach	EB1	32		626	30	0	0	0	402	30	0	0	0	0	0	0	0	
	EB2	33		626	30	0	0	0	402	30	0	0	0	0	0	0	0	
	EB3	34																
Industrial Rd WB Depart	WB6	35		2052	30	0	0	0	314	30	0	0	0	0	0	0	0	
	WB7	36		2052	30	0	0	0	314	30	0	0	0	0	0	0	0	
	WB8	37																
Ramp EB	REB1	38		392	30	0	0	0	383	30	0	0	0	0	0	0	0	
	REB2	39		392	30	0	0	0	383	30	0	0	0	0	0	0	0	
	REB3	40																
Ramp WB	RWB1	41		1392	30	0	0	0	289	30	0	0	0	0	0	0	0	
	RWB2	42		1392	30	0	0	0	289	30	0	0	0	0	0	0	0	

INPUT: TRAFFIC FOR LAeq1h Volumes

NJTP Int 12 Connector Rd

	RWB3	43																		
Industrial Rd NB	IRNB1	44	325	30	0	0	19	30	0	0	0	0	0	0	0	0	0	0	0	0
	IRNB2	45	325	30	0	0	19	30	0	0	0	0	0	0	0	0	0	0	0	0
	IRNB3	46																		
Industrial Rd SB	IRSB1	47	751	30	0	0	25	30	0	0	0	0	0	0	0	0	0	0	0	0
	IRSB2	48	751	30	0	0	25	30	0	0	0	0	0	0	0	0	0	0	0	0
	IRSB3	49																		
Roosevelt Ave EB from ramps	RAEB1	50	1157	30	0	0	34	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB2	51																		
Roosevelt Ave WB to ramps	RAWB6	52	1447	30	0	0	31	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAWB7	53																		
Roosevelt Ave WB	RAWB1	54	820	30	0	0	14	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAWB2	55	820	30	0	0	14	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAWB3	56	820	30	0	0	14	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAWB4	57	820	30	0	0	14	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAWB5	58																		
Roosevelt Ave EB	RAEB3	59	986	30	0	0	23	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB4	60	986	30	0	0	23	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB5	62	986	30	0	0	23	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB6	63	986	30	0	0	23	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB7	65	986	30	0	0	23	30	0	0	0	0	0	0	0	0	0	0	0	0
	RAEB8	64																		
Connector Rd NB	CRNB1	74	249	50	0	0	245	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRNB2	75	249	50	0	0	245	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRNB3	76	249	50	0	0	245	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRNB4	77	249	50	0	0	245	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRNB5	78	249	50	0	0	245	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRNB6	79																		
Connector Rd SB	CRSB1	80	1202	50	0	0	172	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRSB2	81	1202	50	0	0	172	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRSB3	82	1202	50	0	0	172	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRSB4	83	1202	50	0	0	172	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRSB5	84	1202	50	0	0	172	50	0	0	0	0	0	0	0	0	0	0	0	0
	CRSB6	85																		

APPENDIX E

NOISE MODELING OUTPUT FILES

APPENDIX E

EXISTING SCENARIO RESULTS TABLE – AM

RESULTS: SOUND LEVELS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

NJTP Int 12 Connector Rd
Industrial Rd AM Existing
INPUT HEIGHTS

RUN:

BARRIER DESIGN:

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver

Name	No.	#DUs	Existing		No Barrier		With Barrier		Type Impact	Noise Reduction		Calculated minus Goal dB
			LAeq1h	Crit'n	LAeq1h	Crit'n	Calculated LAeq1h	Calculated		Goal	Calculated		Goal
			dBA	dBA	dBA	dBA	dB	dBA		dB	dB	
R1	14	1	0.0	59.0	66	59.0	10	59.0	0.0	0.0	8	-8.0
R2	15	1	0.0	57.5	66	57.5	10	57.5	0.0	0.0	8	-8.0
NM4	21	1	0.0	60.7	66	60.7	10	60.7	0.0	0.0	8	-8.0
NM3	26	1	0.0	66.6	66	66.6	10	66.6	0.0	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min dB	Avg dB	Max dB							
All Selected		4	0.0	0.0	0.0							
All Impacted		1	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

APPENDIX E

EXISTING SCENARIO RESULTS TABLE – PM

RESULTS: SOUND LEVELS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: NJTP Int 12 Connector Rd
Industrial Rd PM Existing
BARRIER DESIGN: INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS: 68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB	
				LAeq1h Calculated dBA	Crit'n dBA	Calculated dB	Crit'n Sub'l Inc dB		LAeq1h Calculated dBA	Noise Reduction Calculated dB		Noise Reduction Goal dB
R1	14	1	0.0	57.6	66	57.6	10	....	57.6	0.0	8	-8.0
R2	15	1	0.0	56.1	66	56.1	10	....	56.1	0.0	8	-8.0
NM4	21	1	0.0	59.3	66	59.3	10	....	59.3	0.0	8	-8.0
NM3	26	1	0.0	65.3	66	65.3	10	....	65.3	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min dB	Avg dB	Max dB							
All Selected		4	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

APPENDIX E

PROJECT BUILD SCENARIO RESULTS TABLE – AM

RESULTS: SOUND LEVELS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

NJTP Int 12 Connector Rd
Connector Rd 5 Build Design AM
INPUT HEIGHTS

RUN:

BARRIER DESIGN:

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

68 deg F, 50% RH

Receiver	No.	#DUs	Existing		No Barrier		Increase over existing		Type		With Barrier		Calculated minus Goal	
			LAeq1h	dBA	LAeq1h	Calculated	Crit'n	Sub'l Inc	Impact	Calculated	Goal	Calculated		Goal
R1	14	1	0.0	66	63.9	66	63.9	10	....	63.9	8	8	-8.0
R2	15	1	0.0	66	62.4	66	62.4	10	....	62.4	8	8	-8.0
NM4	21	1	0.0	66	64.9	66	64.9	10	....	64.9	8	8	-8.0
NM3	26	1	0.0	66	67.7	66	67.7	10	Snd Lvl	67.7	8	8	-8.0	
Dwelling Units														
			# DUs		Noise Reduction									
			Min	Avg	Max									
			dB	dB	dB									
All Selected			4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
All Impacted			1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
All that meet NR Goal			0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

APPENDIX E

PROJECT BUILD SCENARIO RESULTS TABLE – PM

RESULTS: SOUND LEVELS

NJTP Int 12 Connector Rd

PS&S LLC
STC

13 January 2003
TNM 2.0

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

NJTP Int 12 Connector Rd

RUN:

Connector Rd 5 Build Design PM

BARRIER DESIGN:

INPUT HEIGHTS

ATMOSPHERICS:

68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver

Name	No.	#DUs	Existing LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal dB	
				LAeq1h Calculated dBA	Crit'n dBA	Calculated dB	Crit'n Sub'l Inc dB		Calculated LAeq1h dBA	Noise Reduction Calculated dB		Goal dB
R1	14	1	0.0	63.3	66	63.3	10	---	63.3	0.0	8	-8.0
R2	15	1	0.0	61.8	66	61.8	10	---	61.8	0.0	8	-8.0
NM4	21	1	0.0	64.1	66	64.1	10	---	64.1	0.0	8	-8.0
NM3	26	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Dwelling Units												
# DUs			Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected			4	0.0	0.0							
All Impacted			1	0.0	0.0							
All that meet NR Goal			0	0.0	0.0							